



Delta progradation in the wake of a large glacier surge: the Kuannersuit Sulluat delta, Disko, West Greenland

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Beginning in 1995, a large outlet glacier of the Sermersauq Ice Cap on Disko Island surged 10.5 km downvalley to within 10 km of the head of the fjord, Kuannersuit Sulluat, reaching its maximum extent in summer 1999 before beginning to retreat (Gilbert et al., 2002). Bathymetric mapping of the delta front was carried out in summer 1999, at the maximum extent of the surged glacier, and again in summer 2013, i.e. 14 years after the initiated retreat of the outlet glacier. The location of the delta front in time is reconstructed from satellite images. Combining these analyses provides the potential for reconstructing volumetric delta progradation in response to the surging glacier event in the 1990s and the following retreat. The volumetric delta progradation will be compared with sediment transport measurements carried out upstream in the braided river during the period 1999-2001.

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References

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