

## **Styles of ice-marginal sedimentation and mass-wastage within the Irish Sea sector of the Last British-Irish Ice Sheet: evidence from southeast Anglesey, north Wales, UK.**

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During the Last Glaciation (MIS 2), the British-Irish Ice Sheet (BIIS) extended across much of Ireland and northern and central Britain. In its northern sector, the ice sheet was drained by a number of ice streams with ice reaching the continental shelf-edge by c.27 ka, before complete collapse of marine areas of the BIIS occurred by c.17 ka. However, the largest ice stream of the Last BIIS was the Irish Sea Ice Stream (ISIS) which channelled ice from Southern Scotland, the Lake District of northern England, Wales and eastern Ireland southwards through the Irish Sea Basin. At its maximum extent, the ISIS reached the Isles of Scilly after c.25 ka, before the ice-margin started to retreat northwards from c.23-22 ka. There is a growing body of sedimentological, geomorphological and geochronological evidence from terrestrial localities bordering the Irish Sea Basin that record the timing and nature of the initial expansion of ice into and through the Irish Sea Basin, the activation of the ISIS, its subsequent collapse and successive phases of active retreat. Within the Irish Sea Basin itself, there is comparatively little evidence to add spatial detail and constrain the model with data largely restricted to islands such as the Isle of Man and Anglesey. Here we report preliminary sedimentological evidence from southeast Anglesey, north Wales, for an initial advance and retreat of Irish Sea ice across the island prior to the main inundation of the ISIS. Evidence for this initial ice-advance occurs in the form of channelised subglacial outwash deposits, overlain in-turn by proglacial outwash sediment deposited during a retreat phase, and the development of kettle-like collapse structures. The area was then overridden by the ISIS which deposited a distinctive till containing erratics derived from areas bordering the Irish Sea.