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Discussions

Interactive comment on "Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th order mountain stream network, Oregon, USA" by Adam S. Ward et al.

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Received and published: 7 August 2019

Ward et al. Review

Co-located contemporaneous mapping of morphological hydrological, chemical, and biological conditions in a 5h order mountain stream network, Oregon, USA Ward et al.

Summary: The study involved intensive sampling of 62 field sites during baseflow conditions throughout a 5th order stream network. As noted in the introduction, this was a novel study looking at the interaction of physical, biological, and chemical variables

within the river corridor. The authors hosted the data publically to CUAHSI HydroShare which allows open access to the scientific community for use. The authors and other researchers are capable of using the data collected during this study for future analysis, publications, and repeatable studies. These data will be used to look at drivers of river corridor exchange and how they interact spatially throughout a network.

Comments: I'm assuming this is a data release manuscript, but I would like to see a bit more background in the introduction. I think this would help set up the "why" the authors collected the data when and how they collected it.

The Organic Matter Characterization method section gives too much detail and seems out of place with the other method sections. See my suggestions in the line-by-line review below.

Line by line review:

Page 1: Good

Page 2: Abstract - The abstract is short and concise but catches all the major topics of the paper Lines 26 - 28 - I suggest not having parenthesis in the first sentence of the article. Change the opening line to – River corridor science is the study of the exchange of water, solutes, particulate matter, energy, and biota between surface and subsurface domains, collectively called river corridor exchange.

Page 3: Lines 1 - 2 - Suggestion to switch around co-evolved and known to be tightly coupled. This allows the two co- words to be close together in the sentence and could help the reader understand the point more clearly. First, although the physical, chemical and biological processes are known to be tightly coupled and co-evolved, they are seldom co-investigated. Line 6 - Place the year into the Ward and Packman reference Lines 8 - 11 - Run-on sentence. Suggestion to change to - As a result of these limitations, we currently have only a general understanding of river corridor science exchange processes. This limits our ability to predict these processes or the asso-

ciated ecosystem functions across spatio-temporal scales relevant to water resource managers and policymakers who typically operate at river network scales. Line 11 - change typical to typically Lines 14 - 17 - Good closing paragraph sentences. The last sentence in starting in line 16 could be bolstered up a little or moved before "Specifically,....". Using this as the last sentence in this paragraph defines the hard cut needed to go into the next section. Line 22 - 23 - Suggestion to change to - Elevation in the basin ranges from 410 to 1630 m, and the landscape is heavily forested with ~400 year old Douglas fir trees with areas of younger forest from regrowth or replanting after timber harvest (~400 yr old) is not really necessary if "old growth" is in front of it. I suggest using "including ~400 year old Douglas fir forests"...." A.m.s.l (at mean sea level???) I don't think this is necessary

Page 4: Lines 20 - 24 – Split into two sentences All sampling of water and streambed sediment was conducted within the period 26-July through 3-Aug-2016 with no flow or precipitation events recorded during the sampling campaign. All solute tracer experiments occurred during the period 31-July through 12-Aug-2016, again with no recorded flow or precipitation events.

Page 5: Figure 1 – remove second synoptic from figure caption

Page 6: Figure 2 – Label each landform with a caption above each watershed's figure. There is no way for the reader to know which landform they are looking at.

Page 7: Table 1 – No need to repeat (HJA, Oregon) if all sampling happened there and it is listed in the table caption prior. I can see how this relates to Figure 2, but it would be great to see the creek names and landform types in Figure 2. This would help related the two figures better

Page 8: When printed out the caption of Table 2 appears on it's own page Reduce text size or table size to get Table 2's caption back together with Table 2

Page 9: Table 2: I really like this table! Suggestion to include units within this table

to show the wide range of data collected during this experiment. Having the units in the table would allow the reader to see what is comparable right away. See Page 8 comments to get the caption back together with Table 2

Page 10: None

Page 11: Lines 19 - 21 – Split this sentence into two sentences Lines 23 - 25 – Plecoptera and Ephemeroptera... Family? Genus???? Page 12: Line 8 – first reference from an instrument company. These references did not appear before this page

Page 13: None

Page 14: None

Page 15: Lines 13 -15: Description of sediment analysis method is well done, but what type of analyses were done on the sediment samples. Ash-free dry mass is listed a few paragraphs below, but what other sediment analyses were done?

Page 16: Configure Table 3 to fit beneath the paragraph on page 16.

Page 17: Configure Table 3 to fit beneath the paragraph on page 16. Line 6 – first subheading of the paper? Entire Organic matter characterization section needs to be shortened, cut, and less wordy. The background information from Lines 8 - 13 can all be covered with references.

Page 18: Shorten entire section Lines 9 - 10: write out correct chemical formulae or use chemical names with formulae in a table Lines 19 - 20: create a table of experimental conditions instead of listing them out. This is very out of place at the end of the paragraph. Line 25 – what is "the transient"? Definition of (m/z) is not clear when reading further down the page because there are too many acronyms within this section The suggestion of a table may help the reader keep things straight

Page 19: Shorten section Lines 13 - 16: Table of values would be more clear than writing them out

Page 20: Shorten section Lines 7 - 10 – Suggestion to remove a sentence that begins with "For example, ..." This is not a method or needs to be described in a different way Line 12 – Valley spelled wrong Page 21: Good

Page 22: Good

Page 23: Good

Page 24: Good

Page 25: Good

Page 26: Good

Page 27: Good