

Interactive comment on “Annual variation characteristics of Eurasian hydrologic elements and their linkage with climate and environment changes during 1951–2015” by Jia Qin et al.

Anonymous Referee #2

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This manuscript analyzed the variations and the zonal differences of hydrological elements in Eurasia, and their causes during the recent few decades. I found the analysis results are interesting and believe that it would add useful information on water resource changes in middle and high latitudes of Northern Hemisphere. However, in my opinion, some revisions to the manuscript are needed, most of which are editorial, but also including the addition of some explanatory text.

— Section “Introduction” It well introduced the research status and progress of Eurasian hydrology in this part, and the corresponding shortcomings were also pointed out.

C1

— Section “Materials and methods” I recommend to add a map to show the locations of the river basins, which could be a supplement to table 1, and I think it could effectively enhance the understanding of the study. In addition, more data descriptions should be added in the section, such as evaluation of the data quality.

— Section “The results” The analysis in this part is credible, but the descriptions or presentation in some sentences should be revised according to the Figures. For example, there has some data lose in Figure 10, would it impact the trend conclusion of that part? The authors should detailed analyse and clear it in the text.

In section 3.4, the energy and water balance was considered to analyse the reason for river discharge variations. I suggest add trend lines in corresponding Figures or address some words in text to clear the trends of each energy budget. I think it would help to understand the discussion of this section.

—In addition, I’ve made some corrections of English writing, the major ones, but the manuscript still needs throughout edit on English.

Some edits:

Line 30: replace “nutrients” with “nutrient”

Line 49, 51 and throughout the text: replace “analyze” with “analyse”, and replace “analyzed” with “analysed” to make the writing consistent in the whole text

Line 61: replace “kilometers” with “kilometres”

Line 64: replace “analyzing” with “analysing”

Line 93: should read SPSS (Statistical Product and Service Solutions) software

Line 105,108,111, 189, 195, and Table 1: replace “altitudes” with “latitudes”

Line 108: replace “R2” with “R²”

Line 150: should read “freeze-thaw”

C2

Line 177: replace “Yenieseï” with “Yenisei”

Line 197: replace “Rs” with “Hs”

Line 206, 235, and 245: should read “significantly”

Line 209: should read “Rn, mainly”

Line 446: replace “that” with “which”

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-626>, 2019.