Interactive comment on "Generating synthetic fjord bathymetry for coastal Greenland" *by* Christopher N. Williams et al.

Anonymous Referee #2

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This paper presents a novel method for generating synthetic bathymetry for fjords in Greenland - areas where previous datasets produce somewhat spurious features due to a lack of data to constrain them and an unsuitable interpolation method. 'Sensible' bathymetry is of great value to glaciological and oceanographic studies in these regions, even in the absence of smaller scale variations. The paper also provides a valuable starting point for imposing stochastic variations to represent these smaller scale variations. The method is well thought through, and the paper is well written and structured, and clear to follow. As such I recommend the paper for publication with a few minor changes.

I agree with John Goff that the description of the centreline method could be made clearer if Figures 5 & 6 were comparable, and if Fig.5 included a bend. Could you have Fig. 5a as a straight fjord to clearly demonstrate the algorithm, and then a 5b with a

simple bend? Then you could probably leave Fig. 6 as it is.

I found it hard to compare Figs. 12 & 14 because of the different sizes of the plots and axis scales. I know they aren't displaying exactly the same thing, but it would help the visual analysis if the x and y axes were equivalent in scale.

Two small typos:

p7, line 24: 'manner' not 'manor'

p10, line 7: should be 'analysis' rather than 'analyses'?

Interactive comment on The Cryosphere Discuss., doi:10.5194/tc-2016-207, 2016.