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Southern Ocean Ice Conditions and Recent Trends

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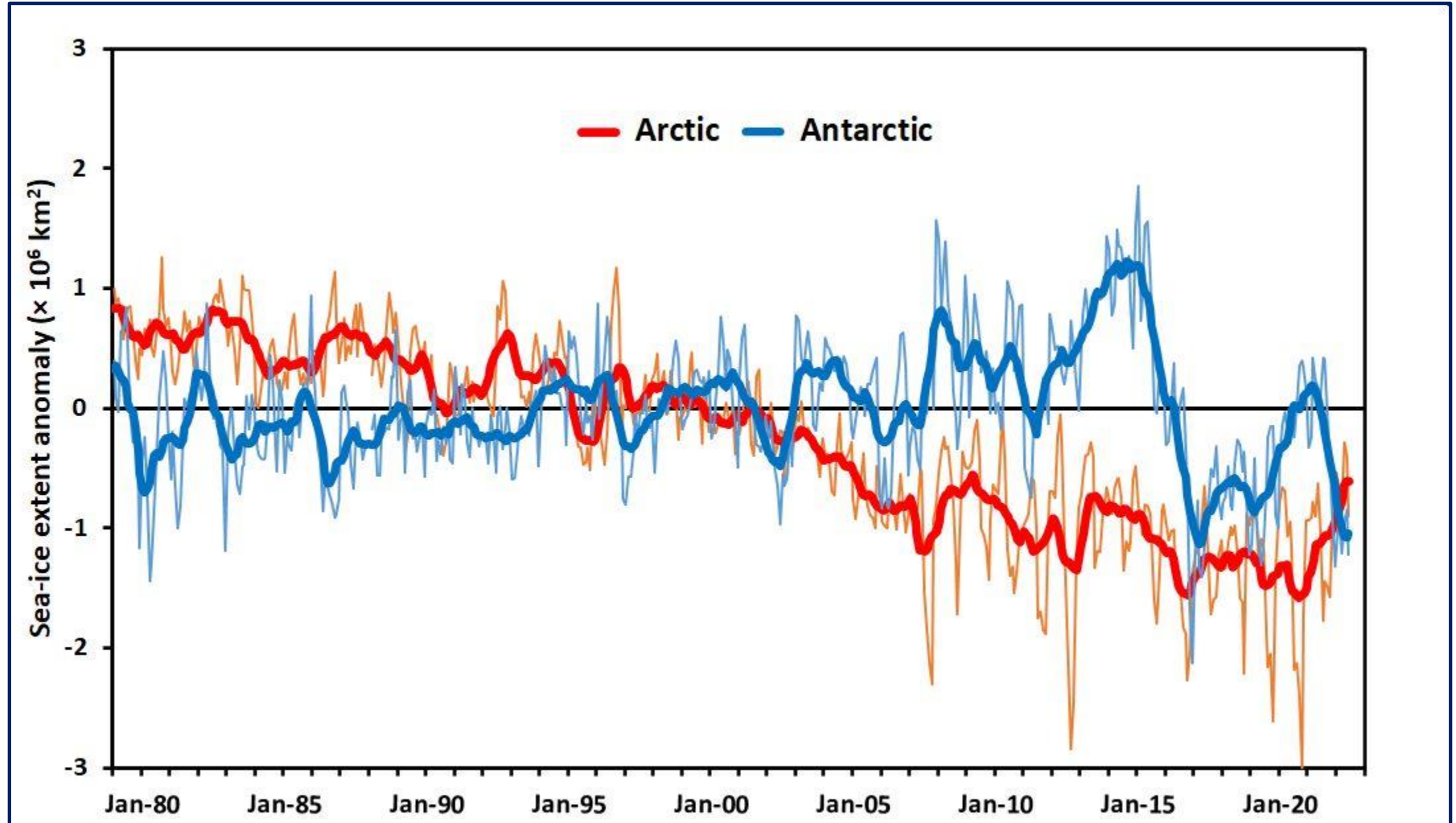
Australian Government
Bureau of Meteorology

Southern Ocean Ice Conditions and Recent Trends

Jan L Lieser & Phil Reid

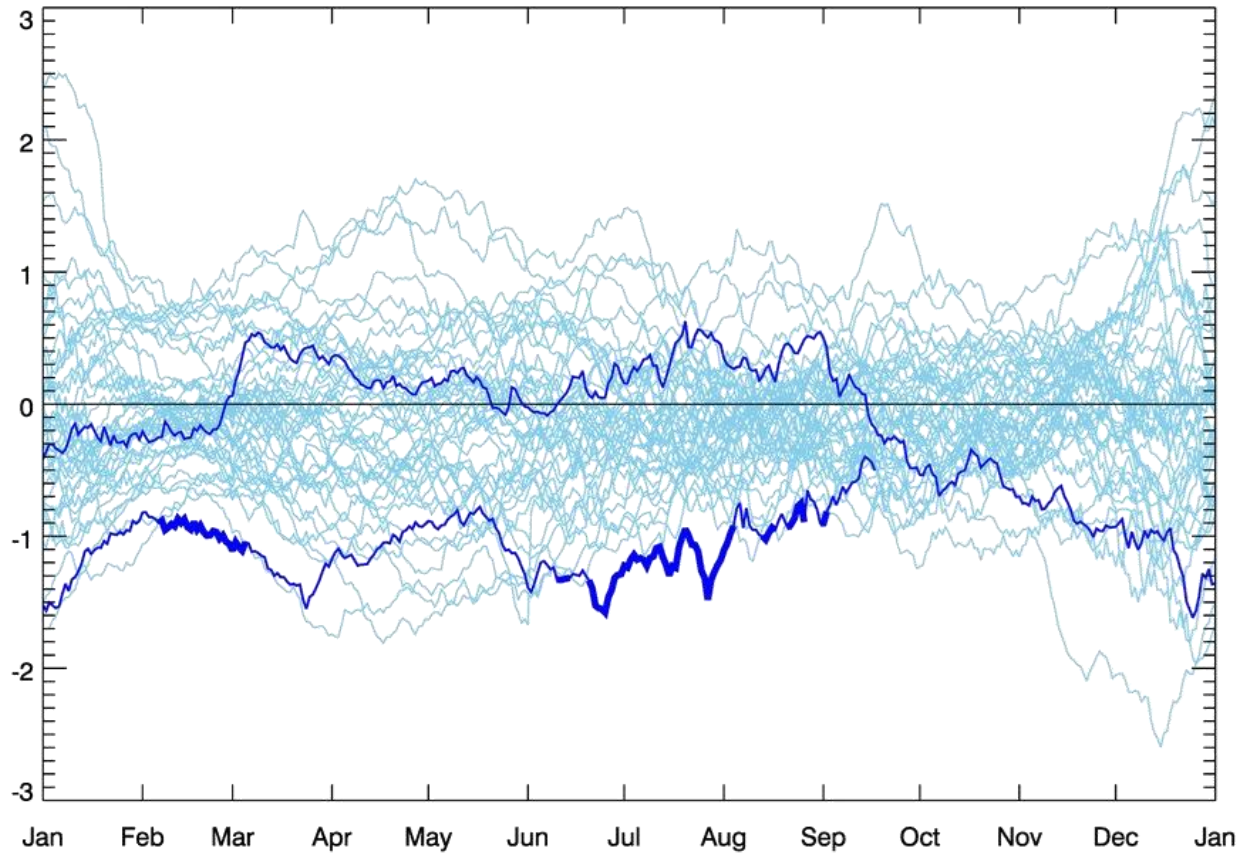
**23rd MEETING OF THE
INTERNATIONAL ICE CHARTING WORKING GROUP**
September 26-30, 2022 – Buenos Aires, Argentina

Net Antarctic and Arctic sea-ice extent

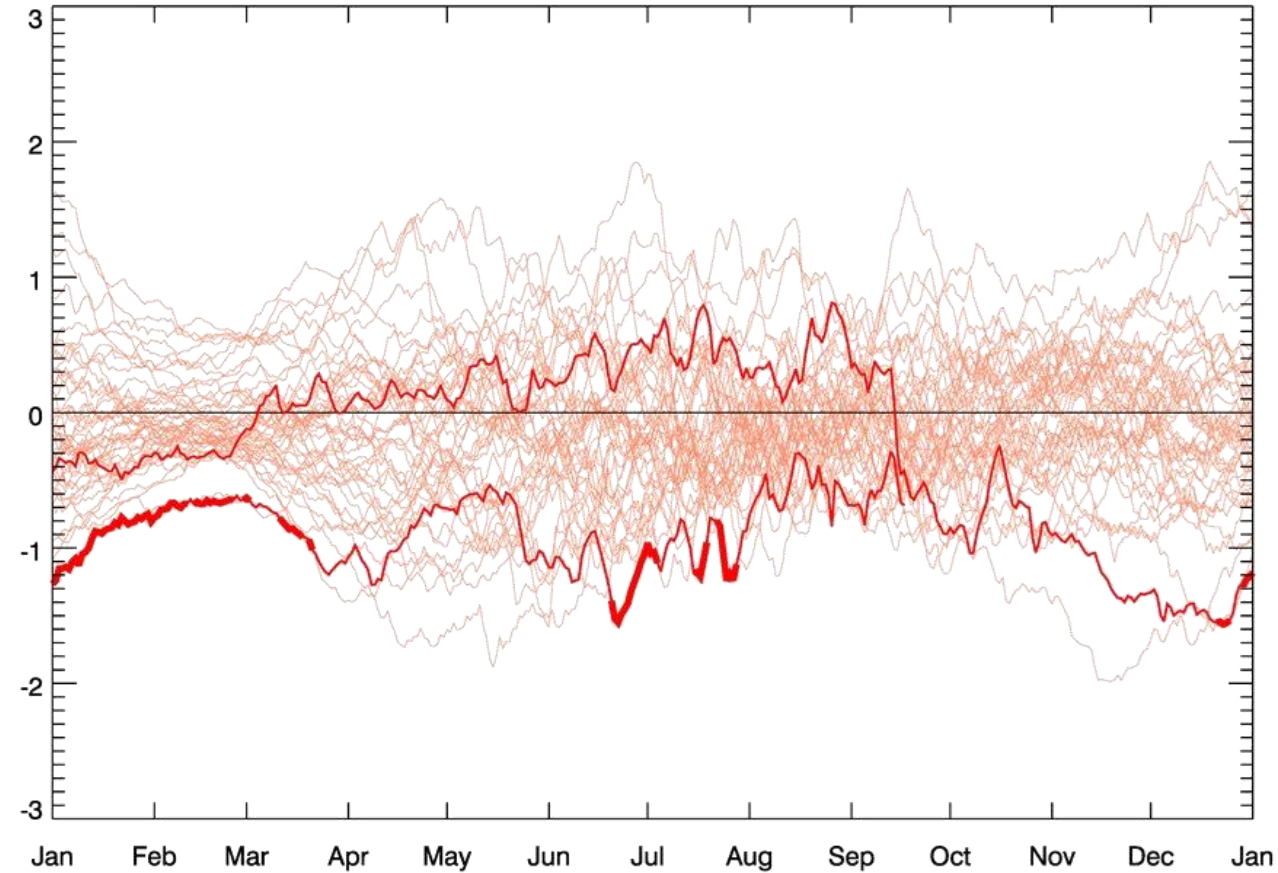


Recent Antarctic net sea-ice extent and area

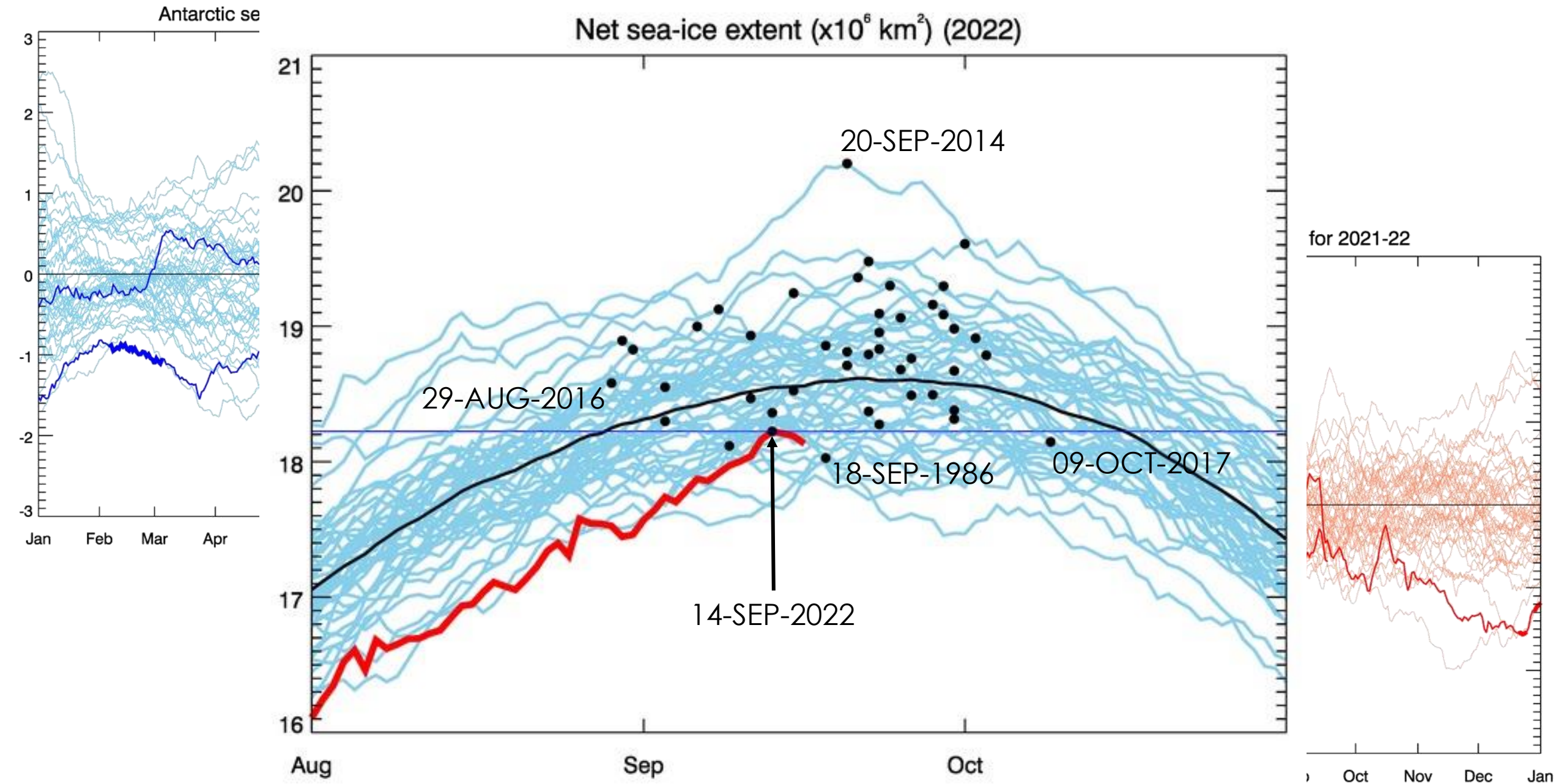
Antarctic sea-ice extent anomaly ($\times 10^6 \text{ km}^2$) for 2021-22



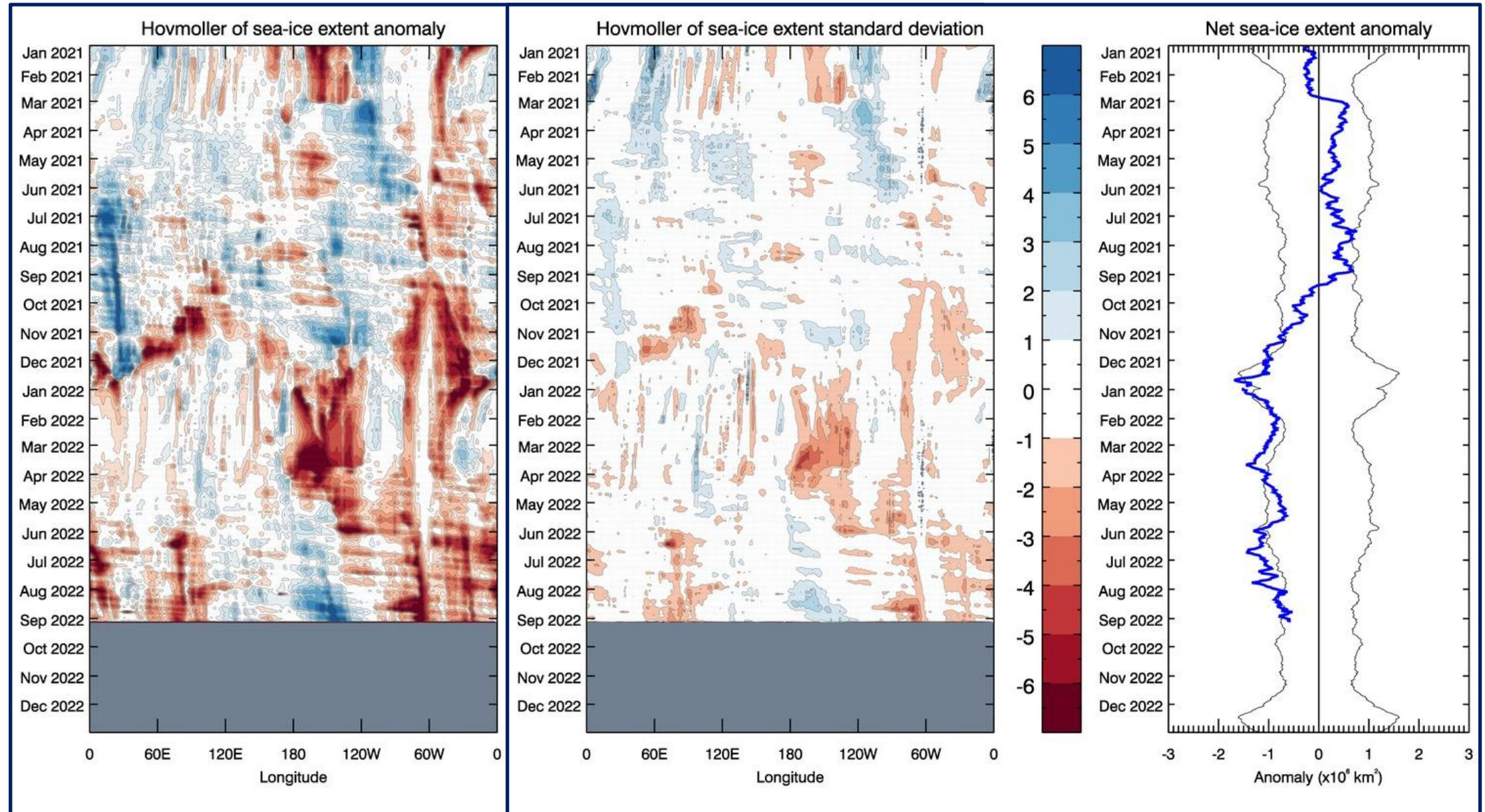
Antarctic sea-ice area anomaly ($\times 10^6 \text{ km}^2$) for 2021-22



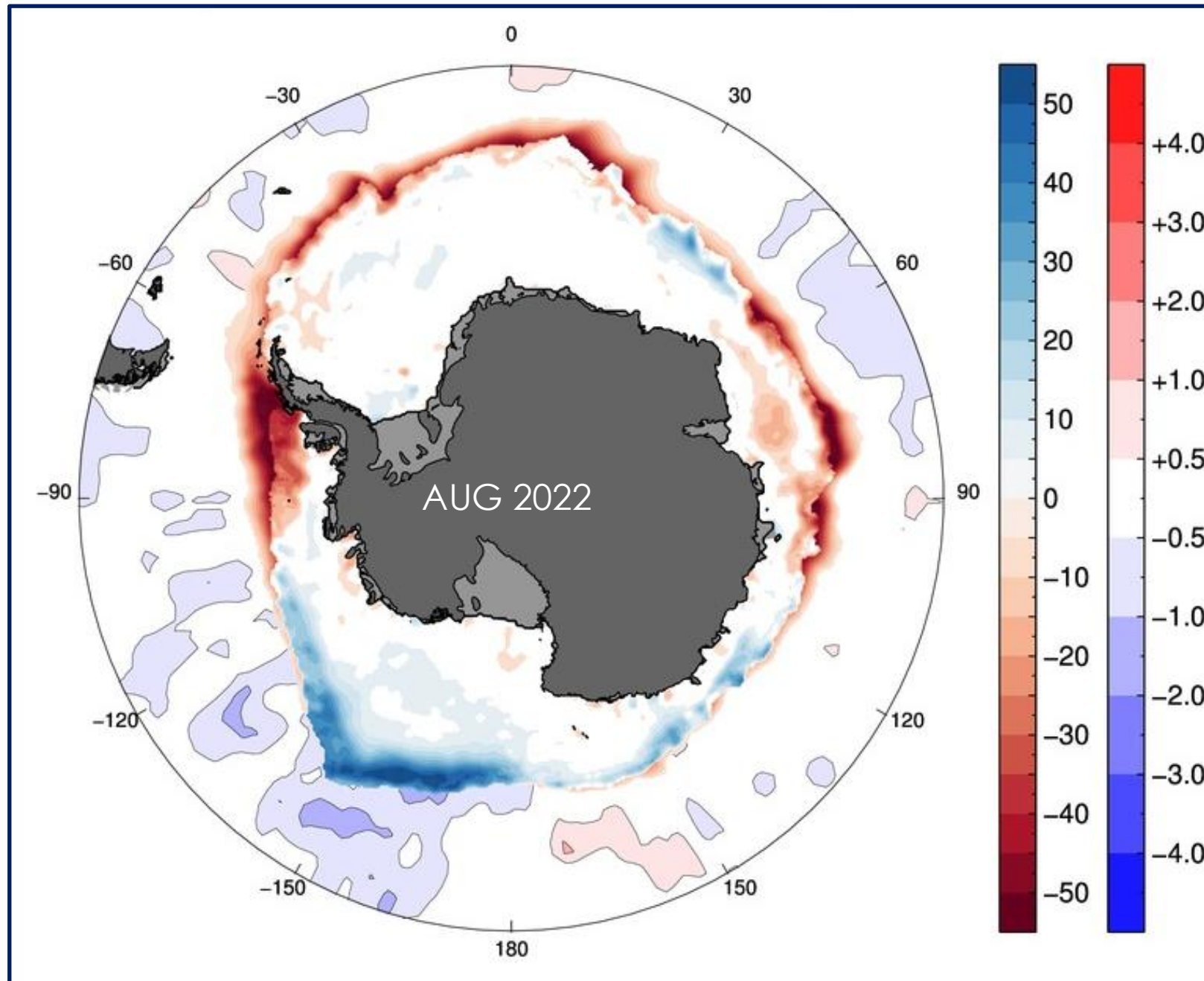
Recent Antarctic net sea-ice extent and area



2021-2022 regional anomalies of sea-ice extent – as Hovmöllers

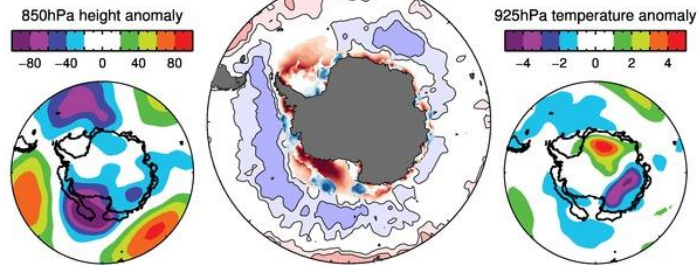


Most recent sea-ice concentration anomaly map

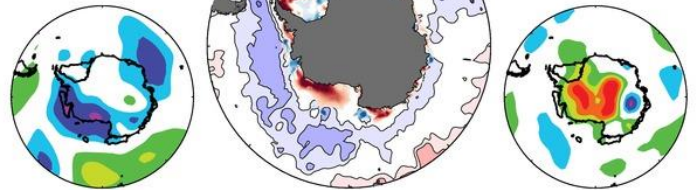


Synoptic and ocean drivers

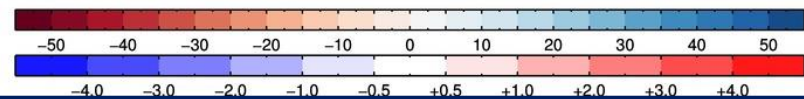
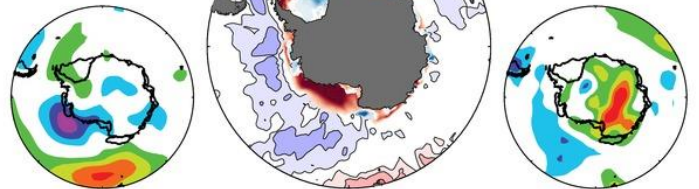
(a) January 2022



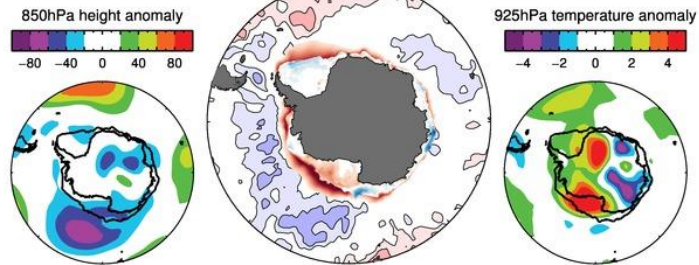
(b) February 2022



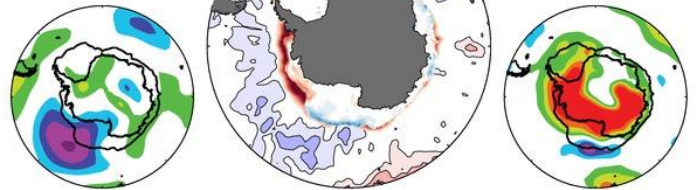
(c) March 2022



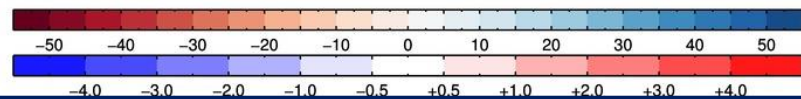
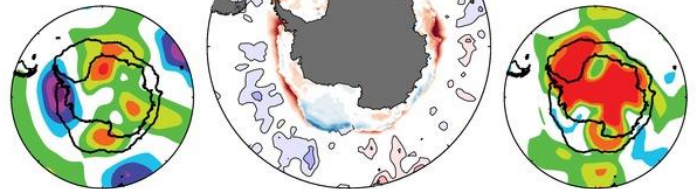
(d) April 2022



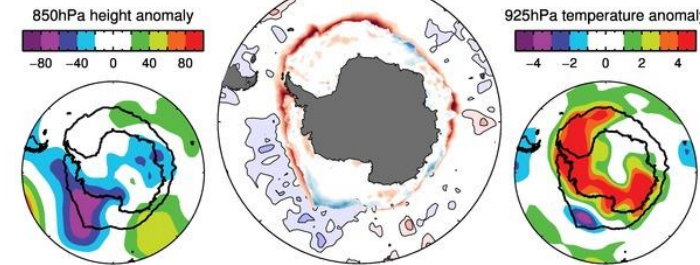
(e) May 2022



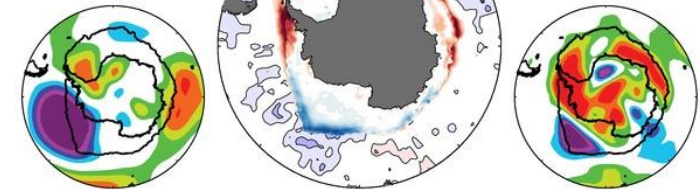
(f) June 2022



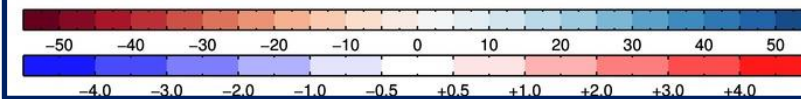
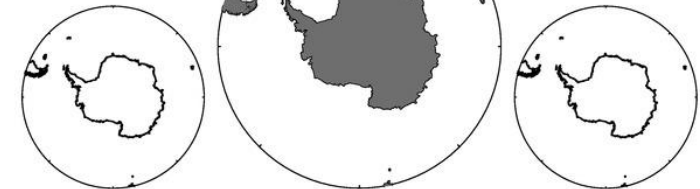
(g) July 2022



(h) August 2022

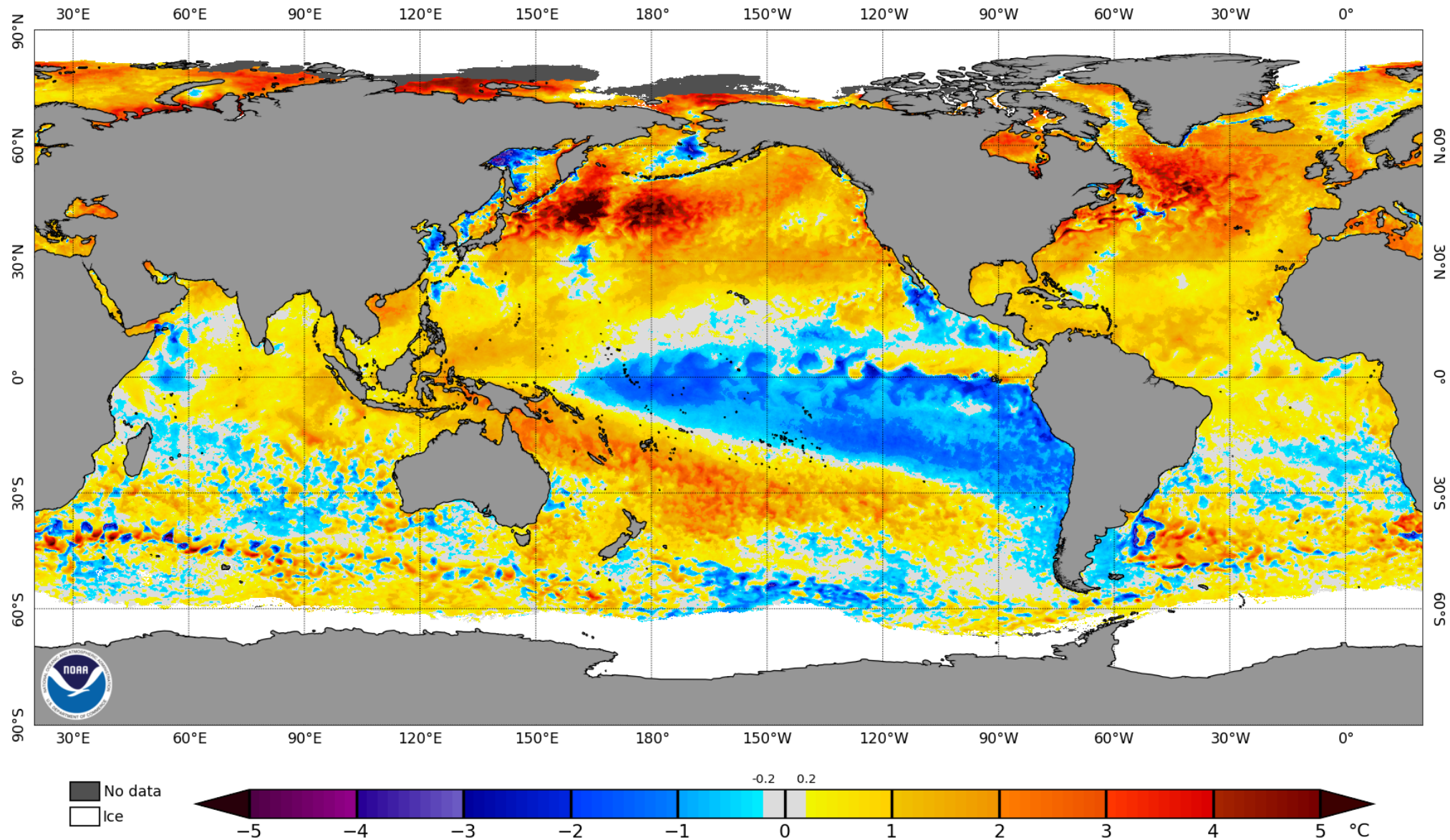


(i) September 2022



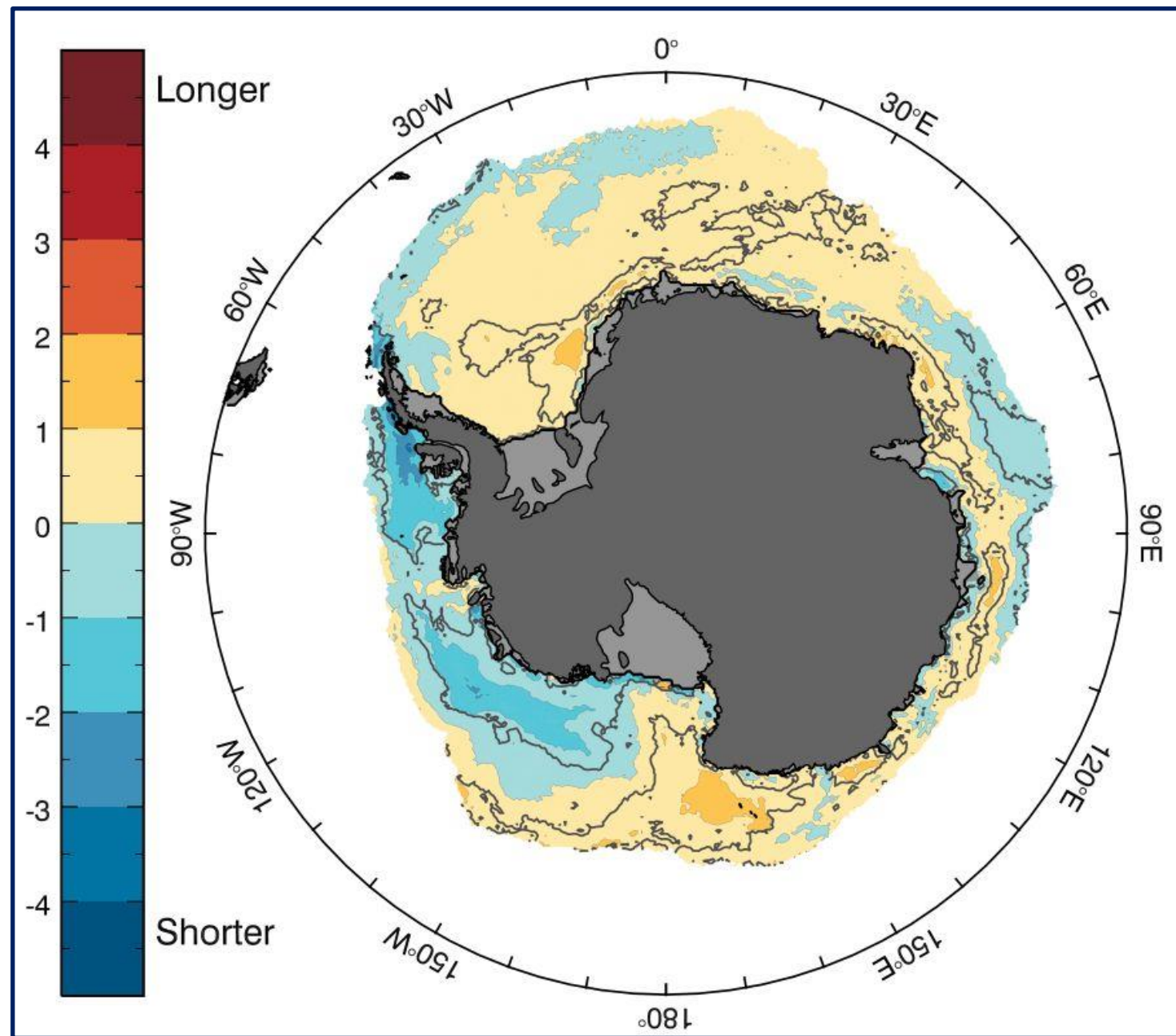
SST anomalies

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 21 Sep 2022



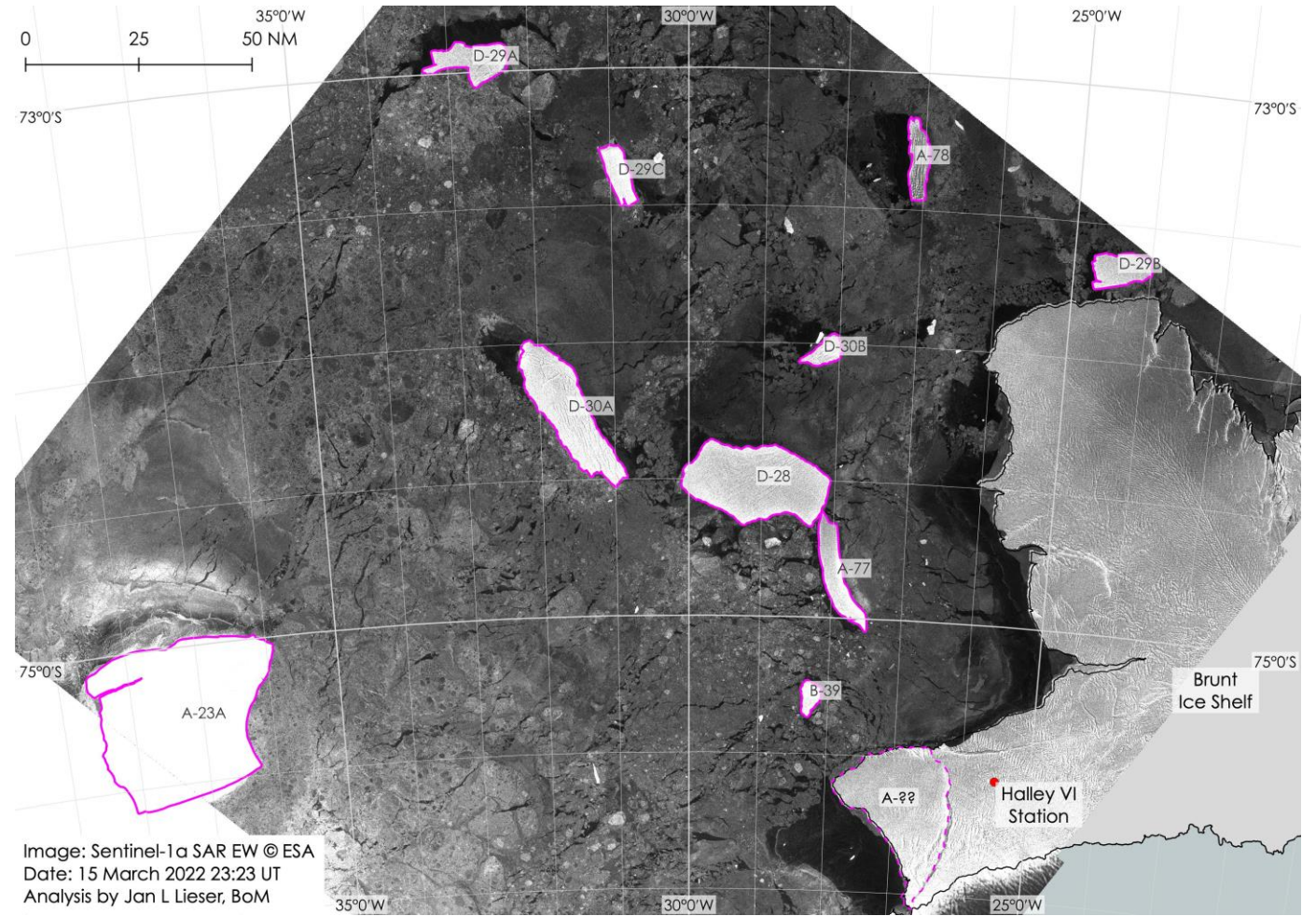
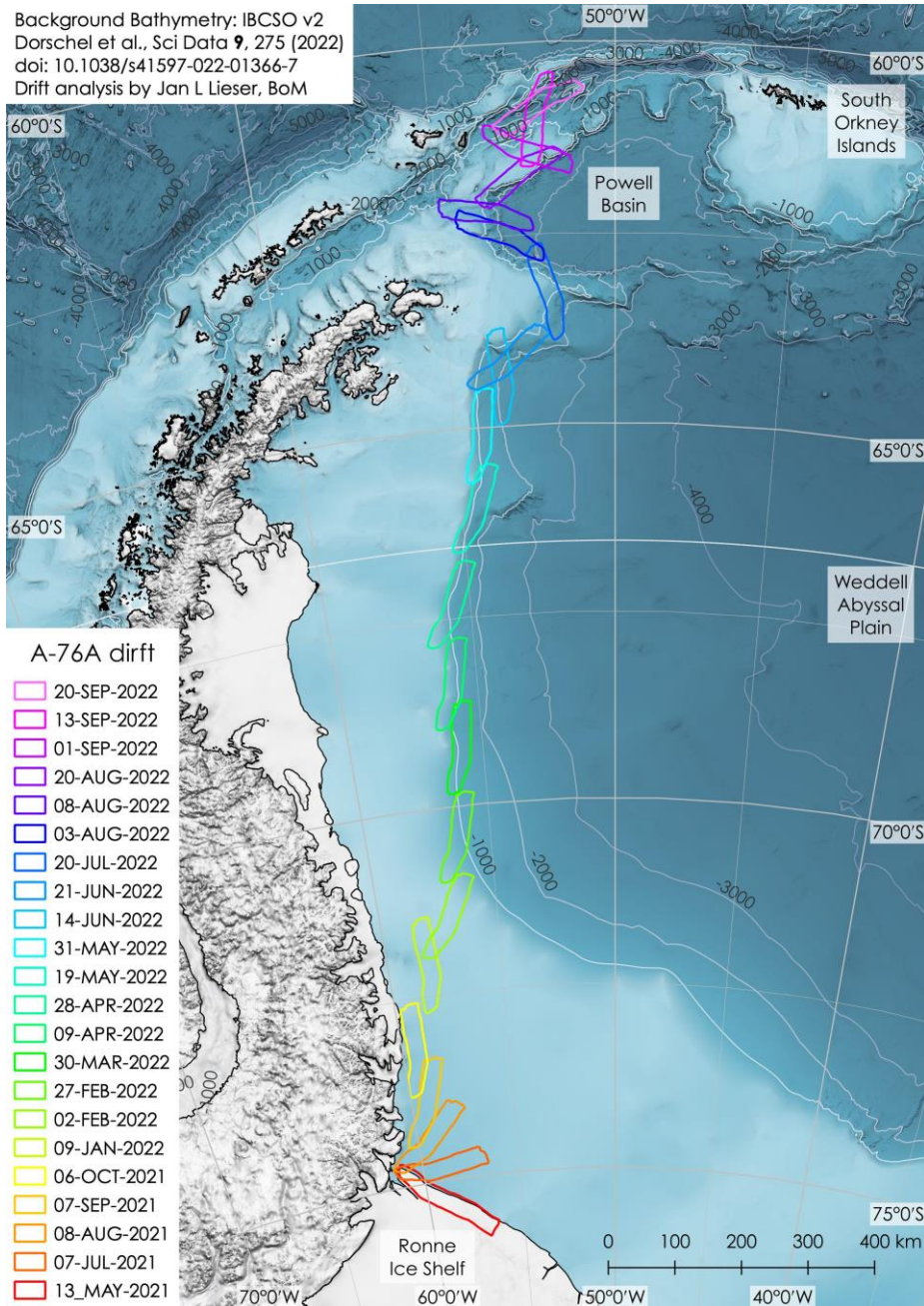
<https://www.ospo.noaa.gov/data/cb/ssta/ssta.daily.current.png>

Trend in sea-ice duration [days/year]

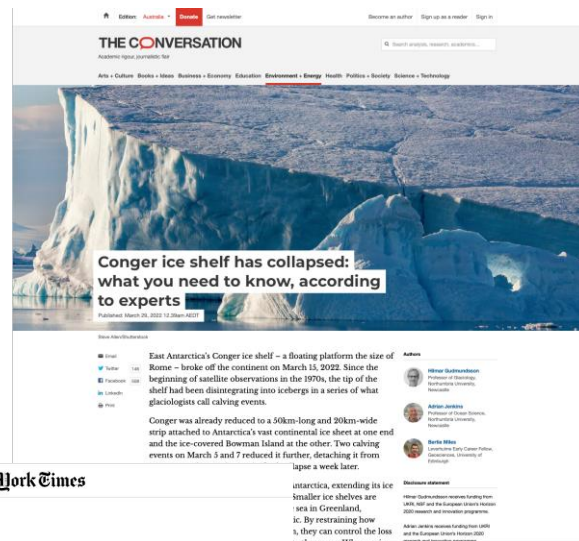


Icebergs

Background Bathymetry: IBCSO v2
Dorschel et al., Sci Data 9, 275 (2022)
doi: 10.1038/s41597-022-01366-7
Drift analysis by Jan L Lieser, BoM



Icebergs

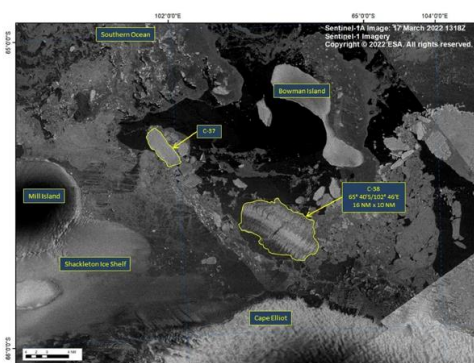


The New York Times

In a First, an Ice Shelf Collapses in East Antarctica

Scientists say a period of unusual weather, combined with record-low sea ice, led to the disintegration of the Conger ice shelf.

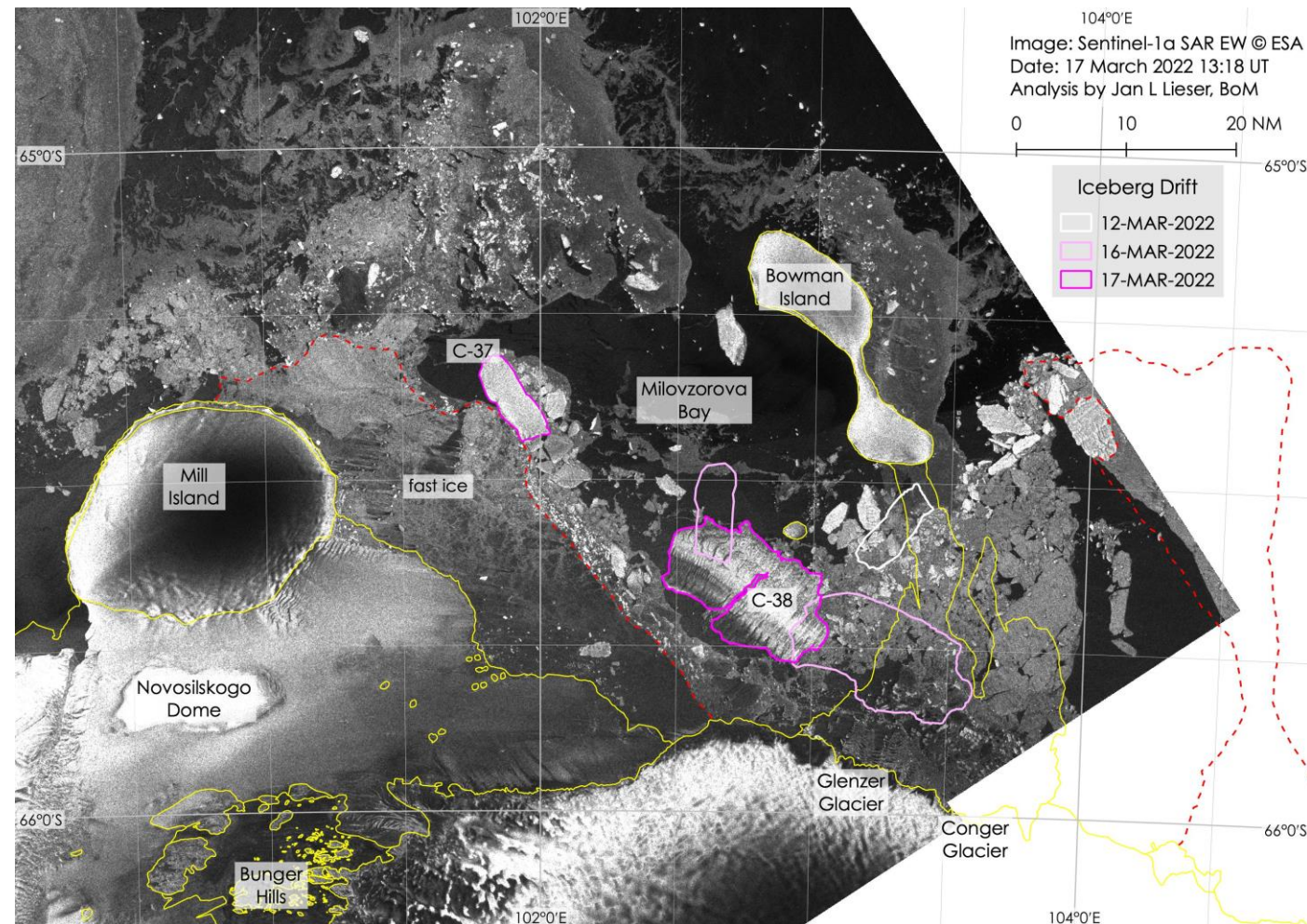
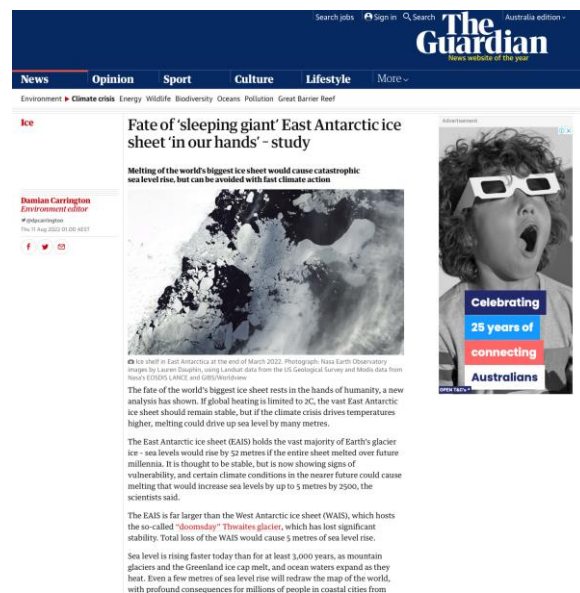
Give this article



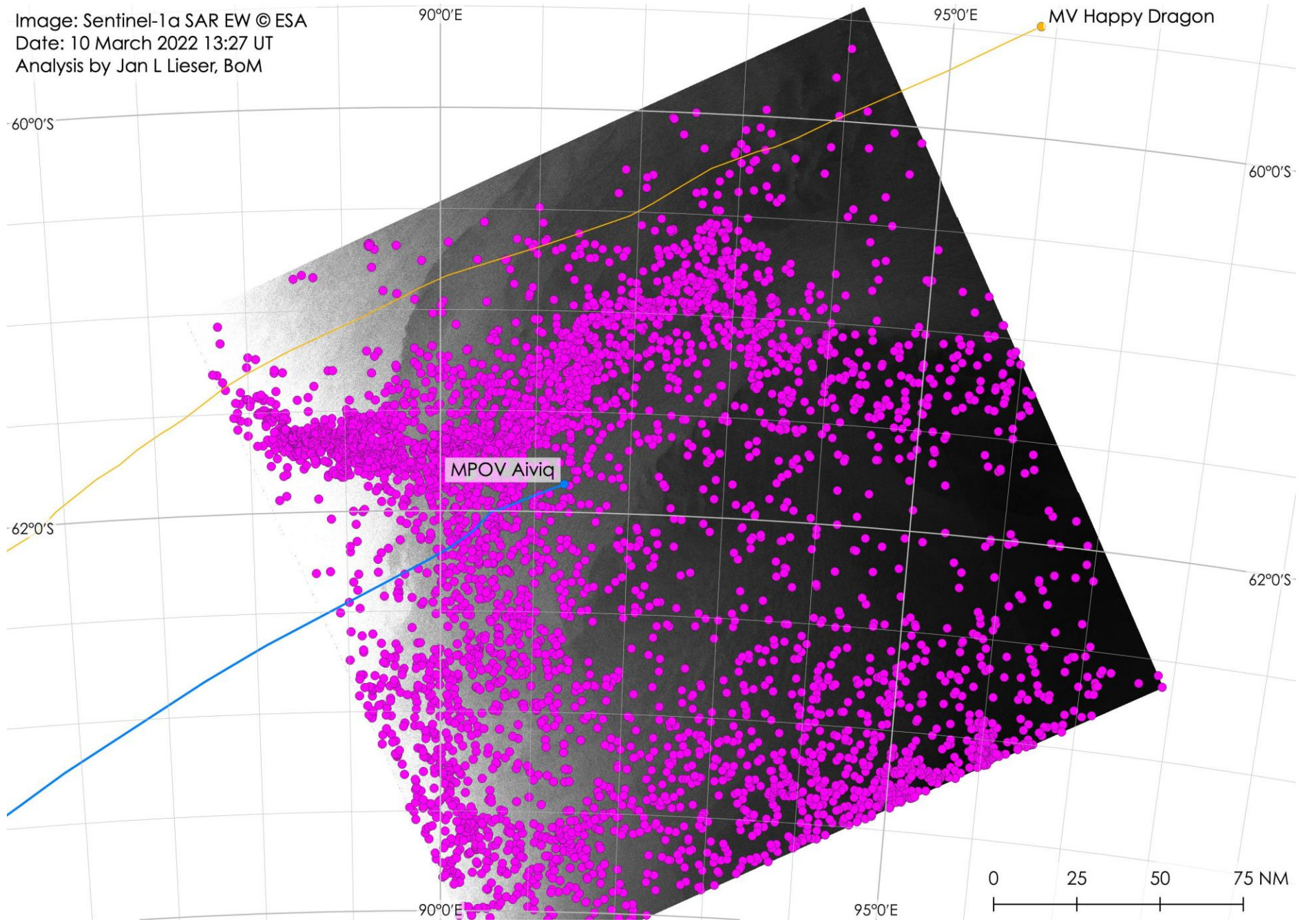
A satellite image taken over East Antarctica on March 17 shows the largest fragment of the collapsed Conger ice shelf, an iceberg named C-38. U.S. National Ice Center, via Agence France-Presse — Getty Images

By Henry Fountain
March 25, 2022

For the first time since satellites began observing Antarctica nearly half a century ago, an ice shelf has collapsed on the eastern



Icebergs



Thank you

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Antarctic weather and ice service:
antforecasters@bom.gov.au

