

Interactive comment on “A climate-flood link for the lower Mekong River” by J. M. Delgado et al.

Anonymous Referee #1

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Recommendation: Major revision

General comments

This paper performs wavelet analysis on streamflow data from 8 gauging stations on the Mekong River. The resulting patterns are compared to climate mode indices and inferences are drawn with regards to the importance of these modes in determining streamflow.

I have insufficient background to assess the appropriateness or merit of the wavelet analysis methods applied, nor do I have sufficient background in the nature of the monsoon-ocean interactions in this regions – hopefully other reviewers are able to comment on these.

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I can however comment on the hydrological aspects of the analysis and the overall presentation. On the basis of this, I recommend major revisions are required. My main issue is that the m/s is not sufficiently structured for me to distinguish literature review from new analysis, and results from discussion and conclusions. I found it confusing and sometimes unpleasant to be confronted with ad hoc interpretation of the results using literature not introduced before. As a consequence I was also unable to assess if this ms makes a new scientific contribution. This needs to be improved. In particular, a review of knowledge is needed upfront so that the reader has the same background as the authors and can agree with the (currently implicit or ad hoc introduced) a priori expectation and hypothesis, before being presented with the experiment and its results. As far as I can judge a conventional structure would work fine for this m/s. At the face of it, the following parts should be part of an introduction and/or review section (10132/825, 10133/22-10134/4, 10134/20-26, 10136/1-16, 10135/18-27, 10137/14-21), methods (10134/5-11), results (10132/26-10133/20, 10134/12-19, 10136/3-13) and discussion (10136/14-17, 10137/22-18).

Specific comments

Although the m/s is generally well written, there are some wrong turns of phrase and word uses. These include ‘at the first sight’, ‘disposition’, ‘severity’, ‘what concerns’, ‘continuous variation’.

10126/10) why would the annual temporal resolution not logically contain most of the interannual variability?

10126/21) Mekong River

10127/26) do they evaporate or do they carry moisture

10128/21) grammatical error

10128/23) Pls explain how they showed that.

10128/24) ‘in the frequency space’ pls rephrase

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10129/7) Obviously solar radiation acts at every time scale but that is probably not what you mean.

10129/9) There are others ocean circulation patterns beyond ENSO – you invoke on them. Pls review the relevant ones.

10129/10-13) This strikes me as your objective. There is no explicit hypothesis so you will need to explain (in the discussion and conclusions) what significant new insight your study offers in this regard.

10129/22-24) I admit ignorance when it comes to wavelet analysis but I am sure you can explain it better and with less jargon.

10130/21) Surely that must be a sweeping generalisation. 'Can be skewed' maybe?

10131/4) 'maximum' over a particular integration time (e.g. daily) or instantaneous?

10131/23-24) This does not get explained until later. Pls reorganise.

10131/23-24) include period (1924-2001?)

10132-1) rephrase; nothing can be "normally anomalous" Also needs a reference.

10134-24) which paper do you mean? The link between PDO and ENSO and between ENSO and IOD will need some discussion.

10134-27) 'large amount' pls

10138/12-13) 'to be expected' and 'increases' rather than 'grows'.

10138/13-15) Sounds like it could be a useful contribution but needs more discussion.

10139-9) 'we abandon the concept of stationarity' sounds grandiose. What are you trying to say? Stationarity is never more than a working assumption, and obviously any link to PDO makes that assumption untenable at decadal time scale.

10139-13) 'sufficient' pls. Also, long model runs require long climate time series. Do

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they exist?

10139-17) maybe 'likely' but not 'certain'.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10125, 2011.

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