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Offshore records of late to post-glacial environments, western Scotland.

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During the Younger Dryas stadial (GS-1) of 12.8-11.5 ka BP, a substantial ice cap was present over much of western Scotland. Outlet glaciers drained westward from the main ice cap to the coast via the numerous fjord basins which indent Scotland's west coast. Onshore evidence for the Scottish Younger Dryas ice cap is manifest in landscape features such as moraines, eskers, erratics and till/outwash deposits, while the deglacial records preserved in the submarine geomorphology and sediments of the fjord basins have until quite recently been neglected, as a result of their relative inaccessibility. Here we present new data from seismic and multibeam sonar surveys carried out in Loch Linnhe and the Sound of Sleat, supported by sedimentological data and 14C dating from gravity cores. In Loch Linnhe, numerous features have been revealed, including numerous recessional moraines, roches moutonees, pockmarks resulting from gas/fluid escape at the seabed and possibly fault-related, deep current-scouring around topographic highs, and a large outwash fan south of the Corran Narrows, presumed to relate to glacier retreat during the last deglaciation. An abrupt change in sedimentary properties in a gravity core taken from the survey area has been radiocarbon-dated to 10,455 +/- 74 cal y BP, possibly representing the transition from glaciomarine to full marine conditions in the loch. The more limited survey in the Sound of Sleat reveals a substantial end moraine outside the mouth of Loch Hourn, suggesting a 2.5 km seaward extension of the presently mapped Younger Dryas glacial limit in this area. Radiocarbon dating suggests full marine conditions were established in this loch by 11.2 ka BP.