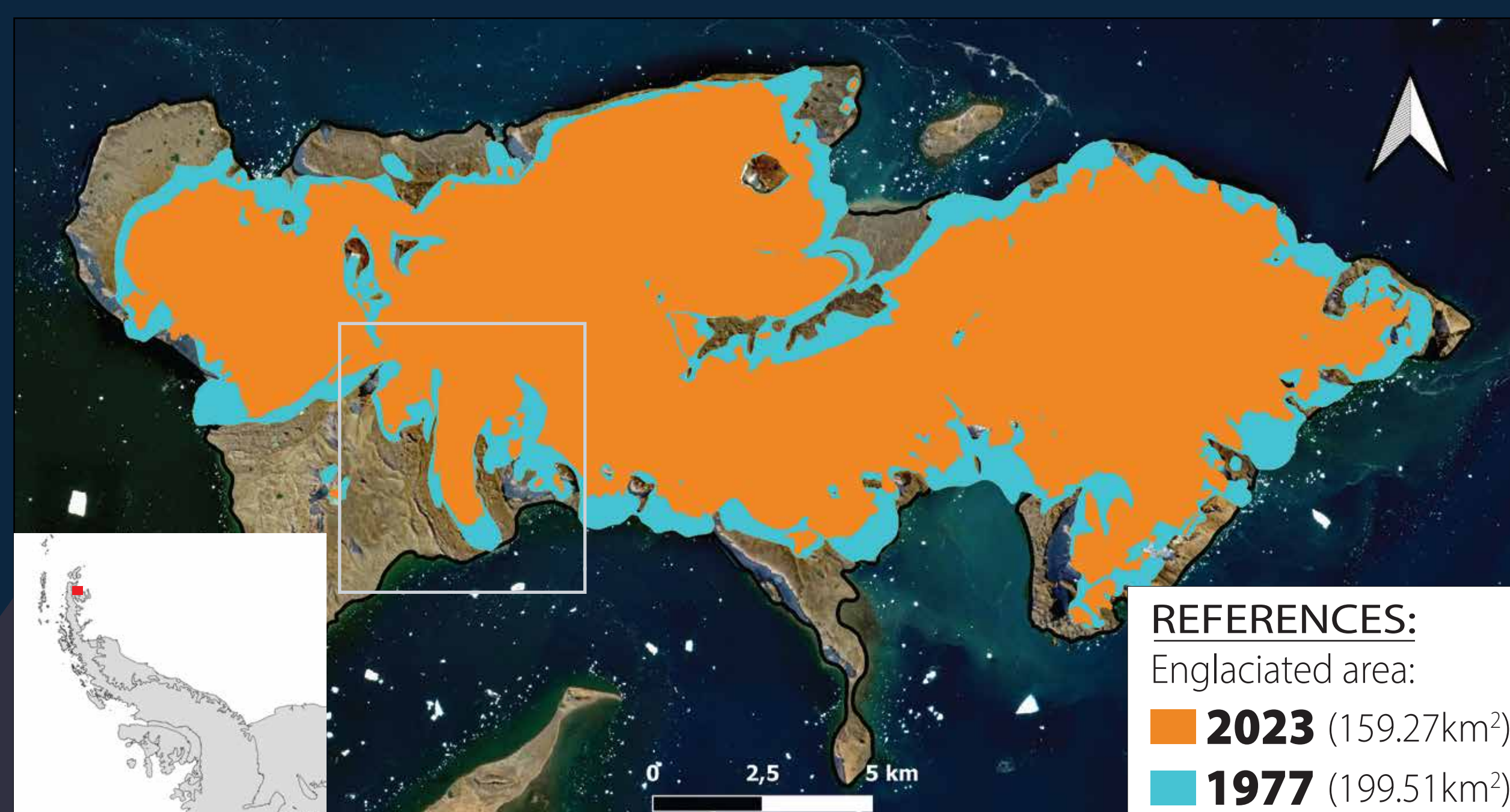


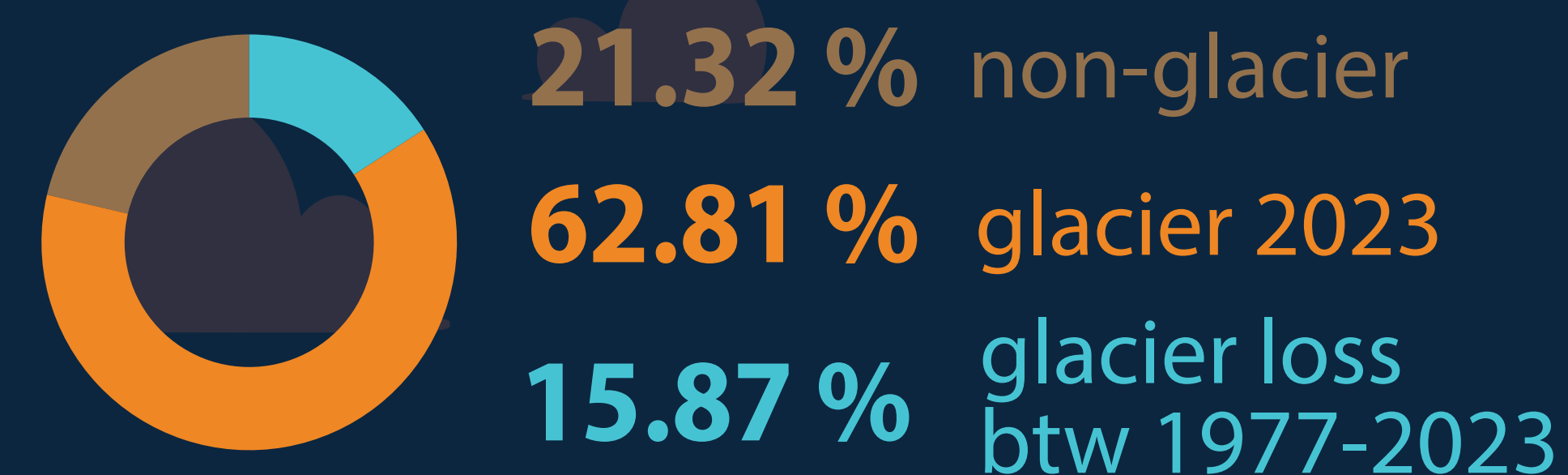
LILIANA MARGONARI^{*1,2,3}, CARLA PUIGDOMENECH^{*3}, SEBASTIÁN MARINSEK^{*3} 25 YEARS OF GLACIER RETREAT ON VEGA ISLAND, NORTHEASTERN ANTARCTIC PENINSULA

VEGA ISLAND

The glaciated area on Vega Island was reduced by 16% between 1977 and 2023. Retreat at Cabo Lamb Glacier led to the creation of a new frontal lake. Retreat of the Cabo Lamb glacier front accelerated in recent years, coinciding with the progressive increase in temperatures

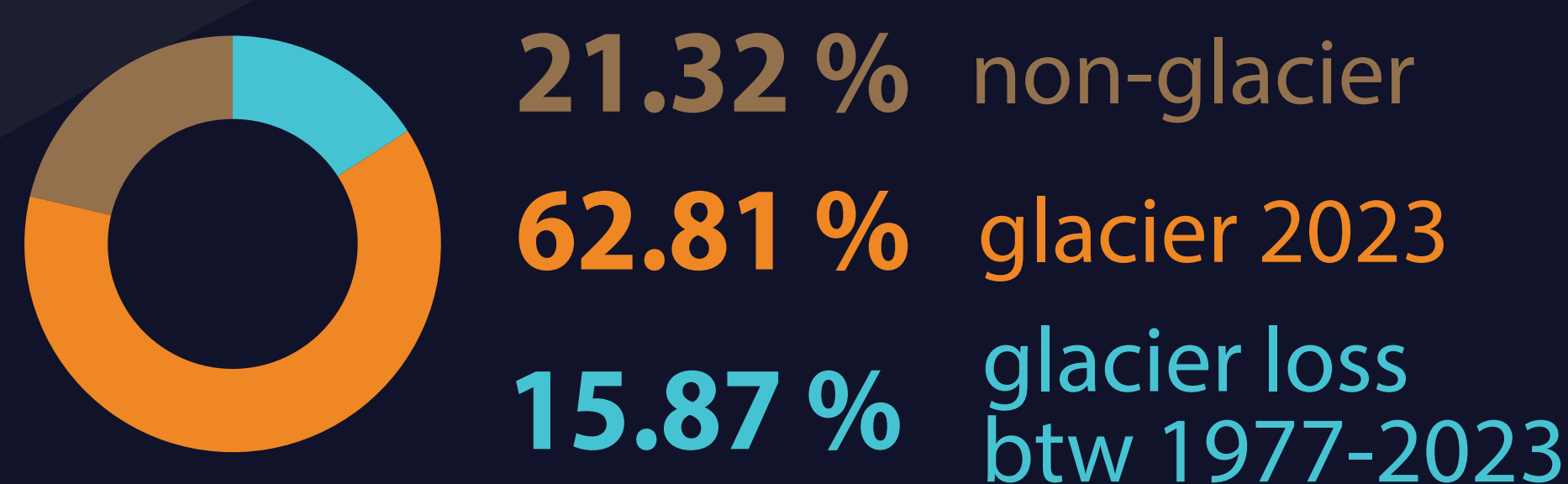


- 1977 Image: LM02 from 31st of January of 1977
- 2023 Image: Sentinel-2 16th of February of 2023

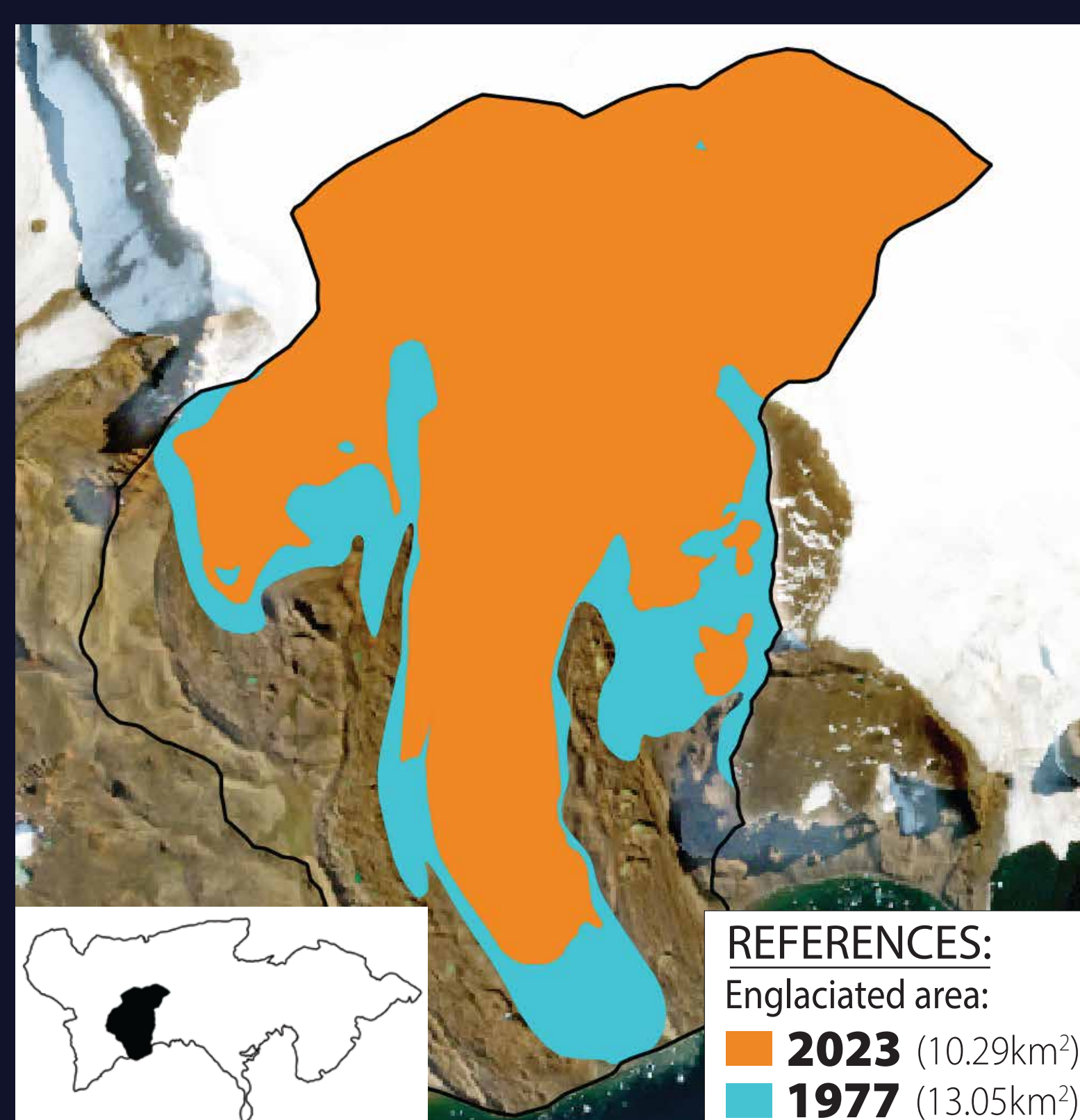


Total glacial surface difference from 1977 to 2023 was **-40.24 km²** for the whole island.

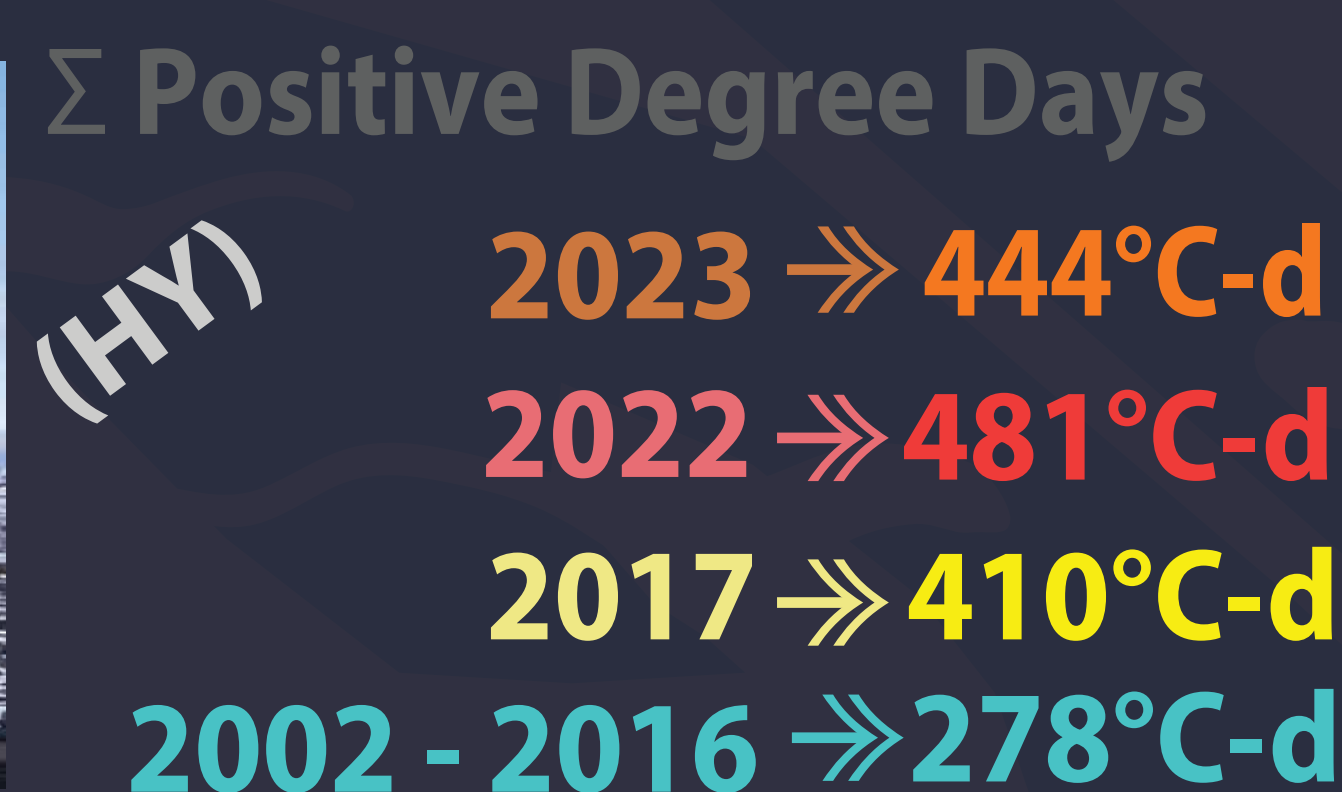
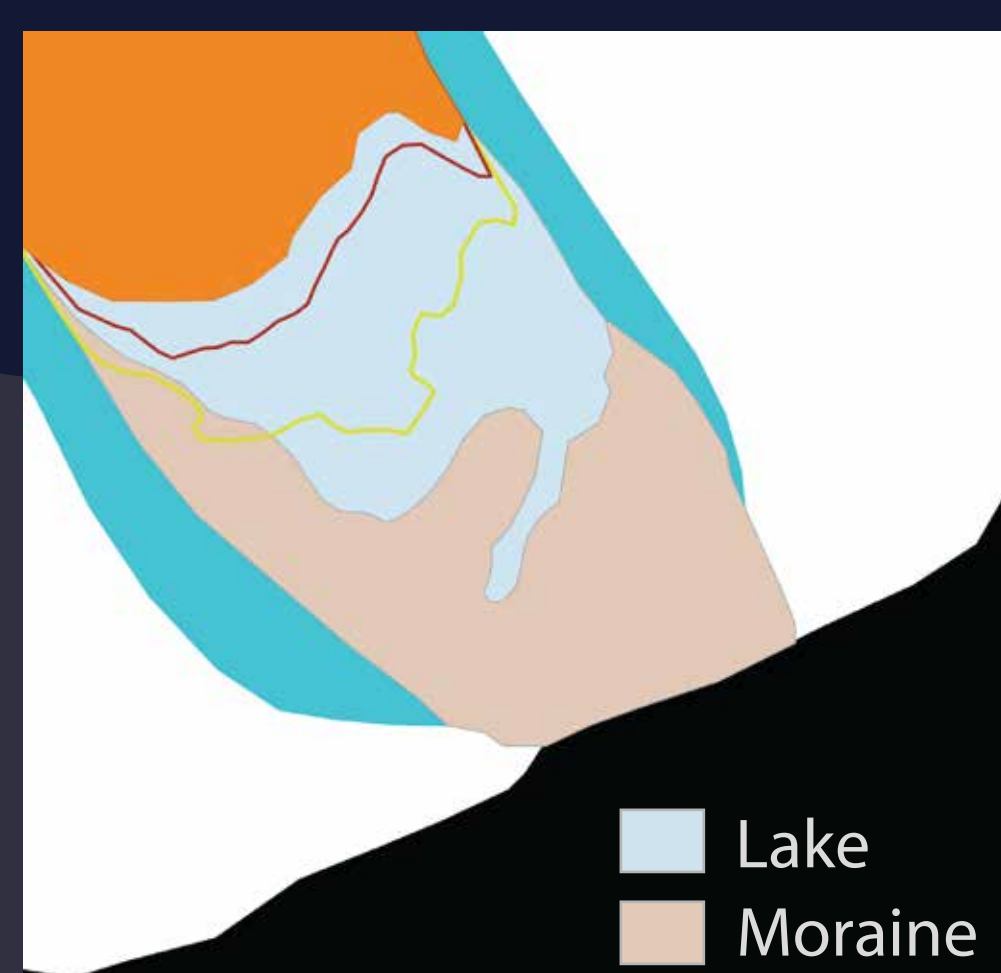
Cabo Lamb Glacier



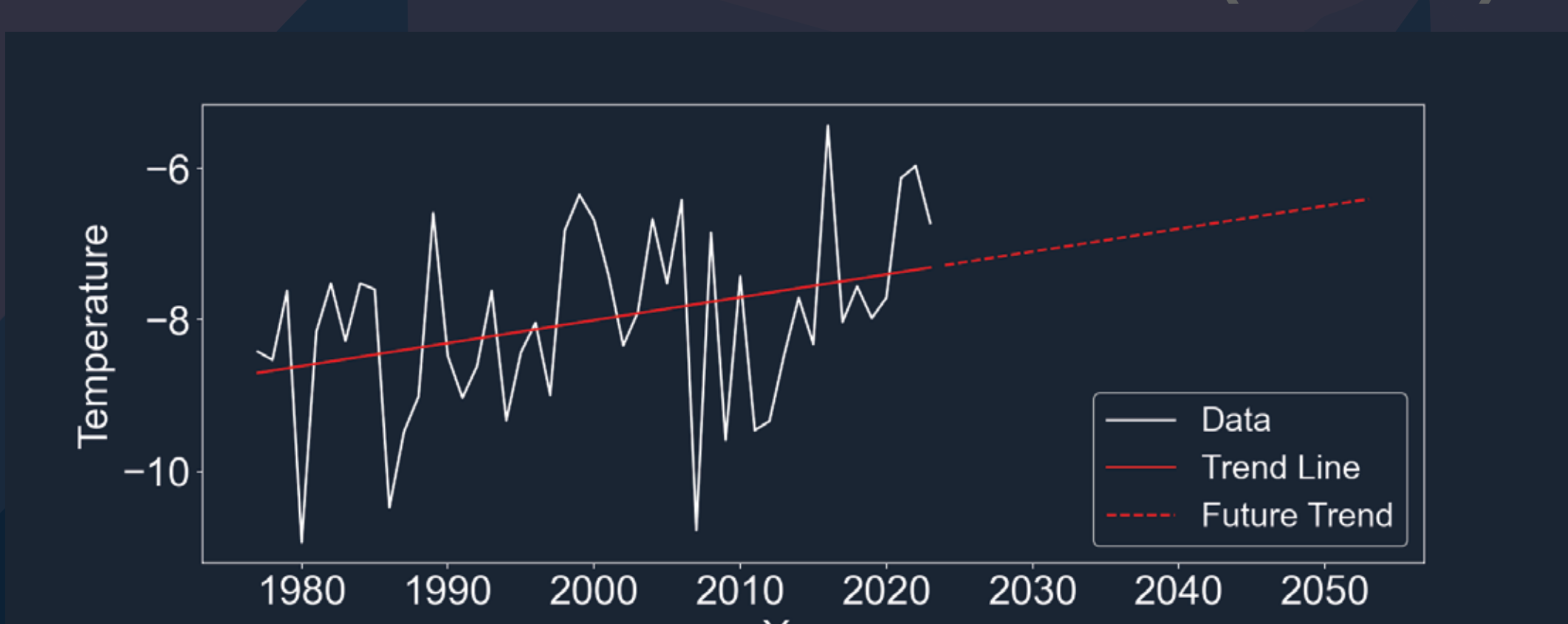
Total glacial surface difference from 1977 to 2023 was **-2.76 km²** for Cabo Lamb glacier.



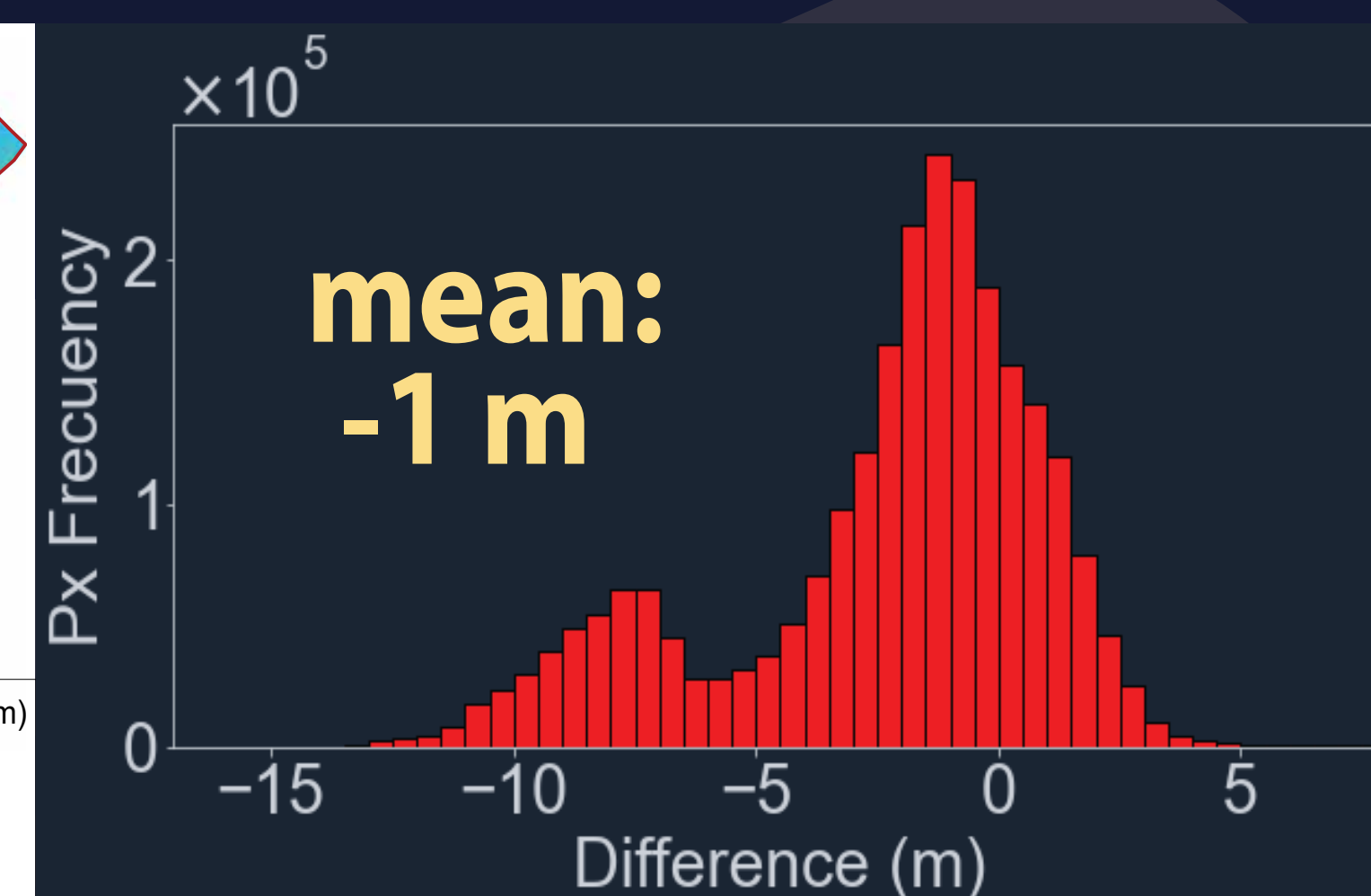
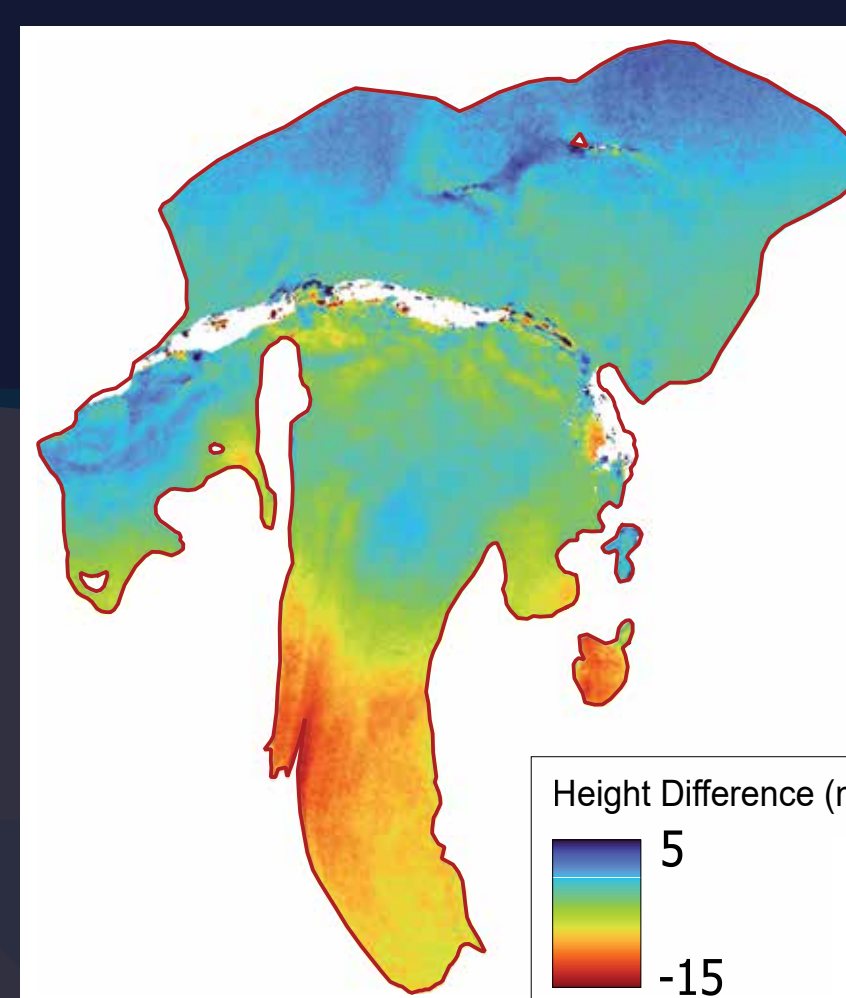
The retreat involved the deposition of a frontal moraine and a **new frontal lake**.



Marambio Weather Station (60km)



GEODETIC MASS BALANCE* 2017-2022



The glazed área in Vega Island was reduced by **15.87%** (40.24 km²) and for Cabo Lamb the glazed área in Vega Island was reduced by **11.00%** (2.76 km²). The retreat of Cabo Lamb front imply the creation of a new frontal lake (0.19 km² in 2023) and a geodetic mass balance between 2017 and 2022 yield a **-0.9 m w.e**. The frontal lake began to form in early 2010s. It has been determined the **retreat** of the glacial front **accelerated in recent years**, which coincides with the progressive increase in average temperatures and the remarkable increase in the sum of positive temperaturas. Where the average Temperature between 1977 and 1983 was **-8.5°C** and the average between 2017 and 2023 was **-7.0°C**.

^{*1} Universidad de Buenos Aires, Argentina.

^{*2} Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina.

^{*3} Instituto Antártico Argentino.

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