



## Letter to the Editor

**On the glacial and postglacial history of the western Canadian Arctic Islands**

We would like to thank England and Furze (2010) for their attention to our paper (Peros et al., 2010), a discussion of the Holocene and late glacial environmental history of south-central Melville Island, based on the analysis of a lake-sediment core. This core is one of several that we have published dealing with the Canadian Arctic, which are the first continuous paleoclimate records of the Holocene from the region (e.g., Finkelstein and Gajewski, 2007, 2008; Fortin and Gajewski, 2010a,b; Gajewski, 1995, 2006; Gajewski and Atkinson, 2003; Gajewski and Frappier, 2001; Gajewski et al., 1995, 2000; LeBlanc et al., 2004; Peros and Gajewski, 2008, 2009; Podritskie and Gajewski, 2007; Zabenskie and Gajewski, 2007), so we appreciate the close scrutiny of our work. Although the purpose of this research program is to quantify the postglacial climatic history of the Canadian Arctic, the basal dates from these lake-sediment cores provide information about deglaciation that complements data derived from shell dates.

We regret that we did not observe that the radiocarbon dates in question were presented in uncalibrated form; since radiocarbon dates are generally reported as calibrated ages today, we assumed that England et al. (2006, 2009) did the same. However, as England and Furze (2010) indicate, correcting this oversight helps to resolve issues with our basal dates, giving us more confidence in our chronology which now seems consistent with their interpretation of the deglaciation of the area. As a side note, the increased confidence in our chronology also suggests that the Younger Dryas cooling that we reconstructed may be a real observation, and this constitutes another interesting conclusion of our study.

As England and Furze (2010) also note, the glacial history of the region was peripheral to our study, and we tried to summarize this story in a short paragraph to develop a context for the interpretation of our basal dates. We regret that our summary was too brief to do justice to the extensive effort made by England, his associates, and many others over the past decades, and that we did not sufficiently separate Laurentide from Innuitian ice in our discussion. The first drafts of this manuscript were written in 2007, when the revised interpretations of England et al. were only beginning to be reported, and we didn't sufficiently update our presentation. We did not mean to question their interpretation but only observe that for the past few decades, most (but not all) continental-scale syntheses (e.g., Denton and Hughes, 1981; Andrews, 1987; Dyke and Prest, 1987; Dyke, 2004) as well as regional studies of the area (Vincent, 1983; Hodgson et al., 1984), have shown ice-free areas during the late Wisconsinan in parts of the northwestern Canadian Arctic Islands (England et al., 2009) and we were simply ensuring we reported the full range of views that have been advanced. Our reference to Harington (2005) was not necessarily to agree with his interpretation, but simply to provide an example of recent data on the subject.

As for the retreat of ice beginning 14,000 cal yr BP, this is based on maps in Dyke (2004).

We thank England and Furze (2010) for their clarification of the glacial history of the western Arctic, and hope that their new model will hold up to future scrutiny.

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