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www.hydrol-earth-syst-sci-discuss.net/8/C1359/2011/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Geomorphometry of drainage basins: a global view from the Shuttle Radar Topography Mission" *by* P. L. Guth

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Response to Evans comments:

I appreciate the thoughtfulness and care that went into this review.

The point about all drainage basins that drain in the Arctic being truncated is a good one, and I will add to the section on methods and limitations (p.1931, line 20) a short paragraph to address this.

The comment about the figures is very well taken. As available in the PDF version on line, they are significantly degraded from the TIFF images submitted. I can submit them as larger versions if the reproduction can be improved. Specific changes I will

make:

o Figure 4, I will remove log scale from the caption, since all are log scale as should be clear from the axes.

o Figure 5, I will make the legends larger. I can also add two more parameters maps (for a total of 6), but if this needs to be split to two per page, this might have to be 3 figures (which can be done, and just bump the numbers of the others down).

o Figure 7 has been redone with the noise in the elevations removed, and should be much clearer.

o Figure 8 I will move the legend to the bottom, which will make the graphic larger. I will rearrange the parameters in the figure in order of similarity, and add a short paragraph discussing it in more detail.

Detailed corrections I will make.

o In abstract, I will replace 'convex' with - 'generally more concave' to account for the fact that some basins do show anomalies (like some of the order 4 and larger basins with one or more convexities).

o line 4, follow 'drainage basins with the important qualification ' for a network from a 232 to 464 m resolution DEM.

o p1930 line 18 'basin' instead of basins

o 1931/3 will add 2.5 arc minutes on a side

o 1931 /15 'a single recognizable channel' (add word recognizable)

o 1932/13 'bimodal area distribution' (add word area)

o 1932 /18 'largest streams (in those terms)' (add in those terms)

o 1932 /22 'in (c) clearly demonstrating...' (add in c)

o 1933/ 1 to 3 Sentence describes Fig.3, so move earlier into the last full paragraph on p.1933.

o 1933 /16 'main thalweg sinuosity' - not basin.

o 1933 /20 'at main thalwegs' (instead of basin)

o 1933 /23 is the lowest class actually 0.5 to 1.5 –will clarify the lowest color is in fact 1

o 1934 /11 'one strong correlation' replaces "the one correlation"

o 1934 /12 DELETE 'is a ... between'

o 1934 /13 will expand S2S3 in text discussion

o 1935/5 'yet cheap...' rather than 'and...'

o 1935/13 after studies, INSERT 'but they do permit comparisons between basins and regions within this data set.'

o 1936/2 'in-memory' /9 DELETE first 'the' /13 REPLACE 'it' with 'each river segment'

o 1937/11 will mention 'hypsometric integral' ...a much more frequent term than 'coefficient of dissection'.

o 1939/9 will rephrase as log (base 10) of (basin relief/basin area)

o /12 'Horton'

o /14 'of main thalweg'

o /17 'this analysis could...' (instead of work)

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 1929, 2011.

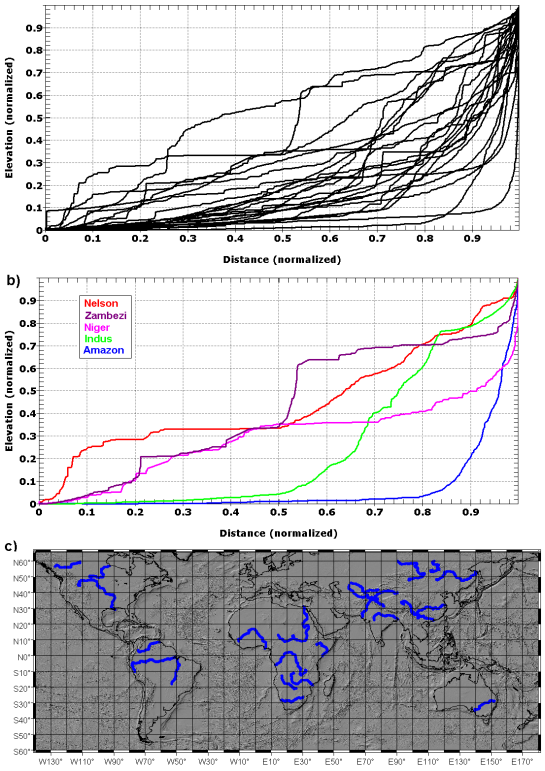

Fig. 1. Revised Fig. 7

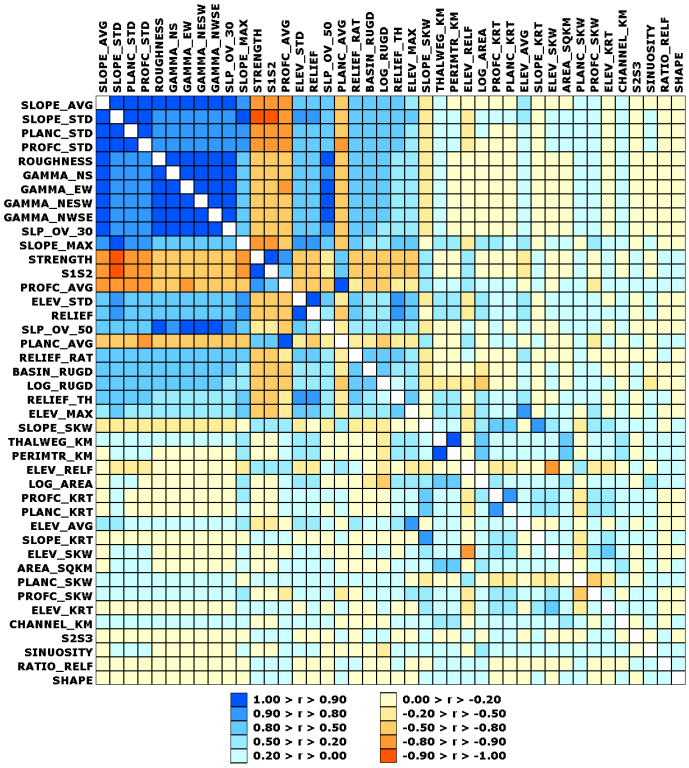

Fig. 2. Revised Fig. 8