

Climate Change and Cultural Heritage in Antarctica

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International Polar Heritage Committee

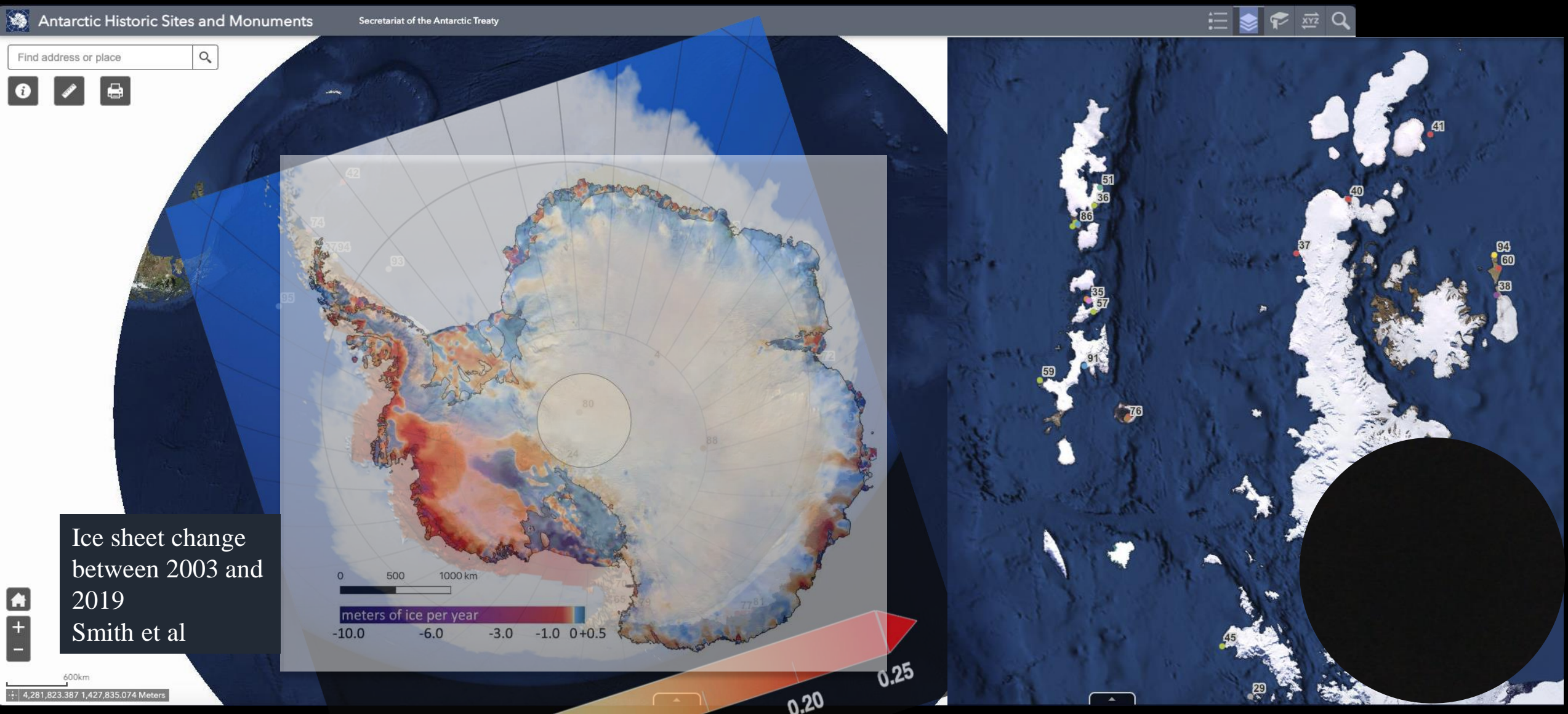
SCAR Standing Committee for Humanities and Social Sciences

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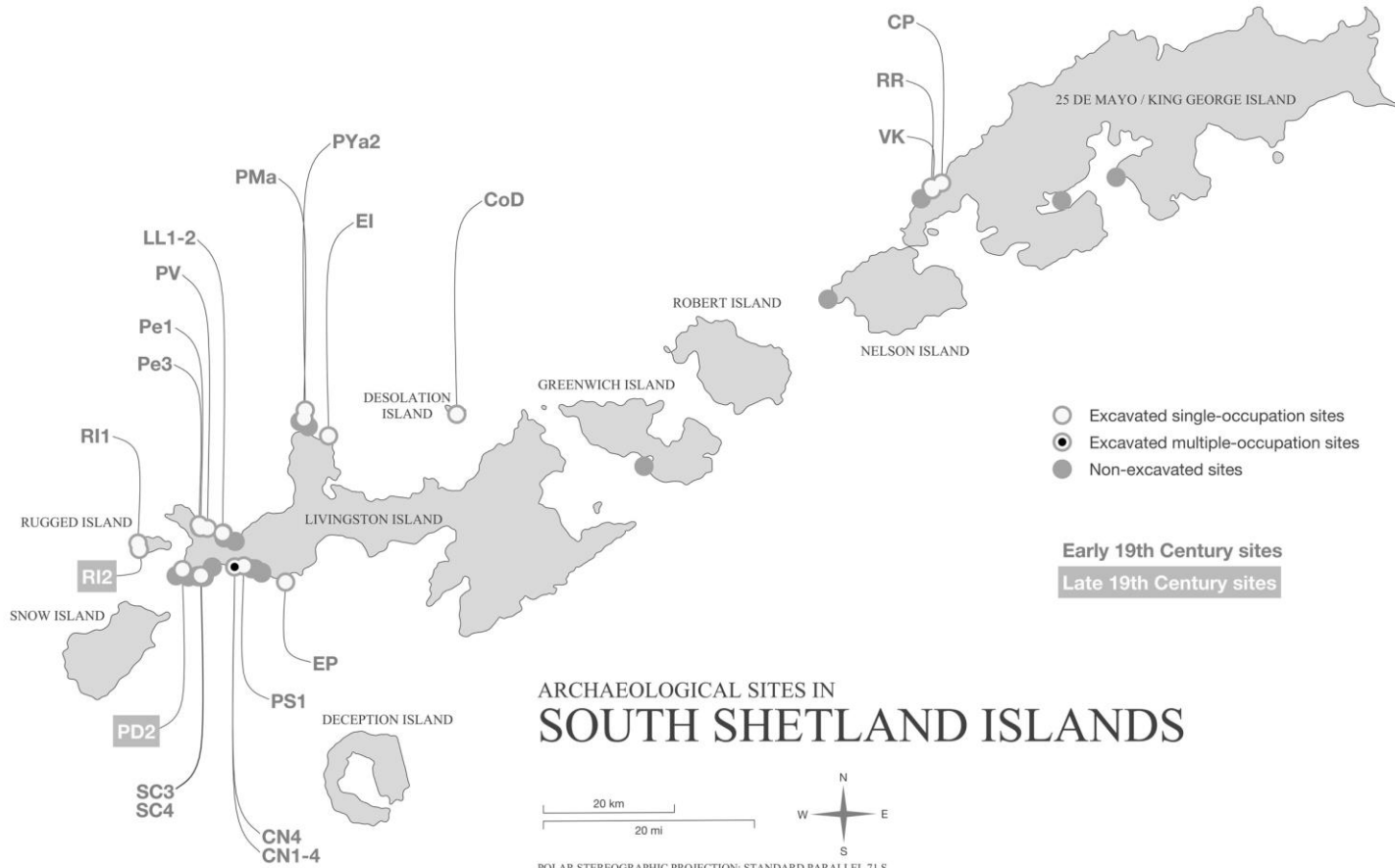
Historic Sites and Monuments of the Antarctic Treaty



Ice sheet change between 2003 and 2019
Smith et al

600km
4,261,823.387 1,427,835.074 Meters

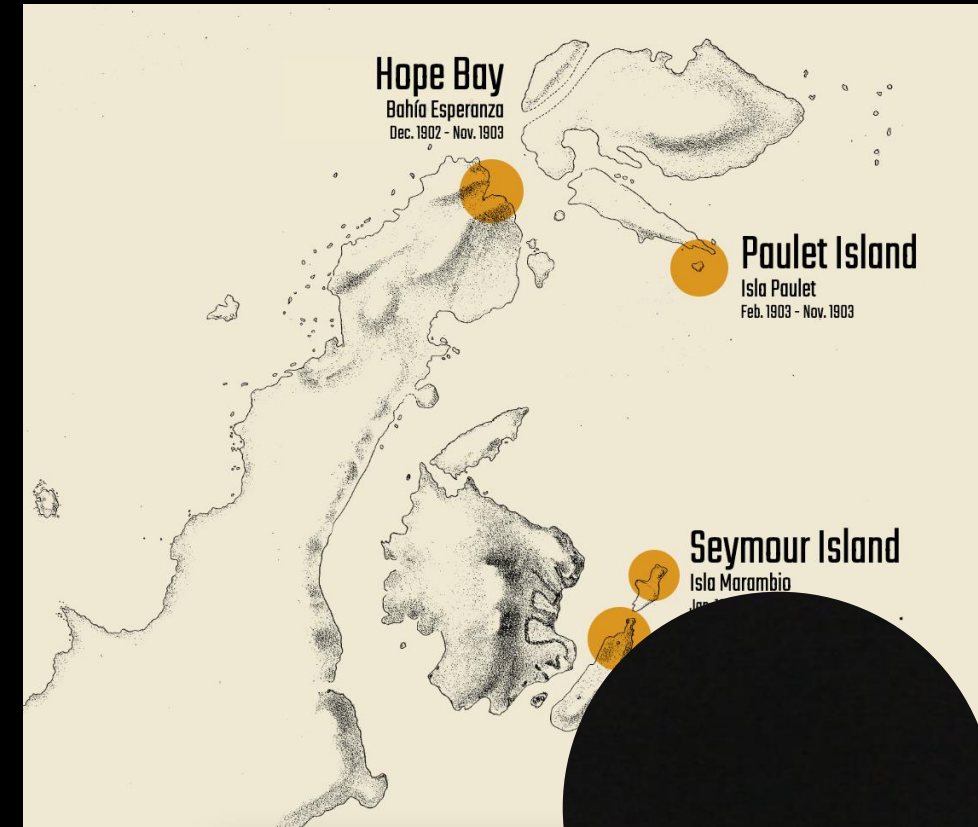
Non-HSM sealing sites



Playa sur site, Livingston Island (above)
Whaling station, Deception Island (below)



HSM 38, Nordenskjöld's Hut: Wooden hut on Snow Hill Island built in February 1902





Glacier behind Snow Hill hut in 1902 (above, Archives of IIA-DNA) and 1971 (below Archivo Histórico Militar Nacional)



Källa: Polarforskningssekretariatet

Glacier at Snow Hill in 1995 (above) and 2020 (below)



| | | Temperature. | Barometer. | Velocity of wind. |
|---------------------|--------|--------------|------------|-------------------|
| 1902. | | ° Fahr. | inches. | feet per sec. |
| March | | 14.90 | 29.25 | 30.84 |
| April | | 7.88 | 29.31 | 23.95 |
| May | | 1.40 | 29.12 | 36.74 |
| June | | -0.58 | 29.34 | 36.74 |
| July | | -11.92 | 29.29 | 36.09 |
| August | | -8.50 | 28.96 | 28.54 |
| September | | 6.26 | 29.10 | 26.25 |
| October | | 9.14 | 28.99 | 30.51 |
| November | | 17.42 | 29.28 | 24.61 |
| December | | 28.40 | 29.26 | 13.12 |
| 1903. | | | | |
| January | | 30.38 | 29.28 | 19.69 |
| February | | 25.70 | 29.05 | 22.97 |
| March | | 11.48 | 28.96 | 44.29 |
| April | | 6.44 | 29.07 | 26.25 |
| May | | -2.92 | 29.18 | 19.69 |
| June | | -6.34 | 29.13 | 19.69 |
| July | | 0.86 | 28.95 | 26.25 |
| August | | 2.48 | 29.12 | 27.89 |
| September | | 1.22 | 29.18 | — |
| October | | 20.48 | 29.02 | — |
| Mar. 1902–Feb. 1903 | | 10.04 | 29.19 | 27.56 |



AWS Bodman installed on Snow

II. SCIENTIFIC WORK AT THE WINTER STATION.
By Dr. OTTO NORDENSKIÖLD.

Water erosion



2020



2023

source: <https://www.jackwcox.com>

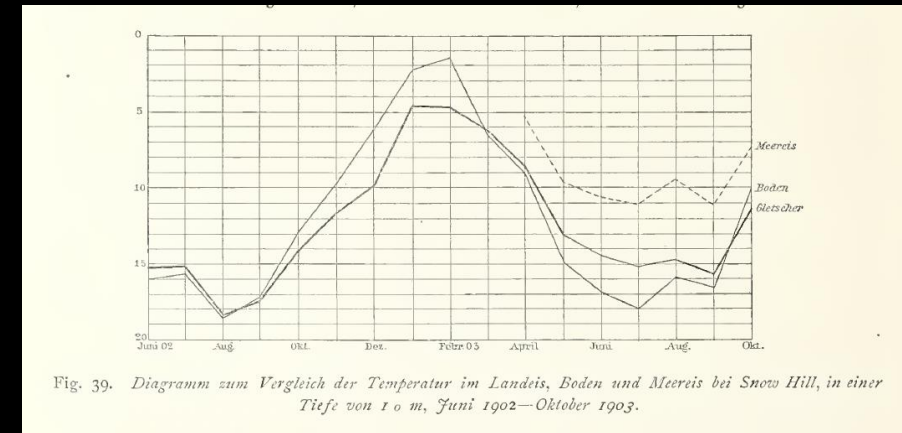
Erosion due to wind and wave activities



Thawing permafrost



Installing sensors for permafrost temperature measurements, repeating Nordenskjöld's historical series



Nordenskjöld's measurements of land, sea ice and glacier temperature

Tourism

- Cumulative pressures
- Increasing number of landing sites
- Increasing season?
- Higher risk of looting with uncontrolled vessels



Expedition in summer .
source: <https://www.jack>



Nineteenth-century sealers' remains in the vicinities of Yankee Harbour tourism landing point. View of the site, structure of rocks placed in open beach (Photo M. X. Senatore).

(Re-) emergence of Microorganisms



Conservation of objects



Why should we care?

- Documents of past relations to Antarctica
- Important stability mechanism in the Antarctic Treaty geopolitics
- Makes Antarctic climate change relatable to a wider audience



Thanks to



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