

Reply Letter

Title: Water sharing policies conditioned on hydrologic variability to inform reservoir operations

Author(s): Guang Yang and Paul Block

MS No.: hess-2021-72 **MS type:** Research article

Comments to the Author (pdf):

1. Line 64-65: Remove brackets.

Reply: Thank you for your comments. The brackets have been removed.

2. Line 122: “mm” -> “mm/yr”?

Reply: Thank you for your comments. It has been corrected in the revised manuscript.

3. Line 125: “km3” -> “km3/yr”?

Reply: Thank you for your comments. It has been corrected in the revised manuscript.

4. Line 288, 302, 320, 321, 365: “BCM” -> “BCM/yr”?

Reply: Thank you for your comments. The “BCM” throughout this paper have been replaced with “BCM/yr” in the revised manuscript.

5. Line 317: “Comparing across rule types, rules with high mean output generate more hydropower mainly in wet years”. Mean output of what?

Reply: Thank you for your comments. The mean output is the mean of power generation outputs (MW). It has been noted in the revised manuscript as below.

Comparing across rule types, rules with high mean output of power generation generate more hydropower mainly in wet years

6. Fig. 8: Is the Y axis referring to water release of inflow? Not clear from annual streamflow label.

Reply: Thank you for your comments. The Y axis refers to reservoir water release and inflow. We have changed the label of the Y axis to “Reservoir water release and inflow (BCM/yr)” in the revised manuscript.

Non-public comments to the Author:

1. Line 294-295 and 346 refer to Figures in Appendix S1 which is not included in the manuscript.

Reply: Thank you for your comments. All the figures in Appendix S1 were attached as “Supplement”, they have been included in the section “Appendix S1: Supplemental Figures” of the revised manuscript.

2. The paper frequently gives volume of water in storage, and volume of water flowing. When giving volumes of water flowing, or fluxes the author should explicitly indicate this, e.g. 49 BCM/yr and not 49 BCM. Readers easily get confused with this.

Reply: Thank you for your suggestions. All volumes of water flowing throughout this paper have been explicitly stated, e.g., by replacing the “BCM” with “BCM/yr”.

3. The above applies when stating annual rainfall, e.g. 1800 mm/yr and not 1800 mm

Reply: Thank you for your suggestions. This has been corrected in the revised manuscript.

4. The abbreviation BCM should be defined. This is not a commonly used and well known abbreviation

Reply: Thank you for your suggestions. The abbreviation “BCM” has been defined when it is first used in the revised manuscript as below.

reservoir inflow values below the historical average (approximately 49 billion cubic meters per year, BCM/yr)