Paper Entitled: Co-evolution of volcanic catchments in Japan
Author: T. Yoshida and P. Troch
Manuscript no.: HESS-2015-372

Recommendations:
In this paper authors have used 14 volcanic catchments in Japan corresponding to different ages and derived indices of geomorphological properties (such as drainage density) and hydrological responses (e.g., flow duration curve, baseflow index and annual water balance). They report significant correlation between drainage density and baseflow index with age, and suggest younger catchments have lower peak flows and higher low flows whereas older catchments have flashier runoff. In general, the paper is written well. However, I feel, it lacks some physical interpretations and details where needed specifically related to geomorphology which I think if added can increase the impact of the paper. Given the data and methodology employed, the article is relevant to the journal, but some changes and clarifications ought to be made prior to its publication.

Here are my specific comments on the same:

- Are these catchments studied here at (dynamic) steady state?
  - Line 21: How is it related to steady state? Is it implied here that for those basins whose drainage density does not change with age, they achieved steady state?
- It might be useful to compare, for e.g., slope-area relationship of catchments from Jefferson et al 2010 (Oregon) with catchments from this study. This may shed some more light to the discrepancy observed between Jefferson et al 2010 and this study, since except the oldest basin (HAZ) from this study all other catchments approximately fall in the range of ages studied in Jefferson et al. 2010. Also, drainage density alone may not be sufficient to characterize relationship between hydrology and geomorphology (which is the major goal of this study) for these catchments, and I think, slope-area relationship will be able to better characterize physical processes/ mechanisms governing the evolution of these landscapes.
- Do these volcanic landscapes have distinct slope-area relationships than other soil-mantled landscapes?
- Line 219/Line 228: Not clear on what basis (R value) it is decided what is strong and what is weak. In Fig 4. R value is 0.5 and is termed as weak whereas in Fig 5 is 0.6 and is termed as strong correlation. Incremental increase of correlation magnitude of 0.1 changes the correlation from weak to strong?
- Line 241: For what scales these slopes were estimated?
- Line 265: It might be worth discussing little bit more the implications of negative correlation here in terms of physical processes.
- Line 297: Is there a reason for why more intense surface dissection is expected?
- Line 299: Please give more details on what additional mechanisms are referred to here.
- Figure 15: Which order of channel does this stream profile belong to? If we take an average of several stream profiles and compare them with average of Oregon catchments' (Jefferson et al 2010 study), the differences, if observed, may reveal observed differences between the two studies.

- Line 349-354: Are these river networks more dynamic than the river networks of Oregon cascades?

Minor:
Line 191: Calculated