Late Wisconsinan glaciation on the Atlantic coast of Nova Scotia: evidence from offshore

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About 20 new AMS radiocarbon dates are reported on molluscs from the inner Scotian Shelf off Lunenburg, Emerald Basin and the continental slope south of Halifax. Dates on the inner shelf suggest that the "Late Till" south of Lunenburg is older than 14.5 ka; and that substantial amounts of pre-late Wisconsinan proglacial sediment were preserved from the overriding Late Wisconsinan ice by their position in Rinnentaler on the inner shelf. A 28 ka date on a shell from this area is interpreted as indicating a middle Wisconsinan relative highstand of sea level, perhaps to higher than -27 m. Dates from Emerald Basin show that the base of the La Have Clay on the Scotian Shelf is diachronous and that in Emerald Basin there is a probable acoustic signature to the Younger Dryas cooling event. Although previous dates from Emerald Basin suggest ice retreat at about 18 ka, high rates of sediment supply to the upper slope persisted until about 13.5 ka. Rapid sediment supply ended earlier, at about 16 ka, on the eastern Scotian Slope. On the outer shelf, the oldest date from Late Wisconsinan proglacial sediment is 20 ka .