

WAHLENBERGFJORD, AUSTFONNA, SVALBARD, OUTLET GLACIERS: 1987–1998, NORWAY

(Thematic Satellite Map)

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The map based on satellite images shows changes of glacier terminal position of several outlet glaciers in the Wahlenbergfjord, North-Western part of Austfonna, Svalbard archipelago. The map is produced in the UTM (Zone 34) projection, glacier boundaries are after Hagen et al. (1993). In order to assess glacier position changes, SPOT-1 to SPOT-4 imagery for various dates between 1987 and 1998 have been used. The images have been georeferenced (using ice-free land and coastal features) based on the NPI vector coastline data, and multi-temporal analysis of glacier terminal position has been done.

For five glaciers (Bodleybreen, Aldousbreen, Frazerbreen, Ericabreen and Palanderbreen) changes between 15 April, 1987 and 28 March, 1998 are provided as (a) color-coded regions of advance/retreat of glacier terminal position and (b) resulting changes in km² and change rate (km² per year). These changes are rather small (less than 1 km²). Four of these five glaciers have retreated, and only Ericabreen has slightly advanced.

Etonbreen and the neighbouring Basin 03 glaciers feature more pronounced dynamics. For these glaciers we provide (a) a map of glacier terminus positions for five dates between 1987 and 1988 and (b) corresponding changes in square kilometre and change rate (km² per year) for each period. Both glaciers continually retreated between 1987 and 1988, with maximal speed (-1.01 km² per year) observed between July 1988 and July 1991. Since then, the retreat gradually slowed down to -0.48 km² per year (between July 1993 and March 1998).

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