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Earth Surface Processes and Landforms

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Dear *ESP&L* Editors,

My co-authors Margo H. Edwards, Leonid Polyak, Paul D. Johnson and I are re-submitting a revised version of our manuscript entitled "Seafloor evidence for ice shelf flow across the Alaska/Beaufort margin of the Arctic Ocean" for consideration of publication in *ESP&L*. The manuscript and figures have been carefully updated in response to the commentary of two anonymous reviewers. All minor editorial and typographic revisions have been implemented as suggested by the reviewers, and the more major comments are adressed individually below.

REFEREE 1

> *"The single point where I want to object is figure 8 and the related discussion in the text…"*

We modified the related figure (formerly Figure 8, now Figure 6) to include only the most compelling data correspondence (lineation orientation and bathymetric contours), and clarified the relevant text in the manuscript. This figure is needed to better illustrate the relationship between glaciogenic lineations and bathymetric trend in lineated areas.

REFEREE 2

> *"It is my recommendation that this paper should be accepted with some minor reorganisation and alteration...Throughout the paper, the figures are introduced in such a way that it is difficult to digest all the information."*

The figures and corresponding text have been reorganized in response to Reviewer 2's explicit suggestions. The flow of the text and figures we think is now more logical and easier to follow. We have added a figure that illustrates the relationship between iceberg scours and ice shelf lineations as suggested by the reviewer (new Figure 7). We have also removed a prior figure showing a sample power spectra that we felt did not significantly enhance the reader's understanding of the text. The new figure order is as follows:

New figure order	Corresponding old figure
1	1
2	2
3	4
4	9

5	5
6	8
7	new figure showing groove/lineation relationship
8	10
9	7
10	6

> *"The implied significance of the data should also be toned down somewhat, given that the evidence is not altogether so conclusive, compared to comparable studies...."*

The Discussion and Conclusions sections, as well as portions of the Results section, have been modified to highlight the fragmentary nature of our dataset. We have inserted text acknowledging the need for further data to test our hypotheses.

We feel that our response to the reviewers' comments has greatly clarified the presentation of our data and interpretations. Thank you for your consideration of this improved manuscript. We look forward to your decision regarding publication.

Sincerely,

Jennifer Engels
Corresponding Author