

## ***Interactive comment on “Effects of water discharge and sediment load on evolution of modern Yellow River Delta, China, over the period from 1976 to 2009” by J. B. Yu et al.***

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Received and published: 16 July 2011

### General comments

This paper studied the yearly change in runoff and sediment load discharged into sea from the Yellow river, the second longest river in China using GIS technique and relationship between sediment accumulation rate and shoreline length and area of modern Yellow River delta during period of 1976–2009. The contribution of this paper clearly showed the trend of runoff and sediment load discharged into sea from the Yellow river. The study method is sound and obtained data is rather reliable. The paper is at present well written. So I recommend it for publication after minor revision.

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R: Thanks a lot.

### Special comments

Some minor revisions:

Q1. P4114 line 24, please choose one expression, Gt or 109 in the whole paper.

R: Thanks. The unit of “Gt” has been changed to “109 t” in the revised manuscript.

Q2. P4118 lines 13-15, please show relation coefficients between land creation speed and annual discharges of sediment and runoff in the Yellow River Delta.

R: Thanks. The relation coefficients between land creation speed and annual discharges of sediment and runoff has added in new version. The sentence was changed into “There were close positive relationships between land creation rate and accumulated discharges of sediment ( $R=0.96$ ,  $p<0.01$ ) and runoff ( $R=0.95$ ,  $p<0.01$ ) in the Yellow River Delta, and both the changes over time kept synchronization.”

Q3. It will better if authors could clearly explain the decrease of sediment load discharged into sea from the Yellow river was due to a reduction of runoff or silt content in river water.

R: Thanks for the suggestion. The variations of runoff and sediment load discharged into sea were showed in Fig. 2a, b and the their relations were showed in Fig. 3c. Please see section 3.1 of manuscript for detail discussion. Although the silt content change in the manuscript was not explained because short of data, we are sure that it does not affect the main conclusions and integrity of the manuscript.

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Interactive comment on Biogeosciences Discuss., 8, 4107, 2011.

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