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Grounding zone wedges, Kveithola Trough (NW Barents Sea)

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Swath bathymetry within Kveithola Trough (NW Barents Sea) shows a seafloor characterized by E-W trending megascale glacial lineations (MSGLs) overprinted by transverse Grounding Zone Wedges (GZWs), which give the trough a stair profile (Rebesco et al., 2011). GZWs are formed by deposition of subglacial till at temporarily stable ice-stream fronts in between successive episodic retreats (Rüther et al., 2012; Bjarnadóttir et al., 2012). Sub-bottom data show that present-day morphology is largely inherited from palaeo-seafloor topography of GZWs, which is draped by a deglacial to early Holocene glaciomarine sediments (about 15 m thick). The ice stream that produced such subglacial morphology was flowing from East to West inside Kveithola Trough during Last Glacial Maximum. Its rapid retreat was likely associated with progressive lift-offs, and successive rapid melting of the grounded ice, induced by the eustatic sea-level rise (Lucchi et al., 2013).

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