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Hydrology and Earth System Sciences Discussions

Interactive comment on "Hydrology of the Po River: looking for changing patterns in river discharge" *by* A. Montanari

Anonymous Referee #1

Received and published: 8 July 2012

Thank you for the opportunity to review the paper titled "Hydrology of the Po River: looking for changing patterns in river discharge." I found the paper to be well-written and the topic of detecting and understanding log-term changes in discharge is of great interest to the hydrology community. The presentation of the results as animations was particularly clever and useful.

I feel that the manuscript could be published in its present form but there are several comments that I occurred to me as I read through the text.

1) p. 6691, lines 15-17: What is being defined here as a flood in the Po River basin? Is there a threshold approach which determined the definition of a flood event or a geomorphic feature which defined the floods in this basin that are referenced in this

paragraph?

2) p. 6692, lines 7-8: The authors may want to consider referencing Cohn and Lins (2005) Geophysical Reseearch Letters paper titled, “Nature’s style: Naturally trendy” (Vol. 32, L23402, doi:10.1029/2005GL024476).

3) Section 3.1: Although an earlier description of the anthropogenic influences in the basin is given for the Po River, please provide some additional detail of the anthropogenic influences in the tributaries that were examined as part of this study.

4) p. 6695, lines 9-17: The text in this section is a bit awkward. Could you report the p-values associated with these tests? I had to reread these sentences several times to understand the point that is being made here. Consider moving lines 19-26 to the beginning of the paragraph.

5) Section 3.2, last paragraph: This is a very important point that is made by this manuscript.

6) p. 6699, lines 1-4: I would think that there would be memory associated with streamflows on the same day of previous years, particularly if there is a strong seasonal signal in the data. I wonder if the author could add more explanation as to why one would expect no memory.

Editorial changes:

p. 6693, line 14: Remove “an”

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