

***Interactive comment on* “Technical note: Space-time analysis of rainfall extremes in Italy: clues from a reconciled dataset” by Andrea Libertino et al.**

Anonymous Referee #1

Received and published: 21 January 2018

The manuscript presents the Italian Rainfall Extreme Dataset (I-RED) of annual maxima values for 1-3-6-12 and 24 hours duration together with an exploratory statistical analysis of Italian annual maxima. The authors report in detail: (i) the efforts needed to collect the datasets from the complex universe of Italian institutions that are responsible for managing the measurement network; (ii) the techniques used and the choices made to merge the datasets into I-RED. Standard statistical techniques have been used for the statistical analysis and, as far as I can judge, without major flaws.

The presentation of the manuscript is clear and concise. The authors credit the sources of the data (even for those 12 Institutions out of 21 which have not yet provided data,

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see Table 1, “Under request” under the column “Digitized data availability”).

The potential of I-RED for both research and risk management/reduction is clearly evident and it is a pity that it cannot be made freely available because of the data policies of some of the institutions involved (as written in the paragraph “Data availability”). There are some questions I was left with after having gone through the manuscript about I-RED data policy and availability. In my opinion, this is the main limitation of your technical note. A little more detail on this major concern is below.

My advice to the editor is to accept the manuscript for publication with only minor revisions.

Major Comments:

- Data policy 1. The I-RED data policy is not clearly specified while it must be clearly presented to the reader both in the main text and briefly mentioned in the abstract too. The authors’ work is valuable for the research community and the society whether I-RED could be made totally public or not. However, I believe most readers would be interested in knowing if I-RED is accessible in total or only in part. For instance, could you add a column to Table 1 to make it clear if you are allowed to re-distribute the data through I-RED? Is there any website where the reader could access the public part of I-RED?
- Data policy 2. You made clear in the manuscript that I-RED is related to CUBIST, which can be accessed on the polito website and as you write it is “first important attempt of making the large Italian hydrological heritage freely available in computer-readable format” (page 2, line 19). My question is: why CUBIST data is freely available and I-RED data has restricted access?
- Data policy 3. How could you reconcile these two statements: (1) page 2 line 27 “...the Italian law adopted an Open Source policy for the public data...” and (2) your statement on “data availability” where you write that you have signed

agreements with the data provider (which are all public institutions) that restrict the use of the data to the aims of your project? In my view, if you get the dataset only after signing an agreement that limit the use of a dataset then the dataset is not openly available (by definition).

- Conclusions and Future plans. Page 10, line 14. “The final aim is to make the update of the database systematic and unsupervised.” A few words on how the authors plan to achieve the goal would do here. In particular, if the author could present any link with national and/or international project /ctivities this would strengthen their statement. For example, I’m aware of initiatives aimed at collecting Italian datasets such as ArcIS (<https://www.arcis.it/wp/en/home-2/>) or ISPRA-SCIA (http://www.scia.isprambiente.it/home_new.asp). Do the authors have any contact with them? In particular, it seems to me that ISPRA-SCIA is doing a work on the establishment of a national database that is very similar to I-RED, though mostly for aggregated values. Do you plan to join your efforts with other institutions? Do you have any contact with international institutions? There are several ongoing projects at an international level to collect and organize in-situ observations (See for example COPERNICUS: <https://climate.copernicus.eu/global-land-and-marine-observations-database>)

Minor Comments:

- Figure 2. Panels b and c shows exactly the same histogram. Please, check it.
- Figure 4. Excellent Figure. Page 8, lines 7-8 (“When short...appears.”). I agree with your statement, nonetheless this could also be an artifact due to the color scale chosen. Is there any particular reason for your choices of min/max values for color scale of the different durations? Does the min/max values correspond to any percentile of the distribution of values, for example?

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-752>, 2018.

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