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## Disintegration of the marine based parts of the last Eurasian Ice Sheet

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The timing, rates and patterns of retreat of western sectors of the last Eurasian Ice Sheet (EurlS) are poorly constrained, hampered by limited observations from the marine domain. A better knowledge of the deglaciation of the NW European marine areas/continental margins is essential for efforts to understand the role of different controlling factors (such as ice streams, atmospheric and oceanic conditions, relative sea level, morphology and substrate) on the stability of the EurlS, and also for ice-sheet stability in general. Based on new and existing mapping of glacial landforms, together with a compilation of existing and recalibrated dates from the NW European shelf, a new reconstruction of the retreating EurlS between 20 and 14 ka BP will be presented. Our reconstruction suggests an initial modest withdrawal from maximum extent to c. 19 ka BP along the entire western marine-terminating margin. From 19ka the two major marine-terminating ice streams, in the Norwegian Channel and Bear Island Trough, begin to retreat/collapse. This destabilisation leads to rapid interior drawdown and the eventual unzipping of the British-Irish and Fennoscandian ice sheets at c. 18.5 ka BP, and the Barents-Kara and Fennoscandian ice sheets between 16 and 15 ka BP. Based on our new reconstruction and modelling results, the importance of factors controlling the nonsynchronous and rapid deglaciation of marine-based sectors and the implications for the stability of the ice sheet, will be discussed. The chronology and patterns of past marine deglaciations provide contextual insight into ice sheet instabilities and the mechanisms behind, underpinning the ongoing retreat of the Greenland and Antarctic ice sheets today.