



A Storegga age turbidite at Eirik Drift, South Greenland: evidence for synchronous turbidite deposition at 8.2 ka BP in the North Atlantic?

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Eirik Drift contains a high-resolution record of climatic and oceanic variability. In addition, it records several submarine landslides throughout the Holocene. Submarine landslides and associated tsunamis are potentially damaging, and have the potential to travel significant distances across the North Atlantic. Two cores taken from Eirik Drift (D298-P2) show an expanded Holocene section of hemipelagite and contain a fine grained turbidite dated to 8.17 ka BP (+/- 200 years). This event is coincident with both the 8.2 ka BP climatic anomaly, and the Storegga Slide. Paleoenvironmental proxies suggest this 8.2 ka BP turbidite was deposited during the coldest part of the 8.2 ka BP event, interpreted here as a longer duration cooling. This Holocene Storegga Slide triggered a major tsunami, evidence of which has been found across Northern European coastlines and the East Greenland coast. Here we show that the 8.2 ka BP turbidite has a different provenance both to other turbidites within the D298 core, and the main body of the Storegga Slide turbidite, and is unique within the Eirik Drift sequence. We interpret this event within the core as a distal deposit of a turbidite transported within the Western boundary Under Current, potentially related to a more northerly Greenland impact of the Storegga Tsunami. The fine-grained nature of the deposit suggests significant transport, supporting the hypothesis this event relates to a Greenland impact of the Storegga Tsunami.