Decadal glacier area changes in the Arctic using object-based image analysis in Google Earth Engine

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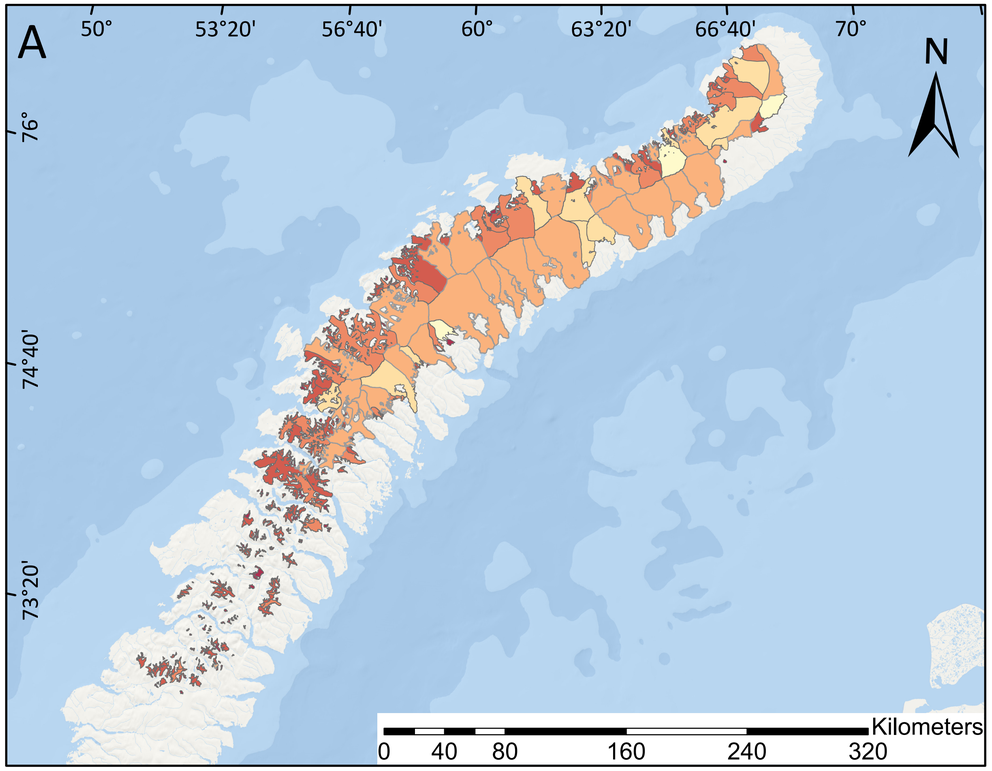

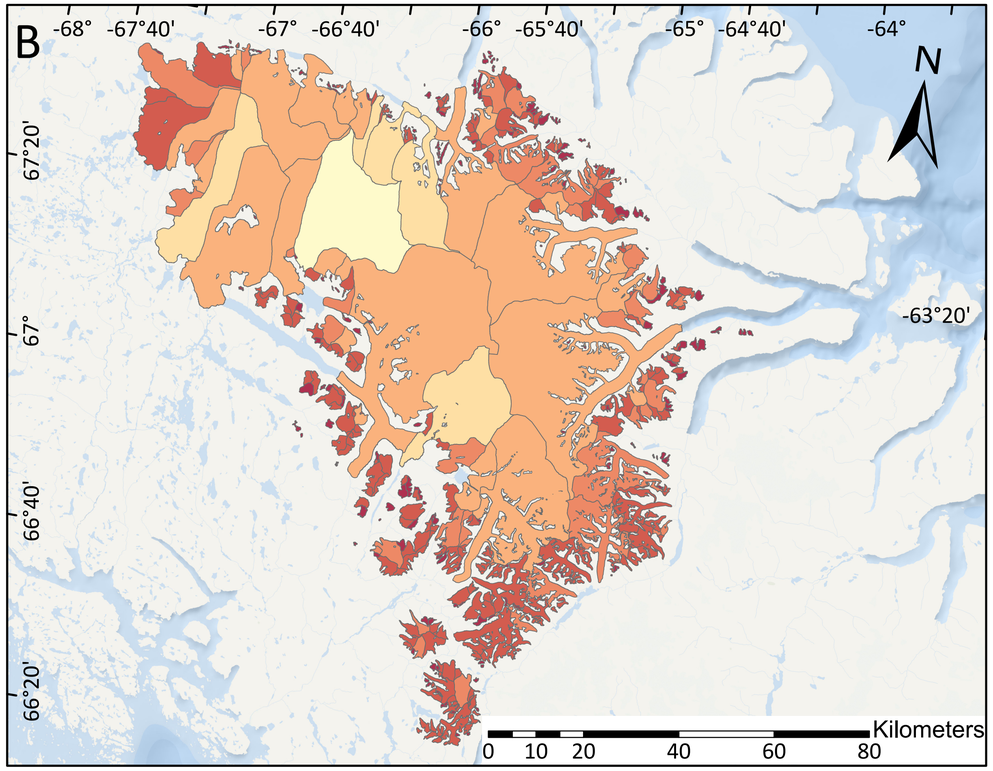

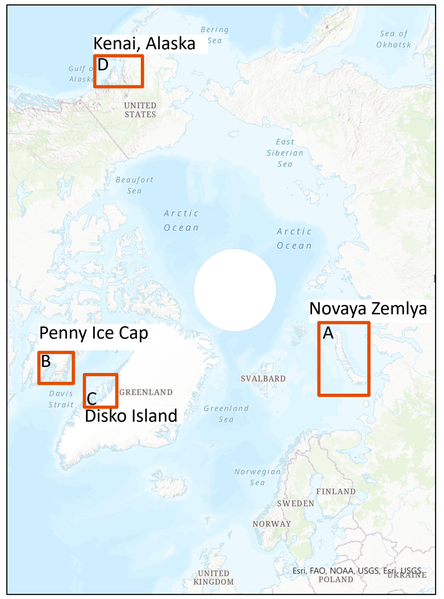

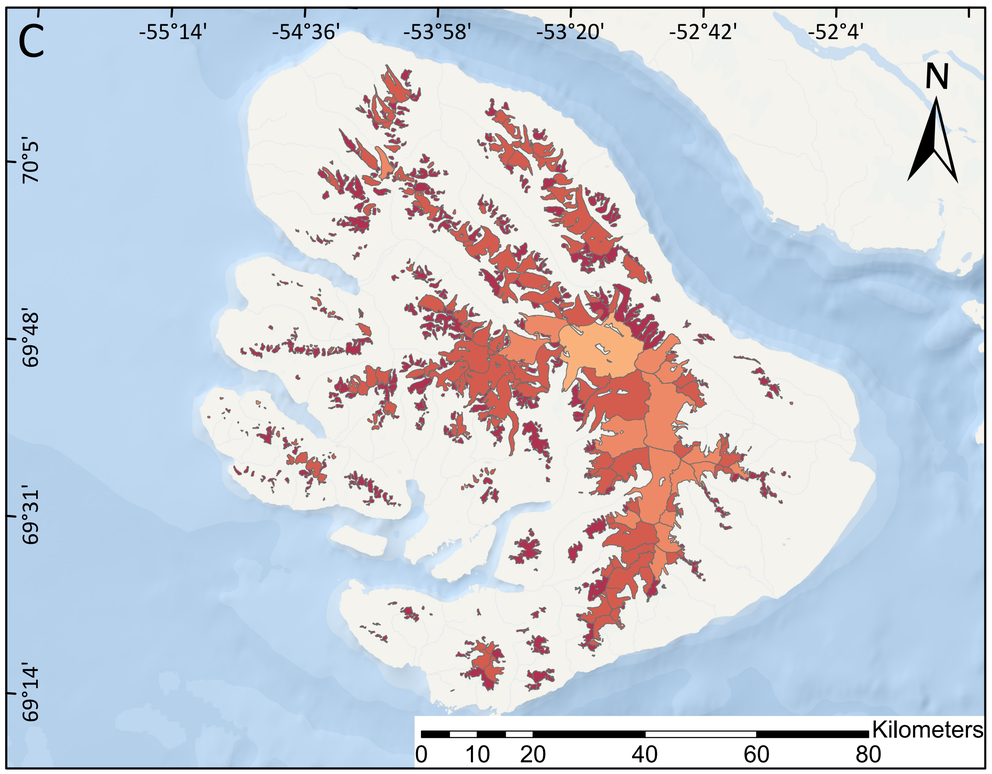

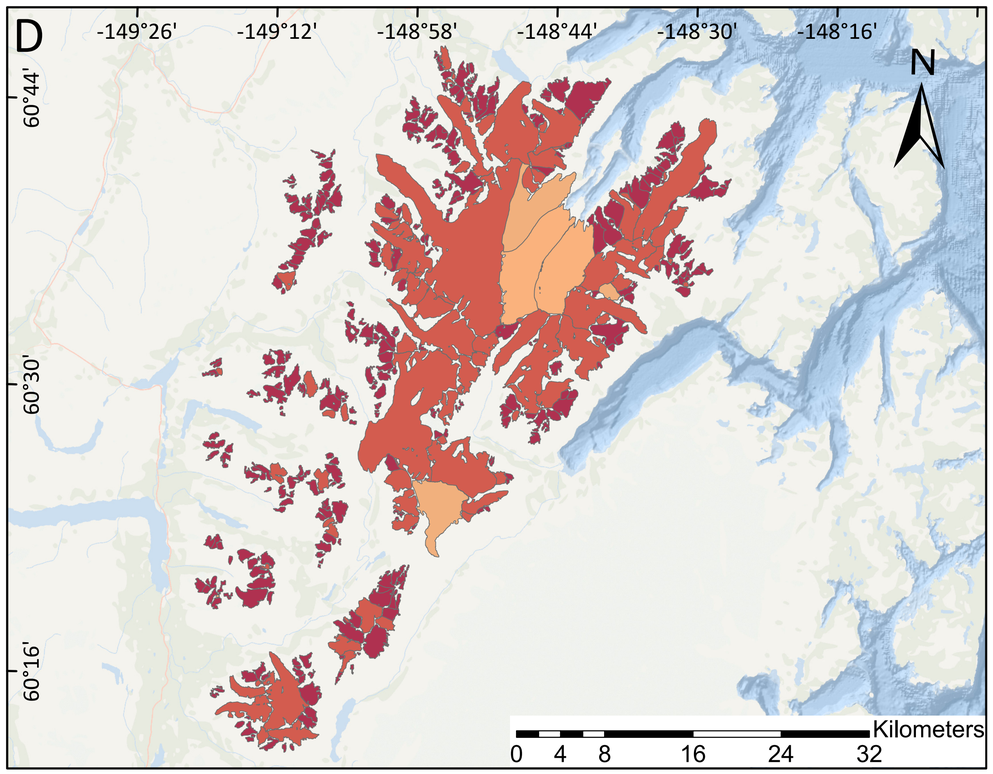

Area Change (%)
1985-89 to 2019-21

- **<-30.0**
- **-29.9 - -10.0**
- **-9.99 - -5.0**
- **-4.9 - -2.0**
- **-1.9 - -1.0**
- **-0.9 - 0**

Data used

Landsat 5 Thematic Mapper (TM), Landsat 7 Enhanced Thematic Mapper Plus (ETM+), and Landsat 8 Operational Land Imager (OLI) satellites images were used to map glacier changes and create outlines in these four different regions.

Object based-image analysis method was used in Google Earth Engine to create the glacier outlines. The map shows the changes of each glacier in Novaya Zemlya, Penny Ice Cap, Disko Island, and part of Kenai, Alaska from 1985-89 to 2019-21.

This map was created as part of Asim Ali Ph.D. research.

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Projections: Novaya Zemlya: WGS1984 UTM 41N, Penny Ice Cap: WGS1984 UTM 21N, Disko Island: WGS1984 UTM 22N, Kenai: WGS1984 UTM 6N