

## ***Interactive comment on “El Niño-Southern Oscillation and water resources in Headwaters Region of the Yellow River: links and potential for forecasting” by A. Lü et al.***

**A. Lü et al.**

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Received and published: 12 March 2011

Anonymous Referee #1 Received and published: 1 December 2010 General comments:

The paper under review investigated the relationship between ENSO and rainfall and runoff at the Headwaters Region of the Yellow River, by using cross-correlation analyses. This study concludes that ENSO may have potential to be a powerful forecast tool for water resource in the study area. This is an interesting and comprehensive ENSO and water resource impact study. The results are useful in water resource manage-

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ment in the Yellow River region. I recommend the ms to be published after moderate revision.

Res: We thank the reviewer for the appreciation of the work.

Detail Comments:

1. Page 8524, paragraph 2 should be combined into paragraph 3.

Res: According to your suggestion, we have integrated paragraph 3 with L5-L11 of paragraph 2.

2. There is a need to explain the objective 2 more in the result.

Res: Thank you very much for this comment. In the result section, we have added a sub-section named “Potential for forecasting of water resource in HRYR using ENSO indicators” to explain the objective 2 in the revised manuscript.

3. More discussion should be given to examine the relationship between precipitation and runoff?

Res: In the revised manuscript, we combined the result section and discussion section into one section named “Result and discussion”. In the first sub-section of “Result and discussion”, we presented and discussed the relationship between precipitation and runoff detailed.

4. Page 8529, line 15 should be deleted.

Res: Following your suggestion, Line 15 had been deleted in the revised manuscript.

5. Page 8529, line 16 should be moved to introduction section.

Res: Following your suggestion, Line 16 had been move to the end of 4th paragraph of introduction section.

6. In the discussion section, more discussions are needed to show the meaning the work.

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Res: In the revised manuscript, we add a paragraph in the 4th sub-section of section "Result and discussion" to discuss the meaning the work.

7. How are the results in the paper compared to other studies mentioned in the ms?

Res: Other studies, i.e. Wang et al., 2001; LAN et al., 2002; Wang et al., 2006, mentioned in the manuscript just qualitatively discussed the relationship between ENSO and abundant or low runoff of HRYR. The temporal resolution of these studies is year. In our studies, we try to quantify the relationship between periodical stream flow and ENSO indicators through cross-correlation analysis. The temporal resolution of our study is month.

8. Please rewrite the sentence in page 8530, line3.

Res: We have rewritten the sentence as: Monthly streamflow in JFM was also significantly correlated with periodical SOI from April to September of the previous year.

9. The conclusion includes the discussion, which should be moved to discussion section.

Res: the main means of 2th paragraph of the conclusion section is to discussion the limitation of the studies and perspective of the future work. In the revised MS, we modify the section tile as "Conclusion and perspective"

10. The figure capitations in Fig.2 and Fig.3 are mixed up?

Res: Yes, figure caption of Fig.2 and Fig.3 are mixed up. We have corrected in revised MS as following: the caption of Fig.3 is "Average monthly streamflow hydrographs of headwaters region of the Yellow River" and the caption of Fig 2. is "Average monthly rainfall of headwaters region of the Yellow River."

Other minor comments: There are many syntax and punctuation errors in the paper. Please check the ms carefully and revised them,

Res: In the revised manuscript, the language was improved greatly as we paid much

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more attention to the revision of text and asked scholar from English-speaking countries to help revise the language.

such as page 8525, line 13: "are shown" into "show"

Res: We have revised "are shown" into "show" in the revised MS.

page 8526, line 14: "indicators" into "indicator"

Res: We have revised "indicators" into "indicator" in the revised MS.

page 8528, line 1: "are" into "is"

Res: We have revised "are" into "is" in the revised MS.

page 8528, line 5: "achieve" into "achieved", line 15: "shown" into "showed"

Res: We have revised "achieve" into "achieved" in the revised MS.

page 8531, line 18, "got" into "get"

Res: We have revised "got" into "get" in the revised MS.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 8521, 2010.

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