

Abstract Submitted  
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**Sediment transport dynamics of a river network in a long period<sup>1</sup>**

JIE HUO, RUI HAO, XU-MING WANG, Physics and Electric Information Sciences, Ningxia University, Yinchuan 750021, P.R. China, COMPUTATIONAL & NON-LINEAR PHYSICS STUDIO TEAM — A sediment transport model that connects a lower-water season to the higher-water season is suggested to study the dynamics in a long-term evolution process. The model is based on the feedback mechanism between sediment-carrying capacity of stream and erosion-deposition state of channels. It is checked by comparing the simulated results with the observed data of the Yellow River. The comparison can be conducted in two aspects. One is the comparison between the model results on every segment and the real results; the other is the estimation whether the variation trends of the calculated results are qualitatively in accordance with that occurred in the natural river network. The comparisons show that our model is reasonable. The detail of the dynamics manifests that the model can generate the general inherent characteristics of a real river network as it passes through a lower-water season to the higher-water season. This might provide us with a new visual angle for the researches in some related fields.

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