Hydrol. Earth Syst. Sci. Discuss., 11, C3909–C3911, 2014
www.hydrol-earth-syst-sci-discuss.net/11/C3909/2014/

Hydrology and Earth System Sciences
Discussions

Interactive comment on "The "Prediflood" database of historical floods in Catalonia (NE Iberian Peninsula) AD 1035–2013, and its potential applications in flood analysis" *by* M. Barriendos et al.

Ph.D. Elleder (Referee)

elleder@chmi.cz

Received and published: 19 September 2014

General evaluation: This paper presents a sophisticated system for gathering and archiving data and information on historical floods in Catalonia. It includes techniques for verification and assessment of the data. Such an elaborate system, according to my opinion, has currently no parallel in Europe and it represents a complex tool for a reliable and high-quality processing and evaluation of historical data in hydrology. An effort to catalogue floods since the 10th century until now is undoubtedly appreciable. A

remarkable feature of this system is its division into three types of flood reconstruction: hydraulic, hydrological, and meteorological. Particularly, for remarkable I consider, that the hydrological reconstruction aims to obtain a hyethograph of the rainfall. This conception somewhat differs from an approach to reconstruction of historical flood events in Central Europe and perhaps elsewhere as well. The Prediflood is a new tool. It would be beneficial if the authors clarified when this system started to be formed, what organization or institute runs it, and if it is opened for professionals from elsewhere, like for example a British database (www.trp.dundee.ac.uk/cbheelcome.htm).

Specific comments and points to be addressed: The authors should explain the acronym "Prediflood". The authors should specify in more detail in what sense they use the term database. I wonder to what extent the Prediflood database can be considered a database in its narrow meaning– is that the data are stored by some kind of software application such as Oracle, Dbase, Paradox, Access, etc.? After reading the manuscript I believe it is rather a project or system for archiving all information on historical floods, its digitization and storage in database, and original methods and approaches using software such as HEC RAS, HEC HMS. The authors should consider if the term Prediflood System or Catalogue or Archive should not better entitle their tool. Page 7946, l. 10–15. Flood event is determined by Event Code – YYYY-MM. Regarding the example used in text – the flood event on the Ebro river in October 8–9. The Flood event code is identified by year and month. Does such a system enable us to enlist several floods if they occurred during one month? Please clarify this. To one Flood case more documentary sources (more information in chronicle, newspapers, etc.) are likely to relate. For example more primary sources are likely to be related to the Flood case in the town of XERTA 1787 October 8. I assume that the database enables to attach more documentary sources related to one Flood case. Am I correct? Does hydraulic or hydrological reconstruction deal with travel-times of the flood discharges (peaks)? If it is the case, the authors should indicate this in the manuscript. I wonder how many flood events out of the total number of 1103 were reconstructed hydraulically or hydrologically and if the results of these reconstructions are included in

the database. I am missing any information on available systematic hydrological measurements and data (short information on beginning, length of the data series, etc.) in Catalonia. Is there a relation or link between the Prediflood database and a database of instrumental hydrological data (if such a database exists in Catalonia, which I assume). Table 1 – the information presented by the table should not be presented randomly – rather it should be arranged according to a certain criteria, I am missing this point here. Does the database use the hydrological coding? Minor corrections Page 7973 Fig. 4 Hi[y]drological reconstruction Page 7971 Fig. 2, clarification of descriptions is needed

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 7935, 2014.