



New constraints on the deglaciation of the western margin of the British-Irish Ice Sheet, Ireland, from ^{10}Be dating

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AMS ^{14}C dates of fossiliferous marine mud from sites along the Irish Sea Basin identify a major readvance of the ice sheet over the north and central lowlands of Ireland and the northern Irish Sea Basin during the Killard Point Stadial at approximately 14 ^{14}C ka BP (~ 17.5 cal ka). Well-dated records at Corvish, County Donegal, suggest a similar-age readvance of the northwestern sector of the Irish ice sheet, indicating ice-sheet wide response to climate forcing associated with Heinrich event 1. Ice readvance caused widespread transport of subglacial sediment to ice margins, particularly around bays where large moraines were formed. We sampled boulders for ^{10}Be dating from moraines in the north and west of Ireland that may be coeval with the Killard Point Stadial. Samples were collected from quartz-bearing erratics from three distinct moraine sequences located in the northwest (Bloody Foreland, County Donegal) and west (Ox Mountains, County Sligo, and Clew Bay, County Mayo) of Ireland. We have thus far obtained 20 ^{10}Be ages from these moraine sequences. Of seven ^{10}Be ages from Bloody Foreland, five dates ($\sim 18.5 - 20.0$ ^{10}Be kyr; mean = 19.0 ^{10}Be kyr) indicate that deglaciation occurred following the Last Glacial Maximum, and two dates (~ 15.5 and 29.0 ^{10}Be kyr), which are significantly younger and older, appear to be outliers. Of eight ^{10}Be dates from the Ox Mountains, six dates ($\sim 13.5 - 16.5$ ^{10}Be kyr; mean = 14.7 ^{10}Be kyr) indicate that final deposition of the moraine occurred ~ 14.7 ^{10}Be kyr, and two dates (~ 17.8 and 17.9 ^{10}Be kyr) indicate an older event. Five dates from Furnace Lough ($\sim 13.9 - 16.8$ ^{10}Be kyr; mean = 14.7 ^{10}Be kyr) have a similar mean age as samples from the Ox Mountains suggesting that the moraines were deposited during the same glacial event. These data suggest an older deglaciation.

tion at Bloody Foreland at ~ 19.0 ^{10}Be ka following the last glacial maximum, and a younger deglaciation in the Ox Mountains and Furnace Lough areas at ~ 14.7 ^{10}Be ka following the Killard Point ice readvance.