

## Electronic Supplementary Material 1-17

**Article Title: Three centuries of daily precipitation in Padua, Italy, 1713-2018. History, relocations, gaps, homogeneity and raw data**

**Journal name:** Climatic Change

**Authors:** Dario Camuffo<sup>1</sup>, Antonio della Valle<sup>1</sup>, Francesca Becherini<sup>2</sup>, Valeria Zanini<sup>3</sup>

**Affiliations:**

- 1) National Research Council-Institute of Atmospheric Sciences and Climate, Corso Stati Uniti 4, 35127 Padua, Italy
- 2) National Research Council-Institute of Polar Sciences, Via Torino 155, 30172 Venice Mestre, Italy
- 3) INAF-Astronomical Observatory of Padova, Vicolo dell'Osservatorio 5, 35122 Padua, Italy

**E-mail address Corresponding Author:** [d.camuffo@isac.cnr.it](mailto:d.camuffo@isac.cnr.it)

### ESM 1. Supplement to Section 1: Differences between this paper and Camuffo 1984, 2002

A reader might wonder why another paper after Camuffo 1984, 2002.

In Camuffo 1984, the observations and their metadata were crudely summarized in 2 1/3 pages; in the 2020 paper, everything has been carefully investigated and documented with original archive documents and photographs.

In Camuffo 1984, there were no pictures, drawings or diagrams representing instruments, exposure and locations; in the 2020 paper, all of them have been clearly reconstructed and shown.

In Camuffo 1984, not all rain gauge types and exposures were known; in the 2020 paper, the most likely instrument shapes and exposures are presented.

In Camuffo 1984, the gap 1764-67 was not solved and the solution proposed by Toaldo was recognized to be unacceptable; in the 2020 paper, two solutions are proposed: i) the parallel series taken in Venice by Temanza and Pollaroli, and ii) the use of indexes analyzing and calibrating the contemporary Morgagni Log.

In Camuffo 1984, the Bologna precipitation series had not been recovered yet and could not be used as a reference and potentially to fill gaps; in the 2020 paper, the Bologna series has been largely used to check and validate the Padua series, and to distinguish the climate signal from instrumental bias.

In Camuffo 1984, according to the literature, it was believed that the rain gauge in the Specola was always kept in the same position; in the 2020 paper, it has been demonstrated that it was relocated a number of times. In addition, in this work, the different response of a rain gauge located on the roof or at ground level has been assessed.

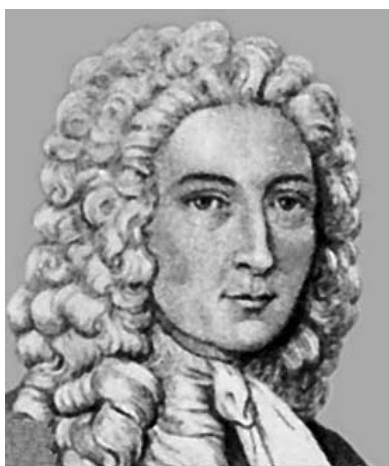
In Camuffo 1984, according to the literature, it was believed that readings were regularly taken; in the 2020 paper, it has been demonstrated that readings from 1811 to 1861 were taken irregularly, in the day (or days) after the precipitation, shifting readings to the next day(s), or recording a depth cumulated in the previous two or three days.

These and other differences are essential to interpret and/or correct data. They have been highlighted in the Introduction of the 2020 paper and many of them are going to be put in practice in the paper in progress, devoted to the correction and analysis of the precipitation series.

Camuffo 2002 deals with temperature records, not with precipitation. The rain gauge is different from a thermometer and its exposure too, especially when Poleni took temperature readings indoors (1725-1764). Only the readers and the building are the same. However, it was recently discovered that the bad health of an observer was determinant to introduce delayed

precipitation readings, affecting the regularity and frequency of observations. This minimalist observing style continued for some 50 years but was not mentioned in the previous papers. This fact did not cause particular consequences on the temperature and pressure readings that were taken without getting wet in the case of rain, but had tremendous consequences on the precipitation frequency and less in its amount, and determined the need of revising the previous work (Camuffo 1984).

## ESM 2. Supplement to Section 1: Key Observers



### **Marquis Giovanni Poleni (1683-1761)**

He was a leading scientist in various disciplines, close friend of Giovan Battista Morgagni, Jacopo Bartolomeo Beccari, Eustachio Manfredi and other scientists of the Bologna University.

In 1709, he started to build meteorological instruments (assisted by his friend Giovan Battista Morgagni) and to make meteorological observations. Other key topics were hydrology and river flows, architecture and statics, especially concerning the dome of St. Peter, Rome.

He was appointed Professor at the Padua University and had various chairs in: Astronomy and Meteors (1710); Physics (1715); Mathematics (1719); Physics and experimental philosophy (1739); Navigation sciences and constructions (1755).

In 1710, Isaac Newton appointed him fellow of the Royal Society, London. Other fellowships: Society of Sciences of the Elector of Brandenburg, Berlin (1715); Institute and Academy of Sciences and Arts, Bologna (1723); St. Petersburg Academy of Sciences, St. Petersburg (1735); Académie Royale des Sciences, Paris (1739).

In 1724, he adhered to the meteorological network of the Royal Society, London.

In 1734, he won a prize of the Académie Royale, Paris, for a pressure anemometer.

In the last period of his life, he was assisted by his son Francesco, who continued the meteorological readings for four years after Giovanni died.



### **Giovan Battista Morgagni (1682-1771)**

He was internationally recognized, and considered the father of the modern pathological anatomy conceived as an exact science. He graduated in 1701 in philosophy and medicine at the University of Bologna. He was appointed to the chair of Theoretical medicine in 1711, and Anatomy in 1715 at the Padua University. His most famous publication was *De sedibus et causis morborum per anatomen indagatis* (The Seats and Causes of Diseases investigated by Anatomy, Printed by Giuseppe Remondino, Padua, 1765). He was Fellows of *Sacri Romani Imperii Academia Caesarea Leopoldino-Carolina Naturae Curiosorum*, Halle, Saxony (1708); Royal Society, London (1724); Académie Royale des Sciences, Paris (1731); St. Petersburg Academy of Sciences, St. Petersburg (1735); Royal Academy of Sciences, Berlin (1754). He was a close friend of Poleni.

In 1709, in Venice, Morgagni helped Poleni in the construction of thermometers and barometers, and in 1740 he started a parallel series of weather observations in Padua.



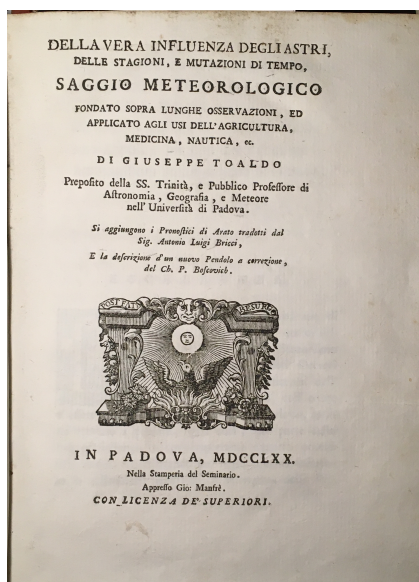
### ESM 3. The Directors of the Specola

The Specola was founded in 1767 and it was part of the University until 1923; it was the seat for teaching, and performing astronomical and meteorological observations. The first two Directors were interested in both disciplines and had the chair of Astronomy and Meteorology. Later, this chair was dismissed and the new Directors were interested only in astronomy, had a chair of Astronomy, and charged an assistant to perform meteorological observations. However, the Director was responsible for any decision, even if he was not always expert of meteorology. The Chair of Astronomy was linked to the direction and this assignment was a lifetime job (but this simple rule, however, had some exceptions, as explained later).

The Directors of the early period deserve further attention for their relevance. It should be noted that some reference dates are differently reported in authoritative sources, as the period of real activity might be different from the receipt of the official assignment (for more details see the bibliography). The most important details of the Directors in the period in which the Specola exerted meteorological activity are reported in Table ESM.1.

**Giuseppe Toaldo (1741-1797).** He was the founder of the Specola and a supporter of the observational activity both in astronomy and meteorology. He was a leading scientist and reached international renown thanks to his studied about the connections between lunar cycles, meteorology, agriculture and health.


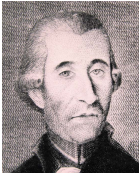




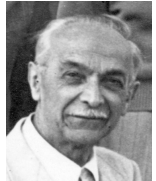
In 1762, the chair of Astronomy and Meteors held by Gian Alberto Colombo became free and the Senate approved that Toaldo had it; however, the decree was formally approved only in 1764 and the chair was renamed ‘Astronomy and Meteorology with elements of Geography’. Then, Toaldo was commissioned to choose the best location for the Astronomical Observatory whose construction had been deliberated by the Venetian Senate in 1761. He also supervised the building work, which started in 1767 and lasted 10 years, transforming the main tower of the mediaeval Castle of Padua into the Specola.



The results of his researches on the influence of climate on health and agriculture are presented in his most famous publication: *Della vera influenza degli astri, delle stagioni e mutazioni di tempo. Saggio meteorologico* (On the true influence of celestial bodies, seasons and weather changes – A meteorological essay) (1770). In 1773, Toaldo founded the *Giornale Astro Meteorologico* (Journal concerning Astronomy and Meteorology). The journal included astronomical ephemerides, weather statistics, a description of the climatic features of the previous year, and hosted articles and climate data taken by a network of observers. It started in 1773 and was continued until 1848 by the subsequent Directors of the Astronomical Observatory. With this journal, Toaldo extended the network of weather observers. In 1777, the Specola and adjacent building (the Astronomer House) were ready and all weather instruments were located in their final position.

In 1782, Toaldo adhered to the network of the *Societas Meteorologica Palatina*, Mannheim. He died in 1797, just after the occupation of the French Army and the fall of the Venice Republic. Three months before his death, he wrote an article to explain the relationships between the local traditional units and the modern ones, imposed by the French Army, e.g. measuring time from midnight instead of twilight (i.e. following the tradition of Rome based on the guard duty in the army, and the middle age use related to the sound of the Church bells for prayers) with conversion tables over the calendar year.

**Table ESM1.** Directors of the Specola when the meteorological observations were performed

Portrait	Name	Life span	Director	Scientific interest
	Giuseppe Toaldo	1741-1797	1767-1797	Astronomy & Meteorology
	Note: He refurbished a mediaeval tower to transform it in a Specola with advanced instruments; he enhanced meteorology and linked it to astronomy and health at international level; he studied climate cycles; he adhered to the <i>Societas Meteorologica Palatina</i> , Mannheim and founded the <i>Giornale Astro-Meteorologico</i> .			
	Vincenzo Chiminello	1741-1815	1797-1811 (1811 actually; 1815 officially)	Astronomy & Meteorology
	Note: He carried on the Toaldo's legacy (including the <i>Giornale Astro-Meteorologico</i> ) and developed new meteorological instruments.			
	Francesco Bertirossi-Busata	1778-1825	He was not Director but observed in the 1815-1817 gap	Astronomy
	Note: He took weather observations and directed the <i>Giornale Astro-Meteorologico</i> . Although in poor health, he observed till the last two months of life.			
	Giovanni Santini	1787 -1877	1817-1877	Astronomy
	Note: He was not particularly interested in meteorology. He did not support the weather observations with auxiliary personnel during the Bertirossi-Busata illness. He ordered to use the big dome of the Meridian Circle Room to collect rain. Observers: Bertirossi-Busata (1817-25); Carlo Conti (1827-42); Gaetano Pietropoli (1834-1847); Virgilio Trettenero (1848-1863); Jacopo Michez (1861-1866); Enrico Nestore Legnazzi (1855-1862); Lorenzoni (1864-67); Antonio Abetti and Lorenzoni (1868-1879); Ciro Chistoni (1874). The lowest observation quality was with Carlo Conti (1827-42). Thanks to Santini, the Meteorological Logs of Poleni, Morgagni, Beccari and other Toaldo's Correspondents were acquired by the Astronomical Observatory and are now preserved in the Historical Archive.			
	Giuseppe Lorenzoni	1843-1914	1877-1913	Astronomy & Meteorology
	Note: He restored the good meteorological practices. Observers: Francesco Miari-Fulcis (1877 and 1881-1886); Giuseppe Naccari (1879-1880), Giuseppe Ciscato (1886-1894); Antonio Maria Antoniazzi (1894-1999); Roberto Sabena (1899-1902); Giuseppe Alessandro Favero (1902-1911).			
	Antonio Maria Antoniazzi	1872-1925	1913-1925	Astronomy
	Note: He worked in a very difficult time (during and at the end of the World War I), essentially without staff, and he could not be interested in meteorology. During WWI, the Italian Army established the 1915-1918 weather forecast office in the Specola, and the activities were made and controlled by military personnel. Before and after, for routine observations, he relied on the technician Sante Mioni (1874-1928).			
	Giovanni Silva	1882-1957	1926-1952	Astronomy
	Note: He was not interested in meteorology. He developed a new Astronomical Observatory in Asiago, on the Alps, and in 1938 closed any meteorological activity in the Specola that was mainly used for teaching Astronomy. The technicians continued readings till 1959, writing on notepad sheets.			

**Vincenzo Chiminello (1741-1815).** He was a very accurate meteorologist and astronomer, nephew and co-worker of Toaldo. In 1779, he was appointed assistant astronomer. He discovered the influence of the astronomical forces in determining daily barometric pressure cycle, similar to the tidal cycle. In 1783, he won the prize for a tender launched by the Theodoro-Palatina Academy of Sciences, Mannheim, for the most accurate hygrometer. Chiminello proposed a goose pen fixed to a glass tube and filled with mercury, with a complex system to correct readings for temperature.

In 1797, after Toaldo's death, the University informally appointed him to the chair of Astronomy, Meteors and Geography, that was connected with the responsibility of Director of Specola. However, this was a bad period: the Venice Republic fall, and the Napoleon's troops arrived in the north-east of Italy; the treaty of Campo Formio (17 October 1797) partitioned the Veneto region between France and Austria and Padua suffered a long period of political and administrative confusion. Only in 1806, when Austria had finally organized a local government, Chiminello received the official assignment of Astronomy as well as of Director of the Faculty of Physics and Mathematics.

Chiminello was not a healthy man. In 1809, he had a first apoplectic fit, but continued his activity. He taught until 1811, and then he had a second, stronger, apoplectic fit, so forcedly abandoned the Specola. Some sources consider this year the last one of his activity. He was removed from the charge of teaching, but he kept the title of Director, compensating him for the years without salary that followed the Napoleon invasion, from 1797 to 1806. The teaching problem was solved with an informal assignment, in 1812, to Giovanni Santini, who was also the informal Director during the Chiminello's illness. Chiminello died for a third fit in 1815. Officially, the Specola remained widow of Director until 1817.

**Francesco Bertirossi-Busata (1778-1825)** was never Director of the Specola, but had to bridge a difficult period between the apoplectic fit of Chiminello and the appointment of the new Director, Giovanni Santini. A note is due to explain the lower quality of the series during his period. Bertirossi-Busata studied Philosophy and Mathematics with Chiminello and took his degree in 1807. Then he started to work at the Specola, in 1813 he was appointed astronomer and in 1817 astronomer for calculations. He cared celestial mechanics and star aberration, but he was also charged for weather observations. In 1809, during the first illness leave of Chiminello, he cared the publication of the *Giornale Astro-Meteorologico* founded by Toaldo and became Director of this journal in 1819. However, from 1816 Bertirossi-Busata was affected by gallbladder and liver sickness and could not take regular weather observations. He operated always without assistants, so observations are missing in the last two months of his life, September and October 1825. This was a bad political period under the occupation of Austria, and the Specola personnel had to work with very limited resources and low salary.

**Giovanni Santini (1787-1877).** He was a good and a famous astronomer, less interested in meteorology. In 1806, he was appointed assistant astronomer; in 1812, he was informally appointed to teach Astronomy; in 1817, he was officially appointed Professor of Astronomy and Director of the Specola. He disregarded the problem of the illness of Bertirossi-Busata and did not charge any other personnel to assist him in his most difficult periods, and this created discontinuities and gaps in the series. For short periods, in his long life, Santini interrupted teaching, being substituted by his assistants Virgilio Trettenero and Giuseppe Lorenzoni. He died in 1877, at the age of ninety, keeping the direction of the Observatory until the last day of his life. Concerning the precipitation series, he built the Meridian Circle Room and ordered to use its dome to collect rainfall from 1838 to 1877, creating a non-homogenous gauge. However, the catchment area was so large that the result was good.

**Giuseppe Lorenzoni (1843-1914).** After Enrico Nestore Legnazzi was cast out for political reasons and Virgilio Trettenero died in 1863, the director Santini appointed Lorenzoni assistant professor of Astronomy and put him in charge of meteorological observations at the Specola. Lorenzoni was a last year student and got a degree in engineering in 1864. In that period – the last years of Austrian domination in Veneto – the Observatory was deprived of personnel, except for the assistant astronomer Jacopo Michez which, however, was particularly arrogant and unpopular to both the Director and the other people who lived in the Specola. Even the astronomical and meteorological observations suffered for the bad personality of Michez in these years.

In 1867, after the annexation of Veneto to the Kingdom of Italy, Lorenzoni had the regular assignment of the astronomy lessons, obtaining the appointment as extraordinary professor in 1872; in 1878, after the death of Santini, he became full professor and director of the Observatory, a position he held until 1913. His scientific activity ranged from classical astronomy to spectroscopy, up to geodesy, but he was interested also in the good meteorological practice, especially in the first period of his direction. From 1878, in fact, he rearranged the meteorological observations and the related instrumentation under the guidance of Pietro Tacchini, director of the Central Meteorology Office and his close friend.

Lorenzoni devoted himself to teaching: under his guidance the Padua astronomy school grew up and formed leading astronomers, like Antonio and Giorgio Abetti - father and son - both directors of the Arcetri Astrophysical Observatory, Emilio Bianchi, director of the Brera Observatory and Giuseppe Piscato, director of the Carloforte station.

## References

- Bertirossi-Busata F (1816) Della vita e degli studi dell'Ab. Vincenzo Chiminello, Memoria dell'Ab. Francesco Bertirossi-Busata. In: Memorie della Società Italiana delle scienze. Modena, Tomo XVIII, Fascicolo I, pp LVII
- Casellato S, Pigatto L (1996) Professori di Materie Scientifiche all'Università di Padova nell'Ottocento. Lint, Trieste
- Pigatto L (2000) Giuseppe Toaldo e il suo Tempo. Bertinello Artigrafiche, Marostica
- Pigatto L (2006) Vincenzo Chiminello secondo direttore della Specola di Padova. In: Pigatto L, Xausa F (ed). Proceedings of the Conference Astronomi del territorio marosticense alla Specola di Padova. Bertinello Artigrafiche, Marostica, pp 3-69
- Salmon UP (1798) Biographie de Joseph Toaldo. Magazin Encyclopedique ou Journal des Sciences Lettres et Arts 3, 6: 468–481
- Sitran Rea L, Piccoli G (1991) La Facoltà di Scienze Fisiche, Matematiche e Naturali nell'Università di Padova: Origini e Sviluppo. CLEUP, Padua
- Zanini V (2006) Francesco Bertirossi-Busata, alunno e collaboratore di Chiminello. In: Pigatto L, Xausa F (ed) Proceedings of the Conference Astronomi del territorio marosticense alla Specola di Padova. Bertinello Artigrafiche, Marostica, pp 71-94
- Zanini V (2011), L'Osservatorio Astronomico di Padova e l'Unità d'Italia. In: Giornale di Astronomia, 4, pp. 2-6
- Zanini V (2015) Giuseppe Lorenzoni: l'uomo, l'astronomo e il maestro, in: Atti e Memorie dell'Accademia Galileiana di Scienze Lettere ed Arti in Padova già dei Ricovrati e Patavina, Vol. CXXVII (2014-2015), pp. 73-103



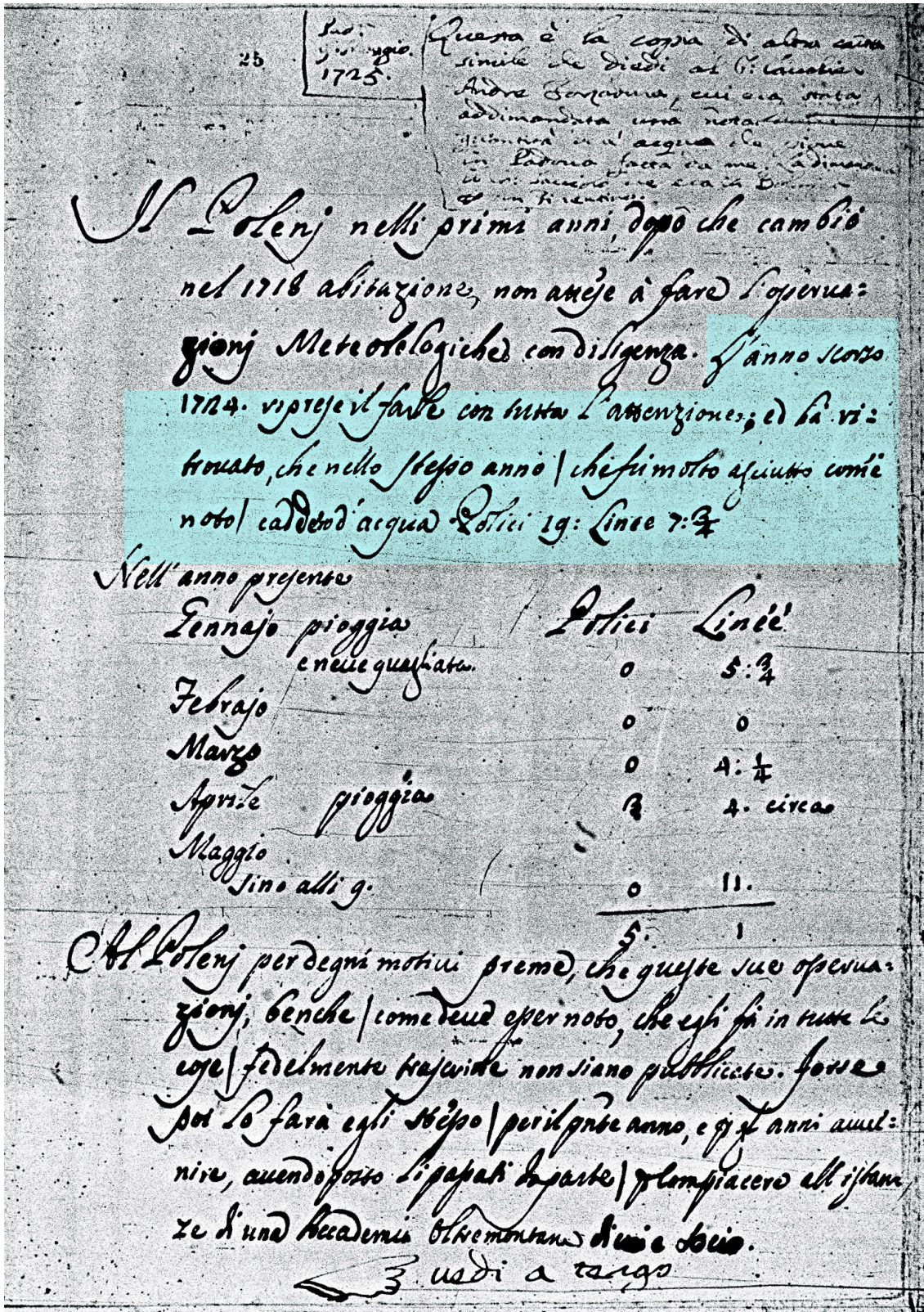
### ESM 4. Supplement to Sections 1 and 2: Raingauge locations

**Table ESM2.** Raingauge location and exposure, reading times and notes

Period	Location	Exposure	Height	Observer	Notes
1713-1718	Unknown	?	?	G. Poleni	IO with gaps; CG
Jan 1724 – Dec 1724	San Giacomo District	roof?	15 m?	G. Poleni	CG yearly total
Jan 1725 – Mar 1764	San Giacomo District	roof?	15 m?	G. Poleni, F. Poleni	RDO-h12; CG
1740-1768	San Massimo street	none	none	G.B. Morgagni	only frequency
Apr-July 1764	Venice	?	?	T. Temanza	RDO-?; CG
Aug 1764 - Dec 1767	Venice	?	?	N. Pollaroli	RDO-?; CG
Jan 1768- Jul 1771	Specola	top of the Tower	50 m	G. Toaldo	RDO-h9?; CG
Aug 1771- Dec 1811	Specola	eastern terrace	24 m	G. Toaldo, V. Chiminello	RDO-sunrise + h12; CG
Jan 1812 – Aug 1836	Specola	eastern terrace	24 m	F. Bertirosi-Busata, C. Conti Director: G. Santini	IO; CG
Sept 1836 - Dec 1837	Specola	surrounding terrace	38 m	C. Conti Director: G. Santini	IO; CG
Jan 1838 – Dec 1877	Specola	dome of the meridian circle	27-28 m	C. Conti, G. Pietropoli, V. Trettenero, J. Michez, E.N. Legnazzi, G. Lorenzoni Director: G. Santini	1838-1870: IO; CG after 1871: RDO-h9; CG
Jan 1878-1925 (reliable) 1926-14 Sept 1938 (less reliable) 15 Sept 1938-1950 (unvalidated log) 1951-1959 (coarse annotations)	Building next to the Specola (the Astronomer House)	roof	20.7 m	G. Lorenzoni, G.A. Favero, A. Abetti, C. Chistoni, F. Miari-Fulcis, G. Naccari, G. Ciscato, A.M Antoniazzi, R. Sabena. Directors: G. Lorenzoni (1977-1913); A.M Antoniazzi (1913-25); G. Silva (1926-52)	1880-2010: RDO-h9; CG. 1878-80 with Cavignato raingauge; 1980-12010 with Agrarian Model. RDO-h9 1910-38: CR RDO-h9
1920-1957 (reliable) 1958-1996 (less reliable)	Magrini Observatory of the Water Magistrate	grassland; terraces	1.20 m; 8.5 m; 11.30 m	Directors: A. Levi, G. Crestani	CR RDO—h0
1951-1990	Airport	grassland	1.50 m	Air Force	CR – h1
1980-today	Botanical Garden	grassland	1.50 m	University of Padua, ARPAV	CR – h0
Legend.? unknown; RDO regular daily observations (followed by the reading time, e.g. RDO-h12 means that observations were taken, or started, at 12 a.m); IO irregular observations; CG collecting gauge; CR continuous record with hourly resolution					

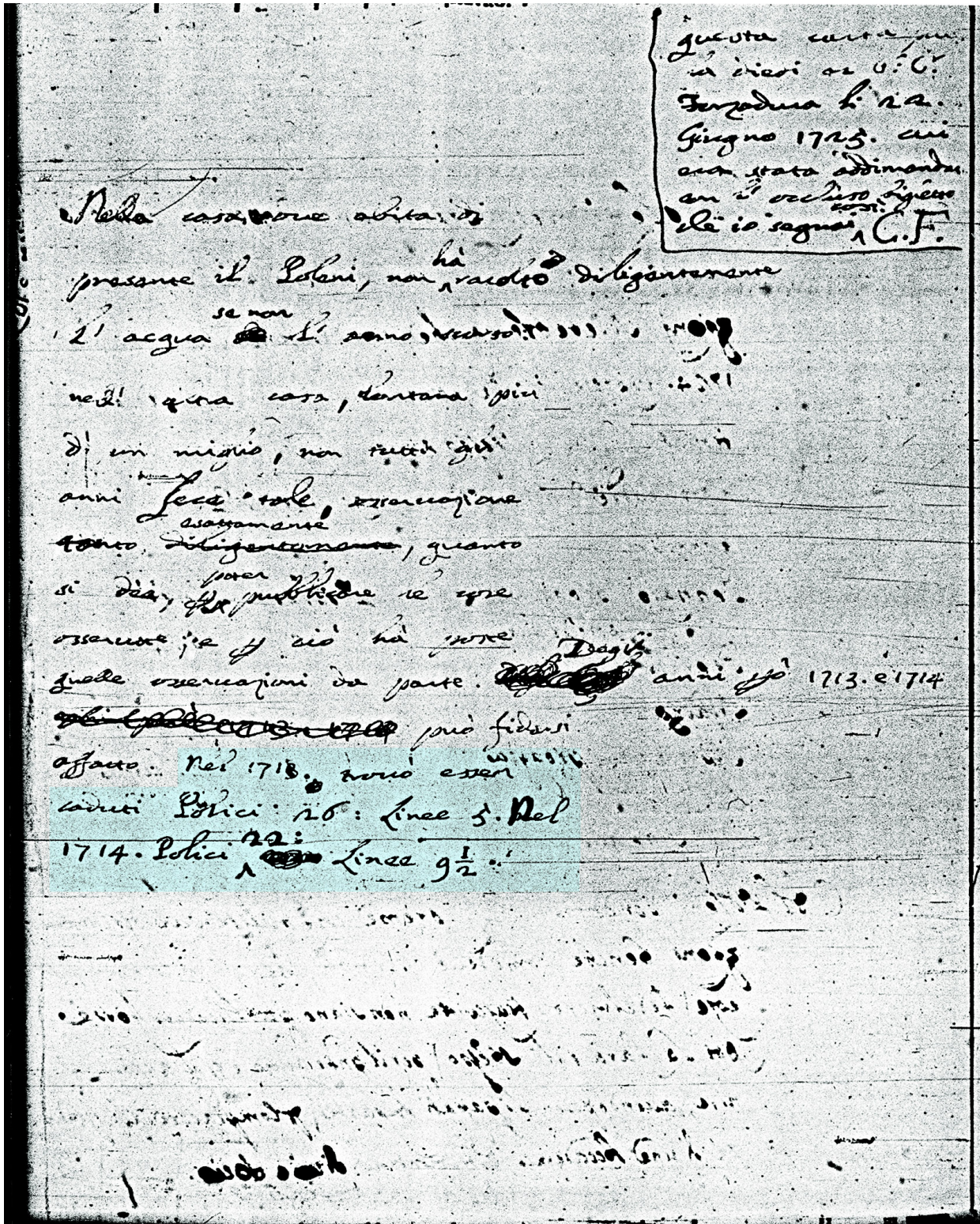


ESM 5. Supplement to Section 2: Examples of the original documents



**Fig.ESM1a** Front page of the letter to Cavalier Forzadura. The cyan highlighted text specifies: “Past year, 1724, (Poleni) continued very carefully his measurements, and he found that in that year, that was very dry as known, the precipitated amount was 19 inch, 7 3/4 lines”. The letter also reports the monthly totals from January to May 9<sup>th</sup>, 1725. (© Marciana Library, Venice, Poleni unpublished manuscripts, Mss. It., CL. IV, N.631, Coll. 5354, folio (sheet) 25 front)





**Fig.ESM1b** Back page of the letter to Cavalier Forzadura. The cyan highlighted text specifies: “In 1713, (Poleni) found a precipitated amount of 26 inch, 5 lines. In 1714, 22 inch 9 1/2 lines”. (© Marciana Library, Venice, Poleni unpublished manuscripts, Mss. It., CL. IV, N.631, Coll. 5354, folio (sheet) 25 recto)



GIORNO DEL MESE.	HORA.	VEN-TO.	ALTEZZA DEL BAROME-TRU.	ALTEZZA DEL THERMO-METRO.	COSTITUZIONE DELL'ARIA.	AC-QUA CADU-TA.
			Pol. Lin.	Pol. Lin.		
<b>GENNAIO</b>						
1. Martedì	20.	Gre.	27. 5 $\frac{1}{2}$	44. 8 $\frac{1}{2}$	Nuv. Aria citta. Calda. Nuv. calda. Nuv. calda. Nuv. calda.	3 $\frac{1}{2}$
2. Giovedì	20.	Gre.	27. 3 $\frac{1}{2}$	44. 7 $\frac{1}{2}$	Nuvolo. Aria men- citta. Foul. Nuvolo.	1 $\frac{1}{2}$
3. Venerdì	19.	Gre.	27. 5.	44. 11.	Pioggia. Aria più feda citta.	6.
4. Sabato	20.	QTu	27. 7.	44. 11.	Nuvolo. Aria men- citta. Pire di Agia. Nuvolo.	2 $\frac{1}{2}$
5. Domenica	20.	T.	27. 10.	44. 10.	Nuvolo. Aria più feda.	
6. Lunedì	20.	Gre.	27. 7 $\frac{1}{2}$	45. 2 $\frac{1}{2}$	Pioggia. Nuvolo. Aria citta. Pire nella notte. Nuvolo.	3 $\frac{3}{4}$
7. Martedì	21.	Gre.	27. 9.	45. 4.	Nuvolo. Nuvolo. Aria temperata. Nuvolo. Nuvolo.	1 $\frac{3}{4}$
8. Mercoledì	19.	Gre.	27. 9 $\frac{1}{2}$	45. 4 $\frac{1}{2}$	Nuvolo. Nuvolo. Aria più feda. Nuvolo.	2 $\frac{1}{3}$
9. Giovedì	18.	Gre.	27. 9.	45. 7 $\frac{1}{2}$	Pire. Nuvolo. Nuvolo. Nuvolo. Nuvolo.	10 $\frac{1}{4}$
10. Venerdì	20.	Gre.	27. 11.	45. 6.	Pire. la notte. Nuvolo. Aria feda.	4 $\frac{2}{3}$
11. Sabato	19.	Gre.	28.	45.	Sole. Aria feda.	
12. Domenica	20.	Gre.	27. 10.	44. 10.	Sole. Aria feda.	
13. Lunedì	17.	Gre.	27. 9.	44. 6 $\frac{1}{2}$	Nuvolo. Nuvolo. Aria citta. Nuvolo. Nuvolo.	1 $\frac{3}{4}$
14. Martedì	19.	MT.	27. 9.	44. 5 $\frac{1}{2}$	Sole. Aria feda.	
15. Mercoledì	18.	M.	27. 7.	44. 1.	Aria feda. Nuvolo.	
16. Giovedì	18.	QTu	27. 9 $\frac{1}{2}$	44. 1.	Sole. Nuvolo. Aria feda.	
17. Venerdì	22.	Gre.	27. 9 $\frac{1}{2}$	43. 10 $\frac{1}{2}$	Sole. Aria feda.	
18. Sabato	20.	Gre.	27. 8.	43. 8.	Sole. Aria molto feda.	
19. Domenica	19.	M.	27. 7.	43. 9.	Sole. Aria feda.	
20. Lunedì	17.	Gre.	27. 5.	43. 10.	Nuvolo. Aria citta. Nuvolo. Nuvolo.	3.
21. Martedì	20.	MT.	27. 4 $\frac{1}{2}$	43. 10 $\frac{1}{2}$	Nuvolo. Aria citta.	
22. Mercoledì	17.	Gre.	27. 6.	43. 7.	Pioggia. Nuvolo molto feda. Nuvolo. Nuvolo.	8.

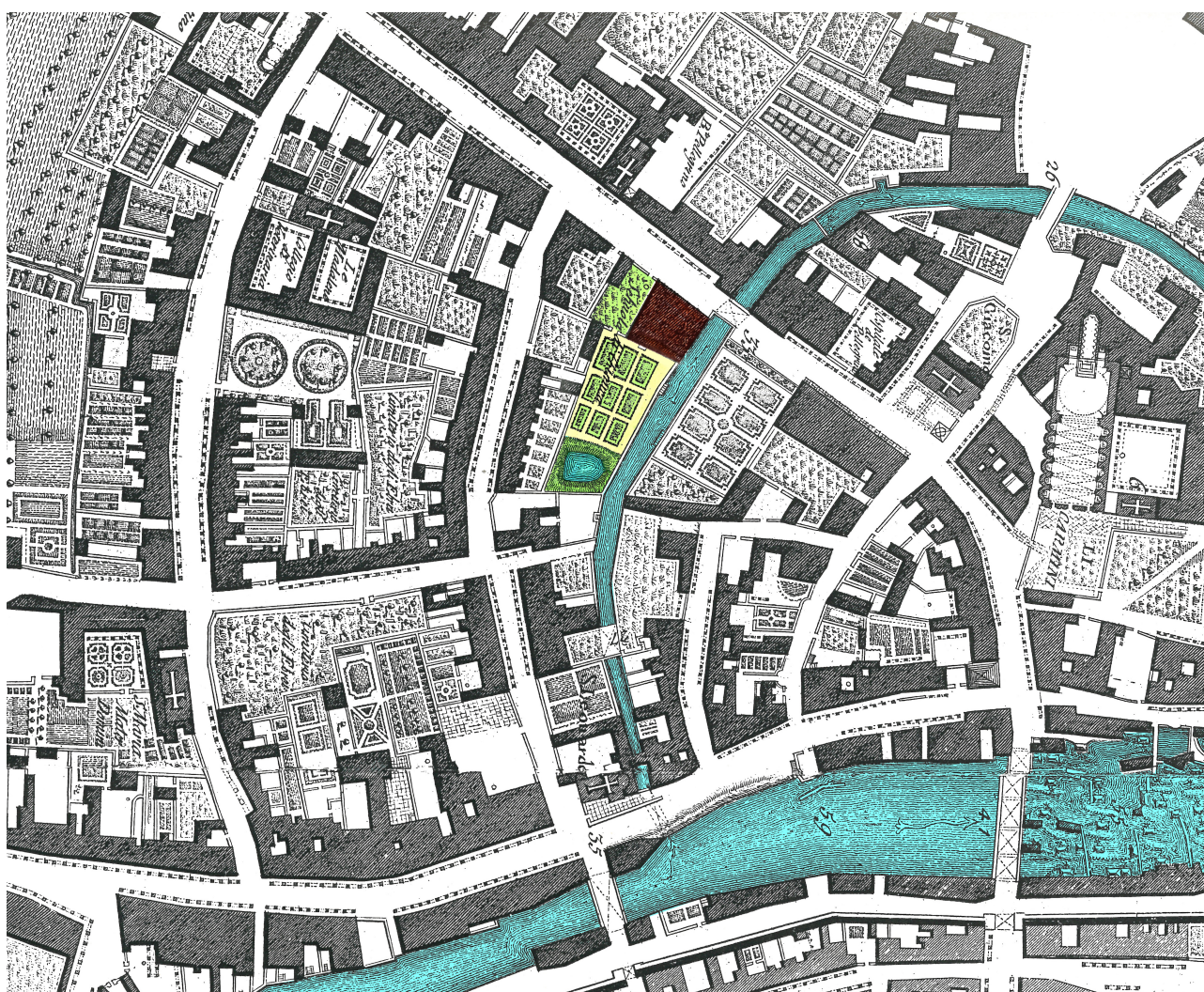
Fig.ESM2 Example of Giovanni Poleni Log, January 1716. Precipitation is in Paris inch (not specified), in the last column (© Marciana Library, Venice, Poleni unpublished manuscripts, Mss. It., CL. IV, N.631, 5354, folio (sheet) 1 front)



## ESM 6. Supplement to Section 2: The Poleni house

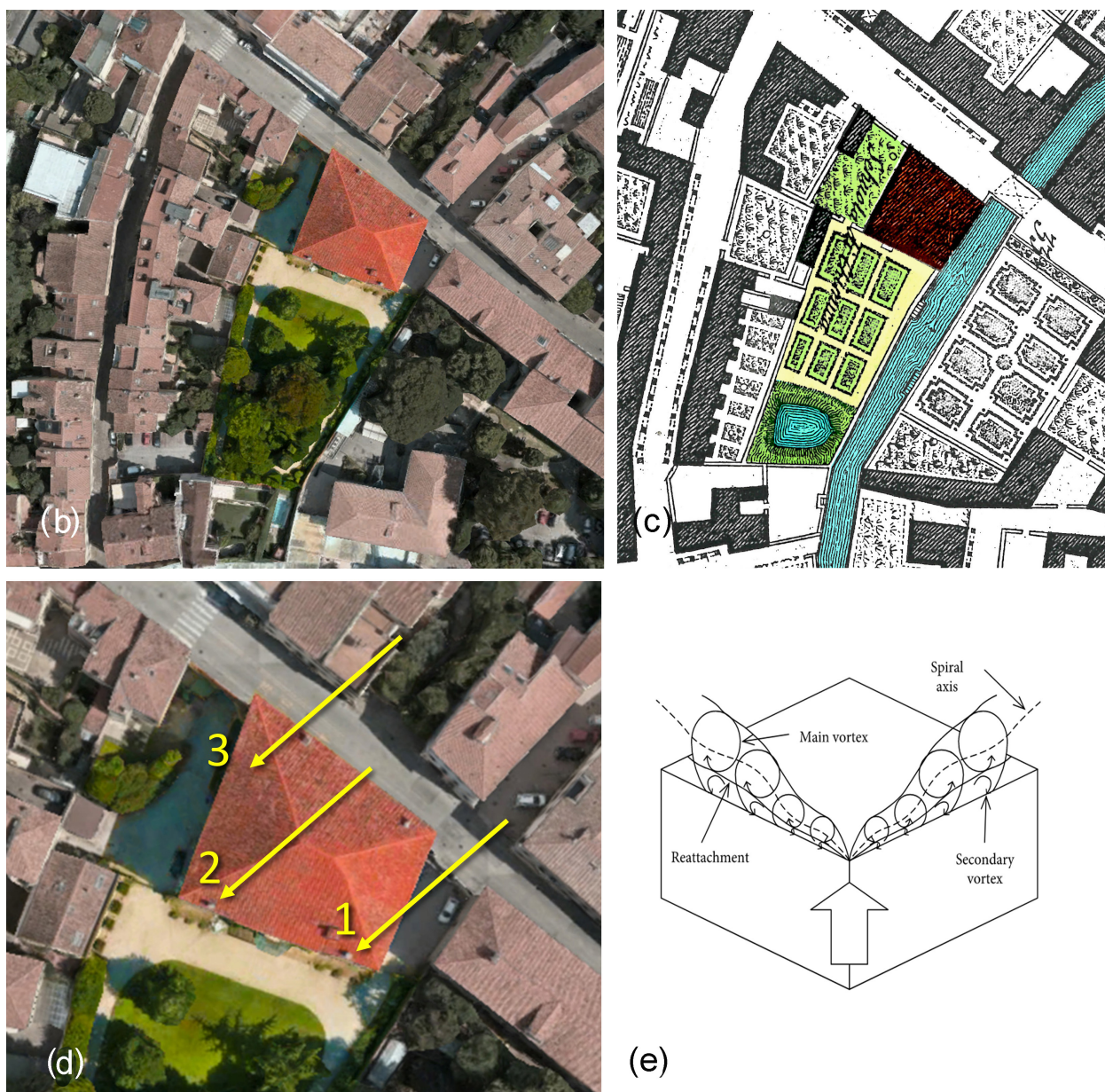
From 1724 to 1761 Giovanni Poleni, and to 1764 his son Francesco Poleni, lived in S. Giacomo District n. 3959, today Beato Pellegrino Street, n. 5, in the northern side of Padua. The Map of Padua by Giovanni Valle (1781), with size 180 cm by 202 cm, scale 1:2144, reports an accurate description of the city, with buildings, rivers and canals (Fig.ESM3a). The aerial view in Fig.ESM3b shows the Poleni house and the garden today, with the Bovetta Canal earthed, while Fig.ESM3c shows the Bovetta Canal as it was in the XVIII century.

The building was a refurbished water mill and for this reason is located close to the canal. At the end of the garden, there was a pond with fish, fed by the canal. When the river and the canals were in flood, the garden and some ground floor rooms were flooded. The vertical legend written in the garden of the Map means “School of Chemistry” because, when Giovanni died, Francesco sold the building to Marco Carburi, Professor of Chemistry at the Padua University, for the reason that the building was organized for University lessons, with rooms for lessons and laboratory.



**Fig.ESM3** (a) Detail of Map of Padua drawn by Valle (1781) showing the Poleni house (red roof) with (coloured) garden and pond, located on the side of the Bovetta Canal (cyan) flowing on the right side of the building. On the bottom, a branch of the Bacchiglione River with water mills on the right.





**Fig.ESM3** (b) Aerial view of the Poleni house and the garden (from Google Earth). The estate is highlighted with more saturated colours. (c) The same, as it was in the XVIII century with the Bovetta Canal (cyan) flowing on the right side, and a pot (cyan) at the end of the garden (from the Map of Padua drawn by Valle (1781)). (d) Trajectory of windborne raindrops to reach the three chimneys of the Poleni house. Numbers indicating the most likely chimneys: 1 above the library room where he took the temperature and barometric readings; 2 above the laboratory of physics; 3 above the kitchen (now removed from the roof). Poleni had not rooms facing the street and chimneys there should be excluded. Wind turbulence was triggered by the side edge of the roof facing south-east for chimney 1, or facing north-east (i.e. the street side) for chimneys 2 and 3. (e) Example of conical vortices generated on a flat roof edge for an oblique wind direction, and growing with the distance from the edge (from Qiu et al., 2019, CC-BY-4.0).

## References

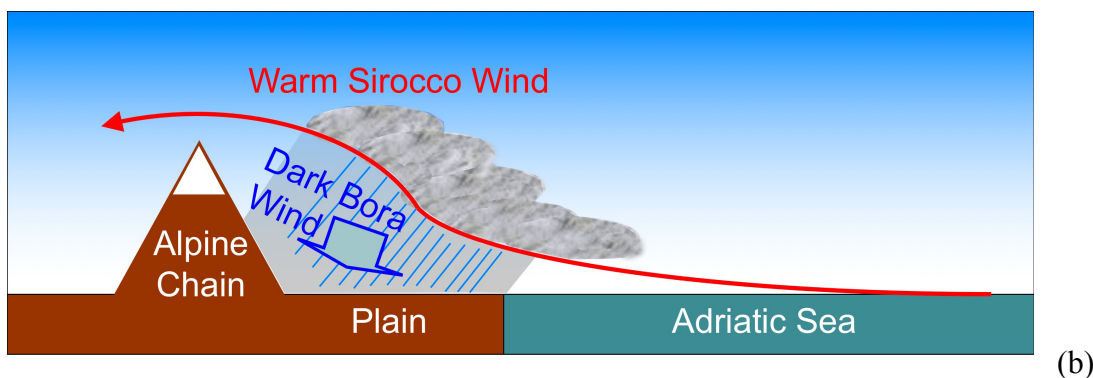
- Poleni G (1731) Viri Celeberrimi Johannis Marchionis Poleni, R. S. Lond. S ad virum Doctissimum Jacobum Jurinum, M.D.R.S.S. Epistola, qua continetur Summarium Observationum Meteorologicarum per sexennium Patavij habitarum, Philos Trans 421:201-216



Qiu Y, San B, Zhao Y (2019) Numerical Simulation and Optimization of Wind Effects of Porous Parapets on Low-Rise Buildings with Flat Roofs. *Advances in Civil Engineering* 11:1-11  
 Valle G (1781) *Pianta di Padova*. The map was finished in China ink and watercolour by G. Valle in 1781 and then etched and printed by G. Volpato, Rome 1781

### ESM 7. Supplement to Section 2: The Direction of Windborne Rain in Padua

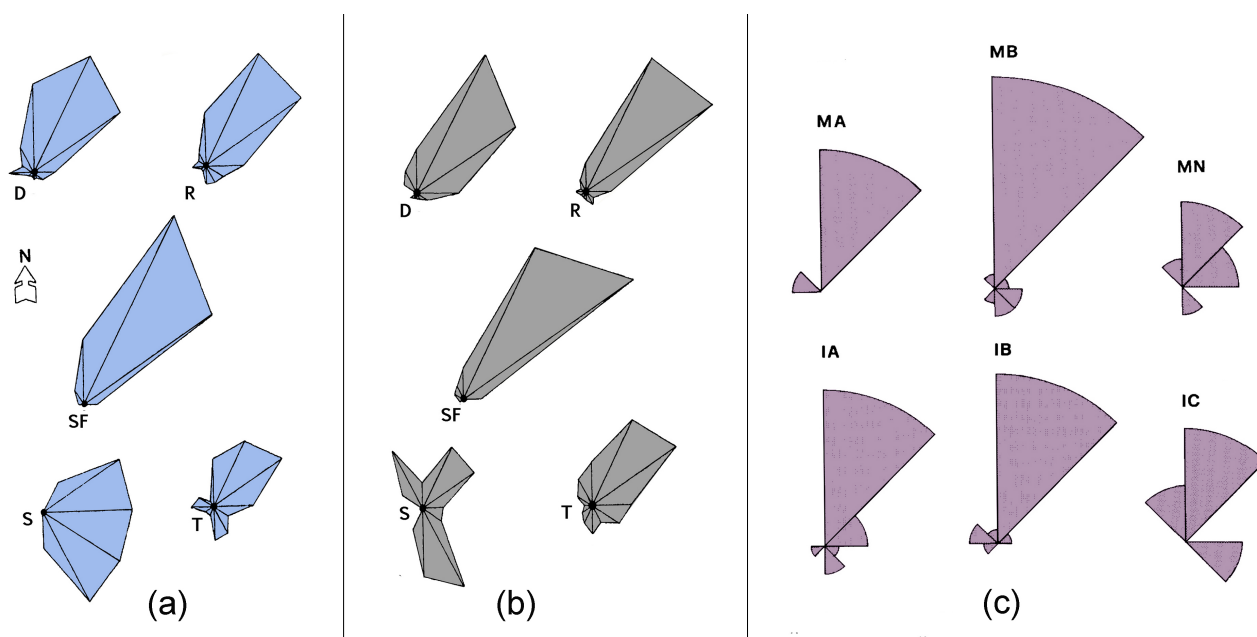
In Venice and Padua, for their geographical position between the Adriatic Sea shore and the Alpine Chain, and the dynamic behaviour of the Sirocco Wind field when crossing the Alps, a wind layering is formed, with the warm and humid Sirocco Wind aloft, and a Bora-type Wind below, blowing from north-east, as shown in Fig.ESM4ab. (Camuffo 1981, 1982, 1990; Camuffo et al. 1979, 1984, 1988).



**Fig.ESM4** (a) Satellite view of Northern Italy showing the Sirocco Wind flowing above the Alps and generating a Dark Bora with precipitation in Padua (PD) and Venice (VE). (b) Schematic diagram in a SE-NW vertical cross section.

This local wind is meteorologically known as *Dark Bora*. The first part of the name, *Dark*, is due to the thick cloud cover and precipitation that forms at the contact layer between the warm and humid Sirocco and the cold wind below; this thick cover reduces daylight. The second part of the

name, *Bora*, because it is strong and has the typical direction of the Bora winds, i.e. from north-east. The *Dark Bora* occurs when the warm and humid Sirocco wind crosses the Alpine Chain, and is explained with the dynamical mechanism that is triggered and the particular pressure field generated along the lee of the Alpine Chain (Reiter 1971, 1975). In Padua, Venice and the hinterland between the Adriatic Sea and the Alpine Chain, this is the most frequent mechanism to generate rain (Fig.ESM4c). Only summer showers and other precipitation generated by local thermo-convective activity is not strictly controlled by these mesoscale interactions and windborne raindrops may occur with other wind directions, e.g. the local breeze.



**Fig.ESM4c** Precipitation roses (direction of windborne drops) in Venice and Padua. (a) Venice S. Nicolò airport, on the sea shore, 1951-61. D drizzle, R rain, SF snow flakes, S showers, T thunderstorm. (b) Venice Tesserà airport, on the lagoon shore, 1962-71 (from Camuffo et al. 1984, by courtesy of Elsevier, Science of the Total Environment, ON 4758681017399). (c) Precipitation roses in Padua for different weather types (from Camuffo et al. 1988, by courtesy of Elsevier, Science of the Total Environment, ON 4758671238610).

The combination of Fig.ESM4c and Fig.ESM3(d) explains the trajectory of windborne drops to reach the three chimneys of the Poleni house. Chimneys facing the street should be excluded, because Poleni had no access to this building side (Poleni 1731). Very likely, the funnel was located on the top of chimney 1, except for the period 1737-42, when it was moved to another chimney. Chimney 1 was above the library with the meteorological instruments; chimney 2 above the laboratory of physics on the 1<sup>st</sup> floor; and chimney 3 above the kitchen.

## References

- Camuffo D (1981) Fluctuations in Wind Direction at Venice, Related to the Origin of the Air Masses. *Atmospheric Environment* 15:1543-1551
- Camuffo D (1982) The Sea Breeze at Venice, as Related to Daily Global Solar Radiation. *Boundary Layer Meteorology* 23:175-184
- Camuffo D (1990) Acidic Precipitation Research in Italy. In: Bresser AHM and Salomons W (ed) *Acidic Precipitation Vol.5, Advances in Environmental Science*, Springer Verlag, New York, pp 229-265



Camuffo D, Tampieri F and Zambon G (1979) Local Mesoscale Circulation over Venice, as a Result of the Mountain-Sea Interaction. *Boundary Layer Meteorology* 16:83-92  
 Camuffo D, Del Monte M and Ongaro A (1984) The pH of Atmospheric Precipitation at Venice, Related to both the Dynamics of Precipitation Events and Weathering of Monuments. *The Science of the Total Environment* 40:125-140  
 Camuffo D, Bernardi A and Zannetti, M (1988) Analysis of the Real-Time Measurement of the pH of Rainfall at Padova, Italy: Seasonal Variation and Meteorological Aspects. *The Science of the Total Environment* 71:187-200  
 Reiter E (1971) Digest of Selected Weather problems of the Mediterranean. NAVWEARSCHFAC Tech Paper 9 71. Norfolk VI  
 Reiter E (1975) Handbook for Forecasters in the Mediterranean. ENVPREDRSCHFAC Tech Paper 5,75, Montrey CA

**ESM 8. Supplement to Section 2: Examples of the original documents**

Day - New Style (Gregorian)	Rain (London Inch, Tenths)	Empty column	Day - Old Style (Julian) (Gregorian is added in ink)	Hour of the day (red: astronomical notes)	Barometer (London Inch, Tenths)	Amontons Thermometer (London Inch, Tenths)	Wind Direction	Weather Notes	Rain (London Inch, Tenths)
DIES. ST. N.	PLUVIA. DIG. DEC.		DIES. ST. V.	HORA. H.	BAROM. ALT. DIG. DEC.	THERM. ALT. DIG. DEC.	VENT.	TEMPESTAS.	PLUVIA. DIG. DEC.
			MART.						
1			1. 12	2. 5	30. 4	49. 28	NE.	Sol pauca et nubes.	
2.	0.068.		2. 13	15.	29. 98	49. 28	SW.	Caelum nudum.	
3.			3. 14	9.	29. 92	49. 36	E.		
30.			30. 10		29. 70	49. 28			
31.			31. 11		29. 46	49. 60	E.		
0. 154.					910. 20	1527. 28			3. 168
0. 154.					910. 19	1527. 28			3. 168.
Monthly Total (Gregorian Month)			Monthly Totals (Julian Month)			Monthly Total (Julian Month)			

**Fig.ESM5a** Scheme of Giovanni Poleni Log (top and bottom rows of March 1726). Poleni started on January 1<sup>st</sup> 1725 Julian Style (JS), i.e. January 12<sup>th</sup> Gregorian Style (GS). The two columns reporting precipitation are 11 days out of phase, following the two calendar styles, i.e. GS=JS+11d. The monthly totals outside the table, i.e. 0.154 inch and 3.168 inch are different because the Julian and Gregorian months differ between them, i.e. March JS starts on March 12<sup>th</sup> GS and ends on April 12<sup>th</sup> GS. The upper monthly totals of precipitation, barometer and thermometer are written by Poleni; the lower ones are a check made by Giuseppe Toaldo. Red pencil notations by Toaldo.

1726

DIES. ST. N.	PLVIA. DIG. DEC.	St. V.	DIES. ST. V.	HORA. H.	BAROM. ALT. DIG. DEC.	THERM. ALT. DIG. DEC.	VENT.	TEMPESTAS.	PLVIA. DIG. DEC.
MART.									
1			1. 12	2.	30. 4	49. 28	NE.	Sol paucissima nubes.	
2	0.068.		2. 13	15.	29. 98	49. 28	SW.	Caelum nudum.	
3		NA.	3. 14	9.	29. 92	49. 36	E.		
4	0.018.		4. 15		29. 56	49. 36	SE. 2	Caelum nubibus fere obscurum.	
5		L. Ven.	5. 16	11.	29. 68	49. 26	N. 2.	Sol et nubes altissimas.	
6			6. 17		30.	49. 26	N.	Caelum nudum.	
7			7. 18		29. 48	49. 20		Sol paucissima nubes.	
8		X	8. 19		29. 38	49. 18	SW.	Caelum nudum.	
9			9. 20	11.	29. 60	49. 20	E. 2.		
10		PE.	10. 21		29. 98	49. 18		Sol et nubes altissimas.	570
11			11. 22	11.	30. 12	48. 90	E.	Caelum nudum.	
12		Castas & Peng.	12. 23		29. 78	48. 90	SW.	Sol et nubes altissimas.	0. 068
13			13. 24		29. 36	49.	N.	Caelum nubibus fere obscurum.	
14			14. 25		29. 78	49. 6	NE.	Sol paucissima nubes.	
15			15. 26	3.	29. 70	49. 6		Caelum nudum.	
16			16. 27	11.	29. 68	49. 20		Sol paucissima nubes.	
17		PK.	17. 28		29. 68	49. 28	SW.	Caelum nudum.	
18		X. Ven.	18. 29		29. 82	49. 50	E.		
19			19. 30		29. 96	49. 60	S.		
20			20. 31		29. 96	49. 60	E.		
21		Equin.	Apr. 1.	11.	29. 90	49. 78	SW.		
22			22. 2		29. 60	50.	W.	Sol et nubes altissimas.	0. 046
23	0.068.		23. 3	8.	29. 6	49. 54	NE. 3.	Pluvia. inde mix.	1. 266
24			24. 4		29. 34	49. 18	NE. 4.	Caelum nubibus obscurum.	0. 692
25		U. G.	25. 5	11.	29. 42	49. 6	N. 2.	Pluvia variis.	0. 490
26		L. Ven.	26. 6		29. 34	49.	NE. 3.		0. 090
27			27. 7		29. 16	49.	NE. 2.	Caelum nubibus fere obscurum.	0. 268
28			28. 8	11.	29. 30	49. 5	NE.	Sol et nubes altissimas.	0. 248
29			29. 9	15.	29. 68	49. 16	N.	Caelum nudum.	
30			30. 10		29. 70	49. 28			
31			31. 11		29. 46	49. 68	E.		
					910. 20	1527. 24			
					910. 19	1527. 28.			
					920. 19				
					0. 154.				
					0. 154.				
							3. 168		
							3. 168.		

Fig. ESM5b Example of Giovanni Poleni Log, March 1726. (© Historical Archive of the Astronomical Observatory, Padua. The Poleni Log is available online, on the Archive website <http://www.beniculturali.inaf.it/sicap/opac.aspx?WEB=INAFS&OPAC=AD&TBL=AD&ID=20273>)



The image shows a handwritten astronomical log for August 1768. The page is filled with daily entries, each containing several columns of data. The columns are labeled at the top: '1768', 'Benigno', 'Term.', 'Alto in cam', and 'Sole e nub.'. The entries are organized by day, with each day's observations listed in a vertical column. The data includes numerical values, likely altitudes and azimuths, and descriptive notes about the weather and celestial events. The handwriting is in cursive, and the paper shows signs of age and wear.

Day	Benigno	Term.	Alto in cam	Sole e nub.
1. h. 13 <sup>3</sup>	27.8 <sup>3</sup>	22 <sup>3</sup>	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
2. h. 13 <sup>3</sup>	27.8 <sup>3</sup>	22 <sup>3</sup>	21 <sup>1</sup> / <sub>2</sub>	Sole
3. h. 12 <sup>3</sup>	27.8 <sup>3</sup>	22 <sup>3</sup>	22	Sole
4. h. 12 <sup>3</sup>	27.8 <sup>3</sup>	22 <sup>3</sup>	22	Sole
5. h. 13 <sup>3</sup>	27.8 <sup>3</sup>	22 <sup>3</sup>	22	Sole
6. h. 14	27.11	20 <sup>3</sup>	21 <sup>3</sup> / <sub>5</sub>	Sole e nub.
7. h. 14	27.10 <sup>3</sup>	21 <sup>3</sup> / <sub>5</sub>	21 <sup>3</sup> / <sub>5</sub>	Sole e nub.
8. h. 14	27.9 <sup>3</sup>	21 <sup>1</sup> / <sub>2</sub>	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
9. h. 15	27.9 <sup>3</sup>	21	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
10. h. 12	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole
11. h. 12	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
12. h. 16	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
13. h. 14	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
14. h. 13	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
15. h. 11	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
16. h. 12	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
17. h. 12	27.9 <sup>3</sup>	22	20 <sup>1</sup> / <sub>2</sub>	Sole e nub.
18. h. 12	27.9 <sup>3</sup>	22	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
19. h. 13	27.9 <sup>3</sup>	22	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
20. h. 12	27.9 <sup>3</sup>	22	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
21. h. 12	27.9 <sup>3</sup>	22	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
22. h. 11	27.9 <sup>3</sup>	22	21 <sup>1</sup> / <sub>2</sub>	Sole e nub.
23. h. 13	27.7 <sup>3</sup>	22	22	Sole e nub.
24. h. 11	27.7 <sup>3</sup>	22	22	Sole e nub.
25. h. 12	27.7 <sup>3</sup>	22	22	Sole e nub.
26. h. 14	27.7 <sup>3</sup>	22	22	Sole e nub.
27. h. 12	27.8 <sup>3</sup>	20 <sup>3</sup> / <sub>5</sub>	20 <sup>3</sup> / <sub>5</sub>	Sole e nub.
28. h. 11	27.7 <sup>3</sup>	19	19 <sup>3</sup> / <sub>5</sub>	Sole e nub.
29. h. 16	27.8 <sup>3</sup>	20 <sup>3</sup> / <sub>5</sub>	20 <sup>3</sup> / <sub>5</sub>	Sole e nub.
30. h. 14	27.7 <sup>3</sup>	20 <sup>3</sup> / <sub>5</sub>	20 <sup>3</sup> / <sub>5</sub>	Sole e nub.
31. h. 13	27.9 <sup>3</sup>	20 <sup>3</sup> / <sub>5</sub>	20 <sup>3</sup> / <sub>5</sub>	Sole e nub.

Fig.ESM6 Example of Giovan Battista Morgagni Log, August 1768. (© Historical Archive of the Astronomical Observatory, Padua. The Morgagni Log is available online, on the Archive website [www.beniculturali.inaf.it/archivi/padova/#serie](http://www.beniculturali.inaf.it/archivi/padova/#serie)).



112

**OSSERVAZIONI METEOROLOGICHE VENETE**  
fatte sul mezzo giorno secondo l' Orologio Italiano  
**Agosto 1765.**

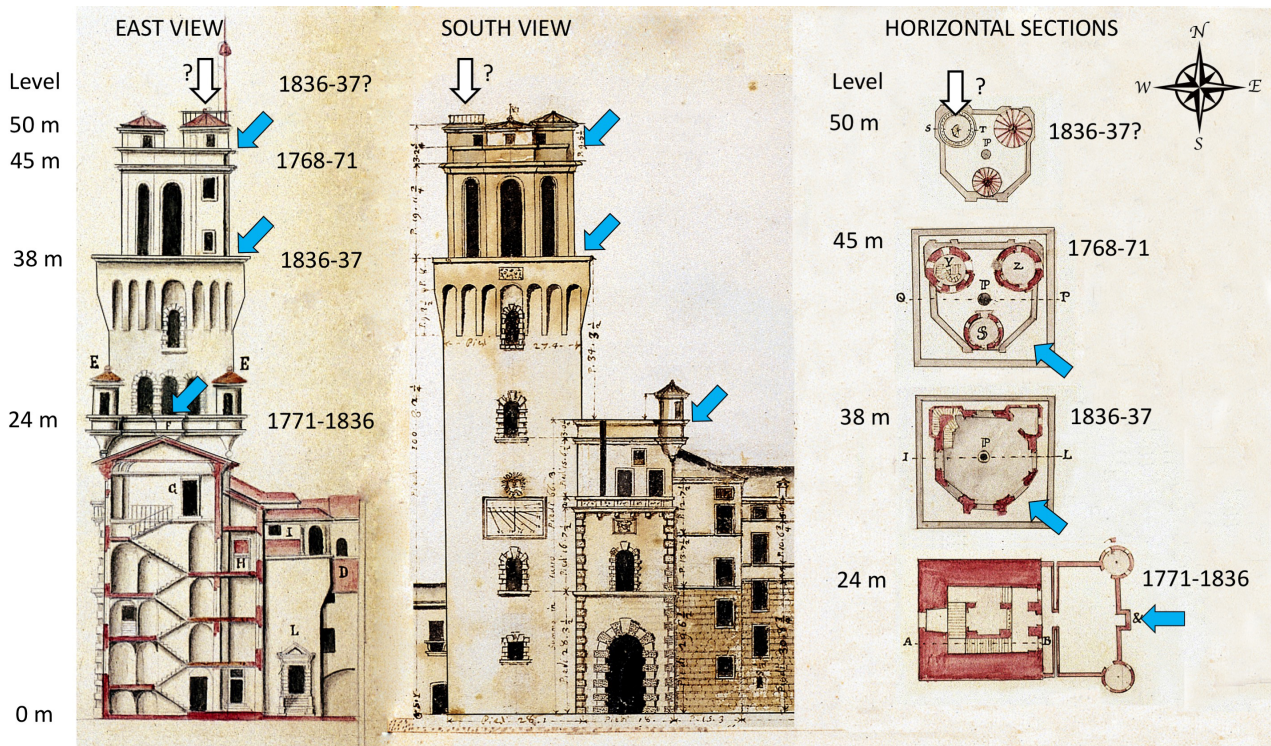
Gior- ni	Altezza del Barom.	Altezza Termom. secondo		Condizioni dell'Aria	Ven- ti	Piog- gia
		Fabren.	Reaum.			
1	28. $\frac{1}{8}$	$79\frac{1}{6}$	$21\frac{1}{4}$	Seren. e nella notte minacciofo	NE	
2	28.	$82\frac{1}{8}$	$22\frac{1}{4}$	Dopo nebbia densa , fereno.	NE	
3	27. $9\frac{1}{2}$	$82\frac{1}{6}$	$22\frac{1}{2}$	Sereno , con nubi vaghe.	SW	
4	27. $9\frac{1}{4}$	$81\frac{1}{2}$	22	Var. indi nella noct. piog. fulm.	SW	--:6
5	27. $9\frac{1}{4}$	$77\frac{3}{4}$	$20\frac{1}{2}$	Var. poi piog. con tuon. indi var	NE	--:7
6	27. $10\frac{1}{2}$	$75\frac{1}{2}$	$19\frac{1}{2}$	Vario .	SW	
7	27. $10\frac{1}{2}$	$77\frac{3}{4}$	$20\frac{1}{2}$	Vario .	SW	
8	27. $10\frac{1}{2}$	$80\frac{1}{4}$	$21\frac{3}{4}$	Sereno con qualche nube .	SE	
9	27. $9\frac{1}{2}$	$82\frac{1}{6}$	$22\frac{1}{2}$	Vario .	SW	
10	27. $9\frac{1}{4}$	$82\frac{1}{6}$	$22\frac{1}{2}$	Vario, poi coperto, e ventoso.	SW	1:6
11	27. 8	$80\frac{1}{4}$	$21\frac{3}{4}$	Dop. piog. e fulm. var. poi piog.	SW	
12	27. $11\frac{1}{2}$	$74\frac{3}{4}$	19	Sereno con qualche nube .	NE	
13	27. $10\frac{1}{6}$	$75\frac{7}{8}$	$19\frac{1}{2}$	Coperto , poi vario .	NE	
14	27. $10\frac{1}{8}$	$78\frac{1}{8}$	$20\frac{1}{2}$	Coperto , poi vario .	SE	
15	27. $10\frac{1}{2}$	$78\frac{1}{6}$	$20\frac{1}{4}$	Sereno , poi coperto .	E	
16	27. $9\frac{1}{2}$	$78\frac{1}{8}$	$20\frac{1}{2}$	Dopo minacciofo , vario .	NE	
17	27. $9\frac{1}{2}$	$76\frac{1}{4}$	$19\frac{2}{3}$	Piog. gr. tuo. ful. e di poi interrot.	SE	1:8
18	27. $10\frac{1}{4}$	$76\frac{1}{4}$	$19\frac{2}{3}$	Sereno con nubi vaghe .	NE	
19	28. $\frac{1}{2}$	77	20	Dopo nebbia , fereno .	N	
20	28. $1\frac{1}{4}$	77	20	Sereno con vento .	S	
21	28. $\frac{1}{8}$	$77\frac{1}{6}$	$20\frac{1}{4}$	Sereno .	N	
22	27. $11\frac{1}{6}$	$78\frac{1}{6}$	$20\frac{1}{4}$	Dopo vaghe nubi , fereno .	Nw	
23	27. $11\frac{1}{2}$	$79\frac{1}{4}$	21	Sereno .	Nw	
24	28.	$82\frac{1}{6}$	$22\frac{1}{4}$	Sereno .	Nw	
25	28. 1	$84\frac{1}{6}$	$23\frac{1}{4}$	Vario , poi fereno .	Nw	
26	28. $\frac{1}{2}$	86	24	Sereno .	Nw	
27	28.	$82\frac{1}{4}$	$22\frac{1}{2}$	Cop. poi piog. indi var. poi piog.	Nw	--:6
28	27. $11\frac{1}{2}$	$80\frac{1}{4}$	$21\frac{3}{4}$	Vario , poi fereno .	Nw	
29	27. $11\frac{1}{2}$	$82\frac{1}{6}$	$22\frac{1}{2}$	Sereno con qualche nube .	SW	
30	27. 11	$83\frac{1}{6}$	$22\frac{1}{4}$	Sereno con qualche nube .	SW	
31	27. $11\frac{1}{2}$	$79\frac{1}{6}$	$21\frac{1}{4}$	Coperto , poi fereno .	SW	

Summa Pollici 4:9

**Fig.ESM7** Example of Nicolò Pollaroli Log, in the *Giornale di Medicina* (Medicine Journal) edited by Pietro Orteschi, August 1765, printed B. Milocco, Venice. (Inv. SIN832188, Coll. Per. 817, year 1765, page 112, © Marciana Library, Venice



### ESM 9. Supplement to Section 2: Raingauge Exposure on the Specola Tower



**Fig.ESM8** Vertical cross sections of the main Tower (from East and South), and horizontal cross sections of the terraces (on the right) with the most likely locations of the raingauge (cyan arrows with indicated period) from 1768 to 1837. The levels of the locations are reported in correspondence of the exposure years. The likely position in 1836-37 is reported twice: the 38 m level (cyan arrow) is the most probable one, the 50 m level (white arrow, question mark) the less probable. Original sections made by the Architect Domenico Cerato during the refurbishment works in 1768-1771, but rearranged (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Album Cerato).



ESM 10. Supplement to Section 2: Examples of the original documents

Febr. 1770

Barometro Termometro Vento meteo

Giorni	Barometro	Termometro	Vento	meteo
1. Feb. 27. 8 <sup>1/2</sup>	-1.	T.	ca. 15 S.	la neve in iguaglianza
2. 27. 10. 1/2	-1.	T.	ca. 15 S.	la neve in iguaglianza
3. 27. 11. 1/2	-1 1/2	T.	ca. 15 S.	la neve in iguaglianza
4. 27. 11.	5/8	T.	ca. 15 S.	la neve in iguaglianza
5. 27. 9. 1/2	-2 1/2	T.	ca. 15 S.	la neve in iguaglianza
6. 27. 8. 1/2	-1.	T.	ca. 15 S.	la neve in iguaglianza
7. 27. 10. 1/2	-1.	M. 20 S.	ca. 15 S.	la neve in iguaglianza
8. 27. 10. 1/2	-1 1/2	ca.	ca. 15 S.	la neve in iguaglianza
9. 27. 10.	0.	ca.	ca. 15 S.	la neve in iguaglianza
10. 27. 11. 1/2	-1.	ca.	ca. 15 S.	la neve in iguaglianza
11. 27. 10. 1/2	+0 1/2	ca.	ca. 15 S.	la neve in iguaglianza
12. 27. 11. 1/2	+0 1/2	ca.	ca. 15 S.	la neve in iguaglianza
13. 28. 1.	+0 1/2	ca.	ca. 15 S.	la neve in iguaglianza
14. 28. 1.	0	ca.	ca. 15 S.	la neve in iguaglianza
15. 27. 11.	+0 1/2	ca.	ca. 15 S.	la neve in iguaglianza
16. 27. 10. 1/2	+1 1/2	ca.	ca. 15 S.	la neve in iguaglianza
17. 27. 8.	+1	ca.	ca. 15 S.	la neve in iguaglianza
18. 27. 10. 1/2	+2 1/2	ca.	ca. 15 S.	la neve in iguaglianza
19. 27. 10. 1/2	+3 1/2	ca.	ca. 15 S.	la neve in iguaglianza
20. 27. 10. 1/2	+1 1/2	ca.	ca. 15 S.	la neve in iguaglianza
21. 27. 2.	0.	ca.	ca. 15 S.	la neve in iguaglianza
22. 27. 10. 1/2	+1/3	ca.	ca. 15 S.	la neve in iguaglianza
23. 27. 10. 1/2	+2 1/2	ca.	ca. 15 S.	la neve in iguaglianza
24. 27. 8.	+1 1/2	ca.	ca. 15 S.	la neve in iguaglianza
25. 27. 7.	+2.	ca.	ca. 15 S.	la neve in iguaglianza
26. 27. 8.	-1/2	ca.	ca. 15 S.	la neve in iguaglianza
27. 27. 8.	-1.	ca.	ca. 15 S.	la neve in iguaglianza
28. 27. 10. 1/2	-2.	ca.	ca. 15 S.	la neve in iguaglianza

27. 10. 1/2 = 27. 9. 1. + 0.42. mezzo mezzo al mese la mattina

193. La neve del 8 fu alta di Piedi 14. - Min 15. ne vese sol'acqua in terra.

Tutta questa neve colla venticella che altho un'ora e mezzo quant'che che m'era in l'ora di quest'ora. ma era  
 abbassata in 1/2 ora; non scappando il vento, capiva gli' altho che se ne seguiva poco a poco e se ne seguiva  
 molto vanti quasi di più presto, come fruttava il vento, e non si poteva dire che il danno non fosse grande. Nella  
 Lettera del Pignoni si legge una neve simile del 1608. Convento spogliato dalla neve in terra. Neve col'alt  
 la neve vese in terra dalle 13 Ven. sino l'12 mezzo. e più altho o ven accumulata add'acqua e di  
 questa quantità pare che si sia nell'oceano, come si narra nelle supposte.  
 di 26. e nato il celebre Francesco Tartini in chi d'anni 78.

Fig. ESM9a Example of a fair copy Giuseppe Toaldo Log, February 1770 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Osservazioni Meteorologiche di Padova, 1766-1804).



I	II	III	IV	V	VI	VII	VIII
21.0	21.7	21.6	21.5	21	20.3	20.0	16.6
21.3	22.3	21.7	21.4	20.5	19.6	18.7	16.5
24.5	23.8	22.7	21.9	21.2	20.3	19.3	15.7
22.5	23.7	22.5	21.7	21.8	20.3	19.6	15.8
24.7	23.3	22.8	23.7	24.5	22.6	20.7	20.7
25.2	26.4	24.3	25.5	27.0	21.9	21.8	20.9
26.5	27.2	27.0	26.8	27.0	27.2	20.6	16.3
22.5	23.9	24.7	24.7	23.3	21.5	19.8	15.3
28.06							28.09
Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 4	Jan. 1
Feb. 1							
22.8	21.3	22.1	22.8	23.2	20.8	23.3	21.8
21.9	21.7	22.1	22.8	22.1	22.0	21.2	20.8
21.7	21.7	22.1	22.8	22.4	22.4	21.4	20.8
20.9	20.8	22.0	23.3	22.6	23.4	23.7	21.2
21.9	21.0	22.7	23.1	22.4	25.5	21.6	24.5
22.2	22.0	23.9	23.7	25.9	23.8	24.9	24.3
22.2	22.8	23.6	23.7	24.5	24.3	23.7	23.9
19.0	19.8	21.8	24.4	24.4	23.5	25.2	23.2
28.08							28.02
Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1
22.3	22.0	22.3	22.1	24.0	23.0	22.7	21.6
22.0	22.1	22.1	22.0	22.5	22.8	21.7	21.2
22.6	22.9	22.3	22.6	22.3	22.8	22.0	21.5
22.2	23.0	24.3	22.1	22.3	22.8	22.7	21.5
22.7	24.3	24.7	22.5	22.4	22.4	22.7	22.7
24.3	23.8	22.4	22.5	22.4	22.8	22.7	22.7
23.3	24.3	22.3	22.7	24.3	24.0	22.7	20.0
19.7	21.9	22.3	22.2	24.4	22.6	22.7	22.7
	28.0.0			27.11.6			
Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1

Fig.ESM9b Example of a first draft Giuseppe Toaldo Log with corrections and ink stains (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Atti vari di carattere scientifico, «Carte di Giuseppe Toaldo», B. XXI, fasc. 5).



*Tabula Meteorologica pro Mense Januario Anno 1811. Palavi in Observatorio Astronomico.*

Die	Hora	Baromet. (Statenst.)	Thermom. (libero aere) (Statenst.)	Thermom. (submerso) (Statenst.)	Hygrom. (Chimic.)	Declinatio (gradus)	Ventus	Pluvia	Alti. (Statenst.)	Peculiares Observaciones
1	8. 10. 12. 1. 3.	28. 1. 07	2. 5	- 2. 8	701	15° 0'	NE	0	OT	1. hinc immo vixit de nubibus, per hinc multum ad mane
2	8. 10. 12. 1. 3.	28. 1. 45	1. 9	- 3. 1	700	15° 0'	NE	0	OT	2. Tem. multum ad mane, hinc vixit ad mane
3	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	3. vixit ad mane
4	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
5	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
6	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
7	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
8	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
9	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
10	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
11	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
12	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
13	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
14	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
15	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
16	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
17	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
18	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
19	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	
20	8. 10. 12. 1. 3.	27. 11. 05	1. 1	- 3. 1	700	15° 0'	NE	0	OT	

Fig.ESM10 Example of Vincenzo Chiminello Log following the protocol of the *Societas Meteorologica Palatina*, Mannheim, January 1811 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Osservazioni Meteorologiche di Padova 1809-1811).

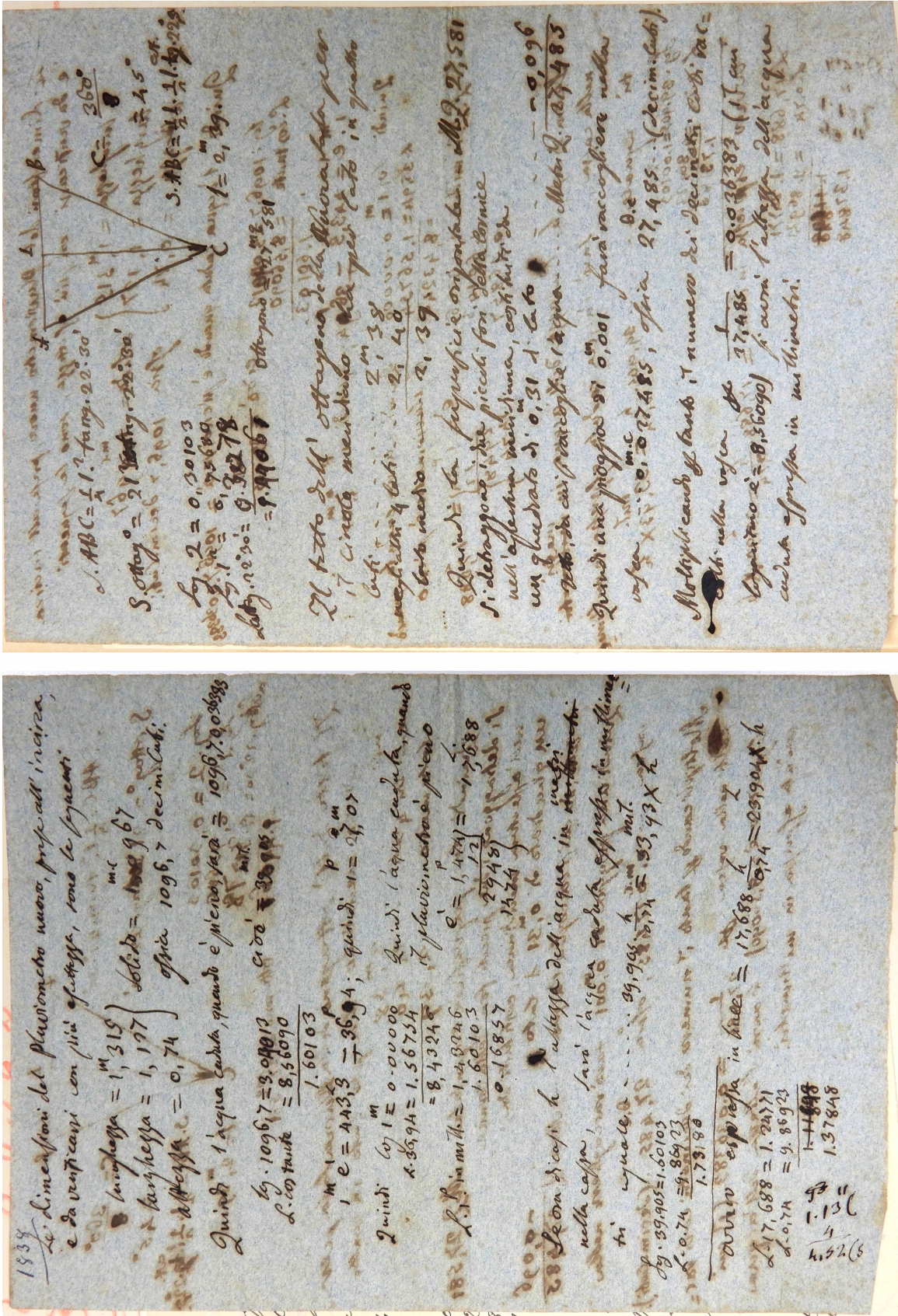


**OSSERVAZIONI METEOROLOGICHE** fatte nella Specola di Padova  
Mese di *Maggio* 1816

Giorni del Mese	Barometro	Medj	Termometro		Igrometro		Venti	Pioggia	Stato del cielo	OSSERVAZIONI PARTICOLARI
			inter-no	ester-no	di Chimistello	De Lue				
1	27.10,65	27.10,70	12,2	11,2	83	95	W 0		Sereno	Bello e caldo
	27.10,8A		12,5	11,1	105	42	N 1		Sereno	
2	27.11,0A	27.11,00	12,8	13,1	119	27	E 0		Sereno	Bello
3	28.1,3	28.1,47	13,6	13,2	120	29	E		Sereno	Simile
	28.1,2		14,0	13,0	139	15	E		Sereno	
	28.1,2A		13,0	12,1	120	33	E 1		Sereno	
4	28.2,8A	28.1,80	13,9	13,8	121	26	W 0		Sereno	Variabile, verso sera vento forte di sud
	28.1,52		13,1	13,0	130	20	S 2		Vario	
	28.1,52		13,9	13,5	129	23	S 3		Vario	
5	28.0,82	28.0,90	13,5	11,8	80	52	S		Nuvolo sereno	
	28.1,05		14,5	16,0	113	30	E 0		Vario	
6	28.1,2	28.0,30	13,5	10,9	75	73	W		Nuvolo vari	verso le 6 <del>una</del> temporale con grandine e vento impetuoso.
	28.0,5		14,2	16,4	115	28	E		temp. sul Br.	
	27.11,2		13,5	11,0	90	34	W			
7	28.0,4A	28.0,47	13,0	10,0	70	58	S 0		Sereno	Bello, ma fresco
	28.0,6A		13,0	13,2	112	30	E		Sereno	
	28.0,42		13,5	11,0	82	60	E		Sereno	
8	28.0,65	28.0,39	13,5	12,4	82	50	E 0		Sereno	Sole languido
	28.0,42		14,4	14,0	113	33	E 0		Nuvolo	
	28.0,2		14,0	13,7	100	38	E 0		Sereno	
9	27.9,72	27.8,33	13,3	12,4	83	49	E 0		Vario	Temporale che cadde a molte Cayoni, ed in Caba fece pure dei danni.
	27.7,02		13,5	13,8	90	55	E 0		Temporale	
	27.8,32		13,0	12,1	79	45	E 0		Temporale	
10	27.10,0A	27.10,60	13,0	11,8	100	46	E 0		Vario	Variabile e fresco
	27.10,8A		13,8	14,3	147	0	S 0		Sereno	
	27.10,9A		12,0	11,5	151	2	S 1		Vario	
11	27.10,72	27.9,90	12,6	10,7	83	66	E 1		Nuvolo	Piovoso
	27.9,72		12,9	11,1	78	70	E 0		Allovoio	
	27.9,32		12,0	10,0	105	75			Nuvolo	
12	27.8,32	27.8,3	12,5	11,7	84	50	W		Sereno	
	27.8,35		13,0	12,0	75	60	W		Vario	
	27.8,32		12,5	11,5	134	19	W		Sereno	
13	27.10,0A	27.10,7	11,6	7,2	75	58	E		Nuvolo	Nuvolo, e fresco; Nebbia nel mattino
	27.10,4A		13,0	12,0	103	3,3	E		Vario	
	27.11,8A		11,0	9,0	125	24	E		Sereno	
14	28.0,8A	28.0,80	11,8	9,0	101	54	N		Vento unno	Vento 4 ore Comend. Burrasca ai mari noi di fece sereno.
	28.0,85		12,5	12,0	126	17	S		Vento	
15	28.2,4A	28.2,30	11,8	10,8	105	39	E		Nuvolo	
	28.2,5A		12,0	9,8	102				Sereno	

**Fig.ESM11** Example of Francesco Bertirosi-Busata Log, 1-15 May 1816. The days with red pencil mark, i.e. 6, 9 and 11, had precipitation. However, the amounts were read and reported on 7, 10 and 13 (i.e. one or two days later) (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Osservazioni Meteorologiche di Padova, 1766-1804).





**Fig.ESM12** Minutes with the calculation of the catching area of the dome of the Meridian Circle, used in 1838-1877 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Atti e dati relativi a strumenti, «Dati relativi ai pluviometri», b. XVI, fasc. 1, the same folio front and recto).



57

Quantità della pioggia	
Mesi	poll. lin. dec.
Gennajo .	2 8, 8
Febbrajo .	5 1, 8
Marzo .	2 0, 0
Aprile .	4 0, 1
Maggio .	4 11, 1
Giugno .	1 8, 2
Luglio .	1 2, 8
Agosto .	1 1, 6
Settembre	3 2, 6
Ottobre .	1 4, 2
Novembre	2 9, 0
Dicembre	0 11, 7
Somme .	31 1, 9

56

Mesi	GIORNI								Venti dominanti
	sereni	con pioggia	nuvolosi o varj	con neve	con gran- dine	con nebbia	con tempo- rale	con vento forte	
Gennajo .	2	5	24	8	..	4	..	2	N
Febbrajo .	2	11	16	9	..	6	..	9	E
Marzo .	1	12	27	..	..	3	1	5	E, NEE
Aprile .	4	15	21	..	..	..	..	12	E, NEE
Maggio .	10	9	20	..	2	2	5	3	E, NNE
Giugno .	6	9	20	..	..	..	4	10	N, NE
Luglio .	10	11	20	..	..	..	7	8	N
Agosto .	10	6	21	..	..	..	3	6	E
Settembre	6	11	13	..	..	6	1	3	NO
Ottobre .	14	2	14	..	..	1	..	7	N
Novembre	3	14	20	3	..	6	1	6	N, NNO
Dicembre	11	6	17	1	..	4	..	8	N
Somme	79	111	233	21	2	32	22	79	

Fig.ESM13 *Giornale Astro-Meteorologico* (Journal about Astronomy and Meteorology) of the year 1740 with the 1738 monthly totals and frequency.



**OSSERVAZIONI METEOROLOGICHE FATTE NELLA SPECULA DI PADOVA**

Mese di *Marzo* 1863

Giorni del Mese	Barometro ridotto a zero	Termometro		Ter- mometro- grafo	Igrometro	Venti	Pioggia	Stato del cielo	ANNOTAZIONI PARTICOLARI
		inter- no	ester- no						
1	24.2,7	+6,8	+5,2	+ 3,3		N. S. S.		Vario a dire	
	23.2,6	8,0	10,4			E. S. E.		Vario semiferreo e vento	
	23.2,2	7,4	7,8	10,9				Vario microlito	
2	23.0,1	8,0	7,2	2,3		N. S. S.		Semiferreo	
	23.2,6	8,1	7,2	10,6		N. S. S.		Semiferreo	
	23.2,4	7,7	8,1					Vario torbido	
3	23.2,7	7,2	4,8	2,3		N.		Vario	
	23.1,4	8,6	9,2	11,0		N. S. S.		Vario	
	23.0,7	8,2	8,8					Vario	
4	23.0,4	7,5	7,8	1,8		N. S. S.		Semiferreo	
	23.0,5	7,7	7,0			S. S. E.		Vario solo	Oggi si aprirono i primi fiori d' albicorno nel giardino
	23.0,7	8,4	7,2	10,7				Semiferreo vari.	
5	23.1,1	8,2	6,8	4,7		E. S. E.		Pioviggino	
	23.1,2	8,7	8,0					Pioviggino	
	23.1,1	8,3	8,6	8,6		E. S. E.		Pioviggino a tratti	
6	23.2,2	8,4	6,8	5,2		N. E.		Vario	
	23.2,0	8,8	9,6					Vario microlito	
	23.1,7	8,4	8,5	9,9		E. S. E.	1,028	Vario	
7	23.0,5	8,4	7,3	6,7		N.		Pioviggino solo.	
	23.0,0	7,1	10,0					alquanto	
	22.14,3	8,7	8,7	10,2		N. S. S.		Pioviggino a tratti	
8	23.9,8	8,7	8,0	6,9		E. S. E.		Vario vario	
	23.9,2	7,5	10,2					Vario	
	23.8,3	8,9	8,7	10,2		E. S. E.	3,040	Pioviggino a tratti	
9	27.7,7	9,0	8,2	7,6		E		Vario	
	27.7,9	9,1	7,2					Vario e vento	Stella notte pioggia.
	27.7,5	8,6	8,8	9,4		E. S. E.		Vario e vento da pioggia	
10	27.5,0	8,6	6,5	5,6		N. S. S.		Vario e nebbia	
	27.4,8	9,0	8,3				9,151	Temperatura e nuovo sopra 5.4 p. fuono a N.	
	27.5,0	8,7	7,6	9,2		N. S. S.		Vario con lampi	
11	27.8,7	8,0	4,3	3,0		N. E.		Vario per nuovo	
	27.8,0	8,3	6,8				9,356	Pioviggino a tratti e vento forte	
	27.6,9	8,1	6,0	7,0		E. S. E.		Pioggia e vento	
12	27.7,1	8,0	6,3	5,7		E. S. E.		Vario	
	27.7,1	9,0	8,6					Vario vari	Stella notte.
	27.7,4	8,5	7,6	8,9		N. S. S.	10,757	Variabile	
13	27.6,9	8,1	5,8	5,2		N. E.		Vario nuovo	
	27.6,2	8,9	8,0					Vario e vento	Stella notte.
	27.5,4	8,2	6,8	8,1		E		Pioggia e vento	
14	27.6,0	8,1	5,2	4,7		E. S. E.		Vario e nebbia	
	27.6,3	7,3	9,2				10,064	Vario microlito	Stella per la più forma.
	27.6,5	8,8	7,6	9,4		S. S. E.		Vario microlito	
15	27.5,6	8,2	5,8	4,0		E. S. E.		Vario microlito prima fuono	
	27.4,5	9,1	8,9					Vario microlito	Stella in vento e pioggia
	27.3,8	8,4	7,0	7,0		E		Vario da pioggia	
16	27.2,7	8,0	4,9	4,3		E. S. E.		Vario e vento	
	27.3,9	8,8	7,7				6,574	Vario microlito e vento	Stella pioggia a tratti
	27.4,6	8,4	7,6	8,8		E. S. E.		Vario microlito	

Media del Barometro per mese di Marzo = 27.10,3  
 Media del Termometro interno = + 9,1  
 Media del Termometro esterno = + 8,0

Termometro zero. minimo + 1,8  
 " massimo = 14,6  
 " minimo = 4,95  
 " massimo = 10,46

**Fig.ESM14** Example of a Log in Santini period, observer Jacopo Michez, 1-15 March 1863. The days with red pencil mark, i.e. 5, 7-11, 13, 15 and 16 had precipitation. However, the amounts were read and reported on 6, 8, 10-12, 14 and 16 (7 times over 9, at least 7 readings are delayed, 2 are mixed) (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Osservazioni Meteorologiche di Padova 1839-1864).



1877

Nel giorno 5 marzo espando l'altrezza dell'acqua nel pluviometro nuovo da 700 millimetri, si fece uscire l'acqua step notando l'abbassamento corrispondente a ogni 0,8 di litro d'acqua uscita - La media delle prime quattro misure diede l'abbassamento di 43,8

la media delle 2 <sup>e</sup> quattro	44,8
" " 3 <sup>e</sup> "	44,4
" " 4 <sup>e</sup> "	44,8
media generale	44,45

Il giorno 28 si versò acqua del di sopra, e si notò l'abbassamento corrispondente alla immersione di ogni 0,8 di litro si ebbero i tre valori medi seguenti

per le prime 5 misure	43,40
2 <sup>e</sup> 5 "	43,70
3 <sup>e</sup> 6 ultime misure	44,60
media generale	43,90

Differenza fra i due risultati - 0,55<sup>mm</sup>

Medio dei due risultati - 44,18

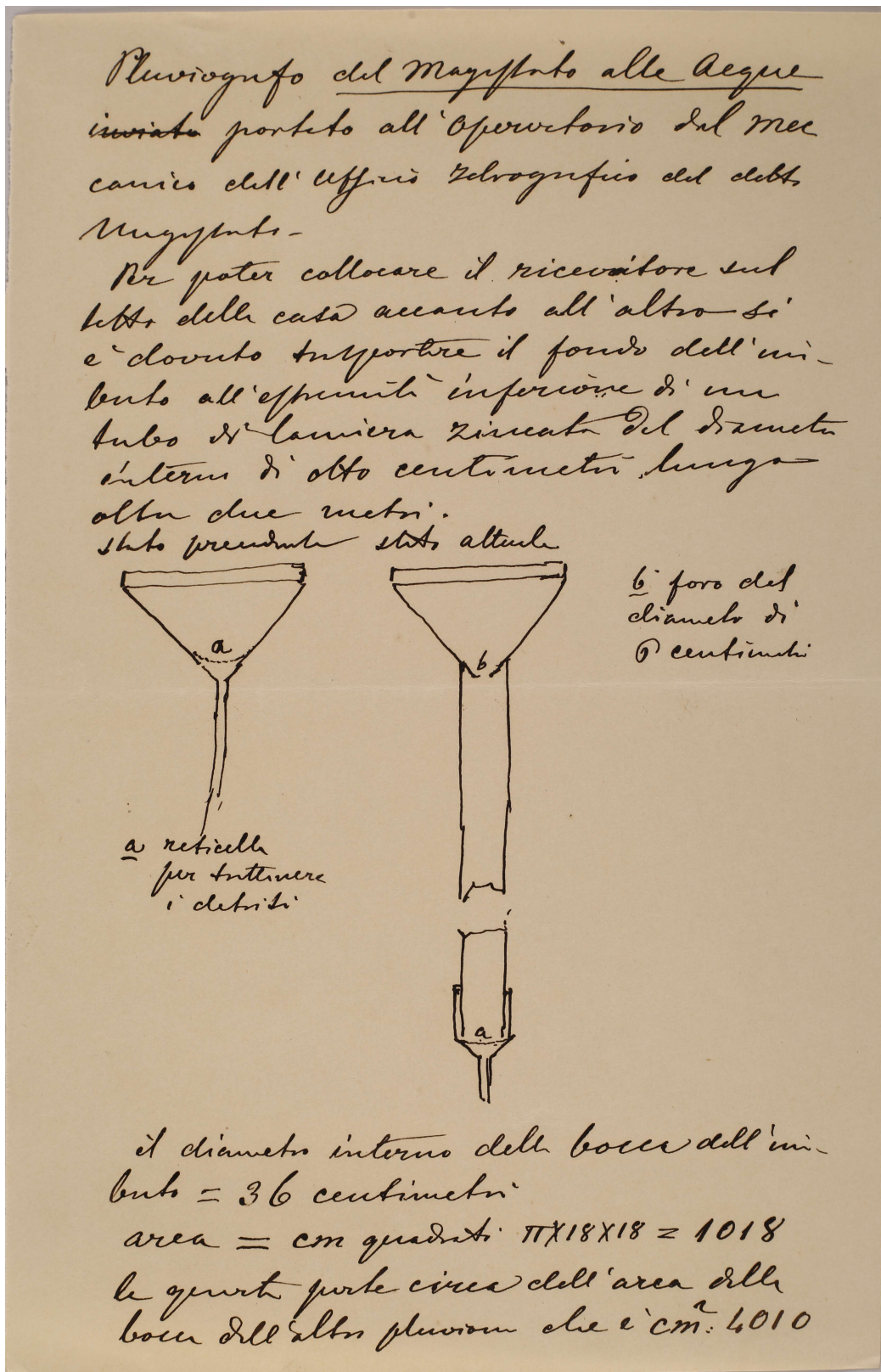
$\frac{800}{401}$  siccome 0,8 litri divisi su 40,1<sup>dm</sup> (che è l'area del vaso ricevitore) danno l'abbassamento di millimetri

$\frac{800}{401}$  con il coefficiente del pluviometro sarà:

$$\left(\frac{800}{401} : x = 44,18 : 1\right) = \frac{800}{401 \times 44,18} = \frac{1}{22,145} = 0,04515$$

log 800 = 2,90309	1,34528
log 401 = 2,60286	22,145
= 8,35477	
8,65472	

**Fig.ESM15** Minutes concerning the calibration of the rain gauge on the roof built by the technician Giuseppe Cavignato. Calibration on 6 March 1877. The report of the expenses made by Cavignato to build the rain gauge is dated 28 December 1876 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Atti e dati relativi a strumenti, «Dati relativi ai pluviometri», b. XVI, fasc. 1).



**Fig.ESM16a** Minutes with the details of the funnels for the self-recording siphon raingauge Palazzo model of the Water Magistrate, October 1910 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Atti e dati relativi a strumenti, «Dati relativi ai pluviometri», b. XVI, fasc. 1).



UFFICIO IDROGRAFICO DEL R. MAGISTRATO ALLE ACQUE

N. 1614

Venezia, 18 ottobre 1910

Risposta alla nota N. ....

del .....

Domani si recherà costì il meccanico di questo Ufficio Monaldi Nicola il quale porterà seco un pluviografo da impiantarsi, come la S.V. crederà più opportuno, in codesto Osservatorio, e ciò in seguito ad autorizzazione data dalla S.V. Illma.

Tutte le spese per tale impianto sono a carico di quest'Ufficio e la somma sarà subito pagata verso la presentazione dei documenti giustificativi necessari.

Con la maggiore osservanza

IL DIRETTORE

*G. Magrini*

All' Illmo Sig. Direttore  
del R. Osservatorio Meteorologico

P A D O V A

19 ottobre 1910  
Ricevuto oggi l'apparecchio  
registratori dalle mani del  
suddetto meccanico.

**Fig.ESM16b** Letter of Giovanni Magrini, Director of the Hydrographic Bureau of the Water Magistrate to Lorenzoni, Director of the Meteorological Observatory of the Padua University, with the note that the self-recording siphon rain gauge was received on 19 October 2010 (© Historical Archive of the Astronomical Observatory, Padua, Archivio Antico, Atti e dati relativi a strumenti, «Dati relativi ai pluviometri», b. XVI, fasc. 1).



### ESM 11. Supplement to Section 3: Homogeneity analysis of the precipitation series

The homogeneity of a climatic series is the prerequisite of every climate study, as non-climatic factors, i.e., changes in observation protocol, observer, instrument, relocation, and so forth, may generate bias that overshadow the real signal. There are two kinds of homogeneity tests: “absolute methods”, applied to each series separately, and “relative methods”, that require reference series for comparison. Often, in particular in case of historical series, only absolute methods can be applied, as no other contemporary series in neighbouring locations are available.

Besides statistical tests, graphical methods are also used to investigate the homogeneity of historical records. A popular tool for precipitation is the double-mass curve obtained by plotting the cumulative amounts of the series under study against the cumulative amounts of another one or a set of contemporary neighbouring series. A horizontal straight line indicates homogeneity.

The three-century series (1713-2018) of precipitation in Padua has been tested for homogeneity, using statistical and graphical methods. Four homogeneity tests were selected, namely: von Neumann (VN) (von Neumann 1941), Pettitt (1979), Standard Normal Homogeneity (SNH) (Alexandersson 1986) and Buishand (Buishand 1982) tests. As these methods are able to identify one single shift, they were applied to the annual values of the whole series as well as to portions of it. These have been created coupling portions of the series characterized by different observers and/or locations: these are the critical points where turning points may occur.

The results of the 4 mentioned tests were checked at a 5% significance level and the results are reported in Table ESM.3 (the non-homogeneities are written in red). Under the null hypothesis, the annual data are independent and randomly distributed except for von Neumann test. Under the alternative hypothesis, Pettitt, SNH and Buishand tests assume that there is a year (indicated in brackets) at which a change in the mean of data series has occurred. On the contrary, VN test does not give any information on turning points.

**Table ESM3.** Results of the Homogeneity Tests

Period	VN		Pettitt		SNH		Buishand	
	N	p-value	KN	p-value	To	p-value	Q	p-value
1725-1811	1.515	0.012	476	0.279	5.437	0.275	9.165	0.212
1768-1838	1.234	0.0001	726 (1810)	<0.0001	19.219 (1812)	<0.0001	17.965 (1810)	<0.0001
1812-1864	2.061	0.589	331 (1843)	0.023	9.837 (1843)	0.021	11.206 (1843)	0.007
1839-1919	2.078	0.638	299	0.846	4.192	0.489	6.371	0.598
1865-1978	1.981	0.456	417	0.419	1.91	0.942	6.129	0.833
1920-2018	1.887	0.286	403	0.877	5.945	0.237	9.064	0.288
1725-2018	1.767	0.0244	3164	0.286	7.163	0.187	20.533	0.089

According to the results, the whole series resulted homogeneous, except for the VN test. Concerning the different portions of the series, two turning points were identified by almost all the tests, i.e., 1810-1812 and 1843. The first turning point, i.e. 1810-1812, occurred when Chiminello had the apoplectic fits (in 1809 and 1811) and Bertirossi-Busata took responsibility for the observations; therefore, the turning point can be ascribed to the change of observer and measuring

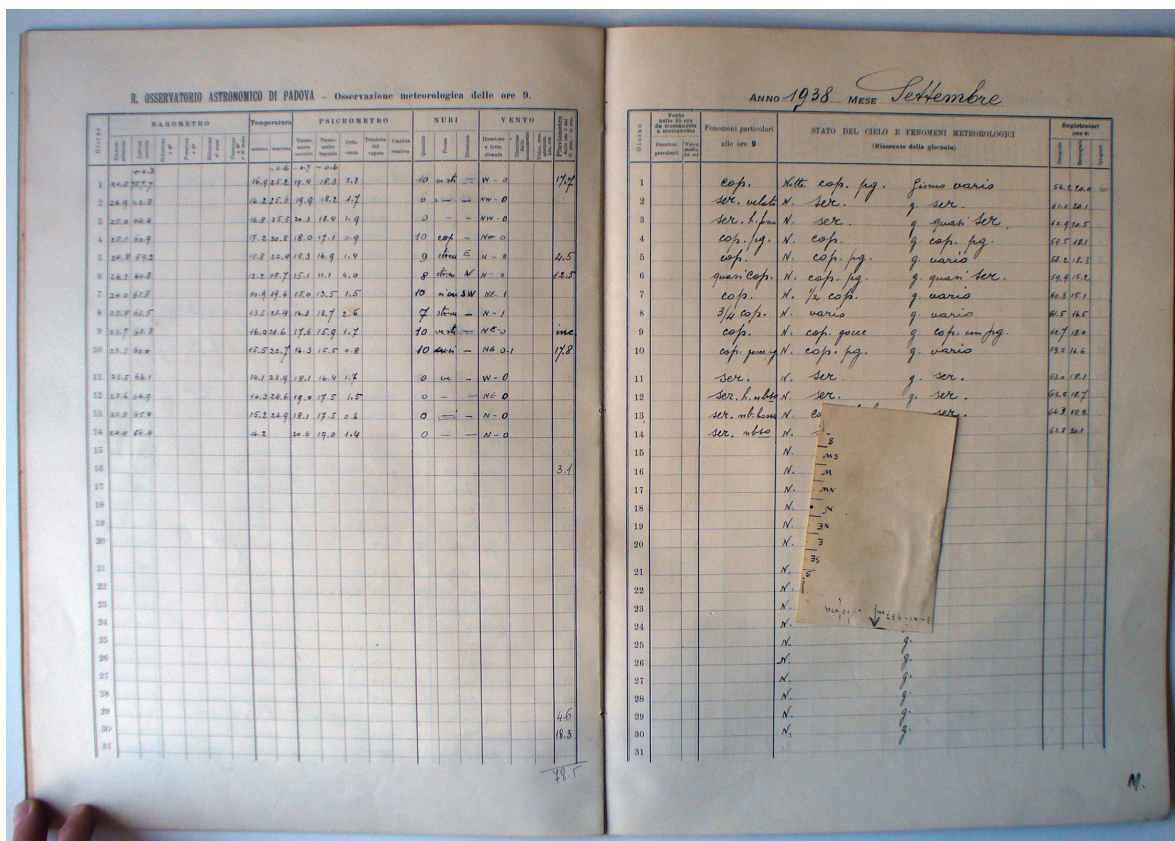


protocol. The second turning point, i.e. 1843, was at the beginning of the Santini period when the dome of the Meridian Circle Room was used as rain collector (1838-1877).

**References**

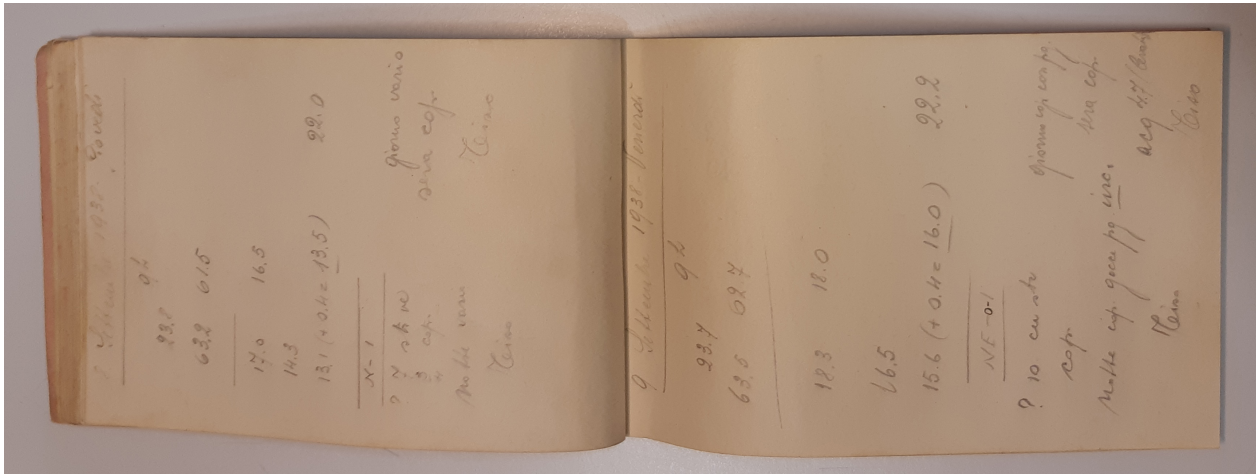
Alexanderson HA (1986) A homogeneity test applied to precipitation data. J Climatol 6:661-675  
 Buishand TA (1982) Some methods for testing the homogeneity of rainfall records. J Hydrol, 58:11-27  
 Crestani G (1935) Studio Storico Critico. In: Crestani, G, Ramponi F, Venturelli L. Le precipitazioni atmosferiche a Padova. Studio storico-critico e ricerche statistiche. Pubbl. 137. Poligrafico dello Stato, Rome  
 Favaro GA (1906) Valori Normali dei Principali Elementi del Clima di Padova. Atti Mem. Accad. Patavina Sci. Lett. Arti 22:235-250  
 Mahmood Agha O M, Bagcaci S C, Sarlak N (2017) Homogeneity analysis of precipitation series in North Iraq. JAGG 5(3):57-63  
 Neumann von J (1941) Distribution of the ratio of the mean square successive difference to the variance. Ann. Math. Stat. 12: 367-395.  
 Pettitt AN (1979) A Non-Parametric Approach to the Change-Point Problem. Appl. Stat. 28:126-135  
 Pollaroli N (1764-67) Osservazioni Meteorologiche Venete – Monthly Tables. In: Orteschi P (ed) Giornale di Medicina. Milocco, Venice  
 Steffensen P, Lyng Larsen F, Cappelen J (1993) Homogeneity test of climatological data, Danish Meteorological Institute. Technical Report, Copenhagen

**ESM 12. Supplement to Section 2: The last period of the Specola and related documents**

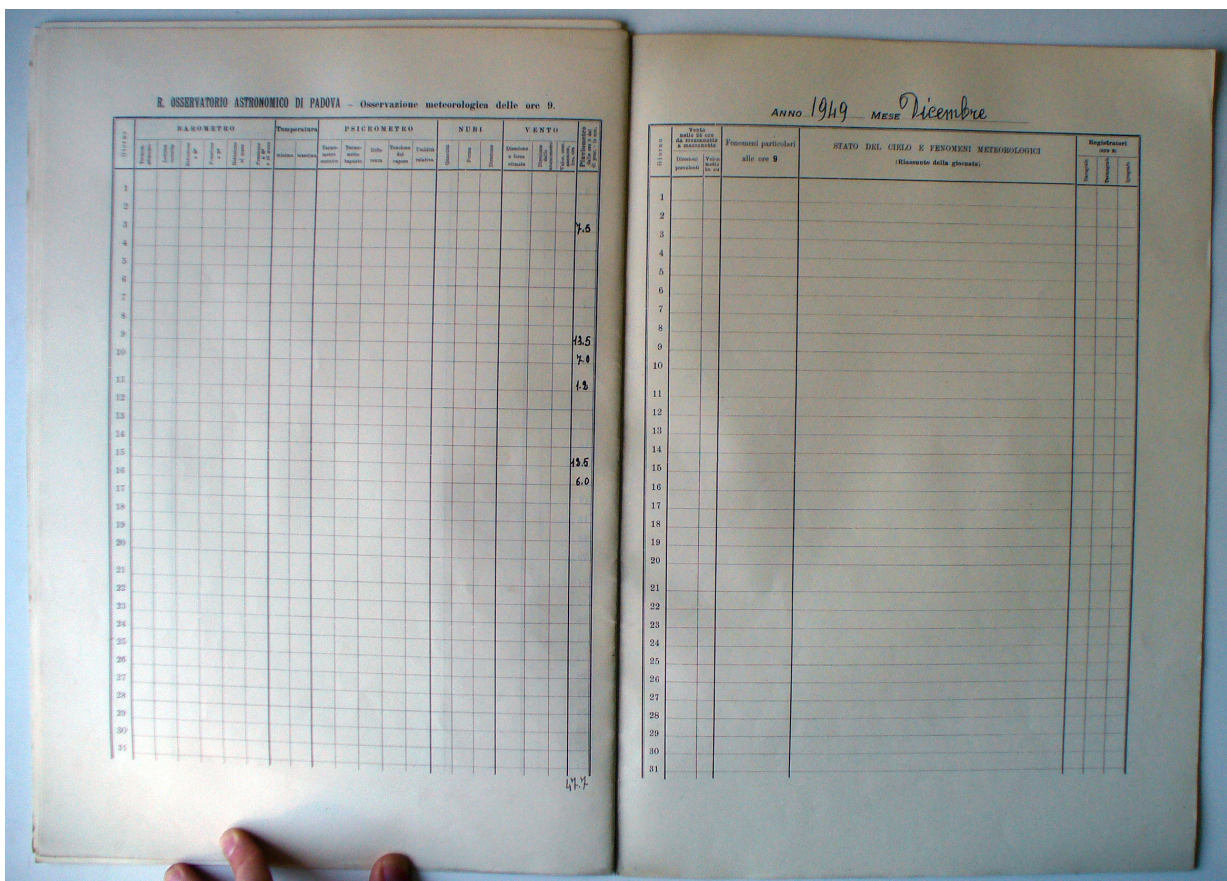


**Fig.ESM17a** The official log has been interrupted on September 14<sup>th</sup>, 1938. In the 1950s, the precipitation column with not validated data has been added with a different handwriting



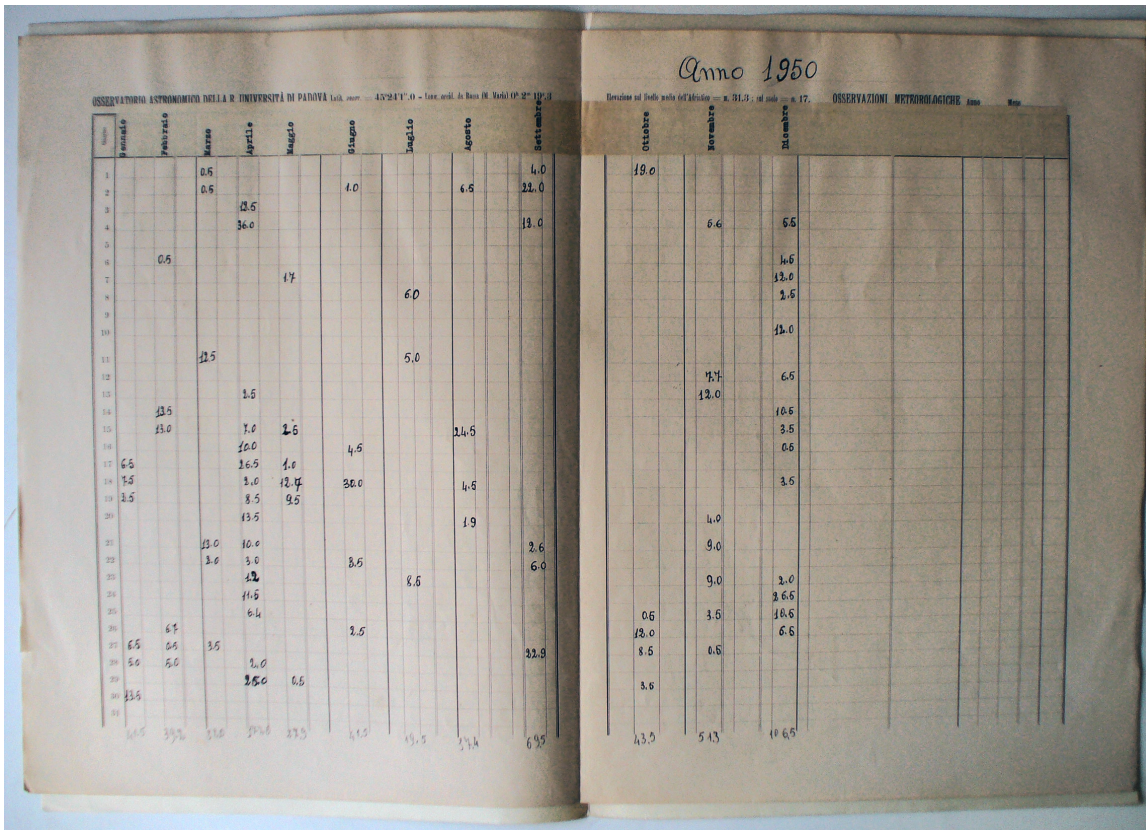


**Fig.ESM17b** An example of coarse weather annotations in pencil, written down on informal notepads. .



**Fig.ESM17c** A page of the informal log, dated December 1949, with just the precipitation column, with a different handwriting

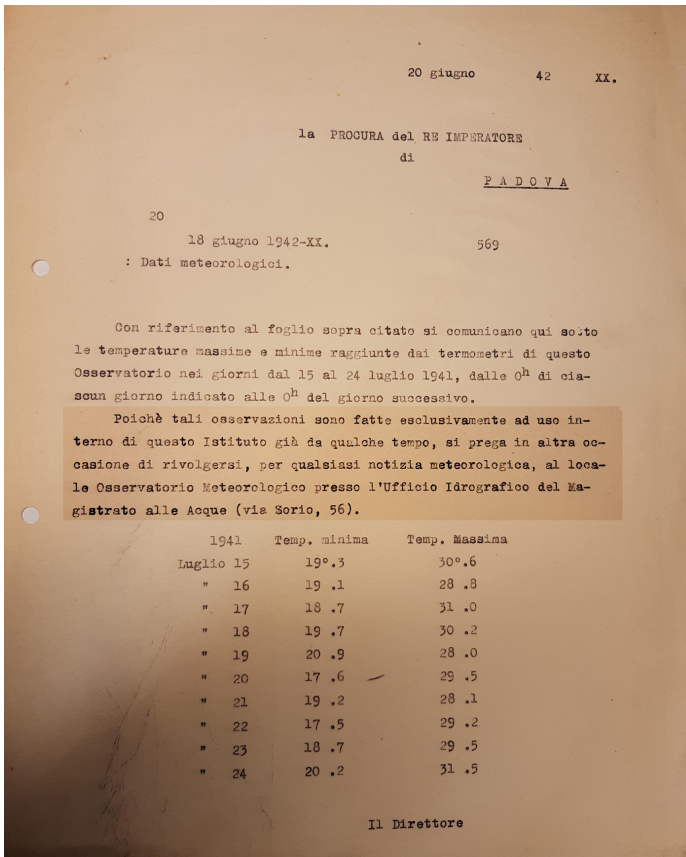




Day	Jan 1950	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1	0	0	0,5	0	0	0	0	0	4	19	0	0
2	0	0	0,5	0	0	1	0	6,5	22	0	0	0
3	0	0	0	12,5	0	0	0	0	0	0	0	0
4	0	0	0	36	0	0	0	0	12	0	6,6	5,5
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0,5	0	0	0	0	0	0	0	0	0	4,6
7	0	0	0	0	0	0	0	0	0	0	0	12
8	0	0	0	0	6	0	6	0	0	0	0	2,5
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	12
11	0	0	12,5	0	5	0	5	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	7,7	6,5
13	0	0	0	2,5	0	0	0	0	0	0	12	0
14	0	13,5	0	0	0	0	0	0	0	0	0	10,5
15	0	13	0	7	0	0	0	24,5	0	0	0	3,5
16	0	0	0	10	0	4,5	0	0	0	0	0	0,5
17	6,6	0	0	26,5	0	0	0	0	0	0	0	0
18	7,5	0	0	2	0	30	0	4,5	0	0	0	3,5
19	2,5	0	0	8,5	0	0	0	0	0	0	0	0
20	0	0	0	13,5	0	0	0	1,9	0	0	4	0
21	0	0	13	10	0	0	0	0	2,6	0	9	0
22	0	0	2	3	0	3,5	0	0	6	0	9	0
23	0	0	0	1,2	8,5	0	8,5	0	0	0	0	2
24	0	0	0	11,5	0	0	0	0	0	0	3,5	26,5
25	0	0	0	6,4	0	0	0	0	0	0,5	0	10,5
26	0	6,7	0	0	0	2,5	0	0	0	12	0,5	6,5
27	6,5	0,5	3,5	0	0	0	0	0	22,9	8,5	0	0
28	5	5	0	2	0	0	0	0	0	0	0	0
29	0	0	0	25	0	0	0	0	0	3,5	0	0
30	13,5	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0

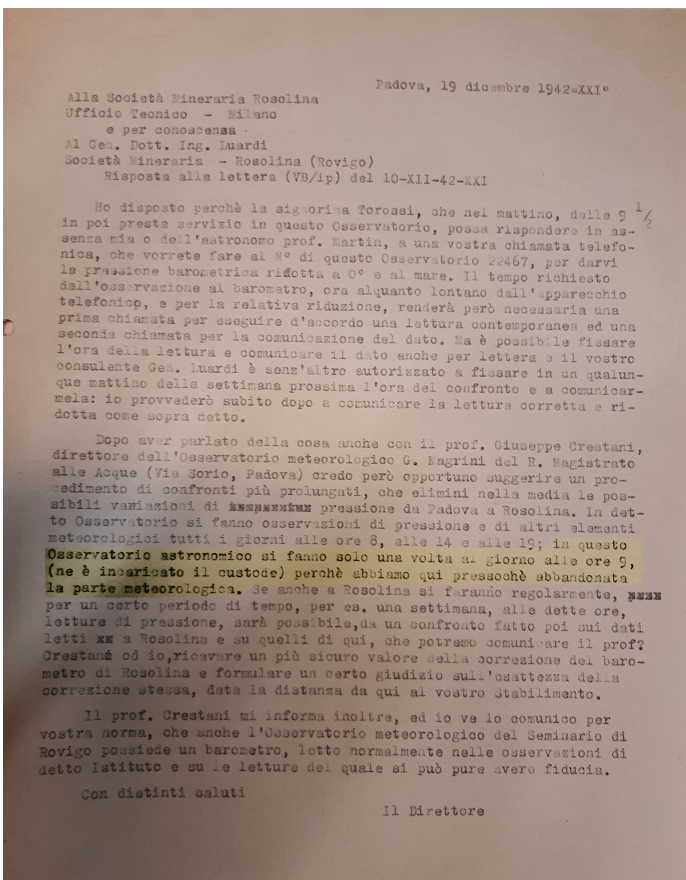
Fig.ESM17d Top: The last written page of the informal log at the Specola, dated 1950, with the precipitation columns by months. Bottom: the Table of the precipitation in the calendar year 1950 used by Marani and Zanetti (2015), i.e. the dataset sent by Marani to the authors. The values are identical to the Specola informal log.





**Fig.ESM17e** Letter dated 20 June 1942, confirming that meteorological observations were dismissed at the Specola.

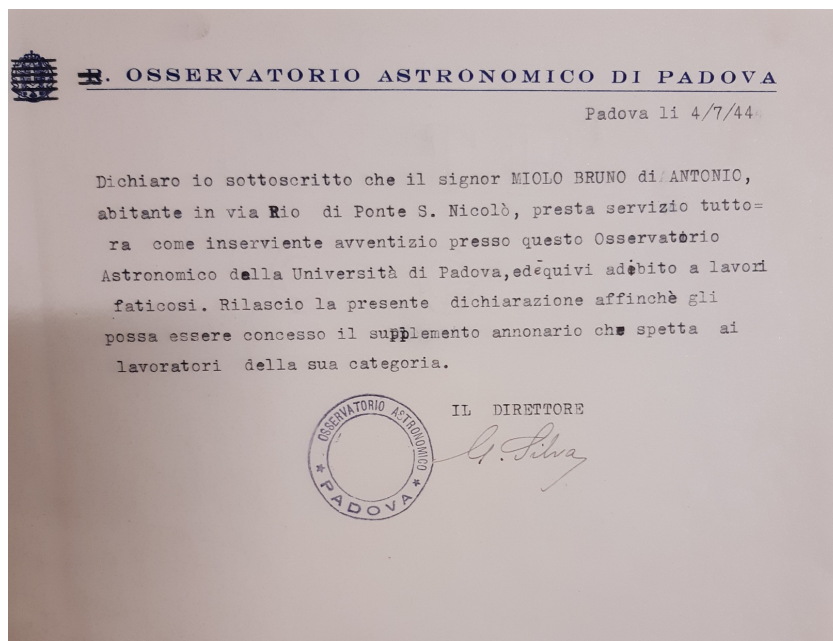
Second paragraph: “In this Institute, since some time, the meteorological observations are taken for internal use only. For the next time, for any meteorological issue, you are kindly requested to contact the local Meteorological Observatory (i.e. the Magrini) of the Hydrographic Office of the Water Magistrate (56, Sorio street)” Signed: the Director



**Fig.ESM17f** Letter dated 19 December 1942, confirming that meteorological observations were stopped long ago, and the limited skill of the observer.

Highlighted paragraph: “In this Astronomical Observatory, weather readings are made only once a day, at 9 a.m. (the charged person is the building custodian) because we have almost already stopped the meteorological observations”. Signed: the Director.





**Fig.ESM17g** Letter dated 11 April 1944, defining the limited skill of Mr Bruno Miolo who noted weather readings on notepads.

“Myself I declare that Mr Bruno Miolo... is serving this Astronomical Observatory of the University of Padua, assigned to *fatiguing jobs*”  
Signed: the Director G. Silva.

### ESM 13. Raingauge in the last period of the Magrini Observatory



**Fig.ESM18** In the last period of the Magrini Observatory, when it was left unmanned except for periodic change of the strip-chart recorder, only the tipping bucket raingauge in the garden was operated, and the others were removed. The Stevenson screen for the temperature and humidity readings is visible in bad conditions, and broken roof.

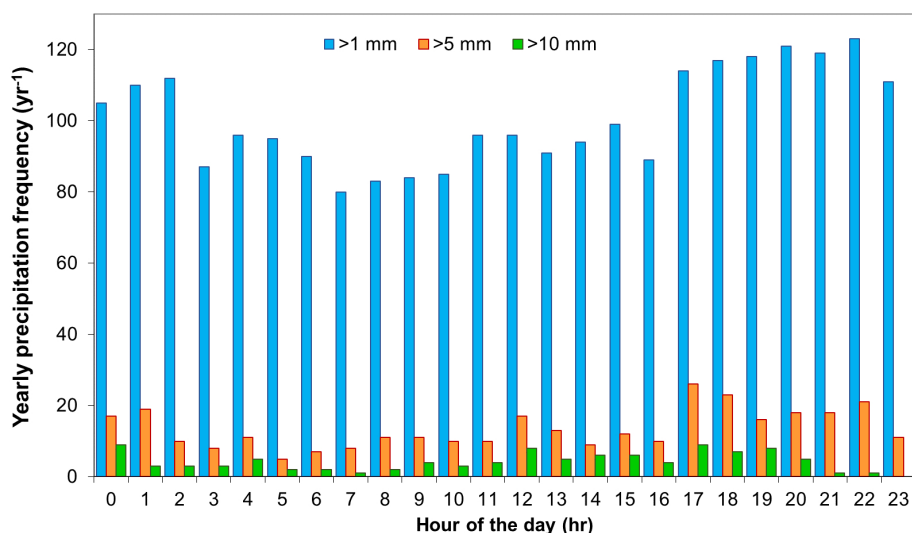


### ESM 14. Supplement to Section 3: How observing time may affect readings

A long series is generally composed of a number of records taken over time by different observers and/or institutions. Every observation protocol establishes a certain time to read the amount of water collected into the raingauge or expresses the daily amount starting from a selected time, e.g. 0 a.m., 9 a.m., and so forth. Some kinds of precipitation may occur at any time, e.g. the passage of a front, others may be caused by specific phenomena related to the daily solar cycle, e.g. sea or mountain breeze, showers generated by thermo-convective activity. The former is randomly distributed over the day, the latter follows a daily and a seasonal cycle, and the choice of the start of the collecting time might be suspected to be influential on the determination of the precipitation frequency and amount at daily, monthly or yearly level, with departures inversely related to the selected time duration used in the statistical representation.

A test has been performed with the hourly precipitation data collected by the of “Padua Legnaro” station (ARPAV), located 10 km south of the Padua city centre, from 2009 to 2018. In the figures reported below, the precipitation frequency is plotted versus the hour of the day at yearly and monthly levels, with the monthly analysis divided in seasons.

In the yearly precipitation, **Fig.ESM19**, a distinction has been made between classes of precipitation amounts, in order to point out the influence of a threshold, i.e. precipitation larger than 1 mm, 5 mm and 10 mm. The distribution is uneven and especially the precipitation  $> 1$  mm shows a daily swing with a minimum precipitation frequency in the morning, and a maximum in the late evening and early night.



**Fig.ESM19** Yearly frequency of different classes of precipitation amounts (i.e.  $>1$  mm,  $>5$  mm and  $>10$  mm) found over the daytime

The monthly distributions **Fig.ESM20a,b,c,d** show that each month has its specific character. In particular, the summer months are characterized by a marked minimum in the morning and a maximum in the afternoon and the evening, related to the ground heating, the development of thermo-convective activity and the formation of cumulus clouds. As opposed, in winter the daily cycle is less evident.



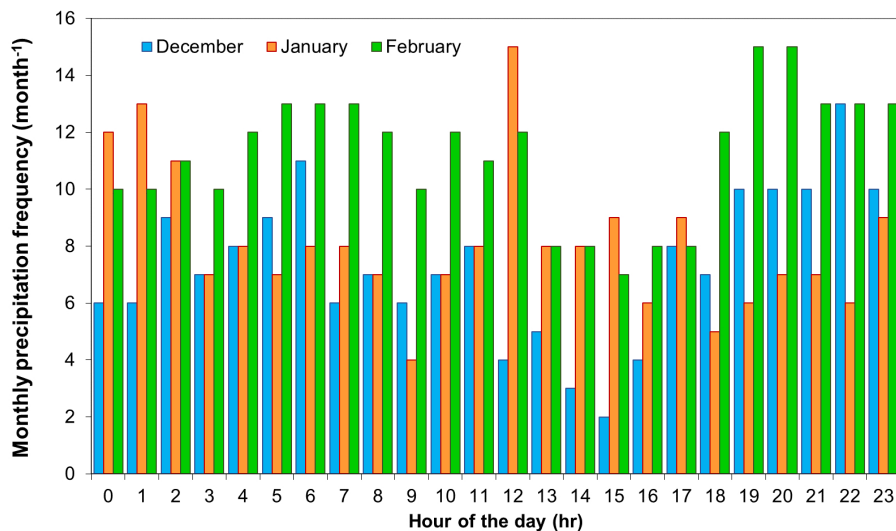


Fig.ESM20a Monthly distribution of the precipitation frequency over the daytime in winter

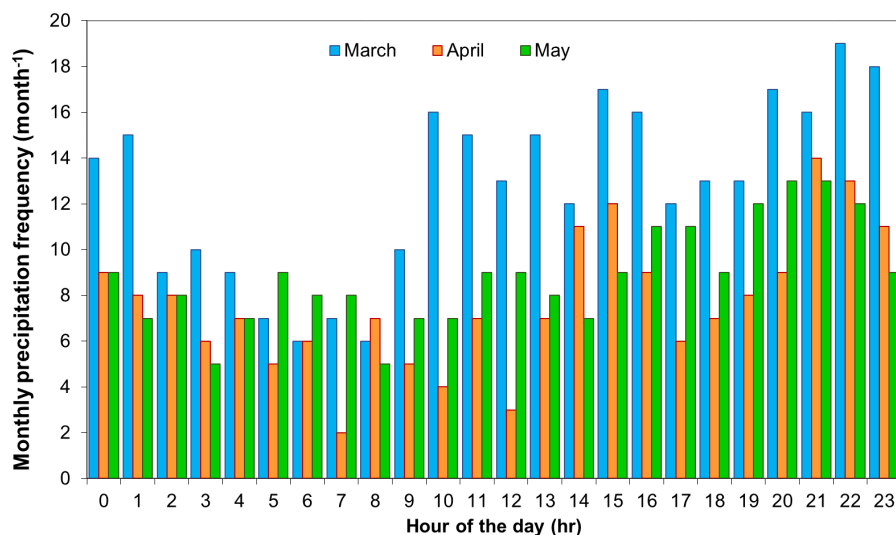


Fig.ESM20b Monthly distribution of the precipitation frequency over the daytime in spring

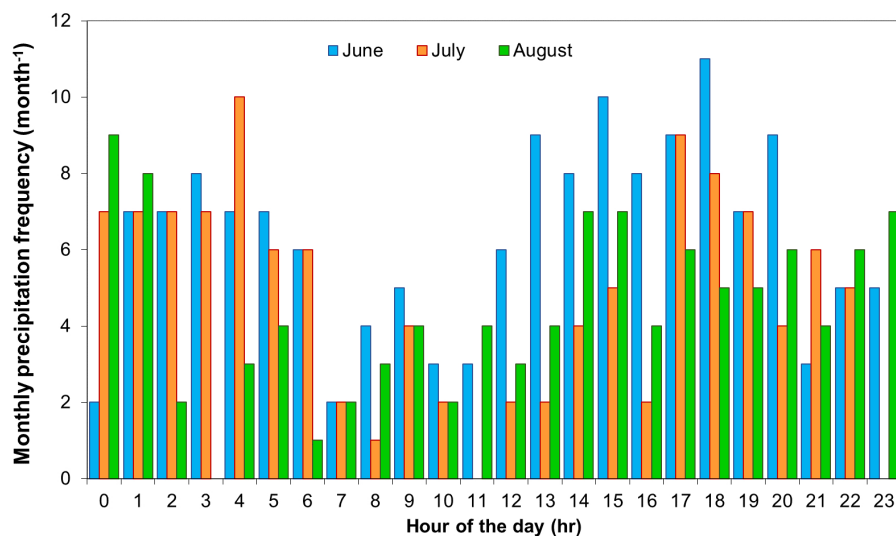
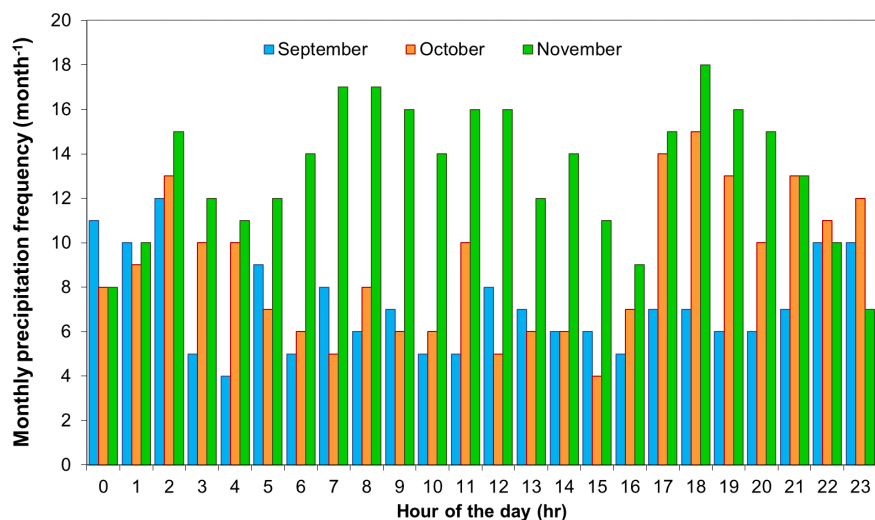


Fig.ESM20c Monthly distribution of the precipitation frequency over the daytime in summer





**Fig.ESM20d** Monthly distribution of the precipitation frequency over the daytime in autumn

The above statistical representations have shown that some months are characterized by a random distribution over the day, others by daily cycles, and the question is how influential this fact may be if the observer changes the scheduled time for reading the precipitation collected by the raingauge.

Tests made on the record give small, randomly distributed fluctuations. This can be easily explained. Suppose that the precipitation in a certain region can be represented as a sum of a random and a cyclic distribution. By the definition of a random component, the average of the values met over the next 24 hours is independent of the starting time. By the definition of a cyclic component, with 24 hr period, the average of the values met over the next 24 hours is independent of the starting time. In conclusion, if the scheduled reading time is shifted, every day will lose something of the previous day, but it will also gain something from the next one. For a cyclic component the difference is null, for a randomly distributed component the difference is a small, fluctuating value. In the case of monthly precipitation, part of the information of the first, or the last day of the month may be shifted from/to the previous/next month. In the case of yearly values, only the first/last day of the year may undergo a partial exchange with the previous/next year.

In conclusion, the change of the scheduled time for reading the raingauge does not introduce systematic or relevant errors in the series.

On the other hand, it may happen that a peak occurs around the sampling time and is partitioned between two consecutive days. This exceptional combination may transform an exceptional precipitation into two normal rain days. However, this event is absolutely unpredictable, and irrespective of any choice of scheduled time. Contemporary daily records, taken at different observing times, may have different peak values, but almost the same monthly amount.

### **ESM 15. Supplement to Section 3: Differences between contemporary stations and between Fig.7d of this work and Fig.1 in Marani and Zanetti (2015)**

This investigation has been requested by Reviewer#1, Marco Marani, who sent us his dataset updated to 2018. He asked a comparison with our data to investigate if there are differences between the two datasets, especially for the 20<sup>th</sup> century when more than one station was active and operated simultaneously. The comparison between different stations should put into evidence their relationship, while the comparison between two datasets from the same source should point out any misprint. The use of different stations should explain the main differences between Fig1 of Marani and Zanetti (2015) (hereafter referred to as M&Z) and Fig.7d of this work.



From 1725 to March 1764 the source of data used by M&Z and this work is the same (Poleni), and the related parts of Fig1 M&Z and Fig.7d of this work are identical.

From April 1764 to December 1768 measurements are missing. Therefore, in this work a gap has been left, while in M&Z the gap is filled. However, the source has not been declared.

From 1769 to 1919 the source of M&Z and this work is the same, i.e. the Specola. However, especially from 1812 to 1861, readings are not always regular as explained in the text. Moreover, some days have additional readings, taken at different or shifted times, or reporting the precipitation during the night. In some cases, the choice between two consecutive days (i.e. to make shorter the first day and longer the second one or vice-versa) is not easy and this may increase/decrease the amount of a specific day, but it leaves unchanged the sum of the two days. This is irrelevant when dealing with monthly totals, but might be relevant when daily amounts are separately considered, or when extreme events are analysed.

After 1920, M&Z declared of having relied on: Specola till 1934; Magrini Observatory of the Water Magistrate 1935-1996; ARPAV Botanical Garden 1997-2006. The first two stations were not in their best period. As explained before, the Director of the Specola, Giovanni Silva officially stopped the logs in September 1938 (Fig.ESM17a) as well as any other meteorological activity, except for internal use (Fig.ESM17e,f,g). The Magrini Observatory carried out an excellent activity of service and research under the direction of Augusto Levi in 1920 and Giuseppe Crestani from 1921 to 1958. However, in 1973 a special law reformed the public services concerning the safeguarding of Venice and its hinterland, and the Water Magistrate lost its leading role. The staff was reduced or passed to other public administrations; the Magrini Observatory was downgraded to a station with unattended recording instruments (Fig.ESM18) and periodic collection of the strip records. The Water Magistrate was ultimately suppressed in 2014 and its competences were transferred to ARPAV. We had direct contacts with the staff that operated with Crestani and we could inspect the site and the instruments since the 1970s, witnessing the deteriorating situation. After Crestani, the data quality worsened and some gaps were originated. M&Z used records taken in the worsening period and filled the missing data with the Legnaro station that is 10 km far from the Specola. The last station, i.e. ARPAV Botanical Garden, was born as University of Padua, had some difficulties at the beginning, then passed to ARPAV and became of excellent quality.

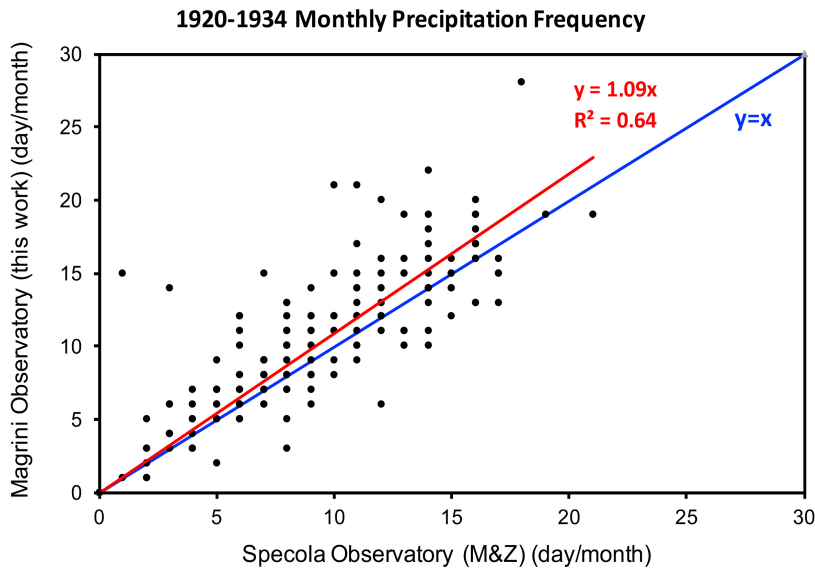
On the ground of the historical research, this paper used the following records. 1920-1950: Magrini Observatory, that was in its best period; 1951-1990: Meteorological Service of the Italian Air Force; 1991-2018: ARPAV Botanical Garden.

The first test (Fig.ESM21a,b) is aimed to highlight the differences between the precipitation frequency and amount recorded at the Specola (used by M&Z) and the Magrini Observatory (used in this work) over the period 1920-1934. Marani asked to a comparison between the daily data but this analysis was not much representative because the Specola made readings at 9 a.m. and Magrini at 0 a.m (Fig.ESM17f) and the two readings will likely differ in both frequency and amount. To reduce this drawback, the monthly totals were considered. The comparison has been made plotting the monthly totals of one station versus the monthly totals of the other.

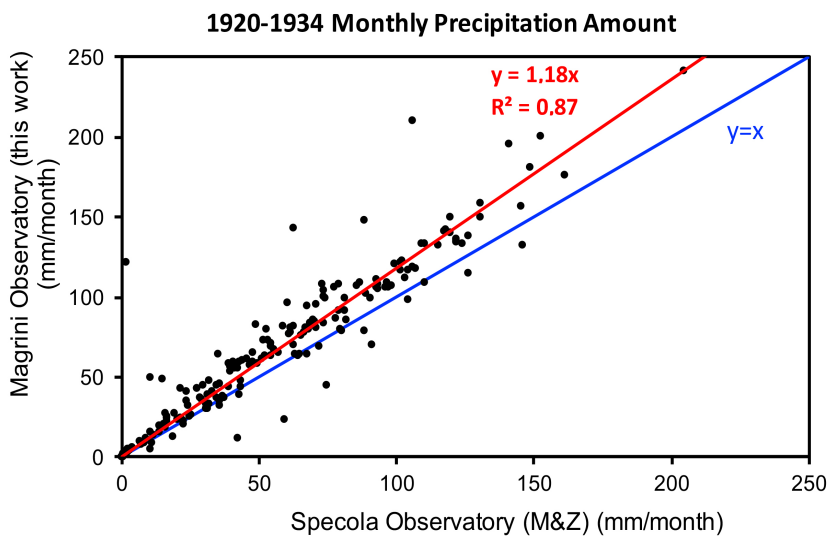
In 1920-1934, the frequency (Fig.ESM21a) shows a large scatter, i.e.  $R^2 = 0.64$ . Dots falling on the bisector (blue line) indicate that both stations gave identical readings. However, the dataset is shifted upwards and the slope of the best-fit line (1.09) indicates that the frequency measured at Specola is less than Magrini Observatory. The two stations are at short distance (i.e. 750 m) and should have very similar readings, at least in average. However, a number of reasons may justify this result, i.e. the observation days started at different times, i.e. 9 hr difference; the raingauges were exposed at different levels above ground; the Specola had a higher instrumental threshold or the frequency was underestimated for less regular observations.

The precipitation amount (Fig.ESM21b) is less scattered, i.e.  $R^2 = 0.87$ . The slope of the best-fit line 1.18 indicates that the Specola dataset has lower values than the Magrini Observatory. As the two averages are 59.9 and 72.6 mm/month respectively, the Specola collected 79% of the water at the Magrini Observatory. It might be useful to remind that, if  $R^2 \neq 0$ , the slope of the best-fit

straight line does not coincide with the tangent created with the two average values, i.e. their ratio  $72.6/59.9 = 1.21$ , because the best-fit slope is built with the least square method (i.e. minimizing the squared distance of each point from the best-fit line) that implies use of non-linear operators, while the average is based exclusively on linear operators.



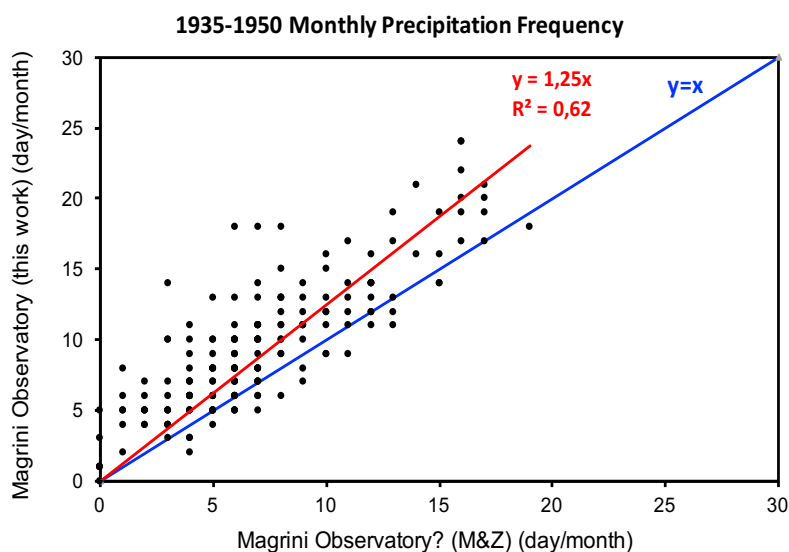
**Fig.ESM21a** Monthly precipitation frequency measured at the Specola versus the Magrini Observatory of the Water Magistrate from 1920 to 1934. Blue line: bisector; red line: best-fit.



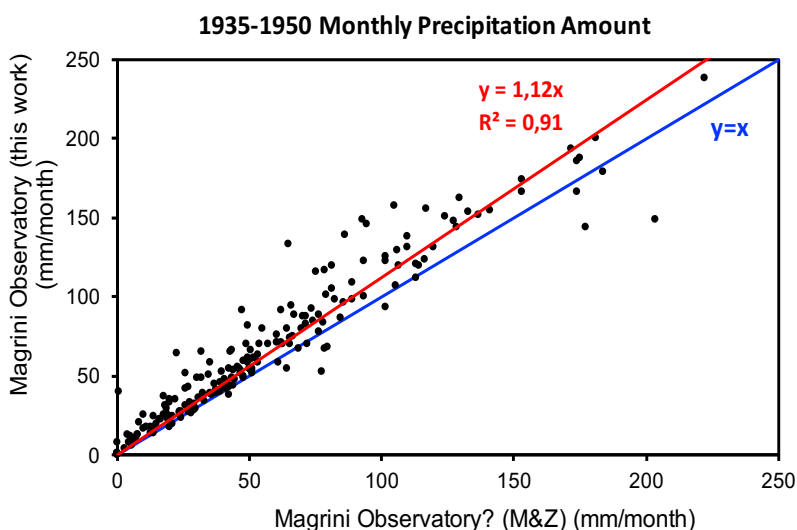
**Fig.ESM21b** As in (a), but for monthly precipitation amount.

The second test concerns the next period, i.e. 1935-1949, in which both M&Z and this work used the same source, i.e. the Magrini Observatory (Fig.ESM22a,b). Reporting the dataset used in this work versus the one of M&Z, one should expect to obtain only data falling on the bisector (maybe except some misprints that will be highlighted) and  $R^2=1$ . Surprisingly, the situation is different.





**Fig.ESM22a** Monthly precipitation frequency from the 1935-1950 dataset used by M&Z (declared to be the Magrini Observatory) and the true dataset of the Magrini Observatory used in this work. The plot shows that M&Z used a different source. Blue line: bisector; red line: best-fit



**Fig.ESM22b** As in (a), but for monthly precipitation amount.

Both frequency and amount show that the datasets are different between them. In particular, the frequency data shows a large scatter (i.e.  $R^2 = 0.62$ ) and the best-fit with slope 1.25 shows that the dataset used by M&Z under-evaluates the frequency respect to the source used in this work. This difference is very high and might suggest some observational bias (e.g. higher instrumental threshold, two consecutive rainy days considered as only one) or that another station was used. The amount shows less scatter, i.e.  $R^2 = 0.91$ , with best-fit slope 1.12.

The above plots suggest that the two datasets arise from two different sources, although correlated between them. The cross-control shown that our dataset does correspond exactly to the source, i.e. the Magrini Observatory, but not the M&Z dataset, although the Authors declared that for this period they relied on the Magrini Observatory.

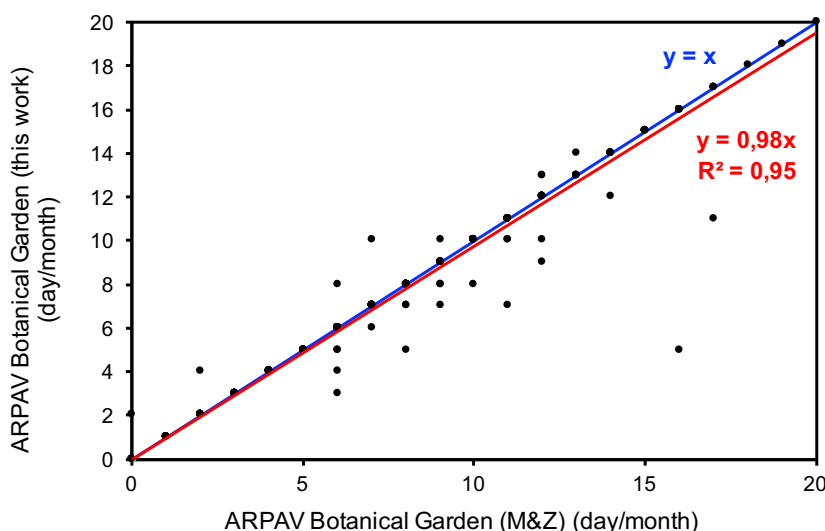
A comparison with the documents in the Historical Archive of the Astronomical Observatory has recognized that the data of M&Z are identical to those reported in the last non-validated period of the Specola, ended in 1950. As explained in the text, the Specola ceased all interest for meteorology in 1938 and the Director Silva declared that readings were solely for internal use, i.e. not the best choice to reconstruct a centuries-long series.

The reason why M&Z misrepresented the source may find an explanation in the acknowledgements, i.e. Marani did not personally oversee the data recovery, but was thesis advisor

of Andrea Dal Maso (2006) and Luca Rapacciuolo (2007) who recovered the data for their dissertation about the Padua precipitation series, statistical analysis and extreme events, held at the Padua University.

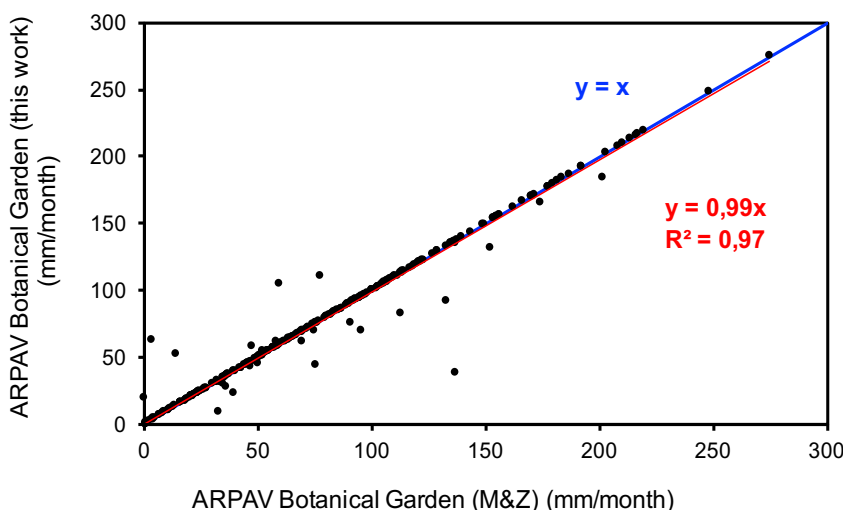
For 1997-2018, both M&Z and this work relied on the same station, i.e. ARPAV Botanical Garden. In the plot, this is evident because the best-fit is close to the bisector, with a few scattered data (Fig.ESM23ab). Scattered data might be explained with misprints, non-validated data, or gaps filled with different stations. The non-validated data are uploaded in real time by ARPAV to provide a public service, especially in the case of weather or pollution alert. Later, the informal data are substituted with the validated data. In our case, we should exclude misprint in copying or using non-validated data because ARPAV kindly supplied us the file with the validated record.

**1997-2018 Monthly Precipitation Frequency**



**Fig.ESM23a** Monthly precipitation frequency from the 1997-2018 dataset of ARPAV Botanical Garden. Blue line: bisector; red line: best-fit.

**1997-2018 Monthly Precipitation Amount**



**Fig.ESM23b** As in (a), but for monthly precipitation amount.

**References**

Dal Maso A (2006) La serie secolare di precipitazione a Padova: caratteri statistici principali e loro variazioni, Tesi di Laurea, Università degli Studi di Padova, Facoltà di Ingegneria. Advisor: M. Marani.

Rapacciuolo L (2007) Analisi degli eventi estremi di precipitazione della serie secolare di Padova, Tesi di Laurea, Università degli Studi di Padova, Facoltà di Ingegneria. Advisor: M. Marani.

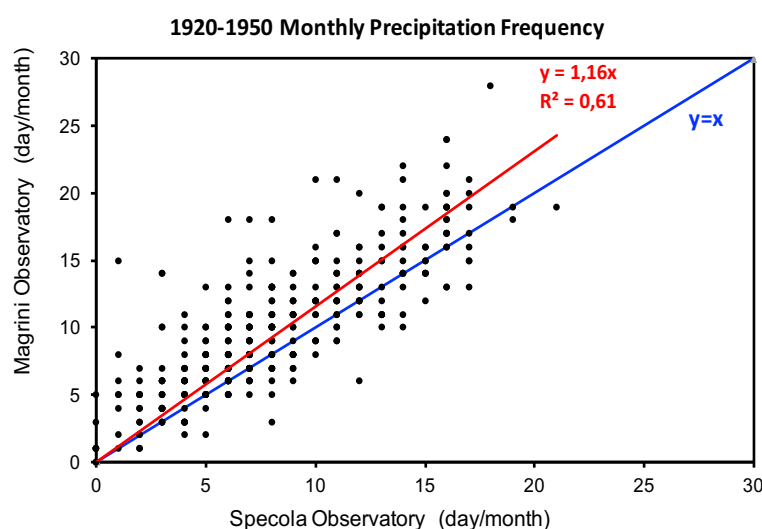


### ESM 16. Comparison between the Specola and the Magrini Observatory

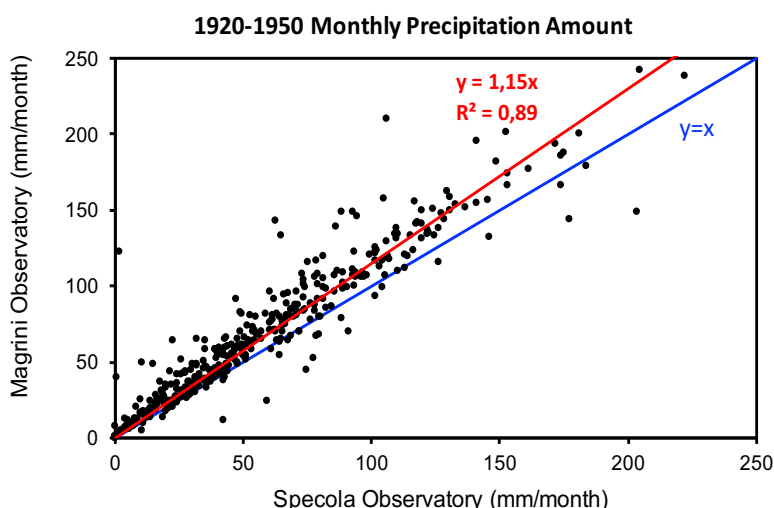
The Specola and Magrini Observatory are at short distance between them (i.e. 750 m) and operated simultaneously for 31 years. One might expect to find the same average readings, except for:

- the difference of the height of the funnels above ground (i.e. the Specola raingauge was exposed on the roof, at 20.7 m above ground, and the Magrini at 1.2 m);
- the difference of the hour selected for the raingauge reading (i.e. 9 a.m. for the Specola and 0 a.m. for Magrini). However, this is minimized over the long-term integration period;
- some possible unknown biases (e.g. the Specola might have had a higher instrumental threshold or the frequency was underestimated for less regular observations).

Over a 31-year period, the bias for the different reading times vanishes as well as other random errors. If potential biases may be considered negligible, this gives the opportunity to evaluate the relationship between two raingauges collecting rain at two different levels, i.e. 1.2 and 20.7 m (Fig.ESM24a,b)



**Fig.ESM24a** Monthly precipitation frequency measured at the Specola and Magrini Observatory from 1920 to 1950. Blue line: bisector; red line: best-fit.



**Fig.ESM24b** As in (a), but for monthly precipitation amount.

The slope of the best-fit of the frequency is 1.16; the average frequency at Specola 8.1 day/month and at Magrini 9.9 day/month, i.e. the frequency recorded at the Specola is 81% of Magrini, i.e. 19% less. The slope of the best-fit of the amount is 1.15; the average amount at Specola 59.5 mm/month and at Magrini 71.1 mm/month, i.e. the amount recorded at the Specola is 84% of Magrini, i.e. 16% less.

The two slopes of the monthly frequency and monthly amounts at the Specola and Magrini Observatory, as well as the related percentages of the Specola to the Magrini Observatory ratio are similar between them, and both confirm that the Specola underestimated readings.

The found underestimation percentages that have been found are bigger, but consistent with the results of some case studies where funnels located 20 m above the ground had a reduction of the order of 10% in comparison with a reference raingauge at ground level (Camuffo 2019).

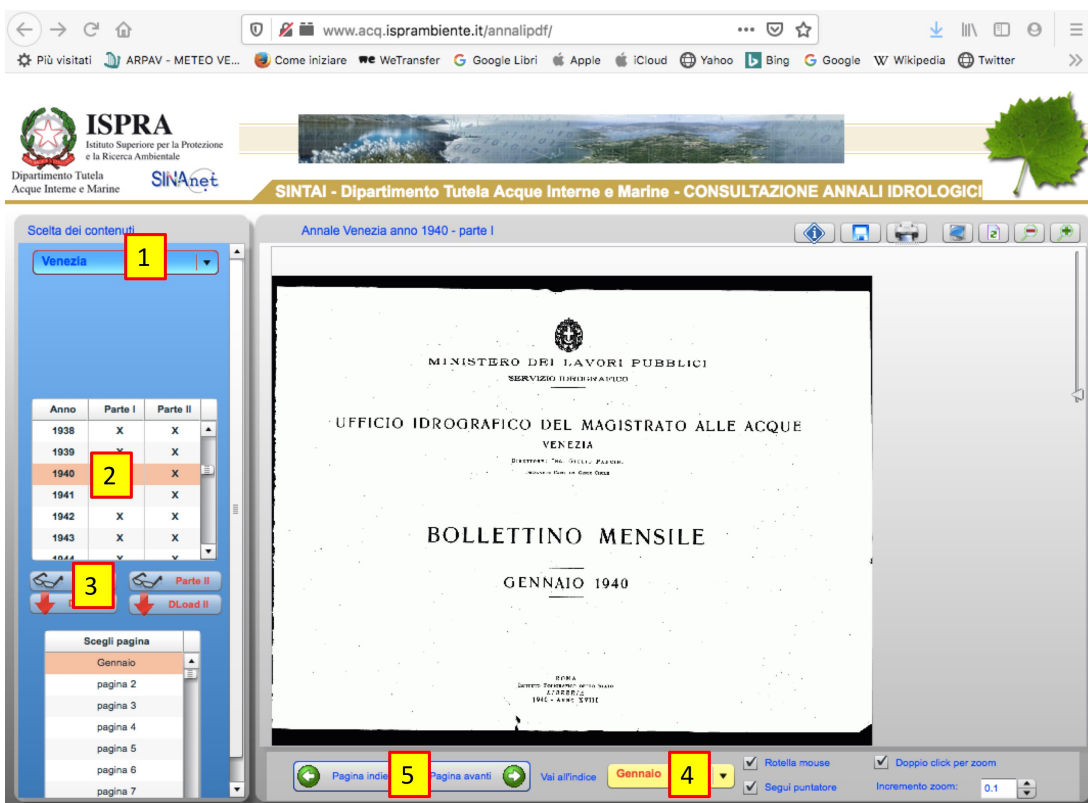
## References

Camuffo D (2019) Microclimate for Cultural Heritage – Measurement, Risk Assessment, Conservation, Restoration and Maintenance of Indoor and Outdoor Monuments. Third edition, Elsevier, New York

## ESM 17 Consulting data of the Magrini Observatory of the Water Magistrate

It may be useful to explain that the archive data of the Water Magistrate, including the Magrini Observatory, can be consulted on the website of ISPRA (*Istituto Superiore per la Protezione e la Ricerca Ambientale*, i.e. Superior Institute for Environmental Protection and Research):

<http://www.acq.isprambiente.it/annalipdf/>



**Fig.ESM25.** Screenshot of the ISPRA Webpage to get the record with numbers on the yellow squares indicating the procedure.

- (1) Select and click “*compartimento*”: Venezia (yellow square 1)
- (2) select the year “*Anno*” (yellow square 2)
- (3) select *Parte I* (yellow square 3). The red arrow in the lower line (3) is to download the whole yearly bulletin.
- (4) select the month “*vai all’indice*” (yellow square 4)
- (5) scroll pages until the required page is found. The Magrini Observatory is indicated as: “*Osservatorio di Padova (via Sorio)*, North Latitude 45° 24’, Longitude 0° 35’ West of Rome” (yellow square 5)



---

### **Acknowledgements**

The authors are grateful to: Dr Riccardo Guolo and Dr Francesco Rech, ARPAV, Teolo Meteorological Service, for having kindly supplied and permitted to publish the precipitation data of ARPAV and Water Magistrate; © The Historical Archive of the Astronomical Observatory, Padua; © The Marciana Library, Venice, for having kindly allowed the consultation and permission to publish the documents; Elsevier, The Science of the Total Environment for having permitted to reproduce the Fig.2 of Camuffo et al. 1984, 1988.

---



### **Copyright notice**

The copyright of all documents published on this paper is owned by © The Historical Archive of the Astronomical Observatory, Padua; © The Marciana Library, Venice; Elsevier The Science of the Total Environment, and ARPAV. Graphs and figures are intellectual property of the Authors and protected by © Springer. All rights reserved. The material cannot be reproduced or distributed, in whole or in part, without the prior written permission of the right Owners.

## Electronic Supplementary Material 18-23

**Article Title: Three centuries of daily precipitation in Padua, Italy, 1713-2018. History, relocations, gaps, homogeneity and raw data**

**Journal name:** Climatic Change

**Authors:** Dario Camuffo<sup>1</sup>, Antonio della Valle<sup>1</sup>, Francesca Becherini<sup>2</sup>, Valeria Zanini<sup>3</sup>

**Affiliations:**

1) National Research Council-Institute of Atmospheric Sciences and Climate, Corso Stati Uniti 4, 35127 Padua, Italy

2) National Research Council-Institute of Polar Sciences, Via Torino 155, 30172 Venice Mestre, Italy

3) INAF-Astronomical Observatory of Padova, Vicolo dell'Osservatorio 5, 35122 Padua, Italy

**E-mail address Corresponding Author:** [d.camuffo@isac.cnr.it](mailto:d.camuffo@isac.cnr.it)

### ESM 18. Raw Data Cover Concerning the Daily Precipitation in Padua

In the next pages, the datasets with original records are reported. They are property of the following Institutions:

- **INAF Astronomical Observatory** [www.beniculturali.inaf.it/archivi/padova/#serie](http://www.beniculturali.inaf.it/archivi/padova/#serie) (pay attention to some biased periods as explained in the text)
- **Magrini Observatory of the Water Magistrate** after the **ISPRA** (*Istituto Superiore per la Protezione e la Ricerca Ambientale*, i.e. Superior Institute for Environmental Protection and Research) website <http://www.acq.isprambiente.it/annalipdf/> Note: the Water Magistrate was closed in 2014 and its competency was transferred to ARPAV
- **ARPAV** (*Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto*, i.e. Regional Agency for Environmental Prevention and Protection of the Veneto Region), website <https://www.arpa.veneto.it/>
- The data recovery and analysis constitutes intellectual property of the **Authors**

In this work, a dataset has been used of the **Weather Service** of the **Italian Air Force**, official website [http://www.meteoam.it/dati\\_in\\_tempo\\_reale](http://www.meteoam.it/dati_in_tempo_reale)

However, we are not authorized to report here their data because “*All Users are obliged not to transfer to third parties the original data or products released by the Weather Service*”. Interested people should directly contact the Weather Service.

The **Authors of this paper** have recovered the data from the original handwritten documents, or printed tabular forms, and transformed the data from their units (e.g. London inch for Poleni, Paris Inch for Toaldo etc.) into mm, and at the end of a long historical research they have associated the data to their metadata; in particular, when the data are uncertain, or affected by bias or other problems.



The datasets in the following sections are licensed under **CC BY-NC-ND 4.0** (Creative Commons Attribution-Non Commercial 4.0 International License).



You are free to:

- **Share**, i.e. copy and redistribute the material in any medium or format.
- **Adapt**, i.e. remix, transform, and build upon the material.

Under the following terms:

- **Attribution**, i.e. appropriate credit shall be given to **INAF, ARPAV** or **Water Magistrate** for the property, as well as to **this paper** for having recovered and digitized the handwritten records of Poleni and the Specola, as well as the printed forms of the Magrini Observatory; converted into mm when necessary, and reported the history of the series and related metadata. You should also indicate if changes were made. You *must* attribute the work in the manner specified by the authors and licensors (but not in any way that suggests that they endorse you or your use of the work).
  - **Non-commercial**, i.e. the material shall not be used for commercial purposes.
  - **Share alike** – If you remix, transform, or build upon the material, you must distribute your contributions under the [same or compatible license](#) as the original.
- 

## List of the enclosed Raw Data

**ESM 19. Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764**

pp 48-67

**ESM 20. Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811**

pp 68-89

**ESM 21. Santini & Lorenzoni periods Raw Precipitation Data (mm): 1812-1919**

pp 90-144

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**

pp 145-160

**ESM 23. ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018**

pp 161-171

**ESM 19. Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1725	1		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.92	0.64
1725	2		0.00	0.00	0.30	0.00	0.00	0.00	0.00	25.40	1.37	5.03	14.58
1725	3		0.00	0.00	1.68	0.46	0.00	0.00	0.00	0.00	36.83	0.00	0.91
1725	4		0.00	0.00	0.00	2.29	24.28	0.00	0.00	24.84	0.00	0.00	0.00
1725	5		0.00	0.00	0.00	10.06	6.20	0.00	0.00	23.01	0.56	8.13	0.00
1725	6		0.00	0.00	0.00	7.32	0.00	0.00	0.00	0.00	0.00	34.14	0.00
1725	7		0.00	0.00	0.00	2.64	0.00	0.00	7.87	0.00	0.00	11.89	0.00
1725	8		0.00	0.00	3.96	2.24	0.00	0.00	2.84	0.00	0.00	0.00	0.00
1725	9		0.00	0.00	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	10		0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00
1725	11		0.00	0.00	0.00	0.00	2.24	0.00	2.29	0.00	0.00	0.00	0.00
1725	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76
1725	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	14	0.00	0.00	0.00	0.00	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	15	0.00	0.00	0.00	0.00	0.51	0.00	0.15	44.55	0.00	0.00	0.00	0.00
1725	16	0.00	0.00	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	17	2.79	0.00	5.64	17.98	0.71	0.00	0.00	2.79	2.29	0.00	0.00	0.00
1725	18	3.96	0.00	0.64	16.89	0.00	0.61	0.00	0.00	0.00	1.73	3.05	0.00
1725	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	1.14	0.00	0.00
1725	20	0.00	0.00	0.00	0.00	37.85	0.00	0.00	0.00	0.00	22.00	2.24	0.00
1725	21	0.00	0.00	0.00	2.24	2.24	0.00	0.00	0.00	0.00	7.62	1.14	0.00
1725	22	0.00	0.00	0.00	20.88	1.14	0.00	0.00	0.00	0.00	15.75	6.20	0.00
1725	23	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	12.24	0.00	0.00
1725	24	3.43	0.00	0.00	0.00	1.88	0.30	11.84	0.00	0.00	3.18	0.00	0.00
1725	25	0.00	0.00	0.00	0.00	1.68	0.00	0.00	0.00	8.64	2.79	25.70	0.00
1725	26	0.00	0.00	0.00	0.00	3.35	0.00	1.14	9.96	0.00	0.56	16.81	0.00
1725	27	0.00	0.00	0.00	19.10	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	28	0.00	0.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1725	29	0.00		0.51	0.00	0.00	0.00	8.48	0.00	0.00	2.92	21.08	0.00
1725	30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	15.14	6.71	0.00	0.00
1725	31	0.00		0.00		0.00		23.72	0.00		36.70		0.00
1726	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1726	2	0.00	1.12	1.73	1.17	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00
1726	3	0.00	0.00	0.00	32.16	0.00	5.08	0.00	0.00	0.00	0.00	0.00	0.00
1726	4	0.00	0.00	0.46	17.58	0.00	2.84	0.00	0.00	0.00	4.52	0.00	0.00
1726	5	0.00	0.00	0.00	12.45	0.00	0.46	0.00	23.16	0.00	9.50	0.00	0.00
1726	6	0.00	0.00	0.00	2.29	0.00	0.00	40.69	0.00	0.00	15.75	0.00	0.00
1726	7	0.00	0.00	0.00	6.81	1.73	0.00	7.37	0.00	0.00	0.00	0.00	0.00
1726	8	0.00	0.00	0.00	6.30	0.00	16.92	0.00	0.00	0.00	0.00	2.79	0.00
1726	9	0.00	0.00	0.00	0.00	7.92	0.00	0.00	1.17	0.00	0.00	0.00	0.00
1726	10	0.00	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1726	11	0.00	11.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1726	12	0.00	4.47	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00	1.14	0.00
1726	13	6.81	0.00	0.00	1.27	1.68	0.00	0.00	27.69	0.00	0.00	0.00	17.42
1726	14	0.00	3.00	0.00	0.00	2.24	0.00	1.14	0.00	0.00	0.00	0.00	0.00
1726	15	0.00	0.00	0.00	0.00	0.00	6.81	0.00	0.00	0.00	0.00	0.00	0.00
1726	16	9.02	0.00	0.00	0.00	0.00	2.74	0.00	3.96	0.00	0.00	0.00	0.00
1726	17	0.00	0.00	0.00	0.00	0.00	1.68	6.20	0.56	14.12	0.00	0.00	7.92
1726	18	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.37	0.00	3.96	0.61
1726	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1726	20	0.00	0.00	0.00	1.68	4.47	0.00	0.00	0.00	0.00	0.00	0.00	0.38
1726	21	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.72	5.08
1726	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.33	0.00
1726	23	0.00	11.89	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.60	13.56
1726	24	0.00	0.00	0.00	2.59	0.00	0.00	0.56	0.00	0.00	0.00	17.48	1.14
1726	25	0.00	0.00	0.00	37.97	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00
1726	26	0.25	0.00	0.00	1.52	0.61	2.79	0.00	0.00	0.00	0.00	0.76	0.00
1726	27	0.00	3.05	0.00	0.00	0.46	3.40	2.79	0.00	0.00	0.00	0.00	0.00
1726	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00
1726	29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1726	30	0.00		0.00	46.86	0.00	0.00	0.00	0.00	3.40	0.00	0.00	0.00
1726	31	0.00		0.00		0.00		24.84	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1727	1	0.00	0.00	0.00	0.00	0.00	0.00	19.71	1.17	0.00	0.00	37.08	0.00
1727	2	0.00	10.77	0.00	0.00	0.20	11.33	2.24	0.71	1.52	0.00	0.00	0.00
1727	3	0.20	28.80	0.00	0.00	0.00	0.00	0.38	0.00	82.45	0.00	0.00	0.00
1727	4	7.62	4.47	0.00	0.00	0.00	0.00	1.73	0.00	5.26	0.00	0.00	20.78
1727	5	0.00	2.54	3.96	17.45	2.84	0.00	0.00	0.00	0.00	0.00	0.00	16.89
1727	6	0.00	0.00	0.00	1.14	0.00	0.00	0.00	12.85	0.00	3.40	1.73	4.52
1727	7	0.00	0.00	0.00	22.86	0.00	0.00	0.00	19.51	0.00	6.76	20.32	11.89
1727	8	0.00	0.00	0.00	1.73	3.96	8.48	0.00	12.95	0.00	14.73	0.00	9.04
1727	9	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	19.10	21.08	0.00	3.96
1727	10	6.76	0.00	0.00	0.00	0.00	6.81	0.00	11.43	1.57	0.00	0.00	5.69
1727	11	0.00	0.00	0.00	0.00	0.00	26.01	0.00	0.00	0.00	0.00	0.00	5.13
1727	12	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	3.96	0.00
1727	13	0.00	0.00	0.00	0.00	2.74	0.00	0.00	0.00	0.00	0.00	3.40	0.00
1727	14	0.00	0.00	0.00	1.12	1.68	0.00	0.00	18.80	0.00	0.00	0.00	0.46
1727	15	7.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.16	0.00	0.00	7.32
1727	16	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.70	0.00	0.00	8.48
1727	17	0.00	0.00	0.00	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
1727	18	0.56	4.52	0.00	0.00	0.56	0.25	2.84	0.00	0.00	0.00	0.00	0.00
1727	19	5.64	17.45	0.00	0.00	6.81	0.00	0.00	0.00	0.00	0.00	0.00	2.29
1727	20	0.00	0.00	0.00	0.00	1.68	0.00	0.00	0.00	0.00	2.84	0.00	0.00
1727	21	0.00	0.56	0.00	0.00	0.00	0.00	3.35	0.00	0.00	0.00	0.00	7.32
1727	22	0.00	0.76	0.00	0.00	3.05	0.00	0.00	0.00	18.75	0.00	11.33	5.08
1727	23	0.00	0.00	3.96	0.00	0.00	0.00	0.00	0.00	5.18	0.00	9.60	4.47
1727	24	0.00	0.00	0.00	0.00	0.00	23.11	9.04	0.00	0.00	0.00	0.00	7.72
1727	25	0.00	0.00	0.00	0.61	1.73	0.00	0.00	0.00	0.00	10.72	9.40	1.68
1727	26	1.14	0.00	0.00	0.00	0.00	14.33	0.56	0.00	0.00	16.51	9.65	5.64
1727	27	41.25	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.00	10.16	3.61	0.00
1727	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.31	0.46	4.52
1727	29	5.03		0.56	0.00	0.00	0.00	0.00	0.00	0.00	6.81	0.00	16.31
1727	30	0.00		0.00	0.00	17.42	0.00	0.00	0.00	0.00	0.00	0.00	32.77
1727	31	40.13		0.00		0.00		0.00	0.00		44.55		45.62
1728	1	27.81	0.00	17.15	0.00	0.00	0.00	0.00	0.00	0.00	1.93	7.62	39.24
1728	2	2.29	0.00	2.29	0.00	0.00	0.00	0.00	19.69	0.00	0.00	13.31	5.38
1728	3	0.00	0.00	1.91	3.40	2.74	0.00	0.81	0.00	0.00	0.00	5.54	0.00
1728	4	0.00	2.16	0.38	3.18	10.67	0.00	3.15	0.00	0.00	29.08	0.00	0.00
1728	5	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	22.10	0.00	22.96
1728	6	0.00	0.00	0.00	0.00	4.67	0.00	0.00	0.00	26.42	0.00	5.84	16.64
1728	7	0.00	0.00	0.00	36.83	0.00	0.00	0.38	0.00	10.54	1.42	15.37	31.90
1728	8	0.81	0.00	0.00	56.52	0.51	2.92	2.67	0.00	0.00	13.72	0.00	2.39
1728	9	0.00	0.00	0.00	0.00	0.00	17.40	0.00	0.00	0.00	0.00	0.00	0.00
1728	10	0.00	0.00	4.32	21.34	0.00	13.34	3.15	0.00	0.00	2.16	0.00	16.89
1728	11	0.00	0.00	0.00	0.00	9.04	0.00	0.00	0.00	0.00	0.00	0.20	0.00
1728	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.18	0.00	0.00
1728	13	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	9.04	0.00	22.61
1728	14	0.00	0.00	0.00	0.30	0.00	10.92	0.00	0.00	14.83	9.02	0.00	40.64
1728	15	3.40	0.00	0.00	0.00	0.00	0.00	29.36	0.00	0.00	0.00	0.00	16.38
1728	16	10.16	0.00	0.00	7.47	0.00	0.00	0.00	0.00	0.00	1.37	0.00	0.00
1728	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	1.52	0.00	0.00
1728	18	5.21	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.14	25.91	0.00	0.00
1728	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	8.89
1728	20	0.00	0.00	0.00	0.00	0.00	2.74	0.00	3.81	15.54	7.75	15.62	0.00
1728	21	10.67	0.00	0.00	0.00	0.00	14.22	51.31	3.40	15.75	0.00	0.00	0.00
1728	22	0.00	0.00	0.00	0.64	0.00	0.00	0.64	2.41	0.25	0.00	0.00	19.20
1728	23	4.45	0.00	0.38	0.00	0.00	15.37	0.00	0.00	41.78	0.00	0.00	2.29
1728	24	11.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.72	0.00	0.00	16.38
1728	25	0.00	0.00	0.20	0.00	0.00	0.00	1.02	0.00	0.51	0.20	0.00	7.24
1728	26	22.10	0.00	0.00	0.00	0.00	0.00	0.00	11.18	10.16	0.00	0.00	0.00
1728	27	0.00	0.00	0.00	0.00	0.51	0.00	0.00	31.62	0.00	0.00	0.00	5.08
1728	28	24.77	0.00	0.00	0.00	11.33	0.00	0.00	41.20	0.00	0.00	0.00	0.00
1728	29	0.00	0.64	0.64	0.00	22.73	0.00	0.00	0.00	0.00	0.38	0.00	2.74
1728	30	13.97		0.25	0.00	13.56	0.00	0.00	0.00	0.00	0.00	22.61	26.97
1728	31	0.46		0.00		0.00		0.00	0.00		0.00		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1729	1	0.00	0.00	0.00	0.00	0.20	0.00	7.11	0.71	0.00	0.00	0.00	0.00
1729	2	0.00	12.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	0.00
1729	3	0.00	0.00	0.00	0.00	9.04	0.00	0.00	0.00	0.00	0.00	2.03	0.00
1729	4	0.13	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	17.98	0.00	0.00
1729	5	0.13	0.00	0.00	0.00	0.20	0.00	0.00	8.64	0.00	1.57	45.06	0.00
1729	6	8.33	0.00	13.56	1.27	1.93	0.13	12.50	40.74	0.00	0.00	2.69	16.26
1729	7	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.51	0.00	2.03	0.00	0.00
1729	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	0.00	0.00
1729	9	0.00	0.00	0.00	0.00	0.51	8.33	0.00	0.00	0.00	21.59	0.00	0.00
1729	10	0.00	0.00	0.00	0.00	0.00	25.15	0.00	6.50	6.30	0.00	2.03	0.00
1729	11	16.00	0.00	0.00	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.70
1729	12	8.51	0.00	0.00	0.00	0.38	0.00	10.16	0.25	0.00	0.00	0.00	2.39
1729	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1729	14	0.00	0.00	0.00	10.97	0.00	0.00	0.20	0.00	2.29	0.00	0.00	0.00
1729	15	0.13	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1729	16	0.00	2.34	13.00	0.00	0.51	20.68	0.00	0.00	0.00	0.00	22.66	0.00
1729	17	0.00	6.86	0.20	0.00	0.00	1.22	23.01	0.00	0.00	0.00	6.86	0.00
1729	18	0.00	2.34	0.00	0.00	20.93	32.77	0.00	0.00	0.00	0.00	0.61	0.00
1729	19	0.00	0.00	0.00	11.43	0.00	0.00	8.84	0.00	0.00	0.00	6.81	0.00
1729	20	0.00	0.00	0.00	0.00	0.20	0.00	6.60	0.00	0.00	0.00	24.99	0.00
1729	21	0.00	0.00	12.85	0.00	0.00	0.00	0.00	0.00	3.40	0.00	2.34	0.00
1729	22	0.00	0.00	14.02	0.00	3.91	0.00	0.00	0.00	0.00	0.00	0.00	28.14
1729	23	0.00	1.57	27.08	8.43	0.00	0.00	0.00	8.13	0.00	0.00	8.94	31.60
1729	24	0.00	0.64	0.00	0.00	0.38	0.00	0.00	0.00	0.00	3.15	4.17	9.09
1729	25	0.00	0.00	0.00	10.87	0.51	0.00	0.00	0.00	27.18	6.86	0.00	0.00
1729	26	6.60	0.00	0.00	8.79	6.48	5.33	0.00	0.00	0.00	20.07	0.00	0.00
1729	27	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	46.23	0.00	0.00
1729	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.43	0.00	0.00
1729	29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1729	30	0.00		0.00	5.69	0.00	0.00	9.04	0.00	4.95	0.91	0.00	0.00
1729	31	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00
1730	1	0.00	0.00	0.00	7.26	0.61	8.23	0.00	0.00	0.00	0.00	0.00	0.00
1730	2	0.00	0.00	0.00	5.18	0.00	2.34	0.00	0.00	0.00	0.00	0.00	0.00
1730	3	0.00	0.00	0.00	9.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1730	4	0.00	0.00	0.00	2.03	3.30	0.00	0.76	0.00	0.00	0.00	0.00	0.81
1730	5	0.00	0.00	17.98	17.58	2.74	0.00	14.38	0.00	0.00	0.00	0.00	0.00
1730	6	0.00	0.00	0.00	0.00	0.00	0.00	24.99	0.00	0.00	0.00	0.00	2.16
1730	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	1.40	4.19
1730	8	0.00	0.00	0.00	0.00	2.18	55.42	0.00	0.00	0.00	0.00	0.00	1.32
1730	9	0.00	0.00	18.29	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.36	0.00
1730	10	0.00	2.74	0.00	0.00	0.00	0.00	0.00	0.00	2.92	0.00	31.75	0.00
1730	11	0.00	0.00	15.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00
1730	12	0.00	0.00	1.65	0.00	0.00	0.00	6.25	0.00	0.00	0.00	0.00	19.66
1730	13	0.00	0.00	23.01	0.00	0.00	0.00	0.81	0.00	18.80	0.00	0.00	0.00
1730	14	0.00	0.97	16.38	0.00	0.00	0.64	0.76	0.00	0.00	1.68	1.02	0.00
1730	15	0.00	0.00	2.39	0.00	0.00	2.34	0.00	18.39	0.00	11.68	0.91	0.00
1730	16	0.00	0.00	0.97	0.00	0.20	0.20	0.00	0.00	0.00	17.98	0.00	0.00
1730	17	0.00	0.00	6.86	0.00	0.00	0.00	0.00	0.00	0.00	38.40	0.00	0.00
1730	18	0.00	0.00	7.92	0.00	0.00	8.89	0.00	0.00	0.00	0.00	0.00	0.00
1730	19	0.00	0.00	16.13	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1730	20	0.00	3.30	0.00	0.00	0.00	1.42	15.54	38.40	8.89	0.00	0.00	0.00
1730	21	0.00	17.53	0.00	17.63	0.00	14.07	21.08	11.43	0.00	0.00	0.00	0.00
1730	22	0.00	0.00	0.00	0.71	0.13	1.65	0.00	0.00	0.00	0.00	0.00	0.00
1730	23	0.00	0.00	0.00	6.45	0.00	38.40	0.00	0.00	0.00	29.57	0.00	0.00
1730	24	0.00	0.00	0.00	7.37	0.00	33.63	1.42	0.00	0.00	0.00	0.00	0.00
1730	25	0.10	0.00	0.00	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00
1730	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1730	27	0.00	0.00	0.00	0.00	0.00	1.42	5.69	0.00	0.00	0.00	0.00	1.07
1730	28	0.00	0.00	0.00	0.00	0.00	9.53	6.86	0.00	0.00	0.00	0.00	1.68
1730	29	0.00		0.00	0.00	33.63	0.00	0.00	0.00	0.00	0.00	3.15	0.20
1730	30	0.00		0.00	0.00	2.18	0.61	0.61	37.29	0.00	0.00	0.00	0.00
1730	31	0.00		0.00		11.33		0.00	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1731	1	0.10	0.00	0.00	0.00	16.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1731	2	0.00	0.00	2.08	0.00	0.00	0.00	0.00	16.38	1.40	0.00	24.59	0.00
1731	3	0.00	0.00	0.61	1.57	0.00	0.00	9.04	0.00	0.00	0.00	24.28	0.00
1731	4	0.00	0.00	1.57	14.22	0.00	0.00	0.00	7.72	0.00	0.00	0.00	0.00
1731	5	0.00	7.11	11.43	8.99	0.00	0.00	0.00	0.00	0.00	0.00	0.64	11.48
1731	6	0.00	10.36	4.67	0.00	0.00	0.00	0.00	0.00	35.69	0.00	2.34	4.67
1731	7	0.00	2.34	18.85	0.00	0.00	0.00	0.00	0.00	0.20	51.05	0.28	9.14
1731	8	0.00	9.75	0.81	0.00	0.00	0.66	0.00	0.00	0.00	0.00	10.97	0.00
1731	9	0.00	0.00	0.00	0.00	11.07	2.34	0.00	0.00	0.00	0.00	0.00	1.88
1731	10	0.00	0.00	0.00	0.00	2.69	0.00	0.00	0.00	22.66	0.00	26.11	0.64
1731	11	0.00	6.35	0.00	0.00	15.24	0.00	10.97	0.00	0.00	0.00	7.92	0.00
1731	12	0.00	3.15	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.30	0.00
1731	13	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.89	0.00
1731	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1731	15	2.24	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00
1731	16	15.54	0.00	0.00	0.00	9.02	36.83	0.00	0.00	0.00	0.00	0.00	0.00
1731	17	0.00	0.00	0.00	0.10	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00
1731	18	0.00	0.00	0.00	0.00	2.13	2.13	5.44	0.00	1.83	0.00	0.00	0.00
1731	19	2.29	0.00	0.00	0.00	0.00	1.27	0.00	0.00	3.40	0.00	0.46	0.00
1731	20	0.00	0.00	0.00	0.00	0.00	0.15	1.68	0.00	0.00	0.00	9.86	0.00
1731	21	0.00	0.00	0.00	0.00	0.00	13.31	14.83	27.33	0.00	0.00	2.03	0.00
1731	22	0.00	0.00	0.00	3.45	0.00	11.43	0.00	63.25	0.00	0.00	0.64	0.00
1731	23	0.00	0.00	0.00	15.95	0.00	2.13	0.00	0.61	0.00	0.00	0.00	0.00
1731	24	3.15	8.89	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00
1731	25	5.54	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	12.85	0.00	0.00
1731	26	0.00	15.54	0.00	0.00	0.00	18.29	0.00	0.00	0.00	0.61	0.00	0.00
1731	27	0.00	10.29	0.00	2.13	0.00	0.00	0.46	1.32	0.00	0.00	0.00	0.00
1731	28	0.00	0.00	0.00	0.00	0.00	0.00	36.45	0.00	0.00	0.00	0.00	0.00
1731	29	0.00		0.00	20.32	0.00	0.00	0.00	33.88	0.00	0.00	0.00	0.00
1731	30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34
1731	31	0.00		0.00		0.00		0.00	0.00		0.00		3.35
1732	1	1.73	0.00	2.69	0.00	0.00	11.07	0.00	22.00	0.00	0.00	0.15	0.00
1732	2	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1732	3	0.20	0.00	0.00	0.00	0.00	11.89	0.00	0.00	10.41	0.00	0.00	0.00
1732	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	0.00	0.00	0.00
1732	5	0.00	0.00	0.00	0.00	0.00	0.30	0.46	0.00	0.00	0.00	0.00	0.00
1732	6	0.00	0.00	0.00	0.00	0.00	0.00	23.52	4.88	0.00	0.00	39.32	0.00
1732	7	0.00	0.00	0.00	5.49	0.00	0.00	0.00	0.64	0.00	0.00	74.42	0.00
1732	8	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.30	0.00	0.00
1732	9	0.00	4.42	0.00	0.00	0.00	0.00	8.26	0.00	9.27	0.00	26.31	0.00
1732	10	0.00	1.17	0.00	0.00	13.00	0.00	0.00	0.00	0.00	0.00	15.88	0.00
1732	11	0.00	0.00	0.00	19.41	8.26	0.00	0.00	0.00	0.00	0.00	5.46	0.00
1732	12	0.00	0.00	0.00	3.18	0.00	0.00	0.41	0.00	0.00	0.00	8.48	0.00
1732	13	0.00	0.00	0.00	14.78	0.00	0.00	0.00	15.54	0.00	0.00	0.00	0.00
1732	14	0.00	0.00	0.10	0.00	0.00	2.34	4.17	2.41	0.00	0.00	0.00	0.00
1732	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1732	16	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.91	0.00	6.71	6.40	0.00
1732	17	0.00	0.00	0.00	11.79	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00
1732	18	0.00	0.00	0.00	4.88	0.00	0.00	0.00	0.00	0.00	0.00	5.72	0.00
1732	19	0.00	11.43	0.00	0.00	0.00	6.99	0.00	0.00	0.41	0.00	0.00	0.00
1732	20	0.00	2.39	0.00	12.85	0.00	0.00	0.00	27.74	0.20	0.00	0.00	0.00
1732	21	0.00	0.00	3.15	0.00	0.00	0.00	8.18	0.91	0.00	0.00	0.00	0.00
1732	22	0.00	0.00	0.00	22.96	0.00	0.23	0.00	0.00	0.00	11.63	0.00	0.00
1732	23	0.00	0.00	0.00	14.86	0.00	6.15	0.00	0.00	0.20	0.00	0.00	0.00
1732	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	3.25	0.00
1732	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99	0.15	0.00
1732	26	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	12.29	0.30	0.00
1732	27	0.00	0.00	13.00	0.00	0.00	23.37	0.00	0.00	0.00	0.00	0.00	0.00
1732	28	11.68	13.87	14.40	28.60	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00
1732	29	0.61	19.38	12.40	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1732	30	27.18		1.65	0.00	9.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1732	31	9.02		0.00		14.35		0.00	0.00		9.60		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1733	1	0.00	0.00	0.00	4.57	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00
1733	2	0.00	0.00	0.00	8.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	3	10.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	4	19.20	0.00	0.00	0.00	0.00	2.69	0.00	9.35	0.00	0.00	0.00	0.00
1733	5	26.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.26	0.00	0.00	0.00
1733	6	0.00	0.00	0.00	0.00	21.95	0.00	0.00	0.00	0.00	6.73	0.00	0.00
1733	7	4.42	0.00	0.00	0.00	45.97	2.34	0.00	0.00	0.00	7.62	0.00	0.00
1733	8	0.00	0.00	0.00	0.00	12.09	0.00	0.00	19.20	0.00	0.00	0.00	0.00
1733	9	12.50	0.00	0.00	10.57	0.00	4.11	0.00	6.86	0.00	0.00	0.00	0.00
1733	10	0.00	0.00	0.00	27.53	0.64	9.27	3.25	3.18	0.00	0.30	0.00	0.00
1733	11	16.66	0.00	0.00	0.00	0.00	11.43	6.30	0.00	0.00	0.00	0.00	0.00
1733	12	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
1733	13	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	14	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	15	0.00	0.00	0.00	0.00	0.41	6.45	0.00	2.74	0.00	0.00	0.00	0.00
1733	16	0.00	0.00	0.00	0.00	32.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00
1733	17	0.00	0.64	0.15	0.00	0.00	0.00	2.39	0.00	0.00	0.00	0.00	0.00
1733	18	0.00	0.00	12.57	0.00	10.62	14.35	0.00	32.00	0.00	0.00	0.00	0.00
1733	19	0.00	0.00	0.00	0.64	0.41	0.00	0.81	0.00	0.00	0.00	0.00	0.00
1733	20	0.00	8.33	0.81	0.00	18.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	21	0.00	0.00	0.00	0.00	0.00	17.37	0.00	0.00	0.00	0.00	0.20	0.00
1733	22	0.00	0.00	7.11	0.00	0.00	0.00	0.00	16.31	0.00	0.00	9.19	0.00
1733	23	3.94	0.00	18.90	0.00	0.00	0.00	0.00	0.00	0.00	26.72	0.30	0.00
1733	24	27.03	0.00	7.26	0.91	3.68	0.00	0.00	0.00	0.00	29.59	0.00	0.00
1733	25	4.72	0.00	2.95	14.73	8.89	4.57	55.78	0.00	0.00	6.96	0.00	0.00
1733	26	11.43	0.00	0.00	0.00	13.26	11.89	0.00	0.00	0.00	4.01	0.00	0.00
1733	27	0.00	0.00	0.00	0.00	11.99	4.70	0.00	21.97	0.00	0.00	0.00	0.00
1733	28	0.00	0.00	19.05	0.00	0.00	0.00	0.00	4.17	0.30	0.89	0.00	0.15
1733	29	0.00		6.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1733	30	0.00		16.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
1733	31	0.00		0.00		5.18		0.00	0.00		2.44		0.00
1734	1	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	1.65	0.00
1734	2	0.00	0.00	0.00	0.00	4.62	0.00	0.00	7.82	0.00	0.00	0.00	0.00
1734	3	0.00	12.24	0.00	0.00	0.00	0.00	0.00	20.50	0.00	0.64	0.00	0.00
1734	4	0.00	4.19	0.00	0.00	0.00	0.00	33.91	9.40	0.00	1.57	0.00	0.10
1734	5	0.38	0.00	0.00	0.00	10.36	0.00	2.92	0.00	0.00	0.00	0.00	5.28
1734	6	0.00	0.00	0.00	0.00	12.75	0.10	2.16	0.00	0.00	1.98	0.00	0.20
1734	7	26.31	0.00	3.43	2.44	0.00	0.00	0.00	0.00	0.00	0.15	0.00	7.24
1734	8	0.00	0.00	40.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.38
1734	9	0.00	0.00	0.00	0.00	0.00	10.26	0.00	0.00	0.00	0.00	0.00	0.00
1734	10	0.00	0.00	0.00	0.00	0.00	6.40	0.00	3.94	0.00	0.00	0.00	0.00
1734	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
1734	12	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.64
1734	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.72	0.00	0.15
1734	14	0.00	0.00	0.00	0.00	0.00	0.00	8.89	24.74	0.00	0.20	0.00	25.50
1734	15	0.00	0.00	0.00	0.00	0.00	0.00	44.65	26.04	0.00	4.47	0.00	2.34
1734	16	2.18	0.00	0.00	4.01	0.00	0.00	39.19	0.00	0.00	5.99	0.00	0.00
1734	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
1734	18	7.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.22	0.00	2.41
1734	19	0.41	0.00	4.78	0.15	0.00	0.00	18.92	0.00	0.00	11.48	0.00	7.21
1734	20	0.00	0.00	1.32	0.00	0.00	15.70	0.00	0.00	0.00	0.00	0.00	0.00
1734	21	0.00	0.00	0.00	0.00	19.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1734	22	0.00	0.00	0.00	0.00	61.06	0.00	0.00	0.00	0.20	0.71	0.00	0.00
1734	23	0.00	0.00	0.00	0.00	1.65	0.00	0.00	0.00	47.50	35.76	3.56	0.00
1734	24	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	16.66	8.94	10.80	13.72
1734	25	0.00	0.00	23.50	0.00	10.41	0.00	0.00	0.00	0.00	0.00	0.00	27.56
1734	26	0.00	0.00	6.91	0.00	0.00	21.16	9.04	0.00	0.00	0.00	0.00	0.00
1734	27	0.00	0.00	0.00	11.43	0.00	31.65	0.00	2.44	0.00	1.73	0.00	1.32
1734	28	0.00	0.00	0.00	0.00	0.00	7.32	0.00	2.84	0.00	4.95	0.00	1.32
1734	29	0.00		0.00	0.00	0.64	0.00	0.00	22.23	0.00	0.91	0.00	0.00
1734	30	0.00		0.00	0.00	0.00	0.89	15.82	0.00	0.00	1.22	0.00	1.40
1734	31	0.00		0.00		0.00		0.00	0.00		13.56		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1735	1	0.00	0.91	3.00	13.72	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	2	11.48	25.53	0.00	16.08	0.00	0.00	0.00	1.83	0.00	0.00	0.00	0.30
1735	3	4.57	0.41	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
1735	4	0.00	1.83	28.50	8.69	4.19	0.00	0.00	51.44	0.00	0.00	0.00	2.08
1735	5	0.00	3.86	5.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	6	0.00	0.00	0.00	13.84	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.61
1735	7	0.00	0.00	0.00	3.96	4.37	0.25	0.00	0.00	0.00	0.00	0.00	0.00
1735	8	11.02	0.00	9.78	12.40	0.00	0.00	17.63	0.00	0.00	0.00	0.00	10.41
1735	9	9.55	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.20
1735	10	3.94	0.00	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00	0.00
1735	11	0.00	0.00	0.00	0.00	2.16	0.00	0.00	10.16	0.00	12.70	0.00	0.00
1735	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	10.80	0.00	0.00
1735	13	0.00	0.00	1.65	0.00	13.59	0.91	0.00	0.00	0.00	0.61	0.00	0.00
1735	14	0.00	0.00	8.94	4.06	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00
1735	15	0.00	0.00	0.00	0.00	0.00	0.20	0.00	11.30	4.72	0.00	0.00	0.00
1735	16	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00
1735	17	0.00	0.10	0.00	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00
1735	18	0.00	0.10	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
1735	19	4.17	0.00	0.00	0.00	0.91	0.00	38.48	0.00	4.57	9.75	0.00	0.00
1735	20	18.16	0.15	0.00	0.00	0.71	27.43	20.32	0.00	0.00	7.06	0.00	0.00
1735	21	0.00	0.00	4.57	1.63	16.38	23.77	0.41	0.30	0.30	12.07	0.00	0.00
1735	22	18.62	0.00	24.84	15.85	0.00	22.61	0.00	0.00	0.41	7.42	0.00	0.00
1735	23	2.24	0.00	1.47	0.00	13.21	0.38	0.00	0.30	1.73	0.00	0.00	0.00
1735	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	8.26	0.00	0.00	0.00
1735	25	23.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	26	1.27	0.00	0.00	0.00	14.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	27	0.00	0.00	14.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	28	0.00	13.72	1.98	0.00	0.00	0.51	0.00	0.64	0.00	0.00	0.00	0.00
1735	29	0.00		4.17	0.00	7.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	30	1.19		0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	31	1.27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	1	0.00	19.20	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	2	0.00	3.45	0.76	0.00	0.00	0.00	0.00	0.00	11.48	0.00	2.84	0.00
1736	3	0.00	10.31	1.52	1.78	0.00	1.42	0.00	0.00	0.00	0.00	0.41	0.00
1736	4	0.00	0.00	13.26	0.00	0.00	2.34	0.00	0.00	5.89	25.81	0.00	0.00
1736	5	0.00	0.00	1.93	17.07	0.00	2.16	0.00	33.58	14.43	18.08	0.00	0.00
1736	6	0.00	16.97	1.14	4.62	0.00	14.07	0.00	4.27	0.00	5.28	0.00	3.15
1736	7	0.00	15.75	22.30	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.41	5.23
1736	8	0.00	2.18	1.17	0.00	0.00	0.00	0.00	0.00	6.91	1.83	9.27	0.00
1736	9	4.57	14.35	0.00	0.00	0.15	0.00	1.73	0.00	1.65	0.00	0.00	6.86
1736	10	9.04	16.05	0.00	0.00	0.00	7.32	0.00	0.00	0.00	1.83	0.00	6.76
1736	11	2.29	28.09	2.41	0.00	0.00	0.00	0.00	0.00	0.00	4.52	0.00	0.41
1736	12	1.65	2.34	5.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	13	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	14	0.00	0.41	0.00	10.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	15	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00
1736	16	0.00	2.18	2.34	0.00	13.72	0.00	0.00	0.00	0.00	0.30	0.00	0.00
1736	17	0.00	0.38	4.57	0.00	3.61	36.45	0.00	0.00	0.00	0.00	0.00	0.41
1736	18	0.00	0.00	18.69	4.70	21.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	19	0.00	0.00	13.84	0.00	5.72	0.20	0.00	0.00	0.00	0.00	14.02	0.00
1736	20	0.00	9.96	0.30	0.00	0.91	0.41	20.32	0.00	0.00	0.00	0.00	6.48
1736	21	0.00	2.79	0.00	0.00	9.02	0.00	0.00	2.84	3.68	0.00	0.20	0.00
1736	22	0.00	8.76	0.00	0.64	16.89	0.00	0.00	3.43	1.93	0.00	0.30	0.00
1736	23	9.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	24	2.92	0.00	0.00	0.00	3.86	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1736	25	0.20	2.84	0.00	0.20	0.00	7.16	19.66	0.00	0.00	0.00	0.00	0.00
1736	26	14.86	0.64	0.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	0.00	0.00
1736	27	9.27	0.00	0.00	0.00	0.00	12.83	0.00	0.00	0.00	0.00	0.00	0.00
1736	28	0.46	0.00	0.00	11.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1736	30	0.00		0.00	3.61	0.13	8.89	0.00	0.00	0.00	0.00	0.00	5.66
1736	31	0.00		0.00		9.78		0.00	0.00		0.00		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1737	1	0.00	0.51	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1737	2	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.65	0.64	0.00
1737	3	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.86	2.84	0.00
1737	4	0.00	21.59	0.00	0.00	0.00	0.00	5.38	0.00	0.00	4.62	3.94	0.00
1737	5	0.00	2.03	0.00	0.00	1.07	0.00	0.00	0.00	3.05	0.00	0.00	0.00
1737	6	0.00	0.00	0.00	1.65	1.98	0.00	1.65	9.14	0.00	0.00	0.51	0.00
1737	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00
1737	8	0.00	0.00	2.95	0.00	0.00	0.00	1.65	0.41	0.00	1.40	0.00	0.61
1737	9	0.00	0.00	19.23	0.00	0.00	6.76	11.02	0.00	0.00	0.00	0.00	0.00
1737	10	0.00	0.00	5.59	0.00	0.00	0.00	0.20	0.00	0.00	27.43	0.00	0.00
1737	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.51	3.18	0.51
1737	12	0.00	0.00	0.30	0.20	0.00	0.00	0.00	0.00	0.00	6.86	2.44	0.00
1737	13	0.00	0.00	0.20	0.00	0.00	9.35	0.00	0.00	0.00	1.42	0.00	0.00
1737	14	0.00	0.00	0.00	0.00	0.00	11.43	0.00	0.81	0.00	6.73	0.00	0.00
1737	15	0.00	0.00	0.00	0.00	0.00	6.50	0.00	2.84	0.00	0.64	0.00	0.00
1737	16	0.00	0.00	1.65	0.00	0.00	2.44	0.00	7.24	0.00	35.56	0.00	0.00
1737	17	0.00	0.00	1.65	0.00	0.00	6.73	0.00	0.00	0.00	14.53	0.00	0.00
1737	18	0.00	0.00	0.64	0.00	0.00	19.02	0.00	1.65	0.41	22.61	0.00	0.00
1737	19	0.00	0.00	5.23	0.00	0.00	5.64	0.00	0.00	18.16	0.00	0.00	0.91
1737	20	0.00	0.00	0.00	0.00	0.00	11.79	0.00	0.30	0.00	0.00	0.00	0.20
1737	21	0.00	0.00	0.00	0.00	40.69	11.99	0.00	0.00	0.00	0.00	0.00	9.70
1737	22	0.00	0.00	0.00	0.00	18.03	0.91	0.00	0.00	0.00	0.00	0.00	4.45
1737	23	0.30	0.00	0.00	5.59	11.30	0.00	0.00	0.00	0.00	2.16	0.00	1.93
1737	24	0.00	0.00	3.20	0.00	1.83	0.00	0.00	0.00	0.00	45.11	0.00	0.00
1737	25	0.41	0.00	0.20	2.16	2.03	0.00	0.00	2.44	0.00	2.13	0.30	0.00
1737	26	0.00	0.00	0.64	17.91	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1737	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.78	4.70	2.95	0.00
1737	28	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	2.18	0.00	0.00
1737	29	0.30		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1737	30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.30	0.00	0.00
1737	31	0.66		1.14		0.00		0.30	0.00		3.68		0.00
1738	1	0.00	0.00	12.40	0.00	3.23	0.00	0.00	0.00	0.00	0.66	1.83	0.00
1738	2	0.00	0.00	2.74	0.00	15.04	19.18	0.38	0.00	0.00	0.00	13.56	0.00
1738	3	0.00	0.00	0.00	0.00	0.00	0.91	52.22	0.00	32.82	0.00	0.00	0.00
1738	4	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	2.08	0.00	0.00	0.00
1738	5	0.00	0.00	0.00	0.00	24.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1738	6	0.10	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	13.84	16.97	0.00
1738	7	0.00	0.00	9.65	7.87	0.00	0.00	0.00	0.00	0.00	17.37	21.21	0.00
1738	8	4.57	0.00	2.13	0.00	0.00	3.35	0.00	0.00	11.23	2.24	3.20	0.00
1738	9	2.92	0.00	0.00	0.00	0.00	3.56	0.00	0.00	0.00	0.00	0.00	0.00
1738	10	0.00	0.00	0.00	0.00	0.00	0.00	9.14	0.10	0.00	0.00	0.00	0.00
1738	11	0.00	0.00	3.94	0.00	0.00	0.00	5.38	0.00	0.00	23.57	0.00	0.00
1738	12	0.00	0.00	5.74	0.00	0.00	10.11	0.00	0.00	0.00	0.00	0.00	0.00
1738	13	0.00	0.00	0.00	0.00	13.56	33.91	0.00	0.00	0.00	0.00	0.00	0.00
1738	14	0.00	0.00	0.00	0.00	0.00	16.84	0.38	0.00	0.00	0.00	0.00	0.30
1738	15	0.00	0.81	0.00	0.00	0.00	0.00	0.91	0.00	1.88	0.00	0.00	0.56
1738	16	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.64	0.00	0.36
1738	17	0.00	0.00	1.73	0.00	0.00	0.00	0.20	0.00	0.00	0.91	0.00	0.20
1738	18	0.00	0.00	0.00	0.00	2.08	0.00	0.00	0.00	0.00	0.00	0.00	2.18
1738	19	0.00	0.00	0.00	0.00	0.00	4.52	9.14	0.00	0.00	0.00	0.00	14.63
1738	20	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1738	21	0.00	0.51	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1738	22	0.41	0.00	5.38	0.00	18.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1738	23	2.13	0.00	0.41	0.00	0.00	0.00	13.77	0.00	0.00	0.00	0.00	0.00
1738	24	0.00	0.51	8.84	7.44	0.00	0.00	55.98	0.00	0.00	0.00	0.00	0.00
1738	25	0.00	6.96	0.00	18.16	0.00	5.28	2.92	0.00	0.00	0.00	0.00	0.00
1738	26	0.00	0.00	0.00	3.45	3.96	0.00	0.00	16.89	0.00	0.00	0.00	0.00
1738	27	0.00	0.00	0.00	0.00	0.00	15.82	0.00	0.00	0.00	0.00	0.00	0.00
1738	28	0.00	0.00	8.89	4.95	0.30	0.64	0.00	0.00	6.48	0.00	0.00	0.00
1738	29	0.00		2.84	0.00	0.00	4.88	0.00	0.00	14.43	0.00	0.00	0.00
1738	30	0.00		0.00	7.92	0.00	0.00	0.00	2.67	1.83	0.00	0.00	0.00
1738	31	0.00		0.00		0.00		2.41	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1739	1	0.00	0.00	0.00	10.54	6.91	0.00	0.00	0.00	0.00	0.00	0.41	0.00
1739	2	0.00	0.00	0.00	37.29	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1739	3	9.78	0.00	0.00	0.00	11.05	0.00	0.00	0.00	0.00	0.00	0.00	8.26
1739	4	3.91	12.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.06
1739	5	0.00	5.46	0.00	0.00	0.00	0.00	0.00	2.18	0.00	0.00	0.00	5.99
1739	6	0.00	0.00	0.00	0.41	11.48	0.00	0.00	26.01	0.00	0.00	0.00	0.00
1739	7	0.15	0.00	0.00	0.00	2.16	0.00	0.00	0.00	4.67	0.00	0.00	0.00
1739	8	2.08	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.64	0.00	0.41	0.00
1739	9	0.00	0.00	0.00	1.83	0.00	0.00	0.00	11.43	0.00	6.78	5.03	2.34
1739	10	0.00	0.00	0.00	0.00	0.00	3.18	0.64	0.30	0.00	16.97	0.00	0.20
1739	11	0.00	0.00	24.87	0.00	0.00	4.37	0.00	0.00	0.00	16.56	0.30	0.30
1739	12	0.00	0.00	0.00	0.20	0.00	13.61	0.64	13.51	9.04	4.06	0.64	3.68
1739	13	7.42	0.00	0.00	11.38	0.00	0.00	0.86	18.92	0.00	1.96	1.14	8.03
1739	14	2.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.65	0.00	0.00
1739	15	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.64	0.00	2.34	0.00	0.00
1739	16	1.83	0.00	0.00	13.82	0.41	0.00	0.00	0.00	0.00	1.32	1.14	0.00
1739	17	0.00	0.00	0.00	1.93	0.81	0.00	0.00	0.00	9.70	0.00	4.24	0.00
1739	18	0.00	0.00	0.00	0.00	0.81	0.00	11.30	2.49	0.00	1.63	6.91	0.00
1739	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.62	0.00	0.00
1739	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.14	0.00	0.00
1739	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1739	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.00	0.00
1739	23	0.00	0.00	2.08	0.00	0.00	0.00	0.00	0.00	19.20	0.46	0.00	0.64
1739	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.92	0.00	0.00
1739	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1739	26	0.00	0.00	7.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1739	27	0.00	0.00	0.30	0.00	0.00	2.64	0.10	0.00	6.15	0.00	0.00	0.00
1739	28	0.00	0.00	11.58	25.70	0.00	0.00	0.00	0.41	0.61	0.00	0.00	0.00
1739	29	0.00		0.15	0.00	0.00	0.00	30.28	12.40	0.91	0.00	0.00	0.00
1739	30	0.00		6.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00
1739	31	0.00		8.69		0.00		13.56	0.00		0.00		0.00
1740	1	0.00	0.00	0.00	0.00	0.00	0.30	0.00	1.65	0.00	0.00	2.67	0.00
1740	2	0.00	0.00	22.66	0.00	2.13	0.18	0.00	0.00	0.00	0.00	6.76	3.71
1740	3	0.00	0.30	6.96	0.00	0.64	0.00	0.00	0.00	6.48	0.00	8.31	3.43
1740	4	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.86	0.91
1740	5	0.41	0.64	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
1740	6	0.00	9.02	0.00	0.00	0.00	2.44	0.00	0.00	0.00	4.32	0.00	0.00
1740	7	0.00	7.16	0.00	2.29	6.45	5.21	0.00	0.00	0.00	0.00	0.00	0.00
1740	8	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00
1740	9	0.20	0.00	0.00	0.00	0.00	2.59	0.00	0.00	0.00	2.59	0.00	0.15
1740	10	11.33	0.00	0.64	0.00	2.41	22.61	0.00	3.96	0.00	13.56	0.00	0.30
1740	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	11.43	0.00	3.86
1740	12	13.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00	6.20	0.00
1740	13	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.00	0.00	3.96	0.00	0.00
1740	14	16.51	0.00	0.00	0.30	0.00	0.00	0.00	2.08	0.00	0.00	9.04	0.20
1740	15	4.19	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	8.69	6.25
1740	16	19.35	0.00	3.10	9.53	0.41	0.00	0.00	0.00	0.15	0.00	3.61	2.08
1740	17	2.03	0.00	1.73	0.00	15.82	0.00	0.00	0.00	0.00	0.00	0.00	0.30
1740	18	0.00	0.00	0.81	0.00	0.00	11.58	0.00	0.00	0.00	0.00	0.00	0.00
1740	19	0.41	0.00	0.00	0.00	0.64	0.41	1.14	0.00	0.00	0.00	10.41	0.00
1740	20	0.00	0.00	0.00	0.00	0.86	20.35	0.00	0.00	0.00	0.00	0.30	0.00
1740	21	0.64	0.00	0.00	0.00	6.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1740	22	0.00	0.00	0.00	0.00	2.08	0.00	18.08	0.91	0.00	0.00	6.05	0.00
1740	23	0.00	0.00	0.00	0.00	9.04	0.00	0.00	3.94	0.00	0.00	0.00	0.00
1740	24	0.00	0.00	0.00	0.00	0.00	0.00	6.27	0.00	0.00	0.00	0.00	0.00
1740	25	0.00	0.00	0.00	0.00	0.00	0.00	1.91	0.00	0.00	0.00	0.00	0.66
1740	26	0.15	0.00	0.00	15.80	0.00	0.00	14.83	0.00	0.00	0.00	0.00	0.64
1740	27	0.00	0.00	0.00	5.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
1740	28	0.00	0.00	0.00	0.00	0.20	6.99	0.00	0.00	0.00	0.00	0.66	1.68
1740	29	0.00	0.00	0.00	0.00	5.21	0.64	0.00	0.00	0.00	0.00	0.00	11.05
1740	30	0.00		0.10	0.00	4.88	0.00	0.00	0.00	0.00	0.00	0.00	3.86
1740	31	0.10		0.00		25.60		0.00	0.00		14.58		15.34

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1741	1	0.00	0.00	0.00	0.00	6.81	0.00	0.00	0.00	0.20	0.00	0.00	0.00
1741	2	13.00	0.00	0.00	0.00	5.49	0.00	5.99	4.01	17.32	0.00	0.00	0.00
1741	3	0.00	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1741	4	0.00	0.00	3.43	1.40	0.00	3.35	0.00	0.00	11.56	0.00	0.00	6.15
1741	5	0.00	0.91	2.67	0.00	0.00	0.00	0.00	14.88	0.20	0.00	0.00	0.00
1741	6	0.00	0.00	2.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.38	0.00
1741	7	0.00	0.00	1.14	0.00	0.00	3.94	2.34	0.00	0.38	0.00	3.86	0.00
1741	8	0.00	0.00	0.00	0.00	18.44	0.00	9.27	0.00	0.00	0.00	0.00	0.00
1741	9	0.00	0.00	0.00	0.00	6.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1741	10	0.00	0.00	0.00	2.08	6.55	0.00	0.20	0.00	0.00	0.00	0.00	0.00
1741	11	0.00	0.00	0.00	0.41	0.00	14.58	6.50	0.00	0.00	0.00	0.00	0.00
1741	12	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1741	13	0.00	0.00	0.00	6.86	0.00	0.00	0.91	6.35	0.00	0.89	0.00	0.00
1741	14	0.00	0.00	0.00	0.56	0.00	0.00	0.81	0.00	0.00	0.61	0.00	0.00
1741	15	0.00	0.00	0.00	0.81	0.00	20.60	0.00	0.00	14.38	0.00	0.00	0.00
1741	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1741	17	3.43	0.00	0.00	0.00	0.00	0.00	26.47	0.00	0.00	0.00	0.00	0.00
1741	18	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
1741	19	0.00	0.00	0.00	0.00	0.00	5.69	0.00	0.00	0.00	0.00	13.06	3.94
1741	20	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.81	13.72	6.15
1741	21	6.05	0.00	0.00	0.00	11.43	0.00	0.00	0.00	0.00	13.61	4.52	7.42
1741	22	18.08	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	5.77	0.00	0.00
1741	23	3.86	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	14.27	0.00	2.03
1741	24	9.86	0.00	0.00	0.00	11.81	6.10	0.15	0.00	0.00	0.00	0.00	0.91
1741	25	13.56	0.00	0.00	0.00	23.57	0.00	0.00	0.00	0.00	0.71	0.00	20.19
1741	26	9.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.27
1741	27	3.35	0.00	12.34	0.00	0.00	0.00	3.96	0.00	0.00	12.85	0.00	20.62
1741	28	0.00	1.32	1.07	0.00	0.00	0.00	0.00	0.00	0.00	2.16	0.00	1.14
1741	29	0.00		0.41	0.00	0.00	0.00	0.00	0.00	0.00	7.92	0.00	22.23
1741	30	0.00		0.71	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.00	8.53
1741	31	0.00		0.00		0.00		0.00	0.00		0.00		0.71
1742	1	0.00	0.00	6.17	1.57	0.00	0.00	0.00	11.07	0.00	0.00	0.00	0.66
1742	2	25.70	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
1742	3	0.38	0.00	0.00	0.00	0.00	0.00	0.00	2.34	1.40	0.00	0.00	1.12
1742	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.60	0.00	44.70
1742	5	0.00	0.00	0.00	4.62	0.00	0.00	0.00	0.00	0.00	9.83	0.00	0.00
1742	6	0.00	0.00	0.00	0.00	44.35	0.00	0.00	11.30	0.00	0.41	0.00	0.00
1742	7	0.00	0.00	0.30	0.00	4.78	0.00	0.00	0.00	0.00	0.00	0.00	16.51
1742	8	11.30	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.71	0.00	0.00
1742	9	28.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	8.23	11.10
1742	10	0.46	0.00	4.52	0.00	0.91	0.00	0.00	0.00	0.00	28.50	11.05	8.23
1742	11	0.00	0.00	0.38	0.00	0.00	16.59	3.94	0.00	0.94	0.00	0.00	7.87
1742	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.97	0.00
1742	13	5.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	20.50
1742	14	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.86	0.00	6.27	0.00	8.00
1742	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	31.90	0.00	0.38	0.00
1742	16	0.00	0.00	0.00	2.13	20.57	0.00	0.00	0.00	43.38	0.00	0.00	7.90
1742	17	0.00	0.00	0.00	11.30	2.95	6.73	0.00	0.00	1.07	14.63	8.18	0.61
1742	18	10.13	0.00	0.00	8.33	0.00	5.94	0.00	0.00	0.00	40.69	0.00	0.00
1742	19	25.81	0.00	0.00	38.68	0.00	15.06	3.15	0.00	0.00	0.00	0.00	0.00
1742	20	12.19	0.00	0.00	0.97	0.00	18.08	0.00	0.00	0.00	0.00	0.00	0.00
1742	21	0.00	0.05	0.00	4.27	1.07	0.00	0.00	0.00	1.14	0.00	0.00	0.00
1742	22	0.00	0.00	0.00	3.96	0.00	15.09	0.00	1.07	0.00	0.00	33.91	0.00
1742	23	0.00	0.00	0.00	6.78	0.00	2.29	0.41	0.00	0.00	0.00	1.22	0.00
1742	24	0.00	0.00	11.02	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1742	25	0.00	0.00	0.91	3.30	0.00	0.00	0.00	0.00	13.31	0.00	14.27	0.00
1742	26	8.74	0.00	0.00	2.18	0.00	20.62	0.00	0.00	0.00	0.00	12.34	0.00
1742	27	0.00	0.00	0.00	4.72	0.00	0.00	0.00	0.00	11.43	0.00	14.66	0.00
1742	28	22.61	0.00	0.00	0.00	6.50	0.00	0.00	0.00	0.00	0.00	27.79	0.00
1742	29	0.00		0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1742	30	0.00		1.42	0.00	0.00	0.00	0.00	0.66	0.97	0.20	0.00	0.00
1742	31	0.00		0.00		0.00		0.00	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1743	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00
1743	2	0.00	0.00	0.00	11.94	2.24	0.00	1.27	0.00	3.15	0.00	0.00	0.00
1743	3	0.00	0.00	0.00	17.98	0.00	0.66	2.69	0.00	0.94	14.12	0.00	0.00
1743	4	0.00	0.00	0.00	1.37	0.86	0.30	0.64	0.00	0.00	27.43	0.00	0.00
1743	5	0.00	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.00	8.08	0.00	0.00
1743	6	0.00	0.00	0.20	0.30	0.00	0.91	16.71	0.00	0.00	0.00	0.00	0.00
1743	7	0.00	0.00	0.00	0.00	0.00	25.73	0.00	0.00	0.00	0.00	0.00	0.00
1743	8	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00
1743	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1743	10	0.00	0.00	0.00	0.00	10.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1743	11	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	9.04	0.00	0.00
1743	12	6.86	0.00	0.00	2.84	0.00	21.97	0.00	0.00	0.00	3.71	0.00	0.00
1743	13	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
1743	14	0.64	0.00	0.00	0.00	30.12	0.00	18.59	0.00	0.00	0.00	0.00	0.00
1743	15	0.00	0.00	0.00	0.00	22.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1743	16	0.00	0.00	0.00	0.00	0.00	0.00	0.20	6.45	0.00	0.00	0.00	0.00
1743	17	0.00	0.91	0.00	11.07	0.00	0.00	9.45	0.00	1.14	0.00	0.00	0.00
1743	18	0.00	0.00	0.00	0.00	0.00	0.00	3.18	76.33	0.00	1.42	0.00	0.00
1743	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.10	0.00	2.84	1.14	0.00
1743	20	0.00	0.00	0.00	34.29	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1743	21	0.00	0.00	5.89	0.00	12.24	5.23	0.00	0.00	0.00	1.09	0.00	0.00
1743	22	0.00	0.00	22.02	0.00	24.31	20.88	3.10	0.00	0.00	0.00	0.00	0.00
1743	23	0.00	0.00	0.00	0.00	0.20	24.08	0.20	0.00	0.00	0.00	0.00	0.00
1743	24	0.00	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00
1743	25	0.00	0.00	2.49	0.20	0.00	0.00	0.00	0.00	0.00	4.78	0.00	0.00
1743	26	0.00	0.00	13.00	0.00	8.76	0.00	0.00	0.00	0.00	13.41	18.08	1.07
1743	27	0.00	0.00	0.00	0.00	12.34	0.00	0.00	0.00	0.00	11.10	1.47	1.65
1743	28	0.00	0.00	0.00	0.56	0.00	0.41	0.00	0.00	0.00	11.30	27.13	0.00
1743	29	0.00		15.44	0.00	0.00	0.00	0.00	0.00	0.00	11.84	0.00	2.84
1743	30	0.00		7.26	0.00	0.00	0.00	0.00	0.00	0.00	8.13	0.00	0.00
1743	31	0.00		0.00		0.00		0.00	0.00		0.00		0.00
1744	1	0.00	0.00	0.00	0.66	0.00	5.82	0.00	0.00	25.04	0.00	0.00	0.00
1744	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.28	0.00	0.00	0.00	0.00
1744	3	0.15	0.20	0.00	0.00	0.00	0.00	0.00	14.78	0.00	4.52	0.00	0.00
1744	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.93	0.00	0.00
1744	5	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	11.30	0.00	0.00
1744	6	0.00	0.00	3.20	0.00	0.61	0.00	0.38	0.00	0.00	0.66	1.07	0.00
1744	7	0.00	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1744	8	0.00	0.00	0.00	0.00	2.24	0.00	0.00	0.00	0.00	2.64	0.00	0.00
1744	9	0.00	0.00	0.00	11.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1744	10	0.00	0.00	0.00	21.74	0.00	8.28	0.00	0.00	11.58	23.16	0.00	0.00
1744	11	0.00	0.00	0.00	5.38	8.23	0.00	0.00	1.63	0.00	0.00	0.00	0.00
1744	12	0.61	0.00	0.00	0.00	5.33	0.00	0.00	4.67	0.00	0.00	2.18	0.00
1744	13	7.82	0.00	18.08	3.43	0.30	0.00	31.65	0.00	0.00	16.97	0.00	8.74
1744	14	8.13	0.00	0.00	0.00	1.91	0.00	0.00	0.97	22.61	9.04	0.00	5.54
1744	15	1.85	0.00	0.00	27.13	0.64	1.42	0.00	0.00	0.00	0.00	0.00	0.00
1744	16	6.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1744	17	1.78	28.50	1.42	0.50	0.00	26.57	0.00	0.00	0.00	0.00	0.00	0.00
1744	18	1.57	0.00	3.15	0.00	0.00	9.70	27.58	0.00	0.00	0.00	0.00	0.00
1744	19	0.00	0.00	6.15	0.86	0.00	0.00	10.72	0.00	0.00	0.00	0.00	0.00
1744	20	0.00	0.00	0.00	0.00	2.18	0.00	0.64	0.00	0.00	0.00	13.21	0.00
1744	21	0.00	7.87	0.00	0.00	0.30	0.00	0.00	12.37	0.00	0.00	40.69	0.00
1744	22	0.00	0.00	11.33	0.00	0.00	0.00	20.07	0.00	0.00	11.30	2.74	0.00
1744	23	0.00	0.00	8.64	0.00	0.00	7.47	5.89	0.97	12.29	4.93	0.81	0.00
1744	24	0.00	0.00	2.08	8.13	5.28	0.00	0.00	19.48	0.00	0.00	0.00	0.00
1744	25	0.00	0.00	0.00	8.79	0.00	0.00	0.00	0.97	10.72	0.00	0.00	0.00
1744	26	0.00	0.00	3.81	0.00	9.80	0.00	0.00	0.00	16.36	0.00	0.56	0.00
1744	27	0.00	0.00	0.00	14.43	0.00	0.91	0.00	0.00	5.74	0.00	1.42	0.00
1744	28	0.00	0.00	0.00	0.00	0.00	0.00	57.53	0.00	0.00	0.00	18.80	0.00
1744	29	0.00	0.00	0.00	3.18	0.00	0.00	0.00	0.00	0.00	0.00	13.31	0.00
1744	30	0.00		0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00
1744	31	0.00		15.80		0.00		12.83	0.00		0.00		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1745	1	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.17	2.18	0.00	0.00	12.60
1745	2	0.00	0.66	0.00	0.00	1.42	0.00	0.00	12.24	0.00	0.00	2.18	0.00
1745	3	0.00	22.05	0.00	5.18	9.75	0.00	0.00	0.00	0.00	0.91	5.69	0.00
1745	4	0.00	16.31	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
1745	5	0.00	14.88	1.47	0.00	0.00	4.11	0.00	2.34	0.00	0.00	0.00	0.00
1745	6	0.00	6.25	0.00	0.00	3.25	1.40	0.00	0.00	0.00	0.00	11.30	0.15
1745	7	0.00	9.60	17.07	0.00	26.97	2.44	0.00	13.72	0.00	0.00	13.67	0.00
1745	8	0.00	22.05	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1745	9	0.00	0.00	2.74	0.00	0.00	0.00	0.00	0.91	0.41	0.00	7.92	13.77
1745	10	0.00	0.36	5.74	3.23	0.97	0.00	0.00	12.14	0.00	0.00	0.00	0.00
1745	11	0.00	4.06	2.34	0.00	0.66	3.66	2.41	0.00	0.00	0.00	0.15	0.00
1745	12	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	4.17	6.25	0.00
1745	13	0.00	0.00	44.65	0.00	5.18	0.20	0.00	0.00	0.00	0.00	7.16	6.02
1745	14	0.00	0.00	10.46	0.00	0.66	0.00	0.00	0.00	0.00	24.74	43.69	22.66
1745	15	0.00	0.00	0.00	0.00	0.00	8.18	7.26	5.64	8.94	3.99	17.20	23.32
1745	16	0.00	5.49	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.71	1.57	6.40
1745	17	4.17	5.08	0.00	0.00	10.82	0.00	0.00	0.00	0.00	5.38	0.00	4.62
1745	18	4.62	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	22.50
1745	19	0.00	0.00	0.00	5.49	0.00	0.86	0.00	1.14	0.00	0.00	19.33	9.91
1745	20	0.00	0.00	0.00	0.00	0.00	0.41	21.95	0.00	0.00	9.04	0.00	15.80
1745	21	0.00	0.00	0.00	3.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.33
1745	22	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	1.57	0.00	3.00
1745	23	0.00	0.00	0.00	19.41	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00
1745	24	0.00	0.00	0.00	0.00	0.00	7.32	4.67	3.15	0.00	0.00	0.38	0.00
1745	25	0.00	0.00	0.00	23.55	0.00	0.00	0.00	0.00	0.00	0.00	10.87	1.57
1745	26	0.00	0.00	0.00	0.00	0.00	0.00	3.51	0.00	0.00	0.00	28.55	11.02
1745	27	0.00	0.36	0.00	0.00	17.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1745	28	0.00	0.00	0.00	0.00	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1745	29	0.00		0.00	19.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
1745	30	0.00		0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	33.20	0.00
1745	31	0.00		0.00		0.00		21.49	0.00		1.91		3.71
1746	1	0.00	0.00	2.69	11.84	0.41	0.00	0.00	0.20	0.00	37.13	12.40	0.00
1746	2	0.00	0.00	1.83	0.00	0.00	1.07	0.00	0.00	0.00	22.61	8.18	0.30
1746	3	1.42	0.00	0.00	1.83	0.00	0.46	0.00	0.00	0.00	42.21	13.87	2.59
1746	4	13.00	0.00	0.56	10.80	6.02	18.34	0.00	0.00	0.00	16.69	0.36	5.51
1746	5	12.40	0.00	0.00	0.00	0.00	4.83	0.00	4.57	0.00	9.04	0.00	4.37
1746	6	29.39	1.22	0.00	4.98	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.61
1746	7	10.36	0.00	0.00	9.75	0.00	0.00	0.00	0.00	24.87	0.00	0.00	0.00
1746	8	0.00	4.19	0.00	0.89	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.97
1746	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.35	0.00	0.66
1746	10	0.00	0.00	5.28	19.23	0.00	45.21	0.00	0.00	0.00	1.93	0.00	0.64
1746	11	0.00	0.00	3.12	16.76	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00
1746	12	0.00	0.00	11.07	11.05	0.00	0.00	0.00	13.56	39.83	0.00	0.00	0.00
1746	13	0.00	0.00	0.00	0.00	0.00	1.65	0.00	1.07	23.37	18.08	0.00	0.00
1746	14	0.00	0.00	0.00	0.84	0.00	6.55	0.00	0.00	22.15	0.00	0.00	0.00
1746	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1746	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1746	17	0.00	20.32	6.15	4.95	0.00	0.00	0.00	12.04	0.00	0.00	0.00	0.00
1746	18	0.00	9.58	0.00	2.18	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00
1746	19	0.00	10.62	0.00	1.12	0.00	0.00	0.00	0.00	0.00	9.75	0.00	0.00
1746	20	7.80	0.00	1.57	19.79	1.17	0.00	0.00	0.00	0.00	1.32	0.20	0.00
1746	21	0.00	0.15	22.96	5.49	0.00	28.45	0.00	0.00	0.00	0.30	0.00	0.00
1746	22	0.00	7.32	0.00	0.56	0.00	7.52	0.91	0.00	0.00	12.29	13.28	0.00
1746	23	0.00	14.33	0.00	0.00	2.46	0.00	0.00	0.00	0.00	0.00	0.46	0.00
1746	24	0.00	13.59	0.00	9.04	0.64	1.42	0.00	0.00	0.00	1.47	1.17	27.13
1746	25	0.00	0.00	0.00	0.61	4.67	1.12	7.16	0.00	0.00	2.84	0.00	2.95
1746	26	0.00	0.00	0.00	0.00	0.00	22.73	2.74	0.00	0.38	0.00	2.54	0.00
1746	27	0.00	0.00	0.00	27.05	0.00	1.65	0.00	0.00	0.61	0.00	3.94	0.00
1746	28	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	2.59	0.00	0.00	0.00
1746	29	0.00		0.00	20.35	0.00	0.20	0.00	14.61	0.00	0.00	0.00	0.00
1746	30	0.00		0.00	0.00	0.00	0.00	0.00	18.08	0.00	12.40	0.00	0.00
1746	31	0.00		0.00		0.00		0.00	0.00		9.07		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1747	1	0.00	0.00	11.02	0.36	0.00	0.00	0.00	0.23	0.00	13.51	0.00	0.00
1747	2	0.00	0.00	0.66	1.42	0.00	0.00	0.00	0.00	0.00	6.43	0.00	0.00
1747	3	0.00	14.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1747	4	0.00	0.00	0.00	2.69	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00
1747	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.43	0.00	0.00
1747	6	0.00	0.00	0.00	0.00	0.00	2.87	0.00	0.00	0.00	5.26	0.00	0.00
1747	7	0.00	0.00	0.00	0.00	5.26	0.00	0.00	6.86	0.00	0.00	0.00	0.00
1747	8	0.20	0.00	0.00	0.00	0.00	2.13	0.71	0.00	0.00	0.00	0.00	0.00
1747	9	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.00
1747	10	0.00	0.00	0.00	8.13	0.00	0.00	0.00	0.00	1.98	0.00	0.00	0.00
1747	11	0.00	2.13	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	6.25
1747	12	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
1747	13	0.00	0.00	0.00	0.00	0.00	0.94	2.84	0.00	0.00	0.00	0.00	0.00
1747	14	0.00	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.20	0.00	1.14
1747	15	0.00	0.00	1.17	0.00	5.59	0.00	0.71	0.00	0.00	0.00	0.00	0.00
1747	16	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	6.02	0.00	0.00	0.00
1747	17	0.00	0.00	0.00	0.00	2.16	0.00	43.23	0.91	2.69	0.00	0.00	2.03
1747	18	0.00	0.00	0.00	0.00	0.00	0.00	3.35	12.95	4.67	0.00	0.00	0.00
1747	19	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	22.40	0.00	0.00	0.00
1747	20	0.30	0.00	1.14	53.44	0.91	0.00	0.00	0.00	0.89	0.00	0.00	0.00
1747	21	0.97	0.46	1.42	1.93	2.41	0.00	0.00	0.00	0.00	0.00	0.00	5.79
1747	22	0.00	0.00	0.00	0.00	0.00	0.00	9.30	0.00	0.66	0.00	0.00	16.89
1747	23	1.70	0.00	0.00	1.12	0.00	0.00	2.16	6.81	2.62	0.00	0.00	18.52
1747	24	0.00	0.00	11.30	0.00	1.22	0.00	1.47	14.66	0.00	0.00	0.00	4.65
1747	25	0.00	0.20	0.00	2.18	0.00	5.46	0.00	8.81	18.08	0.00	0.00	0.94
1747	26	0.00	13.72	0.00	0.00	0.00	0.00	0.00	0.00	3.73	0.00	0.00	0.00
1747	27	0.97	2.59	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	6.86
1747	28	13.11	21.77	0.00	0.00	0.00	0.00	0.00	16.31	0.00	0.00	0.00	0.00
1747	29	0.00		17.93	0.00	0.00	0.00	0.00	0.00	47.47	0.00	1.42	0.00
1747	30	0.00		2.11	0.00	0.00	0.00	2.72	0.00	1.27	0.00	0.00	0.00
1747	31	10.85		5.03		16.00		0.00	0.00		0.00	0.00	0.00
1748	1	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.97	0.00
1748	2	0.00	0.46	5.97	0.00	0.00	2.44	25.60	8.84	6.50	0.00	16.76	0.00
1748	3	0.00	5.59	0.00	0.00	0.00	27.13	0.66	0.00	0.00	0.00	20.62	0.00
1748	4	0.00	0.00	0.00	0.00	0.00	13.06	0.00	0.00	1.65	9.65	4.57	0.00
1748	5	0.00	0.00	1.73	0.00	0.00	24.77	0.00	0.00	0.00	1.70	9.27	0.00
1748	6	0.00	23.27	0.89	0.00	0.00	28.40	0.00	0.00	0.00	0.00	18.92	0.00
1748	7	0.00	0.00	1.07	0.00	0.00	1.07	0.00	0.00	0.00	0.00	22.66	0.00
1748	8	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	32.56	0.00
1748	9	0.10	0.00	0.00	0.61	0.00	0.00	7.82	0.00	0.00	0.00	2.39	0.00
1748	10	0.20	0.00	0.00	12.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1748	11	0.00	0.00	0.00	1.22	0.00	20.62	49.15	0.00	0.00	0.00	0.00	0.00
1748	12	0.00	0.00	0.00	0.00	0.00	0.00	7.77	36.73	0.00	0.00	0.00	0.00
1748	13	0.00	0.00	0.00	0.00	0.00	0.00	1.68	11.73	0.00	0.00	0.41	0.00
1748	14	2.08	0.00	0.00	18.39	7.77	0.00	0.00	0.00	18.67	0.00	0.64	0.00
1748	15	18.39	0.00	0.00	1.37	0.00	0.20	0.00	0.00	61.04	0.00	0.41	0.00
1748	16	0.00	0.00	6.35	11.61	0.00	0.10	2.79	0.00	11.58	0.00	0.00	0.00
1748	17	0.00	0.00	3.10	24.89	0.00	0.00	0.00	23.29	4.22	0.00	0.00	0.00
1748	18	0.00	0.00	0.00	0.00	0.00	0.00	7.77	1.83	31.60	0.00	0.00	0.00
1748	19	0.00	0.00	0.00	0.00	0.00	0.00	9.70	0.00	1.65	0.00	1.42	0.00
1748	20	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	6.78	0.00	0.00	0.00
1748	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.71	0.00	1.57
1748	22	0.00	2.64	0.00	2.13	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00
1748	23	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00
1748	24	0.00	14.33	0.71	0.00	44.78	0.00	0.00	0.00	0.00	1.22	0.00	0.00
1748	25	0.00	5.26	0.30	12.29	0.00	0.00	0.00	0.00	0.00	1.70	0.00	8.79
1748	26	0.00	1.40	6.35	0.66	13.67	0.00	0.00	0.00	0.00	0.00	0.00	5.28
1748	27	1.32	2.18	2.13	0.20	10.82	0.00	0.00	0.00	0.00	18.08	0.00	0.00
1748	28	0.00	0.00	0.00	0.00	0.00	13.87	0.00	22.96	0.00	2.44	0.00	0.00
1748	29	0.00	0.00	8.18	28.45	0.00	4.78	8.99	1.22	0.00	0.00	0.00	0.00
1748	30	0.00		2.69	0.00	0.00	2.13	0.00	0.41	0.00	0.00	0.00	0.00
1748	31	0.00		4.65		0.00		0.00	0.00		0.00		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1749	1	0.00	0.00	0.00	0.00	0.46	0.00	0.00	22.05	0.00	0.00	0.00	0.00
1749	2	0.00	0.00	0.00	8.18	0.00	0.00	0.00	11.48	0.00	0.00	0.00	0.00
1749	3	1.27	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
1749	4	0.00	0.00	0.00	0.00	0.00	58.27	2.36	0.00	0.00	0.00	0.00	0.00
1749	5	0.56	0.00	0.00	0.00	0.00	0.46	0.66	0.00	20.62	0.00	0.66	0.00
1749	6	3.45	0.00	0.66	0.00	0.00	16.00	0.00	10.03	1.32	0.00	22.05	0.00
1749	7	0.00	12.09	3.43	13.77	0.00	9.53	0.00	0.00	0.00	0.00	17.15	0.00
1749	8	13.77	0.71	5.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.90	0.00
1749	9	0.46	0.00	0.00	0.00	0.00	12.85	0.00	0.00	0.00	0.00	9.25	0.00
1749	10	0.81	0.00	0.81	10.57	0.00	11.23	0.00	0.00	0.00	0.00	0.00	0.15
1749	11	0.00	0.00	0.00	0.89	0.00	12.57	0.00	2.41	0.00	0.00	9.96	0.00
1749	12	0.00	0.00	0.00	7.47	0.00	40.84	0.00	9.53	0.00	0.00	1.47	0.00
1749	13	0.00	0.15	0.00	11.07	11.33	0.66	0.00	8.97	0.00	0.00	0.00	0.00
1749	14	0.00	27.13	0.00	0.00	12.14	0.20	0.00	0.00	0.00	3.96	0.00	0.00
1749	15	0.00	15.11	0.00	4.70	0.00	12.07	0.00	0.97	0.00	0.00	0.00	0.00
1749	16	0.00	16.36	0.00	9.60	9.96	1.42	0.00	0.00	0.00	0.00	0.00	0.00
1749	17	0.00	3.30	0.00	8.03	22.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1749	18	0.00	0.00	0.00	17.98	0.00	0.97	0.00	0.00	26.31	0.00	0.00	0.00
1749	19	13.46	0.00	0.00	8.79	52.43	0.00	5.33	0.00	1.83	0.00	0.00	0.00
1749	20	0.00	0.00	0.41	11.61	1.17	0.00	0.81	0.00	0.00	10.87	0.00	0.00
1749	21	0.66	0.00	0.00	0.00	0.00	0.64	0.00	0.00	5.99	0.00	0.00	0.00
1749	22	0.00	0.00	0.00	0.00	0.00	22.30	0.66	0.00	0.00	0.00	0.00	2.08
1749	23	22.05	0.00	0.00	0.00	0.00	1.37	0.00	0.00	0.20	0.00	0.00	0.00
1749	24	0.00	0.00	0.00	11.18	0.00	0.00	0.00	18.08	0.00	0.00	0.00	0.00
1749	25	0.00	0.00	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.30	0.00	0.00
1749	26	0.00	0.00	0.00	0.00	0.00	2.08	0.00	7.49	0.00	0.00	0.00	0.00
1749	27	7.29	0.00	0.00	0.00	0.00	8.03	0.00	13.79	0.00	0.00	0.00	0.00
1749	28	0.00	0.00	0.64	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.86
1749	29	0.00		0.64	0.00	0.00	3.71	0.00	0.00	0.00	1.70	0.00	0.00
1749	30	0.97		16.97	0.00	0.00	0.00	0.00	0.00	0.00	7.49	0.00	0.00
1749	31	0.00		14.78		7.01		0.00	0.00		0.00		0.00
1750	1	0.10	0.00	0.00	0.00	0.38	1.83	0.00	11.43	0.00	0.00	0.00	0.00
1750	2	0.00	0.00	0.00	0.66	0.97	24.77	0.00	0.00	0.00	0.00	0.56	26.82
1750	3	0.00	0.00	0.00	0.00	1.47	0.00	9.55	0.00	0.00	0.00	4.57	22.15
1750	4	1.83	0.00	0.00	0.00	7.42	0.94	0.00	15.90	0.00	0.00	15.04	8.74
1750	5	1.65	0.00	0.00	0.00	0.00	0.00	18.29	2.74	0.00	0.00	23.57	0.15
1750	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	0.64
1750	7	0.00	0.00	0.00	25.30	0.00	0.00	0.00	0.94	0.00	0.00	12.32	0.00
1750	8	0.00	0.00	0.00	11.02	23.19	0.00	0.00	17.53	0.00	0.00	9.02	0.30
1750	9	0.00	0.00	0.00	0.00	22.05	0.00	39.07	0.00	0.00	0.00	0.00	0.00
1750	10	0.00	0.00	0.00	22.33	10.92	0.00	1.42	0.00	0.00	0.00	0.00	0.00
1750	11	0.00	0.00	0.00	0.41	41.07	0.00	10.34	0.00	0.00	0.00	0.00	0.00
1750	12	0.00	0.00	0.00	0.81	0.81	0.00	0.00	0.00	0.00	0.00	15.57	8.81
1750	13	0.00	0.00	0.00	0.00	0.41	1.98	0.00	0.00	0.00	0.00	2.46	0.00
1750	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00
1750	15	2.44	0.00	0.00	10.31	0.00	0.00	0.00	0.00	0.00	0.00	12.57	0.46
1750	16	18.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	1.42
1750	17	12.24	6.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	1.14
1750	18	0.00	0.00	0.00	0.00	15.65	0.00	17.17	0.00	0.00	18.29	0.00	0.00
1750	19	0.00	0.00	0.00	0.00	23.47	0.00	0.00	0.00	0.00	38.91	0.00	0.00
1750	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	0.00	0.00
1750	21	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	34.72	0.00	0.00
1750	22	16.46	0.00	0.00	0.00	0.20	0.00	0.00	1.14	0.00	0.00	0.00	0.00
1750	23	0.00	0.00	1.07	23.98	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00
1750	24	0.00	0.00	0.00	12.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1750	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.00	0.00
1750	26	0.00	0.00	0.00	0.00	0.46	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1750	27	0.00	0.00	0.00	10.36	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1750	28	0.00	0.00	0.00	5.97	0.00	0.00	0.00	0.00	11.43	7.92	0.00	0.00
1750	29	0.00		1.42	1.22	0.00	6.86	0.00	0.00	0.86	2.16	0.00	0.00
1750	30	0.00		0.64	1.42	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00
1750	31	0.00		0.00		0.00		0.00	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1751	1	0.00	9.07	0.00	0.46	0.30	0.00	0.00	0.00	0.00	1.17	0.00	0.71
1751	2	0.00	11.94	0.00	0.00	0.76	0.00	0.00	0.00	0.00	2.69	0.00	1.57
1751	3	0.00	12.34	0.00	0.00	0.00	5.72	0.56	0.00	23.47	71.50	0.00	0.00
1751	4	0.00	21.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.73	0.00	0.00
1751	5	0.00	0.00	7.57	0.00	9.19	4.98	6.78	0.00	0.00	32.16	3.86	0.00
1751	6	0.56	0.00	1.70	19.41	8.53	0.00	16.33	15.39	0.00	0.00	5.18	0.00
1751	7	0.41	0.41	0.00	0.91	0.00	0.00	0.00	0.33	0.00	0.86	11.81	1.93
1751	8	0.23	8.08	0.00	0.00	3.68	6.96	0.00	0.00	0.00	0.00	12.19	0.46
1751	9	0.33	2.34	0.00	0.00	5.99	0.00	0.00	0.00	0.00	1.07	0.91	0.00
1751	10	0.00	0.00	0.00	6.53	0.00	0.00	0.00	0.00	0.00	0.69	0.36	0.00
1751	11	0.00	0.00	11.61	16.89	0.00	0.00	2.95	0.05	0.00	52.17	0.00	0.00
1751	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.44	23.47	0.00
1751	13	0.18	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1751	14	12.19	0.00	0.00	6.30	0.00	0.00	0.00	0.00	0.00	36.20	0.00	0.00
1751	15	0.00	0.30	3.10	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	1.88
1751	16	0.23	19.46	0.00	15.82	1.98	0.00	0.00	7.77	0.00	0.00	0.00	3.25
1751	17	0.64	13.26	0.38	0.89	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.15
1751	18	0.00	5.38	8.69	31.65	9.55	0.00	0.00	0.00	0.00	0.15	0.00	0.00
1751	19	0.00	0.00	2.44	0.00	1.60	0.00	0.00	0.00	0.00	0.71	0.00	14.43
1751	20	0.00	0.00	0.00	26.62	10.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1751	21	5.89	0.00	0.00	0.00	10.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1751	22	0.00	0.00	0.00	0.94	0.00	0.97	37.49	0.00	0.00	20.93	0.00	0.00
1751	23	0.00	0.00	0.00	0.00	0.15	22.61	0.00	0.00	0.00	0.00	0.00	0.00
1751	24	0.56	4.42	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
1751	25	0.97	23.77	0.00	10.16	9.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1751	26	0.00	22.81	0.00	11.63	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1751	27	0.00	6.22	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
1751	28	0.00	0.00	0.00	2.41	0.00	1.83	0.00	0.00	0.00	0.00	0.81	2.49
1751	29	0.00		0.00	0.00	0.00	0.00	23.42	0.00	0.00	0.00	20.27	0.66
1751	30	0.00		0.18	0.00	0.00	45.31	9.55	6.10	0.00	0.00	0.00	0.46
1751	31	5.99		0.00		0.00		0.10	0.00		0.00		0.10
1752	1	0.00	27.79	0.00	20.40	0.00	0.00	1.22	1.14	0.00	0.00	0.00	0.00
1752	2	0.00	0.41	0.00	1.32	0.00	0.00	1.42	14.63	0.00	0.00	0.00	0.00
1752	3	0.71	21.69	0.00	0.00	2.64	9.07	0.94	0.00	0.00	25.86	0.00	0.00
1752	4	0.00	0.20	0.00	30.86	0.00	0.00	0.20	0.00	0.00	0.38	0.00	0.00
1752	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	6	0.00	0.66	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	8	0.00	0.00	0.00	19.94	18.16	0.71	0.00	0.00	0.00	0.00	0.00	0.00
1752	9	7.54	0.00	0.00	14.68	3.15	0.00	0.00	0.00	0.00	0.00	14.81	0.00
1752	10	0.86	0.00	0.00	0.00	13.13	0.00	0.00	0.00	0.00	0.00	10.87	0.00
1752	11	0.00	0.00	0.00	0.00	0.86	17.07	0.00	42.11	0.00	0.00	12.37	0.00
1752	12	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.20
1752	13	0.00	23.55	0.00	0.00	0.00	0.00	18.95	21.01	0.00	0.00	0.00	5.49
1752	14	0.00	2.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	15	0.00	2.84	0.00	0.00	3.18	0.00	0.00	54.25	0.00	0.00	0.00	0.00
1752	16	0.00	2.11	0.00	0.00	17.17	0.00	31.09	0.71	0.00	0.00	0.00	0.15
1752	17	0.00	2.95	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	18	0.00	0.00	0.00	0.00	2.62	0.00	0.00	0.00	0.00	0.00	0.20	0.00
1752	19	0.00	0.00	0.00	0.00	0.20	0.00	15.32	0.00	0.00	0.00	14.55	0.00
1752	20	0.00	3.43	0.00	1.17	0.00	0.00	18.49	1.45	0.00	0.00	0.00	0.00
1752	21	13.11	0.00	0.00	0.89	0.00	0.00	0.41	37.21	0.00	0.00	0.00	0.41
1752	22	11.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	25.96
1752	23	0.00	13.28	0.00	11.05	0.00	0.61	0.00	1.78	0.00	0.00	0.97	1.22
1752	24	0.56	5.51	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00
1752	25	17.09	0.00	11.84	0.00	24.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	26	7.57	0.30	0.00	1.37	21.44	0.00	26.01	15.60	0.00	0.00	0.00	0.00
1752	27	11.33	0.00	0.00	20.22	0.69	0.00	8.79	0.00	0.00	0.00	0.00	0.86
1752	28	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	20.96
1752	29	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1752	30	0.00		0.00	0.00	0.00	8.53	10.01	0.00	17.17	0.00	0.00	0.00
1752	31	0.00		21.74		0.00		0.94	0.00		0.00		0.00

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1753	1	0.10	0.00	25.96	0.58	0.00	0.00	0.00	0.00	18.08	0.00	0.00	13.00
1753	2	0.00	1.93	0.97	12.70	0.00	0.00	1.35	0.00	22.33	0.00	0.86	1.70
1753	3	11.84	0.41	0.00	13.28	0.00	0.00	22.50	0.00	13.34	0.00	0.00	0.00
1753	4	16.10	15.82	0.00	14.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1753	5	0.30	27.86	0.00	1.68	0.71	0.00	0.00	1.73	0.00	0.00	1.42	0.00
1753	6	0.00	18.85	20.75	3.25	0.00	1.12	0.00	0.00	0.91	0.00	45.21	0.66
1753	7	0.00	8.05	14.27	7.21	0.56	0.20	0.00	0.00	0.00	0.00	16.69	0.20
1753	8	0.00	7.34	0.00	0.00	0.00	0.00	0.00	0.00	41.66	0.00	21.79	0.00
1753	9	0.00	15.44	0.00	2.44	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1753	10	0.00	0.00	0.00	35.36	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00
1753	11	0.00	0.20	0.00	0.97	0.00	12.24	0.00	9.04	0.00	0.00	0.00	0.00
1753	12	0.00	7.47	0.00	0.00	19.20	0.00	0.00	8.76	0.00	0.00	0.00	0.00
1753	13	0.20	0.66	0.00	0.00	18.29	0.00	0.00	0.00	0.00	0.20	2.64	0.00
1753	14	0.30	1.91	0.00	0.00	12.32	9.55	0.00	0.00	0.00	0.38	0.00	0.00
1753	15	0.74	0.00	0.00	0.61	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
1753	16	0.00	0.00	0.00	0.00	2.64	0.00	1.83	0.00	0.00	0.64	1.98	0.00
1753	17	38.00	0.00	0.00	0.00	0.00	9.04	0.00	0.00	0.00	22.28	0.61	0.00
1753	18	22.05	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00	5.49
1753	19	0.15	0.64	0.00	0.00	0.00	5.72	6.76	0.00	1.45	0.66	1.22	1.14
1753	20	1.37	0.00	0.00	0.00	0.00	0.00	28.78	3.45	0.00	7.72	4.37	0.84
1753	21	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.82	2.41	0.00
1753	22	0.00	0.00	0.00	0.00	0.00	22.30	0.00	0.00	0.00	8.31	0.00	0.00
1753	23	0.00	0.00	0.00	0.00	0.00	6.50	0.00	0.00	0.00	2.11	0.00	0.18
1753	24	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	0.00	18.52	0.00	0.00
1753	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1753	26	0.00	0.00	0.00	0.00	0.00	0.00	2.11	0.00	0.00	29.41	0.00	0.00
1753	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.64	0.00
1753	28	0.00	0.64	0.00	0.56	0.00	0.00	0.00	0.61	0.00	1.47	27.61	0.00
1753	29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	12.07	0.00
1753	30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.72	2.08	0.91
1753	31	0.00		0.00	0.00	0.00		22.50	22.61		1.98		11.30
1754	1	0.00	0.00	0.00	0.00	0.00	0.00	18.08	0.36	8.18	0.00	0.00	0.00
1754	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	0.00	6.30	0.00
1754	3	0.00	0.30	0.00	0.18	0.97	0.00	0.00	0.58	0.00	0.00	2.64	0.00
1754	4	0.00	0.64	0.00	0.00	0.00	0.30	15.44	1.07	0.00	0.00	2.59	0.00
1754	5	0.00	0.97	0.00	0.00	2.08	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1754	6	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	9.35	0.00	0.00	0.00
1754	7	0.64	37.24	0.00	0.00	0.91	0.00	0.00	0.00	0.00	6.50	0.00	12.09
1754	8	6.91	0.33	0.00	0.00	40.69	0.00	0.00	0.00	0.00	0.00	0.00	2.26
1754	9	0.46	0.00	0.36	0.20	14.73	0.00	0.00	0.00	0.00	0.00	14.27	0.00
1754	10	0.00	0.00	0.15	0.00	3.23	0.00	0.00	1.91	0.00	0.20	1.98	0.00
1754	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	11.84	0.00
1754	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.65	0.00
1754	13	0.00	15.29	0.00	2.34	0.00	0.00	0.00	0.00	2.74	0.00	0.84	0.00
1754	14	1.17	0.00	9.75	0.00	0.00	3.10	7.26	0.00	0.41	0.00	0.00	0.00
1754	15	0.81	0.00	1.17	0.00	0.00	0.00	0.56	0.00	0.64	0.00	2.39	1.65
1754	16	0.30	0.00	0.00	0.00	0.00	0.00	6.78	0.00	0.00	0.00	0.00	18.36
1754	17	0.00	0.00	5.46	0.00	0.00	0.00	2.62	0.00	0.00	0.00	0.00	0.00
1754	18	0.00	0.00	0.00	0.00	0.00	5.28	0.00	0.00	0.00	0.00	0.00	0.00
1754	19	0.00	0.00	0.00	3.20	0.00	12.52	0.00	0.00	0.00	0.00	0.00	0.00
1754	20	0.00	0.00	0.00	0.89	3.10	2.95	4.47	37.59	0.00	0.00	0.00	0.00
1754	21	0.00	0.00	0.86	0.00	1.37	21.46	0.00	0.00	0.00	0.00	0.00	0.00
1754	22	0.00	0.00	15.04	0.00	11.84	4.47	0.00	1.19	0.00	0.00	0.00	0.00
1754	23	0.00	0.00	18.44	0.10	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1754	24	2.39	0.00	28.96	0.00	19.71	0.00	0.00	0.00	0.00	0.00	2.74	0.00
1754	25	1.14	0.00	14.81	0.00	0.91	0.00	2.21	0.00	0.00	0.00	1.17	0.00
1754	26	2.34	0.00	0.00	0.00	0.00	0.00	0.00	27.94	0.00	12.14	13.56	0.00
1754	27	1.98	0.00	0.00	0.00	0.00	21.16	0.00	3.71	0.00	5.08	3.51	0.00
1754	28	0.53	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	4.75	0.00	0.00
1754	29	0.15		0.00	0.00	24.31	0.00	1.63	0.00	0.00	2.49	0.41	3.35
1754	30	0.20		0.46	0.00	26.29	0.00	0.00	0.00	0.00	2.36	0.00	0.20
1754	31	0.00		0.91		1.73		0.00	0.00		0.00		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1755	1	0.00	0.00	7.01	0.00	0.00	0.00	1.93	0.00	0.38	0.00	0.00	32.46
1755	2	0.00	0.00	2.95	0.00	0.00	0.00	7.92	0.00	0.25	38.00	0.00	0.00
1755	3	0.00	0.00	0.00	0.00	0.00	0.00	18.92	0.00	0.00	21.72	0.00	0.00
1755	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.67	0.00	0.81	2.92	6.40
1755	5	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.79	5.49
1755	6	0.00	5.49	29.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.32	0.00
1755	7	0.00	0.36	5.92	0.00	9.80	0.00	27.13	0.00	0.00	0.00	0.00	0.00
1755	8	0.00	2.44	4.88	0.00	10.21	0.30	45.21	0.00	0.00	0.00	7.24	0.00
1755	9	0.00	0.00	1.70	0.00	0.00	40.13	18.69	0.00	0.00	0.00	32.56	0.00
1755	10	0.00	2.24	25.20	0.00	0.00	0.00	0.00	1.32	19.91	0.00	10.08	0.00
1755	11	0.00	1.07	1.93	0.00	0.00	0.00	0.00	0.00	0.00	1.88	7.24	0.15
1755	12	0.00	2.34	1.14	0.00	0.00	0.00	0.00	0.56	0.00	11.58	0.00	1.14
1755	13	0.00	11.30	21.89	0.00	0.00	0.00	0.00	5.46	0.00	0.38	0.00	0.00
1755	14	14.83	0.00	8.33	0.00	11.73	0.00	0.00	0.00	0.00	0.00	25.10	0.00
1755	15	0.00	0.00	0.00	0.00	0.00	12.90	0.00	0.00	0.00	21.67	7.24	0.00
1755	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1755	17	0.00	0.00	13.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00
1755	18	0.00	0.00	0.00	0.00	6.10	0.00	0.00	0.00	2.13	0.00	2.74	15.29
1755	19	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	32.56	38.94	0.41
1755	20	0.00	1.65	0.00	0.00	2.36	0.00	0.00	1.27	0.00	0.10	47.02	0.00
1755	21	0.10	8.74	0.00	0.00	0.00	0.00	0.46	0.00	19.00	12.62	2.16	0.00
1755	22	0.00	7.98	0.00	0.00	0.00	0.00	0.00	0.00	4.06	0.00	0.00	21.72
1755	23	0.00	0.00	0.00	0.00	0.00	0.15	0.76	0.00	5.33	0.00	0.38	0.00
1755	24	0.00	2.08	0.00	0.00	0.00	11.99	0.00	0.00	5.59	0.00	0.20	0.00
1755	25	0.00	0.66	0.00	0.00	0.00	18.16	0.00	0.00	0.00	0.00	0.41	0.00
1755	26	0.00	12.01	0.00	0.66	0.00	0.00	5.44	10.92	0.00	7.24	2.16	0.00
1755	27	0.00	0.15	0.00	0.00	0.00	0.00	9.55	34.37	0.00	0.00	0.30	0.00
1755	28	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.20	0.00	0.00
1755	29	0.00		0.00	0.30	0.20	0.00	0.00	0.00	6.60	0.00	0.00	0.00
1755	30	0.00		0.00	0.00	0.00	0.00	0.56	6.32	3.45	0.00	10.16	0.20
1755	31	0.00		0.00	0.00	0.00	0.00	2.16	28.96		0.00		0.00
1756	1	0.00	0.00	0.00	0.36	2.13	0.20	0.00	0.00	0.00	1.73	0.00	0.00
1756	2	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	16.66
1756	3	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.15	18.75
1756	4	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	1.63	16.38
1756	5	0.00	0.00	0.00	6.40	0.00	0.00	12.50	0.00	0.00	0.00	7.29	27.13
1756	6	0.00	0.00	0.00	0.00	0.00	0.00	22.23	6.96	0.00	32.56	0.00	0.00
1756	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.75	24.28	0.00	0.00	0.00
1756	8	0.00	0.00	0.00	0.00	0.00	2.34	1.78	0.00	31.37	0.00	0.00	0.00
1756	9	0.00	0.00	0.00	0.00	0.00	0.00	40.94	0.00	4.27	0.00	0.00	0.00
1756	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1756	11	0.00	0.66	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1756	12	0.00	0.00	0.66	0.41	0.00	0.00	0.00	0.00	0.00	15.34	0.00	0.00
1756	13	4.42	0.00	0.00	0.00	0.00	0.00	32.61	0.00	0.00	0.00	0.00	0.00
1756	14	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.45
1756	15	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	40.34	0.00	0.00	9.96
1756	16	0.00	0.00	0.00	0.00	57.94	0.20	0.00	0.00	12.52	1.68	1.32	14.58
1756	17	0.00	0.46	0.00	31.85	0.00	0.00	0.00	2.74	9.04	1.73	12.12	24.33
1756	18	0.00	0.56	1.07	0.00	0.00	0.00	0.00	0.66	1.19	1.17	0.20	0.33
1756	19	0.00	14.68	13.41	0.00	0.00	0.00	1.32	0.00	0.00	3.25	22.96	0.00
1756	20	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	20.93	0.30	1.22	0.00
1756	21	0.00	0.00	0.00	0.00	0.15	14.22	0.00	0.00	1.17	0.00	0.00	0.00
1756	22	0.00	0.00	0.00	0.00	3.68	2.13	0.00	0.00	0.00	0.00	15.06	3.25
1756	23	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	1.27	2.29	12.07	18.44
1756	24	0.00	0.00	0.00	0.00	9.04	0.00	0.00	0.00	0.00	30.78	13.11	1.32
1756	25	0.00	0.00	11.79	0.00	0.00	0.00	0.00	0.00	0.00	12.67	26.54	18.08
1756	26	0.00	0.00	2.67	0.00	0.00	0.00	0.76	0.00	0.00	10.85	21.29	5.54
1756	27	0.00	0.00	0.30	0.00	3.66	0.00	36.73	15.54	0.00	2.79	0.00	9.04
1756	28	0.00	0.00	0.00	0.00	12.14	0.00	0.00	0.00	0.00	0.00	0.00	2.13
1756	29	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.64	0.00	0.00	5.21
1756	30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00	0.20
1756	31	0		0		0.068		0	0		0		0

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1757	1	0.20	0.00	0.00	3.25	0.00	1.07	0.00	0.00	0.00	0.00	0.00	1.17
1757	2	0.00	5.33	0.00	0.00	0.00	44.81	0.00	0.00	8.13	0.00	0.00	0.33
1757	3	0.00	19.99	0.00	0.00	0.00	29.87	0.00	0.00	2.06	0.00	0.00	0.00
1757	4	0.00	5.44	1.22	3.61	0.00	15.42	0.00	0.00	14.48	0.00	0.00	0.00
1757	5	0.00	0.00	8.28	0.00	0.56	0.00	0.00	0.00	0.00	0.71	0.00	0.64
1757	6	0.00	0.00	0.00	0.00	6.50	0.00	0.00	0.00	12.67	23.52	2.13	9.22
1757	7	0.00	0.00	0.00	0.00	4.90	0.00	3.15	0.66	0.00	0.00	0.56	0.00
1757	8	0.00	0.00	0.00	0.00	29.06	16.41	0.00	22.45	0.00	14.94	0.30	19.91
1757	9	0.10	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.64	19.81	0.00	7.42
1757	10	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
1757	11	0.00	0.00	0.00	5.23	0.00	0.00	0.00	0.00	0.00	0.00	4.17	0.30
1757	12	0.08	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00
1757	13	1.73	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00
1757	14	12.67	0.00	12.65	0.00	0.00	1.78	0.00	1.42	0.00	0.00	0.00	0.00
1757	15	2.44	0.00	0.00	0.00	0.00	0.00	0.00	4.72	0.00	0.00	0.00	3.40
1757	16	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.15	3.25
1757	17	5.46	0.00	0.00	0.00	14.33	0.00	0.00	0.00	0.00	0.00	0.00	1.65
1757	18	9.75	0.00	0.00	0.00	3.20	0.25	9.50	0.00	0.00	0.00	0.00	0.56
1757	19	0.56	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
1757	20	0.00	0.00	0.00	0.86	0.00	0.00	0.00	0.38	41.61	0.00	0.00	5.59
1757	21	0.00	0.00	0.00	0.46	0.00	0.25	0.00	0.64	15.19	0.00	0.00	13.59
1757	22	0.00	0.00	0.00	2.64	0.00	0.00	1.65	0.41	30.91	0.00	0.00	0.46
1757	23	0.00	0.00	0.00	6.10	0.00	0.00	0.00	0.00	1.14	0.00	1.14	0.00
1757	24	0.00	0.00	0.00	0.00	24.71	5.33	0.00	0.00	1.42	9.04	0.00	0.00
1757	25	0.97	0.00	0.00	10.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1757	26	0.00	0.00	0.00	11.73	0.00	1.65	0.00	12.07	0.00	0.00	0.00	0.00
1757	27	0.46	0.00	0.00	0.91	0.00	26.59	0.00	0.00	0.56	0.00	0.71	0.00
1757	28	0.10	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1757	29	21.72		0.00	0.00	0.00	9.80	0.00	0.00	0.00	0.00	1.63	0.00
1757	30	7.24		0.00	0.66	0.00	1.14	0.00	17.27	0.00	0.00	11.00	0.10
1757	31	9.04		0.00	0.00	0.00	0.00	0.00	9.04		0.00		0.15
1758	1	2.34	0.00	0.00	0.00	51.99	0.00	0.00	2.34	0.00	0.00	25.60	3.20
1758	2	1.17	0.00	10.72	0.00	7.24	7.01	0.10	3.40	0.00	0.00	0.18	1.91
1758	3	0.84	0.00	30.81	0.00	0.00	3.15	3.25	4.52	0.00	0.00	0.58	5.23
1758	4	0.36	0.00	1.42	0.64	0.00	2.39	6.40	0.00	2.44	0.00	0.30	10.11
1758	5	0.15	0.00	1.07	0.00	0.00	0.00	0.20	0.00	0.20	0.00	1.78	36.37
1758	6	0.56	1.83	0.97	0.00	0.00	0.00	4.42	2.18	0.00	0.00	0.00	5.74
1758	7	0.00	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.76
1758	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1758	9	0.00	0.00	0.00	0.00	0.56	0.00	7.52	0.00	2.39	0.30	0.00	0.00
1758	10	0.00	0.00	0.00	1.91	0.00	0.00	0.00	0.00	0.41	1.17	0.00	0.00
1758	11	0.00	2.64	0.00	0.00	0.00	0.00	8.23	1.65	0.00	0.10	0.00	0.00
1758	12	0.00	0.00	0.10	0.00	4.57	0.00	0.00	10.82	0.00	0.97	0.00	4.52
1758	13	9.98	0.00	0.00	0.00	2.24	0.00	0.00	0.00	0.00	0.15	1.14	0.00
1758	14	0.00	0.00	0.00	43.03	0.00	0.00	0.00	3.71	0.41	0.00	3.18	0.00
1758	15	0.00	0.00	0.00	26.57	0.15	5.94	0.05	1.83	0.30	3.71	22.76	0.00
1758	16	0.00	0.00	0.00	8.08	0.00	0.41	0.00	0.00	10.87	11.99	0.30	0.00
1758	17	0.30	0.00	0.05	0.56	0.00	0.00	0.00	4.60	3.96	18.42	3.45	0.00
1758	18	0.00	0.00	0.20	0.00	0.00	19.61	32.11	1.93	4.06	4.78	2.13	0.00
1758	19	0.00	0.00	6.93	0.00	0.00	53.49	5.28	0.00	0.00	0.15	0.00	0.00
1758	20	21.34	0.00	1.47	0.00	0.00	1.73	4.88	0.00	0.41	0.00	11.38	0.15
1758	21	0.36	14.48	0.81	0.00	0.00	3.15	0.00	0.00	0.00	0.00	9.70	7.32
1758	22	0.30	3.71	0.00	0.00	0.00	0.00	0.00	0.00	45.21	0.00	0.00	2.64
1758	23	0.20	19.25	0.13	7.01	0.00	0.00	0.00	0.00	18.08	26.82	0.00	0.66
1758	24	0.00	20.80	14.88	3.40	16.10	0.00	0.00	0.00	0.00	4.57	0.00	0.00
1758	25	0.00	4.11	3.35	0.18	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
1758	26	0.00	0.00	0.00	1.85	0.00	8.03	0.00	0.00	0.00	12.60	0.00	0.00
1758	27	0.00	0.00	0.00	0.00	13.61	0.00	0.00	0.00	0.00	8.79	0.00	0.00
1758	28	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00
1758	29	0.00		0.00	18.08	0.00	50.09	0.00	0.00	0.00	0.00	49.15	0.00
1758	30	0.00		0.00	16.64	0.13	0.00	0.00	0.00	0.00	0.00	27.33	0.00
1758	31	0.00		0.00		3.61		4.47	0.00		1.57		0.86



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1759	1	0.00	0.00	0.00	0.30	0.00	0.00	4.14	4.37	0.00	0.00	0.00	9.02
1759	2	0.00	0.00	0.00	14.63	4.42	0.00	4.88	0.41	0.00	0.00	0.00	47.04
1759	3	0.00	0.00	0.64	32.82	0.00	0.10	0.15	14.43	0.00	0.00	0.00	9.50
1759	4	0.00	0.00	0.00	2.84	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
1759	5	0.00	0.00	0.30	0.20	0.00	6.50	0.00	0.00	0.00	0.00	0.00	0.00
1759	6	3.40	0.00	0.00	17.25	0.00	0.00	0.00	0.00	0.00	0.00	4.62	2.18
1759	7	0.00	0.00	15.14	0.00	13.36	3.12	0.00	0.00	0.00	0.00	12.34	2.92
1759	8	0.00	0.00	24.18	0.00	17.35	2.44	0.00	0.00	0.00	0.00	1.65	0.00
1759	9	0.00	0.00	3.76	0.00	11.23	3.56	0.00	0.00	0.00	0.00	0.00	0.00
1759	10	0.00	0.00	5.23	0.00	17.98	0.00	0.00	0.00	0.00	0.00	2.44	0.00
1759	11	0.00	0.00	8.33	6.25	0.89	0.00	0.00	0.00	0.00	0.00	0.00	7.52
1759	12	0.00	0.00	0.00	0.00	12.52	0.91	0.00	0.30	12.19	0.00	2.97	17.32
1759	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.65	0.00	0.00
1759	14	0.00	0.00	0.00	3.86	0.00	11.23	0.00	0.00	0.00	0.00	0.00	22.45
1759	15	0.00	0.00	0.00	15.85	0.00	0.00	0.00	0.00	2.95	4.06	0.00	0.89
1759	16	0.00	0.00	0.00	3.30	0.00	0.00	0.00	0.00	0.86	7.77	0.00	0.00
1759	17	0.00	0.00	4.70	0.00	0.00	0.00	4.27	0.00	0.00	0.00	0.00	0.00
1759	18	0.00	0.00	0.00	0.00	9.50	0.00	5.72	0.00	0.00	0.00	0.00	0.00
1759	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.89	0.00	5.23
1759	20	3.61	0.00	0.00	0.00	0.00	0.00	0.00	11.58	0.00	0.00	9.04	11.48
1759	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.42	0.30	0.00	45.52	9.75
1759	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.50	0.00	0.00	0.66
1759	23	0.00	0.15	0.00	0.00	0.00	0.08	0.00	0.00	18.67	0.00	0.00	0.00
1759	24	0.00	14.53	0.00	0.00	0.00	0.00	0.00	0.00	30.68	0.00	0.00	1.07
1759	25	0.00	10.80	0.00	0.00	0.00	0.00	4.37	0.00	3.61	0.00	0.00	0.00
1759	26	0.00	0.36	0.00	0.00	0.00	0.00	3.43	0.30	1.88	42.95	0.00	3.51
1759	27	0.00	4.14	0.00	0.00	0.00	3.20	0.00	12.04	0.00	6.22	0.00	4.42
1759	28	0.00	2.39	0.00	12.09	0.15	0.00	1.27	0.00	0.00	10.46	0.00	0.15
1759	29	0.00		0.00	0.41	4.37	0.00	0.00	0.00	0.00	0.00	12.04	0.00
1759	30	0.00		0.00	0.00	0.00	0.00	6.91	0.00	0.00	0.30	31.39	15.54
1759	31	0.00		0.41		0.00		0.00	0.00		0.00		12.67
1760	1	25.04	0.00	0.00	0.00	0.30	0.00	0.00	0.56	0.00	0.00	1.63	0.00
1760	2	6.40	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1760	3	0.00	0.00	7.21	0.00	0.00	0.00	0.00	0.00	8.53	0.00	0.38	0.00
1760	4	0.00	0.00	5.49	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00
1760	5	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.20	0.00	0.64	0.00
1760	6	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	10.87	0.00	0.00
1760	7	24.08	0.00	0.00	0.00	0.00	2.87	0.00	0.00	0.00	0.00	0.00	0.00
1760	8	6.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00
1760	9	8.18	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	21.79	0.00
1760	10	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	24.79	0.00
1760	11	0.00	0.00	0.36	0.00	0.00	0.64	39.83	0.00	0.00	0.00	20.88	0.00
1760	12	0.00	0.00	0.00	0.00	0.66	0.00	23.42	0.00	0.00	0.00	11.05	0.00
1760	13	27.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.41	0.00
1760	14	0.41	0.00	0.00	0.00	0.00	0.20	0.00	0.00	2.44	0.00	0.33	0.00
1760	15	11.02	0.00	0.00	37.29	0.00	0.08	0.00	0.00	0.00	0.00	63.20	0.00
1760	16	0.00	0.00	0.00	0.00	0.00	17.12	0.00	0.00	0.00	0.00	0.66	0.00
1760	17	0.00	17.07	0.00	0.00	0.00	7.52	0.00	42.09	0.00	0.00	0.00	0.00
1760	18	0.00	28.83	3.10	0.00	0.00	0.00	0.00	0.41	8.00	0.00	0.00	0.00
1760	19	0.00	0.66	0.00	0.00	0.61	0.00	0.00	0.00	0.56	0.00	0.00	0.00
1760	20	0.00	0.46	0.00	0.00	2.21	0.00	0.36	0.00	21.79	5.46	0.00	0.00
1760	21	0.00	0.00	0.00	0.00	32.31	0.00	3.10	0.00	0.00	0.00	0.00	0.00
1760	22	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	4.14	0.00	0.00
1760	23	0.00	0.00	1.32	0.00	3.96	5.74	6.81	0.00	0.00	20.70	0.00	0.00
1760	24	0.00	0.00	0.00	0.00	0.00	1.19	0.15	0.00	0.00	6.35	0.00	0.00
1760	25	0.00	1.93	0.00	0.00	10.52	0.46	17.07	0.00	0.00	19.91	0.00	0.00
1760	26	0.00	0.00	0.00	0.00	0.51	21.18	0.91	0.00	0.00	0.00	0.00	0.00
1760	27	0.00	0.00	0.00	0.00	4.72	24.59	0.00	1.32	0.00	0.56	0.00	0.00
1760	28	0.41	0.38	0.00	0.00	11.07	1.32	0.00	9.04	0.00	2.08	0.00	0.81
1760	29	0.10	0.00	0.00	0.66	0.00	0.00	0.00	0.41	0.00	0.00	0.00	31.37
1760	30	0.00		0.00	0.00	1.35	0.00	0.10	23.52	0.00	36.17	0.00	11.58
1760	31	0.00		0.00		0.00		0.43	0.00		9.09		0.61

**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1761	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.36	0.00	0.00	0.00
1761	2	0.00	0.00	0.00	0.00	0.00	19.51	0.00	0.00	0.00	0.00	0.15	0.00
1761	3	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.00	19.86	0.00
1761	4	0.00	0.00	0.00	0.10	0.00	0.38	8.28	0.00	0.00	0.00	0.00	0.00
1761	5	0.00	0.00	0.00	0.00	0.00	3.71	0.89	1.91	0.00	0.00	10.80	0.00
1761	6	0.00	0.00	0.00	2.59	0.00	0.00	0.00	34.59	0.00	18.08	18.64	0.00
1761	7	0.00	0.00	0.00	0.30	0.00	0.66	0.00	0.46	0.00	3.10	2.41	0.00
1761	8	0.00	0.00	0.00	25.70	0.10	4.42	0.00	0.00	0.00	9.04	10.24	1.93
1761	9	0.00	0.00	0.00	18.44	0.56	23.77	0.00	0.00	0.00	0.30	0.00	0.56
1761	10	0.00	0.00	11.02	0.38	15.54	8.69	0.00	0.20	0.00	0.00	2.90	0.00
1761	11	0.00	0.00	16.71	0.00	0.41	17.58	0.00	0.00	0.00	21.72	10.87	11.89
1761	12	0.00	0.00	0.51	0.00	0.00	7.24	0.71	0.00	0.66	1.83	0.00	29.57
1761	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.49	0.00	26.87	5.23
1761	14	0.00	0.00	19.96	0.00	21.77	8.23	0.00	18.67	0.00	0.38	9.55	24.54
1761	15	0.00	0.00	7.49	0.00	0.86	12.90	0.00	21.49	0.10	6.55	11.05	0.20
1761	16	0.00	0.10	0.00	0.00	1.91	8.48	0.00	6.93	0.00	0.00	2.72	0.81
1761	17	0.00	0.00	0.00	0.00	0.00	1.85	0.00	0.00	0.00	1.37	15.80	0.00
1761	18	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	24.79	19.91	1.17	0.00
1761	19	0.00	0.18	0.00	0.00	0.00	1.42	0.00	0.00	0.00	5.23	0.00	0.00
1761	20	0.00	0.00	0.00	5.59	0.00	0.00	0.00	0.00	1.32	10.87	0.00	0.00
1761	21	0.56	0.00	0.00	0.38	0.00	0.00	0.00	0.00	37.08	0.00	0.00	0.00
1761	22	0.00	0.00	0.00	10.87	0.00	0.00	16.87	0.00	21.72	0.00	0.00	0.00
1761	23	0.00	17.37	0.15	46.79	0.00	0.00	8.53	0.00	0.00	0.00	0.00	0.00
1761	24	0.00	0.00	0.00	18.08	0.00	0.00	0.00	0.00	0.15	10.82	9.60	0.76
1761	25	0.00	0.00	0.00	7.11	0.00	0.00	0.00	0.00	0.00	25.32	3.86	18.95
1761	26	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.64
1761	27	0.00	0.00	0.00	18.08	0.00	0.00	0.00	0.00	0.46	47.63	0.00	0.00
1761	28	0.00	0.00	0.00	10.87	0.18	0.00	0.00	0.00	0.00	1.37	0.00	0.00
1761	29	0.00		0.00	0.30	0.64	1.40	0.00	0.00	0.00	0.00	2.64	0.00
1761	30	0.00		0.00	0.00	9.50	25.30	11.23	0.10	0.00	0.00	0.00	0.00
1761	31	0.00		0.00		20.04		1.14	0.00		0.00		0.00
1762	1	0.00	3.40	0.46	0.41	0.00	0.00	0.10	0.00	0.30	0.00	0.00	0.00
1762	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00	0.00	0.00
1762	3	0.00	0.00	0.00	0.00	1.02	9.04	0.00	0.30	12.75	2.41	0.00	0.00
1762	4	0.00	0.00	0.00	0.00	0.00	0.00	3.56	1.42	0.00	12.09	0.00	8.03
1762	5	0.00	0.00	0.00	0.18	0.00	7.24	9.55	0.00	0.00	1.63	0.00	0.00
1762	6	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	3.10	0.00	0.00
1762	7	0.00	0.00	0.00	0.00	0.00	0.30	0.00	3.00	0.00	0.00	0.00	0.20
1762	8	0.00	0.00	0.00	3.40	0.00	0.00	0.08	0.00	0.00	11.13	0.00	3.40
1762	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.65	0.00	2.18	0.00	0.00
1762	10	6.99	0.00	1.17	0.18	0.00	0.00	0.00	0.00	0.00	18.59	0.00	0.00
1762	11	0.18	0.00	0.00	0.00	9.80	0.00	0.00	0.00	0.00	1.17	0.00	0.00
1762	12	0.00	0.20	0.00	0.00	22.76	0.38	0.00	0.00	0.00	0.00	18.67	0.00
1762	13	4.01	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	9.19	0.00
1762	14	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.64	0.00	22.05	1.22	0.00
1762	15	0.00	0.00	0.00	0.00	0.56	10.85	0.00	0.20	0.00	31.39	0.00	0.00
1762	16	0.00	0.00	0.00	0.00	0.00	0.05	0.56	11.05	28.60	0.71	0.41	0.00
1762	17	0.76	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.08	0.00	0.00	0.00
1762	18	0.66	0.15	0.00	0.33	0.00	0.00	0.00	0.00	9.04	17.40	0.00	0.00
1762	19	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	2.16	13.61	0.00	0.00
1762	20	0.00	0.10	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
1762	21	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88	0.00	0.00
1762	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1762	23	0.00	0.00	0.00	0.00	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00
1762	24	0.00	0.00	6.55	0.00	0.38	0.15	0.00	0.00	0.00	0.00	0.00	0.00
1762	25	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	14.48	25.22	5.74	0.00
1762	26	0.00	0.00	0.00	0.00	0.00	19.91	0.00	5.69	0.00	0.00	3.86	0.00
1762	27	0.00	0.66	0.00	0.00	0.00	0.30	5.44	0.00	0.00	0.00	0.00	0.00
1762	28	0.00	0.00	0.00	0.00	0.00	0.00	0.15	16.28	0.00	0.56	0.00	0.00
1762	29	0.00		0.15	0.00	0.64	0.66	1.88	0.56	0.00	22.73	0.00	0.00
1762	30	0.00		8.76	0.00	0.00	47.85	0.00	1.09	0.00	1.22	0.00	0.00
1762	31	0.00		0.71		0.00		0.00	12.70		0.61		0.00



**ESM 19.** Giovanni & Francesco Poleni Raw Precipitation Data (mm): 1725-1764  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1763	1	6.71	12.14	0.00	0.00	18.95	5.74	3.71	0.00	0.00	0.00	0.00	10.06
1763	2	0.66	8.99	0.41	0.00	4.19	0.84	0.00	0.00	7.01	0.56	0.00	0.00
1763	3	0.00	15.14	0.13	0.00	0.00	7.32	0.00	0.00	17.83	0.00	2.18	0.00
1763	4	24.94	11.05	0.00	0.00	0.10	0.00	0.00	0.00	0.97	0.00	13.03	0.00
1763	5	0.00	0.00	0.00	0.00	14.53	4.98	10.57	0.00	0.00	0.00	0.00	0.00
1763	6	0.15	0.10	0.00	0.00	18.54	2.90	0.00	4.93	0.00	0.08	0.00	0.00
1763	7	0.00	0.00	0.00	0.00	1.98	58.06	0.00	0.00	0.00	10.03	0.00	0.00
1763	8	0.00	0.00	0.00	0.00	3.51	17.83	0.00	0.00	10.72	0.00	15.85	0.00
1763	9	0.89	0.00	0.00	0.00	8.92	32.66	8.69	0.00	0.00	0.00	0.00	0.00
1763	10	0.00	0.00	0.00	0.00	0.00	3.94	0.00	0.00	0.00	0.33	0.00	0.00
1763	11	0.00	1.35	6.99	0.00	10.97	0.00	0.00	0.00	0.00	0.00	0.00	5.79
1763	12	0.05	10.82	0.00	0.00	7.77	0.00	0.00	0.00	0.00	0.00	0.00	1.93
1763	13	0.00	0.08	0.00	0.00	13.39	0.00	0.00	0.00	0.00	0.00	0.00	19.35
1763	14	0.00	0.41	0.00	0.00	0.00	0.00	0.00	18.69	0.00	0.00	0.00	6.96
1763	15	0.00	0.00	0.00	0.00	8.99	0.00	0.00	9.45	5.94	0.00	0.00	0.00
1763	16	0.00	0.00	0.00	0.00	12.60	0.08	0.00	0.00	0.00	0.00	0.00	2.64
1763	17	0.00	0.00	0.00	0.00	29.64	12.14	0.00	0.00	0.00	0.00	0.00	1.60
1763	18	0.00	0.00	0.00	0.56	3.76	0.00	1.17	0.00	0.00	0.00	0.00	23.42
1763	19	0.00	0.00	0.00	6.55	0.00	0.00	0.00	0.00	0.00	0.00	3.10	16.71
1763	20	0.00	0.00	0.00	6.91	0.00	0.00	0.00	0.71	11.13	0.00	0.00	0.00
1763	21	0.00	0.86	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1763	22	0.00	0.00	0.00	4.47	12.80	16.08	0.00	0.00	0.00	0.00	1.88	0.00
1763	23	0.00	0.00	0.00	0.00	8.84	2.08	0.00	0.00	0.00	0.00	0.00	0.00
1763	24	0.00	5.54	14.78	0.00	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.15
1763	25	0.00	18.85	0.00	0.00	0.00	0.00	0.00	11.35	0.00	0.00	0.00	9.50
1763	26	0.00	1.17	0.00	0.00	0.00	0.00	2.69	0.00	0.00	0.00	0.00	0.00
1763	27	0.00	0.00	0.00	0.00	24.46	0.00	0.00	0.00	15.42	0.00	0.00	0.00
1763	28	0.00	0.00	0.00	0.00	36.53	0.00	0.00	0.00	2.18	0.00	0.00	0.00
1763	29	0.15		0.00	10.01	29.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1763	30	31.34		0.00	10.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1763	31	0.71		0.00		0.00		0.00	0.00		0.05		0.00
1764	1	0.00	0.00	0.56									
1764	2	0.00	0.00	7.49									
1764	3	0.00	3.40	0.20									
1764	4	0.00	3.86	0.00									
1764	5	0.00	0.00	0.00									
1764	6	0.00	0.00	0.00									
1764	7	0.00	0.00	0.00									
1764	8	0.00	0.00	28.52									
1764	9	0.00	0.00	0.00									
1764	10	1.88	0.00	18.44									
1764	11	3.20	4.78	0.00									
1764	12	0.00	0.00	0.00									
1764	13	0.00	0.00	0.00									
1764	14	2.08	0.00	0.00									
1764	15	19.46	0.00	0.00									
1764	16	0.00	0.00	0.00									
1764	17	0.00	0.00	0.00									
1764	18	10.62	0.00	0.00									
1764	19	0.00	0.00	0.00									
1764	20	0.00	0.00	1.17									
1764	21	0.00	0.00	23.29									
1764	22	0.00	0.00	1.98									
1764	23	0.00	0.00	0.00									
1764	24	0.00	10.97	0.00									
1764	25	0.00	0.15	0.00									
1764	26	0.00	0.00	0.00									
1764	27	0.00	0.05	0.00									
1764	28	0.00	28.14	0.00									
1764	29	0.00	34.42	0.00									
1764	30	0.00		0.00									
1764	31	2.92		0.00									

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1768	1	0.0	0.0	0.0	0.0	13.7	1.4	0.0	0.0	0.0	0.0	0.0	12.7
1768	2	0.0	0.0	0.0	0.0	4.5	0.0	31.2	2.3	0.0	3.6	0.0	12.7
1768	3	13.7	0.0	1.5	0.0	0.6	5.0	0.0	0.0	0.2	2.3	0.0	0.0
1768	4	0.0	0.0	0.0	0.0	0.0	7.7	1.4	0.0	0.9	6.8	0.0	10.4
1768	5	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.9	0.9	0.0	9.9	0.0
1768	6	0.0	0.0	0.0	0.0	13.9	4.5	0.0	0.0	0.0	0.0	23.5	0.0
1768	7	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.0	0.0
1768	8	9.6	0.0	0.0	16.0	0.4	0.0	0.0	4.5	27.1	0.0	0.0	0.0
1768	9	0.0	0.0	0.2	4.7	0.0	11.8	0.0	0.0	11.1	0.0	5.9	0.0
1768	10	20.5	0.0	0.0	23.7	0.0	4.1	0.0	0.0	0.0	0.0	15.4	0.0
1768	11	2.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	12.2	1.4	2.3
1768	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0
1768	13	0.0	0.0	0.0	0.0	2.3	1.4	0.0	0.0	2.3	0.0	1.4	0.0
1768	14	0.0	0.0	0.0	0.0	22.6	0.0	0.0	11.5	0.0	0.0	0.0	0.0
1768	15	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	4.5	0.0	0.0	0.0
1768	16	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	14.0	0.0	5.4	6.3
1768	17	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	27.1
1768	18	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	11.8	1.8	0.0	7.0
1768	19	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5.4
1768	20	21.9	0.0	0.0	0.0	22.6	0.0	0.2	2.0	0.0	0.0	0.0	0.0
1768	21	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
1768	22	10.8	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
1768	23	6.3	0.0	0.0	0.0	0.0	3.2	0.0	0.0	13.1	0.0	0.0	0.0
1768	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1768	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1768	26	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.7	0.0	0.0	0.0	0.0
1768	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0	0.0
1768	28	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0
1768	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	4.5
1768	30	0.0		0.0	0.0	7.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0
1768	31	0.0		0.0		0.0		0.0	0.0		0.0		0.5
1769	1	5.0	0.0	0.0	0.9	0.0	0.2	1.8	0.0	0.0	2.7	0.9	0.0
1769	2	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
1769	3	4.5	6.1	0.0	0.0	0.0	0.0	4.5	0.0	0.0	3.2	0.0	0.0
1769	4	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0
1769	5	3.6	16.7	0.0	30.7	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
1769	6	19.9	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
1769	7	25.3	0.0	14.9	7.2	0.2	0.0	0.0	16.3	0.5	1.4	0.0	0.0
1769	8	8.6	23.3	27.4	13.8	0.0	0.0	0.0	0.0	0.0	24.9	0.0	0.0
1769	9	0.0	17.6	1.4	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1769	10	0.0	6.6	6.3	0.0	0.0	0.0	11.8	0.0	0.9	0.0	1.4	0.0
1769	11	0.0	5.0	1.4	0.0	0.0	0.0	12.2	0.0	1.4	0.0	0.0	0.0
1769	12	0.0	0.0	39.8	0.0	6.8	0.0	0.0	0.0	0.0	0.9	0.0	0.0
1769	13	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0
1769	14	0.0	0.0	19.0	0.0	35.3	2.7	0.0	0.0	0.0	0.0	0.9	18.5
1769	15	0.0	0.0	0.0	0.0	1.6	7.2	0.0	0.0	0.0	0.0	31.9	3.4
1769	16	0.0	0.0	0.0	0.0	0.0	57.9	0.5	0.0	2.3	0.0	10.4	0.0
1769	17	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.2	0.0	0.0	9.0	0.0
1769	18	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	33.5	0.0
1769	19	0.0	0.0	0.0	20.8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
1769	20	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1769	21	2.5	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0
1769	22	11.8	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.5	5.2	16.3	2.5
1769	23	31.2	14.0	0.0	0.0	0.0	0.0	6.8	14.9	0.0	5.9	0.0	0.0
1769	24	2.3	25.8	0.0	2.7	51.1	0.0	2.7	0.0	0.0	0.5	0.0	3.4
1769	25	0.0	4.5	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0
1769	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8
1769	27	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1769	28	0.0	0.0	0.0	0.0	0.0	2.7	5.0	0.0	0.0	0.0	0.0	11.3
1769	29	0.0		0.0	0.0	0.0	0.7	0.0	2.3	0.0	0.0	0.0	0.0
1769	30	0.0		0.0	0.0	0.5	0.0	0.5	0.0	0.5	3.6	0.0	0.0
1769	31	0.0		25.3		0.2		0.0	0.0		2.3		0.0



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1770	1	0.0	0.0	0.0	0.0	0.0	5.9	17.2	12.2	0.0	0.0	32.8	0.2
1770	2	0.0	0.0	0.0	0.0	45.2	11.3	0.0	2.5	0.0	0.0	3.8	0.0
1770	3	14.9	0.0	0.0	4.1	19.9	0.0	5.9	0.0	0.0	0.0	4.1	0.0
1770	4	0.0	0.0	0.0	6.3	0.9	0.0	1.8	0.0	0.0	0.0	0.0	12.7
1770	5	39.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1770	6	31.6	0.0	23.5	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
1770	7	2.3	0.2	4.5	2.7	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1770	8	0.0	33.9	0.7	0.9	3.6	0.0	0.0	0.0	23.5	0.0	0.5	0.0
1770	9	0.0	0.0	9.0	2.3	0.0	0.0	0.0	0.0	10.4	0.0	7.7	0.0
1770	10	18.8	2.3	0.0	4.1	0.0	0.0	0.2	0.0	0.0	0.0	0.5	9.0
1770	11	19.0	0.0	0.0	5.9	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
1770	12	9.0	0.0	1.6	0.0	3.6	0.9	3.6	0.0	6.3	2.0	0.0	0.0
1770	13	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	10.9	5.9	0.0	0.0
1770	14	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	14.2	0.0	0.0
1770	15	0.0	0.0	0.0	9.7	10.4	0.0	0.0	15.8	0.0	28.7	0.0	0.0
1770	16	0.0	0.5	0.5	18.1	0.0	0.0	2.5	6.3	0.0	31.2	0.0	0.0
1770	17	0.0	0.2	12.2	0.0	4.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1770	18	0.0	0.0	34.1	0.0	2.0	11.5	0.0	27.6	0.0	6.8	0.0	0.0
1770	19	0.0	0.0	9.0	13.6	4.5	0.0	0.0	0.0	0.0	34.4	14.0	0.2
1770	20	0.0	0.0	0.0	0.0	0.0	3.4	0.0	12.7	0.0	8.1	32.1	0.0
1770	21	13.1	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	23.3	0.0	0.0
1770	22	0.0	3.6	0.0	2.3	2.5	5.2	0.0	0.0	0.5	22.6	0.0	3.4
1770	23	0.0	10.4	0.0	13.6	0.0	0.0	0.0	0.0	0.9	3.8	1.8	0.0
1770	24	0.0	1.8	1.4	51.1	0.0	7.9	6.8	0.0	0.0	3.8	0.0	0.0
1770	25	0.0	0.0	0.0	0.0	0.3	6.8	0.0	0.0	0.0	0.0	8.6	4.5
1770	26	0.0	0.0	0.0	0.0	0.0	1.4	25.5	0.0	0.0	2.5	0.9	0.9
1770	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	7.5	0.0
1770	28	0.0	0.0	0.9	0.7	2.5	0.0	0.0	10.9	0.0	14.5	9.9	0.0
1770	29	0.0		3.8	0.0	2.7	0.2	0.0	4.5	3.2	0.0	2.3	0.0
1770	30	0.0		17.2	0.0	30.5	0.0	0.0	9.5	0.0	1.4	7.5	0.0
1770	31	0.0		0.0		4.1		0.0	0.0		40.7		0.0
1771	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1771	2	0.0	0.0	0.0	0.0	11.3	8.8	0.0	4.8	0.0	0.0	0.0	0.0
1771	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1771	4	7.2	0.0	0.0	0.0	0.0	0.0	72.8	0.0	1.1	27.3	0.0	0.0
1771	5	1.8	0.0	0.0	0.0	13.1	4.3	5.4	0.0	2.7	0.2	2.5	0.0
1771	6	0.0	0.0	20.7	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.2
1771	7	0.0	0.0	17.2	0.0	0.0	0.0	5.2	0.0	22.6	0.0	0.0	0.0
1771	8	0.0	0.0	13.6	0.0	0.0	0.5	7.0	0.5	71.9	0.0	0.0	0.0
1771	9	0.0	0.0	12.7	0.0	1.8	0.0	0.0	0.0	5.2	0.0	0.0	0.0
1771	10	0.0	50.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1771	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1771	12	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1771	13	0.0	0.0	0.0	0.0	0.0	0.0	26.2	0.0	0.0	0.0	0.0	0.0
1771	14	11.5	0.0	0.0	0.0	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.3
1771	15	2.7	10.9	14.5	2.3	0.0	3.6	0.0	0.9	1.8	5.2	0.0	0.0
1771	16	49.5	0.0	0.0	7.2	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
1771	17	9.3	0.0	0.2	16.7	0.0	0.0	0.0	0.0	8.6	0.0	0.0	37.1
1771	18	0.2	0.0	2.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3
1771	19	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	4.3	0.0	0.0	55.8
1771	20	12.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1771	21	4.5	0.0	0.0	1.6	0.2	1.4	0.0	0.0	18.3	0.0	0.0	0.0
1771	22	0.0	0.0	0.0	0.0	0.2	9.9	0.0	0.0	9.0	0.0	0.0	0.0
1771	23	0.0	0.0	16.5	0.0	0.0	0.0	0.0	0.0	33.5	0.0	0.0	62.4
1771	24	0.0	0.0	0.9	0.0	0.0	0.0	0.0	18.8	0.5	0.0	0.0	0.0
1771	25	0.0	0.0	10.4	17.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	17.4
1771	26	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3
1771	27	0.0	0.0	0.0	0.0	0.0	12.0	0.0	3.6	0.0	0.0	0.0	2.7
1771	28	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0
1771	29	0.0		0.0	2.3	0.0	3.6	10.4	0.0	0.0	0.0	0.0	0.2
1771	30	0.0		0.0	10.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1771	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1772	1	5.9	7.0	2.5	7.7	18.3	27.1	0.0	0.0	0.2	5.2	0.0	31.2
1772	2	0.0	3.8	0.0	0.3	7.2	0.5	0.0	0.0	0.5	3.8	0.2	0.0
1772	3	0.0	27.8	0.0	31.2	75.3	3.2	9.9	0.0	0.0	0.0	0.2	0.0
1772	4	0.0	6.1	0.0	0.0	0.0	0.0	0.0	47.9	0.0	0.0	5.7	0.7
1772	5	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	13.6
1772	6	0.0	11.8	9.3	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	11.1
1772	7	0.0	2.7	13.8	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	6.6
1772	8	5.2	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	3.4	22.6
1772	9	0.0	0.0	0.0	20.6	12.2	0.0	0.0	0.0	0.2	14.2	0.0	8.8
1772	10	0.0	0.0	0.0	25.1	24.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1772	11	0.0	0.0	0.0	0.0	33.2	0.0	0.0	2.0	0.0	0.0	0.0	0.0
1772	12	0.0	0.0	0.2	0.0	11.3	0.0	0.0	0.0	0.2	0.0	0.2	0.0
1772	13	0.0	0.5	0.2	17.4	3.2	0.2	0.0	0.0	0.0	0.0	2.5	0.0
1772	14	15.6	1.4	0.2	16.1	0.7	2.7	0.0	0.0	20.3	0.0	19.4	0.0
1772	15	0.0	0.0	0.0	1.6	2.0	0.0	0.0	9.9	0.0	0.0	12.7	0.0
1772	16	0.0	7.0	21.7	0.0	0.0	0.0	0.0	0.9	0.5	0.0	7.7	0.0
1772	17	13.4	51.5	2.0	0.0	11.3	0.0	0.5	0.0	30.7	0.0	0.5	0.0
1772	18	0.0	7.7	0.0	0.0	2.5	1.4	0.0	0.0	14.0	0.0	10.4	0.0
1772	19	48.1	0.9	0.5	6.6	0.0	0.0	0.0	0.0	0.0	0.0	27.1	0.0
1772	20	20.1	9.9	5.4	12.9	0.0	0.7	0.0	0.0	0.0	0.0	9.0	0.0
1772	21	48.0	3.4	4.8	8.4	0.0	12.2	0.9	6.8	0.0	0.0	26.7	0.0
1772	22	35.9	0.2	16.3	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5.0	12.9
1772	23	45.2	0.9	11.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8
1772	24	18.5	2.3	0.0	0.0	1.8	0.0	0.5	0.0	0.0	0.2	0.0	8.8
1772	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	3.6	0.0
1772	26	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
1772	27	0.0	0.0	0.0	0.2	17.0	0.0	3.4	0.0	0.0	0.0	0.5	5.4
1772	28	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	6.6	15.1	5.7
1772	29	6.1	0.0	2.5	0.0	0.0	0.5	0.0	0.0	2.9	0.0	13.3	0.5
1772	30	7.5		5.9	57.6	0.0	1.8	0.0	0.0	0.0	0.0	8.8	0.0
1772	31	0.2		0.0		0.0		0.0	0.0		0.0		0.0
1773	1	6.3	0.0	0.9	0.2	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1773	2	0.0	0.0	0.0	9.0	0.5	0.0	0.0	0.0	0.0	0.0	23.1	0.0
1773	3	4.1	2.3	0.0	32.5	4.8	0.2	0.0	12.7	18.3	0.0	0.0	0.0
1773	4	0.0	0.0	0.0	0.0	23.7	0.9	0.0	0.0	0.0	5.9	0.0	0.0
1773	5	3.6	0.0	0.0	0.0	2.3	37.3	0.0	0.0	0.0	0.0	22.8	0.5
1773	6	0.0	0.0	0.0	8.4	9.0	2.3	6.6	0.0	0.0	0.0	0.2	0.0
1773	7	0.0	0.0	0.0	1.8	7.0	10.4	0.0	0.0	0.0	0.2	0.0	6.8
1773	8	0.0	7.0	0.0	3.8	0.0	1.1	0.0	0.0	0.0	0.0	0.0	4.1
1773	9	0.0	18.8	0.0	0.0	0.0	6.1	0.2	0.0	2.7	0.0	17.6	9.0
1773	10	0.0	17.0	0.0	0.0	3.2	9.0	0.7	0.0	0.0	0.0	2.7	4.3
1773	11	0.0	2.7	0.0	0.9	5.2	0.0	0.0	0.0	0.0	0.0	4.5	0.0
1773	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0
1773	13	0.0	0.0	4.5	8.6	0.0	17.6	0.0	0.0	0.0	0.0	20.3	0.2
1773	14	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.2	2.3	1.4	0.7
1773	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1773	16	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.5	0.0
1773	17	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.2	0.0	0.0	37.1	3.8
1773	18	6.3	0.0	0.0	5.4	0.0	0.0	0.0	26.2	0.0	0.0	7.1	13.8
1773	19	38.0	0.0	0.0	0.0	0.0	4.8	0.0	0.7	0.0	0.0	0.0	0.0
1773	20	0.5	0.0	0.0	0.0	0.0	7.2	0.0	9.5	0.0	0.0	0.0	0.0
1773	21	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0
1773	22	0.0	0.0	0.0	0.0	0.0	11.8	2.3	5.7	0.0	0.0	4.1	1.4
1773	23	8.4	0.2	0.0	7.2	1.1	0.0	0.0	0.0	0.0	0.0	6.8	2.7
1773	24	0.0	5.9	0.0	1.4	0.0	0.0	0.5	2.3	5.0	0.0	3.6	24.6
1773	25	0.0	29.8	0.0	0.0	2.3	0.2	5.2	0.0	14.0	0.0	8.4	0.0
1773	26	0.0	0.0	0.0	0.0	0.0	7.5	8.6	0.0	17.2	0.0	6.3	0.0
1773	27	0.0	0.0	10.9	0.0	1.1	0.9	4.1	0.0	0.0	0.0	0.0	0.0
1773	28	3.2	0.0	0.0	2.7	7.9	4.5	11.1	11.8	47.9	0.0	0.0	0.0
1773	29	0.0		0.0	0.0	0.2	0.5	54.2	0.0	19.0	0.0	0.0	0.0
1773	30	0.0		0.0	0.0	3.2	0.0	0.0	0.0	1.1	0.7	0.0	0.2
1773	31	0.0		0.0		0.2		10.2	0.0		10.2		1.4



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1774	1	9.3	7.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1774	2	5.2	23.7	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1774	3	0.0	27.1	19.0	0.0	3.6	10.4	0.0	0.0	0.0	0.0	0.0	0.7
1774	4	0.0	4.8	0.0	5.2	35.3	4.1	0.0	0.0	0.0	0.0	0.0	0.5
1774	5	0.0	0.0	0.2	0.5	4.8	16.1	0.0	0.0	0.0	0.0	0.0	0.0
1774	6	0.0	0.0	0.0	0.7	0.7	1.6	0.0	0.0	4.5	0.0	12.4	0.5
1774	7	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.7	6.8
1774	8	0.0	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.1
1774	9	0.0	0.1	0.0	7.0	0.0	0.2	0.0	0.0	4.5	0.0	0.0	0.0
1774	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1774	11	0.0	3.8	5.4	0.2	0.2	0.0	10.4	0.0	4.3	0.0	0.0	7.5
1774	12	0.9	0.0	0.0	0.0	0.0	0.0	21.5	0.0	8.6	0.0	0.2	0.0
1774	13	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	5.7	0.0	0.0	0.0
1774	14	0.0	0.0	0.0	0.0	0.0	12.9	0.0	0.0	0.5	0.0	0.0	0.7
1774	15	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0
1774	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1774	17	0.0	0.2	6.6	10.9	35.5	0.0	0.0	24.6	59.7	0.0	0.0	0.0
1774	18	1.8	0.5	0.9	0.3	12.2	0.0	0.0	0.0	0.0	0.0	0.9	0.0
1774	19	0.2	0.0	3.8	10.6	7.7	0.0	4.8	0.2	0.0	0.0	0.9	0.7
1774	20	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.7	0.0
1774	21	0.0	0.7	6.8	0.0	0.0	0.0	22.8	0.0	0.0	0.0	0.0	0.0
1774	22	0.0	0.0	0.2	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
1774	23	0.9	1.1	0.0	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1774	24	36.6	0.0	0.0	0.0	0.6	0.5	0.0	0.0	1.8	0.0	6.6	0.0
1774	25	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	9.1	0.0	6.1	0.0
1774	26	0.0	0.5	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.7	0.0
1774	27	0.0	0.0	0.0	6.3	11.5	0.6	0.0	0.0	0.0	0.3	0.7	0.0
1774	28	0.0	0.0	0.0	1.4	8.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1774	29	0.0		0.0	0.0	0.7	0.0	0.0	13.6	0.0	0.0	1.1	0.0
1774	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	0.0	0.0
1774	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1775	1	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	20.6	0.0	0.2	0.0
1775	2	0.0	0.2	0.0	0.0	0.1	6.8	11.5	0.1	0.0	0.9	1.8	0.0
1775	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	17.9	27.4	0.0
1775	4	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	21.5	11.3	0.0
1775	5	0.0	0.0	5.0	0.0	7.0	0.0	0.0	0.1	0.0	12.2	6.8	0.0
1775	6	0.0	0.0	0.0	0.0	14.0	0.0	0.0	36.2	0.0	1.6	22.4	0.0
1775	7	0.0	0.0	0.0	0.0	2.5	15.8	0.5	16.7	0.0	0.0	12.2	0.0
1775	8	0.0	0.0	0.6	0.0	0.0	3.2	0.0	0.0	0.0	0.2	27.1	0.0
1775	9	0.0	0.2	0.0	2.9	0.0	0.0	0.0	11.1	0.0	0.0	0.2	0.0
1775	10	0.0	0.0	0.0	0.0	0.0	0.1	0.0	8.8	0.0	0.0	0.2	0.0
1775	11	0.0	0.0	16.1	0.0	0.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1775	12	0.0	2.0	0.0	0.0	0.2	0.0	0.0	0.0	15.4	0.0	0.0	0.0
1775	13	0.2	2.3	0.6	0.0	0.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0
1775	14	0.0	11.3	0.0	0.0	7.9	3.2	0.0	0.0	2.5	0.0	7.2	0.0
1775	15	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.2	0.0	0.0	0.0
1775	16	0.0	0.0	0.0	2.9	0.2	1.6	0.0	0.0	7.0	0.0	0.0	0.0
1775	17	0.0	0.0	0.0	0.0	0.3	32.2	1.6	0.0	0.0	0.0	0.0	0.0
1775	18	0.0	4.1	0.0	0.0	3.5	0.0	51.5	0.0	0.0	0.0	0.5	0.0
1775	19	7.7	0.0	0.0	0.7	0.7	0.0	6.3	0.0	0.0	0.7	0.0	0.0
1775	20	11.3	0.0	0.0	0.0	5.3	0.0	0.5	0.0	0.0	0.1	0.0	0.0
1775	21	0.2	0.0	0.0	0.0	41.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1775	22	3.4	0.0	0.0	2.3	5.4	0.2	0.0	0.0	0.0	0.0	0.1	0.0
1775	23	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0
1775	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	4.3
1775	25	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1775	26	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0	2.5	0.0	0.0
1775	27	0.0	0.0	18.8	0.0	18.1	0.0	0.0	2.9	0.0	0.0	0.0	0.0
1775	28	0.0	0.0	12.9	0.0	14.2	1.8	0.0	0.0	0.0	0.0	0.0	5.7
1775	29	0.0		0.0	0.0	3.4	10.2	0.0	0.0	0.0	2.1	0.1	12.2
1775	30	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.2
1775	31	0.0		3.6		0.0		1.6	0.0		0.0		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1776	1	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	6.1	0.7	0.0
1776	2	0.2	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0
1776	3	0.0	0.2	24.6	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0
1776	4	0.0	1.1	0.0	0.9	0.1	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1776	5	0.0	0.9	0.0	0.5	0.0	12.7	0.0	1.6	0.0	0.1	0.0	0.0
1776	6	0.0	3.6	0.0	0.0	0.0	20.3	0.0	0.0	5.4	22.6	0.0	0.0
1776	7	37.5	5.2	0.0	0.0	17.6	5.7	0.0	10.2	0.0	7.5	0.0	0.0
1776	8	7.5	25.5	0.0	0.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1776	9	0.0	0.0	3.1	5.0	3.6	0.0	0.0	0.0	16.1	0.0	0.0	0.0
1776	10	0.0	9.0	0.2	29.6	4.8	0.0	10.6	0.0	0.0	0.0	0.0	0.0
1776	11	0.3	6.3	0.0	20.3	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1776	12	0.0	10.4	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0
1776	13	10.6	4.5	0.0	0.0	0.0	5.4	1.4	0.0	0.0	0.0	0.0	0.0
1776	14	2.5	0.0	18.1	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
1776	15	0.3	0.5	0.0	0.0	3.5	6.3	0.0	0.0	0.0	0.0	0.0	0.0
1776	16	0.1	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1776	17	0.5	0.0	0.0	0.0	12.4	0.0	0.1	0.1	2.5	0.0	0.0	5.4
1776	18	80.9	18.3	0.0	0.0	2.3	0.1	0.0	0.0	0.0	0.0	0.2	4.8
1776	19	0.0	0.0	0.0	0.0	1.8	5.9	0.0	0.0	7.7	0.0	3.2	0.0
1776	20	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	4.8	0.0	0.0	0.0
1776	21	0.0	0.0	0.0	0.5	23.5	0.0	0.5	0.0	4.1	0.0	0.0	0.0
1776	22	6.8	0.0	0.0	22.2	11.5	0.0	4.8	0.0	0.0	0.0	0.0	0.0
1776	23	10.9	8.1	0.0	0.0	0.0	0.0	0.0	13.6	9.7	0.0	0.0	0.0
1776	24	0.0	0.0	0.0	0.0	20.1	0.0	0.0	2.3	12.4	0.0	5.2	0.7
1776	25	0.0	0.5	0.0	0.0	0.0	0.0	2.0	0.1	0.0	0.5	0.0	0.0
1776	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	0.0	0.0
1776	27	0.0	0.5	0.0	23.5	0.0	0.1	5.0	0.0	7.0	9.7	21.2	0.0
1776	28	0.0	13.8	0.0	0.0	0.0	1.1	0.0	10.6	37.3	22.6	0.0	0.0
1776	29	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	4.8	0.0	0.0
1776	30	0.0		0.0	0.0	0.0	0.2	1.0	0.0	1.6	9.0	36.6	1.4
1776	31	0.0		0.0		0.0		0.0	0.0		0.0		2.9
1777	1	17.2	0.0	0.0	0.7	0.2	0.1	2.3	0.5	0.2	0.0	2.3	0.0
1777	2	30.3	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	1.1	0.2
1777	3	5.7	0.1	0.5	0.0	0.0	0.0	0.0	0.0	7.0	3.0	0.0	0.0
1777	4	0.0	0.5	0.0	1.1	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.0
1777	5	0.0	1.8	6.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1777	6	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
1777	7	0.2	8.1	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.2
1777	8	5.9	4.1	0.1	0.0	0.0	31.6	15.8	0.0	0.0	0.0	7.5	0.0
1777	9	3.2	0.0	5.8	0.0	0.0	5.0	1.1	0.0	0.0	0.0	0.0	0.0
1777	10	0.0	0.5	0.0	0.1	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0
1777	11	2.5	15.4	0.0	0.0	19.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1777	12	0.0	14.5	30.5	0.0	16.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1777	13	0.0	0.0	3.6	0.0	0.0	61.9	0.0	0.0	0.0	17.6	0.0	0.0
1777	14	0.0	0.0	0.2	8.6	0.2	0.2	0.5	0.0	0.0	9.5	0.0	0.0
1777	15	0.0	1.4	0.0	6.4	0.0	0.0	0.0	0.0	0.0	12.9	0.0	0.1
1777	16	0.0	9.0	4.3	0.1	14.2	0.0	0.0	0.0	0.0	17.9	13.8	0.0
1777	17	0.0	17.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	2.5	0.0	0.2
1777	18	0.0	0.0	0.0	27.6	0.1	0.0	0.0	0.0	0.0	21.7	0.0	23.5
1777	19	0.0	5.2	0.0	3.4	7.5	0.0	0.0	1.8	0.0	17.6	0.0	1.8
1777	20	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	27.1
1777	21	15.6	0.0	1.4	0.0	1.4	0.3	0.1	0.0	0.0	0.0	0.0	12.9
1777	22	23.5	3.4	0.0	0.0	0.0	63.3	0.0	2.5	0.0	0.0	0.0	1.6
1777	23	0.0	0.0	0.0	0.0	0.0	0.7	16.3	0.0	2.5	0.0	0.0	0.0
1777	24	10.4	0.0	0.0	0.0	7.8	51.1	26.4	0.0	0.5	0.0	0.0	1.1
1777	25	5.4	0.0	0.0	1.1	6.4	2.7	0.0	0.0	28.0	0.0	0.0	4.5
1777	26	2.3	0.2	0.0	0.0	7.5	0.0	0.0	0.0	27.1	0.1	0.0	1.8
1777	27	0.0	0.0	0.0	0.0	7.9	0.0	9.3	0.0	0.0	15.4	0.0	27.1
1777	28	0.0	0.0	0.0	0.0	0.0	0.0	32.1	0.0	0.0	0.2	0.0	5.0
1777	29	0.0		0.0	0.0	2.3	0.0	0.0	0.0	0.0	8.6	0.0	6.3
1777	30	0.2		0.0	0.0	0.0	4.5	0.0	0.0	0.0	1.1	0.1	19.7
1777	31	0.0		5.2		5.6		0.0	0.0		0.0		0.7

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	1	2	3	4	5	6	7	8	9	10	11	12
1778	1	3.4	0.0	11.3	0.0	0.7	0.0	0.0	12.2	0.0	4.5	0.0	3.2
1778	2	10.4	0.0	0.2	0.0	0.0	0.0	0.0	11.1	0.0	3.2	0.0	0.0
1778	3	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1778	4	1.4	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	33.0
1778	5	0.0	0.0	2.3	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9
1778	6	0.0	0.0	0.7	0.0	0.8	0.0	0.0	0.0	0.0	0.0	25.5	0.0
1778	7	0.0	0.0	0.1	0.0	0.0	2.3	0.0	0.0	5.2	0.0	33.7	0.0
1778	8	0.0	0.0	5.7	0.0	0.0	27.6	0.0	2.0	0.0	15.8	0.0	0.0
1778	9	0.0	0.1	7.7	0.0	0.0	0.0	0.0	0.0	0.0	2.3	29.6	0.0
1778	10	2.7	0.0	3.2	0.0	0.0	0.0	6.3	0.0	0.0	13.6	0.2	0.0
1778	11	4.5	0.0	0.0	3.7	0.0	0.2	0.0	0.0	26.7	0.0	0.0	2.3
1778	12	0.0	0.2	0.0	0.0	0.0	0.2	1.8	0.0	0.0	0.0	0.0	0.0
1778	13	0.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	3.6	0.2	0.0
1778	14	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.2
1778	15	9.7	2.3	0.0	0.0	5.9	28.7	0.0	0.0	0.0	4.8	0.0	0.0
1778	16	4.3	15.4	0.0	2.5	0.0	23.5	0.0	7.0	0.0	2.5	0.2	0.0
1778	17	6.8	8.6	0.0	7.7	0.0	3.2	0.0	0.0	0.0	0.0	14.5	0.0
1778	18	0.0	0.0	0.0	2.5	0.0	1.1	0.0	0.0	14.5	0.0	9.3	0.0
1778	19	0.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1778	20	1.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0
1778	21	8.1	0.0	0.0	8.4	0.2	2.5	1.4	0.0	0.0	0.0	0.0	0.0
1778	22	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1778	23	0.0	0.1	6.8	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1778	24	0.2	6.8	2.3	34.1	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1778	25	0.0	0.0	3.8	4.1	0.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1778	26	0.0	0.0	0.0	4.1	22.6	0.0	0.0	0.0	11.3	0.0	0.0	0.0
1778	27	4.5	0.0	0.0	0.0	1.4	0.0	0.0	18.3	11.3	0.7	0.0	0.0
1778	28	0.0	0.0	0.0	0.0	4.1	13.8	0.0	0.0	6.3	0.0	1.8	0.0
1778	29	0.0		0.0	0.0	0.0	3.6	0.0	0.0	14.0	0.0	12.4	0.0
1778	30	0.0		0.0	0.9	0.0	12.0	0.0	0.0	11.5	0.9	14.0	0.0
1778	31	0.0		0.0		0.0		0.0	9.9		0.0		0.0
1779	1	0.0	0.0	0.0	0.0	0.0	24.9	0.0	0.0	0.0	0.0	0.0	0.0
1779	2	0.2	0.0	0.0	0.0	3.4	2.3	0.0	0.0	0.0	65.1	0.0	0.0
1779	3	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	8.8	0.0	0.0
1779	4	0.0	0.0	0.0	0.0	10.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1779	5	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	3.2	0.0	0.0
1779	6	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	12.4	9.9	0.0	0.0
1779	7	0.0	0.0	0.0	10.9	0.0	0.0	28.7	2.7	2.7	9.9	0.0	0.0
1779	8	0.0	0.0	0.0	0.0	1.8	0.1	0.0	5.4	0.0	0.0	3.4	0.0
1779	9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	12.7	0.0	0.0	0.0	0.0
1779	10	0.0	0.0	0.0	0.0	0.2	0.3	7.0	0.0	0.0	14.7	0.9	0.0
1779	11	0.0	0.0	0.0	0.0	1.4	23.3	0.0	0.0	0.0	40.7	0.0	0.0
1779	12	0.0	0.0	0.0	0.0	6.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1779	13	0.0	0.0	0.0	0.0	2.0	13.3	0.0	3.4	0.0	0.0	0.5	2.7
1779	14	0.0	0.0	0.0	0.0	0.9	7.9	0.0	0.0	18.1	0.0	0.0	0.0
1779	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	0.0
1779	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1779	17	0.0	0.0	0.0	0.0	0.0	23.3	0.0	0.0	0.0	0.0	6.1	0.0
1779	18	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	11.3	0.0
1779	19	0.0	0.0	0.0	0.0	5.4	36.6	1.6	0.2	0.0	0.0	22.8	0.0
1779	20	0.0	0.0	0.0	0.0	15.4	6.1	0.0	0.5	16.1	0.0	19.4	0.0
1779	21	0.0	0.0	0.7	0.0	0.0	0.0	0.0	10.9	0.0	0.0	5.2	6.1
1779	22	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	18.8
1779	23	0.0	0.0	0.0	0.0	0.0	8.6	0.0	75.2	0.0	0.0	14.5	1.1
1779	24	0.0	0.0	0.0	0.0	0.0	7.5	0.0	12.9	0.0	0.0	0.0	4.3
1779	25	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	5.2
1779	26	0.0	0.0	0.0	4.1	0.1	0.0	2.9	0.0	0.0	0.0	6.3	20.8
1779	27	0.0	0.0	0.0	8.1	0.2	0.0	2.5	0.0	0.0	0.0	18.3	12.2
1779	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0
1779	29	0.0		0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.2	9.9
1779	30	0.0		0.0	0.0	0.2	0.2	0.0	0.0	0.2	0.2	0.0	0.0
1779	31	0.0		0.0		45.2		0.3	0.0		0.0		0.0



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1780	1	0.0	3.6	0.0	5.0	0.0	0.0	0.0	3.4	0.0	7.5	0.0	0.7
1780	2	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1780	3	0.0	13.1	0.7	1.4	0.0	0.0	0.9	0.0	0.0	0.0	0.1	0.0
1780	4	0.5	0.7	4.5	19.2	0.0	0.0	0.0	0.0	7.2	0.2	0.0	0.0
1780	5	0.0	0.2	0.7	14.5	0.0	0.0	0.0	0.0	6.8	0.1	0.0	0.0
1780	6	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	15.4	0.0	0.0
1780	7	0.0	0.0	0.0	0.0	0.0	0.0	15.4	3.6	0.0	0.0	5.0	0.0
1780	8	0.0	0.0	0.0	0.1	0.0	7.5	0.0	2.7	27.1	2.9	2.5	0.0
1780	9	0.0	0.0	0.0	1.4	0.0	18.1	8.4	5.7	7.7	24.2	0.0	0.0
1780	10	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	40.7	0.0	0.0
1780	11	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0
1780	12	1.1	0.0	0.0	0.9	0.5	10.9	0.0	7.9	0.0	1.1	0.0	0.0
1780	13	0.0	0.0	0.0	28.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1780	14	0.0	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1780	15	0.2	0.0	0.0	0.3	0.9	9.3	1.1	7.0	0.0	0.0	6.3	0.0
1780	16	14.2	0.0	1.5	0.0	3.8	25.3	0.5	8.6	0.0	0.0	36.4	0.0
1780	17	5.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1780	18	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.9	0.0	3.6	0.0
1780	19	0.0	0.0	0.0	0.3	0.0	0.0	2.0	55.4	43.4	0.0	3.2	0.2
1780	20	0.0	8.4	0.0	0.0	8.1	0.0	2.0	0.0	0.0	0.0	2.9	1.8
1780	21	4.5	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	11.8	0.2	0.7
1780	22	1.8	1.6	0.0	0.0	0.0	7.7	0.0	0.0	34.8	3.2	0.0	1.1
1780	23	0.0	0.0	0.2	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	4.8
1780	24	6.8	0.0	0.0	0.2	5.0	0.0	0.2	43.6	0.0	0.0	20.8	0.0
1780	25	13.6	0.0	0.0	0.5	0.0	0.0	0.0	13.8	0.0	0.0	1.4	0.0
1780	26	0.0	5.9	0.0	0.5	0.0	3.4	1.6	2.3	0.0	0.0	0.0	0.0
1780	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
1780	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	4.8	8.1	7.7
1780	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
1780	30	2.5		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1780	31	7.2		2.5		0.0		0.0	0.0		0.0		0.0
1781	1	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.1	2.0	2.3
1781	2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1781	3	17.6	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	6.8	0.1	0.0
1781	4	0.0	0.0	0.0	5.7	14.5	0.0	0.0	0.0	0.0	12.0	0.9	0.5
1781	5	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
1781	6	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
1781	7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.8	0.5	0.0	0.0
1781	8	0.0	0.0	0.0	0.0	6.6	1.4	0.0	0.0	30.5	0.0	10.6	0.0
1781	9	0.0	0.1	0.0	0.0	14.9	14.2	0.1	0.1	8.1	0.0	5.2	1.8
1781	10	0.0	1.5	0.0	0.0	4.8	13.6	0.0	6.6	30.1	0.0	0.0	0.0
1781	11	0.0	6.3	0.1	0.0	2.5	26.2	0.0	0.0	0.5	0.0	0.0	0.0
1781	12	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1781	13	9.3	0.2	0.0	5.7	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
1781	14	14.3	0.3	0.0	21.0	0.0	6.6	0.0	9.0	0.0	0.0	0.0	0.0
1781	15	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
1781	16	0.0	0.0	0.0	0.0	0.0	0.0	22.2	20.3	0.0	0.0	0.7	0.0
1781	17	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	14.9	0.0	0.0	0.2
1781	18	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.7
1781	19	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.9	10.9	0.0	5.9	0.0
1781	20	0.0	0.0	0.1	0.0	0.0	7.0	6.3	0.0	0.0	0.0	0.0	0.2
1781	21	0.9	0.1	0.0	0.3	0.0	10.2	0.0	39.8	0.0	0.0	15.8	0.0
1781	22	0.0	15.8	0.0	0.0	0.0	1.4	0.0	0.0	15.8	0.0	2.0	0.0
1781	23	0.0	0.1	0.0	0.0	0.0	3.2	0.0	0.0	7.0	0.0	0.1	0.0
1781	24	1.8	0.0	0.0	4.3	40.7	63.3	0.0	0.0	0.0	0.0	0.0	0.0
1781	25	1.8	0.0	0.0	1.6	27.8	30.5	0.0	0.0	0.5	0.2	8.1	0.0
1781	26	0.2	7.0	0.0	1.4	0.0	5.7	0.0	0.0	0.0	2.0	7.0	0.0
1781	27	0.0	0.0	0.0	8.1	0.0	1.4	11.3	0.0	0.0	3.4	16.1	0.3
1781	28	0.0	0.0	41.4	1.1	0.0	0.0	0.0	0.0	0.0	28.9	29.2	0.0
1781	29	0.0		11.1	6.6	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0
1781	30	0.0		0.0	29.8	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
1781	31	0.0		0.0		0.0		0.0	0.0		9.3		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1782	1	0.0	0.0	0.0	16.3	0.0	0.0	0.0	0.0	0.1	2.6	6.8	0.0
1782	2	0.0	0.0	0.0	4.8	0.0	0.0	0.0	3.4	0.0	15.2	0.0	1.9
1782	3	0.0	0.0	19.9	13.6	0.0	7.2	7.5	0.0	0.0	3.0	0.0	4.3
1782	4	0.0	0.0	1.6	5.2	5.7	2.9	0.0	0.0	0.0	0.8	32.0	0.0
1782	5	0.0	0.2	0.0	0.2	6.6	0.0	5.0	0.0	0.0	0.1	2.3	0.0
1782	6	0.0	14.0	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.0	23.9	5.6
1782	7	0.9	0.0	0.0	0.0	0.0	4.3	0.5	0.5	0.0	0.0	9.6	0.8
1782	8	1.1	0.0	0.0	0.0	0.0	0.9	0.5	0.0	0.0	0.1	0.0	0.0
1782	9	0.0	6.3	1.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1782	10	0.3	0.0	4.5	19.7	6.1	0.0	0.0	3.4	0.0	0.1	0.0	0.6
1782	11	22.6	0.0	0.0	2.0	0.0	0.0	0.0	0.5	2.3	2.9	11.8	0.0
1782	12	0.0	0.0	0.0	0.9	1.4	0.0	0.0	0.0	4.1	0.0	8.8	0.0
1782	13	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.1	0.0	0.0
1782	14	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1782	15	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
1782	16	0.0	0.0	0.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1
1782	17	0.0	0.0	0.0	19.9	0.0	0.0	0.0	0.0	0.5	0.0	16.4	0.0
1782	18	3.6	0.0	0.0	0.0	0.0	1.6	9.0	0.0	5.2	0.0	0.0	0.0
1782	19	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.8	0.2	0.0	0.0
1782	20	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1782	21	0.7	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0
1782	22	0.0	0.0	2.7	3.8	5.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1782	23	0.0	2.5	6.1	0.3	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0
1782	24	0.0	2.5	0.0	0.0	3.2	0.0	0.0	0.0	0.7	0.0	0.0	0.0
1782	25	0.2	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	25.4	0.0	0.0
1782	26	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0
1782	27	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
1782	28	0.0	0.0	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.2	3.0	0.0
1782	29	1.2		0.0	0.0	0.0	41.6	0.0	0.0	0.0	32.4	0.0	0.0
1782	30	8.4		0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0
1782	31	14.2		6.1		0.0		2.0	0.0		0.0		0.0
1783	1	0.0	0.4	0.0	0.0	0.0	0.6	0.0	0.0	13.9	1.7	0.0	0.0
1783	2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	8.6	1.1	0.0	0.0
1783	3	0.0	0.0	0.0	0.0	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0
1783	4	0.0	0.0	16.7	0.0	0.0	10.2	3.0	1.7	0.0	0.0	0.0	1.9
1783	5	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	13.9	0.0	0.2	6.0
1783	6	0.0	0.2	17.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1783	7	0.0	0.0	0.0	0.0	4.5	0.9	0.2	0.0	0.0	0.0	0.0	0.0
1783	8	0.0	0.6	0.0	0.0	13.0	0.6	0.0	24.6	0.0	0.4	0.2	14.9
1783	9	0.2	0.4	0.0	0.0	0.8	0.0	0.0	0.0	0.0	15.8	0.0	0.0
1783	10	0.2	15.2	0.0	0.0	1.3	0.4	0.2	0.0	0.0	20.3	0.0	0.0
1783	11	0.0	0.0	23.1	0.0	0.0	3.8	0.0	0.0	0.0	5.1	0.0	0.0
1783	12	1.5	0.0	17.1	0.1	0.0	0.0	26.3	11.8	0.0	5.3	0.0	0.0
1783	13	3.2	16.0	11.1	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0
1783	14	0.0	14.9	0.0	0.0	0.0	0.2	0.0	3.4	0.0	0.0	1.1	0.0
1783	15	0.0	0.0	0.0	0.0	0.0	0.2	22.6	0.6	0.0	0.0	0.0	0.0
1783	16	0.6	0.2	0.0	0.0	0.0	4.0	0.0	0.2	15.4	0.1	0.0	0.0
1783	17	0.4	0.0	0.0	0.0	0.2	4.5	0.0	0.0	0.0	0.0	0.0	0.0
1783	18	0.0	0.0	0.0	0.0	0.1	3.6	0.0	0.0	0.2	0.0	0.0	0.0
1783	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0
1783	20	0.0	0.6	0.0	0.0	0.2	0.2	0.0	2.6	0.0	0.0	0.0	0.0
1783	21	0.0	9.2	0.0	13.5	0.0	10.3	2.4	7.5	0.0	0.0	0.0	0.0
1783	22	20.3	0.0	0.1	0.0	0.2	15.2	0.0	0.0	10.5	0.0	0.1	3.2
1783	23	7.3	0.6	0.2	0.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1783	24	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1783	25	0.0	0.0	0.0	0.0	0.2	9.4	0.9	0.0	0.0	1.9	0.0	0.0
1783	26	0.0	0.0	0.6	0.0	6.6	0.0	0.0	0.0	0.0	27.8	0.1	5.8
1783	27	0.0	0.0	0.0	0.0	25.4	0.0	0.0	1.9	0.0	0.8	0.0	7.1
1783	28	19.9	0.0	3.8	0.0	28.8	0.0	0.0	0.0	0.1	2.8	0.0	7.1
1783	29	2.3		0.2	0.0	9.4	0.2	0.0	0.0	0.2	6.8	0.0	2.1
1783	30	0.0		0.0	0.0	7.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1783	31	0.0		0.0		13.7		0.0	0.0		0.0		0.2

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1784	1	0.9	0.0	0.0	4.7	0.6	0.0	1.1	0.0	0.0	0.0	9.4	1.1
1784	2	0.0	0.0	0.0	9.4	0.0	0.6	0.0	0.0	0.8	8.1	0.0	3.6
1784	3	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0
1784	4	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
1784	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.1
1784	6	0.0	0.0	0.0	0.9	0.0	8.3	0.0	0.0	0.0	0.0	6.4	0.0
1784	7	0.0	11.8	18.6	1.9	0.0	4.1	0.0	0.0	0.0	0.4	10.2	0.6
1784	8	0.0	0.0	14.5	0.0	0.0	8.7	1.1	1.1	0.0	0.0	0.0	1.5
1784	9	0.0	0.0	0.0	0.0	0.0	4.1	0.4	16.7	0.0	0.0	0.9	3.8
1784	10	0.0	7.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.8	25.9
1784	11	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.2	0.0	6.0	3.2	0.0
1784	12	5.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4
1784	13	0.0	0.0	0.0	4.3	5.7	10.2	0.0	0.4	0.0	0.0	0.0	0.0
1784	14	0.0	3.0	0.0	0.6	5.6	8.1	0.0	0.0	0.0	0.0	0.0	0.0
1784	15	0.2	2.4	0.0	7.5	0.0	0.0	1.5	0.2	0.0	0.0	0.0	7.9
1784	16	0.0	20.3	15.0	3.8	0.0	0.0	10.5	0.0	0.0	0.0	0.2	18.7
1784	17	9.2	3.0	0.0	22.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	8.2
1784	18	30.1	0.0	1.9	3.6	0.0	0.2	0.0	4.5	1.5	2.6	0.0	2.1
1784	19	11.3	0.0	3.0	0.2	0.0	28.0	0.0	3.6	0.0	0.3	1.7	0.0
1784	20	10.2	0.0	0.8	0.0	0.0	0.0	0.0	0.9	11.3	43.4	0.0	0.2
1784	21	24.6	0.0	3.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1784	22	0.0	37.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
1784	23	0.0	0.0	2.4	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	6.4
1784	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	6.0	0.0	0.0
1784	25	0.0	0.0	0.0	0.2	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1784	26	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.2	7.5	0.0	0.0
1784	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0
1784	28	3.0	0.0	51.7	24.3	3.2	0.0	0.0	0.0	0.0	10.1	0.0	0.0
1784	29	1.6	0.8	37.2	0.1	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0
1784	30	0.0		0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1784	31	5.1		6.4		8.7		0.0	0.0		0.8		2.1
1785	1	0.4	16.5	0.0	5.6	0.0	0.0	2.4	0.0	0.0	0.0	0.0	10.0
1785	2	22.6	18.4	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8
1785	3	13.9	17.9	0.0	1.9	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0
1785	4	0.0	2.3	0.1	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
1785	5	0.4	1.7	0.1	3.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	9.9
1785	6	0.4	2.3	0.0	0.8	0.0	0.0	72.2	0.0	0.0	0.0	0.0	0.0
1785	7	4.5	3.7	0.0	0.0	0.0	0.0	5.1	0.0	0.0	37.0	22.4	0.0
1785	8	11.7	0.0	0.0	0.0	0.8	0.0	13.9	0.0	0.0	0.0	0.0	1.1
1785	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	36.7	0.0	12.0
1785	10	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.2	15.2	0.0	0.2	0.2
1785	11	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
1785	12	0.0	0.0	1.3	0.0	2.6	0.1	3.8	0.0	0.8	0.0	0.0	13.0
1785	13	0.0	0.0	2.8	0.0	0.0	0.0	0.2	1.5	0.0	0.0	0.0	9.8
1785	14	0.0	1.3	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.0
1785	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1785	16	0.0	0.0	0.0	0.0	0.0	74.3	5.8	0.0	0.0	0.0	0.0	0.2
1785	17	0.0	2.3	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	10.2
1785	18	0.0	20.5	0.0	0.0	0.2	15.2	0.0	0.0	0.0	0.0	0.0	0.1
1785	19	0.1	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1785	20	0.0	19.4	0.0	2.6	0.0	0.0	0.0	6.4	0.0	0.0	3.6	1.3
1785	21	0.0	2.3	0.0	0.6	0.0	0.0	14.9	7.3	0.1	0.0	3.8	0.0
1785	22	0.0	0.0	3.8	0.0	23.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0
1785	23	0.0	0.0	0.0	9.2	16.9	7.1	1.3	0.0	0.0	0.0	3.2	0.0
1785	24	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	6.8	18.2
1785	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	2.0	0.0	7.5
1785	26	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.2	0.0	1.4	0.0	12.2
1785	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.5	0.0	0.0
1785	28	0.0	0.0	0.0	0.0	0.9	0.0	7.9	0.0	0.0	9.4	8.5	0.0
1785	29	0.0		7.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.7	6.0
1785	30	0.0		18.9	0.0	1.5	3.2	0.0	0.0	0.0	0.0	0.4	9.8
1785	31	0.4		3.3		13.9		0.0	0.0		0.0		5.5



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1786	1	3.6	1.5	1.5	0.0	0.8	1.7	0.2	0.9	0.0	0.0	1.1	5.3
1786	2	25.2	0.8	0.8	0.0	32.3	0.8	0.8	0.0	0.0	1.1	13.9	0.0
1786	3	1.7	0.0	2.3	0.0	2.4	0.0	7.1	0.9	11.3	0.0	25.9	0.0
1786	4	20.3	0.0	0.0	0.0	2.6	0.0	0.0	0.0	7.3	0.8	26.7	0.0
1786	5	0.0	0.0	0.0	10.9	9.8	0.0	3.0	0.0	0.1	9.4	14.5	20.1
1786	6	0.0	0.0	0.2	10.2	4.7	0.1	0.0	0.0	22.6	0.0	24.8	0.0
1786	7	8.7	0.0	19.2	0.8	4.5	2.4	6.6	0.2	6.0	0.0	0.0	0.0
1786	8	0.0	0.0	4.3	2.4	3.0	12.0	3.8	0.0	0.0	0.0	6.6	0.0
1786	9	0.0	0.0	9.8	0.8	5.5	6.2	0.0	0.2	0.0	0.0	0.0	0.0
1786	10	0.4	0.0	1.1	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1786	11	13.5	0.0	3.4	1.3	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.9
1786	12	8.5	0.0	0.0	1.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.4
1786	13	1.3	0.0	0.0	0.0	0.0	0.0	3.1	10.5	0.0	3.4	9.0	0.0
1786	14	0.6	0.0	0.4	0.0	0.0	0.8	1.5	0.0	0.0	0.0	0.0	0.0
1786	15	4.7	0.0	0.2	0.0	0.0	3.8	12.2	6.8	0.0	0.0	0.4	0.0
1786	16	7.0	0.0	14.5	0.0	0.0	4.0	0.0	0.0	22.6	0.0	12.4	0.0
1786	17	3.4	0.0	2.4	0.0	0.0	0.2	0.0	0.0	5.1	3.2	16.9	25.6
1786	18	13.5	0.0	5.1	0.0	0.0	1.3	22.2	0.5	0.0	1.3	13.5	0.0
1786	19	0.4	0.0	6.2	0.0	0.1	23.7	0.0	0.0	19.7	0.0	0.0	11.8
1786	20	0.2	0.0	0.0	0.0	19.0	2.6	0.0	0.0	0.0	0.2	26.5	8.3
1786	21	0.0	0.0	0.0	0.6	0.8	0.2	4.0	0.0	0.0	0.0	0.0	0.0
1786	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0
1786	23	0.2	0.0	0.0	0.0	0.0	7.0	0.0	7.7	13.5	0.0	0.0	0.0
1786	24	0.2	0.0	0.0	0.0	0.0	2.6	0.0	0.8	0.0	2.6	0.0	0.0
1786	25	0.0	0.8	11.5	1.5	0.0	0.0	0.0	0.0	2.4	0.0	0.0	5.1
1786	26	0.0	1.3	0.0	0.0	0.0	24.8	8.3	0.0	1.1	0.0	0.0	6.8
1786	27	0.0	0.1	7.9	0.0	0.0	3.6	0.0	0.2	0.0	0.0	0.0	6.0
1786	28	0.0	0.0	0.9	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1786	29	0.0		0.2	2.1	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
1786	30	0.0		2.1	0.0	0.0	0.0	7.3	0.0	0.0	0.0	6.2	0.0
1786	31	0.0		0.0		0.0		0.0	0.0		23.7		0.0
1787	1	0.0	0.0	0.0	7.9	0.4	0.0	0.2	0.0	0.0	12.9	4.9	0.0
1787	2	0.0	0.0	10.3	0.0	0.0	0.0	5.8	0.0	0.0	20.3	6.4	0.0
1787	3	0.0	0.0	14.7	10.3	0.0	0.0	13.0	0.0	0.0	15.0	0.4	0.0
1787	4	0.0	0.0	10.2	0.0	0.0	0.0	0.0	5.3	0.0	0.0	7.9	12.4
1787	5	0.0	0.0	0.0	0.2	0.0	8.5	1.1	0.0	0.0	0.0	8.3	10.2
1787	6	0.0	0.0	7.9	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1787	7	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	1.5
1787	8	0.0	0.0	6.2	13.5	7.5	0.5	17.9	0.0	0.0	0.0	0.0	0.8
1787	9	0.0	0.0	0.0	0.0	14.9	0.0	0.9	0.0	0.0	0.0	0.2	0.0
1787	10	0.0	0.0	1.5	0.8	12.2	0.0	0.0	6.2	8.7	0.0	5.7	0.2
1787	11	0.0	0.0	0.1	0.2	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.4
1787	12	0.0	2.6	0.0	0.0	0.2	0.0	0.0	3.8	0.0	0.1	11.0	0.0
1787	13	0.0	19.0	0.0	1.1	0.4	0.0	0.0	27.5	0.0	0.0	0.0	0.2
1787	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.6	0.4
1787	15	0.0	0.0	0.0	4.3	3.0	13.5	0.0	0.0	0.0	1.1	15.4	1.1
1787	16	0.0	0.0	0.0	4.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	3.0
1787	17	10.7	0.0	0.0	0.9	0.6	3.4	0.0	0.0	21.6	0.0	3.1	4.0
1787	18	11.5	0.0	0.0	0.0	22.8	9.0	0.0	0.0	2.8	0.4	2.3	2.1
1787	19	0.0	0.0	0.0	0.0	0.2	5.1	0.0	0.0	0.0	3.0	0.0	0.0
1787	20	3.6	0.0	0.0	0.0	3.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
1787	21	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	13.3
1787	22	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	6.8
1787	23	0.0	0.0	5.3	0.0	0.0	0.0	0.2	6.7	0.0	0.0	0.0	0.0
1787	24	0.0	0.4	45.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
1787	25	0.0	0.0	27.6	0.0	13.5	0.3	0.0	0.1	0.0	0.0	0.0	19.9
1787	26	0.0	0.0	0.0	13.2	18.1	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1787	27	19.4	0.0	0.0	5.1	0.9	0.0	0.0	0.1	0.0	0.0	0.0	2.1
1787	28	0.0	0.0	0.0	5.1	0.2	0.0	0.0	0.1	15.2	0.0	0.0	0.0
1787	29	0.0		0.0	12.0	4.9	0.0	0.0	0.0	15.6	0.0	0.0	0.0
1787	30	0.0		0.0	4.9	1.7	0.0	0.0	0.0	10.2	0.0	0.0	1.9
1787	31	0.0		14.7		1.5		0.0	0.0		0.0		4.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1788	1	0.0	0.0	16.8	0.0	0.1	0.0	0.0	0.0	8.7	0.0	0.0	7.1
1788	2	11.3	6.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1788	3	2.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1788	4	25.8	0.5	0.0	14.9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	9.4
1788	5	0.0	0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	2.1	13.0
1788	6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	8.1	22.4
1788	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	14.5
1788	8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9
1788	9	25.9	16.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	10.5	0.0
1788	10	45.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	7.9	0.0
1788	11	15.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1788	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	3.0	0.0	0.0	0.0
1788	13	0.0	0.0	0.0	0.0	0.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
1788	14	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	7.1	0.0	0.4	8.5
1788	15	0.0	0.0	9.7	0.0	5.6	0.0	0.1	0.0	0.0	0.0	32.7	8.5
1788	16	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	4.9	13.5	3.0	0.3
1788	17	0.0	0.2	0.8	0.9	0.0	3.4	1.5	0.0	18.8	0.0	0.0	0.0
1788	18	0.0	0.0	12.4	0.0	12.2	0.0	0.8	0.0	0.0	0.0	0.0	0.6
1788	19	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1788	20	0.0	16.8	3.8	0.0	6.6	0.0	0.0	3.0	0.0	0.0	0.0	0.0
1788	21	0.0	5.8	0.0	0.0	0.8	0.0	12.2	0.0	0.4	0.0	0.0	0.0
1788	22	0.0	4.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1788	23	0.0	6.1	1.0	10.6	0.0	0.0	0.0	0.1	0.0	0.0	3.4	0.0
1788	24	0.0	4.0	0.0	0.0	0.0	1.6	1.0	8.0	0.0	0.0	0.0	0.0
1788	25	0.0	0.9	11.8	0.0	0.0	15.0	0.0	0.0	18.1	0.0	0.0	0.0
1788	26	0.0	0.0	26.7	0.0	0.0	16.5	15.0	0.0	0.0	0.0	0.0	0.0
1788	27	0.0	0.1	2.4	0.0	0.0	2.1	0.6	0.0	0.0	0.0	2.3	0.0
1788	28	0.0	6.8	0.0	0.0	0.0	0.9	0.0	20.3	0.0	8.3	2.8	0.0
1788	29	0.0	0.0	0.0	0.0	0.0	16.9	13.2	18.4	0.5	0.0	6.6	0.0
1788	30	0.0		0.0	0.0	0.0	0.0	14.5	0.0	5.6	0.0	3.2	0.0
1788	31	0.0		0.0		3.2		0.0	0.0		0.0		0.0
1789	1	0.0	0.0	0.0	0.6	0.0	0.0	0.0	2.3	0.0	0.0	18.4	0.0
1789	2	0.0	0.0	0.4	0.2	0.0	5.5	0.0	0.0	0.0	0.4	18.6	0.0
1789	3	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	12.6	0.2	0.1
1789	4	0.0	0.4	14.1	0.0	0.0	4.7	0.0	0.0	0.0	16.0	0.0	0.0
1789	5	0.0	0.0	0.0	0.0	5.1	0.2	0.0	0.0	0.0	0.0	2.6	0.0
1789	6	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.3	10.2	0.0
1789	7	0.0	0.0	2.8	0.0	0.4	1.5	11.7	0.0	0.0	0.0	0.0	0.0
1789	8	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	41.0	1.3	2.4	0.0
1789	9	10.5	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	13.2	9.4	0.0
1789	10	0.6	0.6	0.9	0.0	0.0	5.6	0.0	0.0	0.0	12.4	0.0	0.0
1789	11	0.0	0.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	2.6	0.0	0.0
1789	12	32.3	0.0	3.4	0.0	0.2	4.5	0.0	0.0	0.0	12.0	0.0	0.0
1789	13	0.0	0.0	3.0	0.8	0.0	0.0	8.7	0.8	0.0	0.0	0.0	0.0
1789	14	0.8	0.0	0.0	0.8	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
1789	15	0.8	0.0	12.0	0.0	0.0	0.0	0.0	4.0	2.9	27.6	0.0	6.4
1789	16	0.0	0.0	10.3	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	15.2
1789	17	0.0	0.0	18.1	0.0	0.0	2.3	0.0	0.2	1.5	0.0	0.2	0.4
1789	18	0.0	0.0	7.9	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.4	0.0
1789	19	5.1	0.0	0.2	0.0	0.0	0.0	1.9	0.0	0.0	0.0	7.9	0.0
1789	20	1.5	0.0	5.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	24.8	0.0
1789	21	4.7	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1789	22	0.4	0.0	1.7	0.0	0.0	0.0	1.3	7.6	0.0	0.0	0.0	0.0
1789	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	0.0	0.0	0.0	0.0
1789	24	0.0	1.3	0.8	0.8	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
1789	25	11.7	12.8	12.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1789	26	0.0	10.3	17.5	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0
1789	27	0.0	4.7	0.0	0.0	0.0	0.0	11.8	0.0	0.0	4.9	0.0	0.0
1789	28	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.2	0.0	0.0
1789	29	0.4		0.0	0.1	0.0	13.7	0.0	0.0	0.0	8.5	0.0	0.8
1789	30	0.0		0.0	0.0	9.2	14.5	0.0	18.2	0.0	1.7	0.0	0.0
1789	31	0.0		11.3		3.8		0.0	1.5		0.2		2.8

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1790	1	3.8	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.1	3.2	17.5
1790	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
1790	3	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.2	2.4	0.0
1790	4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.9	0.0	0.0	0.0	0.0
1790	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	11.7
1790	6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1790	7	0.0	0.0	0.0	1.1	14.5	0.4	0.0	0.0	15.8	0.0	0.0	0.0
1790	8	0.0	0.0	0.0	3.0	4.9	0.2	0.0	0.0	1.3	0.0	0.0	0.0
1790	9	0.0	0.0	0.0	7.1	0.8	0.0	0.0	0.0	0.2	0.0	11.8	0.0
1790	10	0.0	0.0	0.0	13.5	0.0	0.6	7.5	0.0	0.0	0.0	17.3	0.0
1790	11	0.0	0.0	0.2	8.7	0.0	19.6	0.0	19.7	0.0	13.2	4.5	0.0
1790	12	0.0	0.0	0.0	4.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0
1790	13	0.0	0.0	0.0	0.2	0.2	0.2	1.3	2.3	0.0	0.0	0.0	0.0
1790	14	0.0	0.0	0.0	0.2	2.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2
1790	15	0.0	0.0	7.7	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1790	16	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1790	17	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1790	18	0.0	0.0	0.0	6.2	0.0	1.1	0.0	6.8	0.0	0.0	0.0	0.6
1790	19	0.0	0.0	0.0	0.0	0.6	4.2	0.0	0.0	0.0	0.0	0.0	0.0
1790	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	9.0
1790	21	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0	2.1
1790	22	0.0	0.0	0.1	0.0	0.9	0.0	0.0	3.4	2.6	0.0	2.3	0.0
1790	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	2.8
1790	24	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8	4.5	0.0
1790	25	0.0	0.0	0.0	16.0	0.0	0.0	21.8	0.0	0.0	45.9	3.0	0.0
1790	26	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	55.8	0.6	0.0
1790	27	1.9	0.0	0.0	3.1	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0
1790	28	0.0	0.0	0.0	0.0	0.0	25.6	0.0	0.0	0.0	15.8	0.0	0.0
1790	29	0.0		0.0	0.0	0.0	0.0	0.0	4.0	0.0	6.2	0.0	0.0
1790	30	7.5		0.0	0.0	0.2	0.0	0.0	3.2	0.0	4.1	0.0	0.0
1790	31	0.0		0.0		2.9		0.0	0.0		0.8		0.0
1791	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0
1791	2	3.6	0.0	0.0	0.0	0.2	0.0	0.0	5.3	0.0	0.0	18.6	0.0
1791	3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.6	3.4	0.2
1791	4	0.0	0.0	0.0	0.0	5.1	0.0	0.0	10.3	0.2	0.0	0.0	0.0
1791	5	4.9	0.0	0.0	0.0	3.8	0.0	0.0	4.0	0.0	0.0	0.0	3.4
1791	6	7.5	0.0	0.0	1.1	2.8	0.0	0.0	0.0	0.0	0.0	3.4	16.5
1791	7	0.0	0.0	0.4	0.8	5.5	4.5	0.0	0.0	0.0	1.3	0.0	21.4
1791	8	0.0	0.0	4.7	0.0	8.7	0.0	2.1	1.3	0.0	14.3	0.0	0.0
1791	9	0.0	0.0	0.0	0.0	3.2	10.7	2.8	0.2	0.0	5.6	0.4	6.0
1791	10	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.2	5.3	0.0	2.1
1791	11	5.8	0.0	0.0	0.8	0.0	2.4	0.4	0.1	0.0	2.1	0.0	0.0
1791	12	0.0	0.0	0.0	0.0	3.8	1.7	0.0	0.1	0.0	15.4	0.0	0.0
1791	13	0.0	0.0	0.0	0.0	11.8	0.8	0.2	0.0	0.0	0.0	0.2	0.0
1791	14	0.2	0.0	0.0	0.0	7.7	1.9	5.8	0.0	0.0	0.0	0.0	0.0
1791	15	0.0	0.0	0.0	0.0	1.1	1.1	10.0	0.0	0.0	0.0	21.8	0.6
1791	16	0.0	0.2	0.0	0.6	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9
1791	17	0.0	13.9	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	13.9	4.3
1791	18	12.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	10.2	6.8
1791	19	3.6	7.0	0.0	0.0	0.0	0.2	6.8	4.1	0.0	3.8	0.0	2.8
1791	20	18.8	9.2	0.0	0.0	0.0	6.2	12.2	11.8	24.1	8.3	0.0	8.3
1791	21	10.2	18.2	1.5	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.4	0.0
1791	22	0.0	1.5	0.0	7.7	0.0	0.9	0.0	0.0	0.0	3.0	0.0	8.1
1791	23	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	3.2	0.6	1.9
1791	24	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2	5.1	0.0	0.0	0.0
1791	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
1791	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	10.2	0.0	0.0
1791	27	0.0	0.2	4.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1791	28	6.6	0.0	4.7	0.6	0.8	0.0	0.0	0.0	1.5	0.0	0.0	0.0
1791	29	8.5		0.0	7.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
1791	30	1.5		6.4	11.5	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
1791	31	0.0		0.8		0.1		0.0	0.0		0.0		0.0



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1792	1	0.0	0.4	0.0	0.0	0.0	0.6	17.5	1.9	0.0	9.4	0.1	0.0
1792	2	4.7	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	21.8	0.0	0.0
1792	3	0.0	0.0	0.0	2.4	7.1	0.0	5.6	0.0	0.0	15.6	0.0	0.0
1792	4	4.5	0.0	2.1	0.0	5.1	0.0	0.0	0.0	3.4	3.8	0.0	0.0
1792	5	0.0	0.0	0.0	0.0	7.9	0.0	0.2	9.2	8.8	11.5	0.0	0.0
1792	6	0.0	0.0	0.6	0.0	1.3	0.2	0.0	19.6	0.0	0.0	0.0	0.0
1792	7	0.0	0.0	2.8	0.0	8.7	16.5	0.0	0.2	2.1	0.0	0.0	0.0
1792	8	6.0	3.4	0.0	0.0	1.1	7.0	0.0	0.0	2.6	10.2	0.0	0.0
1792	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0
1792	10	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.6	0.0	0.0
1792	11	7.5	0.0	13.7	0.0	6.4	0.0	0.0	0.0	0.0	5.1	0.0	0.0
1792	12	20.5	0.0	0.8	0.0	0.0	0.2	0.6	0.0	1.7	0.0	0.0	0.0
1792	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1792	14	4.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0
1792	15	0.0	0.0	0.0	1.9	0.0	0.0	0.0	7.0	11.1	0.0	0.0	0.0
1792	16	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0
1792	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0
1792	18	31.0	2.3	0.0	3.4	0.0	7.1	0.0	0.0	5.1	0.0	0.0	0.0
1792	19	0.0	0.4	0.0	6.8	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
1792	20	0.0	0.4	0.2	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1792	21	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	8.8	0.0	0.0	3.8
1792	22	1.9	1.9	5.1	0.0	0.2	20.1	0.0	0.0	0.0	0.0	0.0	0.0
1792	23	1.1	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	18.8	12.8
1792	24	2.6	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	8.7	7.7
1792	25	0.8	0.0	0.0	0.0	0.0	0.4	0.2	0.0	1.1	0.0	24.1	4.5
1792	26	1.7	0.0	0.0	5.6	0.0	24.4	0.0	0.0	0.0	0.0	9.4	5.1
1792	27	5.5	0.0	1.7	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	5.2
1792	28	0.0	0.0	1.3	0.0	4.9	0.0	9.6	0.0	0.0	0.0	0.0	0.0
1792	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1792	30	8.8		0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0
1792	31	3.0		7.9		1.9		0.0	0.0		0.0		0.0
1793	1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.9	0.0
1793	2	0.0	0.0	0.0	1.1	2.6	0.0	0.0	0.2	0.0	0.0	1.5	0.0
1793	3	0.0	0.0	0.0	3.2	6.0	0.0	0.2	3.0	10.0	20.5	0.0	0.0
1793	4	0.0	4.5	0.0	20.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1793	5	0.0	20.3	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1793	6	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	22.6	0.0	0.0	0.0
1793	7	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	16.4	0.0	0.0	0.0
1793	8	0.0	0.0	15.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1793	9	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1793	10	0.0	0.0	0.0	3.8	0.1	0.0	25.9	0.0	0.0	0.0	5.6	0.0
1793	11	0.0	0.0	0.9	3.0	0.0	1.5	0.0	0.0	0.0	0.0	2.1	3.4
1793	12	29.5	0.0	6.8	2.8	0.0	0.6	0.0	0.1	0.0	0.0	0.0	10.3
1793	13	5.5	0.2	0.0	0.6	0.0	1.7	0.0	0.0	0.0	0.0	0.0	23.1
1793	14	32.2	0.0	0.0	0.8	4.7	0.6	0.0	0.0	14.7	0.0	0.0	0.0
1793	15	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
1793	16	4.7	0.0	0.0	2.6	5.6	0.6	0.0	0.0	0.6	0.0	15.0	0.2
1793	17	8.1	0.0	0.0	35.0	0.0	3.6	0.0	0.0	0.6	0.0	0.0	4.1
1793	18	3.2	0.8	4.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1793	19	0.0	8.8	20.3	0.0	4.5	0.0	0.0	0.0	0.0	0.0	4.5	2.3
1793	20	0.0	0.0	21.1	0.0	3.4	0.0	9.0	15.2	15.3	0.0	2.3	2.3
1793	21	0.0	0.0	0.0	0.0	32.0	0.0	13.9	0.0	13.9	0.0	0.4	16.4
1793	22	0.0	0.0	0.0	0.0	19.9	0.0	0.8	0.0	0.0	0.0	0.0	0.6
1793	23	0.0	0.0	10.3	0.0	0.2	2.4	0.0	0.0	1.7	0.0	0.0	3.4
1793	24	0.0	0.0	12.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.8	11.8
1793	25	0.0	0.0	11.8	16.9	0.0	2.1	0.0	0.2	0.0	0.0	0.4	0.2
1793	26	0.0	0.0	11.1	5.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1793	27	0.0	0.0	7.1	1.7	10.7	0.1	0.0	0.0	2.1	0.0	0.0	0.0
1793	28	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	26.3	3.8	0.0	0.0
1793	29	0.0		0.0	1.7	0.9	0.0	14.7	5.1	1.1	11.8	0.0	6.8
1793	30	0.0		0.0	0.0	8.3	0.0	16.2	0.0	0.0	1.1	0.0	28.6
1793	31	0.0		0.0		18.8		0.0	3.0		1.3		3.8

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1794	1	4.3	0.0	0.0	0.0	0.0	2.6	4.5	0.0	0.0	0.0	0.0	0.0
1794	2	3.2	0.0	0.0	0.0	0.0	5.6	37.0	0.0	0.0	1.9	0.1	0.0
1794	3	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	4.9	1.7	1.3	0.0
1794	4	0.0	0.0	0.0	3.6	0.0	0.8	0.0	18.8	0.0	0.0	0.0	0.0
1794	5	0.0	0.0	0.0	0.0	0.0	3.4	4.5	23.7	0.2	3.0	0.0	0.0
1794	6	5.5	0.0	0.0	0.0	0.0	17.5	0.0	0.0	1.9	2.6	0.0	0.0
1794	7	10.5	0.0	0.0	0.0	3.4	15.8	0.0	0.0	13.5	35.9	0.0	0.1
1794	8	0.0	0.0	0.0	13.7	10.9	0.0	0.0	15.2	29.1	1.1	0.0	0.0
1794	9	0.2	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.5
1794	10	10.5	0.0	0.0	0.6	1.5	0.0	0.0	0.9	0.0	0.0	0.0	5.8
1794	11	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0
1794	12	12.0	0.0	0.0	0.0	0.2	0.0	4.7	0.0	0.0	0.0	0.0	0.0
1794	13	10.2	0.0	1.9	0.0	0.0	0.0	0.0	0.0	1.1	23.9	0.0	0.0
1794	14	1.1	0.0	3.4	0.2	0.0	0.0	18.8	0.0	14.7	12.8	0.0	0.0
1794	15	0.0	0.0	0.0	2.8	0.0	0.0	0.2	0.0	25.9	0.0	0.0	0.0
1794	16	0.0	0.0	0.0	0.0	0.0	0.0	2.1	15.0	23.9	0.0	0.0	0.0
1794	17	0.0	0.0	0.0	0.0	0.0	10.9	0.0	18.2	0.0	0.0	0.0	0.0
1794	18	0.0	0.0	0.0	0.0	0.1	0.0	0.0	4.3	5.5	6.6	0.0	0.0
1794	19	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0
1794	20	0.0	0.0	0.0	0.0	0.0	0.2	0.0	15.0	0.0	0.0	0.0	0.0
1794	21	0.0	0.0	0.0	0.0	0.2	55.5	0.0	15.2	1.9	0.0	8.5	21.6
1794	22	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	15.0	0.0
1794	23	0.0	0.0	0.0	0.2	18.1	0.0	0.0	0.0	0.0	0.0	6.0	0.0
1794	24	0.0	0.0	0.0	0.2	1.1	0.0	0.0	0.0	3.8	7.0	4.0	27.5
1794	25	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	12.4	15.0	32.3	18.2
1794	26	0.0	0.0	0.0	0.0	10.3	16.5	0.0	0.0	6.4	0.0	5.6	5.6
1794	27	0.0	0.0	0.0	0.0	4.9	37.0	0.0	0.0	7.5	0.1	0.0	0.0
1794	28	0.0	0.1	0.0	0.0	0.2	20.7	0.0	0.0	2.6	2.4	36.9	1.9
1794	29	3.6		1.3	0.0	0.2	1.7	0.0	0.0	0.9	1.5	0.0	4.1
1794	30	2.6		10.0	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0	0.0
1794	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1795	1	0.0	0.0	6.6	0.2	0.0	0.0	1.5	0.0	41.4	0.0	0.9	0.0
1795	2	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	4.0	0.0	2.3	0.0
1795	3	0.0	0.0	0.0	1.7	0.0	0.0	0.2	0.0	19.0	5.8	1.9	0.0
1795	4	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	17.5	11.7	6.0	0.0
1795	5	0.0	0.0	0.0	0.4	0.0	0.0	0.9	0.0	16.5	0.0	0.0	0.0
1795	6	0.0	0.0	0.0	5.5	0.0	0.0	3.8	0.0	0.0	6.0	0.0	0.0
1795	7	0.0	4.5	0.8	4.3	0.0	8.7	0.0	0.0	0.0	9.0	0.0	0.0
1795	8	0.0	0.0	0.6	6.2	0.0	0.0	2.4	0.0	0.0	23.5	0.0	0.1
1795	9	0.0	0.0	0.0	0.0	8.1	0.2	3.0	0.0	0.0	25.4	0.0	0.0
1795	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	32.7	0.0	0.0
1795	11	0.0	13.2	0.0	0.0	10.2	5.6	15.8	0.0	0.0	2.8	0.2	0.0
1795	12	0.2	15.2	0.0	0.0	0.0	0.0	42.8	0.0	0.0	13.2	0.0	0.0
1795	13	0.0	1.9	0.2	0.0	0.0	0.0	0.6	0.4	0.0	0.0	0.0	0.0
1795	14	0.0	0.0	10.9	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.8	2.0
1795	15	0.2	12.8	1.3	0.0	0.0	5.1	22.2	0.0	0.0	12.8	0.0	0.2
1795	16	0.0	0.0	3.8	0.0	0.0	0.0	8.1	5.8	0.0	0.0	0.0	0.0
1795	17	3.0	0.0	9.8	0.0	0.0	0.0	0.0	3.8	0.0	0.0	1.7	0.0
1795	18	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	2.6
1795	19	3.2	7.3	0.0	15.1	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.2
1795	20	0.0	0.4	0.0	0.6	0.0	7.3	0.0	0.0	0.0	0.0	25.4	1.7
1795	21	2.3	0.0	0.0	2.8	0.0	0.0	12.4	0.0	0.0	0.0	16.5	0.0
1795	22	0.4	1.9	0.0	0.4	0.0	0.2	50.8	10.2	0.0	0.8	10.2	0.0
1795	23	16.4	2.1	1.3	0.0	0.0	0.2	17.7	0.0	0.0	8.8	0.2	6.6
1795	24	3.0	7.5	0.0	0.0	0.0	0.5	7.0	0.0	0.0	0.0	1.3	0.0
1795	25	0.0	1.5	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	5.3	0.0
1795	26	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	8.7	2.8
1795	27	0.0	18.4	0.6	0.0	12.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1795	28	0.0	9.4	0.0	0.0	18.4	18.8	0.0	0.0	0.0	0.0	0.0	0.0
1795	29	0.0		0.0	0.0	0.0	17.1	0.0	7.5	0.0	0.0	6.6	0.0
1795	30	0.0		0.0	0.0	0.9	3.8	0.0	12.4	0.0	2.4	0.0	0.0
1795	31	0.0		0.4		0.0		0.0	26.1		0.0		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1796	1	0.0	3.8	20.7	0.0	7.9	0.0	1.5	0.4	1.9	0.0	0.0	0.0
1796	2	0.0	4.7	5.1	0.0	36.9	5.8	12.8	0.0	42.9	0.0	0.0	0.0
1796	3	0.0	0.8	1.7	0.0	19.4	7.9	0.0	0.0	0.0	0.0	0.0	0.0
1796	4	0.0	0.0	0.0	0.2	2.1	0.2	5.6	8.1	3.4	0.0	8.3	0.0
1796	5	0.0	0.0	0.1	1.5	36.9	0.8	0.0	5.1	0.0	0.0	0.0	0.0
1796	6	0.2	0.6	0.0	0.0	7.7	0.0	0.0	0.0	0.0	37.2	0.9	19.0
1796	7	0.2	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1796	8	0.6	11.3	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	1.3	0.0
1796	9	18.2	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5
1796	10	4.7	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1796	11	0.4	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0
1796	12	0.0	0.0	0.0	1.7	0.0	0.0	0.8	0.0	4.3	0.0	14.7	0.0
1796	13	0.2	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.7	0.0
1796	14	0.2	0.0	0.0	0.0	13.2	7.0	0.0	0.0	0.0	0.0	0.4	0.0
1796	15	0.2	0.0	0.0	0.0	0.0	2.4	0.0	0.1	0.0	0.0	0.0	0.0
1796	16	0.2	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0
1796	17	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1796	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0
1796	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5	1.1	18.1
1796	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0
1796	21	0.0	0.0	0.0	0.0	4.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0
1796	22	0.0	0.0	0.0	3.8	7.5	0.0	0.0	0.0	54.1	0.0	0.0	0.0
1796	23	0.0	2.3	0.0	0.9	1.1	4.5	0.0	0.0	20.7	8.1	0.0	15.8
1796	24	0.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	13.2	39.5	8.3	0.0
1796	25	0.0	0.0	0.0	4.7	17.9	0.0	0.0	0.0	17.3	4.3	14.5	24.4
1796	26	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5
1796	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
1796	28	4.1	9.8	10.3	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0
1796	29	2.3	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.8
1796	30	3.8		0.0	0.9	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1796	31	5.1		0.2		0.1		0.0	0.0		0.0		0.0
1797	1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.1	0.0
1797	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	4.1	2.9
1797	3	0.0	0.0	0.0	9.0	0.0	0.1	0.0	0.0	2.8	0.0	0.0	0.1
1797	4	0.0	0.0	0.2	11.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
1797	5	0.0	0.0	0.1	0.2	0.0	0.2	0.0	5.1	5.6	0.0	0.4	0.0
1797	6	0.0	0.0	0.0	0.2	0.0	4.7	0.2	8.8	2.3	16.9	1.5	0.0
1797	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9	0.0
1797	8	0.0	0.0	0.0	0.0	0.8	14.1	0.0	0.0	0.0	0.0	0.0	0.0
1797	9	0.0	0.0	0.0	0.0	16.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1797	10	0.0	0.0	18.2	0.0	16.7	7.0	0.0	0.0	10.2	0.0	0.0	4.6
1797	11	0.0	0.0	13.5	2.3	5.8	0.0	0.2	0.0	1.3	15.2	0.0	0.0
1797	12	0.0	0.0	0.0	0.0	2.1	0.0	4.0	0.0	0.0	0.8	0.0	4.1
1797	13	2.1	0.2	2.6	27.1	3.6	10.7	0.0	0.0	0.0	2.4	0.0	0.0
1797	14	0.9	0.4	0.0	10.3	0.4	11.3	9.6	0.0	0.0	0.0	0.0	6.8
1797	15	0.0	8.5	0.0	0.0	0.4	6.2	0.0	0.0	10.2	0.0	0.0	0.1
1797	16	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.7
1797	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1797	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1797	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
1797	20	0.0	0.0	0.9	4.9	0.0	0.0	1.9	0.0	15.2	8.4	1.3	0.0
1797	21	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	10.2	1.3	3.0	0.0
1797	22	0.0	0.0	0.0	0.6	0.0	0.2	3.6	2.3	0.2	18.8	15.4	0.0
1797	23	0.0	0.0	0.0	0.6	0.2	0.2	0.0	0.0	10.5	12.0	2.3	0.0
1797	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	22.8	0.6	0.0
1797	25	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0
1797	26	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0
1797	27	9.0	0.8	0.0	7.9	0.0	0.0	0.0	0.0	0.6	6.0	0.0	0.0
1797	28	5.5	0.0	16.0	3.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1797	29	6.0		23.3	8.5	6.2	0.1	0.0	0.0	2.1	3.6	0.0	0.0
1797	30	5.1		0.0	2.3	2.1	11.5	0.0	0.0	0.0	2.3	0.0	0.0
1797	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1798	1	0.0	0.1	0.0	0.0	0.0	37.6	0.0	0.0	0.0	0.0	8.1	0.0
1798	2	0.0	0.0	0.0	0.0	0.0	0.1	4.1	1.9	0.0	0.0	0.0	0.0
1798	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1798	4	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	3.0	13.2	0.0
1798	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	0.0	2.1	0.9	0.0
1798	6	0.8	0.0	0.0	0.0	0.0	0.4	5.6	0.0	15.4	0.0	0.0	0.0
1798	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
1798	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	3.0	0.0	12.4	0.0
1798	9	0.6	0.0	0.0	0.1	0.0	2.3	0.0	13.7	0.0	0.0	0.6	0.0
1798	10	0.0	0.0	0.0	1.7	0.0	0.0	0.0	3.7	17.3	0.0	0.1	0.2
1798	11	3.8	0.0	3.9	0.0	0.0	14.2	0.0	5.6	0.0	0.0	0.0	0.0
1798	12	0.0	0.0	8.7	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	10.5
1798	13	0.0	0.0	1.3	0.0	0.0	0.1	0.8	0.0	17.7	0.0	15.1	5.7
1798	14	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0	0.5
1798	15	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.2	0.0
1798	16	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1798	17	0.0	6.8	4.5	0.0	0.0	0.5	0.0	0.0	0.0	0.9	0.0	16.0
1798	18	0.0	6.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5
1798	19	10.5	0.1	7.4	15.1	0.0	3.0	0.0	0.0	0.0	2.8	7.0	0.0
1798	20	0.4	0.0	4.0	17.9	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0
1798	21	0.0	0.0	6.3	23.1	10.7	6.0	0.0	0.6	0.0	0.0	0.0	0.0
1798	22	0.0	0.0	11.5	0.9	2.6	26.1	0.0	0.0	0.0	0.0	2.2	0.0
1798	23	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0
1798	24	0.0	0.0	0.0	0.0	0.5	14.3	26.3	0.0	0.0	0.0	28.8	0.0
1798	25	0.0	0.0	0.0	0.1	0.0	0.0	7.7	0.0	0.0	0.0	0.8	0.0
1798	26	0.0	6.6	27.3	0.0	13.2	0.4	0.0	4.9	0.0	0.0	1.1	1.5
1798	27	0.0	0.0	7.0	0.0	0.5	0.6	10.0	0.0	16.4	0.0	0.0	0.0
1798	28	0.0	0.0	0.9	0.0	0.0	0.8	0.8	0.0	0.0	7.7	0.0	19.7
1798	29	0.0		0.0	0.0	0.0	0.4	0.0	0.0	35.3	20.7	2.1	31.6
1798	30	0.0		0.0	0.0	0.0	13.3	2.6	0.0	0.0	1.5	0.1	22.2
1798	31	0.0		0.0		0.0		0.0	4.9		7.6		8.3
1799	1	0.0	3.8	0.0	5.5	32.5	0.0	0.8	0.0	20.3	0.0	0.6	0.0
1799	2	0.0	7.5	0.0	10.2	24.4	38.7	0.0	0.0	0.0	0.0	1.7	23.5
1799	3	0.0	0.6	0.0	7.0	24.9	0.0	12.0	0.0	0.0	8.5	0.0	10.8
1799	4	0.0	0.9	0.0	3.6	0.2	0.0	4.5	0.0	0.0	0.0	0.0	0.0
1799	5	0.0	12.2	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	6.8	0.0
1799	6	0.0	0.9	4.1	15.4	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0
1799	7	0.0	0.0	26.3	0.0	0.0	47.6	0.0	0.0	0.4	0.0	0.0	0.0
1799	8	0.0	0.0	26.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1799	9	0.0	0.0	0.0	0.0	48.9	0.0	0.0	3.4	0.0	0.0	21.4	0.0
1799	10	0.0	0.0	14.7	0.0	11.1	13.7	3.4	0.6	10.0	0.0	5.1	0.0
1799	11	0.0	0.0	0.0	3.4	20.3	0.0	0.3	0.4	0.0	0.0	0.0	0.0
1799	12	0.0	28.8	0.0	27.7	14.7	4.0	2.1	0.0	0.0	0.0	0.0	0.0
1799	13	0.0	0.0	0.0	10.7	0.0	1.7	3.4	0.0	18.1	0.0	0.0	0.0
1799	14	0.0	0.0	0.0	10.5	0.6	13.7	9.2	0.0	1.7	0.0	0.0	0.0
1799	15	0.0	0.0	0.0	3.5	0.6	0.0	0.0	0.0	0.0	35.7	0.0	0.0
1799	16	0.0	0.0	24.0	13.7	0.0	0.0	4.3	8.5	0.0	0.0	0.0	0.0
1799	17	0.0	1.7	0.8	2.6	0.0	49.8	5.3	0.0	0.0	0.0	0.0	0.0
1799	18	0.0	0.0	0.0	0.4	1.7	0.0	2.1	5.8	0.0	19.9	0.4	0.0
1799	19	0.0	0.0	0.0	8.1	1.5	0.0	1.1	1.7	0.4	0.0	0.0	8.9
1799	20	0.0	0.0	0.0	0.0	8.5	0.0	0.0	3.0	1.7	6.8	0.0	0.0
1799	21	0.0	0.2	0.0	3.8	4.7	15.0	1.5	0.0	0.0	13.5	0.0	5.5
1799	22	0.0	0.1	0.0	10.7	0.0	0.0	0.0	0.0	1.1	0.0	0.0	4.1
1799	23	0.0	0.1	0.0	12.8	0.0	0.0	0.0	0.0	2.6	0.0	0.0	6.4
1799	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	27.1	0.0	0.9
1799	25	2.4	0.0	0.0	0.0	4.5	0.0	0.0	15.6	0.0	19.4	0.0	0.0
1799	26	3.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	4.0	0.0	0.0
1799	27	0.0	0.0	16.2	5.9	0.0	22.8	0.0	0.0	0.0	4.0	0.0	0.0
1799	28	0.0	0.0	1.5	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0
1799	29	0.0		0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1799	30	0.0		0.0	0.0	0.0	0.0	0.4	0.0	8.7	0.0	0.0	0.0
1799	31	0.0		10.0		0.0		0.0	0.0		7.7		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1800	1	0.0	0.0	0.0	1.5	1.9	6.2	1.7	0.0	6.2	12.2	32.0	0.0
1800	2	0.0	0.0	0.0	0.0	0.6	8.3	2.1	0.0	3.8	0.0	23.5	0.0
1800	3	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	7.9	0.0	0.0	3.4
1800	4	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	5.5	5.1
1800	5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	5.8	6.4
1800	6	21.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6
1800	7	10.2	0.0	22.4	0.0	0.0	4.5	0.0	0.0	0.4	0.4	0.0	0.4
1800	8	4.2	0.0	1.5	0.0	0.0	0.0	0.0	22.6	0.0	0.9	0.0	0.0
1800	9	13.7	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	4.0
1800	10	11.1	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	7.3	0.0	8.7
1800	11	0.0	0.0	0.0	2.8	0.0	8.8	0.0	0.0	0.6	0.0	0.0	0.9
1800	12	7.5	0.0	0.0	1.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1800	13	13.7	8.1	0.0	0.0	12.0	1.1	0.0	0.0	0.0	0.0	12.4	13.7
1800	14	0.0	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	0.0	12.0	16.9
1800	15	3.6	22.2	0.0	0.0	0.0	30.1	5.8	0.0	0.0	0.0	0.0	1.3
1800	16	0.4	0.9	0.0	0.0	0.0	0.0	0.4	0.0	0.0	2.6	0.0	0.0
1800	17	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0.0
1800	18	0.0	0.0	0.0	0.0	2.6	26.3	0.0	0.0	0.0	0.0	0.0	0.0
1800	19	12.2	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	2.1	0.0
1800	20	4.5	0.0	0.0	0.1	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0
1800	21	3.6	0.0	0.0	0.0	0.0	0.0	3.0	0.0	16.7	0.0	0.0	0.0
1800	22	7.1	0.7	0.0	0.0	0.0	3.8	0.0	3.7	0.0	2.8	0.0	0.0
1800	23	27.3	26.1	0.0	0.0	0.0	0.0	7.3	2.3	0.0	19.2	0.0	0.0
1800	24	3.6	4.0	0.0	0.1	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	25	7.3	0.8	0.0	1.9	0.0	0.0	0.0	7.0	0.6	0.0	0.0	21.1
1800	26	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.4
1800	27	0.0	13.2	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	5.6	6.8
1800	28	0.0	0.9	0.0	0.0	0.0	53.8	0.0	0.0	0.0	0.0	4.7	0.0
1800	29	0.4		0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0
1800	30	13.2		7.9	0.0	1.4	24.6	0.0	16.7	0.0	0.0	10.3	0.0
1800	31	23.7		8.7		11.9		0.0	0.0		0.0		2.1
1801	1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	31.8	3.6	0.0	0.0
1801	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	21.1
1801	3	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	6.2	10.5	0.0	5.3
1801	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0
1801	5	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
1801	6	0.0	0.0	0.0	7.0	0.0	3.4	0.0	0.0	0.0	0.0	9.6	5.6
1801	7	0.0	0.0	0.0	6.6	0.0	0.0	0.0	6.6	9.0	26.3	5.1	11.4
1801	8	0.0	0.0	0.0	0.0	2.4	6.1	0.0	0.0	0.0	17.5	3.8	0.0
1801	9	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	5.5	0.0
1801	10	0.8	0.0	0.0	0.0	1.1	0.0	14.3	7.9	8.7	0.0	7.0	2.1
1801	11	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	7.5	2.6	0.0
1801	12	0.0	8.7	8.0	1.7	0.0	3.6	0.0	0.0	4.5	0.0	56.0	0.0
1801	13	0.0	0.0	1.9	7.8	0.0	14.3	0.0	0.0	0.0	0.0	6.6	0.0
1801	14	0.0	0.0	0.1	5.8	0.7	1.7	0.0	0.0	0.0	0.0	0.0	7.7
1801	15	0.0	27.6	0.0	0.0	0.0	11.7	7.8	6.8	0.0	0.0	0.0	18.2
1801	16	0.0	32.9	0.8	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0
1801	17	3.6	1.6	0.7	0.0	2.3	0.0	2.9	0.0	0.0	0.0	0.0	6.6
1801	18	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.4
1801	19	0.0	0.9	6.6	0.0	0.0	1.3	0.0	0.0	39.3	0.0	9.0	0.0
1801	20	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	22.9	5.1	3.0	0.0
1801	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	1.1	0.2	0.0
1801	22	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0
1801	23	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	20.3	11.7	0.0	0.0
1801	24	20.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	5.6	32.5	0.0	0.0
1801	25	0.0	0.0	6.0	0.0	0.0	5.3	0.0	0.0	0.0	14.1	0.0	0.0
1801	26	1.0	0.0	0.0	0.0	0.0	0.9	31.2	0.0	14.1	0.8	0.0	0.0
1801	27	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.1	3.0
1801	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	1.9
1801	29	0.0		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1801	30	0.0		0.0	0.0	15.4	2.6	0.0	0.0	0.0	0.0	2.1	0.0
1801	31	0.0		0.0		0.6		0.0	0.0		0.0		1.7

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1802	1	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	18.6
1802	2	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1802	3	0.0	0.0	11.8	0.0	0.0	5.5	0.0	17.1	0.0	0.0	0.0	0.0
1802	4	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.9	5.8
1802	5	5.5	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
1802	6	24.1	3.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1802	7	8.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1802	8	0.8	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0
1802	9	0.4	5.2	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	0.2
1802	10	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	17.1	0.0	0.0	3.8
1802	11	7.9	24.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
1802	12	0.8	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.8	0.0	0.0	21.4
1802	13	3.8	48.3	0.0	34.0	0.0	0.0	5.3	0.0	0.8	3.0	32.0	0.0
1802	14	0.0	51.9	30.3	0.2	0.0	0.0	7.5	0.0	0.0	23.3	6.8	0.0
1802	15	0.0	0.4	0.0	0.0	68.4	0.1	0.2	0.0	0.0	9.6	0.0	0.1
1802	16	0.0	0.0	0.0	0.0	21.4	0.0	8.7	0.0	0.0	0.0	31.0	2.3
1802	17	0.0	0.0	0.0	0.0	15.4	0.0	0.6	0.0	0.0	1.5	36.7	0.0
1802	18	0.0	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0	2.4	0.0
1802	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0
1802	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0
1802	21	0.0	3.8	1.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.8	0.0
1802	22	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	8.1	24.1	0.0
1802	23	0.0	0.0	0.6	0.0	0.0	8.7	0.0	0.0	0.0	0.0	14.1	30.8
1802	24	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	7.5	20.5
1802	25	0.0	3.2	0.0	0.0	0.0	0.9	0.0	0.0	0.0	5.5	0.4	6.0
1802	26	0.0	5.7	0.0	0.0	0.0	0.0	0.0	8.3	0.0	41.6	10.7	7.2
1802	27	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0
1802	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	7.0	9.6
1802	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.4	0.0	18.6
1802	30	0.0		0.0	0.0	5.0	3.4	0.0	0.0	0.0	15.2	0.0	0.0
1802	31	0.0		0.0		3.2		0.0	0.0		13.2		2.6
1803	1	3.6	0.0	0.1	0.1	0.0	0.0	0.0	0.0	19.7	8.1	13.2	0.0
1803	2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0
1803	3	1.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	30.5	7.1	0.0
1803	4	3.8	10.2	8.2	0.0	20.5	0.0	0.0	0.2	0.0	1.9	0.0	2.4
1803	5	0.0	0.0	15.4	0.1	0.0	0.0	0.0	0.0	0.0	3.8	0.0	26.3
1803	6	0.0	0.0	12.4	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	18.6
1803	7	0.0	0.0	9.6	0.0	14.8	0.1	24.2	0.0	0.0	5.6	18.1	9.6
1803	8	0.0	63.2	9.0	0.0	1.3	0.0	4.3	5.8	0.0	0.0	6.4	0.0
1803	9	0.8	0.0	1.7	0.0	1.5	0.0	0.0	0.0	0.0	0.0	11.5	3.4
1803	10	7.3	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	16.0	0.0
1803	11	22.4	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	2.1	0.0
1803	12	13.2	0.0	0.1	0.0	0.0	0.0	4.7	5.5	0.0	0.0	0.0	0.0
1803	13	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
1803	14	0.0	0.0	0.0	0.0	3.8	0.1	45.5	0.0	0.0	0.0	0.0	0.0
1803	15	0.0	0.0	0.0	0.0	0.0	0.0	76.1	0.0	0.0	0.2	0.0	9.6
1803	16	1.5	0.0	2.1	0.0	16.5	7.5	0.0	0.0	0.0	1.9	0.2	20.2
1803	17	0.0	0.0	0.0	0.0	9.2	0.0	0.3	0.0	1.7	0.0	20.3	0.4
1803	18	3.2	0.0	0.0	0.0	7.5	0.0	0.0	0.0	13.2	0.0	0.2	0.0
1803	19	19.7	0.0	0.0	0.0	3.0	0.0	0.0	26.9	1.5	0.0	0.4	0.4
1803	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.1	1.5	0.0	4.0	0.0
1803	21	7.3	4.1	0.0	0.0	0.1	0.0	0.0	5.3	12.0	0.0	0.0	34.7
1803	22	0.9	0.2	0.0	0.0	0.0	6.6	0.0	5.3	0.0	0.0	2.8	23.3
1803	23	16.7	0.0	0.0	1.3	0.0	22.9	2.4	0.0	0.0	0.0	0.0	0.0
1803	24	0.0	0.0	0.0	0.0	0.0	5.2	5.6	0.0	0.0	0.0	0.0	0.0
1803	25	0.0	0.0	0.0	0.4	3.0	0.8	5.4	0.0	0.0	0.0	0.0	0.0
1803	26	2.1	0.0	0.0	0.0	0.0	0.7	16.0	0.0	0.0	0.0	0.0	0.0
1803	27	10.2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4.5	0.0	0.0	0.0
1803	28	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
1803	29	13.2		0.0	8.7	0.0	0.0	16.9	0.0	0.0	0.0	0.0	0.0
1803	30	8.3		0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1803	31	0.0		0.0		0.0		0.0	0.0		0.2		0.6



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1804	1	0.0	0.0	34.2	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	23.5
1804	2	1.1	0.0	0.0	0.0	0.7	0.0	0.0	0.2	0.4	0.0	0.0	7.7
1804	3	10.2	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.4	2.3	0.0	0.0
1804	4	3.6	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.2	0.0	0.0
1804	5	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1804	6	0.9	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2
1804	7	10.5	0.0	0.0	1.5	0.0	8.1	0.0	0.0	0.0	0.0	0.0	21.6
1804	8	16.0	0.0	0.0	0.0	0.0	4.7	25.6	0.0	1.5	0.2	23.7	
1804	9	9.8	0.0	0.0	0.0	20.7	16.9	0.6	0.0	0.0	13.7	21.1	8.8
1804	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	0.0	5.1	0.0	0.9
1804	11	0.0	0.0	0.8	9.2	0.0	6.6	9.4	7.0	0.0	0.2	0.0	0.4
1804	12	0.0	27.1	0.0	3.0	14.3	0.0	6.4	0.8	0.0	3.4	0.0	0.2
1804	13	0.0	2.6	0.0	10.3	0.0	0.0	0.0	14.7	0.0	21.2	0.0	0.0
1804	14	5.2	2.6	0.0	0.0	0.0	40.0	0.0	0.0	0.0	6.6	0.0	3.0
1804	15	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1804	16	0.0	0.0	0.0	36.1	0.0	0.0	0.0	0.0	0.0	38.4	13.9	0.0
1804	17	15.4	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2.3	0.0
1804	18	18.7	0.0	0.1	0.0	16.9	16.0	0.0	17.5	0.0	0.0	0.0	8.1
1804	19	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1804	20	0.0	0.0	3.4	12.8	0.1	0.0	10.3	8.5	0.0	0.0	0.0	0.0
1804	21	15.6	0.0	0.0	2.6	15.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0
1804	22	0.0	0.0	12.6	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1804	23	0.0	0.0	0.8	0.0	0.0	0.0	1.5	0.2	0.0	8.1	0.0	8.1
1804	24	0.0	0.0	0.9	0.0	0.0	0.0	5.1	0.0	0.0	8.1	0.2	0.0
1804	25	0.0	0.0	12.2	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
1804	26	9.0	0.0	2.3	3.4	0.0	0.0	0.5	0.0	0.0	0.0	20.3	0.0
1804	27	17.9	0.0	20.1	0.0	0.0	0.0	0.1	0.0	0.0	3.2	0.8	17.1
1804	28	8.7	0.0	31.6	0.0	0.4	0.0	0.0	0.0	0.0	21.8	3.4	0.8
1804	29	0.0	5.6	0.4	0.0	8.1	3.0	0.0	0.0	0.0	0.0	0.0	17.3
1804	30	0.0		0.0	0.0	0.0	0.0	0.3	0.0	0.0	7.5	9.6	0.4
1804	31	0.0		0.0		0.0		17.3	0.0		4.5		8.7
1805	1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	0.0	0.0	2.3
1805	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	0.0	0.0	0.2
1805	3	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	8.5	0.0	0.0	0.0
1805	4	0.0	0.0	0.0	5.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1805	5	0.0	0.0	0.0	2.1	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1805	6	0.0	4.1	0.0	13.4	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
1805	7	0.0	0.2	0.6	1.7	0.0	0.0	3.8	1.8	0.0	0.0	0.0	0.0
1805	8	0.0	0.0	0.0	8.7	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
1805	9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1805	10	0.0	0.0	0.6	0.0	33.7	0.0	15.2	0.0	0.0	0.0	0.0	2.8
1805	11	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0
1805	12	0.0	1.5	5.1	0.0	0.0	0.0	21.2	0.0	0.0	17.3	0.0	0.0
1805	13	0.0	0.0	0.0	0.0	52.5	0.0	0.2	8.5	0.0	6.6	0.0	0.0
1805	14	4.1	0.0	0.0	0.0	19.9	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1805	15	15.2	0.0	0.0	7.0	0.0	0.0	38.5	65.2	0.0	0.0	0.0	0.0
1805	16	0.0	0.0	0.0	0.8	0.0	0.8	0.0	0.0	0.0	2.1	0.0	0.0
1805	17	0.0	0.0	0.0	0.0	1.1	7.7	0.0	0.0	0.0	2.4	0.0	0.0
1805	18	0.0	0.0	0.0	0.2	0.0	38.9	0.0	1.5	0.0	0.0	0.0	0.0
1805	19	0.0	18.1	0.0	4.5	16.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0
1805	20	0.0	8.8	0.0	0.8	0.2	17.7	0.0	27.1	0.0	0.0	0.0	0.0
1805	21	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1805	22	10.2	0.0	0.0	5.1	0.0	9.4	0.0	3.0	0.0	0.0	0.0	10.7
1805	23	0.0	0.8	0.0	0.0	2.6	0.0	0.0	0.0	3.0	0.0	0.0	10.5
1805	24	19.7	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	1.1
1805	25	1.5	0.0	0.0	5.1	0.0	2.1	0.0	0.0	3.2	49.4	0.0	0.0
1805	26	0.0	0.0	0.1	5.3	0.0	1.9	0.0	0.0	0.0	0.2	0.0	0.0
1805	27	1.9	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	8.5
1805	28	8.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	10.5
1805	29	0.6		0.0	0.0	0.0	11.7	0.0	0.0	0.0	3.0	1.5	0.6
1805	30	25.2		0.0	0.0	0.0	0.6	0.0	0.0	3.0	0.8	0.0	0.0
1805	31	5.6		0.0		2.3		0.0	0.0		0.2		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1806	1	0.0	3.0	0.0	5.8	0.0	6.0	0.0	0.0	37.8	31.8	0.0	0.2
1806	2	1.7	13.9	0.0	0.0	0.0	0.8	0.0	0.0	7.3	10.2	0.0	0.2
1806	3	22.2	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0
1806	4	0.0	0.0	0.0	0.0	0.1	11.1	0.0	0.0	0.0	0.8	32.7	0.0
1806	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	35.9	0.0
1806	6	0.0	0.0	0.0	6.6	0.0	0.0	0.8	0.0	0.0	0.0	1.9	0.0
1806	7	0.0	0.0	0.0	0.0	0.0	0.0	23.5	6.2	0.0	0.0	0.0	0.0
1806	8	0.0	0.4	0.0	0.0	32.2	0.0	0.0	0.0	0.0	0.0	0.0	5.5
1806	9	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.7
1806	10	0.0	0.0	2.1	0.2	3.3	0.0	0.0	0.0	7.0	0.0	0.0	7.3
1806	11	13.5	0.0	5.5	14.3	2.1	0.0	2.4	0.2	0.0	0.0	0.0	0.0
1806	12	0.0	0.0	0.0	1.7	0.0	0.4	0.0	1.3	13.4	0.0	0.0	0.1
1806	13	0.0	0.6	16.2	22.6	0.0	0.0	16.9	80.3	0.0	0.0	0.0	0.0
1806	14	0.0	41.0	0.0	3.9	0.0	0.4	0.0	4.1	0.0	0.0	0.0	0.0
1806	15	0.0	19.4	5.4	8.8	0.0	0.0	0.0	10.2	18.8	0.0	0.0	0.0
1806	16	0.0	1.5	1.9	3.0	0.0	0.0	0.0	3.0	12.8	5.5	0.0	0.0
1806	17	0.0	0.0	0.0	1.7	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0
1806	18	1.7	0.0	11.3	0.9	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1806	19	0.3	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
1806	20	0.0	0.0	15.4	0.0	0.0	0.0	4.9	0.0	0.0	4.3	1.0	0.0
1806	21	0.0	0.0	0.4	0.8	17.3	0.0	2.3	0.0	0.0	0.0	1.9	8.1
1806	22	0.0	0.0	0.0	12.6	4.5	20.7	0.0	15.2	0.0	0.0	1.9	0.2
1806	23	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.9	17.7	0.0
1806	24	0.0	0.0	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0
1806	25	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1806	26	0.4	0.0	22.7	9.2	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0
1806	27	3.4	0.0	5.5	4.1	0.0	0.0	0.6	0.0	3.6	0.0	0.0	0.0
1806	28	0.4	0.0	0.0	1.5	0.0	0.0	1.1	0.0	0.0	0.0	0.2	0.0
1806	29	5.1		4.9	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1806	30	2.4		0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.0
1806	31	0.0		0.0		5.5		0.0	33.1		0.0		0.0
1807	1	0.2	8.1	0.0	0.2	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.6
1807	2	0.0	0.0	0.0	5.1	0.0	0.0	6.8	42.1	3.6	0.0	0.0	0.0
1807	3	0.0	0.0	0.0	6.8	0.0	4.2	17.7	1.5	0.0	0.0	0.0	1.9
1807	4	0.0	8.7	0.0	0.2	0.0	4.0	0.0	0.0	0.0	0.0	16.7	0.0
1807	5	0.0	0.0	1.1	16.7	0.0	0.8	0.0	6.0	30.5	0.0	23.5	0.0
1807	6	0.0	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	5.6	0.0
1807	7	0.0	0.0	9.4	0.0	11.8	0.0	0.0	0.0	8.8	0.0	0.0	16.7
1807	8	0.0	0.0	13.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1807	9	0.0	0.0	6.6	0.0	0.0	25.2	7.1	0.0	0.0	0.0	0.4	0.4
1807	10	0.0	0.4	9.6	0.0	4.7	5.5	0.0	0.0	0.0	0.0	10.3	9.8
1807	11	0.0	0.0	5.5	0.0	40.8	0.0	0.0	0.0	0.0	0.0	2.1	0.0
1807	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0
1807	13	0.0	0.0	11.5	0.0	1.2	7.0	0.0	0.0	0.0	0.0	12.4	0.0
1807	14	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.7	13.2	0.0	0.0	0.0
1807	15	0.0	0.0	0.0	36.9	0.0	0.0	0.0	13.0	32.0	0.0	0.0	0.0
1807	16	0.0	0.0	0.0	0.2	0.0	0.0	0.0	5.3	0.6	0.0	30.5	0.0
1807	17	0.0	0.2	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1807	18	0.0	12.0	0.0	32.7	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0
1807	19	7.3	0.0	0.0	1.9	2.1	0.0	45.9	0.0	0.0	0.2	0.9	0.0
1807	20	0.0	0.0	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	7.1	0.0
1807	21	16.0	0.0	0.0	0.0	0.0	10.2	0.0	24.8	0.0	0.0	4.5	0.0
1807	22	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1	0.0
1807	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.8	5.8	0.0
1807	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
1807	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	20.7	0.4	0.0
1807	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	0.0	0.0
1807	27	0.0	0.0	0.0	0.0	0.0	19.7	0.0	0.0	0.0	32.0	0.0	0.0
1807	28	0.0	7.5	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	9.8	0.0
1807	29	0.0		20.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1807	30	0.0		4.7	0.0	25.0	19.4	0.0	0.0	0.0	0.0	13.3	0.0
1807	31	0.0		2.4		0.0		0.0	0.0		0.0		0.0

**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1808	1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.6	0.0	0.0	0.0	0.0
1808	2	7.5	0.0	0.0	0.0	0.0	0.0	0.0	15.2	32.0	0.0	0.0	0.0
1808	3	7.1	0.4	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
1808	4	16.0	3.4	0.0	0.0	0.0	0.8	14.5	0.0	0.0	0.0	8.1	0.0
1808	5	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	13.2	0.0
1808	6	0.0	0.0	0.0	0.0	0.0	3.6	58.2	0.0	0.0	0.0	0.0	0.0
1808	7	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1808	8	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	3.2	0.0
1808	9	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	20.4	35.2	0.3	0.0
1808	10	0.0	0.4	0.0	0.0	0.2	11.7	0.0	0.8	0.0	15.4	11.5	0.0
1808	11	0.0	13.5	0.0	0.0	1.5	16.0	0.0	0.6	1.9	0.0	0.0	0.0
1808	12	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.0	0.0	0.0	1.3	0.0
1808	13	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.2
1808	14	0.0	0.0	0.0	0.0	0.7	1.5	0.0	0.0	0.0	0.0	0.0	0.0
1808	15	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	16	13.2	0.0	0.0	0.0	0.0	6.5	0.0	0.4	0.0	37.5	0.0	0.0
1808	17	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	18	0.0	0.0	0.0	2.4	0.0	0.0	0.0	23.5	0.0	0.0	0.1	0.0
1808	19	0.0	0.0	0.0	0.0	0.2	0.0	1.9	24.8	0.0	11.8	24.8	7.5
1808	20	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	21	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	22	1.5	0.0	0.0	1.2	7.9	4.1	0.0	0.0	0.0	0.0	0.0	0.9
1808	23	0.0	0.0	0.0	5.6	0.0	32.3	0.0	0.0	22.6	8.8	0.0	0.6
1808	24	0.0	0.0	0.0	0.2	0.0	17.3	0.0	0.0	0.6	0.0	0.0	11.8
1808	25	0.0	0.0	0.0	0.0	0.0	17.7	0.0	3.6	0.4	0.0	0.0	0.0
1808	26	0.0	0.0	0.0	12.1	0.0	0.2	2.6	0.0	0.0	0.0	0.0	0.0
1808	27	6.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	9.6
1808	28	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
1808	29	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1808	31	0.0		4.0		0.0		0.0	0.0		0.0		0.0
1809	1	0.0	0.1	0.0	2.9	0.0	1.7	26.7	0.0	0.0	0.0	1.9	0.0
1809	2	0.0	0.0	0.0	3.0	2.7	21.2	0.8	0.0	0.0	0.0	0.0	0.9
1809	3	34.6	0.0	0.0	7.9	0.0	0.0	0.0	0.2	0.9	0.0	0.4	0.0
1809	4	2.6	0.0	0.0	18.8	0.0	0.0	7.7	0.0	2.8	0.0	0.0	0.0
1809	5	0.2	0.0	0.0	4.0	4.5	0.9	0.0	0.0	21.4	0.0	0.0	8.1
1809	6	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0	22.0	0.0
1809	7	10.2	0.0	0.0	0.1	0.0	7.3	0.0	5.1	7.3	0.0	0.0	0.0
1809	8	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0
1809	9	10.5	0.0	0.0	5.1	0.0	0.3	0.0	0.0	0.0	2.4	0.0	0.0
1809	10	0.3	0.0	0.0	15.3	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0
1809	11	0.0	11.5	0.0	0.0	0.0	0.2	10.2	0.0	0.0	0.0	0.0	0.0
1809	12	0.0	0.9	0.0	0.2	0.0	1.3	0.6	0.0	2.4	6.0	0.0	3.0
1809	13	0.0	3.1	0.0	3.8	0.0	0.0	0.8	0.0	0.0	0.8	0.0	2.3
1809	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	49.8	0.0	4.9
1809	15	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	56.6	12.1	0.0
1809	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0	15.4
1809	17	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0	20.3	18.0
1809	18	0.0	0.0	0.0	31.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0
1809	19	0.0	0.0	0.0	16.3	0.0	0.0	23.3	0.0	0.1	0.0	4.1	12.8
1809	20	0.0	0.0	0.0	1.7	0.0	1.5	0.0	0.0	0.0	0.2	0.4	0.0
1809	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0
1809	22	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0
1809	23	11.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1809	24	0.3	0.0	0.0	11.8	15.4	0.2	0.0	8.5	0.0	0.0	0.0	0.0
1809	25	0.0	0.0	3.0	0.0	21.2	0.0	0.0	28.6	0.0	0.0	18.6	0.0
1809	26	0.4	0.0	7.9	0.0	0.0	11.9	0.0	6.6	0.0	0.0	5.6	0.0
1809	27	0.2	0.0	6.1	0.0	0.4	10.6	9.8	0.0	0.0	0.0	27.3	0.0
1809	28	0.1	0.0	2.3	45.9	0.0	0.4	2.4	0.0	31.4	0.0	7.5	0.0
1809	29	0.1		0.0	0.0	0.1	0.0	0.0	0.0	54.7	0.3	7.5	0.0
1809	30	0.1		0.1	7.4	29.3	7.1	0.0	0.0	3.8	0.0	9.4	0.0
1809	31	0.1		0.1		0.0		0.0	0.0		0.0		0.0



**ESM 20.** Toaldo & Chiminello Raw Precipitation Data (mm): 1768-1811  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1810	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0
1810	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	18.8	3.2
1810	3	0.0	2.8	0.0	0.0	0.0	0.4	3.3	0.0	0.0	0.0	20.7	24.4
1810	4	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	11.3	0.9
1810	5	0.0	0.0	0.0	0.3	6.8	0.0	33.3	0.2	0.4	0.0	0.0	0.0
1810	6	0.0	0.0	7.5	0.0	0.4	0.0	0.0	18.1	0.0	0.0	0.0	0.0
1810	7	2.3	12.8	0.0	5.5	1.1	0.0	0.0	0.0	0.0	12.6	0.0	0.0
1810	8	0.0	0.0	3.9	0.6	5.1	0.0	0.0	0.0	0.0	4.3	0.0	7.1
1810	9	0.0	0.0	0.0	0.0	2.8	0.0	0.4	19.6	0.0	0.0	0.0	1.1
1810	10	0.0	0.0	0.0	4.9	0.0	0.7	0.0	0.2	0.0	0.0	3.0	0.0
1810	11	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	1.7	1.5	0.0
1810	12	0.0	2.0	0.0	0.0	1.5	0.0	15.2	0.0	0.0	0.0	0.0	2.8
1810	13	0.0	17.3	0.0	21.2	0.0	26.9	0.0	0.0	5.6	0.0	0.0	0.0
1810	14	0.0	1.5	0.0	5.8	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0
1810	15	3.0	0.1	0.0	0.0	6.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
1810	16	0.9	13.4	4.9	0.0	5.6	0.0	13.2	0.0	0.0	0.0	0.0	0.0
1810	17	10.7	32.7	0.0	1.3	0.0	16.2	0.0	0.0	25.6	0.0	0.0	0.0
1810	18	0.0	0.0	0.0	1.3	0.0	20.3	0.0	0.2	20.3	0.0	1.5	0.0
1810	19	8.1	0.0	6.4	0.0	0.0	0.0	0.0	2.4	5.1	0.0	0.0	2.2
1810	20	0.0	0.0	0.0	0.1	0.0	0.0	3.3	0.0	0.0	0.0	7.7	0.0
1810	21	11.7	0.0	13.0	0.0	1.9	0.0	12.4	10.9	0.0	0.0	0.0	0.0
1810	22	57.3	0.0	0.0	0.0	0.0	0.0	1.9	0.2	0.0	0.0	0.2	3.5
1810	23	12.0	0.0	0.0	0.0	0.2	25.4	0.0	0.0	0.0	0.0	0.0	0.0
1810	24	2.8	0.0	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.3	6.2	0.1
1810	25	0.0	0.0	22.0	0.4	2.4	0.0	0.0	0.0	0.0	0.0	11.8	0.0
1810	26	0.0	0.0	0.0	0.0	0.0	1.1	0.0	5.8	0.0	15.8	34.0	0.0
1810	27	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1810	28	0.0	0.0	0.0	0.0	5.3	0.6	1.1	0.0	0.0	0.4	3.8	0.0
1810	29	0.0		0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1810	30	0.0		0.6	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.2
1810	31	0.0		10.0		0.7		0.0	0.0		38.5		0.0
1811	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	2	0.0	0.1	21.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	3	15.0	2.9	0.0	0.0	0.0	0.2	4.5	0.0	0.0	1.9	0.0	0.0
1811	4	0.0	0.1	0.0	0.0	0.0	4.0	0.0	6.6	0.0	0.0	0.0	0.0
1811	5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	7.5	0.0	0.0
1811	6	22.2	0.0	0.1	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.9
1811	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	8	4.1	0.0	0.0	10.2	12.6	0.0	29.7	0.0	0.0	0.0	0.0	0.0
1811	9	0.0	0.0	0.0	23.5	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0
1811	10	0.0	0.4	0.0	9.2	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0
1811	11	5.9	0.0	0.0	6.4	0.0	0.0	12.8	9.4	0.0	0.0	0.0	0.0
1811	12	0.0	0.2	0.0	10.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1811	13	0.0	1.3	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	13.5	0.0
1811	14	0.0	0.1	0.0	0.0	19.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1811	15	0.0	0.0	0.0	0.0	18.8	4.5	0.0	0.0	0.0	0.0	0.0	0.0
1811	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	17	9.4	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
1811	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	19	5.1	0.0	0.0	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	20	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.9	0.0	0.0	0.0
1811	21	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0
1811	22	0.0	0.0	0.0	0.0	3.1	25.9	0.0	0.0	12.6	0.0	0.0	1.5
1811	23	0.0	0.0	0.0	0.0	0.0	17.5	12.6	0.0	2.8	0.0	0.0	0.0
1811	24	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1811	25	0.0	0.0	0.0	0.0	0.0	17.3	0.0	0.0	8.8	13.5	0.0	0.0
1811	26	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.9	0.0	0.0	0.0
1811	27	0.9	0.0	0.0	17.3	0.0	0.0	0.0	16.4	8.5	8.3	0.0	0.0
1811	28	0.0	0.0	0.0	1.2	0.0	6.8	0.0	0.0	0.0	16.2	0.0	7.1
1811	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	24.8	13.0	0.0	0.0
1811	30	0.0		0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0
1811	31	0.0		0.0		0.0		6.8	0.0		3.2		4.5

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1812	1	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0
1812	2	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0
1812	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	4	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.0	0.0	0.0	0.0	0.0
1812	5	0.0	48.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	6	13.0	0.0	0.0	0.0	0.0	9.4	0.0	10.3	0.4	10.3	0.0	0.0
1812	7	0.0	9.4	0.0	0.0	0.0	0.8	37.2	0.0	23.9	0.0	0.0	0.0
1812	8	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	28.2	5.6	0.0	0.0
1812	9	0.0	0.0	16.0	4.1	0.0	0.2	6.4	6.8	0.0	0.0	0.0	0.0
1812	10	0.0	0.0	0.0	0.6	0.0	7.0	0.0	0.9	0.0	2.4	0.0	0.0
1812	11	0.0	0.0	18.8	0.0	0.0	22.9	0.0	0.0	0.0	0.0	2.3	0.0
1812	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0
1812	13	0.0	0.0	22.4	0.0	9.8	0.0	0.0	0.0	0.0	3.9	0.0	0.0
1812	14	0.0	0.0	0.0	0.0	16.5	0.0	7.5	22.6	0.0	0.0	0.0	0.0
1812	15	0.0	0.0	25.6	0.0	2.4	0.0	13.5	0.0	0.0	31.0	4.7	0.0
1812	16	0.0	0.0	10.5	0.0	0.0	0.0	19.7	0.0	0.0	17.5	0.0	27.4
1812	17	0.0	0.0	9.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1
1812	18	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	27.1	0.0
1812	19	0.0	0.0	0.0	30.3	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0
1812	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5
1812	21	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	22	0.0	0.0	7.9	0.0	10.2	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1812	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	24	0.0	0.0	7.1	0.0	0.0	0.0	56.4	0.0	11.7	0.0	0.0	0.0
1812	25	0.0	4.9	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	26	0.0	0.0	5.1	5.6	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
1812	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1812	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
1812	29	0.0	0.0	0.0	6.8	0.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0
1812	30	0.0		0.0	0.0	0.0	0.0	18.6	20.5	0.0	22.6	0.0	0.0
1812	31	15.2		0.0		4.7		0.0	0.0		0.0		0.0
1813	1	0.0	0.0	0.0	0.0	3.8	1.5	0.0	0.0	0.0	0.4	0.0	0.0
1813	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	15.0	18.0	20.3
1813	3	27.1	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1813	4	10.0	0.0	0.0	8.5	0.0	0.0	6.2	0.0	0.2	0.0	4.9	3.0
1813	5	0.4	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	5.6	1.5
1813	6	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.5	0.0	0.0	6.8
1813	7	0.0	0.0	0.0	0.0	3.8	11.7	0.0	0.0	3.2	0.0	27.6	2.8
1813	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	5.1
1813	9	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	22.2	0.0	0.0	0.0
1813	10	48.7	0.0	0.0	0.0	0.0	0.0	15.2	0.0	4.7	0.0	0.0	6.4
1813	11	7.9	0.0	2.8	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	1.5
1813	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0
1813	13	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0
1813	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	0.0
1813	15	0.0	0.0	7.5	0.0	0.0	0.8	0.0	7.3	0.0	6.2	0.0	3.0
1813	16	0.0	0.0	0.0	0.0	0.0	3.4	15.8	0.0	0.0	0.0	0.0	0.0
1813	17	0.0	0.0	0.0	0.0	4.3	2.8	3.6	0.0	0.6	5.6	0.0	0.0
1813	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1813	19	0.0	0.0	0.0	0.0	3.0	6.0	0.0	0.0	13.5	16.0	0.0	0.0
1813	20	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.9	0.0	0.0	0.0
1813	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2
1813	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.7	23.5	7.0	0.0	0.0
1813	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	11.8	0.0	0.0	7.5
1813	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0
1813	25	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0
1813	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1813	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0
1813	28	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	7.5	12.0	0.0	0.0
1813	29	0.0		0.0	17.3	0.0	0.0	0.0	3.8	0.0	12.0	6.6	0.0
1813	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1813	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1814	1	0.0	0.0	0.0	0.0	0.0	2.4	12.0	0.0	0.0	0.0	0.0	0.0
1814	2	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.9	0.0	3.4
1814	3	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0
1814	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	1.1	18.0
1814	5	0.0	0.0	13.2	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1814	6	11.7	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
1814	7	4.1	0.0	0.0	0.0	8.3	0.0	0.0	18.0	0.0	4.7	0.0	21.6
1814	8	0.0	0.0	28.4	11.7	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
1814	9	22.7	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0
1814	10	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1814	11	0.0	0.0	3.4	0.0	7.5	0.0	0.0	5.8	0.8	4.1	0.0	0.0
1814	12	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1814	13	0.0	0.0	0.8	0.0	0.0	0.0	2.3	6.8	0.0	0.0	0.0	0.0
1814	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1814	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1814	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0.0	0.0
1814	17	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0
1814	18	0.0	0.0	0.0	0.0	1.3	22.9	11.3	0.0	0.0	0.0	0.0	0.0
1814	19	0.0	0.0	0.0	0.0	0.0	1.3	5.5	0.0	0.0	0.0	0.0	0.0
1814	20	23.3	0.0	0.0	0.0	9.8	6.0	0.4	0.0	0.0	0.4	0.0	0.0
1814	21	0.0	0.0	0.0	23.7	0.0	0.0	6.0	7.9	0.0	19.6	0.0	0.0
1814	22	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	25.4	6.0	0.0
1814	23	23.7	0.0	1.9	64.7	4.3	15.2	0.0	0.0	0.0	1.1	0.0	7.1
1814	24	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	6.6	0.0
1814	25	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	22.4	0.0	0.0
1814	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0
1814	27	0.0	0.0	0.0	0.4	0.0	47.2	0.0	1.5	0.0	27.4	6.8	20.1
1814	28	0.0	0.0	0.0	0.0	0.0	5.6	0.0	19.7	0.0	0.0	0.0	0.0
1814	29	0.0		0.0	0.0	1.5	6.4	0.0	0.0	0.0	0.0	0.0	26.3
1814	30	5.1		0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0
1814	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1815	1	0.0	0.0	0.0	0.0	0.0	5.3	1.7	0.0	0.0	56.4	0.0	0.0
1815	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0
1815	3	0.0	1.7	0.0	0.0	10.2	21.2	0.0	0.0	0.0	0.0	0.0	0.0
1815	4	0.0	0.0	0.0	0.0	5.6	0.0	25.4	0.0	0.0	0.0	0.0	0.0
1815	5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	9.4
1815	6	17.9	11.1	0.0	0.0	7.9	0.0	7.5	0.0	0.0	0.0	0.0	0.0
1815	7	0.0	0.0	0.0	0.0	0.0	5.6	30.5	31.2	0.4	0.0	0.0	0.0
1815	8	0.0	0.0	0.0	0.0	0.0	0.0	5.1	5.8	0.0	0.0	0.0	0.0
1815	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	10	0.0	0.0	17.1	0.0	6.6	28.8	0.0	0.0	0.0	0.0	0.0	0.0
1815	11	0.0	0.0	0.6	0.0	0.0	21.2	0.0	36.3	0.0	0.0	0.0	0.0
1815	12	0.0	1.3	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0
1815	13	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1815	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	15	0.0	0.9	0.0	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	16	0.0	0.0	0.0	2.6	6.6	10.2	0.0	0.0	0.0	0.0	16.0	0.0
1815	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2	0.0	0.0	0.0
1815	18	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	37.6	0.0	0.0	0.0
1815	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
1815	21	0.0	0.0	0.0	0.0	0.0	0.6	0.0	3.0	0.0	0.0	19.6	0.0
1815	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	23	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	24	0.0	0.0	0.0	5.1	7.3	12.2	0.0	0.0	0.0	0.0	25.4	13.2
1815	25	0.0	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0
1815	26	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
1815	27	0.0	0.0	0.6	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.4	0.0
1815	28	0.0	0.0	0.0	0.0	0.0	0.0	13.7	3.8	0.0	0.0	0.0	0.0
1815	29	25.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.4	0.0
1815	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1815	31	0.0		0.0		0.6		5.1	1.9		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1816	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	7.5	0.0	4.1	0.0
1816	2	0.0	0.0	0.0	0.0	0.0	6.8	2.4	0.0	0.0	0.0	0.0	0.0
1816	3	0.0	0.0	0.0	2.3	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
1816	4	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	3.8	0.0
1816	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0
1816	7	0.0	10.5	0.0	3.0	8.5	0.0	0.0	3.8	0.0	0.0	4.7	0.0
1816	8	0.0	0.0	0.0	0.8	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1816	9	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	10	0.0	0.0	5.8	0.0	2.8	0.6	0.0	0.0	0.0	0.0	6.4	0.0
1816	11	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	13	6.4	0.0	0.0	0.0	1.5	3.8	0.0	0.0	15.8	0.0	0.0	0.0
1816	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	15	0.0	0.0	0.0	8.1	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1816	16	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
1816	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0
1816	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	0.0	41.5	0.0	0.0
1816	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1816	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	21	0.0	0.0	0.0	0.0	13.2	0.0	0.0	4.1	0.0	16.9	0.0	0.0
1816	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
1816	23	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	0.0	0.0
1816	24	0.0	0.0	0.0	0.0	17.5	6.2	0.0	0.0	0.9	0.0	0.0	0.0
1816	25	0.0	0.0	0.0	10.2	2.3	1.9	0.0	5.3	3.2	0.0	49.6	0.0
1816	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	27	18.8	0.0	0.0	3.4	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	28	0.0	0.0	0.0	6.6	12.4	16.7	0.0	0.0	0.0	0.0	0.0	0.0
1816	29	0.0	0.0	0.0	0.0	8.6	0.6	0.0	0.0	0.0	2.3	0.0	0.0
1816	30	0.0		0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1816	31	0.0		0.0		0.0		0.0	8.3		21.8		0.0
1817	1	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0
1817	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	19.6	0.0	0.0
1817	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0
1817	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	18.0
1817	6	0.0	1.1	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
1817	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	6.6
1817	10	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	9.0	0.0
1817	11	0.0	0.0	0.0	7.5	11.3	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1817	12	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	0.0	2.1
1817	14	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0
1817	15	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	2.6	0.0	0.0
1817	16	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	2.6	3.9
1817	17	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
1817	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0
1817	19	0.0	0.0	0.8	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	4.7
1817	20	8.3	0.0	0.0	0.0	9.4	0.0	14.1	0.0	0.0	0.0	0.0	0.0
1817	21	0.0	0.0	5.1	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	22	0.0	0.0	0.0	0.0	11.7	0.0	0.0	11.3	0.0	18.8	0.0	0.0
1817	23	0.0	0.0	6.4	0.0	5.3	23.5	0.0	24.8	14.3	0.0	0.0	0.0
1817	24	0.0	0.0	0.0	0.0	10.2	0.0	18.2	0.0	2.3	0.0	0.0	12.6
1817	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	15.8
1817	26	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	1.1	0.0
1817	27	0.0	0.0	0.0	9.4	14.3	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1817	28	0.0	0.0	0.0	0.0	0.0	9.8	0.0	12.4	0.0	35.5	0.0	0.0
1817	29	0.0		0.0	0.0	7.1	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1817	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0
1817	31	0.0		6.4		0.0		0.0	0.0		0.0		0.0

ESM 21. Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1852	1	0	0	0	0	0	0	0	0	0	0	0	24.41
1852	2	0	0	0	11.62	0	0	5.83	0	0	0	0	0
1852	3	0	0	0	0	12.63	0	0	8.09	14.8	0	0	5.29
1852	4	0	0	0	2.06	0	0	0	0	16.48	11.23	0	0
1852	5	0	0	0	0	0	0	0	0	0	0	0	0
1852	6	0	0	3.93	0	0	0	0	0	0	0	0	0
1852	7	0	0	0	0	0	0	0	0	0	17.88	0	0
1852	8	0	0	0	0	0	0	25.99	0	13.33	0	0	0
1852	9	0	0	0	0	0	0	5.24	0	15.77	0	0	6.76
1852	10	0	0	0	0	0	31.53	0	0	0	15.23	0	0
1852	11	0	15.28	12.79	0	0	0	0	2.87	0	39.32	0	0
1852	12	0	0	4.81	0	3.14	0	0	0	0	0	0	0
1852	13	0	14.15	0	0	13.79	0	0	8.2	0	13.4	0	0
1852	14	0	0	1.9	0	0	25.94	0	2.64	0	0	13.33	0
1852	15	0	0	0	0	0	19.23	0	0	7.73	0	0	4.57
1852	16	0	0	0	0	0	0	0	0	3.89	0	0	0
1852	17	0	0	0	0	0	0	0	0	6.26	0	18.74	12.54
1852	18	0	0	0	0	0	0	0	0	0	0	4	0
1852	19	0	0	0	0	0	0	1.33	0	0	0	0	0
1852	20	0	0	0	4.59	0	0	0	13.51	0	0	0	0
1852	21	0	0	0	0	0	0	0	0	0	0	0	0
1852	22	0	0	0	0	0	0	0	0	0	0	24.09	0
1852	23	0	0	0	0	0	0	0	0	0	0	0	0
1852	24	0	0	0	0	0	0	0	3.34	0	0	0	0
1852	25	8.48	0	0	0	0	0	0	0	2.26	0	4.66	0
1852	26	0	0	2.42	0	0	0	16.88	0	0	25.72	0	0
1852	27	0	0	0	0	0	0	0	0	31.98	6.76	0	0
1852	28	0	0	0	0	0	0	17.61	0	0	8.86	0	0
1852	29	0	0	0	0	0	0	0	0	24.14	3.5	0	0
1852	30	0	0	0	0	7.73	0	17.92	0	13.33	0	0	0
1852	31	0	0	0	0	11.93	0	0	0	0	0	0	0
1853	1	0	0	0	0	5.09	18.96	0	0	0	0	0	0
1853	2	0	0	20.36	0	0	0	0	0	0	0	5.45	0
1853	3	0	0	0	3.62	0	0	3.96	3.57	0	0	0	0
1853	4	0	2.6	0	0	0	24.95	0	0	0	7.19	0	0
1853	5	0	0	18.22	0	0	0	0	1.76	0	0	0	0
1853	6	0	0	0	0	0	0	3.5	8.32	27.93	0	0	0
1853	7	0	18.85	0	0	26.15	7.77	0	0	20.79	14.35	4.9	0
1853	8	0	15.57	0	0	0	1.72	0	0	5.09	0	0	0
1853	9	0	0	0	35.01	0	0	0	0	0	14.69	18.26	0
1853	10	0	4.41	4.27	0	0	0	0	4.9	0	0	0	0
1853	11	11.73	0	0	0	0	0	0	0	0	28.09	0	0
1853	12	0	6.96	0	0	0	11.46	0	0	0	8.2	7.89	0
1853	13	0	0	0	0	3.14	0	0	0	0	0	0	0
1853	14	0	0	0	21.22	0	0	0	0	0	7.46	0	0
1853	15	0	3.8	0	0	0	0	0	0	0	0	0	0
1853	16	0	0	8.27	0	0	14.85	0	7.91	0	0	0	0
1853	17	0	0	12.7	0	13.61	0	0	28.79	0	29.81	26.69	0
1853	18	22.8	0	0	0	0	0	0	1.72	0	0	0	10.49
1853	19	0	0	0	0	0	0	0	0	0	23.32	0	0
1853	20	0	0	33.61	0	0	0	0	0	0	0	0	38.08
1853	21	0	13.76	11.93	0	0	0	0	0	0	16.9	0	16.39
1853	22	0	0	0	0	0	0	0	0	0	0	0	0
1853	23	0	0	0	0	22.31	0	0	0	0	0	0	15.89
1853	24	15.98	0	0	4.43	0	4.2	2.64	0	0	0	0	0
1853	25	4.81	3.82	12.54	5.33	0	0	0	0	0	0	0	0
1853	26	0	0	0	0	9.94	0	0	0	4.05	0	0	0
1853	27	0	0	0	10.8	0	0	0	0	0	0	0	0
1853	28	0	0	37.81	0	0	0	0	0	0	0	0	0
1853	29	18.26	0	20.52	0	0	0	0	0	0	0	0	0
1853	30	0	0	0	23.55	0	0	1.81	0	0	0	0	0
1853	31	11.23	0	0	0	0	0	0	0	0	4.63	0	0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1818	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0
1818	2	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0
1818	3	0.0	28.2	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0
1818	4	0.0	0.8	12.0	0.0	0.0	0.0	0.0	26.5	0.0	0.0	0.0	0.0
1818	5	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	7	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	30.5	25.4
1818	8	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	28.8	31.2	0.0	0.0
1818	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	33.5	0.0
1818	10	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	0.0	1.7	0.0	0.0
1818	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4	0.0	0.0	0.0
1818	12	0.0	0.0	0.0	0.0	48.5	0.0	0.0	16.9	0.0	0.0	0.0	35.5
1818	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	0.0	0.0	0.0	0.0
1818	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0
1818	15	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
1818	16	0.0	0.0	0.0	0.0	7.0	7.7	0.0	0.0	0.0	0.0	0.9	0.0
1818	17	0.0	0.0	32.7	0.0	0.4	3.2	0.0	22.6	0.0	0.0	0.0	0.0
1818	18	0.0	0.0	0.0	37.6	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0
1818	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0
1818	20	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	21	0.0	0.0	0.0	6.4	0.0	0.0	0.0	22.6	0.0	0.0	0.0	0.0
1818	22	0.0	0.0	0.0	0.0	0.0	10.2	15.2	0.9	0.0	0.0	0.0	0.0
1818	23	0.0	5.1	0.0	0.0	0.0	0.0	0.0	22.0	4.9	0.0	0.0	0.0
1818	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	26	12.0	0.0	0.0	0.0	3.8	8.8	0.0	0.0	0.0	0.0	0.0	0.0
1818	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	28	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1818	31	0.0		0.0		49.1		0.0	0.0		0.0		0.0
1819	1	0.0	40.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	2	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	3	0.0	0.0	50.8	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1819	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	0.0	0.0	0.0	0.0
1819	5	0.0	3.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	0.0	0.0
1819	7	0.0	0.0	13.0	0.0	0.0	10.2	0.0	0.0	21.4	0.0	0.0	0.0
1819	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	0.0	0.0	0.0	0.0
1819	9	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	0.0	0.0	0.0	0.0
1819	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	13	0.0	1.9	0.0	0.0	0.0	0.0	0.0	33.8	0.0	0.0	0.0	0.0
1819	14	0.0	0.0	0.0	0.0	0.0	48.9	0.0	0.0	0.0	0.0	10.2	2.3
1819	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0
1819	16	0.0	0.0	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0
1819	17	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	18	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	19	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.3	21.1	0.0
1819	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	21	0.0	0.0	0.0	0.0	0.0	0.0	50.8	0.0	0.0	0.0	0.0	0.0
1819	22	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	24.1	15.0	0.0
1819	23	0.0	0.0	0.0	0.0	0.0	60.9	0.0	0.0	0.0	0.0	0.0	0.0
1819	24	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0
1819	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1819	27	0.0	0.0	0.0	0.0	8.8	0.0	0.0	10.2	0.0	0.0	0.0	0.0
1819	28	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	33.5	0.0	0.0
1819	29	0.0		0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
1819	30	0.0		0.0	0.0	10.2	0.0	0.0	0.0	0.0	17.5	0.0	0.0
1819	31	0.0		0.0		0.0		0.0	48.7		0.0		14.9



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1820	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	2	0.0	0.0	0.0	0.0	11.3	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1820	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	4	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1820	5	0.0	0.0	47.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	6	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.8	0.0	0.0	0.0	0.0
1820	7	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	7.5	0.0	0.0	0.0
1820	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	10	0.0	0.0	0.0	33.8	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0
1820	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	13	0.0	15.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
1820	14	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.6	0.0	0.0	0.0	47.4
1820	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.8	0.0
1820	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	17	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	5.1	0.0
1820	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	0.0	0.0
1820	19	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1820	20	52.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0
1820	21	0.0	48.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	22	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	13.9	0.0	0.0	0.0
1820	23	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	24	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	11.3	0.0	0.0
1820	25	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
1820	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1820	29	3.9	0.0	0.0	3.8	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0
1820	30	0.0		0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
1820	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1821	1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	3	11.7	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	5	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	5.1
1821	6	0.0	0.0	0.0	0.0	0.0	39.1	0.0	0.0	0.0	0.0	4.9	0.0
1821	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	0.0	0.0
1821	8	0.0	0.0	0.0	0.0	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	10	28.4	0.0	0.0	0.0	0.0	0.0	24.8	35.5	0.0	0.0	0.0	0.0
1821	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0
1821	12		0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0
1821	13	0.0	0.0	0.0	15.0	0.0	0.0	0.0	24.4	19.0	0.0	0.0	0.0
1821	14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	15	0.0	0.0	0.0	0.0	0.0	0.0	43.1	0.0	0.0	0.0	0.0	0.0
1821	16		0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0
1821	17	0.0	0.0	0.0	0.0	0.0	43.6	0.0	0.0	0.0	0.0	0.0	0.0
1821	18	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	21		0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
1821	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	23	0.0	0.0	21.4	0.0	11.7	0.0	0.0	0.0	0.0	21.1	0.0	0.0
1821	24	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.6	0.0	0.0
1821	27	0.0	0.0	0.0	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1821	28	0.0	0.0	7.1	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0	50.8
1821	29	0.0		0.0	0.0	0.0	0.0	20.3	0.0	0.0	0.0	0.0	0.0
1821	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2
1821	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1822	1	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	26.1	0.0	0.0	0.0
1822	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.8	0.0	0.0
1822	3	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0
1822	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0
1822	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0	0.0
1822	8	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	45.7
1822	9	24.1	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0	0.0
1822	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	11	0.0	0.0	0.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	12	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0
1822	13	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.1	0.0	0.0
1822	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	24	0.0	0.0	0.0	0.0	17.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	27	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	33.7	0.0	0.0
1822	28	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1822	30	0.0		0.0	0.0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0
1822	31	0.0		15.0		0.0		0.0	0.0		0.0		0.0
1823	1	0.0	0.0	0.0	27.6	0.0	0.0	0.0	12.2	0.0	0.0	45.3	0.0
1823	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2	0.0	0.0
1823	3	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0
1823	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	7	0.0	0.0	0.0	0.0	0.0	24.3	0.0	0.0	0.0	0.0	0.0	0.0
1823	8	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	10	0.0	0.0	50.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	11	0.0	0.0	0.0	30.5	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0
1823	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0	0.0
1823	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	14	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	0.0
1823	15	0.0	0.0	0.0	0.0	43.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4	0.0	0.0
1823	18	0.0	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0	0.0	0.0	0.0
1823	19	0.0	12.4	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	20	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
1823	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0
1823	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5
1823	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	26	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0	0.0	0.0	0.0	0.0
1823	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	29	47.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1823	30	0.0		0.0	0.0	48.3	0.0	0.0	0.0	3.6	0.0	0.0	0.0
1823	31	25.4		0.0		0.0		0.0	0.0		0.0		15.6

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1824	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	2	0.0	0.0	0.0	0.0	0.0	0.0	24.4	0.0	0.0	0.0	0.0	0.0
1824	3	0.0	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	4	0.0	0.0	0.0	0.0	0.0	34.4	0.0	0.0	0.0	50.8	0.0	0.0
1824	5	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	47.4	0.0	0.0
1824	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0
1824	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	14	0.0	0.0	48.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	15	0.0	0.0	0.0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	16	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0	0.0	51.7	0.0	0.0
1824	17	0.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0
1824	18	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0
1824	19	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0
1824	20	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	24	0.0	0.0	0.0	21.4	0.0	0.0	0.0	48.9	37.0	0.0	0.0	0.0
1824	25	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0
1824	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	29	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1824	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1825	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	2	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0			0.0	23.5
1825	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	4	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0			48.5	0.0
1825	5	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0			0.0	0.0
1825	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			5.1	0.0
1825	8	0.0	0.0	0.0	0.0	6.8	0.0	40.8	0.0			0.0	0.0
1825	9	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0			0.0	0.0
1825	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	48.5
1825	11	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0			0.0	0.0
1825	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	13	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0			0.0	36.7
1825	14	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0			0.0	0.0
1825	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	16	0.0	0.0	0.0	0.2	0.0	0.0	0.0	47.8			26.5	0.0
1825	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1			0.0	0.0
1825	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9			0.0	0.0
1825	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	21	0.0	0.0	0.0	0.0	0.0	13.7	0.0	0.0			0.0	0.0
1825	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	24	0.0	0.0	0.0	0.0	0.0	0.0	33.7	0.0			0.0	0.0
1825	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	27	0.0	0.0	0.0	5.1	16.9	0.0	0.0	0.0			0.0	0.0
1825	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
1825	30	0.0		0.0	0.0	7.7	0.0	0.0	0.0			0.0	47.4
1825	31	0.0		0.0		0.0		0.0	0.0				0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1826	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	0.0	0.0	0.0
1826	2	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
1826	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	10.2
1826	4	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	38.0	0.0	0.0
1826	5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	47.4	0.0	0.0	0.0
1826	6	0.0	0.0	0.0	0.0	10.9	0.0	0.0	12.8	0.0	0.0	0.0	0.0
1826	7	0.0	0.0	0.0	0.0	0.0	42.1	18.2	19.7	0.0	50.4	7.7	0.0
1826	8	0.0	0.0	0.0	0.0	1.1	0.0	38.5	0.0	0.0	0.0	0.0	0.0
1826	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	2.3	0.0
1826	10	0.0	0.0	0.0	0.0	0.6	42.9	0.0	0.0	0.0	18.0	0.0	0.0
1826	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0
1826	12	0.0	0.0	0.0	0.0	0.0	0.0	33.8	0.0	0.0	0.0	0.0	0.0
1826	13	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0		0.0	0.0
1826	14	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	0.0		0.0	0.0
1826	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5		0.0	4.5
1826	16	0.0	0.0	0.0	0.0	3.8	2.8	3.0	0.0	0.0	4.5	0.0	0.0
1826	17	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0		7.7	48.3	0.0
1826	18	0.0	48.3	0.0	0.0	0.0	0.0	0.0	0.0		7.3	0.0	0.0
1826	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
1826	20	0.0	0.0	11.7	0.0	14.1	0.0	0.0	0.0	7.7		0.0	0.0
1826	21	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0		46.1	0.0
1826	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
1826	23	0.0	0.0	0.0	0.0	0.0	5.8	5.1	0.0	0.0	0.0	0.0	0.0
1826	24	0.0	0.0	0.0	0.0	36.7	0.0	0.0	0.0		0.0	0.0	0.0
1826	25	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0		0.0	0.0	0.0
1826	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		19.2	11.3	0.0
1826	27	0.0	0.0	0.0	39.5	0.0	0.0	0.0	0.0		2.6	0.0	0.0
1826	28	0.0	0.0	0.0	7.9	12.4	0.0	0.0	0.0		0.0	0.0	0.0
1826	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	54.5	0.0
1826	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0
1826	31	0.0		0.0		0.8		0.0	0.0		0.0		0.0
1827	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	23.9	6.2	0.0	0.0
1827	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	4	0.0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9	0.0	1.5	0.0	0.0
1827	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	7	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0		0.0	0.0	22.2
1827	8	0.0	0.0	0.0	0.0	0.0	16.9	0.0	0.0		0.1	0.0	0.0
1827	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
1827	10	0.0	0.0	0.0	0.0	34.8	8.6	0.0	0.0		0.0	0.0	0.0
1827	11	0.0	0.0	0.0	0.0	48.3	0.0	0.0	0.0		0.0	0.0	0.0
1827	12	0.0	0.0	0.0	0.0	15.0	0.0	20.5	0.0		0.9	0.0	0.0
1827	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
1827	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	4.5
1827	15	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0
1827	16	0.0	0.0	0.0	0.0	0.0	21.4	0.0	22.9	0.0	14.7	0.0	0.0
1827	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	18	0.0	0.0	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0
1827	19	0.0	0.7	0.0	0.0	0.0	23.7	0.0	0.0	28.2	0.0	0.0	0.0
1827	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	21	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	39.9	16.4	0.0	0.0
1827	22	0.0	0.0	0.0	56.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
1827	24	0.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0
1827	25	0.0	0.0	0.0	0.0	20.7	20.9	0.0	50.8	0.0	0.0	0.0	0.0
1827	26	0.0	0.0	0.0	0.0	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0
1827	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1827	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
1827	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	4.3	2.8	0.0	0.0
1827	30	3.8		0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0
1827	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1828	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.6	0.0	0.0	0.0
1828	3	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1828	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	5	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1828	6	0.0	0.0	0.0	0.0	45.9	0.0	0.0	0.0	6.6	36.7	0.0	0.0
1828	7	4.1	0.0	0.0	0.0	1.9	0.0	0.0	0.0	14.1	5.1	0.0	0.0
1828	8	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	20.1	0.0	0.0	0.0
1828	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8
1828	10	0.0	0.0	0.0	23.9	0.0	1.1	0.0	0.0	0.0	0.0	45.7	0.0
1828	11	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0
1828	12	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	13	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0
1828	14	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
1828	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0
1828	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0
1828	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	20	0.0	0.0	0.0	22.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	22	0.0	0.0	0.0	8.5	22.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	23	0.0	25.2	0.0	0.0	0.0	0.0	0.0	20.3	0.0	0.0	0.0	0.0
1828	24	0.0	15.8	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	25	0.0	0.0	0.0	0.0	0.0	24.8	0.0	0.0	0.0	0.0	0.0	0.0
1828	26	0.0	0.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1828	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
1828	28	0.0	0.0	5.1	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	5.5
1828	29	0.0	0.0	0.0	0.0	0.0	0.0	5.5	2.1	3.0	0.0	0.0	0.0
1828	30	0.0	0.0	8.8	0.0	0.0	4.5	4.9	0.0	0.0	0.0	0.0	0.0
1828	31	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	2	0.0	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	4	0.0	0.0	0.0	24.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	5	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	6	0.0	0.0	19.2	0.0	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0
1829	7	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
1829	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3	0.0	0.0
1829	9	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	7.5	0.0
1829	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0
1829	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	12	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
1829	13	24.1	5.3	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0
1829	14	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0
1829	15	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2
1829	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	8.8	0.0	0.0
1829	17	0.0	0.0	0.0	23.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	18	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	24.4
1829	19	0.0	0.0	18.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
1829	20	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	13.0	0.0	0.0	19.9
1829	21	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
1829	22	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.0	18.4	0.0	0.0	0.0
1829	23	0.0	3.6	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
1829	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	25	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	40.0	0.0
1829	26	21.1	0.0	0.0	0.0	0.0	0.0	0.0	29.5	0.0	0.0	0.0	0.0
1829	27	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0
1829	28	13.9	0.0	0.0	22.2	0.0	9.4	4.5	0.0	0.0	31.6	0.0	0.0
1829	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1829	30	0.0	0.0	29.7	0.0	0.0	8.1	0.0	0.0	19.0	0.0	0.0	0.0
1829	31	11.7	0.0	8.5	0.0	5.5	0.0	12.6	14.7	0.0	0.0	0.0	0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1830	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	3	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	5	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	43.1	0.0	0.0	0.0
1830	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0
1830	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
1830	9	0.0	0.0	0.0	0.0	5.3	22.6	0.0	10.3	0.0	0.0	0.0	0.0
1830	10	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0
1830	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	14	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	42.9	0.0	0.0	48.7
1830	15	0.0	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	7.5	14.7	0.0
1830	16	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	17	0.0	0.0	0.0	0.0	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	18	0.0	0.0	0.0	0.0	0.0	37.2	0.0	25.0	0.0	0.0	0.0	0.0
1830	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	24.3	4.3
1830	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4	0.0	0.0	0.0
1830	24	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
1830	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
1830	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.5
1830	27	0.0	0.0	0.0	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830	30	0.0		0.0	0.0	24.1	0.0	0.0	0.0	15.6	0.0	0.0	0.0
1830	31	0.0		0.0		0.0		0.0	0.0		18.4		0.0
1831	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	0.0	0.0	0.0
1831	2	49.4	0.0	0.0	2.3	0.0	2.4	0.0	0.0	16.4	0.0	0.0	0.0
1831	3	4.3	0.0	0.0	0.0	0.0	22.0	0.0	0.0	0.0	18.2	0.0	0.0
1831	4	0.0	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	5	0.0	0.0	0.0	0.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	0.0
1831	6	0.0	12.2	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0
1831	7	0.0	0.0	0.0	0.0	0.0	34.2	0.0	16.5	0.0	0.0	0.0	0.0
1831	8	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1831	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.6	10.2	0.0
1831	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	13	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0
1831	14	0.0	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0	0.0
1831	15	0.0	0.0	4.5	0.0	19.2	0.0	3.4	13.9	0.0	0.0	0.0	5.5
1831	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	18	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	6.0	0.0	6.2	0.0
1831	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.0	0.0
1831	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	21	0.0	0.0	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	22	9.8	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1831	23	0.0	0.0	0.0	24.1	26.5	5.8	0.0	0.0	0.0	0.0	0.0	0.0
1831	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9
1831	25	0.0	0.0	0.0	0.0	7.5	0.0	15.8	0.0	0.0	0.0	0.0	0.0
1831	26	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0
1831	27	7.9	0.0	0.0	0.0	0.0	5.5	9.2	0.0	0.0	0.0	0.0	0.0
1831	28	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	54.7	0.0	0.0	0.0
1831	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	3.2	0.0
1831	30	0.0		0.0	24.8	0.0	19.6	5.6	0.0	0.0	0.0	0.0	0.0
1831	31	0.0		6.0		4.9		0.0	0.0		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1832	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	3	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	5	0.0	43.6	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1832	8	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
1832	9	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	10	0.0	0.0	37.8	0.0	0.0	0.0	0.0	0.0	38.4	31.4	0.0	0.0
1832	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	0.0
1832	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0
1832	13	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	15	7.1	0.0	0.0	9.2	9.2	19.7	0.0	0.0	0.0	0.0	0.0	0.0
1832	16	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1832	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	18	0.0	5.3	0.0	0.0	29.1	0.0	0.0	1.9	0.0	0.0	0.0	0.0
1832	19	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
1832	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	22	0.0	0.0	0.0	26.1	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
1832	23	0.0	0.0	0.0	0.0	0.0	7.9	3.6	0.0	0.0	0.0	0.0	0.0
1832	24	0.0	0.0	0.0	7.1	24.8	0.0	4.9	0.0	0.0	0.0	0.0	0.0
1832	25	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
1832	26	0.0	0.0	30.5	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0
1832	27	0.0	0.0	0.0	0.0	0.0	5.5	0.0	8.1	0.0	0.0	0.0	0.0
1832	28	12.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1832	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0
1832	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.5	0.0
1832	31	0.0		16.5		0.0		0.0	0.0		0.0		4.1
1833	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	2	0.0	0.0	9.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	3	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1833	4	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0
1833	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.3	0.0	0.0	0.0
1833	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.5	10.2	0.0	0.0	0.0
1833	8	0.0	0.0	0.0	0.0	0.0	0.0	44.6	12.8	0.0	0.0	0.0	0.0
1833	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	28.8	0.0
1833	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0
1833	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0
1833	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0
1833	13	0.0	0.0	0.0	0.0	0.0	7.5	38.5	0.0	0.0	0.0	0.0	0.0
1833	14	0.0	0.0	0.0	0.0	0.0	0.0	41.9	0.0	0.0	0.0	0.0	0.0
1833	15	0.0	0.0	53.4	48.1	0.0	44.6	31.8	0.0	0.0	0.0	0.0	0.0
1833	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	0.0	19.0	0.0
1833	18	0.0	0.0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	19	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0
1833	20	0.0	0.0	0.0	17.1	0.0	0.0	0.0	0.0	27.8	0.0	0.0	0.0
1833	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.1	0.0	0.0
1833	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1833	23	0.0	0.0	0.0	0.0	12.8	0.0	16.7	0.0	0.0	0.0	0.0	0.0
1833	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0
1833	25	0.0	0.0	0.0	0.0	0.0	14.3	10.9	10.5	0.0	0.0	0.0	0.0
1833	26	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	27	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	28	0.0	16.4	0.0	0.0	0.0	16.5	0.0	0.0	0.8	0.0	0.0	0.0
1833	29	0.0		0.0	0.0	0.0	0.0	19.7	0.0	0.6	0.0	0.0	0.0
1833	30	0.0		0.0	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1833	31	2.8		5.5		0.0		47.4	13.2		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1834	1	0.0	0.0	0.0	13.2	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	3	0.0	0.0	0.0	0.0	0.0	0.0	4.9	17.7	0.0	0.0	0.0	0.0
1834	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	6	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0
1834	8	0.0	0.0	0.0	0.0	0.0	31.2	0.0	0.0	0.0	0.0	0.0	0.0
1834	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	0.0	0.0	0.0	0.0
1834	10	49.8	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0
1834	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	13	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0
1834	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6	3.6	0.0	0.0	0.0
1834	16	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	2.8	0.0	0.0
1834	17	0.0	40.4	0.0	0.0	12.6	0.0	0.0	0.0	0.0	9.4	0.0	0.0
1834	18	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	7.3	9.8	0.0
1834	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	21	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0
1834	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	24	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	25.9	0.0
1834	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	26	0.0	0.0	3.4	0.0	0.0	0.0	0.0	31.0	0.0	0.0	0.0	0.0
1834	27	0.0	0.0	0.0	0.0	8.8	0.0	5.1	35.7	0.0	0.0	0.0	0.0
1834	28	0.0	0.0	0.0	0.0	0.0	22.7	7.5	0.0	0.0	0.0	0.0	0.0
1834	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1834	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0
1834	31	9.2		0.0		42.1		0.0	0.0		0.0		0.0
1835	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	0.0	0.0
1835	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.1	0.0	0.0	5.5	0.0
1835	3	0.0	0.0	0.0	0.0	17.7	0.0	0.0	51.9	0.0	0.0	0.0	0.0
1835	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0
1835	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0
1835	7	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0
1835	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.4	0.0	0.0	0.0
1835	11	0.0	0.0	13.9	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0
1835	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0
1835	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0
1835	15	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	15.4	0.0
1835	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	17	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	11.1	0.0
1835	18	0.0	19.4	0.0	0.0	0.0	0.0	0.0	0.0	50.4	0.0	0.0	0.0
1835	19	0.0	0.0	0.0	41.9	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
1835	20	0.0	0.0	0.0	0.0	0.0	12.8	0.0	18.0	0.0	0.0	0.0	4.7
1835	21	11.1	0.0	27.8	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0
1835	22	4.1	16.2	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0
1835	23	0.0	0.0	18.0	0.0	26.3	0.0	0.0	24.6	0.0	0.0	0.0	0.0
1835	24	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1835	25	0.0	0.0	0.0	0.0	0.0	0.0	2.1	48.9	0.0	0.0	0.0	0.0
1835	26	0.0	0.0	0.0	0.0	0.0	3.9	0.0	23.7	0.0	0.0	0.0	0.0
1835	27	0.0	0.0	0.0	6.4	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0
1835	28	0.0	7.9	0.0	0.0	0.0	0.0	0.0	6.4	0.0	53.0	0.0	0.0
1835	29	0.0		0.0	26.9	0.0	0.0	0.0	12.2	0.0	7.9	0.0	0.0
1835	30	0.0		0.0	28.0	0.0	8.8	0.0	6.0	12.6	0.0	21.1	0.0
1835	31	0.0		0.0		16.2		0.0	0.8		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1836	1	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0
1836	3	0.0	0.0	0.0	26.1	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	5	0.0	35.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1836	6	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1836	7	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1836	8	0.0	0.0	26.7	0.0	0.0	0.0	7.1	3.4	2.8	0.0	0.0	0.0
1836	9	0.0	0.0	6.0	0.0	0.0	0.0	10.2	0.0	17.3	0.0	0.0	0.0
1836	10	0.0	0.0	0.0	48.5	0.0	11.3	0.0	0.0	0.0	11.8	0.0	0.0
1836	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.5	0.0	0.0	0.0
1836	12	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0
1836	13	0.0	0.0	0.0	0.0	0.0	24.3	0.0	0.0	0.0	5.5	3.4	0.0
1836	14	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	12.2	0.0	0.0	0.0
1836	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0	3.6
1836	16	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.0	0.0	0.0	0.0	0.0
1836	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	29.5	0.0
1836	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	19	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	16.7	0.0	0.0	0.0
1836	20	0.0	15.8	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0
1836	21	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
1836	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	24	0.0	0.0	0.0	0.0	68.1	0.0	25.9	0.0	0.0	0.0	0.0	0.0
1836	25	0.0	24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	26	0.0	15.8	0.0	0.0	21.6	0.0	3.2	0.0	0.0	0.0	0.0	0.0
1836	27	0.0	44.2	10.5	0.0	43.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1836	28	0.0	25.4	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1836	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.5	0.0	4.3
1836	30	0.0		0.0	50.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
1836	31	0.0		0.0		31.8		0.0	0.0		0.0		0.0
1837	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	2	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0
1837	3	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
1837	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0
1837	6	0.0	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	7	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0
1837	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7
1837	9	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	16.4	0.0
1837	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	11	0.0	0.0	0.0	53.4	18.6	0.0	0.0	0.0	0.0	3.6	0.0	15.8
1837	12	0.0	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	14	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	15	4.9	14.9	45.5	0.0	68.8	0.0	42.1	0.0	20.5	0.0	0.0	0.0
1837	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	17	0.0	0.0	0.0	39.7	2.4	0.0	22.9	0.0	0.0	0.0	49.3	0.0
1837	18	0.0	0.0	0.0	18.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0
1837	19	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	20	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	21	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	22	0.0	0.0	0.0	0.0	25.4	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1837	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0
1837	24	0.0	0.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	25	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1837	26	0.0	0.0	0.0	0.0	0.0	16.0	14.3	0.0	0.0	0.0	0.0	0.0
1837	27	0.0	16.4	32.7	0.0	0.0	0.0	0.0	0.0	0.0	29.5	0.0	0.0
1837	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0
1837	29	36.8		0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
1837	30	0.0		0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
1837	31	0.0		3.9		0.0		0.0	7.0		7.9		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	1	2	3	4	5	6	7	8	9	10	11	12
1838	1	0.0	6.0	0.0	0.0								
1838	2	0.0	0.0	0.0	0.0								
1838	3	0.0	0.0	21.2	0.0								
1838	4	0.0	0.0	0.0	0.0								
1838	5	0.0	4.5	0.0	0.0								
1838	6	0.0	0.0	2.3	0.0								
1838	7	0.0	0.0	0.0	0.0								
1838	8	16.7	0.0	0.0	0.0								
1838	9	0.0	0.0	0.0	0.0								
1838	10	0.0	0.0	0.0	29.3								
1838	11	0.0	27.3	4.7	0.0								
1838	12	0.0	0.0	0.0	0.0								
1838	13	0.0	0.0	0.0	0.0								
1838	14	0.0	0.0	0.0	0.0								
1838	15	0.0	0.0	0.0	6.6								
1838	16	0.0	0.0	0.0	0.0								
1838	17	0.0	29.1	0.0	0.0								
1838	18	0.0	0.0	0.0	23.5								
1838	19	0.0	0.0	0.0	0.0								
1838	20	0.0	0.0	0.0	0.0								
1838	21	0.0	0.0	0.0	0.0								
1838	22	0.0	0.0	0.0	0.0								
1838	23	0.0	0.0	25.9	20.5								
1838	24	0.0	0.0	0.0	0.0								
1838	25	0.0	37.4	0.0	0.0								
1838	26	6.6	16.9	0.0	22.7								
1838	27	0.0	3.6	0.0	0.0								
1838	28	0.0	0.0	0.0	5.5								
1838	29	0.0		0.0	0.0								
1838	30	0.0		0.0	0.0								
1838	31	14.1		0.0									
1839	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	11.6
1839	3	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	17.7	19.2
1839	4	0.0	0.0	0.0	11.3	0.0	0.0	16.3	0.0	0.0	0.0	0.0	0.0
1839	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	18.9	0.0	0.0
1839	6	0.0	0.0	0.0	0.0	13.6	0.0	0.0	1.8	0.0	0.0	17.9	0.0
1839	7	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0
1839	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	39.9
1839	9	6.3	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0
1839	10	0.0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	11	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0	19.5
1839	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
1839	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
1839	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0
1839	16	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1839	17	0.0	0.0	42.7	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	18	0.0	0.0	0.0	16.5	0.0	0.0	0.0	0.0	17.2	9.5	0.0	0.0
1839	19	0.0	3.6	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	21	0.0	5.7	0.0	4.1	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0
1839	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	0.0	0.0	0.0	0.0
1839	23	0.0	0.0	0.0	0.0	0.0	20.8	0.0	0.0	0.0	0.0	0.0	0.0
1839	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0
1839	26	0.0	6.3	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	7.1
1839	27	0.0	0.0	0.0	30.3	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0
1839	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1839	29	0.0		4.8	0.0	0.0	8.4	0.0	0.0	0.0	0.0	27.4	0.0
1839	30	0.0		0.0	6.5	0.0	0.0	0.0	0.0	39.8	39.8	7.3	0.0
1839	31	9.7		0.0		0.0		0.0	6.9		18.1		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1840	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.6	0.0	0.0	0.0
1840	4	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
1840	5	0.0	26.7	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	0.0	0.0
1840	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	33.4	0.0
1840	7	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0
1840	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
1840	10	0.0	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	11	0.0	0.0	0.0	0.0	38.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	17.4	0.0	0.0	0.0
1840	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	15	0.0	0.0	0.0	0.0	20.8	0.0	0.0	0.0	0.0	0.0	0.0	37.5
1840	16	0.0	0.0	0.0	0.0	10.5	0.0	13.2	28.6	0.0	0.0	0.0	0.0
1840	17	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	18	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	20	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0	21.6
1840	21	0.0	0.0	0.0	0.0	23.7	0.0	0.0	0.0	39.7	0.0	0.0	0.0
1840	22	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0
1840	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
1840	24	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	4.9	0.0	3.5	0.0
1840	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	26	5.9	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0	0.0	0.0
1840	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	0.0
1840	28	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.9	0.0	0.0
1840	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1840	30	0.0		0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1840	31	0.0		0.0		9.3		0.0	1.6		14.0		0.0
1841	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	2	0.0	0.0	0.0	0.0	6.5	0.0	0.0	5.4	0.0	0.0	0.0	0.0
1841	3	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	14.6
1841	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0
1841	6	0.0	0.0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	7	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0
1841	8	34.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	0.0	0.0
1841	9	0.0	31.8	0.0	0.0	0.0	39.6	0.0	0.0	0.0	0.0	0.0	0.0
1841	10	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	12	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	13	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	14	0.0	0.0	0.0	0.0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0
1841	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0
1841	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	0.0	0.0	40.0
1841	19	0.0	30.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	20	0.0	0.0	0.0	0.0	0.0	39.4	0.0	0.0	0.0	0.0	0.0	15.0
1841	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	22	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	23	0.0	0.0	0.0	0.0	8.4	0.0	6.4	0.0	11.1	0.0	0.0	6.0
1841	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0
1841	25	0.0	0.0	13.7	0.0	0.0	10.5	2.8	35.4	8.4	0.0	0.0	0.0
1841	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0
1841	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0
1841	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	13.2
1841	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0	0.0	0.0
1841	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1841	31	0.0		15.1		4.2		0.0	0.0		0.0		11.6

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1842	1	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1842	2	0.0	0.0	0.0	0.0	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	4	0.0	0.0	0.0	13.6	3.8	2.4	0.0	0.0	0.0	11.6	0.0	0.0
1842	5	0.0	0.0	0.0	6.2	19.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	6	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	7	0.0	0.0	0.0	0.0	0.0	2.7	1.0	0.0	0.0	0.0	0.0	0.0
1842	8	0.0	0.0	0.0	10.3	0.5	0.0	0.0	2.4	0.0	0.0	0.0	0.0
1842	9	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	7.3	0.0
1842	10	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	11	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	17.3	0.0	8.1	0.0
1842	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	14	0.0	0.0	0.0	0.0	27.6	0.0	2.7	0.0	16.2	0.0	0.0	0.0
1842	15	0.0	0.0	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	16	0.0	0.0	0.0	0.0	22.9	3.1	0.0	0.0	14.1	0.0	0.0	0.0
1842	17	0.0	0.0	0.0	8.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1842	18	0.0	0.0	0.0	4.6	0.0	39.1	0.0	0.0	0.0	0.0	20.8	0.0
1842	19	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1842	20	0.0	0.0	0.0	0.0	1.7	0.8	0.0	0.0	5.4	11.9	0.0	0.0
1842	21	0.0	0.0	0.0	0.0	5.5	16.2	0.0	0.0	0.0	0.0	0.0	0.0
1842	22	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	31.9	0.0	0.0	0.0
1842	23	0.0	0.0	0.0	0.0	3.5	18.1	0.0	0.0	33.2	5.9	0.0	2.2
1842	24	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	12.2	5.1	0.0	0.0
1842	25	0.0	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0
1842	26	0.0	9.2	0.0	0.0	0.8	0.0	2.7	5.1	24.3	0.0	0.6	0.0
1842	27	0.0	0.0	0.0	0.0	0.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0
1842	28	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	2.4	4.3	0.0	1.7
1842	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	4.4	0.0
1842	30	0.0		0.0	0.0	1.1	0.0	5.4	0.0	0.0	15.1	0.0	0.0
1842	31	0.0		0.0		0.0		15.7	0.0		0.0		0.0
1843	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	3	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
1843	4	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	5	0.0	23.2	0.0	0.0	7.0	0.0	0.0	6.9	0.0	0.0	8.1	0.0
1843	6	0.0	0.9	0.0	22.2	7.2	13.5	0.0	10.4	0.0	0.0	0.0	0.0
1843	7	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	8	0.0	0.0	0.0	0.0	32.4	17.8	0.0	0.0	0.0	0.0	0.0	0.0
1843	9	0.0	4.9	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	12.7	0.0
1843	10	3.4	0.0	0.0	0.0	0.0	5.1	28.4	0.0	0.0	0.5	16.2	0.0
1843	11	0.0	0.0	0.0	23.5	10.3	0.0	1.6	0.0	0.0	0.0	0.0	0.0
1843	12	0.0	0.0	0.0	0.8	6.6	11.5	0.0	0.0	0.0	0.0	0.0	0.0
1843	13	6.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	14	4.9	0.0	0.0	0.4	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0
1843	15	7.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0
1843	16	31.6	27.0	0.6	0.0	9.7	0.7	13.5	0.0	0.0	0.0	0.0	0.0
1843	17	1.7	0.0	0.0	0.0	0.0	1.8	0.0	3.2	0.0	0.0	5.4	0.0
1843	18	0.0	0.0	0.0	0.0	19.5	0.0	0.0	0.9	0.0	7.8	0.0	0.0
1843	19	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0
1843	20	1.3	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	21	0.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	22	0.0	0.0	0.0	5.6	5.4	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1843	23	21.9	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	24	1.3	2.4	4.3	37.1	0.0	4.0	1.8	19.5	0.0	0.0	0.0	0.0
1843	25	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1843	26	0.0	8.3	30.8	7.3	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1843	27	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	11.6	0.0	0.0
1843	28	0.0	20.3	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1843	29	0.0		0.0	0.0	0.8	0.0	0.0	0.0	21.1	0.0	0.0	0.0
1843	30	0.0		0.0	0.0	10.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0
1843	31	0.0		0.0		0.0		0.0	0.7		3.3		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1844	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	2	12.1	0.0	0.0	0.0	0.0	23.0	0.0	2.9	0.0	0.0	0.0	0.0
1844	3	3.3	0.0	0.0	0.0	0.0	37.8	12.7	0.0	6.5	0.0	43.2	0.0
1844	4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	6.8	0.0
1844	5	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	16.7	0.0	0.0	0.0
1844	6	0.0	0.0	5.5	2.2	0.0	0.0	2.4	0.0	0.0	0.0	15.4	0.0
1844	7	15.4	0.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0	6.8	10.2	0.0
1844	8	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	9	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	19.7	38.2	0.0
1844	10	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
1844	11	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	22.2	0.0	0.0
1844	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	1.6	1.9	0.0	0.0
1844	13	0.0	39.3	0.0	0.0	0.0	3.8	0.0	2.7	0.0	0.0	0.0	0.0
1844	14	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	28.3	0.0	0.0	0.0
1844	15	0.0	9.6	0.0	0.0	30.2	0.0	0.0	3.5	0.0	0.0	0.0	14.8
1844	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0
1844	17	6.7	0.0	0.0	0.0	0.0	17.3	28.3	0.0	0.0	0.0	0.0	0.0
1844	18	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	20.0
1844	19	0.0	0.0	3.8	0.0	8.6	0.0	0.0	1.1	0.0	0.0	0.0	0.0
1844	20	0.0	0.0	0.0	0.0	6.5	6.5	24.3	0.0	0.0	9.0	0.0	1.9
1844	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	22	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	23	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	21.6	0.0	0.0
1844	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	27.0	0.0	0.0
1844	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	6.7	3.2	0.0
1844	26	0.0	0.0	0.0	0.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	27	0.0	3.1	0.0	0.0	41.6	0.0	0.8	0.0	0.0	2.9	0.0	0.0
1844	28	0.0	21.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	29	0.0	21.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1844	30	0.0		8.1	0.0	0.0	0.0	0.0	0.0	30.5	0.0	12.5	0.0
1844	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1845	1	4.1	10.0	0.0	0.0	8.1	0.0	1.4	0.0	0.0	0.0	0.0	0.0
1845	2	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1845	3	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0
1845	4	15.4	0.0	19.7	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	17.8
1845	5	13.5	0.0	7.8	0.0	3.2	5.9	0.0	3.2	6.5	0.0	0.0	0.0
1845	6	0.0	0.0	0.0	0.0	31.3	0.0	0.0	7.0	0.0	0.0	0.0	0.0
1845	7	0.0	0.0	0.0	13.0	0.0	0.0	0.0	16.8	0.0	17.8	2.2	0.0
1845	8	0.0	0.0	8.1	0.0	0.0	0.0	0.0	22.4	0.0	0.0	39.4	5.9
1845	9	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	8.8
1845	10	0.0	0.0	13.5	3.5	0.0	0.0	0.0	0.0	0.0	17.3	11.1	0.0
1845	11	0.0	0.0	15.4	22.2	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
1845	12	9.7	0.0	0.0	4.1	5.4	0.0	0.0	0.0	1.6	19.4	3.7	0.0
1845	13	0.0	0.0	0.0	0.0	0.0	0.0	12.2	4.9	2.2	0.0	0.0	0.0
1845	14	0.0	0.0	13.2	0.0	0.0	0.0	0.0	3.2	10.3	0.0	2.4	0.0
1845	15	0.0	0.0	7.3	38.9	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
1845	16	0.0	0.0	0.0	6.5	0.0	25.9	20.8	4.9	0.0	0.0	6.5	0.0
1845	17	6.2	0.0	0.0	0.0	10.3	0.0	1.4	0.0	0.0	0.0	0.0	0.0
1845	18	0.0	0.0	8.4	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0
1845	19	0.0	0.0	17.0	2.2	27.6	26.2	0.0	0.0	0.0	0.0	10.8	0.0
1845	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0	4.9
1845	21	48.1	0.0	20.2	0.0	29.7	0.0	24.3	0.0	10.8	0.0	0.0	3.2
1845	22	7.6	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1845	23	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	25.1	0.0
1845	24	0.0	40.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.1	11.4
1845	25	0.0	8.7	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1845	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1845	27	0.0	0.0	0.0	0.0	34.6	2.2	0.0	0.0	43.2	0.0	0.0	0.0
1845	28	0.0	0.0	0.0	15.7	0.0	0.0	3.5	25.4	0.0	0.0	0.0	0.0
1845	29	0.0		0.0	0.0	0.0	0.0	0.0	63.0	0.0	0.0	0.0	0.0
1845	30	0.0		0.0	0.0	0.0	9.0	0.0	23.2	0.0	0.0	0.0	0.0
1845	31	10.0		0.0		0.0		0.0	2.3		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1846	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1846	2	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1846	3	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	25.4	0.0	10.5
1846	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1846	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	11.4
1846	6	0.0	0.0	0.0	1.4	0.0	1.6	0.0	0.0	0.0	2.6	0.0	0.0
1846	7	0.0	0.0	13.5	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	11.8
1846	8	0.0	0.0	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
1846	9	0.0	0.0	8.9	15.7	0.0	0.0	0.0	0.0	0.0	9.7	0.0	9.0
1846	10	0.0	0.0	0.0	0.0	0.0	8.1	0.0	6.8	0.0	0.0	0.0	0.0
1846	11	0.0	0.0	0.0	0.0	0.0	1.9	0.0	4.9	0.0	0.0	18.7	0.0
1846	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7
1846	13	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	2.4	14.3	0.0	1.0
1846	14	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
1846	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	1.9	0.0	0.0
1846	16	0.0	0.0	0.0	17.8	7.6	0.0	25.9	0.0	0.0	0.0	0.0	0.0
1846	17	0.0	0.0	0.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1846	18	0.0	0.0	0.0	0.0	4.9	0.0	18.7	2.2	0.0	0.0	0.0	0.0
1846	19	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
1846	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.9	0.0	0.0	0.0	0.0
1846	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	22.4	0.0	0.0
1846	22	0.0	0.0	5.4	0.0	0.0	27.0	0.0	29.7	0.0	7.3	16.9	0.0
1846	23	0.0	0.0	0.0	30.5	0.0	0.0	0.0	12.2	3.0	12.7	0.0	7.9
1846	24	14.5	0.0	3.2	0.0	0.0	2.7	0.0	0.0	0.0	16.8	0.0	0.0
1846	25	0.0	0.0	0.0	0.0	23.8	2.2	0.0	0.0	0.0	18.6	0.0	0.0
1846	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	10.3	0.0	0.0
1846	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	0.0	7.0
1846	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0
1846	29	0.0		0.0	1.1	3.5	0.0	0.0	0.0	7.0	10.5	8.1	0.0
1846	30	1.1		0.0	0.0	0.0	0.0	0.0	40.5	36.5	39.4	10.0	0.0
1846	31	0.0		0.0		0.0		0.0	6.5		36.7		0.0
1847	1	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0
1847	2	0.0	2.7	0.0	7.5	0.0	3.8	16.2	0.0	8.9	0.0	0.0	0.0
1847	3	0.0	0.0	0.0	0.0	7.0	9.3	3.8	0.0	0.0	0.0	0.0	0.0
1847	4	16.8	0.0	0.0	4.1	0.0	1.6	0.0	22.2	0.0	0.0	0.0	0.0
1847	5	0.0	0.0	0.0	0.0	12.4	1.4	0.0	0.0	3.8	9.7	0.0	0.0
1847	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.3	14.6	0.0	0.0	4.3
1847	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	9.5	0.0	0.0	15.1
1847	8	0.0	0.0	0.0	0.0	0.0	9.7	0.0	0.0	0.0	9.5	0.0	0.0
1847	9	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0
1847	10	0.0	5.7	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
1847	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1847	12	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
1847	13	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1847	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1847	15	0.0	0.0	0.0	15.9	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0
1847	16	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0
1847	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1847	18	0.0	0.0	0.0	0.0	0.0	23.4	0.0	0.0	0.0	0.0	17.5	0.0
1847	19	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0	11.4	19.2	0.0	0.0
1847	20	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1847	21	0.0	0.0	0.0	1.5	0.0	0.0	4.9	0.0	0.0	22.2	36.7	0.0
1847	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0
1847	23	0.0	0.0	0.0	1.4	0.0	0.0	0.0	6.8	0.0	0.0	0.0	26.8
1847	24	0.0	0.0	0.0	0.0	0.0	9.3	0.0	5.4	0.0	1.9	0.0	3.0
1847	25	0.0	0.0	0.0	0.0	0.0	0.0	8.3	5.7	0.0	0.0	0.0	0.0
1847	26	15.7	0.0	0.0	7.8	0.0	1.9	29.6	7.0	0.0	0.0	0.0	0.0
1847	27	0.0	0.0	0.0	5.9	2.4	0.0	0.0	0.0	1.9	0.0	0.0	37.0
1847	28	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
1847	29	3.0		0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1847	30	0.0		0.0	1.6	2.7	0.0	0.0	0.0	0.0	0.0	0.0	19.8
1847	31	8.9		0.0		6.8		0.0	0.0		0.0		5.9

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1848	1	5.9	21.6	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	2.4	0.0
1848	2	0.0	0.0	8.9	0.0	1.4	9.3	4.2	0.0	0.0	23.2	4.9	0.0
1848	3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	4	0.0	0.0	0.0	3.2	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	5	0.0	0.0	0.0	0.0	3.2	4.6	0.0	1.1	0.0	0.0	20.5	0.0
1848	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0
1848	7	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	8	0.0	0.0	0.0	9.5	3.2	10.8	0.0	0.0	0.0	0.0	0.0	0.0
1848	9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	4.6	0.0	0.0
1848	10	0.0	0.0	0.0	0.0	0.0	7.1	10.5	0.0	0.0	0.0	18.1	0.0
1848	11	0.0	30.5	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0
1848	12	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.2	0.0	11.0	0.0
1848	13	0.0	0.0	4.9	0.0	0.0	2.3	10.0	0.0	0.0	0.0	0.0	0.0
1848	14	0.0	0.0	36.2	0.0	0.0	0.0	0.0	5.8	0.0	7.1	0.0	0.0
1848	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0
1848	16	0.0	0.0	2.2	0.0	0.0	0.0	0.0	3.4	0.0	23.1	0.0	0.0
1848	17	0.0	0.0	8.4	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
1848	18	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0
1848	19	0.0	0.0	5.9	0.0	60.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	14.3	0.0	0.0
1848	21	0.0	20.3	8.6	22.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	22	0.0	4.1	0.0	16.2	0.0	0.0	0.0	0.0	0.0	25.5	0.0	0.0
1848	23	9.5	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0	12.7	0.0	0.0
1848	24	6.5	0.0	0.0	0.0	5.4	0.0	0.0	0.0	4.1	0.0	18.9	0.0
1848	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0
1848	26	0.0	5.1	0.0	5.9	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
1848	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	0.0	0.0	0.0
1848	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0
1848	29	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	2.3	5.7	0.0	0.0
1848	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1848	31	0.0		0.0		0.0		39.4	0.0		10.1		0.0
1849	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
1849	2	0.0	0.0	0.0	0.0	1.2	0.0	1.9	0.0	0.0	0.0	0.0	0.0
1849	3	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1849	4	0.0	0.0	0.0	24.8	1.4	0.0	0.0	0.0	0.0	0.0	4.2	0.0
1849	5	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
1849	6	0.0	0.0	0.0	0.0	1.8	0.0	8.8	0.0	28.4	6.0	6.5	0.0
1849	7	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	4.2
1849	8	0.0	0.0	0.0	0.0	13.1	20.9	0.0	0.0	0.0	12.3	0.0	0.0
1849	9	2.3	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
1849	10	0.0	0.0	1.2	20.8	0.0	8.9	0.0	0.0	9.9	0.0	0.0	34.2
1849	11	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	3.5	17.0	0.0	0.0
1849	12	0.0	0.0	0.0	5.1	5.4	0.0	5.1	0.0	0.0	0.0	0.0	0.0
1849	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	5.6	0.0	31.1
1849	14	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1849	15	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	29.7	0.0	0.0
1849	16	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0
1849	17	0.0	0.0	0.0	1.6	0.0	4.1	5.8	0.0	0.0	0.0	0.0	0.0
1849	18	0.0	0.0	0.0	0.0	4.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0
1849	19	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1849	20	0.0	0.0	0.0	0.0	0.0	0.0	1.6	10.5	0.0	0.0	0.0	0.0
1849	21	4.4	0.0	0.0	10.9	0.0	0.0	0.0	2.7	3.0	0.0	0.0	0.0
1849	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
1849	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1849	24	0.0	0.0	13.2	0.0	10.8	0.0	0.0	0.0	2.4	0.0	17.4	0.0
1849	25	0.0	0.0	2.9	16.4	0.0	24.3	0.0	6.2	0.0	0.0	0.0	0.0
1849	26	0.0	0.0	15.5	0.0	5.1	0.0	5.2	0.0	0.0	0.0	33.4	0.0
1849	27	0.0	1.4	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1849	28	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0	0.0
1849	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1849	30	0.0		5.4	0.0	0.0	15.6	0.0	7.8	0.0	0.0	0.0	0.0
1849	31	0.0		10.9		0.0		0.0	0.0		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1850	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	2	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0
1850	3	0.0	0.0	0.0	11.4	8.1	11.9	1.3	0.0	0.0	15.4	0.0	0.0
1850	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
1850	5	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
1850	6	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	0.0	0.0
1850	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0
1850	8	0.0	0.0	0.0	1.6	0.0	0.0	6.1	0.0	0.7	0.0	0.0	0.0
1850	9	15.9	0.0	0.0	0.0	13.2	0.0	9.5	0.0	1.6	0.0	0.0	0.0
1850	10	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0
1850	11	0.0	0.0	0.0	6.3	11.2	0.0	16.5	0.8	0.0	2.4	0.0	0.0
1850	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.5	0.0	0.0
1850	13	0.0	4.9	0.0	0.0	0.0	2.3	3.5	0.0	0.0	0.0	3.1	0.0
1850	14	0.0	0.0	0.0	0.0	0.0	1.1	0.0	21.7	0.0	0.0	0.0	0.0
1850	15	0.0	0.0	0.0	4.0	4.2	0.0	0.0	4.5	0.0	0.0	1.5	1.1
1850	16	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	17	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	18	4.4	0.0	3.5	0.0	10.2	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1850	19	0.0	0.0	0.0	21.8	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
1850	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	21	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	2.5	39.9
1850	22	0.0	0.0	0.0	40.0	0.0	9.5	0.0	0.0	8.4	0.0	0.0	0.0
1850	23	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	37.3	0.0	0.0
1850	24	0.0	0.0	0.0	7.6	10.8	0.0	0.0	0.0	0.0	17.6	0.0	1.8
1850	25	0.0	0.0	9.7	16.2	0.0	0.0	0.0	0.0	18.7	0.0	0.0	0.0
1850	26	0.0	0.0	0.0	4.0	0.0	1.1	0.0	7.4	0.0	0.0	0.0	0.0
1850	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	28	0.0	0.0	5.7	0.0	0.0	9.6	23.0	0.0	0.0	0.0	0.0	0.0
1850	29	0.0		0.0	13.0	0.0	0.0	3.2	0.0	0.0	0.0	28.4	0.0
1850	30	0.0		0.0	39.6	9.7	0.0	0.0	0.0	0.0	32.6	0.0	0.0
1850	31	0.0		0.0		0.0		0.0	18.3		26.2		0.0
1851	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	36.5	0.0
1851	2	0.0	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	11.0	0.0
1851	3	0.0	0.0	0.0	0.0	26.8	0.0	17.6	0.0	10.3	9.9	9.5	0.0
1851	4	0.0	0.0	0.0	0.0	1.2	0.0	1.8	6.6	43.1	1.9	0.0	0.0
1851	5	0.0	8.9	0.0	43.2	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0
1851	6	0.0	0.0	0.0	0.0	13.9	0.0	1.9	0.0	0.0	0.0	36.1	0.0
1851	7	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
1851	8	0.0	0.0	0.0	0.0	17.8	0.0	8.5	0.0	6.9	0.0	21.5	0.0
1851	9	0.0	0.0	0.0	15.2	4.4	0.0	0.0	10.5	0.0	0.0	10.0	0.0
1851	10	0.0	0.0	0.0	0.0	0.0	0.0	6.2	2.5	6.3	0.0	7.0	0.0
1851	11	0.0	0.0	0.0	1.7	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
1851	12	0.0	0.0	21.4	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0
1851	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1851	14	0.0	0.0	3.4	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1851	15	0.0	0.0	0.0	2.4	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0
1851	16	0.0	0.0	0.0	4.0	0.0	0.0	1.8	0.0	1.8	0.0	16.6	0.0
1851	17	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
1851	18	0.0	0.0	0.0	0.0	6.5	0.0	8.8	5.9	49.7	41.0	14.3	0.0
1851	19	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0
1851	20	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	23.9	0.0	0.0	0.0
1851	21	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	3.5	0.0	0.0
1851	22	0.0	15.8	0.0	1.8	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0
1851	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.4	0.0	0.0
1851	24	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	17.5	0.0	0.0	0.0
1851	25	0.0	0.0	0.0	0.0	0.0	3.9	0.0	20.0	12.9	0.0	0.0	0.0
1851	26	13.6	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0
1851	27	0.0	0.0	0.0	4.3	0.0	0.0	6.6	0.0	2.3	0.0	0.0	0.0
1851	28	0.0	0.0	0.8	20.8	27.2	0.0	0.0	0.0	36.6	0.0	0.0	0.0
1851	29	0.0		0.0	2.3	8.3	0.0	0.0	12.3	21.2	0.0	0.0	0.0
1851	30	0.0		0.0	0.0	0.0	0.0	0.0	11.5	2.5	0.0	0.0	0.0
1851	31	0.0		5.9		0.0		16.4	11.5		13.8		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1852	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4
1852	2	0.0	0.0	0.0	11.6	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
1852	3	0.0	0.0	0.0	0.0	12.6	0.0	0.0	8.1	14.8	0.0	0.0	5.3
1852	4	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	16.5	11.2	0.0	0.0
1852	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1852	6	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1852	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0
1852	8	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	13.3	0.0	0.0	0.0
1852	9	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	15.8	0.0	0.0	6.8
1852	10	0.0	0.0	0.0	0.0	0.0	31.5	0.0	0.0	0.0	15.2	0.0	0.0
1852	11	0.0	15.3	12.8	0.0	0.0	0.0	0.0	2.9	0.0	39.3	0.0	0.0
1852	12	0.0	0.0	4.8	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1852	13	0.0	14.2	0.0	0.0	13.8	0.0	0.0	8.2	0.0	13.4	0.0	0.0
1852	14	0.0	0.0	1.9	0.0	0.0	25.9	0.0	2.6	0.0	0.0	13.3	0.0
1852	15	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	7.7	0.0	0.0	4.6
1852	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0
1852	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	18.7	12.5
1852	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
1852	19	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
1852	20	0.0	0.0	0.0	4.6	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0.0
1852	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1852	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.0
1852	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1852	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0
1852	25	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	4.7	0.0
1852	26	0.0	0.0	2.4	0.0	0.0	0.0	16.9	0.0	0.0	25.7	0.0	0.0
1852	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	6.8	0.0	0.0
1852	28	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0	8.9	0.0	0.0
1852	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	3.5	0.0	0.0
1852	30	0.0		0.0	0.0	7.7	0.0	17.9	0.0	13.3	0.0	0.0	0.0
1852	31	0.0		0.0		11.9		0.0	0.0		0.0		0.0
1853	1	0.0	0.0	0.0	0.0	5.1	19.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	2	0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0
1853	3	0.0	0.0	0.0	3.6	0.0	0.0	4.0	3.6	0.0	0.0	0.0	0.0
1853	4	0.0	2.6	0.0	0.0	0.0	25.0	0.0	0.0	0.0	7.2	0.0	0.0
1853	5	0.0	0.0	18.2	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
1853	6	0.0	0.0	0.0	0.0	0.0	0.0	3.5	8.3	27.9	0.0	0.0	0.0
1853	7	0.0	18.9	0.0	0.0	26.2	7.8	0.0	0.0	20.8	14.4	4.9	0.0
1853	8	0.0	15.6	0.0	0.0	0.0	1.7	0.0	0.0	5.1	0.0	0.0	0.0
1853	9	0.0	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0	14.7	18.3	0.0
1853	10	0.0	4.4	4.3	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0
1853	11	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.1	0.0	0.0
1853	12	0.0	7.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0	8.2	7.9	0.0
1853	13	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	14	0.0	0.0	0.0	21.2	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0
1853	15	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	16	0.0	0.0	8.3	0.0	0.0	14.9	0.0	7.9	0.0	0.0	0.0	0.0
1853	17	0.0	0.0	12.7	0.0	13.6	0.0	0.0	28.8	0.0	29.8	26.7	0.0
1853	18	22.8	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	10.5
1853	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3	0.0	0.0
1853	20	0.0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1
1853	21	0.0	13.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	16.9	0.0	16.4
1853	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	23	0.0	0.0	0.0	0.0	22.3	0.0	0.0	0.0	0.0	0.0	0.0	15.9
1853	24	16.0	0.0	0.0	4.4	0.0	4.2	2.6	0.0	0.0	0.0	0.0	0.0
1853	25	4.8	3.8	12.5	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	26	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	4.1	0.0	0.0	0.0
1853	27	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	28	0.0	0.0	37.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	29	18.3		20.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	30	0.0		0.0	23.6	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
1853	31	11.2		0.0		0.0		0.0	0.0		4.6		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1854	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
1854	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	4	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0
1854	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	6	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1854	7	33.5	0.0	0.0	0.0	0.0	16.1	0.0	12.3	0.0	0.0	0.0	57.3
1854	8	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	22.4
1854	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	10	12.1	0.0	0.0	0.0	16.1	0.0	0.0	0.0	0.0	0.0	0.0	2.8
1854	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0
1854	12	0.0	0.0	0.0	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0	24.7
1854	13	13.1	0.0	0.0	0.0	6.3	0.0	15.2	0.0	0.0	0.0	0.0	0.0
1854	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	15	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1854	16	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	5.8	0.0	0.0
1854	17	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0
1854	19	0.0	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	0.0	0.0
1854	21	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	21.0	0.0	5.5
1854	22	0.0	0.0	0.0	42.1	0.0	0.0	0.0	0.0	0.0	5.6	7.0	0.0
1854	23	0.0	0.0	0.0	0.0	0.0	12.4	1.2	0.0	26.6	0.0	0.0	0.0
1854	24	0.0	0.0	0.0	25.8	0.0	3.2	0.0	3.5	0.0	3.2	0.0	0.0
1854	25	0.0	0.0	0.0	24.3	7.9	0.0	0.0	0.0	0.0	0.0	22.1	0.0
1854	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0
1854	27	0.0	0.0	7.9	2.5	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
1854	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0
1854	29	0.0		0.0	5.8	52.4	0.0	7.5	0.0	0.0	0.0	0.0	0.0
1854	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1854	31	0.0		0.0		13.8		0.0	0.0		0.0		0.0
1855	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	18.5	6.6	0.0
1855	2	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	38.6	15.6	0.0	0.0
1855	3	0.0	0.0	0.0	0.0	18.0	8.2	0.0	0.0	5.4	0.0	0.0	0.0
1855	4	0.0	0.0	0.0	8.2	0.0	0.0	7.5	0.0	0.0	0.0	14.9	0.0
1855	5	0.0	33.0	16.1	30.9	22.0	0.0	13.3	2.2	16.8	0.0	0.0	0.0
1855	6	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0
1855	7	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0
1855	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0
1855	9	0.0	21.1	0.0	0.0	16.2	17.2	2.1	0.0	0.0	0.0	0.0	0.0
1855	10	0.0	4.9	25.4	7.9	0.0	0.0	0.0	14.8	0.0	6.3	0.0	0.0
1855	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0
1855	12	0.0	20.8	0.0	0.0	1.8	0.0	0.0	0.0	3.2	0.0	0.0	0.0
1855	13	0.0	0.0	0.0	0.0	12.6	0.0	0.0	8.7	38.5	0.0	0.0	0.0
1855	14	0.0	22.2	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0	39.4	0.0
1855	15	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0	0.0	0.0	14.8	0.0
1855	16	0.0	0.0	0.0	0.0	17.2	5.2	0.0	0.0	2.1	9.5	0.0	0.0
1855	17	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.9	0.0	0.0	0.0	0.0
1855	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1855	19	0.0	0.0	0.0	0.0	0.0	20.1	0.0	0.0	20.4	0.0	20.3	0.0
1855	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1855	21	0.0	0.0	0.0	0.0	6.6	29.7	0.0	0.0	0.0	0.0	0.0	0.0
1855	22	0.0	0.0	24.3	0.0	5.7	16.4	0.0	0.0	0.0	0.0	0.0	0.0
1855	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0
1855	24	0.0	25.5	2.9	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0
1855	25	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4	0.0
1855	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	14.7
1855	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
1855	28	0.0	0.0	16.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1855	29	0.0		0.0	2.3	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0
1855	30	0.0		20.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1855	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1856	1	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	21.9	0.0	35.7
1856	2	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	3	0.0	0.0	0.0	0.0	5.0	0.0	7.1	0.0	26.7	0.0	5.0	0.0
1856	4	0.0	0.0	0.0	0.0	37.1	0.0	27.4	0.0	7.2	0.0	10.9	0.0
1856	5	0.0	0.0	0.0	9.9	0.0	0.0	7.2	2.5	3.2	0.0	0.0	0.0
1856	6	0.0	0.0	0.0	5.9	0.0	0.0	7.5	2.9	0.0	0.0	0.0	0.0
1856	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	8	28.2	0.0	0.0	1.8	23.0	11.0	0.0	0.0	7.2	0.0	0.0	0.0
1856	9	17.0	0.0	0.0	0.0	39.0	0.0	6.8	0.0	5.4	0.0	0.0	0.0
1856	10	0.0	0.0	0.0	3.7	30.2	0.0	8.2	0.0	0.0	0.0	0.0	0.0
1856	11	20.2	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	12	6.5	0.0	0.0	0.0	12.7	0.0	0.0	0.0	0.0	0.0	10.1	0.0
1856	13	0.0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	20.5	13.7
1856	14	0.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0	20.3	0.0	5.0	0.0
1856	15	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	22.4	4.5	0.0	0.0
1856	16	0.0	0.0	0.0	0.0	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	17	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	64.0	0.0	0.0
1856	18	0.0	11.1	0.0	0.0	0.0	7.4	3.8	10.4	0.0	0.0	0.0	0.0
1856	19	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	6.8	0.0	0.0
1856	20	15.7	15.9	0.0	0.0	0.0	10.6	0.0	3.9	0.0	1.8	0.0	0.0
1856	21	0.0	18.4	0.0	0.0	0.0	0.0	1.2	0.0	11.3	0.0	0.0	0.0
1856	22	18.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0
1856	23	0.0	16.6	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0
1856	24	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	25	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	26	8.8	0.0	0.0	0.0	0.0	0.0	3.8	0.0	5.2	0.0	0.0	7.1
1856	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2
1856	28	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	7.9	0.0	0.0	3.6
1856	29	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1856	30	0.0		1.8	12.2	0.0	0.0	1.5	0.0	22.2	0.0	0.0	0.0
1856	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1857	1	0.0	0.0	0.0	0.0	7.2	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1857	2	0.0	0.0	0.0	14.9	0.0	4.6	0.0	0.0	10.5	0.0	0.0	0.0
1857	3	0.0	0.0	0.0	8.4	0.0	2.3	0.0	0.0	9.5	0.0	0.0	0.0
1857	4	0.0	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0
1857	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0
1857	6	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1857	7	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0
1857	8	0.0	0.0	0.0	0.0	0.0	0.0	5.1	1.5	0.0	6.4	0.0	0.0
1857	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
1857	10	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	7.2	0.0	0.0
1857	11	0.0	0.0	13.5	17.7	0.0	0.0	0.0	0.8	6.6	0.0	0.0	0.0
1857	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1857	13	0.0	0.0	0.0	0.0	1.5	1.9	0.0	0.0	0.0	3.5	0.0	0.0
1857	14	7.2	0.0	0.0	2.1	1.2	0.0	0.0	6.7	0.0	0.0	1.9	0.0
1857	15	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	9.2	0.0	0.0
1857	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0
1857	17	0.0	0.0	0.0	8.1	0.0	2.3	0.0	4.4	0.0	8.0	0.0	0.0
1857	18	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
1857	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0
1857	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1857	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	8.8
1857	22	0.0	0.0	7.3	0.0	0.0	8.0	0.0	8.2	0.0	32.2	0.0	0.0
1857	23	18.4	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1857	24	5.0	0.0	42.6	19.0	16.3	0.0	8.5	0.0	0.0	0.0	0.0	0.0
1857	25	0.0	0.0	2.9	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1857	26	0.0	0.0	24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	0.0
1857	27	0.0	0.0	8.1	0.0	15.3	0.0	0.0	0.0	0.0	5.6	14.4	0.0
1857	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	8.6	0.0
1857	29	0.0		0.0	0.0	0.0	0.0	0.0	4.8	5.4	0.0	10.3	0.0
1857	30	0.0		0.0	25.5	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
1857	31	0.0		0.0		0.0		8.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1858	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	3.5
1858	2	0.0	0.0	0.0	29.1	0.0	0.0	0.0	0.0	0.0	4.3	0.0	16.1
1858	3	0.0	0.0	37.8	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0
1858	4	0.0	0.0	8.4	0.0	13.0	0.0	7.7	0.0	0.0	0.0	0.0	2.9
1858	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0
1858	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	11.6
1858	7	0.0	0.0	0.0	0.0	0.0	0.0	7.9	15.9	0.0	0.0	5.6	0.0
1858	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	7.1
1858	9	0.0	0.0	6.6	18.0	11.1	0.0	0.0	0.0	2.3	0.0	0.0	0.0
1858	10	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
1858	11	0.0	0.0	0.0	20.9	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0
1858	12	0.0	0.0	0.0	13.2	7.5	0.0	1.8	0.0	0.0	12.9	0.0	0.0
1858	13	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
1858	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	7.3	0.0
1858	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.3	0.0	0.0	0.0	0.0
1858	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
1858	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0
1858	18	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1858	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0
1858	20	0.0	0.0	0.0	2.1	15.5	3.3	0.0	2.3	0.0	27.2	2.3	0.0
1858	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	38.4	0.0	0.0
1858	22	0.0	0.0	7.7	0.0	0.0	0.0	5.7	4.5	6.1	0.0	0.0	0.0
1858	23	0.0	0.0	0.0	1.3	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0
1858	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0
1858	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.7	0.0	0.0
1858	26	0.0	0.0	0.0	0.0	10.4	2.8	0.0	0.0	0.0	39.1	0.0	6.5
1858	27	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1858	28	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	2.6	24.0	3.2
1858	29	0.0		0.0	0.0	0.0	7.9	2.1	0.0	0.0	0.0	13.4	0.0
1858	30	0.0		0.0	0.0	3.1	0.0	2.4	0.0	0.0	13.5	0.0	0.0
1858	31	0.0		0.0		0.0		0.6	0.0		0.0		0.0
1859	1	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1859	2	0.0	13.1	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	22.2
1859	3	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	34.8
1859	4	0.0	0.0	0.0	0.0	15.5	27.3	0.0	0.0	0.0	0.0	0.0	3.0
1859	5	0.0	0.0	0.0	0.0	16.3	0.0	0.0	0.0	1.3	0.0	10.7	0.0
1859	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	9	0.0	0.0	0.0	0.0	10.1	15.5	1.7	0.0	0.0	0.0	0.0	0.0
1859	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	24.3	0.0
1859	11	0.0	0.0	0.0	21.5	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	12	0.0	0.0	0.0	6.1	0.0	38.8	0.0	0.0	2.3	0.0	0.0	0.0
1859	13	0.0	0.0	0.0	0.0	3.7	11.9	0.0	0.0	0.0	3.1	0.0	0.0
1859	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	15	0.0	14.8	0.0	0.0	13.3	0.0	0.0	0.0	3.5	21.2	0.0	0.0
1859	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	2.4	0.0	0.0
1859	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.8	0.0	0.0	0.0
1859	18	0.0	0.0	0.0	2.8	0.0	0.0	0.0	2.6	19.9	0.0	0.0	0.0
1859	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	0.0	0.0	0.0
1859	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	0.0	0.0
1859	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	0.0	0.0
1859	22	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	6.8	0.0	0.0
1859	23	0.0	0.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	24	0.0	0.0	0.0	2.5	2.9	0.0	21.3	0.0	0.0	9.9	0.0	0.0
1859	25	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	4.6	0.0	0.0
1859	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	22.7
1859	27	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	6.8	0.0	20.5
1859	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0
1859	29	0.0		0.0	2.2	0.0	0.0	0.0	22.5	0.0	26.2	0.0	0.0
1859	30	0.0		0.0	0.0	13.5	0.0	0.0	0.0	0.0	11.4	0.0	0.0
1859	31	0.0		11.2		16.4		0.0	16.5		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1860	1	0.0	0.0	0.0	0.0	11.7	0.0	6.4	0.0	0.0	0.0	0.0	7.1
1860	2	0.0	0.0	0.0	7.6	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0
1860	3	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
1860	4	14.3	0.0	0.0	0.0	8.6	0.0	0.0	0.4	0.0	0.0	0.0	4.0
1860	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9
1860	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1860	7	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	16.4	0.0	0.0	0.0
1860	8	0.0	0.0	0.0	7.3	0.0	13.8	0.0	6.8	5.7	0.0	0.0	0.0
1860	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
1860	10	0.0	0.0	0.0	36.2	0.0	0.0	5.1	0.0	0.0	14.5	0.0	11.0
1860	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
1860	12	0.0	25.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
1860	13	0.0	0.0	0.0	0.0	0.0	8.6	36.3	3.1	1.2	2.0	0.0	0.0
1860	14	0.0	5.9	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	17.0	0.0
1860	15	0.0	0.0	4.3	0.0	0.0	21.9	0.0	0.0	0.0	1.3	31.9	0.0
1860	16	0.0	0.0	0.0	0.0	3.7	0.0	0.0	1.2	6.0	0.0	0.0	4.4
1860	17	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1860	18	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0
1860	19	0.0	0.0	0.0	13.6	22.2	0.0	0.0	1.5	0.0	0.0	20.9	0.0
1860	20	0.0	0.0	0.0	24.1	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1860	21	0.0	0.0	0.0	4.9	0.0	0.0	7.2	0.0	1.5	0.0	0.0	0.0
1860	22	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0
1860	23	0.0	0.0	3.6	5.9	0.0	2.6	0.0	0.0	0.0	0.0	18.3	0.0
1860	24	14.8	0.0	0.0	0.0	0.0	0.0	26.5	0.0	0.0	0.0	19.0	0.0
1860	25	13.4	0.0	0.0	15.6	0.0	0.0	3.0	0.0	0.0	0.0	10.1	0.0
1860	26	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	12.4	0.0	0.0	32.0
1860	27	0.0	0.0	0.0	0.0	6.6	0.0	11.3	0.0	0.0	0.0	0.0	0.0
1860	28	0.0	7.9	0.0	3.2	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
1860	29	0.0	0.0	0.0	0.0	0.0	28.2	0.0	0.0	2.5	0.0	0.0	0.0
1860	30	0.0		0.0	0.0	0.0	0.0	8.4	0.0	9.5	0.0	0.0	0.0
1860	31	0.0		0.0		0.0		12.1	0.0		0.0		0.0
1861	1	0.0	0.0	13.5	15.1	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0
1861	2	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0
1861	5	0.0	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	6	0.0	0.0	0.0	0.0	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	7	0.0	0.0	0.0	0.0	5.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1861	8	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0
1861	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	10	0.0	8.0	0.0	0.0	0.0	0.0	25.6	0.0	0.0	0.0	8.1	0.0
1861	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	2.4	0.0
1861	12	0.0	10.6	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
1861	13	0.0	0.0	0.0	0.0	7.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0
1861	14	0.0	6.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	1.2	0.0	0.0
1861	15	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	11.4	0.0
1861	16	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	17	0.0	6.4	0.0	0.0	0.0	9.1	0.0	0.0	6.4	0.0	3.8	0.0
1861	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	19	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	20	0.0	0.0	2.9	0.0	4.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	21	0.0	3.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0
1861	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9	0.0
1861	25	0.0	12.9	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	9.0	0.0
1861	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.5	0.0	0.0	0.0
1861	28	0.0	0.0	1.3	11.6	0.0	12.5	0.0	0.0	12.4	0.0	0.0	0.0
1861	29	0.0		0.0	15.7	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0
1861	30	0.0		11.2	0.0	3.1	15.6	0.0	0.0	0.0	0.0	0.0	0.0
1861	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1862	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.6	0.0
1862	2	0.0	0.0	6.2	0.0	0.0	13.8	0.0	0.0	0.0	5.6	0.0	0.0
1862	3	0.0	0.0	21.7	0.0	0.0	0.0	0.0	0.0	21.6	5.3	50.9	21.1
1862	4	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0
1862	5	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	2.7	0.0	26.3	0.0
1862	6	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	15.2	0.0	5.4	0.0
1862	7	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1862	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.8	16.5	0.0	0.0
1862	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0
1862	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0
1862	11	0.0	0.0	0.0	4.8	19.1	0.0	0.0	1.4	0.0	0.0	0.0	0.0
1862	12	0.0	0.0	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1862	13	0.0	0.0	0.0	13.7	7.5	0.0	0.0	0.0	26.1	0.0	28.3	7.6
1862	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0
1862	15	0.0	0.0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0
1862	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.6	0.0	0.0	0.0	0.0
1862	17	0.0	0.0	0.0	0.0	0.0	0.0	8.4	22.4	0.0	0.0	0.0	0.0
1862	18	0.0	19.1	0.0	0.0	6.6	3.5	0.0	2.3	0.0	0.0	0.0	0.0
1862	19	0.0	0.0	0.0	0.0	0.0	17.5	2.1	0.0	0.0	0.0	0.0	0.0
1862	20	0.0	3.5	23.9	0.0	0.0	2.4	0.0	0.0	26.9	13.3	0.0	0.0
1862	21	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1862	22	38.9	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1862	23	0.0	0.0	8.7	0.0	0.0	11.5	0.0	10.4	0.0	0.0	0.0	0.0
1862	24	19.6	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	12.8	0.0
1862	25	0.0	0.0	0.0	0.0	0.0	4.1	0.0	1.4	0.0	4.9	3.5	0.0
1862	26	0.0	5.0	0.0	0.0	11.8	3.9	0.0	0.0	0.0	0.0	39.4	0.0
1862	27	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0
1862	28	0.0	0.0	27.2	0.0	0.0	0.0	0.0	18.8	0.0	12.6	0.0	0.0
1862	29	0.0		22.2	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0
1862	30	0.0		6.3	0.8	0.0	0.0	0.0	6.8	0.0	2.3	0.0	0.0
1862	31	0.0		5.2		0.0		0.0	0.0		5.5		15.4
1863	1	0.0	0.0	0.0	0.0	5.5	20.2	0.0	0.0	0.0	0.0	0.0	0.0
1863	2	0.0	1.7	0.0	0.0	0.0	2.1	0.0	0.0	0.0	24.3	4.9	0.0
1863	3	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	24.2	0.0	15.4
1863	4	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9	0.0
1863	5	0.0	0.0	0.0	2.3	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0
1863	6	0.0	0.0	2.3	0.0	4.3	9.0	0.0	0.0	2.3	20.9	0.0	0.0
1863	7	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0
1863	8	7.4	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	10	0.0	0.0	20.6	0.0	0.0	1.8	0.0	0.0	0.0	8.4	17.2	0.0
1863	11	27.8	0.0	98.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	12	7.2	0.0	24.3	0.0	0.0	0.0	0.0	0.0	3.6	0.0	6.5	0.0
1863	13	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	10.2	36.8	0.0
1863	14	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.8	0.0
1863	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	0.0
1863	16	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0
1863	17	4.4	0.0	13.8	12.3	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0
1863	18	30.6	0.0	3.5	1.1	0.0	0.0	7.9	0.0	0.0	9.9	0.0	0.0
1863	19	8.1	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	12.5
1863	20	0.0	0.0	3.8	3.2	0.0	1.9	0.0	2.3	0.0	0.0	0.0	0.0
1863	21	0.0	0.0	0.0	0.0	0.0	5.0	0.0	14.9	0.0	0.0	0.0	0.0
1863	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	0.0	0.0	0.0
1863	23	0.0	0.0	0.0	0.0	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	24	0.0	0.0	0.0	0.0	23.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	25	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	5.6	0.0	0.0	0.0
1863	26	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0	33.8	2.0	0.0	0.0
1863	27	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	2.2	0.0	3.8	0.0
1863	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1863	30	0.0		0.0	3.5	0.0	0.0	0.0	0.0	0.0	13.9	0.0	0.0
1863	31	0.0		0.0		0.0		1.1	6.9		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
(Attribution should be given to this paper and to INAF)

year	day	month												
		1	2	3	4	5	6	7	8	9	10	11	12	
1864	1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
1864	2	0.0	0.0	0.0	0.0	6.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	3	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	6.6	0.0	0.0
1864	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	5.5	0.0
1864	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	2.1	0.0	0.0	0.0
1864	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	7	0.0	0.0	3.8	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
1864	8	0.0	0.0	0.0	4.3	0.0	8.1	0.0	0.0	0.0	0.0	0.0	3.0	5.3
1864	9	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	10	0.0	0.0	0.0	0.0	5.0	3.2	2.9	0.0	0.0	0.0	0.0	0.0	0.0
1864	11	0.0	0.0	0.0	0.0	18.8	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	12	0.0	0.0	2.1	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
1864	13	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	21.3	0.0	12.8	0.0	0.0
1864	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
1864	15	0.0	0.0	0.0	0.0	7.0	14.7	0.0	0.0	0.0	0.0	6.0	10.7	0.0
1864	16	0.0	39.4	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3
1864	17	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	18	0.0	16.9	0.0	29.2	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	2.1
1864	19	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	1.1
1864	20	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	5.2	20.2	0.0	0.0	0.0
1864	21	0.0	21.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.0	2.3
1864	22	0.0	1.9	2.7	0.0	0.0	0.0	0.9	0.0	0.0	4.1	13.7	0.0	0.0
1864	23	0.0	0.0	0.0	7.0	0.0	0.0	11.7	0.0	0.0	7.2	0.0	0.0	0.0
1864	24	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	10.1	12.0	0.0	0.0
1864	25	0.0	19.8	2.8	0.0	0.0	1.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
1864	26	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
1864	27	0.0	0.0	0.0	0.0	16.3	10.7	0.0	0.0	0.0	5.0	21.4	0.0	0.0
1864	28	0.0	0.0	0.0	0.0	0.0	24.2	0.0	0.0	0.0	0.0	8.6	23.3	0.0
1864	29	0.0	30.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0
1864	30	0.0		0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	0.0
1864	31	0.0		6.9		0.0		0.0	0.0		0.0		0.0	0.0
1865	1	0.0	0.0	0.0	0.0	2.8	0.0	1.6	0.0	0.0	0.0	1.0	0.0	0.0
1865	2	0.0	3.3	4.4	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.1	9.2	0.0
1865	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	1.8	0.0
1865	4	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	9.6	0.0	0.0
1865	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	16.7	0.0	0.0
1865	6	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.5	0.0	0.0	0.0
1865	7	0.0	0.0	27.8	0.0	0.0	5.9	0.0	8.1	0.0	0.0	0.0	14.5	0.0
1865	8	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1865	9	0.0	0.0	3.6	0.0	0.0	0.0	0.0	4.3	0.0	0.0	21.4	0.0	0.0
1865	10	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	33.0	0.0	0.0	0.0
1865	11	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1865	12	0.0	0.0	1.9	0.0	0.0	18.5	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1865	13	5.4	0.0	4.0	0.0	6.3	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1865	14	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	0.0	0.0	0.0
1865	15	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.0
1865	16	0.0	0.0	0.0	0.0	0.0	1.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
1865	17	15.2	0.0	2.3	0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0
1865	18	0.5	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1865	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0
1865	20	0.0	0.0	3.6	0.0	17.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0
1865	21	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1865	22	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	4.9	0.0	0.0
1865	23	18.9	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	5.2	1.1	0.0	0.0
1865	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1865	25	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1865	26	0.0	0.0	12.8	0.0	3.5	6.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1865	27	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0	0.0
1865	28	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	3.2	0.0	0.0
1865	29	2.7		2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0
1865	30	0.0		0.0	0.0	0.0	1.2	0.0	14.2	0.0	0.0	1.3	0.0	0.0
1865	31	0.0		0.0		0.0		0.0	20.9		0.0		0.0	0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1866	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	2	4.0	0.0	16.3	27.6	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	3	0.0	5.0	30.1	1.7	20.4	0.0	0.0	0.0	17.5	0.0	0.0	3.3
1866	4	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	6	0.0	0.0	5.5	23.3	0.0	0.0	1.2	10.8	0.0	0.0	0.0	0.0
1866	7	0.0	0.0	0.0	26.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
1866	8	0.0	0.0	7.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
1866	9	0.0	0.0	9.1	0.8	0.0	0.0	0.0	4.2	13.6	0.0	0.0	0.0
1866	10	3.4	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	7.2	0.0
1866	11	0.0	3.6	0.0	0.0	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0
1866	12	6.4	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
1866	13	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1866	14	0.0	0.0	3.6	0.0	0.0	10.2	0.0	0.0	0.0	36.3	0.0	0.0
1866	15	0.0	0.0	0.2	0.0	0.0	9.5	0.0	0.0	0.0	0.5	0.0	0.0
1866	16	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	3.2	1.6	0.0	0.0
1866	17	0.0	0.0	20.1	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
1866	18	0.0	0.0	4.4	0.0	0.7	0.0	0.0	0.0	4.7	0.0	0.0	0.0
1866	19	0.0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0
1866	20	0.0	0.0	0.0	0.0	2.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1866	21	0.0	1.5	10.3	10.4	11.6	0.0	0.0	7.5	0.0	0.0	0.0	0.0
1866	22	0.0	0.0	5.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	23	4.5	0.0	6.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1866	24	0.0	14.4	0.0	0.0	0.0	3.0	25.6	0.0	0.0	0.0	0.0	0.0
1866	25	0.0	0.0	12.1	0.0	13.3	24.3	0.0	0.0	0.0	0.0	0.0	0.0
1866	26	0.0	0.0	10.1	0.0	4.2	1.7	0.0	0.0	0.0	0.8	0.0	0.0
1866	27	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.2	0.0	0.0	0.0
1866	28	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
1866	29	0.0		0.0	0.0	0.0	30.0	4.4	9.4	0.0	0.0	0.0	0.0
1866	30	0.0		0.0	20.0	9.0	1.1	0.0	4.4	0.0	0.0	0.0	0.0
1866	31	0.0		0.0		0.0		12.8	0.0		0.0		2.9
1867	1	0.0	0.0	0.0	0.0	4.1	8.4	0.0	0.0	0.0	0.0	0.0	0.0
1867	2	0.0	0.0	0.0	0.0	5.6	0.0	0.0	3.8	0.0	0.0	0.0	5.7
1867	3	0.0	0.0	0.0	1.1	0.0	0.0	0.0	37.9	0.0	0.0	10.4	0.0
1867	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	2.9	0.0	5.8
1867	5	0.0	23.1	0.0	0.0	0.0	4.1	0.0	3.9	0.0	3.9	0.0	2.6
1867	6	2.1	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0
1867	7	0.0	0.0	21.8	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0
1867	8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	16.6	0.0	3.7	0.0	0.0
1867	9	21.8	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1867	10	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0
1867	11	13.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0	0.0
1867	12	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1867	13	18.4	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
1867	14	2.5	0.0	2.9	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0
1867	15	7.2	0.0	0.7	0.0	1.1	45.1	0.0	0.0	0.0	0.0	0.0	0.0
1867	16	0.0	0.0	0.0	0.0	2.5	17.8	0.0	0.0	0.0	0.0	34.1	0.0
1867	17	0.0	0.0	0.0	0.0	3.6	0.6	0.0	0.0	18.6	0.0	11.2	0.0
1867	18	1.3	0.0	8.3	0.0	0.0	0.0	0.0	0.0	4.7	1.5	0.0	0.0
1867	19	2.1	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	6.5
1867	20	15.7	0.0	3.4	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0	14.3
1867	21	4.4	0.0	0.0	7.8	1.5	0.0	0.0	0.0	1.7	0.0	0.0	0.0
1867	22	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	8.5	3.2	0.0	0.0
1867	23	0.0	0.0	1.1	0.0	41.1	0.0	0.0	0.0	0.0	0.5	0.0	0.0
1867	24	0.0	0.0	0.0	0.0	0.0	2.8	0.0	7.7	0.0	7.9	0.0	0.0
1867	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.6	49.1	0.0	0.0	0.0
1867	26	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1867	27	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	24.3	0.0	0.0
1867	28	0.0	3.9	23.7	6.9	0.0	0.0	0.0	18.3	0.0	8.1	0.0	0.0
1867	29	0.0		3.2	18.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1867	30	0.0		6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1867	31	0.0		7.3		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1868	1	0.0	0.0	5.4	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1868	2	4.2	0.0	0.0	0.0	0.0	0.0	15.4	4.6	0.0	0.0	0.0	0.0
1868	3	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
1868	4	10.6	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	50.9	0.0	0.0
1868	5	6.2	0.0	0.0	0.0	0.0	27.7	0.5	19.7	0.0	0.8	0.0	0.0
1868	6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0
1868	7	0.0	0.0	0.0	0.0	2.4	0.0	12.6	0.0	0.0	0.0	24.8	0.0
1868	8	0.0	0.0	0.0	0.0	4.5	0.0	12.1	0.0	0.0	0.0	18.4	1.6
1868	9	0.0	0.0	2.2	3.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1868	10	0.0	0.0	14.9	3.5	0.0	40.7	0.0	0.0	0.0	0.0	0.0	0.0
1868	11	0.0	0.0	1.9	30.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1868	12	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1868	13	0.0	0.0	0.0	1.9	0.0	4.1	0.0	1.4	0.0	0.0	0.0	0.0
1868	14	0.0	0.0	0.0	0.5	16.8	0.4	6.6	2.2	17.2	0.0	7.1	1.4
1868	15	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	6.5	0.0	21.4	0.0
1868	16	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	6.3
1868	17	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	25.7	0.0	0.0	26.7
1868	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0	0.0	0.0	0.0
1868	19	2.4	0.0	3.4	0.0	5.4	0.0	0.0	0.0	0.0	7.8	0.0	2.7
1868	20	2.4	0.0	0.0	19.4	0.3	4.8	0.0	8.5	24.2	0.2	0.0	0.4
1868	21	0.0	0.0	0.0	19.5	0.0	8.3	0.0	0.0	42.4	0.0	0.0	0.0
1868	22	0.0	0.0	0.0	0.0	1.1	2.2	0.0	0.0	22.1	2.3	0.0	0.0
1868	23	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.5	10.6	0.0	0.0
1868	24	0.0	0.0	4.5	0.0	0.0	5.5	0.0	0.0	0.0	0.0	2.2	4.8
1868	25	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	11.1	0.0
1868	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.8	0.0
1868	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.3	0.0
1868	28	0.0	0.0	0.0	6.8	0.0	1.7	7.3	0.0	4.5	20.8	0.0	0.0
1868	29	0.0	0.0	0.0	0.5	0.0	0.0	0.8	18.3	0.0	0.0	0.0	2.2
1868	30	0.0		0.0	0.0	0.0	9.2	16.2	2.0	0.0	0.0	0.0	0.0
1868	31	0.0		0.0		0.0		1.4	0.0		0.0		13.2
1869	1	0.5	0.0	0.0	37.8	0.0	7.4	0.0	0.0	38.3	0.0	0.0	12.2
1869	2	0.0	11.1	4.5	6.2	0.0	5.5	17.4	0.0	0.0	0.0	0.0	33.5
1869	3	0.0	0.0	0.0	0.0	28.5	5.1	2.8	0.0	0.0	0.0	0.0	17.2
1869	4	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	3.7
1869	5	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4
1869	6	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1869	7	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	33.3	0.0	0.0	0.0
1869	8	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4
1869	9	0.0	1.9	0.0	0.0	3.0	5.3	0.0	0.0	0.0	4.5	0.0	18.8
1869	10	0.0	0.0	4.0	0.0	0.0	24.3	0.0	0.0	0.0	0.0	0.0	24.6
1869	11	0.0	0.8	3.2	0.0	2.3	6.9	0.0	0.0	0.0	0.0	19.1	10.5
1869	12	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1
1869	13	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
1869	14	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
1869	15	11.3	0.0	30.9	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1869	16	3.8	0.0	9.7	0.0	6.7	0.0	0.0	0.0	0.0	1.2	0.0	0.0
1869	17	3.8	0.0	3.0	1.0	3.8	0.0	0.0	2.5	0.0	12.2	0.0	0.9
1869	18	0.0	0.0	3.5	8.7	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
1869	19	0.0	0.0	0.0	31.6	0.0	6.3	0.0	0.0	0.0	6.9	0.0	0.0
1869	20	0.0	0.0	4.7	8.1	0.0	0.6	0.0	0.0	6.7	4.3	0.0	5.3
1869	21	0.0	2.7	28.2	0.0	0.0	26.4	0.0	0.0	3.0	20.3	4.5	8.5
1869	22	0.0	0.1	0.2	4.2	0.0	2.9	0.0	3.7	75.7	1.4	14.6	19.7
1869	23	0.0	0.0	0.8	0.0	1.2	2.3	0.0	0.0	0.0	0.0	0.0	16.2
1869	24	0.0	0.0	0.0	1.3	16.1	0.0	0.0	0.0	0.0	0.7	4.8	2.1
1869	25	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	1.4	1.5
1869	26	0.0	0.0	0.0	0.0	0.2	0.0	2.7	6.4	0.0	0.0	0.0	1.9
1869	27	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	8.7	0.0	1.8
1869	28	4.3	16.5	18.9	0.0	0.0	0.0	0.0	0.0	0.0	12.4	0.0	22.4
1869	29	0.0		9.7	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.8	12.3
1869	30	5.1		3.6	0.0	0.0	6.3	0.0	0.0	0.0	7.4	0.0	0.0
1869	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1870	1	0.0	0.0	0.0	0.0	0.0	10.6	4.4	0.0	0.0	0.0	0.5	0.0
1870	2	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.8	0.0	0.0	0.0
1870	3	1.3	0.0	0.0	0.0	0.0	1.5	0.3	0.0	0.0	0.0	0.0	0.0
1870	4	0.0	0.0	5.6	0.0	0.0	0.5	0.0	7.0	0.0	0.0	0.0	0.0
1870	5	0.0	0.0	3.4	0.0	0.0	2.0	0.0	1.2	0.0	0.0	0.0	0.0
1870	6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	18.3	0.0	0.0	0.0	0.0
1870	7	0.0	0.0	0.5	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	20.1
1870	8	0.0	0.0	2.5	0.0	0.9	0.0	0.0	12.0	8.4	0.0	0.0	15.6
1870	9	1.9	0.0	0.0	2.9	0.0	0.0	0.0	26.7	0.0	11.5	0.0	3.9
1870	10	19.7	0.0	0.0	0.0	7.2	4.5	0.0	1.0	0.0	0.0	8.4	0.0
1870	11	16.1	0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	20.3	0.0
1870	12	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.3
1870	13	0.0	11.1	0.0	0.0	0.0	0.0	5.7	10.8	0.0	0.0	3.9	11.0
1870	14	0.0	5.3	0.0	0.0	0.0	0.0	0.9	4.0	0.0	0.0	17.9	0.2
1870	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
1870	16	0.0	1.4	0.0	0.0	0.0	0.0	0.0	17.6	0.0	36.0	5.1	0.0
1870	17	0.0	2.2	0.0	0.0	0.0	0.0	1.4	1.1	0.0	1.9	10.3	0.0
1870	18	0.0	0.0	0.0	0.0	0.0	0.0	0.5	10.8	0.0	0.7	2.2	0.0
1870	19	0.0	2.2	0.0	0.0	0.0	0.0	0.0	11.8	3.0	0.0	11.3	0.0
1870	20	0.8	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	2.9	10.6	0.0
1870	21	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	9.1	5.9	0.0
1870	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	4.2
1870	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	3.4	0.0
1870	24	0.0	0.0	16.0	0.0	0.0	15.4	0.0	0.0	0.0	11.3	5.0	17.5
1870	25	0.0	0.0	21.3	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	8.3
1870	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1870	27	0.0	3.8	0.0	0.0	7.2	0.0	3.6	15.1	0.0	0.0	6.2	1.9
1870	28	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
1870	29	0.0		0.0	6.4	0.0	4.0	15.9	0.0	0.0	0.0	0.0	10.1
1870	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
1870	31	0.0		0.0		0.0		0.0	0.3		0.0		0.0
1871	1	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.8	0.0	10.9
1871	2	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0
1871	3	4.7	0.0	0.0	0.0	0.0	28.5	0.0	0.0	0.0	1.6	0.0	0.0
1871	4	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0
1871	5	0.0	0.0	0.0	2.6	0.0	6.6	0.0	0.0	0.0	4.8	0.0	0.0
1871	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	13.7	0.0
1871	7	0.0	0.0	0.0	0.0	1.1	4.0	0.0	0.0	0.0	0.0	17.6	0.0
1871	8	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	20.1	0.0
1871	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0
1871	10	29.2	0.5	0.0	8.1	3.3	3.1	0.0	0.0	0.0	1.9	0.3	0.0
1871	11	0.0	0.0	0.0	0.7	0.0	1.6	0.0	0.2	0.0	0.0	0.0	0.0
1871	12	0.0	0.0	0.0	0.0	0.0	0.0	1.1	6.0	0.0	0.0	4.7	0.0
1871	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	39.3	0.0
1871	14	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1871	15	0.0	0.0	1.3	7.0	8.4	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1871	16	0.0	0.0	0.0	2.9	24.5	0.0	0.0	0.0	0.0	0.0	3.2	0.0
1871	17	0.0	0.0	23.5	0.7	9.7	0.0	0.0	22.7	0.0	0.0	6.2	0.0
1871	18	5.6	0.0	1.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.0
1871	19	2.4	0.0	0.0	0.0	3.6	6.1	0.0	3.9	0.0	0.0	0.0	0.0
1871	20	0.0	0.0	3.8	2.9	0.0	7.1	0.0	0.0	15.1	0.0	0.0	0.0
1871	21	0.0	0.0	14.4	0.0	0.0	30.8	0.0	0.0	8.0	0.0	0.0	0.0
1871	22	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	2.3	0.0
1871	23	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5
1871	24	17.8	0.0	0.0	1.2	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
1871	25	18.1	0.0	0.0	0.2	0.0	12.3	1.1	0.0	0.0	0.0	0.0	0.0
1871	26	16.8	0.0	3.6	0.0	0.0	10.5	0.0	0.0	18.2	0.8	6.3	0.0
1871	27	7.2	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1871	28	1.1	0.0	9.8	11.2	0.0	0.0	0.0	0.0	1.5	9.4	0.0	0.0
1871	29	0.0		4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.4	0.0
1871	30	2.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0
1871	31	2.1		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1872	1	0.0	0.0	0.0	3.9	0.0	31.9	0.5	7.9	0.0	0.0	0.0	3.2
1872	2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	14.3	0.0	0.0	0.0	9.1
1872	3	0.0	0.0	0.0	5.5	0.0	1.9	13.9	11.6	0.0	0.0	5.4	12.7
1872	4	0.0	0.0	0.0	6.0	0.0	28.6	0.4	0.0	0.0	0.5	0.0	15.7
1872	5	0.0	0.0	0.0	0.0	1.2	20.2	0.0	0.0	0.0	20.9	0.0	0.0
1872	6	3.6	0.0	0.2	1.4	1.4	2.5	2.2	0.0	0.0	12.6	0.0	0.0
1872	7	1.2	0.0	0.5	0.0	2.3	0.0	0.1	0.0	0.0	10.3	0.0	5.7
1872	8	2.6	0.0	0.4	0.0	1.8	0.0	0.0	0.0	0.0	2.2	0.0	0.0
1872	9	5.6	0.0	0.0	0.0	22.5	1.2	0.0	0.0	0.0	12.5	0.0	18.1
1872	10	0.0	0.0	0.3	0.0	1.8	17.4	3.3	0.0	0.0	0.0	0.0	0.0
1872	11	0.0	1.7	12.6	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	18.3
1872	12	0.0	1.5	0.5	0.0	32.0	0.9	0.0	0.0	0.0	0.0	12.6	9.1
1872	13	0.0	10.4	0.0	0.0	3.3	0.0	0.0	0.0	0.0	19.9	1.0	0.0
1872	14	0.0	6.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	31.7	14.0	0.0
1872	15	0.0	9.7	0.2	0.0	0.0	0.0	0.0	2.1	0.0	5.9	0.1	0.0
1872	16	0.0	14.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	10.2	0.0	0.0
1872	17	4.4	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.1	9.1	0.0
1872	18	1.9	0.0	0.0	2.3	0.0	0.0	14.5	0.0	0.0	0.2	0.0	29.4
1872	19	0.8	0.0	3.8	1.5	0.3	0.1	0.0	0.0	1.4	0.0	2.4	0.0
1872	20	2.9	0.0	0.0	9.9	0.3	1.4	0.0	0.0	1.9	12.6	0.2	0.0
1872	21	0.1	0.0	1.5	4.6	0.0	0.8	0.0	1.3	0.5	19.5	0.0	0.0
1872	22	0.1	0.0	5.4	0.0	0.0	0.0	0.0	19.2	0.0	65.8	0.0	0.0
1872	23	1.0	0.0	11.5	4.0	0.0	4.4	0.0	17.7	0.0	6.7	0.0	0.0
1872	24	6.5	1.3	16.7	3.0	0.0	0.0	0.0	0.4	0.5	0.4	7.0	0.0
1872	25	5.8	1.9	9.8	5.0	9.1	9.5	0.0	0.2	0.0	45.9	3.3	0.0
1872	26	0.4	3.7	0.0	0.0	5.1	3.8	0.0	0.0	2.3	1.2	0.0	1.4
1872	27	0.0	0.0	0.0	0.0	3.6	0.0	0.0	10.5	2.2	1.1	0.0	0.0
1872	28	6.4	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	21.3	0.4	0.9
1872	29	0.0	0.0	0.0	0.7	0.3	0.0	0.6	0.0	0.0	2.8	0.5	0.0
1872	30	0.0		0.0	12.5	0.9	3.7	0.0	0.0	0.0	0.0	0.0	0.1
1872	31	0.0		11.2		0.0		1.6	1.0		0.0		1.8
1873	1	9.3	0.0	0.0	0.0	0.0	0.3	5.9	0.0	0.0	0.0	0.2	0.0
1873	2	2.1	0.0	0.0	0.0	0.0	0.0	2.7	18.8	0.0	0.0	10.3	0.0
1873	3	6.7	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.2	0.0	0.1	0.0
1873	4	1.4	8.3	0.0	0.0	6.2	0.9	0.0	0.0	0.2	0.0	6.3	0.0
1873	5	0.0	0.0	0.0	0.8	0.0	3.4	0.0	0.0	18.3	0.0	2.4	0.0
1873	6	0.0	15.1	0.0	2.6	0.0	1.2	0.0	0.0	4.2	0.0	0.5	0.0
1873	7	0.0	17.4	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.1	0.0
1873	8	0.0	8.3	0.0	6.7	10.5	4.2	1.9	0.0	0.0	0.0	4.2	0.0
1873	9	0.0	7.1	0.0	0.0	7.7	0.0	0.1	0.0	0.0	6.1	12.1	0.0
1873	10	0.0	0.1	0.0	21.0	0.0	0.0	0.0	3.8	0.0	7.2	26.5	0.0
1873	11	0.0	0.0	2.8	8.2	0.5	0.0	0.0	0.0	0.0	0.2	6.0	0.0
1873	12	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1873	13	0.0	0.0	5.4	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0
1873	14	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6	0.0
1873	15	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	9.8	2.2	0.0
1873	16	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
1873	17	0.0	0.0	3.9	28.9	0.0	0.2	0.0	0.0	0.0	36.5	0.0	0.0
1873	18	0.0	0.0	12.5	0.0	13.5	0.0	0.0	16.1	0.0	7.1	0.0	0.0
1873	19	0.5	0.0	33.5	0.2	2.2	0.0	12.7	1.1	0.0	1.1	0.0	0.0
1873	20	28.7	0.0	0.1	3.1	0.5	1.0	0.0	20.2	0.0	2.6	0.0	0.0
1873	21	0.0	0.0	8.0	2.4	5.4	0.0	0.0	0.0	0.0	2.4	0.0	0.0
1873	22	23.0	0.0	4.4	1.2	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8
1873	23	1.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.4
1873	24	3.9	0.0	0.0	6.6	0.0	20.0	23.3	1.0	0.0	0.1	0.0	0.0
1873	25	28.0	0.3	0.0	2.9	0.0	0.1	1.2	0.0	0.0	7.6	0.0	0.0
1873	26	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1873	27	0.0	26.3	0.0	5.7	11.8	0.0	0.0	0.0	0.0	0.0	11.4	3.4
1873	28	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9
1873	29	3.6		0.0	0.0	0.0	0.0	2.7	0.1	0.0	0.0	0.0	0.0
1873	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	2.1	0.0
1873	31	0.5		0.0		12.0		0.0	0.0		6.4		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1874	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.2	0.0	0.3
1874	2	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	11.2	0.0	0.2
1874	3	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	1.7	0.0	1.9
1874	4	3.2	0.0	0.0	0.0	0.4	0.0	0.0	1.4	0.0	0.0	0.0	63.6
1874	5	5.5	0.0	0.0	5.7	11.8	4.4	0.0	0.0	0.0	0.0	0.0	29.3
1874	6	0.0	0.0	0.0	10.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.9
1874	7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
1874	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1874	9	0.0	0.7	0.0	2.0	2.1	0.0	0.0	1.4	0.0	0.0	0.0	3.0
1874	10	0.0	0.0	5.4	2.1	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1874	11	0.0	0.0	4.2	0.0	20.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0
1874	12	0.0	0.0	2.4	4.0	16.6	0.0	5.8	0.0	0.0	0.0	17.9	0.0
1874	13	0.0	0.0	0.5	5.3	0.3	38.2	0.0	0.0	20.9	0.0	3.2	0.0
1874	14	0.0	0.0	0.0	12.9	1.2	16.6	0.0	0.0	0.0	0.0	15.4	7.0
1874	15	0.0	0.0	0.0	4.4	1.6	17.3	0.0	8.1	0.0	0.0	11.0	0.0
1874	16	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.3	3.1	13.9	0.0	0.0
1874	17	3.0	30.7	0.0	0.0	0.0	0.0	4.7	0.0	2.7	0.1	0.0	0.0
1874	18	0.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3
1874	19	0.0	16.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	18.2
1874	20	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	12.6
1874	21	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	1.1	0.9	0.0	3.6
1874	22	0.0	0.0	0.0	0.0	0.4	0.4	9.3	1.4	4.9	0.0	0.0	1.1
1874	23	0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0	1.4	0.0	0.0
1874	24	0.0	0.0	0.3	0.0	4.6	0.0	6.6	0.0	0.0	0.0	0.0	0.0
1874	25	0.0	0.0	0.0	0.0	3.8	7.8	2.2	0.0	0.0	0.0	0.0	0.0
1874	26	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0
1874	27	0.0	0.0	0.0	0.0	1.3	15.6	0.0	0.0	0.0	0.0	0.0	0.0
1874	28	0.0	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0
1874	29	0.0		0.0	0.0	0.0	0.7	0.0	5.1	0.0	0.0	0.3	1.5
1874	30	0.0		0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.0	7.6	24.9
1874	31	0.0		0.0		0.0		1.4	0.0		0.0		0.0
1875	1	0.7	0.0	5.1	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	17.3
1875	2	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
1875	3	0.0	0.0	0.0	0.0	1.9	0.0	1.4	0.0	0.0	0.0	0.0	33.8
1875	4	0.0	0.0	0.0	0.0	0.0	0.0	13.2	14.6	0.0	0.0	0.0	14.4
1875	5	1.7	0.0	0.0	0.0	10.6	0.9	0.0	2.5	0.0	0.0	0.0	7.4
1875	6	0.5	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1875	7	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	24.9	0.0	1.7	0.0
1875	8	0.0	0.0	0.0	7.1	0.0	0.0	1.5	0.0	0.0	0.0	3.8	0.0
1875	9	0.0	0.0	0.0	5.8	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1875	10	0.0	0.0	0.0	15.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1875	11	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	29.6	0.5	0.0
1875	12	0.0	0.0	1.4	0.3	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
1875	13	0.0	0.0	0.4	6.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1875	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0
1875	15	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	39.2	2.3	0.0
1875	16	1.1	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.5	0.0	0.0
1875	17	1.0	0.0	0.0	0.0	0.0	1.6	30.4	0.0	0.0	0.0	0.0	0.0
1875	18	0.0	0.0	0.0	0.0	6.4	0.9	2.0	0.0	0.0	0.0	0.0	0.0
1875	19	0.0	0.0	0.0	0.0	0.0	24.5	0.0	0.0	0.0	0.8	0.0	0.0
1875	20	0.0	12.3	0.0	0.0	1.2	1.1	0.0	0.0	0.0	8.1	0.0	0.0
1875	21	0.4	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.7	6.5	1.4
1875	22	1.2	0.0	0.0	0.0	0.0	0.0	40.2	0.0	0.0	14.1	0.0	0.0
1875	23	0.0	0.0	0.0	0.0	0.0	0.0	1.1	11.5	0.0	1.1	0.0	0.0
1875	24	0.0	1.7	0.0	0.0	0.0	6.0	1.1	0.0	0.0	33.8	0.0	0.0
1875	25	6.3	23.3	0.0	2.4	0.0	1.0	0.0	0.4	0.0	0.3	11.6	0.0
1875	26	0.2	0.0	0.0	3.1	1.4	4.7	0.3	1.1	0.0	0.3	22.1	0.0
1875	27	0.0	0.0	0.0	2.2	0.3	12.0	0.0	0.0	0.0	0.0	1.9	0.0
1875	28	0.0	1.7	0.7	0.0	0.0	16.8	0.0	0.0	0.0	24.9	15.9	0.0
1875	29	0.0		11.0	0.0	0.0	2.5	0.0	0.0	1.1	0.0	5.2	0.0
1875	30	0.0		0.0	0.0	51.4	0.0	0.0	3.8	6.2	0.0	1.2	0.0
1875	31	0.0		0.0		1.1		0.0	50.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1878	1	11.1	0.0	0.0	4.2	1.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0
1878	2	0.0	0.0	0.0	2.5	1.5	0.0	6.8	9.2	0.1	14.3	12.7	0.0
1878	3	0.0	0.0	0.0	0.0	0.0	0.0	19.5	6.4	0.0	0.0	0.0	0.0
1878	4	0.0	0.0	0.0	0.0	2.0	0.0	3.2	0.0	0.0	0.0	0.0	0.5
1878	5	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1878	6	0.0	0.0	0.0	0.0	0.0	5.8	0.0	2.6	0.0	0.0	7.2	0.0
1878	7	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	2.2	5.4
1878	8	10.6	0.0	0.0	0.0	0.7	0.0	0.6	0.0	0.0	0.0	0.0	0.2
1878	9	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.2	0.0	11.3
1878	10	0.2	0.0	0.0	0.0	0.0	0.0	5.6	0.0	5.9	0.0	0.0	0.4
1878	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	3.4	4.5	0.0
1878	12	0.0	0.0	0.0	0.0	10.3	0.0	0.0	20.5	0.0	0.0	4.4	4.1
1878	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6	6.9	0.0
1878	14	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.2	13.7	22.7	0.0
1878	15	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	35.2	0.3	0.0	0.0
1878	16	0.0	0.0	0.0	0.5	0.1	19.1	0.0	0.0	0.0	0.0	22.5	15.8
1878	17	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0	2.0	0.0
1878	18	0.0	0.0	0.0	4.3	0.0	24.3	0.0	0.0	0.0	9.0	1.3	6.7
1878	19	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	3.4	0.0
1878	20	0.0	0.0	0.0	0.0	0.0	4.4	0.0	3.5	6.2	0.0	12.0	12.0
1878	21	0.0	0.0	0.0	22.7	0.0	16.1	0.4	0.3	25.5	0.5	5.7	1.4
1878	22	0.0	0.0	0.0	1.4	7.7	0.0	0.0	0.8	3.1	5.6	10.4	0.1
1878	23	0.4	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1878	24	0.0	0.0	6.6	42.5	0.2	2.2	0.0	0.0	29.1	0.0	0.0	0.0
1878	25	0.0	0.0	0.2	4.8	9.5	2.6	0.5	0.0	11.7	0.0	3.2	0.0
1878	26	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	2.4	3.7	9.6	0.0
1878	27	0.0	0.0	0.0	33.2	0.0	4.1	1.4	0.0	0.0	0.9	6.0	4.0
1878	28	0.0	0.0	1.4	0.0	11.4	5.4	0.0	0.0	0.0	2.7	0.0	0.0
1878	29	0.0		32.9	0.0	0.3	0.1	1.9	0.0	0.0	0.0	12.0	2.5
1878	30	0.0		3.7	0.5	0.0	0.1	0.0	0.0	0.0	3.8	0.0	3.1
1878	31	0.0		7.0		0.0		0.0	0.1		0.0		0.0
1879	1	0.0	0.0	0.0	0.0	0.4	4.0	0.0	0.0	0.0	0.0	1.1	4.9
1879	2	2.0	0.8	0.0	9.7	1.8	0.0	0.0	0.0	34.6	0.0	1.3	0.0
1879	3	0.0	3.2	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	15.5	5.7
1879	4	8.9	8.4	0.0	11.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1879	5	3.5	0.4	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	6	3.1	3.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1879	7	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	8	0.0	0.0	0.0	18.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	9	0.0	0.0	0.0	0.0	11.3	3.2	0.0	0.0	1.9	0.0	0.0	0.0
1879	10	1.4	0.7	0.0	0.0	3.7	0.0	4.4	0.0	0.0	0.0	0.0	0.0
1879	11	0.0	1.2	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	12	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	13	0.0	0.0	0.0	0.0	1.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	14	0.0	1.2	0.0	8.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
1879	15	0.0	22.6	0.0	6.0	0.0	0.0	2.2	0.0	0.0	1.7	0.0	0.0
1879	16	0.0	19.0	0.0	0.3	2.5	0.0	0.0	0.0	0.6	32.5	0.0	0.0
1879	17	0.0	9.9	0.0	5.8	21.5	1.2	0.0	30.4	39.6	10.3	0.0	5.0
1879	18	0.0	0.0	0.0	0.5	3.3	1.8	0.0	1.0	11.5	0.0	0.0	0.0
1879	19	0.0	0.0	0.4	0.2	0.0	12.3	0.0	0.0	0.0	0.0	5.3	0.0
1879	20	0.0	2.0	1.1	0.0	0.2	0.0	0.0	0.0	0.0	0.3	3.2	0.0
1879	21	0.0	3.9	6.0	14.2	0.1	0.0	0.0	0.0	0.7	0.2	0.0	0.0
1879	22	11.2	1.3	19.2	9.4	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
1879	23	2.8	12.1	3.4	7.4	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
1879	24	0.2	0.1	4.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
1879	25	0.0	26.3	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1879	26	0.4	0.1	8.0	3.2	43.3	0.0	0.0	0.5	42.0	0.0	5.3	0.0
1879	27	0.0	0.0	14.7	5.5	19.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1879	28	13.4	1.1	0.7	31.7	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	29	0.0		0.0	1.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1879	30	6.3		0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	16.0	0.0
1879	31	5.4		0.0		3.7		0.0	0.0		4.8		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1876	1	0.0	0.0	0.0	4.4	0.3	1.9	1.2	0.0	0.0	0.0	0.0	0.0
1876	2	0.0	0.0	5.3	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0
1876	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
1876	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9
1876	5	0.0	3.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1876	6	1.7	1.7	0.3	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0
1876	7	5.4	0.0	0.0	0.0	19.2	0.0	0.0	0.0	0.0	0.0	0.0	11.9
1876	8	8.3	0.0	0.0	0.0	22.4	0.7	8.2	0.0	0.0	0.0	5.2	1.1
1876	9	8.6	0.0	1.1	0.0	10.5	40.0	19.9	0.0	0.0	0.0	2.0	1.5
1876	10	4.0	11.6	7.6	0.0	0.7	22.5	0.0	0.0	5.8	0.0	2.9	0.0
1876	11	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0
1876	12	16.5	0.0	0.0	0.0	13.9	0.1	45.1	0.0	11.9	0.5	0.0	0.0
1876	13	49.3	0.0	0.0	0.0	5.4	0.5	0.0	0.0	0.0	0.5	0.0	0.0
1876	14	20.8	0.0	1.6	0.0	0.5	0.0	0.0	5.9	28.9	0.5	0.0	0.0
1876	15	0.0	0.0	0.0	14.8	4.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0
1876	16	0.0	0.0	0.0	7.6	1.6	1.6	0.0	0.3	0.0	0.2	0.0	0.2
1876	17	0.0	0.0	0.1	11.5	0.0	5.7	0.8	0.0	0.0	0.1	21.0	0.0
1876	18	0.0	0.0	4.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	8.6	1.2
1876	19	0.0	0.0	11.3	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4
1876	20	0.0	0.0	0.0	11.7	0.0	0.0	0.8	0.0	0.0	0.3	5.7	1.1
1876	21	0.5	0.0	0.0	6.2	0.0	0.8	0.8	0.0	0.0	0.0	13.9	23.9
1876	22	12.6	0.0	7.5	7.0	0.0	0.0	0.0	3.5	0.0	2.9	0.4	0.8
1876	23	0.0	7.9	11.4	6.6	0.0	1.0	0.0	12.5	0.0	0.4	0.0	0.0
1876	24	0.0	2.4	14.7	2.7	0.0	9.7	0.0	2.7	0.0	0.0	0.0	20.0
1876	25	0.0	0.0	15.5	0.0	5.0	7.8	38.1	31.5	0.0	0.0	0.0	0.0
1876	26	0.0	0.4	0.0	3.5	0.0	18.0	7.3	0.0	0.0	0.0	0.0	0.0
1876	27	0.0	0.0	0.0	3.5	1.5	0.6	0.0	1.1	0.0	0.0	10.1	0.0
1876	28	0.0	0.0	0.0	0.0	0.3	0.0	0.0	10.2	0.0	0.0	17.2	0.0
1876	29	0.0	0.0	1.1	0.7	0.0	0.7	5.0	0.0	0.0	0.0	11.7	0.0
1876	30	0.0		0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.3	0.0
1876	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1877	1	0.0	0.0	0.0	0.0	8.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1877	2	4.5	0.0	0.0	0.0	2.5	19.2	0.8	2.1	0.0	0.0	0.0	22.9
1877	3	0.3	0.0	0.0	0.0	0.0	0.0	3.3	1.3	0.0	0.0	0.0	33.3
1877	4	0.8	0.0	8.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9
1877	5	6.3	0.0	23.4	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1877	6	2.3	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
1877	7	1.1	0.0	11.0	0.0	2.7	0.0	8.9	0.0	0.0	0.0	0.0	0.0
1877	8	0.0	0.0	1.5	0.0	4.2	0.0	10.2	0.0	18.6	1.3	0.0	0.0
1877	9	0.8	0.0	0.0	0.0	0.4	0.0	0.0	7.0	0.0	0.0	0.0	0.0
1877	10	0.7	0.0	0.0	7.6	0.0	0.0	0.0	0.0	6.3	0.0	0.8	0.0
1877	11	0.9	0.0	0.0	7.3	4.1	0.0	0.0	0.0	0.0	0.0	24.9	0.0
1877	12	1.9	0.0	0.0	8.4	1.1	0.0	0.0	0.9	0.0	0.0	1.7	0.0
1877	13	0.0	0.0	0.0	0.0	0.3	0.3	1.9	0.0	0.0	0.0	21.4	3.6
1877	14	0.0	0.0	0.0	0.8	0.0	0.2	0.0	0.0	0.0	0.0	7.8	0.0
1877	15	0.0	0.0	0.0	0.2	5.9	0.3	33.1	0.0	0.0	0.0	0.0	0.0
1877	16	0.0	0.0	0.0	4.7	1.7	0.0	0.0	0.0	14.8	0.7	0.0	0.0
1877	17	0.0	0.0	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1877	18	0.0	13.6	0.2	14.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1877	19	0.0	0.0	0.1	8.0	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1877	20	0.0	5.0	6.4	0.4	25.4	0.0	0.1	0.0	0.0	0.0	6.3	0.0
1877	21	2.7	7.3	0.2	0.0	12.3	0.0	0.0	0.0	0.3	0.0	16.8	0.0
1877	22	0.0	0.0	5.3	0.0	56.0	0.0	0.0	0.0	17.3	0.0	0.0	0.0
1877	23	0.0	0.0	10.6	0.0	11.1	35.0	0.0	0.0	1.5	0.0	0.0	0.0
1877	24	0.0	0.0	0.0	1.3	49.6	25.1	0.0	0.3	0.0	4.5	0.0	1.8
1877	25	0.0	0.0	1.9	0.0	3.0	0.0	15.4	0.0	0.0	0.2	6.4	0.3
1877	26	7.2	0.0	12.5	0.0	2.2	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1877	27	1.8	2.4	3.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1877	28	0.0	0.1	0.0	4.1	0.0	0.0	9.0	0.0	0.0	0.0	3.4	0.0
1877	29	0.0		0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
1877	30	0.0		0.0	12.6	0.9	0.0	0.0	0.0	0.0	0.0	13.3	0.0
1877	31	0.0		0.0		0.5		0.0	7.6		0.0		1.5

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1880	1	0.0	0.0	0.0	0.0	11.7	2.4	0.0	0.0	0.2	0.0	0.0	0.0
1880	2	0.0	0.0	0.0	22.1	7.6	4.8	0.0	28.3	0.0	0.0	0.0	0.0
1880	3	0.0	0.0	0.0	0.0	1.8	0.1	0.0	3.1	0.0	0.0	0.0	0.0
1880	4	0.0	0.0	0.0	0.0	4.8	0.3	0.0	0.0	0.0	0.0	15.2	0.0
1880	5	0.0	0.0	0.0	9.9	0.0	6.3	0.0	0.0	0.0	0.0	6.1	0.0
1880	6	0.0	0.0	0.0	6.2	4.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1880	7	0.0	0.0	0.0	23.9	2.6	0.0	0.0	8.5	0.0	0.0	0.4	0.0
1880	8	0.0	0.0	0.0	7.1	10.5	0.0	0.0	0.0	0.0	17.1	0.7	0.0
1880	9	0.0	0.0	0.0	2.2	3.9	0.0	0.0	0.0	27.0	0.0	22.7	0.0
1880	10	0.0	0.5	0.0	9.5	0.1	0.0	0.0	1.4	2.7	2.1	0.0	0.0
1880	11	0.0	16.8	0.0	0.0	13.8	1.6	0.0	0.0	1.4	0.6	0.0	0.0
1880	12	0.0	1.9	0.0	0.0	0.0	3.9	0.0	0.2	0.8	15.0	0.0	0.0
1880	13	0.0	7.9	0.0	0.0	0.0	0.0	0.8	0.0	16.4	0.0	0.0	0.0
1880	14	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1880	15	0.0	0.0	0.0	0.0	0.0	6.9	0.0	1.7	3.6	0.0	0.0	0.0
1880	16	0.0	0.0	0.0	0.0	0.0	4.2	0.0	5.7	1.9	0.0	0.0	0.0
1880	17	0.0	0.0	0.0	33.8	0.0	0.0	0.0	0.5	0.0	0.0	7.0	1.9
1880	18	0.0	8.6	0.0	0.0	15.5	1.6	0.0	0.0	0.0	0.0	1.3	1.0
1880	19	0.0	0.0	0.0	0.0	7.4	0.0	0.0	5.1	0.0	0.0	9.2	0.2
1880	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.2
1880	21	0.0	0.0	0.0	0.0	0.0	8.5	0.0	11.1	0.5	0.0	26.0	1.3
1880	22	0.0	0.3	0.0	0.0	0.0	13.1	7.9	0.0	0.0	0.0	17.1	0.0
1880	23	0.0	9.4	0.0	0.0	0.0	5.7	0.6	17.0	0.0	0.0	0.0	0.0
1880	24	0.0	2.1	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.9	0.0	2.7
1880	25	0.0	2.5	0.0	0.0	0.0	0.1	0.0	1.3	2.1	0.0	0.0	0.0
1880	26	0.0	0.0	0.0	0.0	0.0	4.1	0.0	3.6	0.0	0.0	0.0	0.0
1880	27	0.0	0.0	0.0	1.3	0.0	0.0	0.3	0.0	18.8	0.0	0.0	0.0
1880	28	0.6	0.0	0.1	1.8	0.0	0.0	0.0	7.0	0.0	0.2	0.0	0.0
1880	29	0.0	0.0	0.0	0.0	0.2	0.0	0.0	33.0	0.0	0.0	0.0	0.7
1880	30	0.0		0.0	22.9	10.8	0.0	0.0	0.0	0.0	0.3	0.0	2.6
1880	31	0.0		0.0		2.4		15.1	0.0		0.0		0.0
1881	1	0.0	0.0	9.3	2.2	0.0	0.0	7.0	0.0	37.3	6.2	0.0	5.6
1881	2	0.0	0.0	14.7	7.7	0.0	0.0	0.0	0.0	16.0	2.1	0.0	0.0
1881	3	4.4	0.0	0.0	1.8	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	4	9.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.2	3.3	0.0	0.0
1881	5	40.2	0.0	0.0	1.1	13.9	0.0	0.0	0.0	0.2	13.0	0.0	0.0
1881	6	18.8	1.0	0.0	0.1	0.0	6.6	0.0	0.0	0.0	1.6	0.0	0.0
1881	7	0.0	3.8	0.0	3.1	0.0	4.4	0.0	0.0	12.7	0.0	0.0	0.0
1881	8	0.0	0.0	0.0	12.4	0.0	1.8	0.0	0.0	0.0	2.0	0.2	0.0
1881	9	0.0	0.0	0.0	1.2	10.9	7.7	5.4	0.7	0.0	10.4	0.0	0.0
1881	10	0.0	0.0	0.0	4.0	0.6	0.4	0.0	0.0	0.2	0.2	0.0	1.3
1881	11	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	16.0	2.7	0.0	5.9
1881	12	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.3	0.0	0.0	23.5
1881	13	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.9	0.0	0.0	0.0	7.7
1881	14	0.0	0.0	0.0	0.9	0.0	6.8	0.0	11.0	0.0	0.0	0.0	0.0
1881	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0
1881	16	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	4.5	0.0	0.0	0.0
1881	17	0.0	0.1	0.0	0.0	22.7	0.0	0.0	6.7	0.0	4.9	0.0	0.0
1881	18	30.0	0.3	0.0	0.0	0.2	0.1	0.0	2.0	0.0	0.0	0.0	0.0
1881	19	25.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	20	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
1881	21	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
1881	22	1.0	0.0	1.4	0.2	0.0	0.0	13.4	0.0	2.0	39.4	0.0	0.0
1881	23	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	24	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0
1881	25	0.0	0.0	19.9	0.0	0.0	2.7	0.0	0.0	0.0	0.1	0.0	0.0
1881	26	25.0	0.0	0.4	0.0	1.4	6.9	0.0	0.0	0.0	0.1	0.0	0.0
1881	27	30.0	0.1	0.4	5.9	11.1	3.1	0.0	0.0	0.0	11.4	0.0	0.0
1881	28	65.0	2.9	0.0	0.2	0.0	0.0	0.0	11.9	0.0	0.1	0.4	0.0
1881	29	0.4		0.0	0.2	4.0	3.8	0.0	0.0	12.6	0.8	0.3	0.0
1881	30	13.4		10.7	0.0	1.8	0.6	0.0	0.0	1.3	7.4	0.6	0.0
1881	31	0.8		5.7		0.0		0.0	0.0		4.7		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1882	1	1.5	0.0	10.6	0.0	0.0	0.0	1.3	0.0	0.3	0.0	0.0	0.0
1882	2	0.0	0.0	0.0	0.3	0.0	0.0	13.6	0.0	0.0	0.0	0.0	3.9
1882	3	0.0	0.0	9.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
1882	4	1.8	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	3.7
1882	5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.3	0.0	0.6
1882	6	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	3.5	0.0	0.5
1882	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	7.6	0.0	15.5
1882	8	2.6	0.0	0.0	0.0	0.6	12.3	0.0	0.0	0.8	14.1	0.0	0.0
1882	9	0.0	0.0	0.0	0.0	0.5	22.8	0.0	0.0	0.0	0.0	1.7	10.3
1882	10	0.0	0.0	0.0	12.4	11.4	0.9	0.0	0.0	0.0	0.0	0.0	6.8
1882	11	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.1	0.0	0.0	4.0
1882	12	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.0	9.8	13.9	0.0	0.0
1882	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.3	0.0	0.0
1882	14	0.0	0.0	0.0	0.0	1.1	0.8	0.0	0.0	0.2	3.0	3.4	0.0
1882	15	0.0	0.0	0.0	14.7	1.7	0.0	0.0	27.1	29.7	3.9	21.8	0.4
1882	16	0.0	0.8	0.0	1.6	0.0	0.0	0.0	1.3	8.7	0.0	5.7	2.8
1882	17	0.0	0.0	0.0	0.0	0.0	2.5	0.0	7.0	61.3	0.5	4.6	0.0
1882	18	0.0	0.0	0.0	10.9	0.0	1.7	0.0	0.5	18.8	0.9	0.2	0.0
1882	19	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1882	20	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	6.0	0.0	0.0	0.0
1882	21	0.0	0.0	0.0	0.0	0.0	1.0	0.0	36.1	5.8	0.0	0.0	0.0
1882	22	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.6	0.0	0.0	2.1
1882	23	0.0	0.0	12.6	0.2	0.0	0.0	0.0	0.0	0.0	3.5	0.0	7.9
1882	24	0.0	0.0	13.8	0.0	6.1	0.9	0.0	0.0	5.4	0.0	0.3	0.0
1882	25	0.0	0.0	5.4	0.0	0.2	0.5	0.0	2.4	0.3	3.0	0.1	0.0
1882	26	0.0	0.0	0.6	9.7	0.0	0.0	0.0	0.0	4.2	0.0	3.8	0.0
1882	27	0.0	32.4	16.6	14.0	0.0	0.0	0.0	1.4	7.8	11.9	3.7	0.0
1882	28	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	11.1	32.6	3.5	0.0
1882	29	0.0		0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1882	30	0.0		0.0	0.0	0.0	3.4	17.8	7.6	0.0	9.7	0.3	0.0
1882	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1883	1	0.0	0.8	0.0	0.6	3.4	0.0	0.0	0.5	0.4	3.1	0.0	0.0
1883	2	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1883	3	0.0	0.3	0.0	0.0	24.0	0.0	0.0	2.0	0.0	8.7	0.0	0.0
1883	4	0.0	3.1	0.0	0.0	0.1	0.0	0.0	15.6	0.0	4.4	0.0	0.0
1883	5	0.0	0.0	0.0	0.0	0.2	5.2	0.0	0.0	18.6	2.8	1.9	0.0
1883	6	0.0	0.0	0.0	0.0	0.9	40.1	7.9	0.0	8.0	1.7	0.0	0.0
1883	7	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.7	1.5	0.0
1883	8	0.0	0.0	0.0	0.0	21.2	0.0	0.0	5.0	0.0	0.0	8.7	0.0
1883	9	0.0	0.4	2.2	0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.1	0.0
1883	10	2.0	2.9	8.8	0.5	2.1	0.0	10.7	0.1	0.0	0.0	0.0	6.6
1883	11	28.3	12.7	0.0	0.0	0.0	7.4	29.2	0.0	0.0	0.0	2.0	0.0
1883	12	5.5	15.1	0.0	0.0	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0
1883	13	1.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1883	14	24.0	18.8	0.0	0.0	0.0	1.5	0.0	0.0	2.1	0.0	0.0	0.0
1883	15	0.4	0.0	0.0	0.0	0.0	4.6	0.0	0.0	5.7	0.0	0.0	0.0
1883	16	18.8	0.0	0.0	0.0	0.0	0.0	3.9	11.3	1.0	0.0	0.0	1.3
1883	17	1.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	5.1
1883	18	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0	2.4
1883	19	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1883	20	0.0	0.0	4.4	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1883	21	0.0	0.0	3.6	0.0	0.0	0.0	0.1	0.0	1.9	0.0	0.0	0.0
1883	22	0.0	0.0	6.7	0.0	0.0	2.9	0.0	0.0	0.0	4.8	0.0	0.0
1883	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
1883	24	0.0	0.0	0.0	49.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1883	25	0.0	0.0	0.0	1.2	0.0	0.0	0.5	0.7	0.0	0.0	0.0	0.0
1883	26	0.0	0.0	13.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
1883	27	0.0	0.0	0.7	0.0	0.0	0.0	3.2	0.0	0.0	0.0	3.8	0.0
1883	28	0.0	0.0	9.2	0.8	5.6	0.0	4.6	0.0	5.1	0.0	4.9	0.0
1883	29	0.0		0.0	1.7	0.4	0.6	0.0	0.0	11.3	0.0	0.0	0.0
1883	30	0.0		0.0	10.1	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1883	31	8.8		0.0		0.0		1.0	13.3		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1884	1	0.0	0.0	12.6	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1884	2	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	14.1	0.0	0.0	0.0
1884	3	0.0	0.0	0.3	0.0	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0
1884	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	14.8	0.0	0.0
1884	5	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.1	0.0	3.8
1884	6	0.0	0.0	0.0	0.0	4.2	6.3	7.9	0.0	0.0	36.9	0.0	0.0
1884	7	0.0	0.0	0.0	1.0	0.0	0.0	1.7	0.0	0.0	0.3	0.0	0.0
1884	8	0.0	0.0	0.0	1.3	0.0	20.4	0.0	21.9	0.0	11.7	0.0	0.0
1884	9	0.0	0.0	0.0	0.8	0.0	0.0	3.5	0.0	32.4	0.0	0.0	0.2
1884	10	0.0	0.0	0.0	0.5	0.0	1.8	4.1	0.0	0.8	0.5	0.0	1.1
1884	11	0.0	0.0	0.0	5.9	0.0	0.1	0.0	0.0	1.9	0.0	0.0	0.0
1884	12	0.0	0.2	0.0	0.6	0.0	21.0	0.0	0.0	16.3	0.1	0.0	1.1
1884	13	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	1.6	0.0	0.0	0.0
1884	14	0.0	0.0	0.0	0.0	0.0	14.7	0.0	0.0	0.2	0.0	0.0	0.0
1884	15	0.0	3.4	0.0	1.4	4.2	0.4	0.0	12.8	0.0	0.0	0.0	0.0
1884	16	0.0	1.3	0.0	2.3	0.0	61.9	0.0	0.0	0.0	0.0	0.0	0.0
1884	17	0.0	0.0	0.0	4.7	0.0	2.0	0.0	0.0	0.0	0.0	0.0	6.0
1884	18	0.0	0.0	0.0	14.6	2.2	0.4	0.0	0.0	0.0	0.0	0.0	6.1
1884	19	0.0	0.0	0.0	9.3	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
1884	20	0.0	0.0	0.0	0.5	0.0	0.0	6.3	18.3	0.0	0.0	4.3	24.2
1884	21	0.0	0.0	0.6	8.5	0.0	0.9	0.0	0.6	0.0	0.0	0.0	2.8
1884	22	0.0	0.0	19.9	2.2	0.0	0.7	0.0	0.0	0.1	0.0	3.0	4.8
1884	23	0.0	0.0	0.0	2.9	0.0	23.0	0.0	0.0	7.9	3.9	0.8	0.3
1884	24	0.0	0.0	0.0	3.5	0.0	11.5	0.0	0.0	0.8	0.0	0.0	0.0
1884	25	0.0	3.2	0.0	3.4	0.0	0.0	5.2	0.0	13.4	0.0	0.0	0.2
1884	26	0.0	0.0	0.0	31.0	14.0	0.0	2.7	0.0	0.1	0.0	0.0	0.0
1884	27	8.5	0.0	0.0	2.1	0.8	0.0	1.3	25.2	0.8	0.0	0.0	0.0
1884	28	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.5
1884	29	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.6
1884	30	0.0		0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	7.8
1884	31	0.0		0.0		13.9		1.5	0.0		0.0		2.5
1885	1	0.0	4.9	0.0	0.0	8.4	3.6	0.2	2.4	7.0	0.0	16.4	0.0
1885	2	0.0	1.1	0.0	0.0	0.0	0.0	2.6	4.9	0.0	6.8	0.7	0.0
1885	3	0.0	18.1	0.0	0.9	2.3	0.0	0.0	0.0	0.0	0.0	6.3	0.0
1885	4	0.0	0.1	1.9	0.0	1.9	0.0	0.0	19.6	23.9	0.0	10.9	0.0
1885	5	0.0	0.0	0.6	1.1	4.8	0.0	4.2	19.4	12.8	0.0	3.5	0.0
1885	6	0.0	0.0	0.7	0.6	0.2	0.0	12.5	0.0	0.0	0.0	6.6	0.1
1885	7	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	1.1
1885	8	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	3.7	0.0	4.5	3.3
1885	9	0.0	0.2	0.0	15.0	0.0	0.0	0.0	0.0	0.0	7.5	1.1	0.7
1885	10	0.0	1.6	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.7	0.3	7.8
1885	11	3.1	0.0	0.0	0.0	0.0	0.5	0.0	0.0	5.4	8.4	0.0	0.0
1885	12	0.2	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0
1885	13	9.0	0.0	0.0	21.8	1.3	0.0	0.0	1.3	0.0	1.1	0.0	0.0
1885	14	0.7	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	5.1	0.0	0.0
1885	15	5.7	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	22.2	0.0	0.0
1885	16	15.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	8.7	0.5	0.0
1885	17	29.1	3.5	0.0	8.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	18	10.4	5.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	19	0.0	0.2	1.0	0.0	2.6	0.4	0.0	0.0	0.0	0.0	3.0	0.0
1885	20	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.8	0.0
1885	21	0.0	2.2	0.0	0.0	1.7	24.3	0.0	4.7	0.0	6.5	19.4	0.0
1885	22	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0	1.5	19.5	0.0
1885	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	9.4	10.5	0.0
1885	24	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.6	2.5
1885	25	0.0	0.0	37.6	0.0	0.0	0.0	0.0	0.0	1.5	27.4	0.0	0.0
1885	26	0.0	0.0	6.7	0.2	0.0	0.0	0.0	0.0	14.0	0.0	0.5	0.0
1885	27	0.0	0.0	0.6	7.8	0.0	0.0	1.5	0.0	21.8	0.0	0.1	0.0
1885	28	0.0	0.0	0.6	4.6	0.0	0.0	0.0	2.9	25.7	0.0	0.0	0.0
1885	29	0.0		1.1	4.1	0.0	2.3	0.0	11.4	0.0	0.3	0.0	0.0
1885	30	0.0		7.5	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
1885	31	2.2		0.0		0.0		0.0	1.3		0.3		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1886	1	0.0	0.2	4.2	0.0	0.0	0.0	0.7	1.3	0.0	0.0	0.0	14.6
1886	2	0.0	4.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	9.1
1886	3	0.0	0.0	4.8	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5.0
1886	4	0.0	0.0	1.0	0.0	0.0	0.3	0.0	22.6	0.0	0.0	0.8	0.0
1886	5	1.7	0.0	0.0	0.0	0.0	0.8	0.0	11.6	0.0	0.0	9.2	0.6
1886	6	0.2	0.0	0.0	1.4	0.0	11.6	0.0	0.0	0.0	48.2	10.6	0.0
1886	7	0.5	0.0	0.0	1.5	0.0	0.5	0.0	0.0	0.0	13.7	9.2	0.0
1886	8	15.6	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	10.8
1886	9	3.4	0.0	0.0	5.3	0.0	8.1	1.9	0.0	0.0	0.6	0.0	7.1
1886	10	1.2	1.6	0.0	15.9	0.0	6.0	0.0	0.0	0.0	0.0	1.3	0.0
1886	11	0.0	0.0	0.0	6.2	0.0	8.1	3.3	0.0	0.0	0.0	23.8	0.0
1886	12	0.0	0.9	0.0	1.2	0.0	0.0	0.9	5.2	0.0	0.0	12.8	0.0
1886	13	0.0	0.0	0.0	1.5	2.3	5.7	0.0	0.0	0.0	7.3	4.8	0.0
1886	14	0.0	0.1	13.8	0.8	4.3	18.0	0.0	0.0	0.0	1.8	0.0	0.0
1886	15	0.0	0.0	31.8	0.6	7.7	0.0	17.2	0.0	0.0	0.0	0.0	1.0
1886	16	0.0	0.0	3.6	0.3	2.0	0.8	0.0	0.0	0.0	24.1	0.0	2.5
1886	17	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	4.0	0.3
1886	18	0.0	0.0	0.0	0.0	0.0	0.4	0.0	16.1	0.0	4.6	0.0	2.0
1886	19	17.1	0.0	0.0	0.0	0.0	24.2	0.0	0.8	0.0	5.9	0.0	0.0
1886	20	0.0	0.0	0.0	7.0	0.0	10.1	0.0	0.1	0.0	0.0	0.0	5.2
1886	21	0.0	3.9	0.0	11.6	0.0	4.3	0.0	0.3	0.7	9.2	0.0	7.3
1886	22	19.8	0.3	0.0	11.2	0.0	15.9	0.0	20.3	1.7	0.6	0.0	0.3
1886	23	11.8	0.0	0.0	0.0	0.0	0.1	0.0	0.6	7.8	0.0	0.0	0.0
1886	24	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.6	0.0	0.0	0.0
1886	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	0.3	0.0	0.0	1.2
1886	26	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1886	27	12.5	0.0	0.0	0.0	0.0	10.4	4.5	0.0	0.0	24.2	0.0	2.4
1886	28	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9
1886	29	24.5		0.0	0.0	1.9	0.0	0.8	0.0	0.0	0.0	0.0	0.4
1886	30	3.8		1.2	1.7	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1886	31	0.0		0.0		4.9		0.0	0.0		0.0		0.0
1887	1	0.0	0.6	0.0	0.0	0.0	0.0	33.4	0.0	0.0	0.0	9.0	8.4
1887	2	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	37.1	0.0
1887	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3.7	0.0
1887	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	0.0	14.2
1887	5	1.4	0.0	0.0	0.0	2.8	0.0	10.4	0.0	3.8	7.0	42.3	0.0
1887	6	3.6	0.0	0.0	2.3	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1887	7	0.0	0.1	0.0	10.2	21.5	0.0	0.0	0.0	0.0	0.0	4.4	2.7
1887	8	0.7	0.0	0.0	28.5	0.2	0.0	0.0	0.0	0.0	0.0	22.2	1.0
1887	9	22.1	0.0	0.0	2.5	1.1	0.0	0.0	0.0	2.3	0.0	0.4	0.0
1887	10	9.2	10.9	0.0	0.0	2.0	0.0	0.0	0.0	20.8	36.6	0.0	0.0
1887	11	3.8	4.4	0.0	0.0	1.1	17.9	0.0	0.0	0.0	0.1	0.0	0.0
1887	12	0.0	19.3	1.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1887	13	0.0	0.7	1.0	0.0	0.2	0.0	0.0	0.0	2.5	2.3	0.0	0.0
1887	14	0.0	0.0	14.2	0.0	7.3	0.0	0.0	0.3	6.3	10.9	12.1	0.0
1887	15	0.0	0.0	7.9	10.4	21.2	0.0	0.0	0.0	0.0	11.6	4.6	22.8
1887	16	0.8	0.0	4.0	2.8	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0
1887	17	0.0	0.0	6.8	1.4	0.6	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1887	18	0.0	0.0	3.7	0.0	8.2	0.0	0.1	2.6	0.0	0.0	3.4	0.0
1887	19	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	9.2	4.8
1887	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0
1887	21	0.0	0.0	0.0	0.0	1.9	10.2	0.0	42.1	0.0	0.0	2.5	0.0
1887	22	0.0	0.0	1.5	0.0	0.0	3.2	0.0	0.0	0.0	0.4	0.0	5.2
1887	23	0.0	0.0	2.1	0.2	0.0	0.0	0.0	0.0	0.0	3.5	7.1	14.8
1887	24	0.0	0.0	0.3	0.0	9.4	0.0	0.0	0.0	0.0	1.6	5.6	2.1
1887	25	0.0	0.0	3.6	0.0	0.3	0.0	0.0	0.0	0.0	5.2	14.5	0.0
1887	26	0.0	0.0	0.0	5.5	0.0	0.1	0.2	0.0	0.0	0.0	0.0	2.1
1887	27	0.0	0.0	0.0	0.0	10.2	16.3	0.0	0.0	0.6	0.0	0.7	1.4
1887	28	0.0	0.0	2.3	0.0	15.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1887	29	0.0		0.0	0.0	3.3	27.5	0.0	0.0	7.8	0.0	0.0	0.0
1887	30	0.0		0.0	0.0	0.0	5.8	0.0	0.0	2.9	0.5	0.0	0.0
1887	31	0.0		0.0		0.0		0.0	0.0		12.5		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1888	1	0.0	0.0	0.0	0.2	3.2	0.0	0.5	0.7	8.7	6.0	0.0	38.3
1888	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	5.3	0.0
1888	3	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	4.8	0.0
1888	4	0.0	0.0	0.0	12.2	2.9	0.0	0.0	0.1	0.0	10.4	0.0	0.0
1888	5	0.0	0.0	0.0	0.0	16.0	0.0	1.2	0.3	0.0	7.6	0.0	0.0
1888	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0
1888	7	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	3.7	2.1	28.0	0.0
1888	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	15.1	0.0	0.0
1888	9	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	7.2	2.2	0.0	0.0
1888	10	0.0	0.0	2.9	14.5	0.0	0.2	0.9	0.0	1.3	2.1	0.0	0.0
1888	11	0.0	0.0	0.0	6.1	2.4	0.0	19.4	0.0	0.2	0.0	0.0	0.0
1888	12	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1888	13	0.0	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0	0.0	0.0	0.0
1888	14	0.0	2.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.0
1888	15	0.0	20.3	5.5	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
1888	16	0.0	4.5	15.4	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1888	17	0.0	1.7	26.8	0.0	0.0	6.2	8.9	0.0	0.5	0.0	0.0	0.0
1888	18	0.0	2.0	1.4	0.0	0.0	0.0	0.7	6.8	8.8	0.0	0.0	0.0
1888	19	0.0	4.1	1.8	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1888	20	0.0	20.4	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1888	21	0.0	18.8	12.3	16.9	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1888	22	0.0	0.5	15.7	0.5	3.1	1.3	0.0	0.0	0.0	0.0	0.0	5.8
1888	23	0.0	0.0	10.6	0.3	0.2	1.3	0.1	0.0	0.0	0.0	0.0	4.1
1888	24	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1888	25	0.0	9.6	0.1	0.0	0.0	0.0	0.0	0.0	22.6	0.0	0.0	0.0
1888	26	0.0	4.4	0.0	14.9	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.9
1888	27	0.0	0.0	1.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.5
1888	28	0.7	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
1888	29	0.0	0.0	5.4	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.8	0.0
1888	30	0.0		12.0	0.0	0.0	18.9	0.0	0.0	0.0	0.0	6.6	0.0
1888	31	0.0		4.3		0.0		0.0	0.0		0.0		0.0
1889	1	0.0	0.0	17.7	10.6	0.0	0.0	0.0	0.0	0.0	4.7	9.8	0.0
1889	2	0.0	0.0	0.0	18.4	0.0	23.4	78.8	0.0	0.0	7.7	3.4	0.0
1889	3	0.0	5.7	0.0	5.1	0.0	2.1	2.9	0.0	0.0	0.0	0.0	0.0
1889	4	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0
1889	5	0.0	0.0	0.9	1.9	10.2	0.0	11.4	0.0	13.3	24.9	0.3	0.0
1889	6	0.0	0.0	0.2	6.0	2.7	0.0	0.2	0.0	0.0	7.8	8.1	0.0
1889	7	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	23.5	0.5	0.0
1889	8	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1889	9	0.0	2.5	2.9	1.3	0.4	0.0	0.0	5.5	0.0	0.0	0.0	0.0
1889	10	12.1	0.0	0.7	1.5	0.0	1.6	0.0	3.0	17.5	0.0	0.0	0.0
1889	11	30.7	0.0	14.1	1.5	0.0	0.0	0.0	0.0	0.0	6.5	1.7	0.3
1889	12	0.3	1.3	11.7	4.1	0.0	1.2	0.0	2.8	0.0	1.3	3.1	18.8
1889	13	0.4	1.7	0.0	7.9	0.0	13.3	0.0	0.0	0.0	5.0	0.0	1.6
1889	14	0.8	0.0	0.0	5.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1889	15	0.0	0.0	0.5	0.0	1.0	0.3	0.0	0.0	6.0	0.0	0.0	0.0
1889	16	0.0	0.0	0.0	5.9	2.1	1.4	0.0	0.0	0.2	0.0	0.0	0.0
1889	17	0.0	0.0	0.0	15.2	0.2	21.9	0.0	0.0	0.0	0.0	0.0	0.0
1889	18	0.0	0.0	0.0	0.0	23.5	0.9	15.9	0.0	0.0	11.0	0.0	0.0
1889	19	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.6	0.0	0.0
1889	20	0.0	0.0	1.2	0.0	0.0	2.2	4.3	0.1	0.0	11.1	0.0	0.0
1889	21	5.3	0.0	5.7	0.0	0.0	0.7	0.0	0.0	0.0	12.2	0.0	0.0
1889	22	0.0	0.0	0.0	0.0	1.2	4.7	0.0	0.0	0.0	13.0	0.0	0.0
1889	23	0.0	0.0	3.6	0.9	12.4	11.6	32.3	3.3	0.0	0.0	0.0	0.2
1889	24	0.0	0.0	0.0	0.0	1.2	4.5	0.9	6.9	2.5	0.0	0.0	0.0
1889	25	0.0	0.0	0.0	0.6	2.7	1.3	0.0	0.1	2.2	0.2	0.8	3.8
1889	26	0.0	0.0	3.1	1.4	68.8	0.0	0.3	0.4	0.3	2.1	11.3	0.0
1889	27	0.0	1.5	1.6	0.0	2.3	0.0	12.5	2.6	0.0	0.2	1.1	2.4
1889	28	0.0	3.2	1.4	0.0	0.0	15.1	0.0	0.0	0.0	0.5	0.0	11.0
1889	29	0.0		0.3	0.0	0.0	0.0	0.0	0.0	7.7	16.7	0.0	5.0
1889	30	0.0		0.0	7.6	0.0	2.9	0.0	0.0	2.2	56.0	0.0	1.6
1889	31	0.3		0.0		0.0		0.0	0.0		10.9		0.4

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1890	1	13.0	0.0	0.0	0.0	35.4	0.8	2.4	0.0	27.3	0.0	0.5	11.9
1890	2	13.5	0.0	0.0	0.0	8.8	2.0	0.0	0.0	1.9	0.0	1.9	19.1
1890	3	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.2	3.1	2.2
1890	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.4	0.0	0.1	0.0
1890	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	3.2	0.8
1890	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	4.5	0.0
1890	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	8	0.0	0.0	0.0	9.7	3.9	2.8	4.7	0.0	0.0	0.0	2.4	0.0
1890	9	0.0	0.0	0.0	44.9	10.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0
1890	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.8	0.0
1890	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0
1890	12	0.0	0.0	0.0	0.4	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	13	0.0	0.0	0.0	0.0	5.4	4.4	1.0	19.6	0.0	0.0	0.0	0.0
1890	14	0.0	0.0	0.0	0.0	0.0	0.9	10.6	0.5	0.0	0.0	0.0	0.0
1890	15	0.0	0.0	0.0	5.2	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	16	0.0	0.0	15.1	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1890	17	0.0	0.0	20.9	20.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
1890	18	0.0	0.0	22.8	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9
1890	19	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
1890	20	0.3	0.0	25.1	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.4
1890	21	0.0	0.0	13.5	0.0	0.0	0.0	9.0	0.0	0.0	0.5	0.0	1.4
1890	22	0.3	0.0	3.7	0.0	0.2	12.2	0.0	0.0	0.3	0.0	1.6	0.0
1890	23	0.2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1890	24	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
1890	25	0.0	0.0	3.7	0.0	7.0	0.0	5.8	6.1	0.0	0.0	0.0	0.0
1890	26	0.0	0.0	0.0	6.3	12.8	0.0	3.3	2.6	0.0	1.0	0.0	0.0
1890	27	0.0	0.0	0.0	17.2	1.2	0.0	0.0	0.0	0.0	0.5	5.8	0.0
1890	28	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	18.1	30.5	0.0
1890	29	0.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	16.3	0.0
1890	30	2.2		0.0	0.0	0.0	2.1	0.0	9.3	0.0	1.2	0.0	0.0
1890	31	0.0		0.0		0.0		0.0	4.2		6.5		0.0
1891	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0
1891	2	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.6	0.0	0.0	0.0	0.0
1891	3	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	55.4	0.0	0.0
1891	4	0.0	0.0	19.0	0.0	0.0	0.0	0.5	0.0	0.0	29.9	0.0	0.0
1891	5	2.1	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1891	6	2.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	9.2	0.0	0.0	0.0
1891	7	2.6	0.0	0.0	10.6	6.6	0.1	0.0	15.2	0.5	0.0	0.0	0.0
1891	8	7.3	0.0	0.0	7.0	12.5	0.0	17.6	2.6	0.0	9.7	0.0	0.0
1891	9	3.2	0.0	0.0	1.4	1.2	0.0	0.0	0.0	0.0	0.5	0.0	0.0
1891	10	1.6	0.0	2.3	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1891	11	0.0	0.0	5.7	0.0	0.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1891	12	0.0	0.0	0.0	0.7	0.0	20.9	0.5	0.0	0.0	0.0	0.9	0.0
1891	13	0.0	0.0	0.0	0.6	0.0	0.0	5.5	0.0	0.0	7.0	1.2	0.0
1891	14	0.0	0.0	9.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0
1891	15	0.0	0.0	3.0	0.0	17.0	0.0	0.0	0.0	0.0	0.7	4.3	0.0
1891	16	0.0	0.0	0.0	0.0	0.0	1.9	3.1	0.0	0.1	0.0	0.0	0.0
1891	17	0.0	0.0	0.1	0.0	8.5	0.0	0.0	0.0	0.0	0.0	7.5	0.0
1891	18	0.0	0.0	4.1	0.3	0.0	0.9	0.6	0.0	0.0	0.0	0.0	0.0
1891	19	0.0	0.0	1.1	0.4	0.0	0.9	0.0	0.2	0.0	0.8	0.0	0.0
1891	20	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.1	0.0	0.4	0.0	0.0
1891	21	0.1	0.0	8.6	0.0	15.5	0.0	0.0	0.0	11.8	0.0	0.0	0.0
1891	22	0.0	0.0	7.7	0.0	1.4	0.0	0.0	1.8	2.0	6.6	2.8	0.0
1891	23	0.0	0.0	0.8	0.2	9.9	0.0	6.6	9.0	18.7	0.0	5.1	0.0
1891	24	0.0	0.0	0.6	2.6	7.3	0.0	18.7	0.2	0.4	0.0	2.2	0.0
1891	25	0.0	0.0	0.0	20.3	0.0	0.0	5.4	0.0	0.0	0.3	15.0	0.0
1891	26	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	6.4	10.1	5.0
1891	27	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	31.0
1891	28	0.0	0.0	0.0	34.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
1891	29	0.0		0.0	0.5	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1891	30	0.0		0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0
1891	31	0.0		0.4		0.0		0.2	6.6		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1892	1	0.0	0.0	1.9	0.0	5.4	0.0	16.5	0.0	0.0	1.6	22.0	0.0
1892	2	0.0	3.3	46.2	0.0	9.6	0.0	0.0	37.4	0.0	0.8	4.1	0.0
1892	3	0.0	13.1	6.7	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	4	0.0	0.0	0.0	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0
1892	5	4.1	0.0	0.0	0.0	0.4	0.0	0.0	0.8	10.7	0.0	0.0	3.5
1892	6	1.3	0.0	0.0	0.0	8.7	2.2	0.0	0.0	0.2	7.9	0.0	0.0
1892	7	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	3.9	0.0	0.0
1892	8	0.4	0.0	0.0	0.7	0.6	0.0	0.0	0.0	5.1	0.0	0.0	0.0
1892	9	11.9	0.0	5.0	0.4	0.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0
1892	10	12.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	11	2.8	0.0	3.3	0.0	0.0	0.0	0.0	31.1	0.0	0.0	0.0	0.6
1892	12	1.0	0.0	0.0	0.0	0.0	0.0	36.5	0.0	0.0	0.4	0.0	0.0
1892	13	6.3	0.0	4.4	7.7	0.0	0.0	20.1	0.0	0.0	0.0	0.0	1.1
1892	14	25.9	0.0	16.2	3.3	0.0	0.0	16.1	0.0	0.0	1.1	0.0	9.7
1892	15	13.7	0.0	7.5	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
1892	16	0.9	0.0	0.0	35.7	0.0	23.7	0.2	0.0	0.0	0.0	0.0	0.0
1892	17	0.0	3.3	0.0	10.2	11.3	0.3	0.4	0.0	0.0	0.3	0.0	0.0
1892	18	0.0	0.3	0.0	0.3	0.7	0.0	0.8	0.0	0.0	0.6	0.0	0.0
1892	19	2.9	15.6	0.0	1.5	0.0	4.3	0.3	0.0	0.0	7.7	0.0	0.0
1892	20	0.0	3.0	0.0	0.0	0.0	0.0	25.7	0.0	0.0	2.7	23.0	0.0
1892	21	0.0	14.2	0.0	0.0	0.0	0.0	36.0	0.7	0.0	11.8	0.0	0.0
1892	22	0.0	0.1	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.8	0.0	0.0
1892	23	0.0	1.9	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.0
1892	24	0.0	10.6	0.0	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	25	0.0	6.4	0.0	0.2	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1892	26	0.0	42.6	6.6	10.8	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
1892	27	0.0	0.1	13.1	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	28	0.0	0.8	4.1	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	29	0.0	0.0	15.9	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1892	30	0.0		31.3	12.0	0.0	0.1	2.0	0.0	0.5	0.0	0.0	0.0
1892	31	0.0		0.0		7.8		3.5	0.0		0.0		0.0
1893	1	0.1	0.0	0.2	0.0	2.8	4.5	0.0	2.6	0.0	33.7	10.9	16.0
1893	2	1.9	0.0	0.0	0.0	0.0	2.2	0.0	2.5	0.0	0.0	0.0	0.1
1893	3	0.0	0.0	0.0	0.0	2.8	0.8	5.3	0.0	0.0	1.0	0.0	0.0
1893	4	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.9	1.5	0.0	0.0
1893	5	0.0	0.0	0.0	0.0	2.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0
1893	6	0.0	0.0	0.0	0.0	3.4	0.4	9.6	6.9	0.0	0.0	8.0	0.0
1893	7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1893	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	0.0	37.9	0.0
1893	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3	1.4
1893	10	0.0	0.0	0.0	0.0	1.0	2.9	0.0	0.0	0.0	0.0	2.6	3.4
1893	11	0.1	0.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0
1893	12	0.0	0.0	0.0	0.0	3.5	4.3	0.0	4.7	0.4	0.0	0.0	8.4
1893	13	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	2.1	0.0	0.0	0.6
1893	14	0.0	0.0	0.2	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
1893	15	0.0	0.0	0.0	0.0	0.0	3.3	2.5	0.0	0.0	0.0	0.0	0.0
1893	16	3.0	0.0	16.0	0.0	0.0	0.4	3.1	0.0	0.0	0.0	9.5	0.0
1893	17	0.1	0.0	0.2	0.0	0.0	0.0	0.3	0.0	7.9	0.0	0.0	0.0
1893	18	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	11.9	0.0
1893	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1893	20	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	7.3	0.0	0.4	1.3
1893	21	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.5
1893	22	0.0	14.9	0.0	0.0	0.0	0.3	5.5	0.0	0.0	0.0	0.0	0.0
1893	23	0.0	0.0	0.0	0.0	8.5	0.9	3.8	0.0	0.0	0.0	0.2	0.0
1893	24	0.0	4.7	0.0	0.0	5.8	0.3	0.0	0.0	2.2	0.0	5.8	0.0
1893	25	0.0	16.2	0.0	0.0	1.8	0.2	0.0	0.0	0.9	0.0	0.0	0.0
1893	26	0.0	0.0	1.8	0.0	1.1	0.0	0.0	0.0	20.9	0.0	0.0	0.0
1893	27	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2.2	1.0	0.0
1893	28	0.0	3.2	0.0	13.5	0.0	0.0	39.9	2.4	0.0	0.0	0.0	0.0
1893	29	3.3		0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0
1893	30	1.2		0.0	0.0	0.0	1.4	5.3	0.1	0.4	0.0	3.0	0.0
1893	31	0.0		0.0		12.9		2.1	0.1		0.5		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1894	1	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	33.4	0.0	0.0
1894	2	0.2	0.4	0.0	0.0	1.0	0.0	0.3	0.0	0.0	3.8	0.0	0.0
1894	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
1894	4	0.0	0.0	0.0	0.0	7.0	0.0	0.1	14.5	0.0	0.0	0.0	0.0
1894	5	0.0	0.0	20.4	0.0	0.3	0.0	1.5	0.0	0.0	0.7	0.0	0.0
1894	6	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
1894	7	3.9	0.0	0.0	0.0	8.0	0.0	7.3	0.0	6.1	0.0	0.0	0.2
1894	8	0.1	0.0	0.0	0.0	1.7	24.9	0.2	0.0	0.0	0.0	5.4	0.0
1894	9	0.0	0.0	0.0	0.0	0.0	11.9	0.0	0.0	3.2	0.0	13.3	0.0
1894	10	0.0	0.0	0.0	0.0	0.0	0.0	16.5	5.0	3.9	0.0	0.0	0.0
1894	11	0.0	0.0	0.0	0.0	0.6	0.0	1.7	8.6	0.0	0.0	0.0	0.0
1894	12	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	1.4	0.0	0.0
1894	13	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0
1894	14	0.0	0.0	0.4	0.0	0.2	4.7	0.2	0.0	0.0	0.0	2.1	0.0
1894	15	0.0	0.0	5.9	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.1	0.0
1894	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0
1894	17	0.0	0.0	0.0	17.9	0.7	0.0	0.0	3.1	3.3	0.0	0.0	0.0
1894	18	0.3	0.0	0.0	10.8	0.4	0.0	0.0	0.0	5.9	4.2	0.0	0.0
1894	19	0.5	0.0	0.0	6.6	0.7	1.6	31.4	1.9	0.0	16.6	0.0	3.3
1894	20	0.4	0.0	0.0	0.0	5.3	0.0	1.2	0.0	0.0	1.7	0.0	0.0
1894	21	0.1	0.0	0.4	29.9	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0
1894	22	0.0	0.0	0.0	1.2	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1894	23	1.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1894	24	0.6	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	1.3	0.1	0.0
1894	25	1.6	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	6.3	9.5	0.0
1894	26	4.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.1	11.8	0.0
1894	27	0.0	0.0	0.0	3.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1894	28	0.0	0.0	0.0	15.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1894	29	0.0		0.0	9.8	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1894	30	0.0		0.0	14.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.2
1894	31	0.0		0.0		9.4		0.0	0.0		0.0		0.0
1895	1	0.0	4.8	0.0	6.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
1895	2	0.0	0.0	5.0	0.0	0.0	27.2	0.0	27.8	0.0	1.6	0.0	0.0
1895	3	0.0	0.0	22.5	3.6	9.7	6.0	0.0	0.0	0.0	7.5	2.4	0.0
1895	4	0.0	0.0	0.1	1.6	5.7	0.0	0.3	4.5	0.0	0.0	0.6	0.0
1895	5	2.0	0.0	0.0	0.0	56.2	0.0	1.6	0.0	0.0	0.0	1.9	0.0
1895	6	3.3	1.0	18.0	0.0	0.0	1.5	0.4	0.0	0.0	0.0	0.0	0.0
1895	7	0.1	0.4	0.0	0.0	0.0	0.0	0.3	2.6	0.0	0.0	0.0	0.0
1895	8	24.7	0.0	0.0	1.5	0.1	0.1	3.2	14.4	0.0	25.7	0.0	0.0
1895	9	0.1	1.5	0.0	0.0	0.7	0.0	0.0	0.0	0.0	18.3	0.0	0.0
1895	10	2.1	0.0	0.0	0.0	0.0	54.5	0.0	0.0	0.0	0.0	0.0	0.0
1895	11	0.0	24.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1895	12	0.0	0.7	21.6	0.0	23.4	0.4	0.0	0.1	13.3	0.0	0.2	0.0
1895	13	0.4	15.3	32.3	0.0	0.0	3.1	0.2	0.0	1.8	0.0	0.0	30.1
1895	14	6.9	0.0	6.7	0.8	0.0	0.0	0.0	0.0	0.6	0.0	0.0	19.6
1895	15	7.7	0.0	0.0	0.0	6.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1895	16	0.7	0.0	0.0	0.0	3.0	1.4	0.0	2.2	0.0	0.0	0.0	7.6
1895	17	6.0	0.0	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.1	0.0	0.2
1895	18	0.6	0.0	0.0	16.8	2.4	0.0	0.0	0.0	0.0	0.0	0.0	7.5
1895	19	0.0	0.0	0.0	46.9	0.9	0.8	0.0	0.0	0.0	0.0	0.0	16.8
1895	20	0.1	0.0	0.0	5.0	0.0	1.9	0.3	0.0	0.0	0.0	0.0	1.6
1895	21	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
1895	22	0.0	0.0	0.0	0.0	12.1	0.1	0.0	0.0	0.0	0.0	0.0	1.0
1895	23	5.1	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	3.2	1.2	0.0
1895	24	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	12.5	0.0	1.3
1895	25	0.0	7.0	0.0	7.2	8.1	19.8	0.0	0.0	0.0	0.0	13.2	17.2
1895	26	0.0	10.4	0.2	0.2	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
1895	27	1.0	0.8	0.0	1.8	0.0	0.0	0.0	0.0	0.0	22.3	0.0	0.0
1895	28	0.0	6.1	1.1	7.4	0.0	0.0	0.0	0.0	0.0	29.1	0.0	0.0
1895	29	0.0		0.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1895	30	0.0		0.3	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0.0	0.0
1895	31	8.8		0.5		0.0		0.0	0.0		1.9		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1896	1	0.0	0.0	0.0	0.0	2.5	0.0	34.7	0.4	0.0	0.0	3.3	0.0
1896	2	0.0	0.0	1.0	0.0	20.9	0.0	0.8	0.0	5.3	0.2	13.2	0.0
1896	3	0.0	0.0	0.5	0.0	3.6	7.5	0.9	0.0	0.0	38.3	0.3	0.5
1896	4	0.0	0.0	3.5	0.0	0.2	23.9	0.1	0.0	0.0	0.0	0.0	0.0
1896	5	0.0	0.0	0.9	0.0	1.2	0.1	0.0	0.0	2.7	0.0	0.0	37.1
1896	6	0.0	0.0	0.0	0.0	0.0	25.3	0.0	0.0	2.8	0.0	4.9	33.6
1896	7	0.0	0.0	0.0	0.0	2.7	0.0	0.0	32.8	0.0	0.0	6.9	4.2
1896	8	0.0	0.0	0.0	0.0	3.0	12.8	0.0	5.5	0.0	0.0	1.4	0.5
1896	9	0.0	0.0	0.0	0.0	2.4	9.4	0.0	0.0	0.0	0.0	9.8	0.0
1896	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.8	24.0	0.0	0.0	0.0
1896	11	0.0	0.0	0.0	0.0	0.0	0.2	0.0	15.8	0.0	5.9	0.0	0.0
1896	12	0.0	0.0	0.0	4.0	0.0	5.8	0.3	0.3	7.2	0.8	0.0	4.5
1896	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.7
1896	14	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	10.8	0.0	0.0
1896	15	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	6.3	0.0
1896	16	0.0	0.0	0.0	0.0	18.7	2.0	10.5	8.6	0.0	6.6	44.0	2.0
1896	17	0.0	0.0	0.0	0.0	1.5	0.0	10.7	0.0	0.0	0.0	32.0	4.6
1896	18	0.0	0.0	0.0	0.0	0.0	1.0	15.4	0.0	0.0	0.0	0.7	3.6
1896	19	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	6.6	0.0	16.5
1896	20	0.0	0.0	0.0	17.0	0.0	12.4	0.0	21.5	3.8	4.4	0.0	5.5
1896	21	0.0	0.0	0.0	0.0	2.5	0.0	0.0	68.1	0.0	0.0	0.0	0.0
1896	22	0.0	0.0	0.0	0.0	14.7	0.0	0.2	45.1	0.0	2.6	0.2	1.3
1896	23	0.0	0.0	0.0	17.3	2.4	0.0	16.4	0.0	0.0	5.3	0.0	0.0
1896	24	0.0	0.0	0.0	0.0	17.1	4.0	1.6	0.0	12.2	2.4	0.0	0.6
1896	25	0.0	11.1	0.0	0.0	0.1	0.0	2.8	0.0	11.3	0.0	0.0	0.0
1896	26	0.0	42.0	0.0	0.0	0.1	43.6	0.0	0.0	2.1	0.0	0.0	0.0
1896	27	0.0	2.8	0.0	0.0	0.0	1.5	0.0	6.8	0.0	2.0	0.2	0.0
1896	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.3	0.1	0.0
1896	29	0.0	0.0	0.0	0.0	0.0	0.0	21.1	9.5	0.0	1.5	0.0	0.0
1896	30	0.0		0.3	0.0	2.5	0.0	0.0	2.6	0.0	0.0	0.0	0.0
1896	31	0.0		0.0		0.6		19.6	0.6		0.1		0.0
1897	1	0.0	0.0	2.7	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	2	0.0	0.0	1.0	2.7	21.3	0.0	0.0	0.0	0.0	0.0	0.0	7.8
1897	3	0.0	0.0	5.4	5.6	0.0	0.1	0.0	2.4	0.0	0.0	0.0	23.5
1897	4	0.0	1.9	3.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	23.6
1897	5	0.0	7.6	11.6	0.0	0.0	0.0	1.4	0.0	0.0	0.3	0.0	16.9
1897	6	0.0	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
1897	7	0.0	0.0	0.0	0.7	34.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	8	0.0	0.0	0.0	0.0	1.7	7.9	0.0	1.5	0.0	0.0	0.0	0.0
1897	9	2.1	0.0	0.0	9.1	0.0	10.1	0.0	1.4	0.0	5.0	0.0	1.0
1897	10	4.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	20.4	0.0	0.0	0.0
1897	11	4.7	0.0	0.0	2.3	1.8	6.0	1.3	0.0	21.6	0.0	0.0	0.0
1897	12	9.1	0.0	0.0	0.0	0.9	4.1	0.0	0.0	31.8	0.0	0.0	0.0
1897	13	0.3	0.0	20.4	0.0	0.0	0.0	7.8	0.0	1.4	0.0	0.1	0.0
1897	14	1.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0	2.0	0.2	0.0	0.5
1897	15	0.8	0.0	0.0	0.0	0.6	0.0	3.0	0.0	58.2	0.0	0.0	0.0
1897	16	35.3	0.0	0.0	1.3	1.7	26.7	0.0	0.0	0.0	10.7	0.0	0.0
1897	17	16.9	0.0	0.0	0.1	0.0	22.0	0.0	0.0	0.9	0.0	0.0	0.0
1897	18	0.3	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	8.9	0.0	0.0
1897	19	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	13.2	0.0	0.0	0.0
1897	20	0.0	0.0	0.0	6.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	21	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	6.5	0.0	0.0
1897	22	10.0	0.0	0.0	0.0	7.1	0.0	43.6	0.0	0.0	21.2	0.0	0.0
1897	23	9.7	0.0	0.0	0.0	7.7	0.0	3.0	0.0	0.0	12.6	0.0	0.0
1897	24	1.0	0.0	0.0	0.7	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	25	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	26	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	3.7	0.0
1897	27	0.0	0.0	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1897	28	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	0.0
1897	29	0.0		0.7	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.4	0.0
1897	30	0.0		0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.4
1897	31	0.6		1.3		0.0		0.0	0.0		0.0		2.8

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1898	1	2.5	0.0	0.0	17.9	0.0	4.4	0.0	0.0	0.2	0.0	39.6	0.3
1898	2	3.5	0.0	0.0	15.7	0.0	0.2	0.0	0.0	0.0	5.4	0.0	0.0
1898	3	0.0	0.6	0.0	8.5	1.1	5.3	0.0	0.0	0.0	4.1	0.0	0.0
1898	4	0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0	1.0	0.1
1898	5	0.1	0.0	6.5	0.0	0.0	0.0	28.6	0.0	0.0	0.0	4.1	0.0
1898	6	0.1	0.0	6.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1898	7	0.0	0.0	36.7	0.0	32.2	0.0	0.0	0.0	0.0	1.5	0.3	0.0
1898	8	0.0	0.0	39.8	0.0	0.0	0.0	1.8	0.0	0.0	8.7	0.0	0.0
1898	9	6.9	0.0	1.7	0.0	0.1	0.6	0.5	12.7	0.0	0.0	0.0	0.0
1898	10	0.9	0.0	0.5	0.0	0.0	8.8	0.4	0.0	0.0	0.9	0.0	0.0
1898	11	0.9	0.0	0.0	0.0	0.0	0.7	5.9	0.0	0.0	0.0	0.0	0.0
1898	12	0.0	0.0	0.0	15.2	1.8	0.0	0.0	0.0	0.1	22.6	0.0	0.0
1898	13	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.8	0.0	0.0	0.0
1898	14	0.0	0.0	0.0	0.0	0.0	8.0	7.8	3.2	0.0	0.0	0.0	0.0
1898	15	0.0	0.0	0.0	0.0	0.0	30.6	0.0	0.0	0.0	9.0	0.0	0.0
1898	16	0.0	0.0	0.0	15.4	0.0	64.3	0.0	0.0	0.0	9.2	0.0	0.0
1898	17	0.0	0.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0
1898	18	0.0	0.0	0.0	10.7	2.3	0.0	0.0	0.0	0.0	9.7	0.0	0.0
1898	19	0.0	0.0	0.0	0.0	20.5	0.0	0.0	0.0	0.0	7.8	0.0	0.0
1898	20	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.8	0.0	0.0	0.0
1898	21	0.0	0.0	0.0	9.6	0.0	0.0	22.9	0.0	0.0	0.0	0.0	0.0
1898	22	0.0	0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
1898	23	0.0	30.4	0.0	1.5	6.4	4.6	0.0	0.0	0.0	0.0	13.4	0.0
1898	24	0.0	0.0	11.2	0.0	3.1	0.0	0.0	0.0	0.0	0.0	9.9	0.0
1898	25	0.0	1.3	17.5	0.0	0.4	0.0	0.0	0.0	2.0	0.0	7.6	0.0
1898	26	0.0	0.0	6.3	0.0	0.1	0.3	0.0	1.3	0.0	0.0	3.4	0.0
1898	27	0.0	1.0	1.8	0.0	0.0	9.8	0.0	0.0	14.3	0.0	9.0	0.0
1898	28	0.0	4.6	0.1	0.0	16.7	0.1	7.1	0.0	13.6	0.0	0.0	0.0
1898	29	0.0		19.7	5.2	7.3	0.0	1.0	9.7	4.3	0.0	3.6	2.2
1898	30	0.0		8.5	0.1	15.5	0.0	0.2	0.0	7.0	0.0	4.8	1.1
1898	31	0.0		0.2		24.6		2.8	0.0		3.9		3.1
1899	1	0.0	2.3	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
1899	2	0.1	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1899	3	3.2	1.8	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1899	4	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1899	5	0.0	0.0	8.7	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1899	6	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	5.3	0.0	0.0
1899	7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	29.8	0.0	0.0
1899	8	0.0	0.4	0.0	7.1	0.0	0.0	0.0	0.0	9.8	0.0	0.0	1.7
1899	9	0.0	0.0	10.3	1.2	5.5	3.8	0.0	2.6	0.0	0.0	0.3	0.0
1899	10	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
1899	11	4.0	0.0	0.0	0.0	1.1	0.5	0.0	1.2	0.0	0.0	0.0	0.0
1899	12	0.0	0.2	0.0	4.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	8.3
1899	13	0.0	0.0	0.0	5.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1899	14	0.0	0.0	0.0	10.1	0.0	9.9	0.0	0.0	0.0	0.0	0.0	16.0
1899	15	0.0	0.0	0.0	17.4	10.3	0.0	0.0	0.0	0.0	2.2	0.0	16.1
1899	16	0.0	0.0	0.0	7.1	1.5	2.2	0.0	0.0	9.0	2.0	0.0	9.3
1899	17	0.0	0.0	0.0	0.0	11.9	3.3	0.0	6.8	1.1	0.0	0.0	0.0
1899	18	0.2	0.0	0.0	4.1	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0
1899	19	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1899	20	0.0	0.0	4.8	1.2	0.0	4.0	0.0	0.0	0.0	0.0	0.0	2.7
1899	21	0.0	0.0	1.3	0.0	0.0	1.6	0.0	3.0	0.0	0.0	0.0	5.1
1899	22	0.0	0.0	0.0	1.8	12.6	8.6	0.0	0.0	1.8	0.0	0.0	0.0
1899	23	0.0	0.0	4.5	3.0	4.9	11.3	0.0	0.0	9.0	0.0	0.0	0.0
1899	24	3.2	0.0	0.7	0.0	22.9	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1899	25	9.6	0.0	0.0	0.0	15.5	19.4	9.0	0.0	0.0	0.0	0.0	0.0
1899	26	5.8	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1899	27	0.9	0.0	0.0	2.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	11.7
1899	28	0.0	0.0	0.0	0.0	13.7	0.0	0.5	0.0	0.0	0.0	0.0	0.4
1899	29	0.0		0.0	0.0	5.0	0.0	0.0	1.3	1.3	0.0	0.0	5.7
1899	30	1.9		0.0	0.0	0.2	32.2	0.0	0.0	0.4	0.0	0.0	0.0
1899	31	2.5		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1900	1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	3.7
1900	2	2.7	12.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1900	3	3.4	18.3	0.0	0.0	11.6	2.9	0.0	0.0	0.0	12.7	16.3	0.0
1900	4	9.6	0.0	0.5	0.6	0.0	16.1	0.0	0.2	0.0	0.1	0.2	0.0
1900	5	10.5	0.0	0.4	5.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1900	6	2.8	1.6	0.0	8.1	0.0	0.3	4.4	0.0	0.0	0.0	0.0	0.0
1900	7	4.8	1.0	0.0	9.8	0.0	0.1	19.2	0.0	0.0	0.0	0.0	0.0
1900	8	3.4	0.0	0.0	12.3	23.8	19.9	16.5	0.0	7.4	0.0	5.5	0.0
1900	9	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1900	10	0.0	15.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1900	11	0.0	6.3	0.0	0.0	3.9	0.0	0.0	0.5	0.0	0.0	5.3	0.0
1900	12	0.0	6.0	0.0	0.0	10.5	0.0	0.0	0.0	9.3	1.2	36.3	0.0
1900	13	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1900	14	0.0	0.7	0.0	0.0	3.2	0.0	0.5	0.0	0.0	5.4	0.0	0.0
1900	15	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	2.6	0.0
1900	16	0.0	0.0	0.0	0.0	8.8	0.1	0.0	13.0	0.0	0.0	7.2	0.0
1900	17	0.0	0.0	26.0	16.3	41.5	0.0	0.0	0.0	0.0	0.0	13.0	0.0
1900	18	8.5	0.0	54.0	0.0	0.2	16.4	0.0	0.0	0.0	0.0	0.0	0.2
1900	19	13.4	0.1	5.6	0.0	0.8	0.0	0.0	0.0	2.8	0.0	3.6	0.0
1900	20	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	5.0	12.4	5.6	0.0
1900	21	0.0	0.2	4.0	0.0	0.0	0.0	0.0	0.8	0.0	10.3	38.7	0.0
1900	22	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.4	0.0
1900	23	0.0	0.0	5.2	0.0	0.0	1.2	15.9	0.4	0.0	0.9	0.8	1.8
1900	24	0.0	0.0	0.0	0.0	5.5	0.0	0.0	6.0	0.0	0.0	4.7	0.0
1900	25	0.0	0.0	0.5	1.3	16.3	1.5	0.0	0.0	0.0	0.0	3.5	0.0
1900	26	0.0	0.0	2.5	0.8	6.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
1900	27	0.0	2.5	0.0	7.7	0.0	0.0	0.0	7.3	0.5	0.0	0.0	0.0
1900	28	12.6	0.0	6.0	1.4	0.0	0.2	0.0	13.2	0.0	0.0	0.0	3.0
1900	29	18.8	0.0	8.0	0.5	17.2	19.5	0.0	0.0	0.0	0.0	10.2	9.3
1900	30	1.9		9.1	0.0	2.0	0.0	0.0	0.5	24.2	0.0	23.1	0.0
1900	31	0.0		0.0		0.0		0.0	0.0		0.0		11.9
1901	1	6.9	13.1	4.0	0.4	4.9	0.0	10.9	0.0	0.0	0.0	0.0	0.0
1901	2	0.0	7.7	19.3	0.0	0.0	19.3	0.0	0.8	0.0	0.0	0.0	0.0
1901	3	0.0	0.0	15.3	0.2	0.2	0.0	4.9	0.0	11.2	0.0	0.0	0.0
1901	4	0.0	0.9	0.0	0.0	0.0	4.6	1.7	0.0	70.9	8.9	0.0	0.0
1901	5	0.0	13.4	0.0	0.0	0.0	0.9	0.3	0.0	0.0	0.0	0.0	0.0
1901	6	0.0	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0
1901	7	0.0	6.9	0.0	0.0	35.9	0.4	0.0	0.0	21.9	0.0	0.0	0.0
1901	8	0.0	5.8	0.6	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1901	9	0.0	0.6	1.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
1901	10	0.0	0.0	9.3	0.0	14.4	12.1	1.2	0.0	0.0	0.0	0.0	0.0
1901	11	0.0	0.0	7.6	2.5	6.8	0.0	0.0	0.0	3.1	0.0	0.0	0.0
1901	12	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1901	13	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	48.3	0.0	0.8	12.3
1901	14	0.0	0.0	2.0	0.0	0.0	0.0	28.8	0.0	1.2	0.0	1.7	6.7
1901	15	0.0	0.0	7.9	0.0	0.0	14.0	0.5	0.0	3.4	0.0	17.1	0.0
1901	16	0.0	0.0	9.5	3.5	0.5	0.0	0.0	34.0	9.8	9.9	0.0	0.8
1901	17	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
1901	18	0.0	0.0	18.4	0.0	0.8	8.5	0.0	0.0	0.0	25.6	0.0	2.2
1901	19	0.0	0.0	17.5	0.0	1.9	32.1	0.0	0.0	0.0	2.4	0.0	22.7
1901	20	0.0	0.0	16.6	0.0	0.0	1.0	0.0	0.0	0.0	0.1	0.0	7.1
1901	21	0.0	0.0	1.1	0.0	0.0	0.0	1.1	0.0	0.0	0.5	0.0	1.0
1901	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5	54.9	0.0	9.5
1901	23	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.2	5.8
1901	24	0.0	0.0	0.0	0.0	1.2	0.0	0.9	0.0	0.0	0.0	0.6	0.0
1901	25	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	4.8	0.0	0.0	3.9
1901	26	0.0	0.0	2.2	1.2	0.0	0.2	17.0	6.9	0.1	0.0	0.0	1.7
1901	27	0.0	0.0	5.1	7.3	0.0	4.2	0.0	38.1	0.5	0.0	0.0	0.0
1901	28	0.0	0.0	9.7	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1901	29	0.0		1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
1901	30	0.0		0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.2	0.0	2.6
1901	31	2.2		1.7		0.0		0.1	0.0		17.7		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1902	1	0.1	15.8	9.0	0.0	0.0	0.0	0.0	0.0	10.9	0.6	0.0	0.0
1902	2	0.1	11.2	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1902	3	0.0	1.7	0.0	0.1	4.8	5.7	0.4	4.1	0.0	0.0	0.0	0.0
1902	4	0.0	4.9	5.9	2.0	0.7	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1902	5	0.0	17.2	0.0	0.0	0.9	4.3	0.0	0.0	1.3	57.7	0.0	0.0
1902	6	0.5	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	2.6	0.0	0.0
1902	7	0.0	7.4	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.6	8.2	0.0
1902	8	0.0	5.2	0.0	0.0	0.3	21.9	0.0	0.0	0.0	0.0	4.4	0.0
1902	9	0.0	0.9	0.0	0.0	11.1	0.7	0.0	16.9	0.0	0.0	0.0	0.0
1902	10	0.3	0.2	0.0	0.0	0.4	1.4	0.0	0.0	0.0	0.0	12.7	0.0
1902	11	0.0	0.7	0.0	0.5	0.0	17.7	0.0	13.0	0.0	61.0	0.0	0.0
1902	12	0.0	5.6	0.0	0.0	15.8	28.2	0.0	8.7	0.0	6.5	0.0	0.0
1902	13	0.0	17.5	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1902	14	0.0	1.3	0.0	0.0	2.4	0.8	0.0	9.8	0.7	0.0	0.0	0.0
1902	15	0.0	4.7	2.5	0.0	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1902	16	0.0	51.4	0.8	1.8	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1902	17	0.0	5.5	0.0	0.1	0.0	5.1	0.0	0.0	0.0	2.8	0.0	0.0
1902	18	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
1902	19	0.0	1.3	0.0	0.0	4.0	0.0	1.5	0.0	0.0	0.0	2.4	0.0
1902	20	0.0	0.0	0.0	0.0	10.3	3.7	29.6	4.7	0.0	0.0	0.2	0.0
1902	21	0.0	0.0	0.0	0.0	23.7	1.2	1.9	0.0	0.0	0.0	0.0	0.0
1902	22	0.0	1.6	8.5	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0
1902	23	0.0	0.0	14.7	3.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1902	24	0.0	0.0	11.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1902	25	3.1	3.7	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.6	0.0
1902	26	0.1	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	0.0
1902	27	0.0	3.1	0.0	0.0	13.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0
1902	28	0.8	17.4	0.0	19.9	0.0	0.0	15.2	0.8	0.0	0.8	0.0	0.0
1902	29	0.0		0.0	0.1	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.6
1902	30	17.1		0.0	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.3	5.9
1902	31	28.5		0.0		0.0		0.0	0.0		0.0		3.3
1903	1	0.0	0.5	0.2	0.0	0.6	3.0	0.0	0.0	0.0	0.0	16.8	7.7
1903	2	0.0	7.5	0.0	0.0	19.9	6.5	0.0	0.0	0.0	0.0	0.5	5.7
1903	3	0.0	0.0	1.1	0.0	23.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1903	4	0.0	0.0	0.0	0.0	0.8	39.6	0.0	0.0	0.0	0.0	0.0	0.2
1903	5	0.0	0.0	0.0	3.0	5.1	0.0	9.0	0.0	0.0	0.0	0.0	1.0
1903	6	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	26.1
1903	7	0.0	0.0	5.8	0.0	0.0	16.3	20.6	0.0	0.0	0.0	0.0	10.0
1903	8	0.0	0.0	0.0	2.8	11.2	23.2	0.0	0.0	0.0	0.0	0.0	0.2
1903	9	0.0	0.0	0.4	2.1	0.0	1.8	0.0	0.0	0.0	9.6	0.0	0.0
1903	10	5.0	0.0	0.0	0.0	2.8	2.4	0.0	0.0	0.0	3.1	0.0	0.0
1903	11	9.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
1903	12	2.8	0.1	0.0	0.0	1.0	17.2	0.0	0.0	0.0	0.0	0.0	10.3
1903	13	0.0	0.3	0.0	0.0	0.0	7.6	0.0	0.0	38.8	16.2	0.7	1.2
1903	14	0.0	0.0	0.0	0.0	0.7	5.7	4.5	0.0	12.6	0.0	4.2	11.0
1903	15	0.0	0.0	0.0	0.0	0.0	0.5	1.6	0.0	8.7	0.0	6.1	0.0
1903	16	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.2	5.1
1903	17	0.0	0.0	3.3	10.5	0.0	0.0	0.0	0.0	4.6	0.3	10.4	7.3
1903	18	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	7.2	0.0	1.0
1903	19	0.0	0.0	1.0	0.0	0.0	21.8	0.0	3.8	5.5	0.0	0.0	11.1
1903	20	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.3	0.0	0.0	0.0	0.0
1903	21	0.0	0.0	0.0	4.7	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1903	22	0.0	0.0	0.0	15.4	0.0	0.4	0.0	0.0	0.0	4.9	0.0	0.0
1903	23	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
1903	24	0.0	0.0	0.0	0.7	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.0
1903	25	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5
1903	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
1903	27	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	18.0	0.0	2.3
1903	28	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	6.4	16.5	1.1
1903	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	18.6	0.3
1903	30	0.0		0.0	0.3	1.3	0.0	0.0	0.0	0.0	7.8	4.3	0.0
1903	31	0.0		2.3		1.0		0.2	0.0		17.8		6.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1904	1	3.1	16.6	17.4	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.0	0.0
1904	2	0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.1	25.9	0.0	0.0	0.0
1904	3	0.0	1.1	0.0	0.0	0.0	1.2	0.0	0.0	0.2	0.2	0.0	4.6
1904	4	2.0	1.3	0.0	0.0	24.4	0.0	0.0	0.0	0.0	0.2	0.0	0.3
1904	5	1.3	21.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1904	6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.1
1904	7	0.3	0.2	0.3	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1904	8	0.0	1.3	0.8	0.0	0.0	0.0	0.0	0.0	6.7	7.3	1.4	3.3
1904	9	0.8	12.2	0.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
1904	10	0.6	2.1	7.0	0.0	0.0	6.9	0.0	18.1	0.0	7.5	0.0	4.6
1904	11	0.0	0.0	2.0	0.0	0.0	6.2	0.0	0.0	0.0	24.5	0.1	34.3
1904	12	0.0	0.4	16.4	0.0	0.0	0.7	0.0	8.5	0.0	2.7	0.0	0.0
1904	13	0.0	0.0	15.7	0.0	0.0	0.2	6.3	0.0	0.0	0.0	0.0	31.6
1904	14	0.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	12.6
1904	15	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0
1904	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1904	17	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
1904	18	0.0	23.5	0.0	0.0	0.0	0.0	0.6	0.5	0.0	0.0	0.0	0.0
1904	19	0.0	0.0	0.3	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1904	20	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1904	21	0.0	0.0	0.0	0.4	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0
1904	22	0.0	0.0	0.0	4.4	0.0	11.6	6.5	1.5	0.0	0.0	0.1	0.0
1904	23	0.0	0.0	7.4	5.8	0.2	0.0	0.0	1.1	0.0	0.0	21.7	0.0
1904	24	0.0	4.5	39.7	4.1	17.8	0.0	0.7	0.4	0.0	0.0	14.0	0.0
1904	25	0.0	0.0	13.3	8.6	0.0	0.0	0.0	23.3	2.3	0.0	0.0	0.0
1904	26	0.0	0.0	9.1	3.7	0.0	0.0	0.0	2.4	28.5	0.0	3.8	0.0
1904	27	0.0	0.0	10.7	9.3	0.0	0.5	0.0	0.0	25.5	0.0	0.0	0.0
1904	28	0.0	0.0	0.0	1.3	8.5	0.0	0.0	0.0	25.1	3.1	0.0	0.0
1904	29	0.0	0.0	0.3	0.0	0.8	0.0	0.0	0.0	6.9	0.4	0.0	0.0
1904	30	0.0		6.5	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
1904	31	1.5		15.5		3.2		0.0	0.7		0.0		0.0
1905	1	0.0	0.0	4.0	0.0	0.2	0.0	0.0	0.0	0.0	2.9	0.6	0.3
1905	2	0.0	0.0	24.3	0.0	0.0	0.5	0.0	26.7	0.0	7.5	11.8	0.0
1905	3	0.0	0.0	10.8	0.0	0.3	0.0	0.0	0.0	0.0	0.0	7.3	0.0
1905	4	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1905	5	0.0	0.0	17.4	12.6	0.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0
1905	6	0.0	0.0	0.0	0.0	13.2	0.0	0.1	6.6	0.0	0.0	1.4	0.0
1905	7	0.0	0.0	0.0	0.0	16.0	0.1	0.0	0.2	0.0	0.0	5.1	0.0
1905	8	0.0	0.0	0.0	0.0	5.3	0.0	7.4	0.0	0.0	0.0	41.4	0.0
1905	9	0.0	0.0	0.0	0.0	25.3	6.3	0.0	0.0	0.0	0.0	17.4	0.0
1905	10	0.0	0.0	3.8	0.0	0.8	0.5	0.0	0.0	0.0	0.0	0.0	2.9
1905	11	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
1905	12	0.0	0.0	0.0	0.1	3.4	4.1	0.0	20.8	0.0	0.6	7.3	0.0
1905	13	0.0	0.0	1.6	0.1	29.2	9.2	0.0	0.0	0.0	0.0	7.2	0.0
1905	14	0.0	0.0	3.4	20.8	8.7	17.3	0.4	0.0	0.0	0.0	0.0	0.0
1905	15	0.0	0.0	5.0	0.0	101.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1905	16	0.0	0.0	9.4	11.9	47.3	0.0	0.0	0.0	0.0	0.0	21.8	0.0
1905	17	0.0	0.0	0.0	0.1	1.8	0.0	0.0	3.1	0.0	0.1	0.2	0.0
1905	18	19.1	0.0	0.0	1.6	27.8	6.0	3.5	0.1	0.0	0.0	0.0	0.0
1905	19	28.5	0.0	0.0	0.5	0.0	0.2	58.4	0.0	8.5	0.0	3.6	0.0
1905	20	5.8	16.1	0.0	0.9	0.0	0.0	0.0	0.0	9.0	0.0	0.3	0.0
1905	21	0.0	6.3	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0
1905	22	0.0	35.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.3	2.5	0.0
1905	23	0.0	0.0	3.1	5.9	16.5	8.7	0.0	0.5	0.1	9.8	19.3	0.0
1905	24	0.0	0.8	0.0	0.0	9.5	10.8	28.3	0.0	0.6	23.2	0.0	0.0
1905	25	0.0	7.0	0.0	0.0	6.5	1.0	0.0	0.0	0.0	9.3	0.0	0.0
1905	26	0.0	11.1	0.0	0.0	0.0	2.3	0.0	32.6	0.0	0.0	0.0	0.0
1905	27	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	4.0	0.1
1905	28	0.0	8.1	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	2.7	1.4
1905	29	0.0		0.0	0.0	0.0	0.0	0.0	13.3	5.0	0.0	13.7	1.2
1905	30	0.0		0.0	1.1	0.0	0.0	0.0	1.1	2.9	0.0	1.3	0.0
1905	31	0.0		0.0		0.0		0.0	0.0		9.2		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1906	1	0.0	0.0	4.7	0.0	1.6	0.0	2.4	0.0	0.0	0.0	20.5	0.0
1906	2	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0	0.0	4.5	4.7
1906	3	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0
1906	4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
1906	5	0.7	0.0	0.0	0.0	0.0	0.1	18.1	0.0	0.0	0.0	0.0	0.0
1906	6	2.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	23.4	0.0	4.2
1906	7	13.1	0.0	0.0	0.0	0.8	0.0	3.7	0.1	0.0	0.0	4.3	0.2
1906	8	0.6	7.3	0.0	0.0	0.0	0.0	76.7	0.0	0.0	0.0	16.0	1.2
1906	9	0.1	2.0	0.0	0.0	0.0	0.3	1.4	6.6	0.0	0.0	10.4	19.8
1906	10	0.0	0.0	0.0	0.0	0.7	23.1	19.7	3.0	25.4	0.0	15.7	18.6
1906	11	0.0	0.0	0.0	0.0	3.8	15.9	0.0	0.0	3.3	0.0	0.0	0.0
1906	12	0.0	2.6	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
1906	13	0.0	16.4	9.9	0.0	0.0	2.5	0.4	0.0	0.0	0.0	0.0	0.0
1906	14	0.0	4.7	0.0	0.1	0.0	0.0	0.5	0.0	0.0	6.4	0.0	0.2
1906	15	0.0	2.5	0.0	0.0	0.0	8.2	0.0	0.0	0.0	24.9	0.0	0.0
1906	16	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	8.3	14.1	0.0	0.0
1906	17	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	1.6	0.1	0.0	0.0
1906	18	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	4.2	0.0	2.0	0.0
1906	19	1.2	0.0	0.9	32.4	0.0	0.0	0.0	5.6	2.0	0.0	11.8	0.1
1906	20	6.6	0.0	2.1	0.0	11.0	0.4	0.0	0.0	8.6	0.0	0.0	0.0
1906	21	0.0	36.7	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1906	22	0.0	9.0	21.0	3.8	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1906	23	0.0	0.0	19.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1906	24	0.0	0.2	4.8	2.3	0.0	0.0	0.4	0.0	0.7	0.0	0.0	0.0
1906	25	0.0	0.0	0.6	10.7	0.0	2.1	0.0	0.8	8.2	0.0	0.0	0.0
1906	26	0.0	0.0	2.5	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1906	27	0.0	0.2	6.5	12.3	0.4	0.0	0.0	0.0	0.0	1.4	0.0	0.7
1906	28	0.0	1.3	0.0	4.8	0.0	0.0	1.4	0.0	0.6	0.0	0.0	11.1
1906	29	0.0		0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1906	30	0.0		0.4	1.3	0.0	6.7	0.0	0.0	0.0	0.7	0.0	0.0
1906	31	0.0		0.0		0.0		0.0	0.0		36.2		0.0
1907	1	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	12.2	0.0	0.0
1907	2	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.5	2.0	0.1	3.0
1907	3	2.5	0.0	0.0	0.0	0.0	0.2	0.2	0.0	8.6	0.0	0.0	11.1
1907	4	0.3	0.0	0.1	7.7	0.0	15.1	0.0	0.0	0.6	14.7	0.0	0.0
1907	5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	5.5	0.0	14.5	0.0	31.8
1907	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	1.2
1907	7	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1907	8	0.0	0.0	0.0	1.4	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0
1907	9	0.0	0.0	0.0	0.1	0.0	0.0	27.6	0.0	0.0	0.0	28.5	0.0
1907	10	0.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0	1.2	2.9	0.4	0.0
1907	11	0.0	0.0	0.1	0.6	0.0	0.0	1.5	0.0	0.2	0.0	0.8	0.2
1907	12	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	6.7
1907	13	0.0	10.4	0.0	7.3	0.0	0.0	2.3	0.0	0.0	0.0	0.1	1.0
1907	14	0.0	15.3	0.0	4.3	0.0	0.1	0.0	0.0	0.0	34.9	0.0	4.2
1907	15	0.0	0.0	0.0	13.3	0.0	0.0	1.6	0.0	13.0	2.8	0.0	0.0
1907	16	0.0	0.0	0.0	4.5	1.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0
1907	17	0.0	0.0	0.0	0.0	2.3	4.0	0.0	0.0	0.0	1.4	0.0	0.0
1907	18	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1907	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1907	20	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1907	21	0.0	0.6	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0
1907	22	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0
1907	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1907	24	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1907	25	8.0	0.0	0.0	0.0	0.0	14.1	2.1	0.0	0.0	35.6	0.0	0.0
1907	26	12.6	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	92.6	0.0	2.1
1907	27	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	8.0
1907	28	0.0	0.0	0.0	16.5	0.0	0.0	0.0	0.0	2.3	4.9	0.0	7.3
1907	29	0.0		0.0	1.6	0.0	0.0	0.0	0.0	6.7	2.6	0.0	3.3
1907	30	0.0		0.0	0.3	2.1	0.0	0.0	0.5	0.0	34.0	0.0	4.8
1907	31	0.0		0.0		0.0		0.0	0.0		0.1		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1908	1	3.1	0.2	1.9	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
1908	2	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	3	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	5	0.0	0.0	2.6	0.1	5.5	0.0	48.8	0.0	0.0	0.0	0.0	0.0
1908	6	0.0	0.0	0.5	8.3	0.0	0.0	1.2	9.7	0.0	0.0	0.0	0.0
1908	7	1.1	0.0	0.2	9.6	0.0	17.9	0.0	2.7	0.0	0.0	0.0	0.0
1908	8	0.0	0.0	0.4	5.2	0.0	18.5	0.0	16.7	0.0	0.0	18.8	0.0
1908	9	0.0	0.1	0.0	2.7	0.0	0.8	0.0	0.0	0.0	0.0	4.4	0.0
1908	10	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	10.9
1908	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	13	0.1	0.0	0.0	3.7	0.0	0.0	30.9	0.2	0.0	1.2	0.0	0.0
1908	14	0.0	0.0	0.0	2.4	0.1	0.6	6.0	21.8	0.0	0.4	0.0	0.0
1908	15	0.1	0.0	0.0	0.5	0.1	0.3	8.0	26.1	0.0	0.0	0.4	0.0
1908	16	0.0	0.1	0.0	0.0	0.0	0.0	0.7	2.3	0.0	0.0	0.0	0.9
1908	17	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	6.6
1908	18	0.0	1.5	0.0	0.0	0.0	0.0	35.9	0.0	0.0	0.0	0.1	10.4
1908	19	0.0	0.0	3.0	0.1	0.0	0.0	44.0	0.0	0.0	0.0	0.5	0.0
1908	20	0.0	0.0	6.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	21.9
1908	21	0.0	0.0	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	22	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.9	0.0	0.0	0.0	0.0
1908	23	0.0	0.0	0.0	0.0	10.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0
1908	24	0.0	0.0	0.0	0.0	0.3	0.0	5.6	0.0	0.0	11.7	0.0	0.0
1908	25	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	31.2	0.0	0.0
1908	26	0.0	0.6	0.0	7.8	0.0	0.0	0.5	0.0	13.3	0.2	0.0	0.0
1908	27	0.0	1.6	0.0	0.0	0.7	0.0	1.0	0.0	0.0	3.5	0.0	0.1
1908	28	0.0	0.0	12.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	29	1.3	3.4	0.0	6.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	30	0.1		0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1908	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1909	1	0.0	0.0	24.7	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	4.6
1909	2	0.0	0.0	10.4	33.8	23.1	0.0	0.0	0.5	0.7	5.2	0.0	0.0
1909	3	0.0	0.0	0.0	3.8	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
1909	4	0.0	0.0	8.8	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.4
1909	5	0.0	0.0	3.5	0.0	1.3	6.0	0.0	1.4	0.0	0.0	0.0	4.9
1909	6	0.0	0.0	0.0	0.0	0.0	2.3	3.5	0.2	0.0	0.4	0.0	1.4
1909	7	0.0	0.0	8.8	0.0	0.0	5.2	0.1	0.0	0.0	0.4	0.0	9.6
1909	8	2.2	0.0	23.8	0.0	0.0	0.8	8.2	0.0	0.0	0.0	0.0	3.7
1909	9	11.5	0.0	0.2	0.0	0.1	0.7	0.0	0.0	1.4	0.0	0.0	0.0
1909	10	6.4	0.0	0.0	0.0	8.8	0.1	0.0	3.5	0.1	0.0	0.0	0.0
1909	11	0.0	28.7	11.3	0.0	10.3	4.6	1.6	3.2	0.0	0.0	0.0	2.5
1909	12	0.0	51.4	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	3.5
1909	13	0.0	0.0	0.0	0.0	0.8	6.8	5.1	0.0	24.6	0.0	0.0	0.1
1909	14	0.0	0.0	10.9	0.0	11.5	0.3	0.0	0.0	4.2	0.0	0.0	0.8
1909	15	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.7	0.0
1909	16	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0
1909	17	1.3	0.0	0.0	0.0	0.2	1.1	0.0	0.0	0.9	0.0	6.4	0.0
1909	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0	0.0	12.7	7.2
1909	19	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6
1909	20	0.0	0.0	10.9	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.8
1909	21	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4
1909	22	0.0	0.1	8.4	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.1	0.0
1909	23	0.0	7.0	0.0	0.0	0.0	0.3	0.0	53.2	26.2	0.0	0.0	0.0
1909	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.4
1909	25	0.0	3.5	0.1	0.6	0.0	0.1	0.0	0.0	0.0	15.0	0.0	5.5
1909	26	0.0	1.5	26.8	0.0	10.9	0.7	0.0	0.0	33.2	0.0	0.0	0.1
1909	27	0.0	4.0	10.5	0.0	4.8	2.7	0.0	17.0	0.0	0.3	0.0	0.0
1909	28	0.0	3.3	0.0	1.4	0.2	0.0	0.0	12.7	0.0	0.0	0.0	0.0
1909	29	0.0		0.0	0.0	0.0	2.9	0.0	0.1	0.0	0.0	0.0	0.8
1909	30	0.0		6.5	0.6	0.0	30.4	0.0	0.0	5.4	30.2	0.0	0.0
1909	31	0.0		1.2		0.0		0.0	0.0		5.4		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1910	1	0.0	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	3.9
1910	2	0.0	0.1	3.9	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	3.4
1910	3	0.0	0.6	0.0	11.3	0.0	0.0	0.1	3.1	0.0	0.0	0.0	0.0
1910	4	0.0	9.9	0.0	0.1	0.0	0.0	2.8	11.2	0.0	0.9	0.0	0.0
1910	5	0.0	0.4	0.0	0.0	11.3	0.0	2.1	1.4	31.0	0.0	7.0	10.1
1910	6	0.0	0.0	0.0	0.4	2.9	1.8	0.0	0.0	0.1	0.1	10.5	0.6
1910	7	0.0	0.0	0.0	0.0	0.0	0.5	8.0	6.3	0.0	20.3	0.0	2.1
1910	8	0.0	3.5	0.0	7.8	0.6	0.0	0.0	0.0	0.0	26.4	0.5	0.1
1910	9	0.0	9.7	0.0	13.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	22.3
1910	10	0.0	0.0	0.0	2.3	0.3	3.2	0.0	0.0	6.8	0.0	9.8	3.3
1910	11	0.0	0.0	0.0	0.0	37.7	45.5	3.2	4.3	59.8	0.0	0.0	10.7
1910	12	7.2	0.0	0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.3	0.0	3.6
1910	13	7.6	0.0	0.0	0.0	0.0	12.0	8.0	0.0	0.0	0.0	0.0	0.0
1910	14	0.0	0.0	0.1	0.0	1.6	7.1	0.0	0.0	33.8	0.0	19.7	1.6
1910	15	0.0	0.0	5.1	2.9	0.0	1.6	0.0	0.0	7.5	0.0	22.7	0.0
1910	16	0.0	0.6	11.9	0.7	0.0	4.7	4.5	0.0	0.0	0.0	9.9	0.0
1910	17	1.5	0.0	0.0	1.9	0.0	1.4	0.0	13.1	0.0	0.0	0.0	1.3
1910	18	0.6	0.0	0.0	0.2	0.0	46.1	0.0	0.0	0.0	0.0	17.2	3.7
1910	19	0.0	0.1	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	7.9	1.1
1910	20	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
1910	21	13.3	0.6	4.7	0.0	0.0	0.0	0.0	0.0	16.1	61.9	0.3	0.0
1910	22	25.8	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.5	35.8	0.0	0.0
1910	23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24.5	6.6	0.0	0.1	0.0
1910	24	0.0	1.1	0.0	0.0	0.0	9.0	1.8	0.0	1.4	0.0	0.0	0.1
1910	25	5.5	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1910	26	0.0	0.0	0.0	0.0	2.2	0.0	2.3	0.0	0.0	0.0	8.1	0.0
1910	27	2.0	8.3	0.0	0.4	0.0	1.0	5.7	0.0	0.0	0.0	0.0	0.0
1910	28	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1910	29	4.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0
1910	30	12.6		0.6	0.0	0.0	0.0	0.0	0.0	0.0	38.1	0.1	0.0
1910	31	0.6		2.3		0.0		0.0	29.2		0.0		0.0
1911	1	0.0	0.0	0.0	0.0	1.1	0.0	0.0	4.8	0.0	9.3	0.0	0.0
1911	2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	28.7	0.0	0.0
1911	3	11.8	0.0	0.0	4.9	0.2	0.5	10.5	21.4	0.0	0.0	0.0	0.0
1911	4	4.7	0.0	0.0	29.9	0.2	0.0	16.9	0.0	0.0	0.3	0.0	0.0
1911	5	4.3	0.0	0.0	0.0	1.5	2.9	0.0	1.5	0.0	14.5	0.0	0.0
1911	6	0.2	0.0	0.0	3.5	18.8	6.0	0.0	0.0	0.0	21.6	0.0	0.2
1911	7	2.6	0.0	0.0	0.3	35.4	0.0	0.0	2.6	0.0	6.7	0.0	2.9
1911	8	0.0	0.0	0.0	2.8	16.3	0.0	0.0	0.0	0.0	1.9	0.0	18.7
1911	9	0.0	0.0	0.0	0.3	41.6	1.2	0.0	0.0	0.3	0.6	5.1	3.5
1911	10	0.0	0.0	0.0	0.0	10.8	10.6	6.0	0.0	0.0	5.8	16.0	4.5
1911	11	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	6.7	5.8
1911	12	0.0	0.0	0.0	0.0	0.0	0.7	0.0	21.3	0.0	0.0	0.0	1.8
1911	13	0.0	2.2	0.0	0.0	0.0	16.8	0.0	1.3	0.0	0.0	12.7	0.4
1911	14	0.0	0.0	7.7	0.0	0.0	2.7	0.2	0.0	0.0	0.0	1.0	13.6
1911	15	0.0	0.0	6.3	0.0	0.0	14.2	0.0	0.0	12.8	0.0	0.0	0.0
1911	16	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24.8
1911	17	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	16.3	0.0	0.0	0.0
1911	18	0.0	0.0	0.0	0.0	33.0	0.0	8.1	0.0	4.1	0.0	8.5	0.0
1911	19	0.0	0.0	0.0	0.0	9.2	1.3	0.1	0.0	0.0	0.0	18.7	0.0
1911	20	0.0	0.0	17.6	0.1	0.0	5.0	2.2	1.1	0.0	0.0	0.0	0.0
1911	21	0.0	0.0	10.1	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.5	0.1
1911	22	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.6	22.9	0.5	0.0	0.0
1911	23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	30.8	1.7	0.1	0.0
1911	24	0.0	1.3	0.0	0.0	0.0	0.0	0.0	2.1	9.4	26.5	11.3	0.0
1911	25	0.0	0.0	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	14.0
1911	26	0.0	0.0	8.7	0.0	0.0	1.8	0.0	14.4	0.0	0.0	0.0	0.8
1911	27	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1911	28	0.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
1911	29	0.0		0.0	0.9	0.0	0.0	0.0	0.0	1.2	0.0	0.1	0.0
1911	30	0.0		8.0	4.3	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0
1911	31	0.0		0.0		12.8		0.0	0.0		0.0		0.0

ESM 21. Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1912	1	0.0	0.0	0.1	54.5	0.0	0.0	0.6	0.0	0.0	0.1	0.0	12.9
1912	2	0.0	9.9	0.4	3.1	0.0	10.0	0.0	0.0	0.6	0.1	0.0	0.0
1912	3	0.0	1.0	4.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
1912	4	0.0	3.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1912	5	0.0	11.3	0.0	0.0	14.2	0.0	0.0	5.2	0.0	0.5	0.0	0.0
1912	6	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
1912	7	0.1	4.3	6.0	0.0	0.0	4.1	4.1	26.5	1.7	28.6	0.0	0.0
1912	8	0.0	2.9	5.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
1912	9	0.0	4.7	0.0	1.0	0.0	0.9	0.0	16.1	0.0	0.2	0.0	0.0
1912	10	2.1	14.2	2.9	21.0	0.0	0.0	0.0	6.4	2.0	0.0	0.0	0.0
1912	11	0.0	6.5	0.2	0.0	0.0	0.0	0.1	5.2	16.7	0.0	0.0	0.0
1912	12	0.2	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0
1912	13	0.0	0.0	1.9	0.0	0.0	10.1	0.0	2.3	0.0	0.0	0.3	0.0
1912	14	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
1912	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0
1912	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0
1912	17	0.0	0.0	0.0	0.5	1.5	3.6	0.0	0.0	0.0	0.0	0.4	1.1
1912	18	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.8	0.0
1912	19	0.0	0.0	1.6	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7
1912	20	0.0	2.9	4.1	0.0	0.0	0.0	7.3	0.0	21.6	0.0	0.0	0.0
1912	21	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.8	0.0	0.0
1912	22	3.3	0.0	6.3	0.0	11.4	0.0	0.0	2.7	0.0	23.5	0.0	2.8
1912	23	3.2	0.0	2.0	0.0	5.2	0.0	0.0	11.5	0.0	0.0	0.0	32.5
1912	24	6.2	0.0	0.0	1.7	8.6	8.0	0.0	0.0	0.0	0.0	0.0	1.0
1912	25	35.4	0.0	0.0	0.6	2.1	0.1	0.4	0.0	0.0	7.0	0.0	0.0
1912	26	0.0	4.1	0.0	0.0	1.7	3.3	1.6	0.0	12.0	0.0	0.0	0.0
1912	27	5.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	19.3	0.0	0.0	0.2
1912	28	9.7	0.0	0.0	10.3	0.1	0.0	0.0	0.0	0.0	0.0	4.3	0.0
1912	29	0.1	0.1	0.0	3.3	2.3	0.0	52.2	0.0	0.0	0.0	0.0	0.0
1912	30	0.0		1.2	3.7	3.9	0.0	1.2	0.0	0.0	0.0	0.0	0.1
1912	31	0.0		0.0		0.6		0.0	4.4		2.9		0.0
1913	1	0.0	0.0	0.0	2.4	1.9	0.0	0.0	0.6	0.0	2.0	0.0	0.0
1913	2	0.0	2.3	0.0	19.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1913	3	0.1	0.1	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.1
1913	4	0.0	0.0	0.0	0.5	0.0	0.0	8.4	0.0	0.0	9.9	0.0	0.5
1913	5	0.0	0.0	0.0	35.6	5.8	0.0	0.0	0.0	19.1	2.9	0.0	6.3
1913	6	0.0	0.0	0.0	5.9	0.0	0.0	2.8	20.6	0.0	0.1	36.1	0.0
1913	7	0.0	0.0	0.0	0.0	0.0	57.6	0.0	2.9	0.0	0.0	0.2	0.0
1913	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
1913	9	0.0	0.0	25.2	14.5	0.0	0.0	0.0	5.8	0.0	0.1	0.0	0.0
1913	10	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	5.4	0.0	1.5	0.0
1913	11	0.0	0.0	0.0	1.2	25.5	0.0	11.6	0.0	2.0	0.0	0.0	0.0
1913	12	2.2	0.0	0.0	15.2	2.5	0.0	2.0	0.0	0.0	0.1	0.1	0.0
1913	13	0.0	0.0	0.0	2.1	0.4	0.0	0.0	39.6	0.0	0.0	25.9	0.0
1913	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.7	2.2	0.0	0.0	0.0
1913	15	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.2	0.0
1913	16	0.4	0.0	0.0	0.0	3.4	0.0	0.1	0.4	0.0	0.0	0.0	0.0
1913	17	4.1	0.0	0.0	0.5	28.2	0.0	0.4	2.9	13.5	0.4	0.0	0.0
1913	18	0.9	0.0	5.7	6.2	0.1	0.0	0.6	0.0	16.5	0.0	0.0	8.5
1913	19	0.0	0.0	0.0	0.0	5.1	0.0	4.1	0.0	15.5	0.0	0.0	0.0
1913	20	8.0	0.0	0.0	0.0	10.7	2.1	2.8	4.3	3.3	0.0	0.0	0.0
1913	21	3.1	0.0	0.0	0.0	0.0	0.3	0.4	5.1	1.8	0.0	0.0	0.0
1913	22	0.0	0.0	0.9	0.0	0.0	20.6	0.0	0.0	0.0	0.0	0.2	0.1
1913	23	0.0	0.0	10.6	1.9	0.0	0.0	3.0	0.0	0.0	2.1	0.0	0.0
1913	24	0.0	0.0	13.9	9.4	1.2	0.0	13.0	0.0	0.0	0.0	8.1	0.0
1913	25	0.0	0.0	0.0	3.3	0.0	12.2	1.1	0.0	0.0	0.0	18.9	0.0
1913	26	0.0	0.0	1.3	0.0	0.0	3.6	0.0	0.0	0.0	0.0	20.9	0.0
1913	27	0.0	0.0	0.1	0.0	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.0
1913	28	0.0	3.0	0.0	0.0	0.0	4.2	3.0	0.0	0.0	0.0	0.0	0.3
1913	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	11.0
1913	30	0.0		0.0	0.0	0.0	0.0	0.0	0.1	6.7	14.5	0.0	6.1
1913	31	0.0		0.0		0.0		6.4	11.6		0.1		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1914	1	0.0	0.0	0.0	0.0	1.4	0.1	0.0	0.0	0.0	0.0	11.0	0.0
1914	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1914	3	0.1	0.0	0.0	1.1	0.0	0.0	21.9	0.0	0.0	0.0	0.1	0.0
1914	4	0.0	0.0	0.0	0.8	0.0	0.0	1.4	0.0	0.0	0.0	3.4	0.0
1914	5	0.0	0.0	0.0	35.2	0.6	37.7	0.3	0.0	0.0	0.0	7.1	3.5
1914	6	0.1	0.0	0.0	0.0	15.3	8.3	0.0	15.4	17.8	0.0	0.3	9.5
1914	7	0.1	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0	1.0	0.0	0.0
1914	8	0.0	0.0	0.0	4.8	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
1914	9	0.0	0.0	0.0	0.0	10.8	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1914	10	0.0	0.0	5.0	0.0	2.2	0.0	0.0	0.0	16.1	0.0	0.0	2.3
1914	11	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1914	12	0.0	0.1	0.6	0.0	0.0	0.1	0.0	0.0	2.3	0.0	0.0	7.6
1914	13	0.0	9.3	0.0	0.0	0.4	8.8	0.0	0.0	0.0	0.0	0.0	6.1
1914	14	3.9	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	31.8
1914	15	8.9	0.0	1.2	0.0	0.2	4.0	0.0	0.0	0.0	17.7	0.0	0.4
1914	16	0.0	0.0	0.0	9.9	0.0	1.6	11.8	0.7	0.0	13.9	0.0	0.0
1914	17	0.7	0.0	2.0	0.0	0.0	0.0	2.1	1.1	0.0	3.1	0.0	0.0
1914	18	0.0	0.5	16.0	0.0	0.0	0.0	0.0	0.6	0.0	2.7	0.0	0.0
1914	19	0.0	6.1	8.4	7.9	0.1	1.4	0.0	0.0	1.5	6.4	0.0	0.0
1914	20	0.0	0.0	7.9	0.2	0.0	2.1	0.0	0.0	0.1	11.5	0.0	2.7
1914	21	0.0	0.4	0.5	0.0	0.0	3.2	0.0	0.0	0.1	0.0	0.0	11.8
1914	22	0.0	0.3	12.7	0.0	0.0	0.1	0.2	0.0	1.0	0.0	1.2	0.3
1914	23	0.0	3.9	0.1	0.0	0.0	0.0	3.2	0.0	0.0	0.0	6.7	0.0
1914	24	0.0	0.0	8.4	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8
1914	25	0.0	21.6	0.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.5	13.1
1914	26	0.0	33.7	0.0	0.2	35.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1914	27	0.0	2.9	0.0	0.0	38.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1914	28	13.5	2.0	0.0	0.0	1.1	0.0	3.7	0.7	0.0	10.3	0.0	0.0
1914	29	0.0		0.0	0.0	0.1	0.0	2.7	0.0	0.0	14.5	0.0	8.5
1914	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.6	0.0	1.7
1914	31	0.0		0.0		5.4		0.8	0.0		12.4		0.0
1915	1	20.7	0.0	0.0	0.2	0.0	31.2	3.1	0.0	0.0	0.9	12.3	5.6
1915	2	24.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.3	2.1	0.0	2.1
1915	3	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.0	1.8	23.4	0.0
1915	4	9.4	0.0	0.0	0.0	0.0	0.3	0.0	8.5	13.4	0.1	0.0	0.0
1915	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.8	0.0
1915	6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	0.1
1915	7	0.1	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.2
1915	8	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.1
1915	9	2.1	11.6	1.2	4.4	1.4	9.0	0.0	0.0	9.2	0.0	0.7	0.0
1915	10	0.0	27.9	0.0	0.0	18.4	0.4	0.0	0.0	1.9	0.0	3.1	0.0
1915	11	0.0	15.0	0.0	0.0	3.8	15.1	0.0	0.0	0.0	0.0	0.0	0.9
1915	12	0.0	4.5	0.0	0.0	0.0	0.0	0.0	16.6	0.0	0.0	1.0	0.0
1915	13	0.0	0.0	0.0	0.1	0.0	0.0	0.0	15.2	0.0	3.8	6.6	2.5
1915	14	0.0	27.8	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.4	0.0	2.3
1915	15	0.0	0.0	0.0	0.0	0.0	0.1	17.7	0.0	0.0	1.2	5.6	0.0
1915	16	0.0	0.0	0.0	0.0	0.0	0.0	42.7	0.1	0.0	0.0	1.2	4.5
1915	17	0.0	0.0	0.0	0.1	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.7
1915	18	0.8	0.0	0.1	0.0	12.4	0.2	13.4	0.0	0.0	0.0	0.0	1.0
1915	19	0.0	10.8	24.0	0.1	11.8	20.2	0.0	0.0	0.0	0.0	0.0	19.2
1915	20	0.0	29.5	0.0	0.7	0.6	12.0	0.0	0.0	0.4	0.0	0.0	0.0
1915	21	0.1	4.2	0.0	6.8	0.0	0.0	0.0	23.3	0.0	0.0	0.2	0.0
1915	22	3.0	11.6	0.0	4.9	0.0	2.5	0.0	13.1	0.0	0.0	0.0	0.0
1915	23	11.3	22.0	0.0	0.3	0.0	2.8	0.0	0.0	0.0	0.0	0.0	1.0
1915	24	7.1	0.0	0.0	0.0	0.0	40.5	0.8	0.0	0.0	0.0	0.0	0.4
1915	25	1.0	0.0	4.5	2.9	0.3	2.9	0.0	0.0	20.4	0.0	0.0	1.9
1915	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
1915	27	7.6	0.0	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1915	28	4.8	0.0	0.5	0.0	2.0	3.2	0.0	0.0	22.6	0.0	0.0	0.0
1915	29	0.0		4.9	0.0	1.3	9.3	3.5	0.0	3.4	0.2	0.0	0.0
1915	30	0.0		1.4	0.0	0.0	0.1	8.0	0.0	14.3	2.2	1.3	0.0
1915	31	0.0		4.0		0.0		3.5	0.0		0.0		0.0

**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1916	1	0.0	3.5	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1916	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0
1916	3	0.0	0.0	0.4	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0
1916	4	0.1	0.0	5.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	3.0
1916	5	0.0	0.0	4.1	0.8	0.1	0.0	0.0	7.2	3.8	0.0	4.3	26.0
1916	6	0.0	0.0	4.0	0.0	1.8	2.2	0.0	0.0	20.7	0.0	2.4	4.5
1916	7	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	27.3
1916	8	0.0	0.3	23.5	0.0	9.7	0.0	0.0	0.0	0.4	0.0	33.4	1.7
1916	9	0.0	16.2	44.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	55.3	15.8
1916	10	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	17.6	14.2
1916	11	0.0	0.0	11.8	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	10.5
1916	12	0.0	0.0	7.9	5.0	3.5	4.3	0.0	0.0	32.9	0.0	0.0	1.7
1916	13	0.0	0.0	5.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9
1916	14	0.0	0.0	0.0	15.2	6.8	0.0	37.8	3.6	0.0	0.0	0.0	0.0
1916	15	0.0	0.0	9.0	0.0	0.0	0.0	58.4	0.0	0.0	0.0	2.5	3.8
1916	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.4	0.0
1916	17	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	3.7
1916	18	0.0	0.0	0.0	3.4	0.0	0.2	0.0	23.8	0.0	0.0	14.6	2.0
1916	19	0.0	0.0	0.0	0.1	0.0	0.2	8.1	0.7	0.0	0.0	17.8	3.4
1916	20	0.0	0.0	0.0	0.0	0.0	0.0	27.1	0.0	13.4	0.3	29.6	0.0
1916	21	0.0	0.0	34.4	0.0	0.4	0.0	2.2	0.0	27.3	40.1	6.4	1.6
1916	22	0.0	8.0	4.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4
1916	23	0.0	0.1	10.4	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1916	24	0.0	3.7	3.0	3.0	7.9	0.0	1.1	0.5	0.0	1.6	0.0	1.9
1916	25	0.0	1.4	0.4	0.1	3.5	0.0	0.0	0.0	0.0	8.3	0.0	0.3
1916	26	0.0	9.6	0.0	0.7	0.3	1.6	3.2	0.0	0.0	3.9	3.8	0.0
1916	27	0.0	0.0	0.0	1.5	30.7	0.0	0.0	0.0	0.0	0.4	3.4	0.0
1916	28	0.0	2.4	0.0	0.1	4.3	0.0	1.1	0.0	3.2	0.0	4.3	0.0
1916	29	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	31.3	2.6	2.8	0.0
1916	30	0.0		11.6	0.1	0.0	0.0	0.0	7.4	0.0	0.6	0.0	0.0
1916	31	0.0		0.0		0.0		0.0	43.5		0.0		0.0
1917	1	0.1	0.0	0.0	0.2	0.0	4.2	0.4	15.9	0.0	0.0	0.0	0.0
1917	2	0.0	0.0	0.0	0.6	0.0	0.0	0.1	1.9	0.0	0.0	0.0	0.0
1917	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1917	4	0.0	2.6	3.3	0.0	0.0	0.0	7.0	0.0	0.0	0.2	0.0	0.0
1917	5	0.4	0.0	13.1	9.3	1.5	0.0	43.4	0.0	0.0	0.0	0.0	0.0
1917	6	0.0	0.5	0.1	4.6	7.4	0.0	3.6	0.0	0.0	9.0	0.0	0.0
1917	7	0.0	0.0	11.5	3.4	9.7	0.0	0.0	0.0	5.1	1.1	0.0	0.0
1917	8	0.0	0.0	0.3	22.1	11.4	0.0	7.7	0.0	0.0	0.0	7.0	0.0
1917	9	23.1	0.0	0.0	1.4	5.8	0.0	5.8	0.0	1.6	0.0	5.2	0.0
1917	10	4.8	0.0	0.0	0.0	0.0	0.0	2.2	0.6	0.0	0.0	12.7	0.0
1917	11	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	13.7	5.0	1.5
1917	12	0.0	0.5	11.2	0.0	0.0	0.6	4.8	0.0	0.4	0.0	1.6	15.1
1917	13	0.0	0.0	0.4	0.0	0.0	0.0	1.4	0.0	15.4	0.0	2.7	0.0
1917	14	0.0	0.0	0.3	19.5	0.4	0.0	0.0	0.0	0.0	3.7	1.9	0.0
1917	15	37.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1917	16	7.5	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	4.5
1917	17	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	5.4
1917	18	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0
1917	19	13.7	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
1917	20	0.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	26.8	0.0	0.0
1917	21	0.0	0.0	0.7	0.0	0.0	0.0	16.8	0.0	0.0	2.1	0.0	14.7
1917	22	0.0	0.0	7.3	0.0	0.6	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1917	23	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1917	24	9.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	21.4	0.0	0.0
1917	25	1.4	0.0	0.0	8.2	0.0	0.0	4.1	0.0	0.0	0.0	11.4	0.0
1917	26	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
1917	27	1.2	0.0	2.6	1.2	1.5	0.4	0.0	0.8	0.0	1.1	0.0	0.0
1917	28	0.2	0.0	0.0	0.0	31.9	0.0	0.0	0.0	0.0	19.8	0.0	1.5
1917	29	0.0		0.0	0.0	27.5	0.0	0.0	1.8	0.0	0.0	0.0	0.2
1917	30	0.0		0.4	0.0	0.2	0.0	0.0	0.0	0.0	11.9	0.0	0.0
1917	31	0.0		0.0		0.6		2.8	0.0		0.2		0.0



**ESM 21.** Santini & Lorenzoni periods Raw Precipitation Data (mm) : 1812-1919  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1918	1	0.0	0.0	0.4	18.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1918	2	0.0	0.0	0.0	2.8	0.0	0.0	0.2	0.0	9.3	38.7	0.0	0.0
1918	3	0.0	0.0	2.5	0.0	0.0	16.4	0.0	0.0	0.0	7.0	0.0	0.0
1918	4	0.0	0.0	0.0	0.0	0.0	27.7	0.0	10.5	0.0	0.0	0.0	0.0
1918	5	0.0	0.0	0.0	2.0	0.1	17.3	0.0	0.0	0.0	0.0	0.3	0.0
1918	6	0.0	0.0	4.2	0.0	0.1	9.4	15.5	0.0	0.0	0.0	0.0	0.0
1918	7	8.9	0.0	10.0	0.0	30.1	0.0	1.0	10.4	0.0	0.0	0.0	0.0
1918	8	26.7	0.0	1.4	0.0	0.6	0.0	0.0	0.0	2.1	0.0	0.0	0.0
1918	9	3.7	0.0	0.0	0.0	1.5	0.0	2.8	0.0	0.0	25.3	0.0	0.0
1918	10	0.0	0.0	0.0	20.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1918	11	0.0	0.0	0.0	0.5	0.0	28.6	9.9	0.0	0.0	5.5	0.0	0.0
1918	12	0.0	0.0	0.0	0.0	0.0	30.8	21.5	0.0	0.0	2.0	0.0	0.0
1918	13	0.0	0.0	0.0	6.7	0.0	5.5	0.0	1.0	0.0	4.0	0.0	0.0
1918	14	0.0	0.0	0.0	4.7	4.9	0.0	0.0	0.0	0.0	8.8	0.0	0.0
1918	15	0.0	0.0	0.0	1.2	7.4	3.5	0.0	0.0	0.0	88.0	0.0	0.0
1918	16	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	8.7	0.0	0.0
1918	17	0.0	0.0	0.0	0.0	16.8	6.4	0.0	0.0	0.0	8.0	1.2	6.0
1918	18	0.0	0.0	0.0	10.7	0.0	3.2	0.0	0.0	0.0	7.0	0.0	4.8
1918	19	0.0	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0
1918	20	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0	0.0	4.0	0.0	0.0
1918	21	0.0	0.0	0.0	14.0	0.0	3.0	0.0	0.0	0.0	2.7	0.0	0.0
1918	22	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1918	23	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	10.3	0.0	0.0	0.0
1918	24	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	22.2	19.0	0.0	0.0
1918	25	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	31.1	0.0	0.0	0.0
1918	26	0.0	0.0	0.0	12.1	15.1	0.0	1.5	0.0	0.0	0.0	0.0	14.5
1918	27	0.0	0.0	0.0	18.2	10.4	5.6	1.5	1.7	7.5	0.0	0.0	3.4
1918	28	0.0	0.9	0.0	14.1	0.0	0.0	2.8	0.0	0.2	0.0	0.0	0.0
1918	29	0.0		0.0	6.8	0.0	1.2	0.0	14.7	0.0	0.4	0.0	0.0
1918	30	0.0		0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1918	31	0.0		0.0		0.0		0.0	0.0		0.0		1.2
1919	1	1.2	0.0	6.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	41.9	0.0
1919	2	0.3	0.0	0.0	0.2	0.0	2.3	0.3	0.0	0.0	1.0	0.7	0.0
1919	3	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	8.0	0.0	0.0
1919	4	0.8	0.0	0.0	0.0	0.0	26.8	0.0	0.0	0.0	3.0	0.0	0.0
1919	5	6.0	0.0	0.7	0.0	1.1	0.0	0.0	48.1	0.0	0.0	19.7	0.0
1919	6	25.2	0.0	1.5	0.0	0.5	0.0	0.0	11.8	0.0	0.0	7.8	0.0
1919	7	22.6	0.0	4.4	5.0	0.0	1.1	3.7	0.0	0.0	0.0	4.0	0.0
1919	8	12.0	0.0	0.0	37.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
1919	9	35.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
1919	10	0.0	0.0	0.3	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4	0.0
1919	11	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1919	12	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
1919	13	3.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0	0.3	0.0	0.0
1919	14	0.3	0.0	5.0	1.7	0.0	2.8	0.0	0.0	0.0	0.1	4.6	0.0
1919	15	0.0	0.0	0.0	4.8	0.0	0.0	7.7	0.0	0.0	0.0	1.6	0.0
1919	16	3.5	0.0	3.0	4.5	0.0	1.7	0.0	0.0	0.0	0.6	0.0	0.0
1919	17	6.8	15.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
1919	18	10.2	14.5	4.3	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1919	19	3.3	0.0	0.3	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
1919	20	0.0	0.0	0.3	6.0	1.3	0.0	0.0	0.0	8.0	0.2	1.1	0.0
1919	21	0.0	0.0	11.3	1.3	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0
1919	22	0.0	4.0	8.4	0.0	0.0	34.6	1.1	0.0	0.0	0.0	0.0	0.0
1919	23	0.0	18.5	0.0	8.4	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.0
1919	24	0.0	0.0	7.0	0.0	1.9	0.0	4.6	0.0	0.0	0.0	0.0	0.0
1919	25	0.0	0.0	0.0	0.0	0.0	23.5	3.3	0.0	0.0	0.0	44.9	0.0
1919	26	0.0	0.0	3.1	0.0	0.0	32.1	1.8	33.6	0.0	0.0	2.4	0.0
1919	27	14.4	1.3	0.0	3.1	2.0	0.5	0.0	0.0	0.0	9.0	11.3	0.0
1919	28	7.6	6.8	6.0	3.4	7.8	0.0	0.0	0.0	4.0	8.2	0.0	0.0
1919	29	0.0		0.6	3.5	0.0	0.0	10.0	0.0	3.0	0.0	3.8	0.0
1919	30	0.0		0.0	0.0	0.0	0.0	11.5	0.3	0.0	0.0	0.0	1.0
1919	31	0.0		0.0		0.0		0.0	0.0		1.8		1.3

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1920	1	8.5	0.0	0.0	0.0	0.0	11.1	2.2	1.7	0.2	0.0	0.0	0.5
1920	2	25.0	0.0	0.0	23.1	0.0	7.2	1.0	0.0	7.8	0.0	1.0	2.5
1920	3	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	26.8	0.0
1920	4	6.8	0.0	0.0	10.0	0.0	3.7	3.5	0.0	0.0	0.0	2.0	36.3
1920	5	40.0	0.0	0.0	0.0	56.4	0.0	0.0	0.0	0.0	0.0	0.0	2.9
1920	6	10.3	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.2	8.7
1920	7	7.1	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	10.4
1920	8	0.0	0.0	2.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	3.4	0.2
1920	9	0.0	0.0	28.4	0.0	0.0	13.4	0.0	0.0	0.0	0.3	0.0	0.0
1920	10	0.0	0.0	5.0	0.0	0.0	13.1	0.0	0.0	0.0	47.1	0.0	0.6
1920	11	0.0	0.0	0.0	22.4	0.0	0.0	0.0	0.0	0.0	11.4	0.0	3.1
1920	12	0.0	0.0	0.0	1.0	0.0	2.5	0.0	3.4	0.0	0.0	0.0	0.0
1920	13	0.0	0.0	0.0	21.6	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1920	14	0.0	0.0	0.0	0.5	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0
1920	15	0.0	0.0	10.0	0.0	6.5	10.1	0.0	4.6	0.0	0.0	0.0	0.0
1920	16	0.0	0.0	29.2	0.0	0.0	17.6	0.0	14.7	0.0	0.0	0.0	2.2
1920	17	0.0	0.0	10.1	0.0	0.0	25.0	0.0	41.0	0.0	0.0	0.0	0.0
1920	18	0.0	0.0	0.0	0.7	0.0	6.4	0.0	0.0	0.0	15.3	0.0	0.0
1920	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	7.0	0.0	1.7
1920	20	3.7	14.5	0.0	0.0	0.0	7.8	0.0	0.0	0.7	0.0	0.0	0.6
1920	21	0.0	5.7	0.0	3.6	0.0	0.0	0.0	1.1	0.5	1.6	0.0	0.0
1920	22	0.0	0.6	0.0	7.0	0.0	0.5	0.0	0.3	46.9	0.2	0.0	0.0
1920	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1920	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
1920	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0	0.0	0.0	0.0
1920	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1920	27	0.0	0.0	0.0	27.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1920	28	0.0	0.0	0.0	0.0	0.0	3.5	5.2	0.0	40.2	0.0	0.0	0.0
1920	29	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	10.7	0.0
1920	30	3.3		16.8	0.0	18.3	0.0	0.0	0.0	4.3	0.0	0.0	0.0
1920	31	0.0		13.2		0.0		0.0	7.5		0.0		0.0
1921	1	0.0	6.5	0.0	0.0	13.9	0.0	0.0	7.9	0.0	0.0	0.0	0.0
1921	2	0.0	0.0	0.0	0.0	22.8	0.0	0.0	0.0	0.0	0.0	0.0	0.9
1921	3	0.3	10.3	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0
1921	4	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.6	11.0	0.0	0.0	0.0
1921	5	0.0	0.0	0.0	8.7	5.6	0.0	0.0	0.0	0.2	0.0	5.0	0.0
1921	6	0.7	5.1	1.9	4.1	0.0	36.9	0.0	0.0	14.8	0.0	0.2	0.0
1921	7	0.0	11.5	2.3	0.0	0.0	8.8	0.1	0.0	0.0	0.0	0.2	0.0
1921	8	0.0	0.4	0.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.3	0.0
1921	9	0.4	0.0	0.0	1.8	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	10	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
1921	11	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1921	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0
1921	13	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	14	7.0	0.0	0.0	1.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0
1921	15	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	16	0.0	0.0	0.0	8.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1921	17	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	18	0.0	0.0	0.0	1.5	0.2	0.0	2.4	0.0	0.2	0.0	0.0	0.0
1921	19	0.0	0.0	0.0	0.4	0.0	22.6	0.0	0.0	7.0	0.0	0.0	0.0
1921	20	0.0	0.0	1.4	19.6	0.0	4.3	0.0	11.8	0.0	0.0	0.0	0.0
1921	21	0.0	0.0	8.2	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.7	0.0	2.0
1921	24	0.0	0.0	0.0	0.0	4.0	0.0	0.0	1.5	0.0	2.4	0.0	6.7
1921	25	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
1921	26	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1921	27	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.0	0.0
1921	28	0.0	0.0	2.2	11.5	1.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1921	29	0.0		2.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1921	30	0.0		0.0	29.8	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.5
1921	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1922	1	0.0	3.5	0.0	15.7	18.8	0.0	0.7	0.0	3.0	0.0	0.0	0.0
1922	2	0.0	0.0	3.0	0.0	0.8	0.0	0.0	0.0	0.8	0.0	1.0	1.0
1922	3	0.1	0.3	0.0	1.0	0.0	0.0	0.0	0.0	20.2	0.0	14.0	0.0
1922	4	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	21.3	0.0	9.2	0.0
1922	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1922	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	1.9	0.2	0.0	0.0
1922	7	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0
1922	8	0.0	0.0	3.8	0.0	0.0	18.5	0.0	0.0	1.0	0.0	0.0	0.0
1922	9	0.0	0.0	1.0	0.0	0.0	3.7	0.0	0.0	0.0	53.3	0.0	0.0
1922	10	0.0	0.0	0.3	10.2	0.0	11.6	0.0	0.0	9.4	0.6	0.0	0.0
1922	11	0.0	0.0	1.0	14.8	0.0	0.0	0.0	0.0	0.5	11.2	0.0	0.0
1922	12	0.0	0.0	0.0	0.0	0.0	14.2	3.0	0.0	16.0	0.5	0.0	0.0
1922	13	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	17.8	0.0	0.0	0.0
1922	14	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
1922	15	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1922	16	0.0	2.1	0.3	1.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1922	17	1.8	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1922	18	3.1	0.0	0.0	1.1	0.0	21.3	0.0	0.0	0.0	0.3	0.0	0.0
1922	19	0.0	6.0	0.0	3.7	0.0	6.1	0.0	0.0	0.0	8.8	0.0	4.0
1922	20	0.0	0.0	14.5	2.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	15.2
1922	21	0.0	0.0	3.1	13.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0	36.2
1922	22	0.0	8.1	30.0	1.7	0.0	0.0	0.0	0.0	0.0	12.8	0.0	1.0
1922	23	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2
1922	24	0.0	0.0	5.2	0.2	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
1922	25	0.0	0.0	0.4	20.6	0.0	3.7	4.2	0.0	0.0	0.0	0.0	0.0
1922	26	0.0	0.0	8.0	0.0	0.0	0.0	0.2	0.0	0.0	8.3	0.0	0.0
1922	27	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0
1922	28	0.0	0.0	0.5	2.3	0.0	0.0	1.3	0.0	4.1	0.0	0.0	0.8
1922	29	0.0		0.0	6.4	0.0	0.0	0.0	0.0	13.0	5.7	0.0	0.0
1922	30	0.2		0.0	5.0	0.0	6.0	0.0	12.0	7.9	26.0	0.0	1.0
1922	31	43.9		6.7		0.0		0.0	0.0		0.0		0.0
1923	1	0.2	0.0	0.0	0.0	0.0	1.6	0.0	0.0	7.4	0.0	0.0	25.4
1923	2	0.0	0.0	0.0	6.7	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1923	3	0.0	0.0	33.8	0.0	0.0	0.0	4.9	0.0	1.1	1.0	0.0	4.9
1923	4	0.0	0.9	0.2	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	2.7
1923	5	0.0	0.0	1.4	0.0	0.0	24.8	0.0	0.0	0.0	0.0	2.1	18.2
1923	6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	5.4
1923	7	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	3.5	4.4
1923	8	0.0	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
1923	9	0.0	8.5	2.1	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
1923	10	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
1923	11	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
1923	12	43.6	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
1923	13	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1923	14	0.0	0.0	3.7	4.1	0.0	0.0	0.0	0.0	6.9	1.1	3.2	0.0
1923	15	0.0	0.0	3.5	5.5	0.2	0.0	0.0	0.0	48.0	0.0	7.4	0.0
1923	16	0.0	0.0	0.0	4.4	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0
1923	17	0.0	0.0	0.0	0.4	2.4	11.0	0.0	3.7	3.8	0.0	0.0	0.0
1923	18	0.0	0.0	0.0	0.0	15.8	24.0	8.9	0.0	28.9	0.0	10.1	0.0
1923	19	0.0	54.0	0.0	0.0	0.0	7.3	1.9	0.0	5.1	0.0	16.5	0.0
1923	20	0.0	0.0	0.0	0.7	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0
1923	21	0.0	0.0	0.0	2.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1923	22	0.0	0.0	0.0	0.3	0.0	0.0	0.0	29.8	0.0	0.5	6.8	0.0
1923	23	0.0	8.8	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.5	1.3	0.0
1923	24	0.0	0.0	0.0	0.5	0.0	0.0	0.0	4.2	0.0	0.0	13.6	0.0
1923	25	0.0	2.1	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	9.5	0.0
1923	26	0.0	0.0	0.0	0.0	5.6	58.0	0.0	0.0	0.0	0.0	11.0	0.0
1923	27	0.0	34.0	0.0	4.0	0.0	4.7	0.9	0.0	0.0	0.2	9.0	0.0
1923	28	0.0	0.0	0.0	19.4	0.8	0.0	4.5	0.0	0.0	0.6	0.9	2.6
1923	29	0.0		0.0	0.2	0.4	0.0	3.2	0.0	0.0	0.0	2.4	0.0
1923	30	0.1		0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1923	31	0.2		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1924	1	0.0	0.0	0.0	47.1	0.0	0.0	1.8	0.0	0.0	8.7	0.0	0.0
1924	2	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.7	13.2	29.9	0.0	4.4
1924	3	0.0	0.0	6.4	16.5	0.0	0.0	0.6	5.7	0.2	0.9	0.0	27.4
1924	4	23.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	9.9	0.0	0.0	0.8
1924	5	8.5	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	9.7	0.0	0.0
1924	6	0.0	0.0	0.0	22.3	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.0
1924	7	0.0	0.0	9.8	3.4	0.0	0.0	1.0	0.0	0.5	0.0	0.0	1.0
1924	8	0.3	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1924	9	30.2	0.0	0.0	0.1	2.6	8.6	10.6	1.0	0.0	0.0	0.0	0.0
1924	10	0.0	27.6	0.0	0.6	2.2	0.0	0.1	0.2	0.0	0.0	0.7	0.0
1924	11	2.6	1.1	0.0	7.6	9.8	0.0	0.0	0.0	5.4	0.0	0.0	0.0
1924	12	2.7	0.0	0.0	0.0	0.0	16.7	0.0	3.2	0.0	0.0	0.0	0.0
1924	13	0.1	17.1	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
1924	14	0.0	0.2	0.0	0.0	0.0	2.4	0.0	26.1	0.0	0.0	0.0	0.0
1924	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0	0.2
1924	16	6.1	0.0	0.0	0.5	0.0	0.0	0.0	31.1	0.0	0.0	0.0	0.3
1924	17	18.3	0.0	0.0	28.5	0.0	0.0	7.8	57.8	0.0	0.1	0.0	0.0
1924	18	0.0	0.0	0.0	9.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
1924	19	0.4	0.0	0.0	0.0	0.0	0.0	11.7	0.1	0.0	0.0	0.0	0.0
1924	20	14.4	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0
1924	21	0.0	0.0	10.0	0.0	0.0	13.8	0.0	1.8	0.2	0.0	0.0	0.0
1924	22	0.0	0.0	6.5	0.0	0.0	0.6	0.0	0.0	0.2	0.0	0.0	0.0
1924	23	0.0	0.0	2.4	0.0	0.0	2.7	1.4	1.0	0.1	5.7	0.0	0.0
1924	24	0.0	0.0	4.2	0.0	0.0	22.7	0.0	0.0	10.0	54.1	0.0	0.0
1924	25	0.0	0.0	1.0	0.0	0.0	0.2	0.2	0.0	0.0	21.9	0.0	0.0
1924	26	0.0	0.0	0.1	0.0	6.0	1.2	14.2	0.0	13.2	0.0	0.0	0.0
1924	27	0.0	12.3	0.0	0.0	31.2	0.0	5.7	0.3	0.6	0.1	0.0	0.2
1924	28	0.0	0.0	0.9	0.0	12.0	7.2	0.0	1.2	0.0	9.0	0.0	3.0
1924	29	0.3	0.0	0.0	0.0	0.1	0.0	25.1	0.0	16.6	0.3	0.0	6.3
1924	30	0.0		0.5	0.0	0.0	22.0	18.3	0.0	0.0	1.7	0.0	0.0
1924	31	0.0		4.0		0.0		0.0	0.0		0.3		0.0
1925	1	0.0	0.2	8.6	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1925	2	0.0	0.3	0.7	0.0	10.5	0.0	7.4	9.7	0.0	0.0	0.3	0.0
1925	3	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1925	4	0.0	0.0	0.2	1.8	0.0	0.0	0.3	0.1	0.0	0.0	0.4	0.0
1925	5	0.2	0.0	0.5	1.2	0.1	0.0	0.0	0.6	0.0	0.0	0.8	0.0
1925	6	2.8	0.0	0.0	0.0	0.2	0.0	12.7	1.1	0.0	0.0	52.0	0.0
1925	7	0.2	1.1	0.0	0.3	19.8	0.0	0.0	0.0	12.6	0.0	2.2	0.0
1925	8	0.2	5.9	0.0	17.8	0.0	0.0	9.8	0.0	0.0	0.0	23.1	0.0
1925	9	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	9.6	0.0
1925	10	0.0	0.0	18.3	0.0	0.6	0.0	8.3	0.0	4.4	0.0	1.2	0.0
1925	11	0.0	0.0	0.0	2.7	15.4	0.0	0.3	0.0	0.0	0.0	3.0	0.2
1925	12	0.2	5.5	0.2	0.0	3.9	0.0	0.4	0.0	2.9	0.0	5.8	0.0
1925	13	0.0	12.2	0.0	0.0	0.0	13.2	0.0	23.6	0.0	0.0	0.5	0.2
1925	14	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0
1925	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1925	16	0.2	10.1	0.0	0.1	0.0	0.0	10.6	0.0	0.0	0.0	0.4	0.0
1925	17	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1925	18	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1925	19	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1925	20	0.0	0.1	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	28.9
1925	21	0.0	0.2	0.0	1.2	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.9
1925	22	0.0	4.9	1.5	15.9	0.0	20.2	0.0	0.5	7.7	0.0	1.6	3.4
1925	23	0.0	0.3	4.2	0.0	0.0	7.0	0.0	0.0	0.0	19.2	1.5	0.2
1925	24	0.0	0.0	0.0	4.0	6.5	32.6	0.0	11.0	0.2	13.9	0.0	0.0
1925	25	0.0	0.0	0.6	21.9	0.0	16.2	8.9	11.3	0.0	0.3	1.2	0.2
1925	26	2.9	0.0	14.3	2.3	3.1	9.9	0.0	0.0	0.0	0.2	0.0	0.3
1925	27	7.5	3.3	9.6	12.9	12.7	39.5	0.0	0.0	17.9	0.0	0.0	0.0
1925	28	0.6	0.0	0.8	0.1	0.0	0.0	0.0	0.0	4.3	0.0	9.8	0.1
1925	29	0.0		0.7	0.1	7.1	0.0	0.0	0.0	0.1	0.0	0.0	0.2
1925	30	0.0		0.0	1.7	0.0	0.0	17.2	0.0	8.4	0.0	0.0	0.0
1925	31	0.8		0.0		0.0		0.0	1.8		0.0		0.1



**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1926	1	0.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	40.0	3.7
1926	2	5.8	2.2	0.0	0.0	11.5	0.0	0.0	3.6	0.0	0.0	9.5	3.0
1926	3	9.4	5.5	0.0	0.0	2.1	27.8	0.0	0.0	3.0	0.0	2.0	0.0
1926	4	0.1	0.0	0.0	0.0	0.0	0.0	5.5	10.4	0.2	0.0	0.0	2.7
1926	5	0.3	0.0	0.0	0.0	6.8	0.0	2.5	9.2	0.0	0.0	2.8	0.0
1926	6	0.0	0.0	0.0	0.0	18.0	9.4	0.2	0.0	0.4	0.0	0.2	0.3
1926	7	0.0	6.9	0.0	0.0	2.3	0.0	0.0	11.3	0.0	0.0	8.9	0.0
1926	8	0.0	0.0	0.0	4.8	6.2	0.0	49.8	32.5	0.0	2.6	0.8	0.0
1926	9	0.0	3.8	0.0	5.7	0.0	0.0	0.0	0.5	0.0	11.8	10.7	0.0
1926	10	0.0	24.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.0
1926	11	0.0	8.3	0.0	0.0	0.0	0.0	25.5	0.0	0.0	0.0	0.5	0.0
1926	12	0.2	6.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.3
1926	13	0.0	0.1	0.0	0.0	0.0	4.9	0.7	0.0	0.0	0.0	0.0	0.3
1926	14	10.2	0.0	0.0	0.0	0.4	0.0	5.5	0.0	0.0	0.0	0.0	0.2
1926	15	33.4	0.0	0.0	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1926	16	0.0	0.0	0.0	0.0	40.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1926	17	0.0	0.0	0.0	1.0	6.7	0.4	0.0	0.0	0.0	0.0	0.3	0.1
1926	18	0.0	0.0	0.0	2.6	0.3	0.2	0.0	0.0	0.0	0.2	3.0	0.1
1926	19	0.0	0.0	0.0	12.7	2.5	0.0	0.0	0.0	0.0	0.0	12.9	0.1
1926	20	0.0	0.2	0.0	4.1	0.0	0.0	0.0	0.3	0.0	0.0	1.5	0.1
1926	21	0.0	0.3	0.0	0.0	0.0	0.0	10.8	0.0	0.0	7.0	2.2	0.4
1926	22	0.2	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	18.8	18.7	0.0
1926	23	0.0	0.0	1.9	15.6	0.0	0.0	0.1	0.0	0.0	2.8	3.1	0.0
1926	24	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0	1.4	2.0	0.2	4.0
1926	25	0.0	0.0	0.0	1.7	0.0	11.2	0.0	0.0	1.4	0.0	0.0	3.0
1926	26	0.0	0.0	1.3	20.3	0.0	0.0	0.0	0.0	0.0	12.6	0.3	7.8
1926	27	0.0	0.0	14.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2
1926	28	0.0	0.0	21.0	4.3	0.0	0.0	3.2	0.0	19.2	4.3	0.0	0.2
1926	29	1.5		2.3	0.0	0.0	0.0	0.0	0.0	1.6	12.9	0.0	0.2
1926	30	0.3		0.1	0.0	0.0	1.4	0.0	0.0	0.4	16.1	0.0	0.0
1926	31	10.0		0.5		0.0		4.1	0.0		0.0		0.0
1927	1	0.0	5.8	1.0	9.8	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0
1927	2	0.0	0.0	10.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
1927	3	0.5	0.2	0.2	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1927	4	6.0	0.1	0.0	0.0	5.4	12.5	0.0	0.0	4.4	0.0	0.0	0.4
1927	5	0.4	0.1	1.8	0.0	21.6	0.9	0.0	0.0	0.0	4.9	0.4	0.0
1927	6	0.0	1.1	13.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	28.0
1927	7	0.2	0.0	0.1	0.0	0.7	0.0	0.0	1.2	0.1	0.0	0.7	21.4
1927	8	40.5	0.0	2.1	0.0	3.7	0.0	1.5	0.0	52.4	0.0	1.2	0.0
1927	9	0.2	0.0	0.0	2.6	5.1	0.0	0.0	0.0	6.0	0.0	3.8	0.0
1927	10	0.1	0.0	35.5	3.3	7.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0
1927	11	0.1	0.0	3.8	0.9	28.0	3.0	0.0	0.0	0.0	0.0	0.2	0.0
1927	12	0.2	0.0	3.9	0.1	0.0	0.0	21.5	0.0	1.3	0.0	9.3	10.4
1927	13	0.0	0.0	24.2	0.0	1.5	0.0	0.0	0.0	0.0	0.0	17.4	0.0
1927	14	9.7	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
1927	15	0.7	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4
1927	16	49.0	0.0	0.0	0.0	0.0	0.0	0.8	2.8	8.9	15.0	0.0	5.8
1927	17	0.4	0.0	0.0	2.2	0.0	0.0	0.5	0.0	0.5	1.3	0.0	0.0
1927	18	1.3	0.0	0.0	0.0	1.2	1.6	0.0	0.0	0.0	0.0	0.0	0.3
1927	19	3.4	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	2.9	2.3	0.0
1927	20	28.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.2	3.3	0.0
1927	21	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	16.1	0.0
1927	22	31.3	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.4	20.9	13.5
1927	23	3.0	9.7	0.0	0.0	11.0	4.5	5.7	0.0	4.3	8.3	4.3	0.0
1927	24	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0
1927	25	0.0	2.0	3.1	0.0	0.0	2.9	0.0	0.0	0.5	0.2	7.6	0.2
1927	26	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	21.0
1927	27	0.0	0.8	4.7	0.0	0.0	29.8	0.0	0.0	0.1	0.2	0.0	2.8
1927	28	0.3	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	8.0
1927	29	0.0		3.0	0.0	0.0	0.0	2.1	0.0	0.0	0.2	0.7	0.0
1927	30	17.5		0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	4.0	0.0
1927	31	8.2		7.8		0.0		0.0	0.0		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1928	1	0.0	0.0	0.0	10.5	7.7	5.4	0.0	0.0	0.0	0.0	8.6	0.0
1928	2	0.0	23.2	4.5	20.4	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
1928	3	0.0	0.0	1.9	0.1	0.0	0.0	0.0	0.0	6.3	0.0	18.4	0.0
1928	4	0.0	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0	2.7	6.2	0.0
1928	5	0.0	0.0	2.6	3.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1928	6	0.0	0.0	9.2	0.7	1.0	0.0	0.0	2.1	0.0	0.0	0.7	0.0
1928	7	0.0	0.0	0.0	0.0	0.3	4.7	0.0	0.0	0.0	0.0	27.7	0.0
1928	8	0.2	0.0	0.0	6.5	0.3	0.0	0.0	0.0	0.0	0.0	29.5	4.1
1928	9	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	1.5
1928	10	0.0	0.0	19.0	0.0	1.2	0.0	0.0	0.0	0.0	28.3	0.0	10.7
1928	11	0.0	0.0	39.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2
1928	12	0.0	0.0	17.7	10.2	0.0	0.0	0.0	0.0	17.6	0.0	0.0	6.9
1928	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	3.2	0.0	0.0
1928	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1.0	0.0	0.0
1928	15	0.0	0.0	0.0	1.1	11.0	0.0	0.0	0.0	11.6	0.0	0.0	0.0
1928	16	14.8	0.0	0.0	3.5	1.9	0.0	0.0	5.3	10.4	0.0	0.0	0.0
1928	17	2.4	0.0	0.0	0.9	2.3	8.9	0.0	0.0	15.6	0.0	0.0	0.0
1928	18	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
1928	19	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	7.4	0.0	0.0	0.0
1928	20	4.2	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1928	21	0.0	0.0	14.4	0.0	4.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1928	22	0.0	0.0	7.1	0.0	2.0	0.0	0.0	17.8	2.5	24.7	0.0	0.0
1928	23	0.0	0.0	0.7	11.1	7.8	0.0	0.0	0.0	4.5	7.2	0.0	0.0
1928	24	0.0	0.0	25.6	0.2	1.4	0.0	0.0	0.0	3.1	1.4	14.3	0.0
1928	25	2.8	0.0	59.9	0.0	0.0	0.0	0.0	0.0	2.0	3.0	0.0	0.0
1928	26	0.2	0.0	25.1	0.0	0.0	0.0	0.0	0.0	23.0	0.2	1.6	0.0
1928	27	0.6	0.0	1.1	0.0	0.0	0.0	0.0	0.0	4.4	16.4	0.0	0.0
1928	28	1.4	0.0	5.4	0.0	0.0	3.5	0.0	0.0	5.1	24.3	0.0	0.0
1928	29	2.2	0.0	0.0	12.6	0.0	0.0	0.0	0.0	5.8	6.7	0.0	0.9
1928	30	1.2		0.0	0.0	0.2	0.0	0.0	12.9	10.4	16.9	0.0	1.2
1928	31	9.6		0.0		0.0		0.0	0.0		22.7		0.8
1929	1	12.5	0.0	0.0	0.1	0.0	40.2	1.7	0.0	0.0	0.0	21.8	14.1
1929	2	20.8	0.0	0.0	0.0	0.9	0.2	0.0	0.2	0.0	0.0	13.2	0.0
1929	3	3.5	0.0	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	27.4	0.0
1929	4	6.4	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
1929	5	4.5	0.0	0.0	0.0	0.0	4.8	0.0	1.8	0.0	0.0	0.0	0.0
1929	6	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7
1929	7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.0	1.2
1929	8	0.0	0.0	0.0	0.0	1.5	0.0	2.5	0.0	0.0	22.5	14.0	7.8
1929	9	0.0	0.0	0.0	0.0	4.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1929	10	0.0	0.0	0.0	9.7	0.0	0.0	0.0	0.9	0.0	0.5	0.8	2.9
1929	11	0.0	2.8	0.0	0.0	3.2	0.0	0.0	0.1	0.0	0.0	51.0	0.0
1929	12	0.0	0.4	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
1929	13	0.0	3.5	0.0	7.0	0.0	0.4	0.0	0.0	0.0	0.0	0.3	0.0
1929	14	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	14.0	0.0	0.0	0.0
1929	15	0.0	0.0	0.0	18.7	6.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1929	16	0.0	0.0	0.0	0.3	28.6	0.0	0.0	0.0	5.2	0.0	0.0	0.0
1929	17	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	0.0	0.0
1929	18	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	9.0	0.0
1929	19	0.0	0.0	0.0	0.0	14.9	0.0	0.0	12.7	0.0	35.8	0.0	0.0
1929	20	0.0	0.4	0.0	0.0	5.8	0.8	0.0	0.0	0.0	0.7	0.0	0.0
1929	21	0.0	0.0	0.0	0.1	0.0	8.0	0.0	21.0	0.0	0.1	0.0	0.0
1929	22	0.0	0.0	0.0	10.1	0.0	30.3	0.0	3.1	0.0	0.0	0.0	0.0
1929	23	0.0	0.0	5.9	2.2	0.0	18.7	0.0	0.0	0.0	0.0	0.0	0.9
1929	24	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1929	25	19.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.3	0.0
1929	26	9.0	1.1	0.0	0.0	0.0	6.0	0.0	0.0	0.0	3.9	0.0	9.6
1929	27	0.5	0.0	0.0	0.0	10.3	0.0	0.0	0.0	0.0	1.5	0.2	67.5
1929	28	0.0	0.0	0.0	0.0	0.0	1.2	0.1	0.0	0.0	12.5	0.0	0.3
1929	29	0.0		0.0	0.2	0.0	0.0	1.1	0.0	0.0	0.0	2.8	0.0
1929	30	0.0		0.0	1.4	0.4	0.2	0.2	0.0	0.0	5.5	7.5	0.0
1929	31	0.0		0.0		0.0		1.9	0.0		15.7		0.9

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
(Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1930	1	0.0	16.1	5.7	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1930	2	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	12.3	0.0
1930	3	0.0	0.0	0.0	1.3	1.2	0.1	0.0	4.0	0.0	1.0	8.4	0.0
1930	4	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0
1930	5	0.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	6	0.0	1.9	0.0	3.6	0.0	0.0	0.0	5.7	0.0	0.0	0.5	0.0
1930	7	0.0	0.0	0.5	1.1	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	8	0.0	0.0	4.2	0.2	1.4	0.0	0.0	30.1	0.0	0.0	0.0	24.1
1930	9	0.0	0.0	0.0	0.3	2.1	1.9	20.1	0.0	0.0	0.8	0.0	6.7
1930	10	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	34.3	9.1	0.0	3.2
1930	11	0.4	0.0	14.0	0.0	0.6	0.0	13.1	0.0	6.5	0.0	0.0	0.0
1930	12	9.0	0.0	7.3	0.0	3.6	0.0	5.5	0.0	9.5	0.6	0.0	0.0
1930	13	0.0	0.0	0.0	8.3	0.0	0.0	3.5	2.7	7.9	3.2	0.0	0.0
1930	14	0.0	0.0	0.6	16.2	14.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0
1930	15	0.0	0.0	10.4	2.0	0.0	0.0	7.6	0.0	3.4	0.0	0.0	0.0
1930	16	2.7	0.0	2.9	1.0	0.0	3.0	0.0	0.0	4.8	0.0	0.0	0.0
1930	17	9.7	9.8	2.6	3.8	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1930	18	0.0	12.0	3.4	12.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
1930	19	0.0	0.0	2.7	3.6	76.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	20	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.3	4.4	24.4	0.0	0.0
1930	21	0.0	0.0	0.0	1.1	4.2	0.0	0.0	0.1	2.2	6.8	0.0	9.7
1930	22	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.1	0.0	1.0
1930	23	0.0	0.0	4.4	0.0	17.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0
1930	24	0.9	0.0	14.8	0.0	18.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0
1930	25	2.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	17.3	0.0	0.0
1930	26	7.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	27	11.1	6.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0
1930	28	13.8	14.0	0.0	0.0	0.0	26.8	0.0	0.0	8.7	0.0	0.0	0.0
1930	29	0.0		0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3
1930	30	0.0		12.0	1.3	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	31	0.0		1.3		0.0		0.6	0.0		0.0		7.0
1931	1	4.5	0.0	2.8	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1931	2	4.0	0.0	0.0	0.0	2.5	18.0	0.1	0.2	0.0	0.0	0.0	0.0
1931	3	1.4	0.0	0.0	2.3	31.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
1931	4	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	24.2	0.0	0.0	0.0
1931	5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	6	0.0	0.0	0.0	0.0	24.3	0.0	0.0	0.0	0.0	0.0	14.2	0.0
1931	7	0.0	0.0	19.5	0.0	1.2	11.8	0.0	0.0	0.0	0.0	20.6	1.9
1931	8	0.0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	9	0.0	0.0	11.7	0.0	2.8	0.5	0.0	0.5	0.0	0.0	29.0	0.0
1931	10	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	10.0	0.2
1931	11	0.0	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5	0.5
1931	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	0.0	3.5	0.0
1931	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	40.5	0.0
1931	14	1.1	71.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0
1931	15	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	22.2	0.0
1931	16	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.7	0.0	2.9	0.0
1931	17	0.0	13.8	0.0	52.2	4.7	0.0	0.0	0.0	0.0	0.0	1.3	0.0
1931	18	0.0	5.2	0.0	12.7	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	19	0.0	25.9	0.0	5.4	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	20	0.0	10.0	24.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	21	0.0	19.4	0.2	0.0	0.3	0.0	17.5	0.0	3.7	0.0	0.0	0.0
1931	22	0.0	0.2	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
1931	23	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0
1931	24	7.1	0.6	0.0	0.0	0.0	0.0	0.0	2.5	0.0	17.6	0.0	0.0
1931	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.0	6.9	0.0	0.0
1931	26	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0
1931	27	0.0	0.0	0.0	3.2	1.4	0.0	0.0	2.6	0.0	0.0	29.7	0.0
1931	28	0.0	1.9	0.0	0.0	0.0	0.0	9.4	0.0	0.7	4.1	5.5	0.0
1931	29	0.0		0.0	0.1	0.0	0.0	0.0	0.0	0.0	7.0	5.6	0.5
1931	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
1931	31	13.1		0.0		5.3		0.0	1.6		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1932	1	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	9.5
1932	2	0.0	0.0	0.0	1.0	9.6	0.0	9.2	0.0	0.0	0.0	0.0	15.5
1932	3	0.0	0.0	0.0	9.8	1.1	11.7	5.9	0.0	0.0	0.0	0.0	0.4
1932	4	0.0	0.0	0.0	7.0	14.6	0.0	0.0	1.8	0.0	0.9	0.1	0.2
1932	5	0.0	0.0	0.0	6.3	5.9	0.0	0.0	0.0	0.0	2.7	0.4	33.3
1932	6	0.0	0.0	0.9	0.8	0.3	0.1	0.0	0.0	0.0	21.8	0.0	0.0
1932	7	2.0	0.0	8.6	0.0	2.9	11.3	0.0	0.0	0.1	18.7	0.7	0.0
1932	8	3.1	0.0	0.0	0.5	14.2	2.7	1.1	0.0	0.0	4.2	1.2	0.0
1932	9	12.0	4.8	0.0	0.0	0.0	0.0	3.8	0.0	0.0	2.8	1.5	0.0
1932	10	0.3	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0	0.3	29.8	2.1
1932	11	0.2	0.0	0.4	4.7	0.0	0.0	1.9	0.0	0.0	0.0	48.0	4.4
1932	12	10.5	0.0	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
1932	13	0.0	0.0	1.2	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.2
1932	14	0.0	0.0	0.0	0.0	0.0	0.0	12.9	0.0	0.0	1.0	0.0	0.2
1932	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.2	0.0
1932	16	0.0	0.0	0.0	0.0	0.2	2.8	0.0	0.0	0.0	1.0	0.2	0.4
1932	17	0.0	0.0	28.7	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.6
1932	18	0.0	0.0	29.3	9.7	0.0	0.0	4.3	0.0	0.0	0.3	0.0	0.6
1932	19	0.0	0.0	2.2	2.2	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.4
1932	20	0.0	0.0	0.0	0.2	0.0	5.1	0.1	0.0	0.0	0.0	1.5	0.5
1932	21	0.0	0.0	0.0	0.0	0.0	34.7	3.7	0.0	0.0	0.0	10.1	0.2
1932	22	0.0	0.0	0.0	0.0	11.3	39.2	38.1	0.0	0.7	0.4	26.2	0.3
1932	23	0.0	0.0	0.0	11.5	11.2	1.9	7.4	0.0	0.0	0.3	0.2	0.4
1932	24	0.0	0.0	0.0	14.2	0.1	0.3	0.0	12.3	5.8	0.3	0.4	0.2
1932	25	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.1	24.1	0.5	0.0
1932	26	0.0	0.0	0.0	0.0	12.8	0.2	0.0	0.0	4.6	0.0	0.4	0.0
1932	27	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0
1932	28	0.0	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	7.1	0.1
1932	29	0.0	0.0	27.8	0.0	4.7	0.0	0.0	0.0	0.3	0.0	0.0	5.8
1932	30	0.0		0.0	0.0	1.6	0.0	0.0	0.0	0.3	1.6	0.1	3.0
1932	31	0.0		0.2		8.9		0.0	36.0		0.5		0.0
1933	1	0.4	0.2	0.0	0.0	0.4	21.9	0.0	0.0	0.3	0.2	0.3	1.4
1933	2	0.3	0.2	0.2	0.0	0.0	1.4	0.2	0.0	7.2	0.3	0.4	0.1
1933	3	0.2	0.2	8.2	0.0	0.1	0.0	0.0	0.0	0.0	35.7	3.0	0.0
1933	4	1.4	0.4	25.8	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0
1933	5	0.8	0.0	6.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.8	0.0
1933	6	9.9	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0
1933	7	6.3	0.0	0.3	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.6	0.7
1933	8	0.0	0.2	0.0	0.0	5.6	3.5	0.0	0.0	0.0	0.1	0.4	0.0
1933	9	0.2	0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	85.5	0.4	0.0
1933	10	0.2	0.2	0.0	0.0	8.7	0.0	7.4	0.0	0.0	0.3	10.8	0.0
1933	11	0.0	11.6	0.0	0.0	2.8	11.0	0.0	0.0	0.0	0.4	2.8	0.0
1933	12	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.3	4.7	0.1	0.0
1933	13	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	19.2	8.5	31.4
1933	14	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	1.0	0.0	9.1	0.0
1933	15	3.3	0.0	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0	0.0	22.0
1933	16	3.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	7.5
1933	17	0.0	0.0	0.2	0.0	1.4	5.0	0.2	0.0	0.0	0.0	0.3	0.0
1933	18	3.2	0.0	1.6	3.0	1.5	0.8	0.0	0.0	0.0	0.0	0.2	0.0
1933	19	35.1	0.0	0.3	18.9	11.8	0.0	0.0	0.0	0.0	0.0	0.3	0.0
1933	20	0.0	0.0	3.2	13.5	0.0	1.4	0.0	0.0	4.2	0.0	0.4	0.0
1933	21	0.0	0.0	0.2	1.0	0.0	0.5	0.0	0.0	14.1	0.0	5.8	0.0
1933	22	0.0	0.0	0.0	1.6	0.0	8.2	0.0	0.2	8.2	1.1	0.0	0.0
1933	23	0.0	0.3	0.0	0.0	0.0	0.0	32.0	0.0	9.8	0.1	0.2	0.2
1933	24	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	8.2	5.9	0.5	0.2
1933	25	0.0	0.0	0.0	0.0	17.6	0.0	0.7	0.0	0.1	7.2	11.8	0.0
1933	26	0.0	0.0	0.0	0.2	36.0	0.5	0.0	0.0	0.0	0.7	23.9	0.2
1933	27	0.0	0.0	0.0	0.3	2.0	0.0	0.0	0.0	0.1	8.3	1.3	14.4
1933	28	0.0	0.0	0.0	0.0	0.0	31.7	0.0	0.0	0.0	16.5	0.3	0.7
1933	29	5.7		0.0	0.0	0.7	11.9	0.0	1.5	0.3	7.6	6.3	14.2
1933	30	9.9		0.0	5.1	4.3	1.1	4.1	0.2	0.3	0.5	13.5	2.7
1933	31	0.0		0.0		0.0		0.0	0.0		15.8		0.6



**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1934	1	0.5	0.0	19.9	5.7	0.0	0.0	1.0	0.0	2.6	0.0	0.2	0.0
1934	2	0.0	0.0	0.8	0.7	0.0	12.6	0.0	0.0	7.2	0.0	0.0	0.0
1934	3	0.1	0.0	0.1	0.0	5.6	0.0	0.0	0.0	0.0	1.3	0.0	0.0
1934	4	0.0	0.0	0.0	0.0	1.7	4.1	0.0	0.5	0.0	1.0	21.1	0.0
1934	5	0.0	0.0	0.0	0.0	0.2	24.7	0.0	0.0	0.0	0.5	1.3	0.0
1934	6	0.0	0.0	0.0	0.0	1.1	1.0	0.0	0.0	0.0	8.5	37.0	0.2
1934	7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0	35.9	0.1
1934	8	0.1	0.0	0.0	15.5	0.0	0.0	0.0	1.4	0.0	0.0	0.9	0.1
1934	9	0.1	0.1	0.6	17.8	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.1
1934	10	0.2	0.3	0.2	0.0	0.0	5.5	0.3	0.2	0.6	15.7	0.0	4.2
1934	11	0.2	0.1	4.3	0.0	0.0	0.0	9.4	9.4	20.0	0.0	14.7	23.5
1934	12	0.0	0.7	0.2	0.0	3.4	15.4	0.0	19.0	4.9	0.0	0.4	10.6
1934	13	4.6	0.1	18.1	1.4	0.0	1.2	31.9	0.3	1.9	0.0	0.3	29.0
1934	14	0.0	0.1	24.7	0.2	5.5	0.0	0.0	16.9	0.0	0.0	9.1	5.4
1934	15	1.5	0.1	1.0	0.0	7.2	0.0	11.3	0.7	0.0	0.0	26.4	20.6
1934	16	7.7	0.0	0.8	0.2	2.0	0.0	0.0	0.0	0.0	11.6	7.1	9.5
1934	17	0.0	0.0	8.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2
1934	18	0.0	0.0	3.1	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.8	0.0
1934	19	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6
1934	20	7.2	0.0	0.0	3.3	0.0	30.2	0.0	0.0	24.6	0.0	0.0	0.1
1934	21	0.0	0.2	0.3	1.3	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1934	22	0.0	0.5	0.5	8.1	0.0	0.0	0.3	6.5	0.0	0.0	0.0	1.1
1934	23	0.0	0.4	0.7	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1934	24	0.0	0.0	1.0	6.7	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0
1934	25	0.0	1.3	0.0	0.9	3.1	0.0	2.9	3.5	0.0	0.0	0.0	0.0
1934	26	0.0	16.1	0.1	12.4	0.0	0.0	0.0	20.5	0.0	0.0	0.0	0.0
1934	27	0.0	22.1	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0
1934	28	0.0	3.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1934	29	2.5		0.2	0.0	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.0
1934	30	0.5		0.0	0.0	0.0	51.9	0.0	0.0	0.0	1.0	0.0	0.0
1934	31	0.0		0.0		1.2		7.8	4.3		3.5		0.0
1935	1	1.3	0.0	20.9	0.0	0.2	3.1	0.0	0.0	0.0	9.9	0.0	0.0
1935	2	0.0	0.0	0.0	8.0	0.0	15.8	3.5	0.0	0.0	16.7	0.0	0.7
1935	3	0.0	0.0	0.0	1.3	0.0	0.0	7.5	0.9	0.0	0.1	0.0	0.0
1935	4	2.8	0.0	0.0	8.8	0.0	0.0	3.4	1.5	0.0	14.8	0.0	11.0
1935	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	22.0	12.6	16.3
1935	6	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	31.0	0.0	0.0
1935	7	5.2	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	6.0	0.0
1935	8	3.4	0.0	0.0	0.0	17.1	0.0	0.7	0.0	0.0	0.0	13.7	0.0
1935	9	0.0	22.0	0.0	0.0	62.1	0.0	0.0	0.0	0.0	3.4	20.3	0.0
1935	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
1935	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.3
1935	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1935	13	4.3	0.0	0.0	4.2	0.0	0.0	0.0	40.0	0.0	1.4	0.0	0.2
1935	14	0.0	0.0	0.0	15.4	0.0	0.0	0.7	22.7	0.0	1.2	0.6	24.8
1935	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
1935	16	0.0	0.0	0.0	0.0	35.6	0.0	0.0	0.0	4.2	0.0	1.6	0.0
1935	17	0.0	0.0	0.0	24.1	0.0	0.0	0.0	0.0	0.0	0.0	27.9	4.7
1935	18	0.0	0.0	0.0	9.9	0.3	0.0	0.6	0.0	23.4	0.0	3.6	14.2
1935	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
1935	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	2.2
1935	21	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	29.8	18.4	0.0
1935	22	0.0	0.9	0.0	3.0	2.7	0.0	0.0	0.0	0.0	32.4	10.7	0.0
1935	23	0.0	3.0	3.0	1.5	9.5	0.0	0.0	0.0	0.0	0.3	1.2	3.5
1935	24	0.0	0.0	0.3	9.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1935	25	0.0	0.0	0.0	0.8	0.0	0.0	0.0	4.3	0.0	12.1	0.0	7.3
1935	26	16.4	13.6	0.0	5.0	0.0	0.0	3.4	25.0	0.0	5.1	0.0	1.7
1935	27	15.0	0.0	0.0	13.8	3.0	0.0	2.2	1.0	0.0	0.0	0.0	1.0
1935	28	0.2	24.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
1935	29	0.0		0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	5.8
1935	30	0.0		0.0	0.0	10.7	0.0	2.6	0.0	0.0	0.0	0.9	1.9
1935	31	0.0		0.0		3.1		0.0	0.0		0.0		1.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1936	1	1.8	0.9	1.0	0.0	0.0	26.2	1.0	0.0	0.0	0.0	0.0	0.0
1936	2	13.6	6.4	0.0	0.0	9.7	0.0	6.5	0.0	0.0	1.1	0.0	0.0
1936	3	10.7	15.3	7.0	0.0	0.0	1.3	0.0	0.0	0.0	0.1	0.0	0.0
1936	4	14.1	0.0	0.1	1.5	0.0	40.4	0.0	0.0	0.2	0.0	0.0	0.0
1936	5	0.0	0.0	44.9	11.5	0.0	0.5	0.0	1.0	0.0	1.7	0.0	0.0
1936	6	0.0	0.0	12.9	0.7	0.0	0.0	0.0	0.0	6.4	28.2	0.0	0.3
1936	7	3.1	0.0	0.0	12.3	0.0	0.0	0.0	8.2	0.0	21.6	4.7	0.6
1936	8	10.8	0.0	0.0	2.3	0.0	0.7	0.0	0.0	0.0	4.3	0.5	1.4
1936	9	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.3	0.0	4.3
1936	10	0.0	0.0	0.0	0.0	0.5	0.0	0.6	0.0	0.0	10.6	0.0	17.8
1936	11	0.0	0.0	0.0	7.5	0.0	0.7	0.0	1.3	0.0	4.7	0.0	18.0
1936	12	0.0	0.0	17.1	9.0	0.0	13.9	0.0	5.1	0.0	0.0	0.0	0.0
1936	13	0.0	0.0	7.2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
1936	14	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.6
1936	15	0.0	0.0	0.0	1.3	0.0	0.8	0.0	0.0	0.0	0.0	5.5	0.0
1936	16	0.0	2.7	0.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1936	17	6.4	18.5	0.0	0.0	0.0	0.0	0.0	0.0	40.3	0.0	0.0	0.0
1936	18	0.7	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0
1936	19	9.2	13.2	0.0	0.0	8.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1936	20	12.9	0.0	0.0	1.3	18.3	0.0	0.0	0.0	0.0	1.9	0.0	0.0
1936	21	7.6	0.0	0.0	0.7	12.9	0.0	7.8	0.0	0.1	0.0	0.0	0.0
1936	22	25.6	19.2	1.0	9.9	22.5	0.0	0.0	1.3	0.0	0.0	0.0	0.0
1936	23	0.0	5.2	9.6	10.1	4.9	0.0	0.0	1.0	0.0	0.0	0.0	0.0
1936	24	0.0	0.0	0.0	0.7	0.3	4.4	0.0	0.0	9.0	0.0	0.0	0.0
1936	25	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1936	26	0.4	10.4	6.8	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	0.0
1936	27	9.5	37.4	8.0	0.0	0.0	2.4	0.0	0.0	0.5	0.0	0.0	0.0
1936	28	0.0	8.6	0.0	1.2	0.0	2.7	0.0	0.0	20.6	0.0	0.0	0.0
1936	29	0.4	0.0	0.3	7.8	12.4	0.0	0.0	0.0	20.6	0.0	0.0	0.0
1936	30	3.2		3.3	19.5	0.9	1.0	1.3	0.0	0.0	0.0	0.0	0.0
1936	31	0.0		0.0		26.2		0.6	0.0		0.5		0.0
1937	1	0.0	0.7	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	0.3	0.0
1937	2	0.0	9.6	0.0	0.0	18.1	5.6	0.0	1.0	0.0	0.0	0.0	16.1
1937	3	0.0	0.0	0.0	29.7	0.2	7.5	0.0	0.0	0.0	0.0	0.7	2.0
1937	4	0.5	0.0	3.8	0.2	6.4	0.0	0.0	3.8	0.0	0.0	0.0	0.2
1937	5	0.0	2.6	16.2	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	3.2
1937	6	0.0	2.3	3.0	0.0	1.6	1.4	0.0	0.0	0.0	5.5	0.4	0.5
1937	7	0.0	1.7	0.3	3.1	0.0	0.0	0.0	0.0	0.0	14.1	0.0	6.4
1937	8	0.0	13.4	13.9	9.2	0.0	0.0	1.6	0.0	0.0	9.4	0.0	0.0
1937	9	0.0	0.9	3.0	0.0	0.0	0.0	10.9	0.0	0.3	6.3	0.0	0.2
1937	10	0.0	12.9	12.1	0.0	0.0	0.0	15.2	0.1	78.0	9.3	18.4	0.0
1937	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	5.3	24.0	4.2
1937	12	0.0	0.0	6.9	0.0	5.3	0.5	0.0	0.0	0.7	0.0	0.2	1.3
1937	13	0.0	0.0	0.0	21.4	19.8	0.0	0.0	31.2	0.0	0.0	0.0	0.0
1937	14	0.0	0.0	6.8	1.3	0.0	0.2	0.0	9.3	9.7	0.0	0.0	10.2
1937	15	2.5	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	1.6
1937	16	1.0	0.0	0.0	0.4	0.0	35.7	20.1	8.9	0.0	0.0	0.0	7.5
1937	17	1.5	3.1	0.0	0.0	0.0	0.0	8.5	0.0	4.1	0.0	12.1	0.0
1937	18	2.5	17.0	0.0	0.0	1.3	5.6	0.0	0.0	28.8	0.0	0.0	0.0
1937	19	2.1	0.0	0.3	19.2	0.0	8.3	0.0	0.0	12.4	0.0	17.9	0.0
1937	20	0.0	0.0	4.3	0.0	0.0	6.5	10.5	41.2	0.0	0.0	3.3	0.0
1937	21	0.0	0.0	0.8	0.0	1.3	14.5	10.1	6.8	0.0	0.0	0.0	0.0
1937	22	0.0	0.0	20.1	0.0	0.2	0.0	0.0	0.0	25.5	8.6	4.3	0.0
1937	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	11.9	0.0	0.0
1937	24	0.3	0.0	19.3	0.0	0.0	0.7	6.6	0.0	5.7	5.8	0.0	0.0
1937	25	16.0	0.0	0.0	0.0	0.0	2.3	0.6	0.0	0.0	0.0	1.5	0.0
1937	26	1.9	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0
1937	27	37.3	0.3	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	28	21.8	1.6	21.9	4.4	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
1937	29	0.0		11.7	0.0	0.0	0.0	0.0	2.4	0.0	9.9	0.0	0.0
1937	30	0.0		2.1	0.0	0.0	7.6	0.0	0.4	5.4	0.2	0.0	0.0
1937	31	0.0		0.0		0.0		5.0	40.2		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1938	1	0.0	0.0	0.0	0.0	0.7	0.0	0.0	8.6	0.0	0.2	0.0	1.7
1938	2	0.0	7.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1938	3	0.0	0.0	0.0	0.0	0.0	10.1	3.2	0.0	0.0	0.0	0.0	0.0
1938	4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	5.3	1.3	0.0	0.0
1938	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	1.4	0.0	0.0
1938	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0
1938	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1938	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.0	0.0	0.0	0.0	0.0
1938	9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0
1938	10	0.0	0.0	0.0	0.0	10.3	0.0	6.8	4.0	12.8	0.0	0.0	0.2
1938	11	0.0	0.0	0.0	0.0	2.6	5.2	0.0	0.0	0.0	0.0	0.0	0.8
1938	12	0.0	0.0	0.0	0.0	0.0	10.6	0.0	18.7	0.0	0.0	0.0	0.2
1938	13	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0
1938	14	0.0	0.0	0.0	0.0	0.0	21.2	0.0	1.6	0.0	0.0	0.0	0.0
1938	15	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0
1938	16	0.0	0.0	0.0	0.0	0.0	0.0	14.9	11.4	0.0	0.0	0.0	0.0
1938	17	0.0	5.6	0.0	0.0	6.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0
1938	18	0.0	0.2	0.0	1.6	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1938	19	0.7	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	21.6
1938	20	0.0	0.0	0.0	1.3	18.2	0.0	0.0	0.0	0.0	0.0	1.5	0.0
1938	21	0.0	0.0	0.0	0.0	60.6	0.0	0.0	1.0	0.0	0.0	7.6	7.2
1938	22	0.0	0.0	0.0	0.0	2.7	0.3	0.0	3.0	0.0	0.0	22.6	0.3
1938	23	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.5	0.0	0.0	0.0	18.3
1938	24	0.0	0.0	0.0	0.0	5.9	0.0	6.1	0.0	0.0	0.0	0.0	0.0
1938	25	0.0	0.0	0.0	1.7	1.9	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1938	26	0.0	0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0	6.1	0.6	0.0
1938	27	4.8	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	10.1	12.2	0.1
1938	28	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	5.6	8.7	2.7	0.0
1938	29	0.0		0.0	7.2	0.0	0.0	0.0	8.2	19.7	8.4	11.7	0.2
1938	30	2.5		0.0	0.6	0.0	0.0	0.0	2.9	0.0	2.5	10.9	0.2
1938	31	0.0		0.0		0.0		0.0	21.5		0.0		0.1
1939	1	0.0	0.0	16.6	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1939	2	7.0	0.0	0.0	0.0	3.1	1.6	0.0	0.0	0.7	2.5	0.5	0.0
1939	3	5.3	0.0	0.0	3.3	2.7	0.0	0.0	0.0	0.0	11.1	0.0	0.0
1939	4	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.5	9.1	5.8	18.8	0.0
1939	5	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	52.3	30.4	14.9	32.1
1939	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.1	0.1	9.6
1939	7	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.5	0.0	0.0
1939	8	0.0	0.0	0.2	0.0	19.8	0.0	0.0	1.2	0.0	8.9	0.0	0.1
1939	9	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1939	10	0.0	0.0	0.0	0.0	0.0	0.0	24.3	0.0	0.0	0.0	0.0	0.0
1939	11	3.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	4.8
1939	12	0.8	0.0	0.0	0.0	12.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0
1939	13	1.9	0.0	0.0	0.0	9.6	3.5	0.0	0.0	26.4	7.8	0.0	0.0
1939	14	1.2	0.0	0.0	0.0	5.8	15.1	0.0	0.0	0.0	1.4	0.0	0.8
1939	15	0.0	0.0	0.0	0.0	1.9	2.7	0.0	1.2	27.9	0.2	0.0	1.0
1939	16	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	2.1	0.4	0.0	15.8
1939	17	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1939	18	0.6	0.0	7.0	4.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1939	19	0.4	0.0	0.0	0.0	0.5	0.8	0.0	0.0	0.1	3.4	1.5	4.2
1939	20	3.4	0.0	0.0	0.0	13.5	0.0	0.4	3.6	0.2	0.0	0.0	7.5
1939	21	0.0	0.0	0.0	0.0	20.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1939	22	0.0	0.0	0.0	0.0	5.6	0.0	0.0	3.9	0.0	36.4	0.0	0.0
1939	23	11.8	0.0	9.7	0.0	2.4	0.0	0.1	10.2	0.0	17.7	0.0	0.0
1939	24	0.9	4.2	0.0	0.0	0.0	3.4	8.1	11.2	0.0	0.1	0.0	0.0
1939	25	0.0	2.2	0.0	0.0	2.5	2.5	0.0	29.7	1.2	1.1	0.0	0.0
1939	26	21.3	0.8	0.7	3.1	0.0	0.0	0.0	0.0	2.6	6.3	0.0	0.0
1939	27	3.7	3.8	8.4	22.0	0.0	5.2	26.0	0.2	0.0	9.8	0.0	0.0
1939	28	0.0	1.8	0.0	7.9	11.8	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1939	29	0.0		0.0	5.4	1.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1939	30	0.0		0.0	6.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1939	31	0.0		0.0		4.3		0.0	0.0		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1940	1	0.0	17.9	0.0	0.0	19.0	1.4	0.0	0.0	0.0	11.0	0.6	0.0
1940	2	0.0	0.0	0.0	0.0	5.6	6.5	0.0	0.0	0.0	11.5	2.4	0.0
1940	3	0.0	6.6	0.0	0.0	44.4	0.0	0.0	0.0	0.0	1.6	0.3	0.0
1940	4	2.4	4.8	0.0	0.0	0.1	0.0	10.0	0.0	0.0	11.7	0.1	0.0
1940	5	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1940	6	0.0	10.6	0.0	0.0	1.5	28.3	0.0	0.0	0.0	0.0	0.0	0.0
1940	7	0.0	0.2	0.0	0.0	1.8	0.0	0.2	1.9	0.0	0.0	4.9	0.0
1940	8	0.0	7.8	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.6	0.0	0.0
1940	9	0.0	5.8	0.0	0.0	0.0	0.0	2.3	0.0	6.4	0.0	0.0	0.0
1940	10	0.0	1.0	0.0	0.0	0.0	0.0	0.0	9.8	10.4	0.3	0.0	0.0
1940	11	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	10.7	1.2	0.0
1940	12	0.0	0.0	0.5	0.0	3.8	1.4	6.2	0.0	0.8	14.7	8.0	0.0
1940	13	0.0	2.2	7.4	0.0	0.0	12.5	0.0	0.0	0.0	18.8	0.0	0.0
1940	14	0.0	0.0	0.0	0.0	0.0	19.7	0.0	2.1	1.3	5.2	0.5	0.0
1940	15	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	1.2	1.1	0.0
1940	16	0.0	0.0	0.0	0.0	25.1	24.0	39.8	0.0	0.2	0.2	3.4	0.0
1940	17	0.0	0.8	0.0	0.0	17.6	13.3	0.0	0.0	0.0	0.0	9.9	0.0
1940	18	9.3	0.0	0.0	0.0	0.0	7.8	7.6	0.0	0.0	0.0	0.3	0.0
1940	19	0.0	0.0	0.0	0.2	0.0	1.1	0.2	0.0	0.1	0.0	7.1	0.0
1940	20	0.0	0.0	0.0	0.5	0.0	8.4	0.0	9.9	0.1	0.0	0.0	0.0
1940	21	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.3	0.1	0.0	0.0	0.0
1940	22	0.5	0.0	0.0	0.0	7.1	12.5	0.0	3.1	0.0	0.0	0.0	0.0
1940	23	8.8	0.0	0.0	0.0	5.0	0.6	0.0	0.0	0.0	0.0	3.1	0.0
1940	24	9.5	0.0	0.0	3.8	0.1	20.6	0.0	0.0	0.0	0.0	0.0	0.2
1940	25	0.0	0.0	0.0	0.2	0.0	1.3	0.0	0.0	0.0	23.6	0.2	4.0
1940	26	0.0	0.0	9.7	2.9	0.0	0.0	0.0	0.0	0.1	14.5	0.0	0.0
1940	27	0.0	0.0	0.5	4.5	0.0	0.0	20.5	0.0	0.1	4.5	0.0	0.0
1940	28	0.0	0.0	4.0	7.1	0.0	0.2	7.9	0.0	0.0	0.5	7.0	0.0
1940	29	0.0	0.0	4.4	0.1	10.5	0.0	0.0	0.0	8.2	0.7	1.3	0.0
1940	30	0.8		0.0	1.2	9.6	0.0	0.0	0.0	1.1	1.6	0.0	0.0
1940	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
1941	1	1.2	2.5	0.0	0.0	26.3	0.0	0.0	0.9	0.0	0.0	3.2	0.0
1941	2	18.0	0.0	0.0	13.3	1.2	0.0	0.0	8.4	0.0	11.7	0.1	0.0
1941	3	28.1	22.0	0.0	0.0	28.8	0.0	0.0	0.4	0.0	3.8	0.5	0.0
1941	4	10.2	19.9	5.6	0.0	4.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0
1941	5	1.4	0.6	22.6	0.0	0.0	8.1	0.0	0.0	0.0	0.0	47.1	0.0
1941	6	0.0	0.0	0.2	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
1941	7	0.0	0.0	0.0	7.0	0.9	0.2	0.0	1.4	0.0	0.0	0.0	5.1
1941	8	0.0	0.0	19.2	2.3	0.0	0.0	0.0	0.0	21.5	0.0	0.0	24.1
1941	9	1.0	0.0	0.8	8.1	1.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	10	4.2	0.0	0.0	1.0	0.0	24.1	0.7	0.0	0.0	0.0	1.6	0.0
1941	11	0.0	0.1	0.0	0.0	18.3	0.1	0.0	0.0	0.0	0.0	2.5	0.0
1941	12	0.0	1.1	0.0	0.0	26.6	0.0	0.0	0.1	0.0	0.0	22.8	0.0
1941	13	0.0	37.4	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	27.2	0.0
1941	14	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	9.2	0.0
1941	15	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1941	16	15.4	13.5	0.0	0.2	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0
1941	17	1.9	23.0	7.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	8.2	18.3
1941	18	0.0	2.0	5.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.1	8.7
1941	19	0.1	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.5	3.2
1941	20	0.5	12.4	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0
1941	21	0.0	3.8	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1941	22	13.8	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
1941	23	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	1.7	0.0
1941	24	1.2	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0
1941	25	0.0	0.0	0.0	48.0	0.2	0.0	0.0	0.0	0.0	2.4	0.0	0.0
1941	26	0.3	0.0	0.0	26.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1941	27	0.1	0.0	0.0	5.1	8.5	0.0	1.9	11.5	1.3	0.6	0.0	0.0
1941	28	0.0	0.0	11.3	11.1	0.6	0.0	12.0	0.0	0.0	0.0	0.0	0.0
1941	29	0.0		0.3	0.2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0
1941	30	0.0		2.4	2.4	0.1	0.0	10.1	1.5	103.9	16.2	0.0	0.0
1941	31	17.5		6.6		8.1		0.0	0.0		0.2		0.0



**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1942	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	2.3
1942	2	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	1.4
1942	3	0.0	0.1	0.0	0.0	0.4	0.0	1.2	0.0	0.0	0.0	0.0	0.0
1942	4	0.0	0.0	0.0	1.6	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0
1942	5	0.0	0.0	0.4	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.8	0.0
1942	6	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.5	0.0
1942	7	0.1	1.7	33.2	12.1	0.0	0.0	0.0	0.3	0.0	0.0	18.5	0.0
1942	8	3.4	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	9	0.0	9.7	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1942	10	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	11	0.3	0.0	0.0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	12	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	13	0.0	0.0	0.0	0.0	2.1	9.0	1.0	0.0	0.0	0.0	0.0	0.0
1942	14	0.0	0.0	1.3	0.0	2.1	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1942	15	0.0	0.0	0.0	0.0	7.5	4.2	11.4	0.0	0.0	0.0	0.0	0.0
1942	16	0.0	0.0	0.0	0.0	1.0	5.9	0.1	0.0	2.2	0.0	0.0	4.7
1942	17	0.0	4.0	0.0	0.0	0.0	7.3	0.0	0.0	0.1	0.0	0.7	0.9
1942	18	0.0	0.3	0.0	12.7	0.0	0.3	0.5	0.0	0.2	0.0	0.0	3.2
1942	19	0.0	0.0	0.0	1.8	0.0	0.0	11.5	0.0	15.0	0.0	0.0	4.7
1942	20	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2
1942	21	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6	4.4	9.9	0.0	13.6
1942	22	0.0	3.7	0.0	0.0	1.9	0.0	0.0	0.0	0.8	2.0	2.3	2.0
1942	23	0.0	0.0	4.2	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	24	0.0	21.2	0.0	0.0	0.2	0.0	0.0	1.7	0.0	0.0	0.0	0.0
1942	25	0.0	11.8	0.0	2.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1942	26	0.0	4.0	0.0	9.2	0.2	2.4	0.0	0.0	23.7	10.2	0.0	0.0
1942	27	0.0	2.2	0.0	0.0	0.0	4.3	0.0	0.0	31.4	0.2	0.0	0.0
1942	28	0.0	3.8	0.0	1.1	0.0	3.5	0.0	0.0	2.2	2.2	0.0	0.0
1942	29	0.0		8.5	21.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	8.8
1942	31	0.0		0.0		1.4		0.0	0.0		0.0		0.0
1943	1	0.0	0.2	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0
1943	2	0.6	5.7	0.0	0.3	10.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	3	0.0	0.0	0.0	0.0	11.1	12.1	0.0	0.0	10.2	0.0	0.1	5.8
1943	4	0.0	0.0	0.0	0.0	17.1	4.6	0.0	0.0	16.2	0.0	0.3	12.4
1943	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.4
1943	6	0.0	0.0	0.0	0.0	8.0	0.0	0.2	0.0	0.0	0.0	15.6	10.1
1943	7	0.0	7.1	0.0	0.0	4.5	5.6	4.2	0.0	0.0	0.0	0.5	3.6
1943	8	6.4	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.1
1943	9	0.0	0.0	3.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	10	0.0	5.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	3.6
1943	11	0.0	2.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1943	12	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	13	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1943	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	15	21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	16	4.2	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0
1943	17	0.0	9.5	0.0	0.0	0.0	11.5	0.0	0.0	0.0	16.7	2.1	5.5
1943	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	8.7	3.3
1943	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1943	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	8.1
1943	21	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	22	0.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0	6.9	0.0	0.0	16.8
1943	23	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	4.0	0.0	1.8	0.0
1943	24	0.3	0.0	0.0	0.1	1.2	0.0	0.0	0.0	0.0	0.0	1.8	0.0
1943	25	0.0	0.0	0.0	0.0	2.8	0.3	10.1	0.0	12.4	0.0	8.8	0.0
1943	26	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	0.9	0.0	0.0
1943	27	0.0	0.0	1.2	0.0	0.0	0.0	0.5	0.0	6.4	13.1	0.0	0.0
1943	28	0.0	0.0	3.2	0.0	0.0	0.0	11.7	0.8	6.1	0.0	0.0	0.0
1943	29	0.0		27.8	18.6	0.0	0.0	0.0	0.0	22.7	0.0	0.0	0.0
1943	30	0.0		8.7	0.0	0.0	12.5	0.0	0.0	0.0	0.1	0.0	0.0
1943	31	1.5		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1944	1	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.2
1944	2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.9	0.0	1.8	10.4	0.0
1944	3	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.3	19.2	0.0
1944	4	0.0	0.2	0.0	0.0	0.0	2.3	8.0	0.0	1.1	0.0	1.5	0.0
1944	5	0.0	1.0	0.0	0.0	0.0	0.0	0.5	1.1	0.0	14.8	0.0	0.0
1944	6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0	60.5	0.0	0.0
1944	7	0.0	0.0	0.2	0.0	0.5	6.7	0.0	0.0	6.4	18.1	0.0	0.0
1944	8	0.0	0.0	5.2	0.0	1.2	30.8	0.0	0.0	0.0	6.5	0.0	1.9
1944	9	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	8.3	0.0	9.6
1944	10	0.0	0.0	0.0	0.0	0.0	0.0	4.3	3.9	0.0	10.0	0.0	0.0
1944	11	0.0	0.0	0.0	0.2	0.0	10.7	4.6	0.0	0.0	0.1	0.0	0.0
1944	12	0.0	0.0	0.0	9.8	31.9	4.6	0.9	0.0	0.0	0.0	0.0	11.7
1944	13	0.0	0.0	0.0	0.0	0.1	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1944	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.9
1944	15	0.0	0.0	0.0	0.0	6.8	0.0	0.3	0.0	0.0	0.0	28.2	0.0
1944	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
1944	17	0.0	0.0	0.0	0.0	0.0	7.7	1.2	0.0	0.0	1.5	0.0	0.0
1944	18	0.0	0.0	0.0	0.8	0.0	68.8	7.0	0.0	0.0	0.7	0.0	0.0
1944	19	0.0	0.0	0.0	22.2	0.0	26.9	0.0	0.8	0.0	2.3	0.0	0.0
1944	20	0.0	0.0	0.0	1.8	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1944	21	0.0	0.0	0.0	0.4	8.1	0.0	0.0	0.0	21.2	0.0	4.5	0.0
1944	22	0.0	0.0	0.0	0.0	0.0	1.3	2.3	0.0	0.0	18.8	0.0	0.0
1944	23	0.0	0.0	0.0	0.0	5.5	15.2	0.0	0.0	0.0	14.1	0.0	0.0
1944	24	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
1944	25	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.5	0.0	0.0
1944	26	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.4	0.0
1944	27	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	30.3	0.0	0.0
1944	28	0.0	0.5	0.0	0.0	0.0	2.8	0.2	0.0	29.4	17.0	0.0	0.0
1944	29	0.0	12.0	0.0	0.0	0.0	11.7	0.8	0.0	11.7	7.2	0.0	0.0
1944	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.7	0.0	0.0
1944	31	0.0		0.5		0.0		4.7	0.0		8.8		0.0
1945	1	0.0	0.0	0.0	0.0	8.8	0.0	4.6	1.2	0.0	0.0	57.6	0.0
1945	2	0.0	0.0	0.0	0.0	0.6	0.0	5.8	1.6	0.0	0.0	4.8	0.0
1945	3	0.0	1.2	0.0	0.0	3.6	0.0	0.2	0.0	0.0	0.2	1.2	4.8
1945	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.2	1.8
1945	5	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	17.8	0.0
1945	6	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	10.6	0.0	1.2	0.0
1945	7	3.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	8	0.0	0.0	2.6	0.0	0.0	0.0	0.0	3.2	0.0	0.2	0.0	0.0
1945	9	10.7	0.0	0.0	0.0	0.0	0.0	0.0	24.8	0.4	0.0	0.0	0.0
1945	10	0.0	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0
1945	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	12	2.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1945	13	15.4	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
1945	14	3.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0
1945	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1945	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1945	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4
1945	19	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	11.2
1945	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	6.4
1945	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	1.6
1945	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	11.2
1945	23	0.4	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.2	1.0	0.0	0.0
1945	24	0.0	0.0	0.0	0.0	2.0	0.4	0.0	1.2	7.4	0.0	0.6	0.0
1945	25	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.2	8.0	16.4
1945	26	27.6	0.0	5.4	0.0	15.8	11.2	0.0	0.0	0.0	0.2	0.0	9.4
1945	27	0.0	0.0	10.0	36.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0
1945	28	0.0	0.0	11.4	6.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1945	29	0.0		0.2	5.0	29.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
1945	30	0.0		0.0	2.8	0.4	0.0	0.0	0.0	0.0	0.8	0.0	0.0
1945	31	0.0		0.0		0.0		0.0	0.0		2.2		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1946	1	0.0	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.6	1.6
1946	2	0.0	0.0	0.4	0.0	0.4	2.0	0.0	0.0	0.6	0.0	10.2	0.0
1946	3	0.0	0.0	61.4	0.0	0.0	4.2	3.5	0.0	0.0	0.0	0.0	3.6
1946	4	0.0	0.0	5.6	0.0	0.0	0.0	7.3	0.0	0.0	41.6	0.0	2.8
1946	5	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	1.0	3.8
1946	6	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0	6.8	0.0	3.8	1.4
1946	7	0.0	0.3	5.6	0.0	1.4	0.0	37.8	0.0	0.2	0.0	0.0	1.0
1946	8	0.0	0.2	0.2	0.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0
1946	9	0.0	0.6	8.4	0.0	0.0	0.0	0.0	0.0	0.0	8.0	15.6	30.6
1946	10	0.0	0.0	3.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	11	0.0	0.0	0.0	11.6	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
1946	12	0.4	0.0	7.0	0.0	3.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1946	13	0.0	0.0	9.6	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0
1946	14	0.0	0.0	12.4	0.0	0.6	0.2	0.6	0.0	0.0	0.0	4.8	0.0
1946	15	0.0	0.0	1.6	0.0	0.0	0.0	10.2	0.0	0.0	0.0	15.8	0.0
1946	16	0.0	0.0	6.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	2.4	1.0
1946	17	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	15.6	0.0
1946	18	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	19	19.0	0.2	0.0	0.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
1946	20	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	11.2	0.0
1946	21	0.0	0.0	0.0	0.0	1.4	4.4	7.6	0.0	0.0	1.2	2.8	0.0
1946	22	0.0	0.0	0.0	0.0	1.8	2.8	0.2	0.2	0.0	21.0	0.8	0.0
1946	23	20.8	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	25	0.0	0.0	0.0	0.5	8.1	0.0	0.0	27.8	0.0	0.0	0.2	0.0
1946	26	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	6.6	0.0
1946	27	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.2	0.0
1946	28	0.0	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.2	0.0
1946	29	0.2		0.0	5.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0
1946	30	0.2		0.0	1.8	0.9	0.0	0.0	0.0	0.0	0.4	14.0	0.0
1946	31	0.0		0.0		0.2		0.0	31.2		0.0		0.0
1947	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	16.8
1947	2	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	14.4	0.0	0.0	4.6
1947	3	0.0	10.0	0.2	0.6	0.0	0.0	0.4	0.0	0.0	0.0	2.0	0.0
1947	4	0.0	41.8	0.0	13.0	0.0	0.0	0.0	1.0	2.6	0.0	4.2	22.0
1947	5	0.2	1.4	1.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1947	6	0.0	0.2	0.8	0.0	4.4	9.0	0.0	0.0	0.0	0.0	0.0	15.8
1947	7	0.0	0.0	1.4	0.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	0.0
1947	8	0.0	31.6	3.6	0.0	0.0	0.0	0.2	5.4	0.0	0.6	0.0	0.0
1947	9	0.0	0.2	0.0	0.0	0.0	10.6	1.6	0.0	0.0	1.4	0.0	7.0
1947	10	0.2	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
1947	11	0.0	0.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.2	0.0
1947	12	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1947	13	5.6	0.8	0.0	0.0	0.0	23.6	0.2	0.0	0.0	0.0	0.0	0.0
1947	14	4.4	0.0	7.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1947	15	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	16	0.0	3.2	0.0	0.0	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.0
1947	18	0.0	11.3	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8	0.0
1947	19	0.0	0.0	17.2	0.0	4.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0
1947	20	0.0	16.3	0.0	0.0	3.6	0.0	13.0	0.0	0.0	0.0	0.0	0.0
1947	21	0.0	1.0	0.0	0.0	136.6	0.0	0.2	0.0	0.0	0.0	0.2	0.0
1947	22	0.0	13.0	0.0	0.0	13.0	65.0	0.0	1.8	0.0	0.0	0.0	0.0
1947	23	0.0	3.2	0.0	0.0	4.8	11.8	0.0	0.0	0.0	0.0	0.2	0.0
1947	24	0.0	1.4	2.2	0.0	0.0	0.0	0.0	0.0	7.1	0.2	0.0	0.0
1947	25	9.8	22.0	41.4	0.0	0.0	0.0	0.0	0.0	7.4	34.6	11.4	0.0
1947	26	0.0	3.6	47.6	0.0	0.0	0.0	0.8	0.0	26.8	13.6	0.2	0.2
1947	27	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.2	0.0	0.0	0.2
1947	28	0.0	0.3	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	12.2	0.0
1947	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	26.8	1.4
1947	30	0.0		15.2	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.6
1947	31	0.0		8.6		0.0		0.0	2.4		19.0		0.0

**ESM 22. Magrini Observatory Raw Precipitation Data (mm): 1920-1949**  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1948	1	0.0	0.4	0.0	30.6	0.2	0.4	4.2	0.0	0.0	0.0	0.2	0.0
1948	2	0.0	0.4	0.0	4.6	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
1948	3	0.0	0.2	0.0	0.2	11.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0
1948	4	0.0	0.0	0.0	0.4	7.2	8.6	0.0	0.0	32.0	0.0	0.4	0.0
1948	5	3.8	0.0	0.0	12.8	5.6	0.0	17.0	40.6	0.2	21.4	14.6	0.0
1948	6	0.2	0.0	0.0	46.4	0.2	0.0	0.4	0.2	0.0	15.6	0.4	0.0
1948	7	9.4	0.0	0.0	5.0	0.0	0.0	0.0	0.0	15.8	1.4	10.0	0.0
1948	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.2
1948	9	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1948	10	0.2	0.0	0.0	0.0	0.2	0.0	9.8	0.4	0.0	0.0	0.0	1.4
1948	11	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	7.4
1948	12	0.4	0.2	0.0	0.0	0.6	0.0	0.0	4.4	0.0	0.0	0.0	1.0
1948	13	0.0	0.2	0.0	0.0	0.2	2.6	0.0	0.0	11.8	0.0	0.0	0.0
1948	14	0.2	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.6	0.0	0.2
1948	15	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
1948	16	1.0	0.0	0.0	0.2	0.0	5.8	8.4	0.0	0.4	5.0	8.2	0.0
1948	17	3.2	0.0	0.0	0.0	0.0	0.0	2.6	0.0	4.4	0.4	4.8	0.0
1948	18	2.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.4	0.0	0.2
1948	19	3.0	0.0	0.0	0.0	5.2	5.2	0.0	12.0	0.0	1.2	0.0	0.0
1948	20	11.0	2.0	0.0	0.0	0.0	2.6	0.0	19.6	0.0	1.2	0.0	0.0
1948	21	10.8	0.0	0.0	0.0	1.0	0.0	0.0	17.2	5.3	0.0	0.0	0.0
1948	22	0.0	35.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	23	2.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	24	2.4	1.0	0.0	6.0	0.6	0.0	13.2	0.0	0.0	0.2	0.0	0.0
1948	25	0.4	0.0	0.0	0.6	3.8	0.4	11.4	0.0	0.0	0.6	0.0	0.0
1948	26	8.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	79.6	0.0	0.2
1948	27	43.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0
1948	28	12.0	0.0	0.0	0.0	2.6	1.6	0.0	0.0	0.0	0.0	0.0	13.4
1948	29	22.6	0.0	0.0	0.0	1.6	5.8	0.0	14.6	0.0	0.0	0.0	0.0
1948	30	7.4		0.0	34.4	0.4	4.8	0.0	0.0	0.0	12.0	0.0	0.0
1948	31	0.0		0.0		0.0		0.0	0.0		13.8		8.7
1949	1	0.2	0.0	0.0	0.0	12.4	34.8	0.0	0.0	0.0	9.0	0.0	0.2
1949	2	0.6	0.0	0.0	0.0	4.8	0.2	0.0	0.0	0.0	17.0	0.0	7.4
1949	3	16.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.4
1949	4	7.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	5	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0
1949	6	0.2	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.2	5.6	0.0
1949	7	0.0	0.0	0.0	2.8	0.0	0.0	18.8	0.0	23.2	1.4	40.4	0.0
1949	8	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	5.2	0.0	3.2	2.0
1949	9	2.8	0.2	0.2	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	19.4
1949	10	9.0	0.0	6.6	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	1.4
1949	11	0.0	0.0	24.6	0.0	1.2	2.8	0.0	13.8	0.0	0.0	0.0	0.0
1949	12	0.0	0.0	4.2	0.0	4.8	0.2	0.0	0.2	0.0	0.0	0.0	0.2
1949	13	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	25.4	0.0	0.2	0.0
1949	14	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	28.6	4.4
1949	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	24.6	13.2
1949	16	0.0	0.0	0.0	0.0	0.0	0.0	19.4	0.0	0.0	0.0	0.0	1.2
1949	17	0.0	0.0	0.0	0.0	0.0	2.8	5.8	0.0	0.0	0.0	0.0	0.2
1949	18	0.0	0.0	1.8	0.0	0.0	1.0	15.6	32.8	0.0	0.0	0.2	0.0
1949	19	0.2	0.0	1.2	0.0	1.0	0.2	8.4	0.0	0.0	0.0	0.4	0.0
1949	20	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.8	0.0
1949	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
1949	22	0.2	0.0	0.4	0.0	1.6	0.0	0.0	0.0	0.0	0.2	16.8	0.0
1949	23	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	19.0	0.0
1949	24	0.0	0.0	0.0	0.0	3.4	0.6	0.0	0.0	0.0	0.2	27.2	0.0
1949	25	0.2	0.0	0.0	9.2	39.2	0.0	0.0	0.0	0.0	0.0	15.0	0.0
1949	26	0.2	0.0	0.0	15.0	1.4	0.0	0.0	0.0	0.0	0.0	35.2	0.0
1949	27	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	29.2	13.8	0.0
1949	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.2	0.0
1949	29	0.0		0.0	2.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	30	0.0		0.0	23.4	2.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0
1949	31	0.0		0.0		1.6		0.0	0.0		0.0		0.0



**ESM 22.** Magrini Observatory Raw Precipitation Data (mm): 1920-1949  
 (Attribution should be given to this paper and to INAF)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1950	1	0.0	0.0	2.2	0.0	0.0	1.4	0.0	0.4	27.2	18.6	0.0	0.0
1950	2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	9.2	0.2	0.0	0.0	0.0
1950	3	0.0	0.0	0.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	2.8
1950	4	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	12.0	0.0	0.0	3.0
1950	5	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	6	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	14.8
1950	7	0.0	0.0	0.0	0.0	1.0	0.0	7.2	0.0	0.0	0.0	0.0	8.8
1950	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
1950	9	0.0	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	7.2
1950	10	0.0	0.0	14.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.2	3.6
1950	11	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	6.2	7.2
1950	12	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.2
1950	13	0.0	0.0	0.0	2.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0
1950	14	0.0	26.0	0.0	0.0	3.0	1.8	0.0	24.6	0.0	0.0	0.2	14.2
1950	15	0.0	0.0	0.0	7.4	0.0	5.4	0.0	0.4	0.2	0.0	0.0	0.8
1950	16	0.0	0.0	0.0	19.4	1.4	0.0	0.0	0.8	0.0	0.0	0.0	2.6
1950	17	7.4	0.0	0.0	11.4	13.2	4.0	0.0	2.4	0.0	0.0	0.0	2.4
1950	18	9.2	0.0	0.0	2.8	3.6	22.8	0.0	1.0	0.0	0.0	0.0	0.0
1950	19	0.0	0.0	0.0	18.0	3.2	0.0	0.0	2.2	0.0	0.0	0.2	0.0
1950	20	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.2	0.0	0.0	11.6	0.2
1950	21	0.0	0.0	15.8	3.2	0.0	2.6	0.0	0.0	13.8	0.0	0.2	0.0
1950	22	0.0	0.0	0.0	0.0	0.0	2.8	9.0	0.0	0.0	0.0	6.4	0.0
1950	23	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0
1950	24	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	3.4	13.0
1950	25	0.0	0.0	0.0	0.4	0.0	2.2	0.0	0.0	0.0	14.8	0.8	18.4
1950	26	0.6	7.6	2.8	0.4	0.0	0.0	0.0	0.0	25.2	11.6	0.4	12.4
1950	27	10.4	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.8
1950	28	18.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	3.4	0.4	0.2
1950	29	0.0		0.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.4
1950	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
1950	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1997	1	17.4	0.0	0.0	0.0	0.4	18.2	0.0	12.8	0.0	0.0	0.0	11.6
1997	2	12.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	11.8
1997	3	21.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	13.0
1997	4	14.6	0.0	0.0	0.0	0.0	0.2	2.6	0.0	0.0	0.0	0.0	0.0
1997	5	0.0	0.0	0.0	0.0	0.6	6.2	4.4	0.0	0.0	0.0	11.6	0.0
1997	6	3.2	0.0	0.4	0.0	1.2	0.0	0.0	2.0	0.0	0.0	11.0	0.0
1997	7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6	13.8	0.0
1997	8	0.0	0.0	0.0	0.0	15.2	0.0	0.0	1.4	1.8	0.0	6.0	0.0
1997	9	10.2	0.0	0.0	0.0	2.4	0.0	0.0	0.2	0.0	0.0	13.4	0.0
1997	10	0.2	0.0	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1997	11	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	2.8	0.0
1997	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.2
1997	13	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	1.0	0.0	0.2	0.0
1997	14	0.0	0.0	0.0	0.0	0.0	15.2	19.6	0.0	8.2	0.0	0.0	0.0
1997	15	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	16	0.0	0.0	0.0	0.0	0.0	0.2	0.0	5.0	0.0	0.0	0.0	0.0
1997	17	0.0	0.0	0.0	0.0	0.0	0.2	3.4	14.4	0.0	0.0	0.0	5.8
1997	18	0.0	0.0	0.0	0.0	0.0	0.0	38.0	22.0	0.0	0.0	0.0	11.6
1997	19	2.4	0.0	8.8	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0	17.6
1997	20	9.8	0.0	0.0	7.8	0.0	0.0	20.0	0.0	0.0	0.0	0.0	31.4
1997	21	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.2
1997	22	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.4	0.0
1997	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
1997	24	0.0	0.0	0.8	0.0	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0
1997	25		1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
1997	26		0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.4	6.8
1997	27		0.0	0.0	34.6	0.0	6.6	0.0	0.0	0.0	0.0	0.4	0.2
1997	28	0.0	0.0	6.2	2.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
1997	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	0.0
1997	30	0.0		0.0	0.2	0.0	3.0	0.0	0.0	0.0	0.0	24.2	0.0
1997	31	0.0		0.0		0.0		0.0	0.0		0.0		0.2
1998	1	0.0	0.0	0.8	0.0	7.0	0.0	0.0		0.0	22.0	0.0	0.0
1998	2	4.0	0.0	0.0	0.0	0.0	0.0	0.4		0.0	0.0	0.0	0.0
1998	3	4.0	0.0	0.0	0.0	0.0	0.0	15.0		0.0	0.0	3.8	0.0
1998	4	0.0	0.0	0.0	0.0	11.2	0.0	0.0		0.0	2.0	15.0	1.8
1998	5	0.0	0.0	0.0	7.4	4.0	0.0	0.0	0.0	7.6	45.6	0.0	0.0
1998	6	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	27.2	0.0	0.0
1998	7	0.0	0.0	0.0	0.4	0.0	23.0	0.0	0.0	0.0	55.6	0.0	0.0
1998	8	0.0	0.0		0.0	0.0	0.0	8.6	0.0	2.8	19.6	0.0	0.0
1998	9	0.0	0.0		11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	10	0.0	0.0	0.0	19.8	0.0	9.6	0.0	0.0	0.0	0.0	0.2	0.0
1998	11	0.0	0.0	0.0	16.2	0.0	5.4	0.0	0.0	0.4	0.0	0.0	0.0
1998	12	0.0	0.0	0.0	0.4	0.0	1.2	0.0	0.0	30.2	0.0	0.0	0.0
1998	13	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
1998	14	9.6	0.0	0.0	0.0	0.0	0.0	18.6	0.0	0.6	0.0	0.4	0.0
1998	15	18.2	0.0	0.0	13.6	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0
1998	16	5.2	0.0	0.0	18.2	1.8	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1998	17	2.4	0.0	0.0	4.0	1.6	0.8	0.0	0.6	0.0	0.0	0.0	0.0
1998	18	0.0	0.0	0.0	10.8	0.0	0.0		0.0	3.2	0.0	1.0	0.0
1998	19	5.4	0.0	0.0	0.4	0.0	0.0		10.8	0.0	15.0	0.0	0.0
1998	20	0.0	0.0	0.0	0.0	0.4	0.0		0.0	0.0	0.0	0.0	1.0
1998	21	0.0	0.0	0.0	0.0	1.2	0.0		0.0	0.0	0.0	0.0	6.6
1998	22	0.0	4.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
1998	23	0.0	22.0	5.8	0.0	0.2	0.4		0.0	0.0	0.0	0.2	0.0
1998	24	0.0	0.0	0.0	0.0	2.0	0.0		0.0	0.0	0.0	0.0	0.0
1998	25	0.0	0.0	0.0	0.0	0.0	0.0		0.0	1.6	5.2	0.0	0.0
1998	26	0.0	0.0	0.0	0.0	0.0	0.0		0.0	26.0	0.0	0.0	0.0
1998	27	0.0	0.0	0.0	9.6	1.2	0.0		0.0	15.0	0.0	0.0	0.0
1998	28	0.0	0.0	0.0	19.6	1.2	0.0		6.4	13.4	0.0	0.0	0.0
1998	29	0.0		0.0	6.8	18.8	0.0		0.0	0.0	0.0	0.0	0.0
1998	30	0.0		0.0	7.4	0.0	12.6		0.0	13.8	0.0	0.0	0.0
1998	31	0.0		0.0		3.0			0.0		0.0		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
1999	1	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0		
1999	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	
1999	3	0.2	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	
1999	4	0.0	0.0	6.2	0.0	2.6	0.0	0.0	0.0	3.8	1.8		
1999	5	0.0	0.0	4.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0		
1999	6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0		
1999	7	0.0	0.0	9.0	10.4	0.2	4.0	1.4	0.0	0.0	0.0		
1999	8	0.0	0.0	0.0	45.8	6.6	14.0	1.6	8.6	0.0	0.0		
1999	9	0.0	8.2	0.0	0.4	1.2	0.0	0.0	0.0	0.0	0.0		
1999	10	9.8	11.4	0.0	0.0	0.0	9.8	1.2	0.0	0.0	0.0		
1999	11	13.0	0.0	1.2	0.0	0.0	25.8	4.2	0.0	0.0	0.0		
1999	12	0.0	0.0	0.0	5.0	0.2	0.0	1.2	25.2	0.0	0.0		
1999	13	0.4	0.0	0.0	8.6	0.0	3.0	3.8	2.4	0.0	0.0		
1999	14	0.0	0.0	0.0	0.8	0.0	0.0	5.4	0.0	0.0	0.0		
1999	15	0.0	0.0	0.0	0.0	4.6	19.4	0.0	0.0	0.0	0.0		
1999	16	0.0	0.0	0.0	3.4	0.2	0.0	0.0	0.2	0.0	0.0		
1999	17	0.0	0.0	0.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0		
1999	18	0.0	0.0	0.0	2.4	0.2	4.2	0.0	0.0	7.4	0.0		
1999	19	0.0	0.0	0.0	0.4	0.4	10.0	0.0	0.0	0.2	0.0		
1999	20	0.0	0.0	0.0	0.0	12.6	3.8	0.0	0.8	37.6	7.4		
1999	21	0.0	0.0	0.0	11.8	2.8	2.8	0.0	0.0	0.2	46.4		
1999	22	0.0	0.0	9.0	1.4	0.2	0.0	14.2	0.0	0.0			
1999	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
1999	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
1999	25	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0			
1999	26	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	1.2			
1999	27	2.8	0.0	6.4	5.4	0.2	0.2	0.0	0.2	0.0			
1999	28	0.0	0.0	1.4	0.0	1.2	0.2	2.4	0.0	0.2			
1999	29	0.0		2.0	0.0	0.0	3.6	8.4	0.8	0.2	0.0		
1999	30	0.0		0.4	0.0	0.0	7.2	0.0	0.0	0.0	0.0		
1999	31	0.0		0.0		0.0		0.0	0.0		0.0		
2000	1		0.0	14.4	12.2	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0
2000	2		1.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	3.0	0.0
2000	3		0.2	0.0	26.4	0.0	0.0	0.0	0.0	0.0	2.8	27.2	1.2
2000	4		0.0	0.0	0.0	0.0	0.0	0.0	10.0		0.2	0.0	0.0
2000	5		0.0	0.0	0.0	0.0	0.0	0.0	21.4		0.0	0.0	0.0
2000	6		0.0	0.0	7.0	0.4	0.0	0.0	0.0		39.2	34.6	0.0
2000	7		0.0	0.0	0.0	10.0	0.0	0.0	0.0	36.4	42.4	0.4	0.8
2000	8		0.0	0.0	0.0	17.6	0.0	15.8	0.0	0.0	13.0	2.8	0.0
2000	9		0.4	0.0	0.0	0.0	0.0	0.2	1.8	0.0	3.2	1.2	2.6
2000	10		0.0	0.0	0.8	0.0	0.0	1.2	0.0	0.0	3.6	0.2	0.0
2000	11		0.0	0.0	0.0	0.0	26.6	5.0	0.0	0.0	1.4	0.0	0.0
2000	12		0.0	0.0	1.2	1.4	1.2	0.6	0.0	0.0	8.8	0.2	0.0
2000	13		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	1.2	11.0	0.0
2000	14		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.8	0.0
2000	15		0.0	0.2	1.8	0.0	1.4	1.6	0.0	0.0	37.6	6.0	0.0
2000	16		1.8	0.0	0.0	0.0	0.0	0.2	0.0	14.0	2.2	8.0	0.0
2000	17		0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.4	1.0	0.0
2000	18		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	10.4	0.0
2000	19		0.0	1.6	0.0	0.0	0.0	1.0	0.0	22.4	0.0	0.0	0.0
2000	20		0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.4	0.0	12.2	0.0
2000	21		0.0	0.0	0.0	0.0	0.0	0.2	0.0	7.0	0.0	9.2	0.0
2000	22		0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	23		0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.6	0.0
2000	24		0.0	0.0	0.0	0.0	1.4	2.2	0.0	0.0	0.0	22.4	2.0
2000	25		0.0	0.2	0.0	0.0	2.2	0.0	0.0	0.2	0.0	0.2	21.4
2000	26		0.0	7.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8
2000	27		0.0	3.6	0.0	1.6	0.0	0.0	13.2	0.0	0.0	0.0	6.8
2000	28		0.0	29.0	0.0	0.2	0.2	2.8	0.0	0.0	0.0	0.0	2.0
2000	29		0.4	19.4	0.2	0.2	1.4	0.0	0.0	17.0	0.0	0.0	7.8
2000	30			0.0	0.0	0.0	0.0	0.0	1.2	30.0	2.0	0.0	5.6
2000	31			3.8		0.0		0.0	17.8		3.4		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2001	1	0.0	0.0	3.2	0.0	0.0	1.2	2.0	0.0	1.2	0.0	0.4	0.0
2001	2	2.4	0.0	18.0	0.0	0.0	6.8	0.0	0.0	2.6	0.0	0.0	0.0
2001	3	5.4	0.0	4.4	0.0	3.2	39.4	0.8	0.0	0.0	0.0	0.0	0.0
2001	4	5.2	0.0	2.8	0.0	3.4	0.0	0.0	0.0	6.4	9.6	0.0	0.0
2001	5	1.0	0.2	2.6	13.2	5.6	0.0	0.0	0.0	8.2	0.0	0.0	0.0
2001	6	0.4	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.2	0.8	0.0
2001	7	0.0	0.0	0.0	15.0	2.8	0.0	0.0	0.0	0.0	3.2	0.0	0.0
2001	8	9.8	0.0	18.6	0.2	1.2	0.0	2.4	0.0	0.0	0.2	0.0	0.0
2001	9	0.0	0.2	7.6	0.0	0.0	0.0	3.0	0.0	0.0	0.0	13.4	0.0
2001	10	0.2	0.0	0.6	2.4	6.2	0.0	2.0	0.0	3.2	0.0	0.0	0.0
2001	11	0.2	0.0	0.2	7.6	0.0	0.0	0.0	24.4	0.0	0.0	8.4	0.0
2001	12	6.0	0.0	0.6	0.0	0.2	0.0	4.4	0.0	0.0	0.0	3.2	0.0
2001	13	0.0	0.0	20.2	5.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	14	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0
2001	15	0.0	0.0	0.0	0.0	1.6	0.0	4.4	0.0	4.4	0.0	0.0	0.0
2001	16	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	1.8	0.0	0.0	0.0
2001	17	5.0	0.0	21.4	0.2	0.6	2.0	0.0	0.0	1.4	0.0	0.0	0.0
2001	18	10.4	0.0	0.2	0.8	0.2	1.8	0.2	0.0	0.0	0.0	3.0	0.0
2001	19	0.0	0.0	0.0	0.2	0.0	4.6	14.8	0.0	4.0	0.0	5.4	0.0
2001	20	1.4	0.0	0.0	8.2	0.0	0.0	55.2	0.4	0.0	0.0	0.0	0.0
2001	21	0.2	0.0	0.0	6.4	26.6	0.0	0.0	0.0	0.0	26.6	0.0	0.0
2001	22	0.0	0.0	2.0	0.2	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.0
2001	23	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.6	6.0	0.0	0.0
2001	24	6.8	0.0	0.0	0.0	0.0	0.0	36.4	0.0	1.4	4.2	0.0	0.0
2001	25	18.6	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
2001	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
2001	27	2.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
2001	28	0.0	15.0	5.4	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	29	0.0		0.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	30	8.2		61.6	0.0	0.0	0.0	0.0	5.6	6.4	0.0	0.0	0.0
2001	31	4.6		0.0		0.0		0.0	16.2		0.2		0.0
2002	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	2	0.0	0.0	1.2	0.0	3.4	0.0	2.4	0.0	0.0	0.0	0.8	0.2
2002	3	0.0	0.0	0.0	0.0	14.0	3.6	0.0	0.0	0.0	0.0	0.6	18.6
2002	4	0.0	0.2	0.0	0.0	26.2	0.2	0.2	0.0	0.0	0.0	0.4	4.2
2002	5	0.0	0.2	0.0	0.2	0.6	1.6	4.6	10.4	4.0	0.0	0.0	3.0
2002	6	0.0	28.2	0.4	1.6	0.0	25.4	50.2	25.6	0.0	0.0	0.0	0.0
2002	7	0.0	2.0	0.0	1.4	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.0
2002	8	0.0	0.0	0.0	3.8	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	9	0.0	0.0	0.0	32.8	9.2	17.4	0.0	15.6	0.0	0.0	0.0	0.0
2002	10	0.0	0.0	0.0	0.0	0.4	0.0	0.0	7.4	0.0	22.0	0.0	0.0
2002	11	0.0	0.2	0.0	13.6	10.4	0.0	0.0	46.0	0.0	9.6	0.0	0.0
2002	12	0.0	0.0	0.0	32.2	0.0	0.0	0.0	0.2	1.0	13.2	0.6	3.8
2002	13	0.0	0.0	0.0	4.2	6.0	0.0	1.2	0.0	0.2	0.0	3.2	3.6
2002	14	0.0	0.2	0.0	12.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
2002	15		22.2	0.0	2.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0	1.0
2002	16	0.0	10.2	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.0	1.2	0.0
2002	17	0.2	3.8	0.0	0.2	0.0	0.0		0.0	0.0	2.6	3.2	3.2
2002	18	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	21.2	9.8
2002	19	0.0	0.2	0.0	0.0	4.6	0.0	9.0	0.0	0.0	0.0	0.2	0.0
2002	20	0.0	0.0	0.0	1.8	1.6	0.0	0.0	0.0	0.0	0.0	0.8	0.0
2002	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.8	7.4	17.0	0.0
2002	22	0.0	0.0	0.0	1.2	0.2	0.0	0.0	0.0	6.0	55.2	5.6	0.0
2002	23	0.2	0.0	0.0	0.4	5.2	0.0	0.0	0.0	8.6	0.4	0.2	0.0
2002	24	44.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	2.8	0.0	13.6	0.0
2002	25	0.0	0.0	0.0	0.0	1.2	4.4	3.2	0.0	0.0	3.4	1.6	1.6
2002	26	0.0	0.0	0.0	0.0	3.8	0.0	0.0	2.4	0.0	0.0	13.6	0.0
2002	27	0.0	0.0	0.0	4.4	11.4	0.0	0.0	20.2	0.0	0.0	19.8	1.2
2002	28	0.0	0.0	0.0	0.0	4.8	38.4	0.0	16.4	0.0	0.0	0.0	12.0
2002	29	0.0		0.0	0.0	0.2	0.0	0.0	4.2	0.0	0.0	0.2	0.0
2002	30	0.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	31	0.0		0.0		0.0		11.0	0.0		0.0		27.8



**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2003	1	0.0	0.0	0.0	0.0	0.6	12.8	0.0	0.0	0.4	0.0	44.8	1.4
2003	2	0.0	0.0	1.0	35.6	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
2003	3	0.0	0.0	2.0	51.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
2003	4	0.0	10.6	0.0	14.8	0.0	0.0	1.2	0.0	0.0	4.4	0.0	0.0
2003	5	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0
2003	6	8.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	7	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.2	46.6	0.0
2003	9	0.2	0.0	0.0	0.0	0.0	0.0	7.2	0.0	8.6	0.0	0.2	0.0
2003	10	0.6	0.0	0.0	27.8	3.6	0.0	0.0	0.0	5.8	0.0	0.0	9.8
2003	11	0.0	0.0	0.0	1.2	0.2	0.0	0.0	0.0	7.8	0.0	0.0	0.4
2003	12	0.0	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
2003	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0
2003	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	16	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	4.2	0.0
2003	17	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	7.0	0.0
2003	18	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
2003	19	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	20	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	19.4	0.0	0.0
2003	21	18.8	0.0	0.0	0.8	10.4	0.0	0.0	0.0	0.0	0.0	0.0	11.2
2003	22	2.2	0.0	0.0	0.0	0.2	0.0	0.0	0.8	0.0	0.0	0.0	0.2
2003	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4	0.0	0.0
2003	24	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	9.8	1.0	0.0	0.0
2003	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0
2003	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0
2003	27	0.0	0.0	0.0	5.2	0.0	17.4	0.0	0.0	0.0	7.8	13.4	0.0
2003	28	0.0	0.0	0.0	0.0	0.0	0.2	0.0	4.4	0.2	0.0	0.8	9.2
2003	29	0.0	0.0	0.0	0.0	0.0	9.6	1.2	0.0	3.0	10.2	0.0	42.8
2003	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	6.2
2003	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	13.2
2004	1	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.8	2.2
2004	2	0.0	0.0	0.0	0.0	0.0	13.6	3.2	0.0	0.0	0.0	0.0	4.6
2004	3	0.0	0.0	0.0	0.0	0.4	3.0	0.4	29.8	0.0	0.0	0.0	2.8
2004	4	0.0	0.0	0.0	0.0	40.0	0.0	0.0	6.2	0.0	0.0	0.0	0.8
2004	5	0.0	0.0	0.0	0.0	12.8	11.2	0.0	0.0	0.0	0.0	0.0	11.0
2004	6	0.0	0.0	5.4	7.4	4.2	0.0	0.0	0.0	0.0	0.0	7.8	1.8
2004	7	0.0	0.0	0.0	0.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	8	0.0	0.0	0.0	1.4	2.6	0.0	0.0	1.4	2.0	0.0	0.0	0.0
2004	9	2.8	0.0	0.0	4.0	4.4	0.0	0.0	0.2	0.0	0.0	3.6	0.0
2004	10	0.0	0.0	4.6	3.0	0.0	0.0	0.0	0.0	0.0	5.0	29.2	0.0
2004	11	0.0	0.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.6	0.0
2004	12	0.2	0.0	0.0	6.2	4.4	18.0	0.2	0.4	0.2	0.0	1.0	0.0
2004	13	0.0	0.0	0.0	9.4	1.6	17.2	0.4	0.0	0.0	0.0	4.6	0.0
2004	14	0.0	0.0	0.0	0.8	5.4	0.0	0.0	0.0	51.2	16.6	0.0	0.0
2004	15	0.0	0.0	0.0	1.2	0.4	0.0	0.0	0.0	0.2	2.6	0.0	0.0
2004	16	0.4	0.0	0.0	9.6	0.0	0.0	0.0	0.0	38.4	3.8	0.0	4.2
2004	17	14.0	0.0	0.0	1.6	0.0	2.6	0.0	0.0	0.0	9.4	0.0	0.6
2004	18	34.2	3.6	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
2004	19	2.6	35.8	0.0	3.2	0.0	1.6	0.0	0.0	0.0	1.4	0.0	0.0
2004	20	0.0	22.8	0.0	1.0	0.0	13.8	0.0	0.0	0.0	2.8	0.0	0.0
2004	21	0.0	50.2	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.2	0.0	0.0
2004	22	0.0	25.2	7.2	0.0	15.2	0.0	0.0	0.0	0.0	3.4	0.0	0.0
2004	23	0.0	25.0	17.8	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	24	0.0	21.0	0.4	9.6	0.0	0.0	28.4	0.0	5.0	0.0	0.0	0.0
2004	25	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
2004	26	0.0	0.0	3.8	0.0	0.0	0.0	0.4	0.0	0.0	2.0	0.0	28.4
2004	27	0.0	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0	0.2	0.0	9.2
2004	28	0.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.8	0.0	2.8
2004	29	0.0	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0	37.2	8.2	6.2
2004	30	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.4	43.8	0.0
2004	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	0.0	0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2005	1	0.0	0.0	0.0	0.0	0.0	0.0	40.2	0.0	0.0	0.0	2.4	0.0
2005	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	15.8	0.0	0.8
2005	3	0.0	0.0	16.0	0.0	0.0	0.0	0.0	5.4	4.8	82.8	0.0	9.6
2005	4	0.0	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.4	0.2	0.0	5.0
2005	5	0.0	0.0	0.0	0.0	3.4	0.0	7.4	0.0	0.0	28.8	37.0	11.0
2005	6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	2.8	89.8	7.0
2005	7	0.0	0.0	0.0	0.0	0.0	13.6	1.8	0.2	0.0	52.6	8.4	0.0
2005	8	0.2	0.0	0.0	18.6	0.8	0.4	12.2	0.0	7.6	11.6	0.0	0.0
2005	9	0.0	0.0	0.0	11.8	3.6	0.2	0.8	0.0	5.0	0.0	0.0	0.0
2005	10	0.0	0.0	0.0	16.8	0.2	0.0	4.4	0.0	0.0	0.0	0.0	0.0
2005	11	0.0	0.0	0.0	8.6	0.4	0.0	1.0	7.0	0.0	0.0	0.0	0.0
2005	12	0.0	0.0	0.0	2.0	0.0	2.2	5.8	0.4	0.0	0.0	0.0	11.8
2005	13	0.0	0.0	0.0	0.2	0.0	0.2	0.2	3.8	0.0	0.0	0.2	0.4
2005	14	0.0	0.0	0.0	0.0	4.6	4.8	0.0	33.6	0.2	0.0	0.0	0.0
2005	15	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0
2005	16	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
2005	17	0.0	0.0	0.0	0.0	20.2	0.0	0.0	0.0	19.4	0.0	0.0	0.0
2005	18	0.0	0.0	0.0	0.0	55.0	0.0	0.0	0.0	27.4	0.0	0.0	0.0
2005	19	0.0	0.0	0.0	3.8	0.0	0.0	1.8	0.0	0.6	0.0	0.0	0.0
2005	20	0.0	0.0	0.0	4.6	0.0	0.0	0.0	10.4	0.2	12.8	0.0	0.0
2005	21	0.0	0.0	0.0	1.8	0.0	0.0	1.4	42.4	0.0	2.2	0.0	0.0
2005	22	0.0	0.0	0.0	0.4	0.0	0.0	20.4	2.2	0.0	1.0	0.0	0.0
2005	23	0.0	0.0	0.0	0.0	2.8	0.0	2.6	0.4	0.0	0.2	0.0	0.0
2005	24	0.0	0.0	0.8	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2005	25	0.0	0.8	0.4	12.8	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
2005	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.8	0.0
2005	27	0.0	0.2	0.6	0.0	0.0	0.0	0.0	90.2	0.0	0.0	0.4	5.8
2005	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	0.0	0.0	1.0	0.8
2005	29	0.0	0.0	0.0	0.0	0.0	24.8	0.0	0.0	1.0	0.0	11.0	0.0
2005	30	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
2005	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	2.4
2006	1	13.4	0.0	0.0	0.0	0.0	4.2	0.0	29.6	0.0	0.0	0.0	0.0
2006	2	7.2	0.0	0.0	0.0	0.0	8.6	0.0	3.0	0.0	0.0	0.0	0.0
2006	3	0.0	0.0	0.0	13.2	0.0	0.0	0.0	29.6	0.0	0.0	0.0	0.0
2006	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	0.0	0.0	0.0	5.4
2006	5	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	6	0.0	0.0	0.2	24.0	0.0	5.2	20.2	0.0	0.0	0.0	0.0	3.6
2006	7	0.0	0.0	0.0	0.0	0.0	0.0	20.2	0.0	0.0	0.0	0.0	1.4
2006	8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
2006	9	0.0	0.0	0.0	0.0	33.0	0.0	0.0	25.0	0.0	0.0	0.0	22.6
2006	10	0.0	0.0	7.0	2.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6
2006	11	0.0	0.0	12.2	9.8	0.2	0.4	0.0	0.2	0.0	0.0	0.0	0.0
2006	12	0.0	0.0	4.6	0.2	0.0	0.0	0.6	14.0	0.0	0.0	0.0	0.0
2006	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	14	0.0	0.0	0.0	0.0	1.8	0.0	0.0	10.0	16.0	0.0	0.0	0.0
2006	15	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	100.8	0.0	0.0	0.0
2006	16	0.0	1.6	0.2	0.0	0.0	0.0	0.0	6.4	37.0	0.0	0.0	0.0
2006	17	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.2	93.8	0.0	0.0	2.6
2006	18	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	5.4	25.2
2006	19	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.8	0.0	0.0
2006	20	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.6	2.6	0.0
2006	21	0.0	3.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	11.6	0.0
2006	22	0.0	18.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	15.2	0.0
2006	23	0.2	1.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	24	0.0	4.8	0.0	0.0	26.4	0.0	0.4	2.0	0.0	0.4	0.2	0.0
2006	25	0.0	2.6	0.0	0.0	0.0	0.0	0.0	13.4	0.2	0.0	0.8	0.0
2006	26	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
2006	27	0.0	0.0	0.0	0.8	0.0	0.0	4.2	10.4	0.0	0.0	0.0	0.0
2006	28	2.4	0.0	1.6	3.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2006	29	0.2	0.0	0.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
2006	30	0.0	0.0	0.0	9.6	25.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2006	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2007	1	0.4	0.0	0.0	0.2	0.2	3.4	0.0	0.0	0.0	0.0	0.0	0.0
2007	2	2.8	0.0	0.0	0.0	42.4	8.0	0.6	0.0	0.0	0.0	0.0	0.0
2007	3	0.0	0.2	0.0	3.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.0
2007	4	0.0	0.0	0.0	0.2	58.6	0.0	4.6	0.0	18.8	0.0	0.0	0.0
2007	5	0.0	0.0	0.0	0.0	12.2	4.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	6	0.0	13.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	6.6	0.0	0.0
2007	7	0.0	4.4	14.6	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.8
2007	8	1.8	3.8	1.8	0.0	0.0	1.2	0.0	20.6	0.0	0.0	0.0	17.6
2007	9	0.0	1.6	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.0	6.0
2007	10	0.0	0.0	0.0	0.0	0.0	0.0	0.2	6.8	11.0	0.0	0.0	0.0
2007	11	0.0	0.0	0.0	0.0	0.0	14.8	6.8	0.2	0.0	0.0	0.0	0.0
2007	12	0.2	23.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.2
2007	13	0.0	7.6	0.0	0.0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0
2007	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
2007	15	0.0	0.0	0.0	0.0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	3.0
2007	16	0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0
2007	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	2.4	0.0	0.0
2007	19	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	20	0.0	0.0	14.6	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0
2007	21	0.0	0.4	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
2007	22	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	12.0	0.0
2007	23	17.8	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	7.2	0.0
2007	24	0.0	3.4	2.4	0.0	0.0	0.0	1.6	0.0	0.0	8.2	4.6	0.0
2007	25	0.8	3.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
2007	26	0.0	0.0	11.0	0.0	16.8	0.0	0.0	0.0	36.0	15.6	0.0	0.0
2007	27	0.0	0.0	0.0	0.0	3.4	1.2	0.0	0.0	17.2	0.2	0.0	0.0
2007	28	0.0	0.0	0.0	0.0	12.0	0.0	0.0	1.0	7.0	0.2	0.8	0.0
2007	29	0.0		0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2007	30	0.0		18.0	0.0	7.2	0.0	9.2	19.6	0.0	18.8	0.0	0.0
2007	31	0.0		11.6		0.0		0.0	0.0		0.8		0.0
2008	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.6	10.0
2008	2	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	5.8
2008	3	0.4	3.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
2008	4	3.8	19.2	11.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	28.2	0.0
2008	5	8.8	15.8	0.0	0.0	5.8	11.6	0.0	0.0	0.0	0.0	0.0	27.6
2008	6	8.4	0.0	0.0	0.0	0.0	22.0	50.8	0.2	0.0	0.0	5.2	0.0
2008	7	0.0	0.0	9.2	0.0	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.2
2008	8	0.0	0.0	3.8	2.2	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0
2008	9	0.0	0.0	0.4	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	10	0.0	0.0	4.2	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4
2008	11	0.0	0.0	3.4	1.4	0.0	0.4	0.0	0.0	0.0	0.0	1.0	20.4
2008	12	15.8	0.0	0.2	2.8	0.0	0.8	0.0	0.0	8.8	0.0	15.2	13.8
2008	13	6.2	0.0	0.0	1.6	0.0	4.2	0.0	6.2	44.4	0.0	36.6	6.8
2008	14	0.0	0.0	0.0	9.8	0.0	12.8	0.0	7.0	3.2	0.0	1.6	2.0
2008	15	3.0	0.0	0.0	25.6	13.8	0.8	0.0	43.8	0.2	0.0	0.0	46.4
2008	16	14.6	0.0	0.0	0.0	0.0	1.6	0.0	19.4	0.0	0.0	0.0	20.4
2008	17	32.6	0.0	6.8	2.4	10.4	10.6	0.0	38.8	0.0	0.0	4.2	0.0
2008	18	0.0	0.0	0.0	26.2	77.0	9.6	11.2	0.0	0.0	0.0	0.0	0.4
2008	19	0.2	0.0	0.0	4.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	20	0.2	0.0	0.0	0.0	15.4	0.0	13.6	0.0	0.0	0.0	0.0	0.0
2008	21	0.0	0.0	0.0	24.6	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2008	22	0.6	0.0	1.4	2.0	9.8	0.0	1.2	0.0	0.0	0.0	0.0	0.0
2008	23	0.0	0.0	11.6	0.0	3.2	0.0	0.0	0.0	3.2	1.6	0.0	0.0
2008	24	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
2008	25	0.0	0.0	0.0	1.4	0.2	0.0	0.0	0.0	0.0	0.0		5.8
2008	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	27	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	28	0.0	0.0	0.0	0.0	0.0	32.4	0.0	0.0	0.0	9.4	19.8	0.0
2008	29	0.0	0.0	0.0	1.6	0.4	0.0	0.0	0.0	0.0	20.4	9.8	0.0
2008	30	0.0		0.0	0.0	11.6	0.2	0.0	0.0	0.2	8.8	37.2	0.0
2008	31	0.0		0.0		0.0		15.4	0.0		16.8		0.4

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2009	1	18.4	7.6	0.4	3.8	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
2009	2	0.0	21.6	0.0	19.0	1.8	0.0	0.0	0.0	0.0	0.0	29.0	0.0
2009	3	0.0	11.8	1.2	0.0	0.0	0.0	0.4	3.4	0.0	0.0	11.6	0.0
2009	4	0.0	3.0	32.6	1.4	3.2	0.8	5.4	0.0	0.0	0.0	0.8	27.2
2009	5	0.0	0.2	18.0	3.6	5.0	1.2	2.2	0.0	0.0	0.0	0.0	0.6
2009	6	0.0	12.6	1.6	0.0	0.0	3.0	0.0	0.0	0.0	0.0	11.4	0.0
2009	7	3.4	9.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.4	7.6
2009	8	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	18.4
2009	9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.8	0.0
2009	10	0.0	3.2	0.0	0.0	0.0	0.0	9.6	0.0	0.0	7.6	0.0	0.0
2009	11	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
2009	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0
2009	14	6.4	0.0	0.0	0.0	0.0	0.0	0.0	7.0	24.4	0.0	1.0	0.0
2009	15	9.2	0.0	0.0	0.0	0.8	0.0	0.0	0.0	2.6	0.0	0.0	0.0
2009	16	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	156.6	0.0	0.0	0.0
2009	17	0.0	0.0	0.0	0.2	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0
2009	18	2.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2009	19	6.0	0.0	7.6	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	20	6.4	0.0	2.2	7.6	0.0	20.6	0.0	0.0	0.0	0.0	0.0	0.0
2009	21	7.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
2009	22	0.0	0.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	15.2	0.2	0.0
2009	23	1.2	0.0	0.0	8.2	0.0	0.2	0.0	0.0	0.0	7.8	3.8	4.2
2009	24	0.2	0.0	0.0	0.0	9.4	0.8	0.0	0.0	0.0	2.4	0.0	16.2
2009	25	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	2.4
2009	26	5.4	0.0	0.0	17.6	0.0	0.4	0.0	0.0	0.0	0.0	2.0	0.0
2009	27	10.6	0.0	0.0	34.2	0.0	41.6	0.0	0.0	0.0	0.0	3.8	0.0
2009	28	0.0	0.0	6.4	29.6	0.0	2.0	0.0	0.0	0.0	0.0	1.8	0.0
2009	29	0.0		55.6	40.6	0.4	0.4	0.0	0.0	0.0	0.0	2.0	0.0
2009	30	0.0		4.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	4.8	5.0
2009	31	0.0		6.4		0.0		0.0	0.0		0.0		1.2
2010	1	0.4	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	1.0	26.6	18.6
2010	2	13.6	0.0	0.0	0.2	12.2	0.0	0.0	0.0	0.0	0.0	25.4	0.4
2010	3	0.0	0.0	10.0	0.4	9.0	0.8	0.0	7.6	2.0	0.0	1.2	4.6
2010	4	0.2	0.0	3.4	6.0	36.2	0.0	0.0	0.0	0.0	4.6	0.0	8.2
2010	5	6.2	47.0	8.0	7.8	11.8	0.0	0.8	19.6	0.0	4.8	0.0	0.0
2010	6	0.8	9.8	0.0	0.0	0.2	0.0	15.6	0.6	9.6	0.0	0.0	16.6
2010	7	0.8	0.0	0.0	0.0	0.2	2.4	0.0	0.0	1.6	0.0	4.8	7.8
2010	8	20.8	0.0	0.0	0.0	1.0	0.0	0.0	0.0	32.6	0.0	10.2	3.8
2010	9	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	5.6	0.0
2010	10	2.6	17.4	16.0	3.2	4.8	0.0	0.0	0.0	0.0	0.0	8.8	0.0
2010	11	0.0	2.8	0.0	5.2	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2010	12	0.0	0.0	0.0	0.0	63.4	0.0	0.0	0.6	0.0	0.0	0.2	0.0
2010	13	0.0	0.0	0.0	0.0	1.8	20.0	0.0	13.0	0.0	0.0	0.0	0.0
2010	14	0.2	0.0	0.0	0.2	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0
2010	15	0.0	0.0	0.0	0.2	8.6	22.0	0.0	0.0	0.0	0.0	0.0	0.0
2010	16	0.0	0.0	0.0	1.2	0.0	21.0	0.0	0.0	0.0	12.2	16.4	0.0
2010	17	0.0	0.8	0.0	4.4	0.0	0.2	0.0	0.0	13.6	8.2	0.0	3.6
2010	18	0.0	7.0	0.0	1.0	0.0	1.4	29.4	0.0	6.0	0.0	3.8	0.0
2010	19	0.0	41.4	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	4.2	0.0
2010	20	0.0	1.2	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.8	0.0
2010	21	0.0	0.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	20.4	4.4
2010	22	0.0	1.0	7.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	23.2
2010	23	0.0	3.0	0.6	2.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	16.6
2010	24	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	11.8	4.8	2.8	14.6
2010	25	0.0	0.2	0.0	0.0	0.0	0.0	5.6	0.0	8.4	40.2	0.0	14.2
2010	26	1.2	11.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	2.2	24.0	1.0
2010	27	0.0	0.0	0.0	14.0	2.0	0.0	0.6	0.0	11.8	0.0	0.0	0.0
2010	28	0.0	0.2	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	13.2	0.0
2010	29			0.0	0.0	52.0	0.0	60.2	0.0	0.0	0.0	0.0	0.0
2010	30			12.0	0.0	0.0	0.0	0.6	0.8	0.0	0.0	0.0	0.0
2010	31	4.2		1.0		0.0		0.0	0.0		22.0		0.0



**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2011	1	0.0	0.0	0.0	0.0	0.0	3.2	2.8	0.0	0.0	0.0	0.0	0.0
2011	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2011	3	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
2011	4	0.0	0.0	0.0	3.6	5.0	0.0	0.0	0.0	21.8	0.0	5.2	0.0
2011	5	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	2.6	0.0	2.4	0.2
2011	6	3.8	0.0	0.0	0.0	0.0	4.8	0.0	1.2	0.0	0.0	38.4	0.0
2011	7	4.6	0.0	0.0	0.0	0.0	38.0	0.6	0.2	0.0		24.4	0.0
2011	8	0.2	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.4	29.4	0.0
2011	9	0.2	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.2	0.0	0.2
2011	10	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2011	11	0.8	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	12	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	3.8	0.0	0.0	8.0
2011	13	0.0	0.2	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	14	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
2011	15	0.0	0.0	4.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	16	0.0	37.4	62.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	4.0
2011	17	0.2	5.2	7.6	0.0	0.0	20.0	0.2	0.0	0.0	0.0	0.0	0.0
2011	18	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0
2011	19	1.2	0.0	1.8	0.0	0.0	3.0	2.6	0.0	6.4	1.6	0.0	0.0
2011	20	1.8	1.2	0.0	0.0	0.8	0.0	1.0	0.0	0.4	31.2	0.0	0.0
2011	21	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	23	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
2011	24	0.0	0.0	0.0	0.0	0.0	0.0	34.2	0.0	0.0	1.0	0.0	0.8
2011	25	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	32.6	0.0	0.0
2011	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
2011	27	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	28	0.0	1.2	3.4	1.6	0.0	0.0	39.6	0.0	0.0	0.0	0.0	0.0
2011	29	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	2.8
2011	30	0.0		0.0	0.0	0.0	2.8	26.4	0.0	0.0	0.0	0.0	0.0
2011	31	0.0		0.0		0.0		0.4	0.0		0.0		0.0
2012	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	18.0	10.4	0.2
2012	2	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	3.8
2012	3	2.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0
2012	4	0.0	0.0	1.0	0.8	0.0	10.4	0.0	0.0	4.8	0.0	10.4	0.4
2012	5	0.2	0.0	0.0	10.6	0.0	0.0	0.0	0.0	3.4	0.0	5.6	0.0
2012	6	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2012	8	0.0	0.0	0.0	11.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
2012	9	0.0	0.0	0.0	0.0	0.0	2.8	0.0	4.6	0.0	0.4	0.0	0.2
2012	10	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
2012	11	0.0	0.0	0.0	23.0	0.0	0.0	0.0	5.4	0.0	1.0	41.8	0.2
2012	12	0.0	1.0	0.0	0.0	0.0	2.8	0.0	0.0	26.0	0.4	4.2	0.0
2012	13	0.0	0.0	0.0	14.6	13.8	19.0	0.0	0.0	2.6	3.8	0.0	0.0
2012	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6
2012	15	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	19.8	0.0	11.4
2012	16	0.0	0.0	0.0	1.0	12.2	0.0	0.0	0.0	0.0	0.6	0.0	0.0
2012	17	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	18	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	19	0.0	2.2	19.4	18.4	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0
2012	20	0.0	24.0	0.0	2.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8
2012	21	0.0	0.0	0.0	4.0	58.6	0.0	4.2	0.0	0.0	0.0	0.0	7.2
2012	22	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2012	23	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	24	0.0	0.0	0.0	8.0	1.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0
2012	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	26	0.0	0.0	0.0	0.0	3.2	0.0	0.0	1.2	12.8	23.8	0.0	1.8
2012	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9.8	18.4	0.0
2012	28	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	28.4	23.0	0.0
2012	29	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	1.4	0.6	0.0	0.0
2012	30	0.0		0.0	0.0	0.0	0.0	0.0	5.2	6.8	0.0	4.6	0.0
2012	31	0.0		0.0		3.6		0.0	22.6		28.4		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2013	1	0.0	0.0	0.0	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0
2013	2	9.4	40.8	0.0	0.4	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
2013	3	0.0	0.6	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.8	0.0
2013	4	0.0	0.0	0.0	4.6	0.0	0.0	6.4	0.0	0.0	0.0	8.4	0.0
2013	5	0.0	0.0	0.0	25.2	11.8	28.2	2.8	0.0	0.0	3.6	0.2	0.0
2013	6	0.0	0.2	23.2	1.0	3.2	1.4	3.8	0.0	0.0	13.8	0.0	0.0
2013	7	0.0	0.0	11.0	0.0	21.8	0.0	0.0	0.0	0.0	28.0	0.0	0.0
2013	8	0.0	0.0	3.0	3.4	0.0	0.0	0.6	0.0	0.0	6.6	0.2	0.0
2013	9	0.0	0.0	7.8	8.0	0.0	1.8	0.0	0.0	0.0	0.0	2.0	0.0
2013	10	0.0	0.0	0.8	0.2	5.4	0.0	0.0	1.0	6.2	0.2	0.2	0.0
2013	11	0.0	28.0	2.2	0.0	1.6	0.0	1.4	0.0	0.2	0.2	0.0	0.0
2013	12	0.0	0.4	2.0	0.2	5.2	0.0	0.6	0.0	0.0	6.0	0.0	0.0
2013	13	13.4	0.0	19.6	0.0	0.0	0.0	27.4	0.0	0.2	0.0	0.0	0.0
2013	14	9.8	0.0	2.4	0.0	0.0	0.0	0.0	11.6	0.0	0.0	4.6	0.0
2013	15	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	41.6	0.0
2013	16	29.8	0.0	0.0	0.0	33.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0
2013	17	2.6	0.0	8.6	0.0	10.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0
2013	18	0.0	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2013	19	3.8	0.0	0.0	2.4	6.0	0.0	0.0	6.4	0.0	0.0	9.0	0.0
2013	20	14.8	0.2	3.8	3.4	2.0	0.0	0.0	3.8	0.0	25.4	0.4	0.2
2013	21	1.6	6.4	4.2	8.2	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.2
2013	22	6.0	0.0	0.0	20.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
2013	23	8.6	1.4	7.4	6.2	3.4	0.0	0.0	0.0	0.0	4.6	26.4	0.0
2013	24	0.2	3.0	21.0	0.0	25.8	0.2	0.0	6.4	0.0	4.4	0.2	0.0
2013	25	0.0	0.0	35.0	0.0	3.2	13.4	0.0	48.0	0.0	0.0	0.0	3.6
2013	26	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.2	0.0	0.0	0.0	10.8
2013	27	0.0	4.4	0.0	21.4	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0
2013	28	6.8	0.0	19.0	0.6	0.0	11.2	0.0	0.2	0.0	0.0	0.0	0.0
2013	29	0.2		14.0	4.4	14.6	0.0	1.4	0.0	16.2	3.6	0.0	5.0
2013	30	0.0		37.8	0.8	9.8	0.0	0.0	0.0	9.8	0.2	0.0	0.2
2013	31	0.0		7.8		0.8		0.0	0.0		0.0		0.0
2014	1	0.0	11.2	53.4	0.0	0.0	0.0	0.0	0.0	5.4	5.6	0.0	5.4
2014	2	2.8	24.6	14.0	0.0	25.4	0.8	0.0	0.0	0.4	0.0	0.0	0.2
2014	3	1.2	30.6	0.0	0.0	1.2	20.4	0.0	18.4	6.0	0.0	0.0	21.6
2014	4	22.2	24.0	0.0	0.2	0.0	9.0	0.0	0.0	0.2	0.0	0.0	0.4
2014	5	36.2	2.0	0.0	1.0	0.0	0.0	0.0	2.0	3.8	0.0	18.8	0.4
2014	6	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	5.4
2014	7	0.0	2.4	0.0	0.0	0.0	0.0	41.4	0.0	0.0	0.2	0.2	0.2
2014	8	0.0	0.2	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.8	4.0	0.0
2014	9	0.0	6.0	0.0	0.0	0.0	0.0	5.0	28.2	25.6	0.6	0.8	0.0
2014	10	0.0	31.0	0.0	0.0	0.0	0.0	13.2	0.0	24.2	0.0	9.4	0.0
2014	11	0.0	5.4	0.0	0.0		0.0	0.0	0.0	2.4	0.8	1.2	0.0
2014	12	0.0	0.0	0.0	0.0	12.4	1.6	29.4	0.0	9.6	0.0	54.6	0.0
2014	13	0.6	5.2	0.0	0.0	3.4	1.8	7.2	10.2	0.0	40.6	12.2	1.2
2014	14	22.6	0.0	0.0	0.0	0.0	12.4	17.8	1.0	0.0	0.2	0.2	0.6
2014	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.2
2014	16	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	11.4
2014	17	11.2	0.8	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	28.8	
2014	18	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
2014	19	13.6	1.6	0.0	0.0	0.0	0.0	0.0	2.8	14.8	0.0	0.0	0.0
2014	20	2.4	1.8	0.0	0.0	0.0	0.0	0.2	14.2	4.4	0.0	0.0	0.0
2014	21	0.0	2.2	0.0	4.0	0.0	0.0	1.2	13.8	0.0	0.0	0.0	0.0
2014	22	0.0	11.8	1.0	0.2	0.0	0.0	2.2	0.0	8.8	0.6	0.0	0.0
2014	23	1.6	0.0	11.6	0.0	5.0	0.4	0.4	5.4	0.0	0.0	0.0	0.0
2014	24	2.8	0.0	2.2	0.0	0.0	12.8	3.6	0.0	0.0	0.0	0.0	0.0
2014	25	0.0	0.0	0.6		0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0
2014	26	0.0	4.6	0.0			0.0	58.4	0.0	0.0	0.0	0.0	0.0
2014	27	16.8	0.0	0.0		0.4	0.0	0.2	0.0	0.0	0.0	0.2	14.0
2014	28	4.0	0.2	0.0	0.6	5.2	0.0	0.0	0.0	0.0	0.0	7.0	7.2
2014	29	3.6		0.0	17.4	0.2	1.6	5.0	0.0	0.0	0.0	0.0	0.0
2014	30	32.4		0.0	46.4	16.8	1.2	17.2	0.0	0.0	0.0	5.4	0.0
2014	31	20.6		0.0		0.0		0.4	20.8		0.0		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2015	1	0.0	0.0	0.0	0.0	1.6	0.0	0.0	4.8	0.0	0.0	0.0	0.0
2015	2	0.0	0.0	1.0	0.0	0.0	0.0	0.0	4.0	0.0	13.2	0.0	0.0
2015	3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
2015	4	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
2015	5	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
2015	6	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
2015	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
2015	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
2015	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	12	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.2	0.0
2015	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	0.2	0.0
2015	14	0.0	0.4	0.0	0.0	0.0	36.8	0.0	0.0	36.8	12.6	0.0	0.0
2015	15	0.0	0.0	0.0	0.0	4.4	0.2	0.0	2.2	0.0	11.4	0.2	0.0
2015	16	0.0	0.0	19.8	0.0	0.0	5.8	0.0	0.2	0.0	1.0	0.0	0.0
2015	17	0.2	0.0	0.4	2.4	0.0	0.8	0.0	0.2	0.0	0.0	0.0	0.0
2015	18	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
2015	19	0.0	0.0	0.0	0.0	0.0	1.2	0.0	12.8	0.0	3.2	0.8	0.0
2015	20	0.0	0.0	0.0	0.0	0.8	0.0	0.0	7.2	0.0	0.0	0.6	0.0
2015	21	2.4	0.2	0.0	0.0	40.6	0.0	0.0	1.0	0.0	0.0	10.8	0.0
2015	22	0.8	21.0	4.8	0.0	6.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
2015	23	0.0	0.0	0.0	0.0	5.2	6.8		0.0	4.8	0.0	0.0	0.0
2015	24	0.0	0.0	0.0	0.0	0.0	6.4		4.4	4.8	0.0	0.0	0.0
2015	25	0.0	2.0	30.8	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	26	0.0	0.0	16.0	14.4	2.0	0.0	2.4	0.0	0.0	0.0	0.0	0.2
2015	27	0.0	0.0	2.4	17.6	2.2	0.4	4.2	0.0	0.0	0.0	0.0	0.0
2015	28	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.2
2015	29	0.0		0.0	6.2	0.0	0.0	6.4	0.0	0.0	12.4	0.0	0.0
2015	30	10.0		0.0	0.4	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0
2015	31	0.0		0.0		0.0		0.0	0.0		0.0		0.0
2016	1	0.0	0.0	1.2	0.0	13.2	24.4	0.0	1.2	0.0	0.2	0.0	0.0
2016	2	8.4	0.0	0.0	0.0	4.4	18.0	0.4	0.0	0.0	1.0	0.0	0.0
2016	3	13.0	16.4	28.0	0.0	6.0	29.0	0.0	0.0	0.0	0.0	0.0	0.2
2016	4	1.4	0.2	0.0	0.0	0.2	9.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	5	2.6	0.0	12.8	0.0	3.8	1.8	0.0	1.4	0.0	5.8	26.6	0.0
2016	6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.6	1.0	0.2	8.4	0.0
2016	7	0.0	14.0	3.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	8	0.0	6.4	8.0	12.2	0.0	26.8	0.0	0.0	0.0	0.2	0.0	0.0
2016	9	12.2	9.8	0.6	8.8	1.4	11.0	0.0	0.0	0.0	0.0	0.2	0.0
2016	10	0.8	3.6	0.0	0.0	0.4	0.0	0.0	11.2	0.0	0.0	0.0	0.2
2016	11	7.6	0.0	0.0	0.0	21.4	10.6	0.0	0.2	0.0	0.0	8.2	0.0
2016	12	0.0	15.6	0.0	0.0	40.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
2016	13	0.0	0.2	0.0	1.0	0.0	0.4	0.0	0.0	0.0	4.4	0.0	0.0
2016	14	1.6	16.0	0.0	0.6	19.6	19.6	0.0	0.0	0.0	80.2	0.0	0.0
2016	15	0.0	8.6	0.8	0.0	34.0	22.6	7.0	0.0	35.8	2.4	0.0	0.0
2016	16	0.0	10.6	0.0	0.0	5.2	9.6	0.0	0.0	41.0	0.0	0.0	0.0
2016	17	0.0	15.2	0.0	0.0	0.0	2.0	0.0	0.0	2.6	0.2	0.0	0.0
2016	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.2	0.4	22.0	0.0
2016	19	0.0	12.4	0.0	0.0	28.0	2.4	0.0	3.4	0.0	6.2	29.4	0.0
2016	20	0.0	0.4	0.0	0.0	0.0	0.0	0.0	6.0	0.0	10.6	0.0	0.0
2016	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	12.2	0.0	0.8	0.0
2016	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	23	0.0	0.0	0.0	2.8	7.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2016	24	0.0	0.0	0.0	6.4	0.2	0.0	0.0	0.0	0.0	1.8	0.0	0.0
2016	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	3.4	0.0
2016	26	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	22.4	0.0
2016	27	0.0	10.6	0.0	0.0	0.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	28	0.0	21.4	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0
2016	29	0.0	30.8	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	30	1.4		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	31	0.0		0.0		3.0		0.4	0.0		0.0		0.0

**ESM 23.** ARPAV Botanical Garden Raw Precipitation Data (mm): 1997-2018  
 (Attribution should be given to this paper and to ARPAV)

year	day	month											
		1	2	3	4	5	6	7	8	9	10	11	12
2017	1	0.0	2.0	2.0	0.0	7.4	0.0	0.6	0.0	43.6	4.2	0.0	0.2
2017	2	0.0	1.8	0.0	0.2	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
2017	3	0.0	5.2	0.0	0.0	1.8	7.4	0.0	0.0	1.2	0.0	0.0	0.0
2017	4	0.0	11.8	1.2	7.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	5	0.0	30.6	0.4	5.2	0.2	0.0	0.0	0.0	0.0	0.0	7.8	0.0
2017	6	0.0	24.6	0.2	0.0	13.6	0.0	0.0	1.4	0.0	1.8	0.0	0.0
2017	7	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	5.2	0.0	27.8	0.0
2017	8	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	7.0
2017	9	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	8.2	0.0	0.2	0.4
2017	10	0.0	0.0	0.0	0.0	3.2	0.0	0.0	1.2	24.0	0.0	0.0	11.6
2017	11	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	6.4	0.0	0.0	7.0
2017	12	1.8	0.0	0.0	0.0	1.4	0.0	0.0	0.0	10.4	0.0	0.0	3.4
2017	13	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.2
2017	14	0.0	0.0	0.0	0.0	2.2	0.8	6.2	0.0	0.4	0.0	0.0	1.0
2017	15	0.0	0.0	0.0	12.2	5.6	0.0	0.0	0.0	11.2	0.0	0.0	0.0
2017	16	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	2.8	0.0	0.0	1.8
2017	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
2017	18	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
2017	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	13.2	0.0	0.0	0.0
2017	20	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	22	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1.4	0.0	0.0
2017	23	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	24	0.0	1.0	0.0	0.0	0.0	0.0	11.8	0.0	5.8	0.0	0.0	0.0
2017	25	0.0	0.0	0.0	0.0	0.2	18.2	5.8	0.0	0.0	0.0	4.8	0.0
2017	26	0.0	0.0	6.8	14.0	0.0	0.0	0.2	0.0	0.0	0.0	19.4	0.0
2017	27	0.0	0.0	0.0	24.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	12.4
2017	28	0.0	2.2	0.0	1.2	0.0	18.0	0.0	0.0	0.0	0.0	0.2	5.6
2017	29	0.0		0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	2.6	0.0
2017	30	0.0		0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.4	2.8	0.0
2017	31	4.2		0.0		0.0		0.0	0.0		0.0		0.0
2018	1	11.6	4.2	3.8	0.2	1.8	0.0	0.2	0.0	28.0	53.0	14.8	0.0
2018	2	0.0	12.6	4.6	0.0	4.8	0.0	0.0	16.8	2.8	0.8	5.4	0.0
2018	3	0.0	10.6	8.8	0.2	17.8	0.4	0.0	0.0	8.4	0.0	0.0	0.0
2018	4	0.0	0.0	0.0	6.2	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2018	5	0.0	0.0	8.0	4.0	0.0	2.8	1.6	0.0	0.0	0.2	15.6	0.0
2018	6	0.0	2.6	5.2	0.0	0.0	0.0	0.0	0.0	6.4	18.0	0.2	0.0
2018	7	0.2	6.2	1.4	0.0	0.2	17.0	0.0	0.0	10.0	0.0	0.6	0.4
2018	8	0.4	0.0	0.0	0.0	0.0	32.2	3.8	19.6	0.0	0.0	0.0	9.0
2018	9	8.0	0.0	0.0	0.8	0.0	0.0	0.0	1.6	0.0	0.0	0.2	0.0
2018	10	0.0	0.0	0.0	3.0	2.6	0.0	3.6	0.0	0.0	0.0	0.4	0.0
2018	11	0.0	0.0	35.6	7.0	0.0	0.0	11.8	0.6	0.0	0.0	0.2	0.0
2018	12	0.0	6.0	0.6	13.0	3.2	7.6	0.0	0.0	0.0	0.0	0.0	0.0
2018	13	0.0	0.0	0.0	0.2	36.4	0.0	0.6	8.0	0.0	0.0	0.0	0.0
2018	14	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.8	0.2	0.0	0.0	0.0
2018	15	0.0	0.0	22.2	0.0	0.0	0.0	14.8	0.0	16.6	0.0	0.0	0.0
2018	16	0.6	0.0	5.0	0.8	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0
2018	17	0.0	0.4	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2018	18	0.0	4.8	17.2	0.0	0.2	0.0	0.0	0.0	2.8	0.0	0.0	0.0
2018	19	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
2018	20	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0	0.0	0.0	7.8	6.4
2018	21	0.0	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	0.2	0.2	0.0
2018	22	0.0	9.8	0.0	0.0	18.8	8.4	55.8	0.0	0.0	0.0	0.8	0.0
2018	23	0.0	10.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	16.4	0.0
2018	24	0.0	2.6	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	12.0	0.0
2018	25	0.0	0.0	0.0	0.0	0.0	5.0	0.0	29.6	0.0	0.0	6.0	0.2
2018	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	4.0	0.0
2018	27	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.6	0.0
2018	28	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	3.0	0.0	0.2
2018	29	0.0		1.2	0.0	0.2	0.0	0.0	0.0	0.0	45.6	0.0	0.0
2018	30	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0
2018	31	0.2		16.4		1.4		0.0	12.4		0.2		0.0