

## ***Interactive comment on* “Technical Note: Semi-automated classification of time-lapse RGB imagery for a remote Greenlandic river” by C. J. Gleason et al.**

### **Anonymous Referee #2**

Received and published: 23 March 2015

This technical note is an original contribution that provides a useful explanation of how time-lapse images can be processed to estimate effective width of braided rivers in remote locations. The technical work is sound, error analysis is thorough and results are reported clearly. The paper is written to a high standard. The impact of this paper will be through the application of these techniques across multiple rivers, to analyse the morphodynamics of braided rivers from a planimetric perspective.

Minor comments:

Title: Could be made more generic. For example, by removing “remote Greenlandic

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river” and perhaps including “effective width” and “braided”.

P1313 L16: Add Young et al. (2015) to the references and you may wish to discuss the results from this paper.

P1313 L18: Add aerial photography to the list of techniques (e.g. Williams et al., 2013)

P1314 L16: After “methods” you could mention, as an example, the Structure-from-Motion techniques of Javernick et al., 2014.

P1318 L4: State “RMSE” acronym in full.

P1318 L5: Provide more explanation of the “pairwise permutation”.

P1318 L14: Would a reference to Figure 1c be useful here?

P1320 L2: “Magenta polygon”: are these the two dotted lines on Figure 2?

P1320 L24: The system cannot be described to have “remarkable resilience” when 50% of the equipment was lost due to the wildlife attack. Change to climatic resilience and comment on need for wildlife proof housing.

Figure 3: Units needed on x-axes of all three plots: m?

References:

Javernick, L., J. Brasington, and B. Caruso (2014), Modelling the topography of shallow braided rivers using Structure-from-Motion photogrammetry, *Geomorphology*, 213, 166-182, doi:10.1016/j.geomorph.2014.01.006.

Williams, R. D., J. Brasington, M. Hicks, R. Measures, C. D. Rennie, and D. Vericat (2013), Hydraulic validation of two-dimensional simulations of braided river flow with spatially continuous aDcp data, *Water Resources Research*, 49(9), 5183-5205, doi:10.1002/wrcr.20391.

Young, D. S., J. K. Hart, and K. Martinez (2015), Image analysis techniques to estimate river discharge using time-lapse cameras in remote locations, *Computers &*

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Geosciences, 76(0), 1-10, doi:<http://dx.doi.org/10.1016/j.cageo.2014.11.008>.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 1311, 2015.

**HESSD**

12, C651–C653, 2015

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