

Interactive comment on “The Potential of Integrating Landscape, Geochemical and Economical Indices to Analyze Watershed Ecological Environment” by Huan Yu et al.

Anonymous Referee #1

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Main Comments:

The ecological structure and process are oversimplified, and there is lack of theoretical derivation of the relationship among

different factors affecting the ecological structure and process. How can they be measured? What hypothesis can be made

about the relationship that can lead to empirical test?

How big is your sample size? 9 or 30? Sufficient enough for meaningful statistical analysis?

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For regression analysis, the technique is abused by simply regressing one variable on another variable? Any theoretical

model that can guide your model specification? any omitted variable bias? How to deal with colinearity?

Is there any empirical studies in the literature that also attempted to explore the relationship using similar or different

approaches that your study can build on?

Careful english proof reading is needed.

Specific Comments:

On line 32, what is SHDI and IJI? explain them in their first appearance.

On line 33, population and population density are social or socio-economic indicators

Lines 47-50, rephrase the sentence that is unclear.

Lines 50-52, rephrase the sentence that is unclear.

The introduction is too long, with different concepts scattered, lacking of coherence and integration

Section 2.2.4. For landscape pattern metrics, I would suggest to use a table to describe the indices rather than text.

Line 279, population is also considered an indication for measuring economic health and living standard? If this is true,

countries with the highest or lowest population would be most economically health or highest living standards, depending on

relationship mapping?

Line 438-440. You simply did a correlation analysis, how can this statement be sup-

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ported? Can the correlation between those indices be sufficient enough to "explain" the regional ecological status and process? the cause-effect relationship? Any

missing variables or factors?

Line 498-500. Not convincing that the ecological status and process of the watershed can be explained by the simple

correlation analysis. See above comments for reason. Lack of a theoretical reasoning and model derivation, simply collecting

some data and doing correlation analysis cannot sufficiently support your conclusion.

Line 506-511. this is obvious, which also explains why you have R^2 close to 1. I doubt any value for this correlation

analysis.

In the final paragraph, a question arises regarding the value and theoretical contribution of the study: sufficient enough

for scientific publication or just a class room exercise on correlation analysis?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-408>, 2018.

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