

## Rapid Holocene retreat of Ross Ice Shelf recorded in sedimentary $^{10}\text{Be}$ and fatty acid radiocarbon

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Approximately 30% of ice discharge from Antarctic continent is through Ross Sea and this sector is believed to have played a key role in post-LGM sea-level rise (Yokoyama and Esat, 2011; Deschamps et al., 2012). Thus, reconstructing temporal variations of growth and decay of WAIS in the geological past are key to understanding its behavior and response to future climate change (Yokoyama et al., 2012). A number of investigations have focused on the LGM extent of the ice sheet and its retreat history, but virtually nothing is known about the post-LGM history of the Ross Ice Shelf. We studied seven sediment cores from Ross Sea using compound specific radiocarbon dating as well as cosmogenic  $^{10}\text{Be}$  concentrations. Coupled diatom and  $^{10}\text{Be}$  measurements suggest validity of  $^{10}\text{Be}$  concentration as a proxy to the past extent of the ice shelf. The results indicate that the ice shelf was a prominent feature through the mid-Holocene, long after grounding line retreat from the continental shelf that began soon after the LGM (Conway et al., 1999; Mosola and Anderson, 2006).

### References

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