

Interactive comment on “A novel causal structure-based framework for comparing basin-wide water-energy-food-ecology nexuses applied to the data-limited Amu Darya and Syr Darya river basins” by Haiyang Shi et al.

Anonymous Referee #1

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This paper presents a study of complex water-energy-food-ecology nexuses at two river basins in Central Asia. The authors used the Bayesian network to analyze the causality of the nexuses. The results indicated that the water management conflicts between downstream countries may turn into a long-term chronic problem. It is necessary to promote water conservation practices and strengthen cooperation between countries. The manuscript is on a topic of interest to the audience of HESS. I only have a few minor comments that I hope the authors could address in their revision.

Specific comments:

C1

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1. Section 2: Please add some references to support your proposed framework.
2. Fig. 3: Please identify the upstream and downstream areas in the map.
3. Section 4.1: This part could be elaborated to include more details. How well does the model capture the key causal links in the system? What are the limitations of the model?
4. Section 4.3: This part could also be elaborated. The authors may add discussion about the outcome of each management scenario and propose new water management strategies based on the scenario analysis results.

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