

# Xianyuan Bao

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## EDUCATION BACKGROUND

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**M.S. of Engineering, River Dynamics**

*Sep 2023 – Present*

*School of Civil and Hydraulic Engineering, Ningxia University*

**B.S. of Engineering, Building Environment and Energy Application Engineering**

*Sep 2018 – Jul 2022*

*School of Energy and Environment, Zhongyuan University of Technology*

## PROJECT EXPERIENCE

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*[Host]* **Coupling mechanisms of water-sediment-ecology-economy system in the Yellow River Basin based on multi-agent modeling**

*Postgraduate Innovation Project of Ningxia University (Grantee: Xianyuan Bao, 6,000 CNY)      2025 – Present*

This project aims to construct a coupling model of hydrological processes-vegetation succession-industrial activities, and deconstruct the complex mutual feedback mechanism of water and sediment migration, vegetation succession and industrial activities in the basin. Building upon my previous NSFC research on water-sediment-economy interactions, this work provides critical theoretical support for future watershed management strategies.

*[Participate]* **Coordination mechanism and regulation strategy of multiple processes of water-sediment-ecology economy system in the Yellow River Basin**

*NSFC Programs for Joint Funds (Grantee: Prof. Enhui Jiang, 11,720,000 CNY)      2023 – Present*

The project explores the feedback mechanisms between environmental changes and socio-economic dynamics, with implications for long-term sustainable development in the region. As a key participant in this interdisciplinary project, I am mainly responsible for the research on the threshold for the development and utilization of water and sediment resources in different areas of the Yellow River Basin.

## PUBLICATIONS

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- [1] **Bao, X.**, He, J., Wang, Z., Zhang, D., and Cui, X. (2025). “Research status, challenges and prospects of the utilization of Yellow River sediment resources.” *Journal of Sediment Research*, 50(04), 73-80.

## PROFESSIONAL PRESENTATIONS

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*[Oral Presentation]* **Co-evolution mechanism of water-sediment resources and economic development from a governing perspective in the Yellow River Basin.**

*National Academic Forum for Hydraulic Engineering Postgraduates, Wuhan, China*

*May 29, 2025*

*[Oral Presentation]* **A cross-scale coupling study on water-sediment and economic development in the yellow river basin based on urban agglomeration scale.**

*2nd Hydrological Process Forum, Guangzhou, China*

*Apr 20, 2025*

*[Oral Presentation]* **Cross-scal ecoupling of water-sediment resources and socio-economic system interactions in the Yellow River Basin over different periods.**

*Innovation Academic Forum of Faculty of Engineering and Geography NXU, Yinchuan, China*

*Oct 17, 2024*

## HONORS AND AWARDS

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*2nd prize in the 11th China College Students' Statistical Modeling Competition*

*Aug 2025*

*3rd prize in National Academic Forum for Hydraulic Engineering Postgraduates*

*May 2025*

*2nd prize in Innovation Academic Forum of Faculty of Engineering and Geography NXU*

*Nov 2024*

*Merit Student of Henan Province*

*Oct 2021*

*2nd prize in China Undergraduate Mathematical Contest in Modeling*

*Dec 2020*

## GRANTS AND SCHOLARSHIPS

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*Postgraduate Innovation Project of Ningxia University (6,000 CNY)*

*May 2025*

*Ningxia University Scholarship (3,000 CNY)*

*Nov 2024*

*Zhongyuan University of Technology Scholarships (once 2nd & twice 3rd prize, 2,000 CNY)*

*Dec 2018 – Dec 2021*

## OTHER EXPLORATIONS

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*[Participated]* **Field trip of watershed planning and management**

*Tsinghua University funded exploration*

*Jun 30, 2024 – Jul 06, 2024*