



2018 Arctic Report Card

Effects of persistent Arctic warming continue to mount

www.arctic.noaa.gov/Report-Card

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2018 Arctic Report Card, Editor

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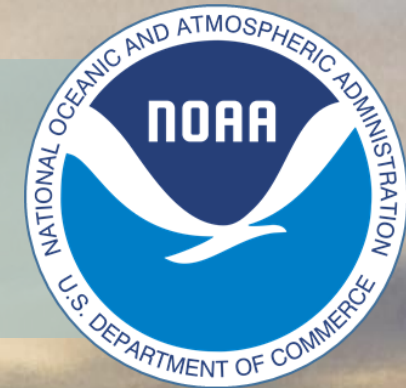


The 2018 Arctic Report
Card is the 13th Edition
of this annual report

Including a series of
14 essays

Written by a team of
80+ Arctic Scientists
from 12 countries





2018 ARC Table of Contents

- ***Vital Signs: annual reporting***

- Surface Air Temperature
- Terrestrial Snow Cover
- Greenland Ice Sheet
- Sea Ice
- Sea Surface Temperature
- Arctic Ocean Primary Productivity
- Tundra Greenness

- ***Indicators: 3-5 year reporting***

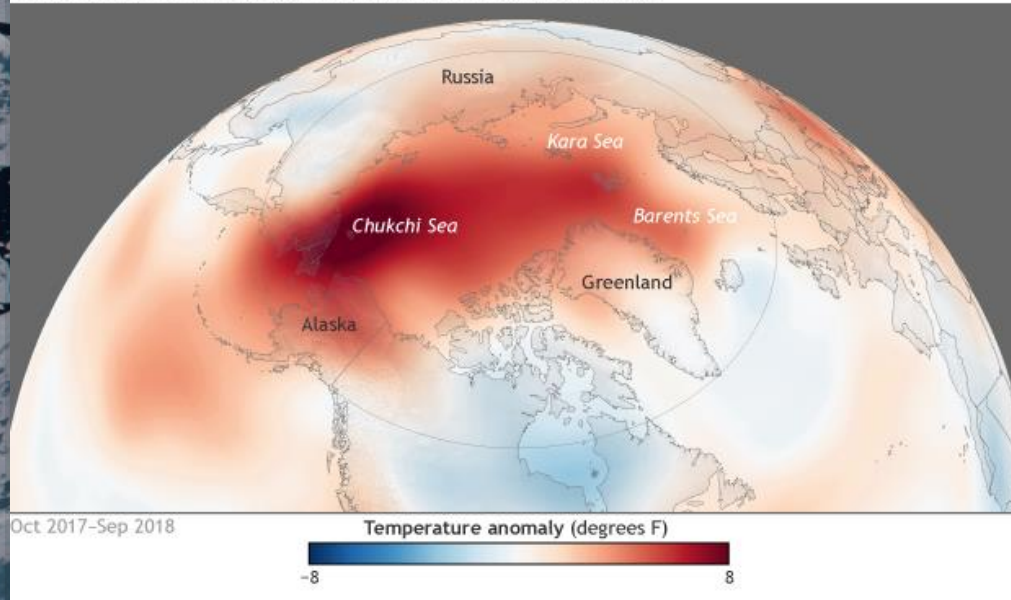
- River Discharge
- Lake Ice
- Migratory Tundra Caribou and Wild Reindeer

- ***Frostbites: new topics***

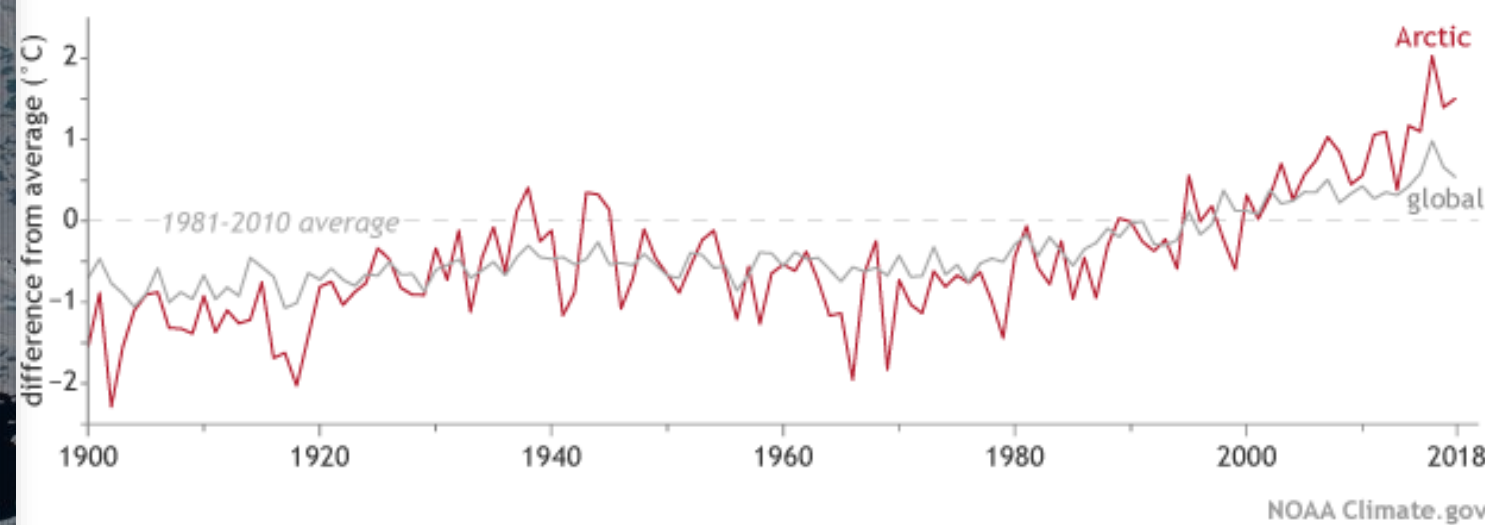
- Arctic and Mid-Latitude Weather Connections
- Harmful Algal Blooms in the Arctic
- Marine Microplastics the Arctic

Surface air temperatures in the Arctic continued to warm at twice the rate relative to the rest of the globe. Arctic air temperatures for the past five years (2014-18) have exceeded all previous records since 1900.

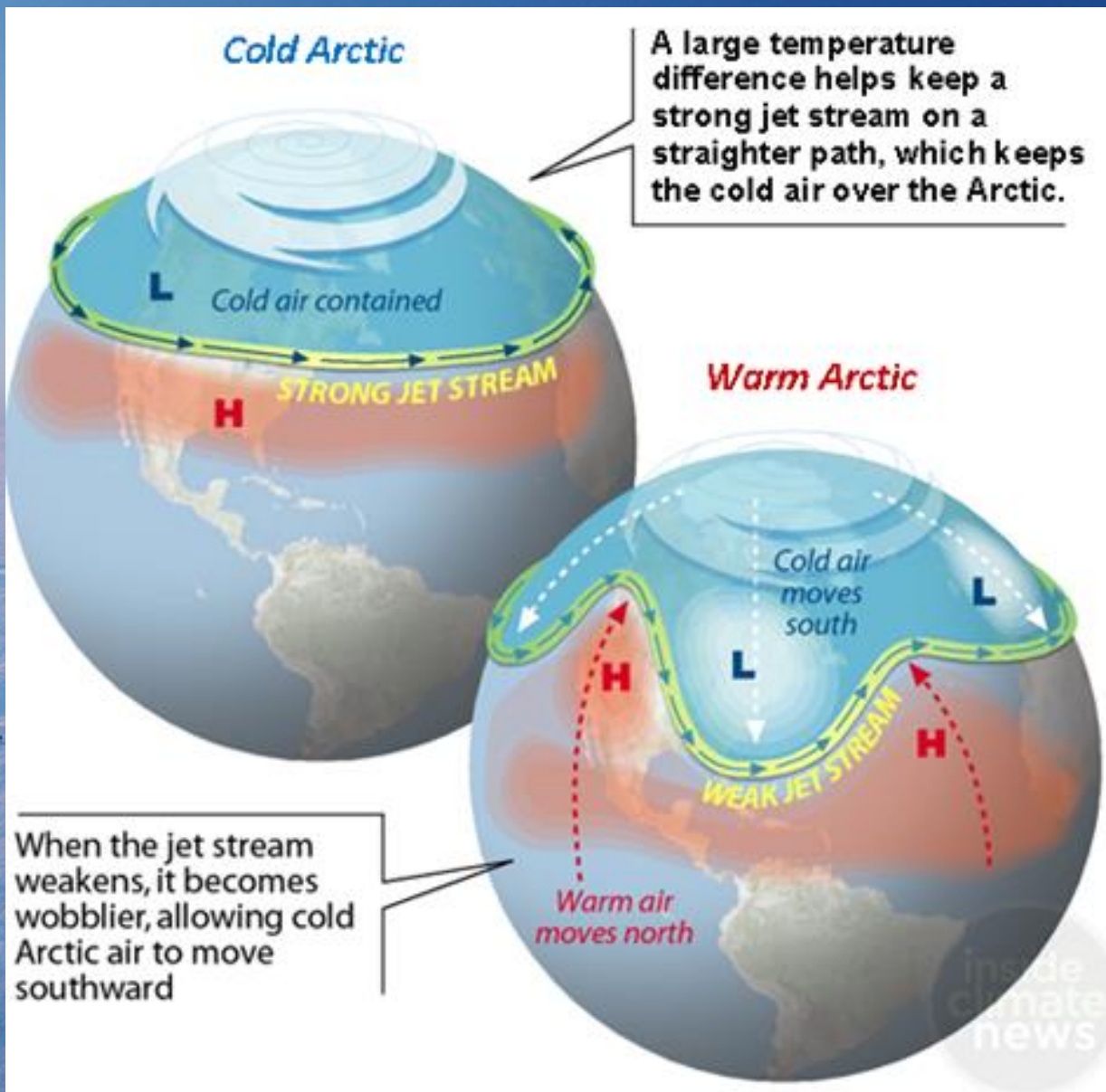
2018 WAS ARCTIC'S SECOND-WARMEST YEAR ON RECORD



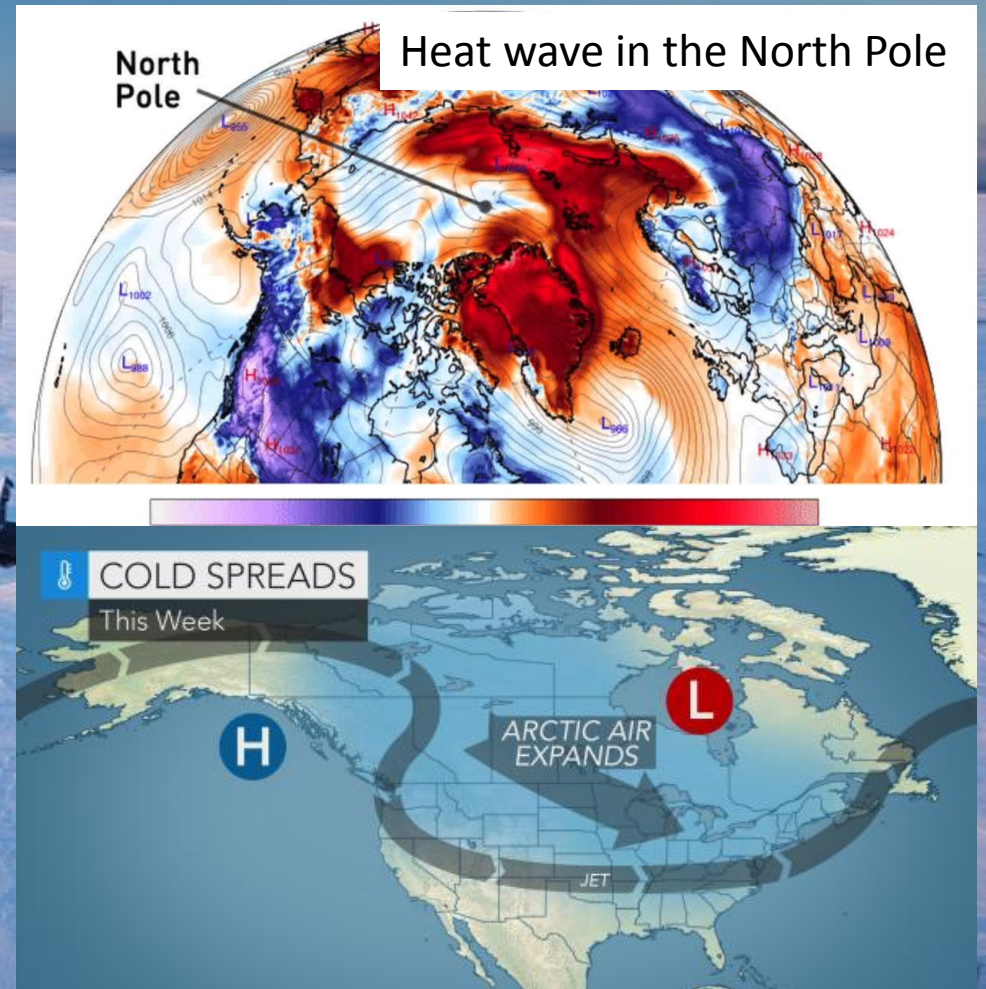
ARCTIC WARMING TWICE AS FAST AS GLOBAL AVERAGE



The average annual air temperature over land in 2018 was the **second highest in the observational record** which began in 1900 (3 °F or 1.7 °C above the long-term average)



Arctic-Mid-latitude weather connections continued to emerge in 2018.

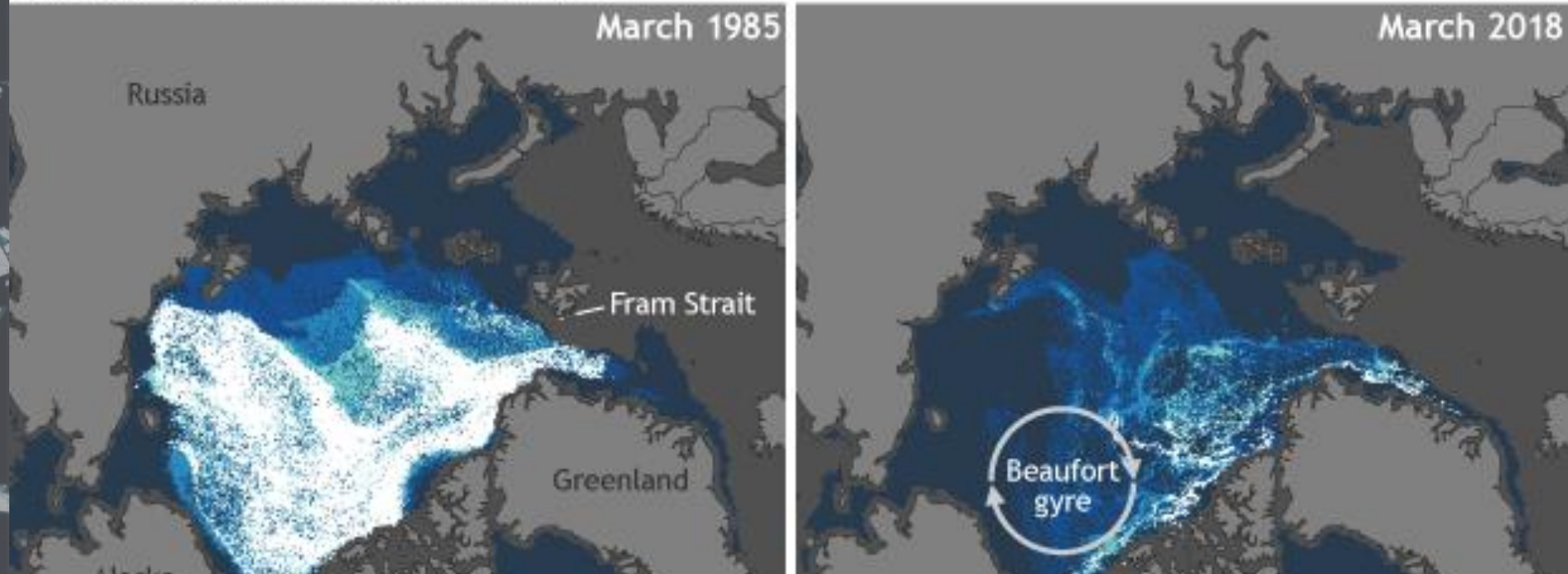


Warmer Arctic air temperatures contributed to a sluggish and unusually wavy jet-stream in 2018.

Severe winter storms in the eastern United States.

Arctic **sea ice** remained younger, thinner, and covered less area than in the past. The 12 lowest extents in the satellite record have occurred in the last 12 years.

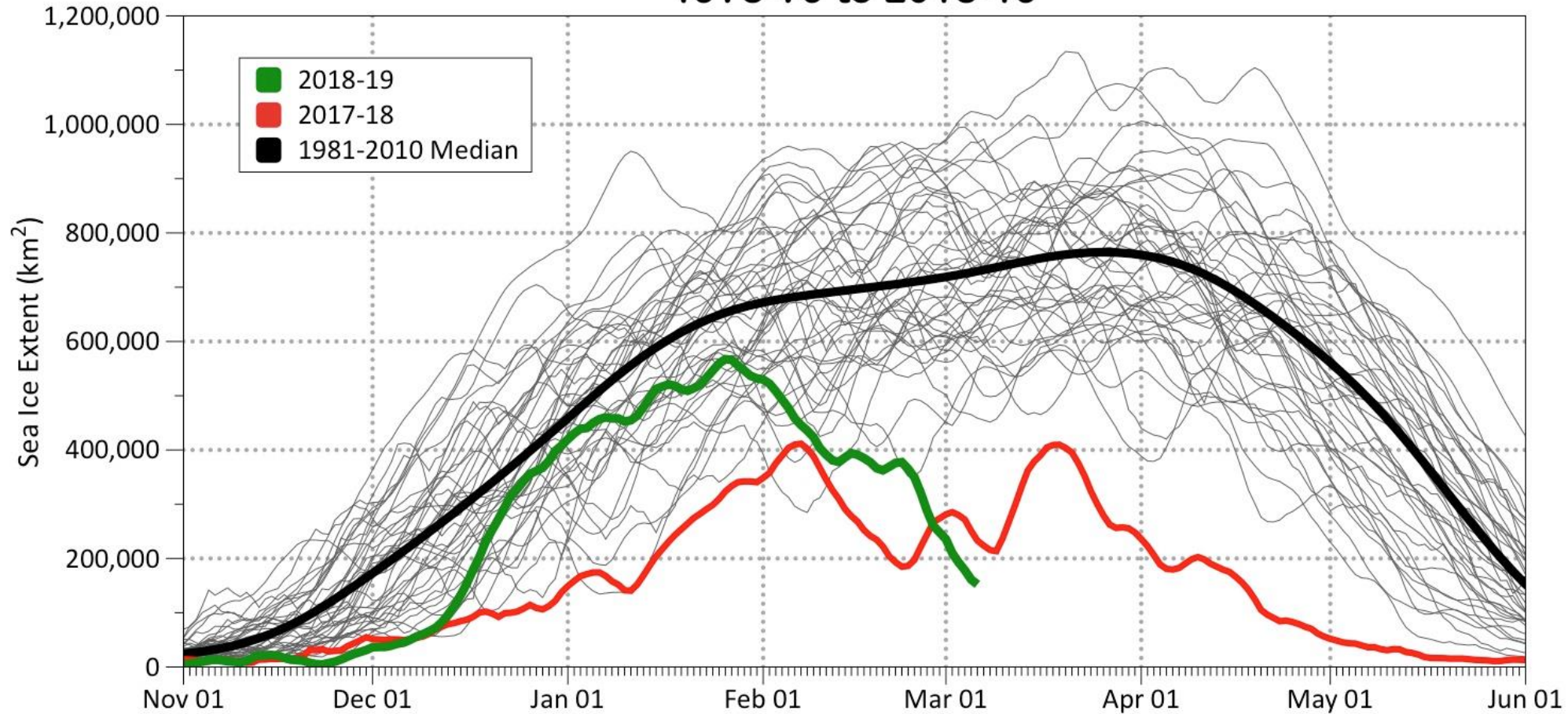
LOSS OF VERY OLD ICE OVER TIME



Ice older than 4 years now makes up only 1 % of the Arctic ice pack. The oldest ice has declined by 95% in the last 33 years.

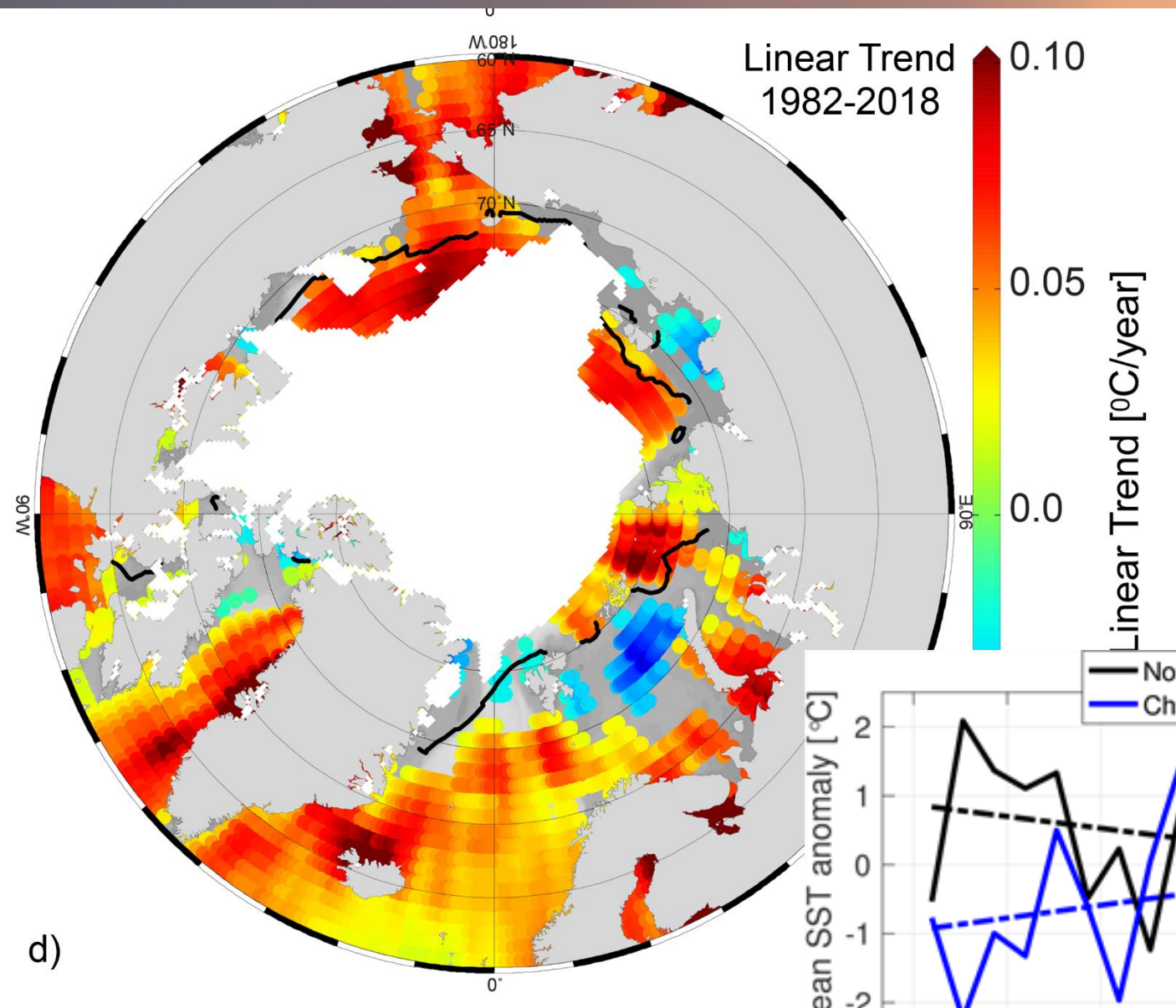


Bering Sea Daily Ice Extent 1978-79 to 2018-19

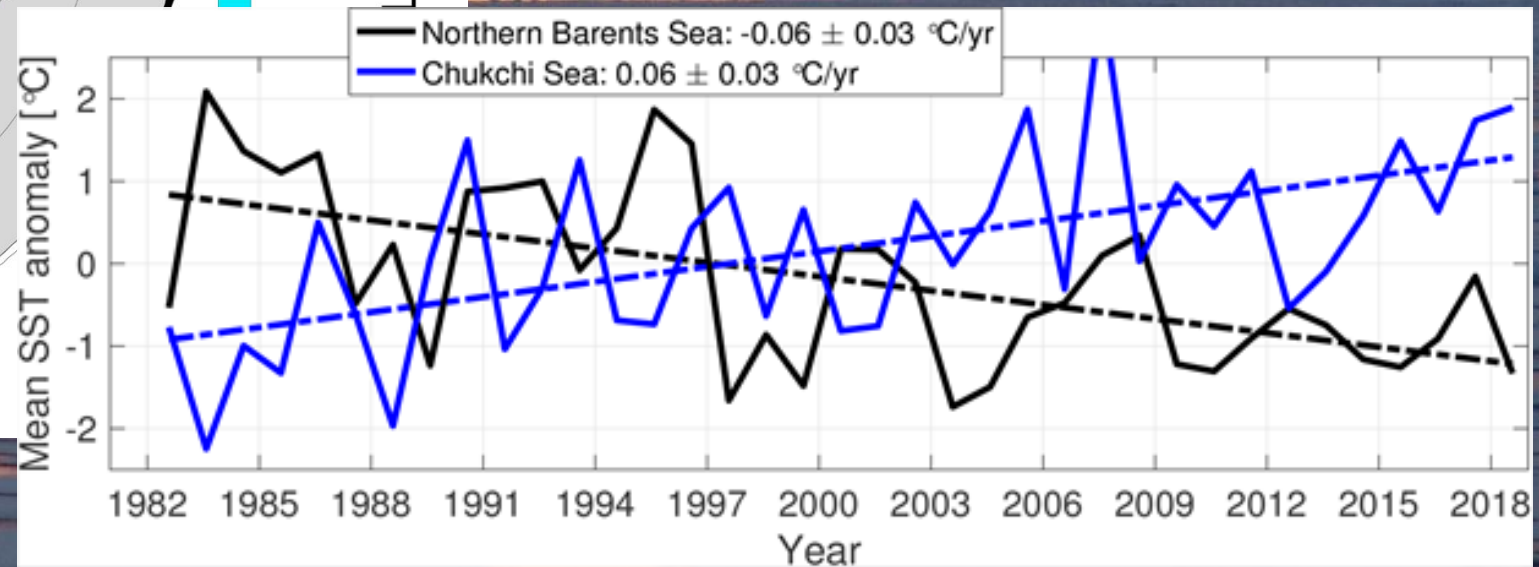




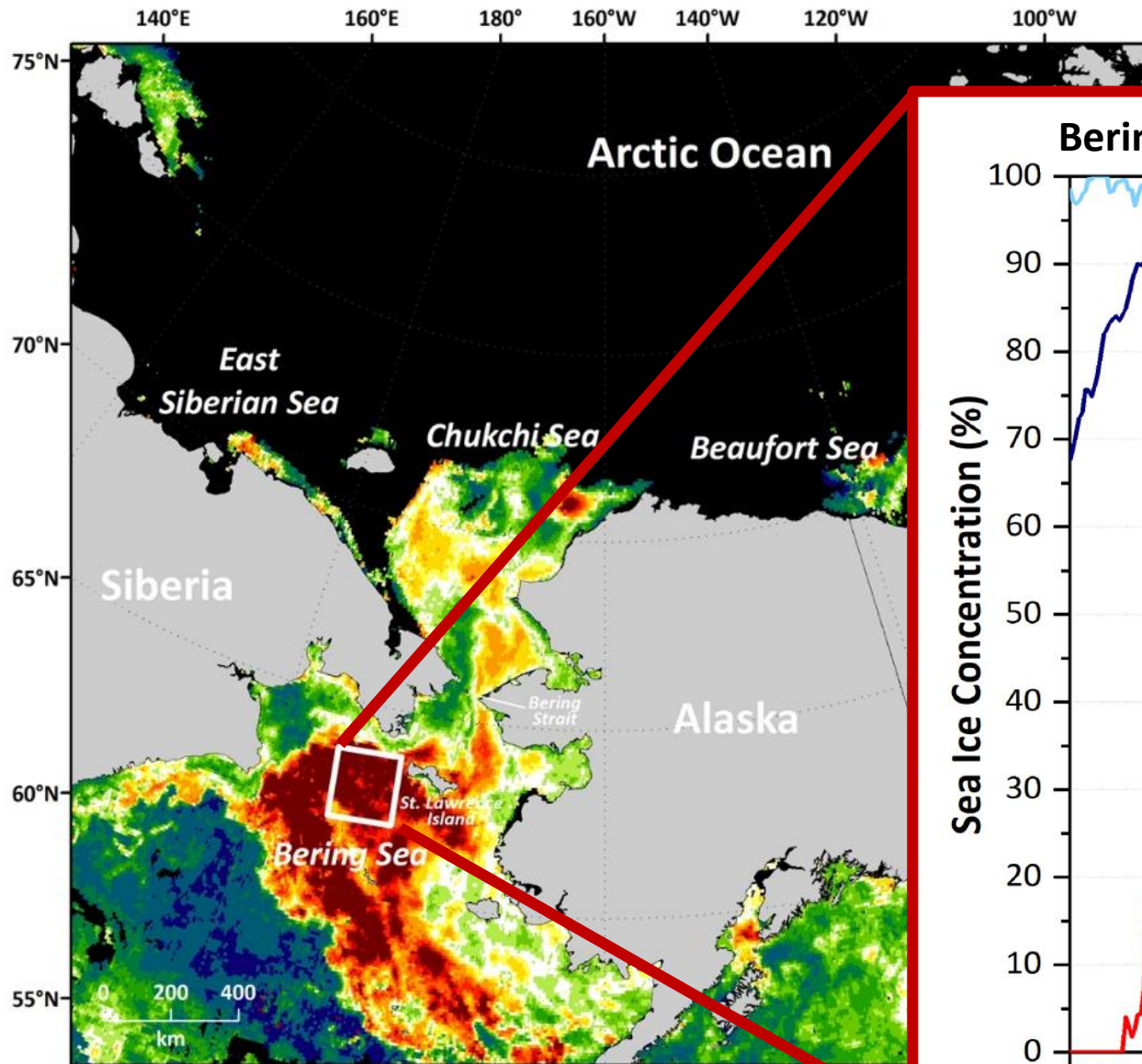
Pan-Arctic observations suggest a long-term decline in **coastal landfast ice** since measurements began in the 1970s, affecting this important platform for hunting, traveling, and coastal protection for local communities.



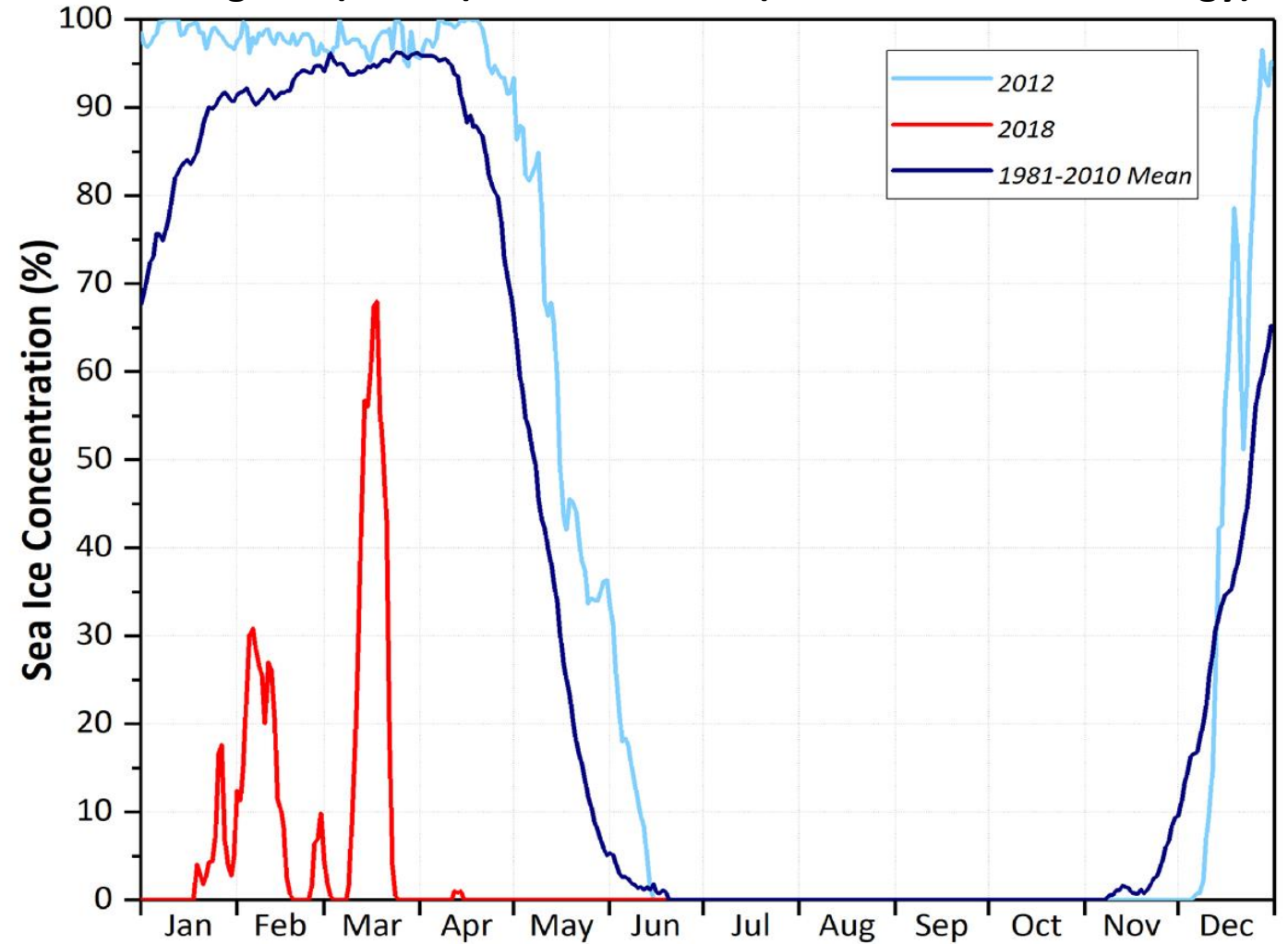
Spatial patterns of late summer sea surface temperatures are linked to regional variability in sea-ice retreat, regional air temperature, and advection of waters from the Pacific and Atlantic oceans.



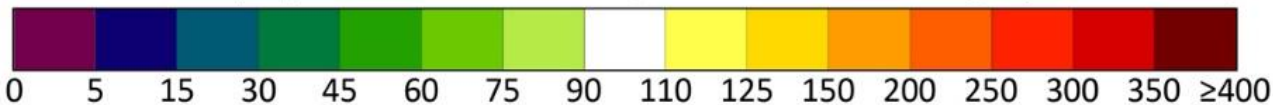
In the Bering Sea,



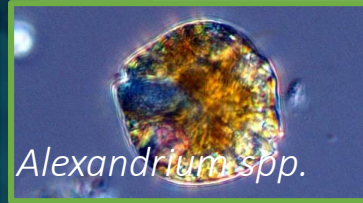
Bering Sea (DBO 1) Sea Ice Trends (2012, 2018 & Climatology)



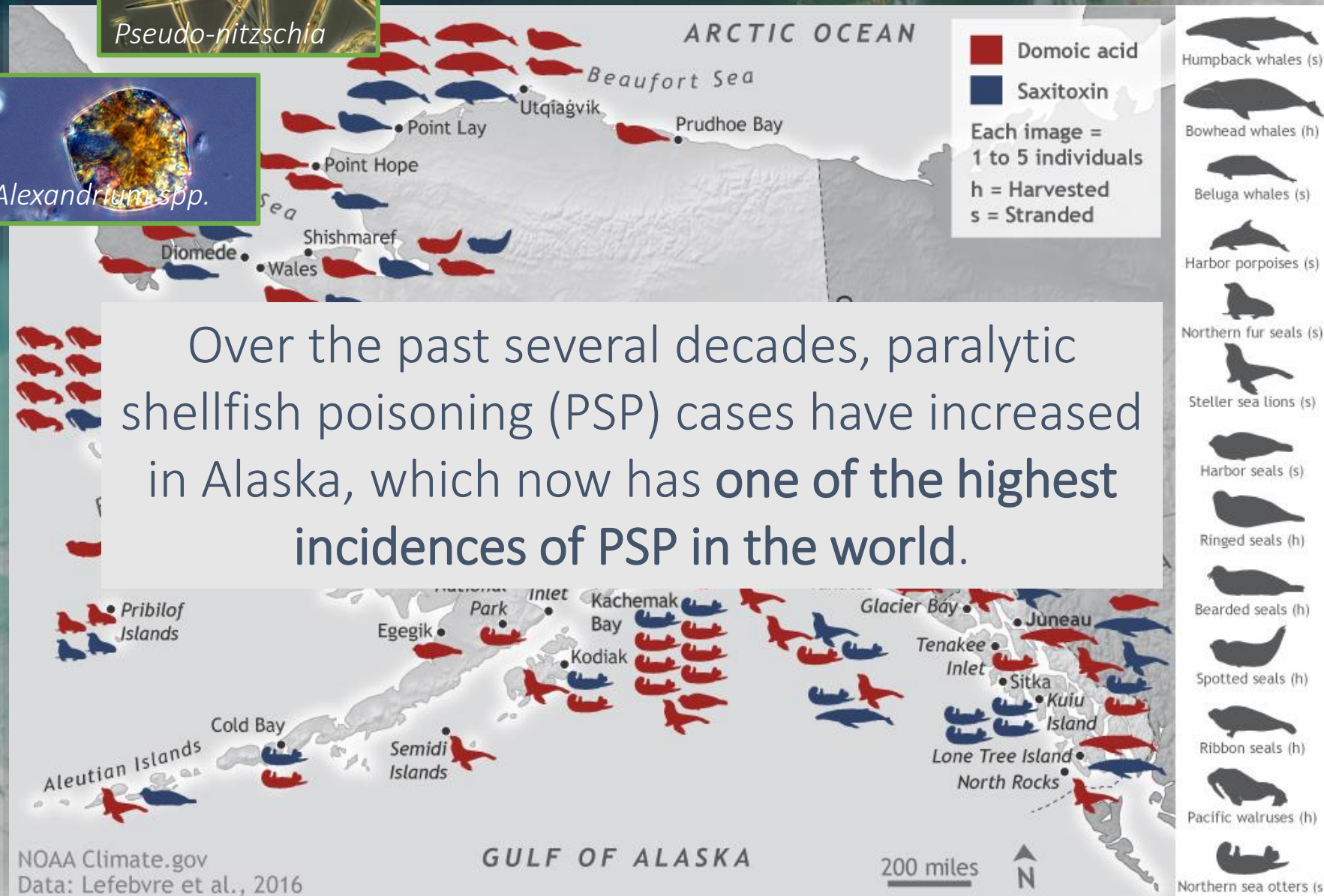
2018 Chlorophyll-a Concentration, Percent of Average



Warming Arctic Ocean conditions are also coinciding with an expansion of **harmful toxic algal blooms** in the Arctic Ocean and threatening food sources.



Over the past several decades, paralytic shellfish poisoning (PSP) cases have increased in Alaska, which now has **one of the highest incidences of PSP in the world.**

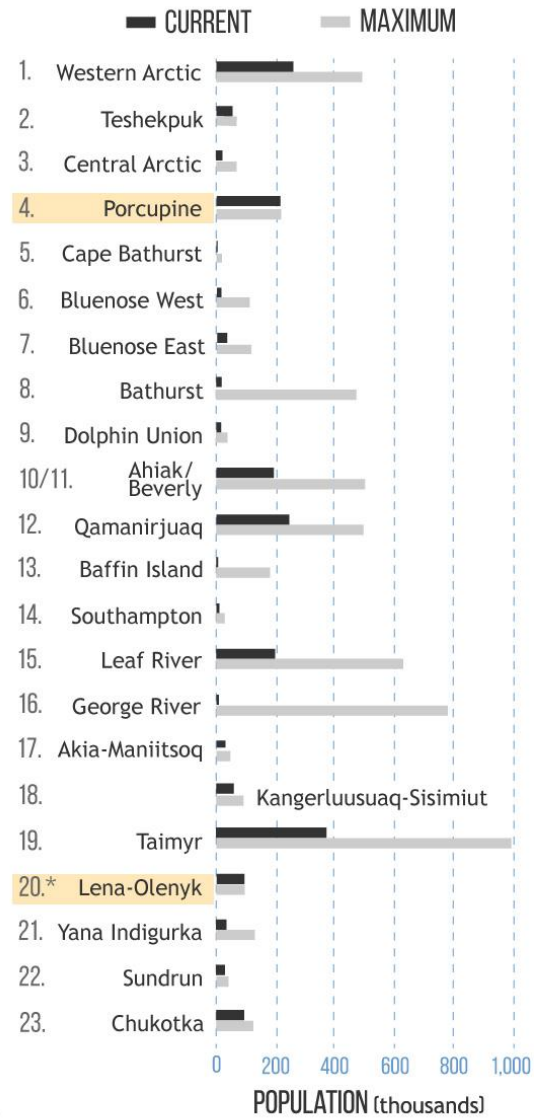


REINDEER AND CARIBOU NUMBERS DECLINING ARCTIC-WIDE



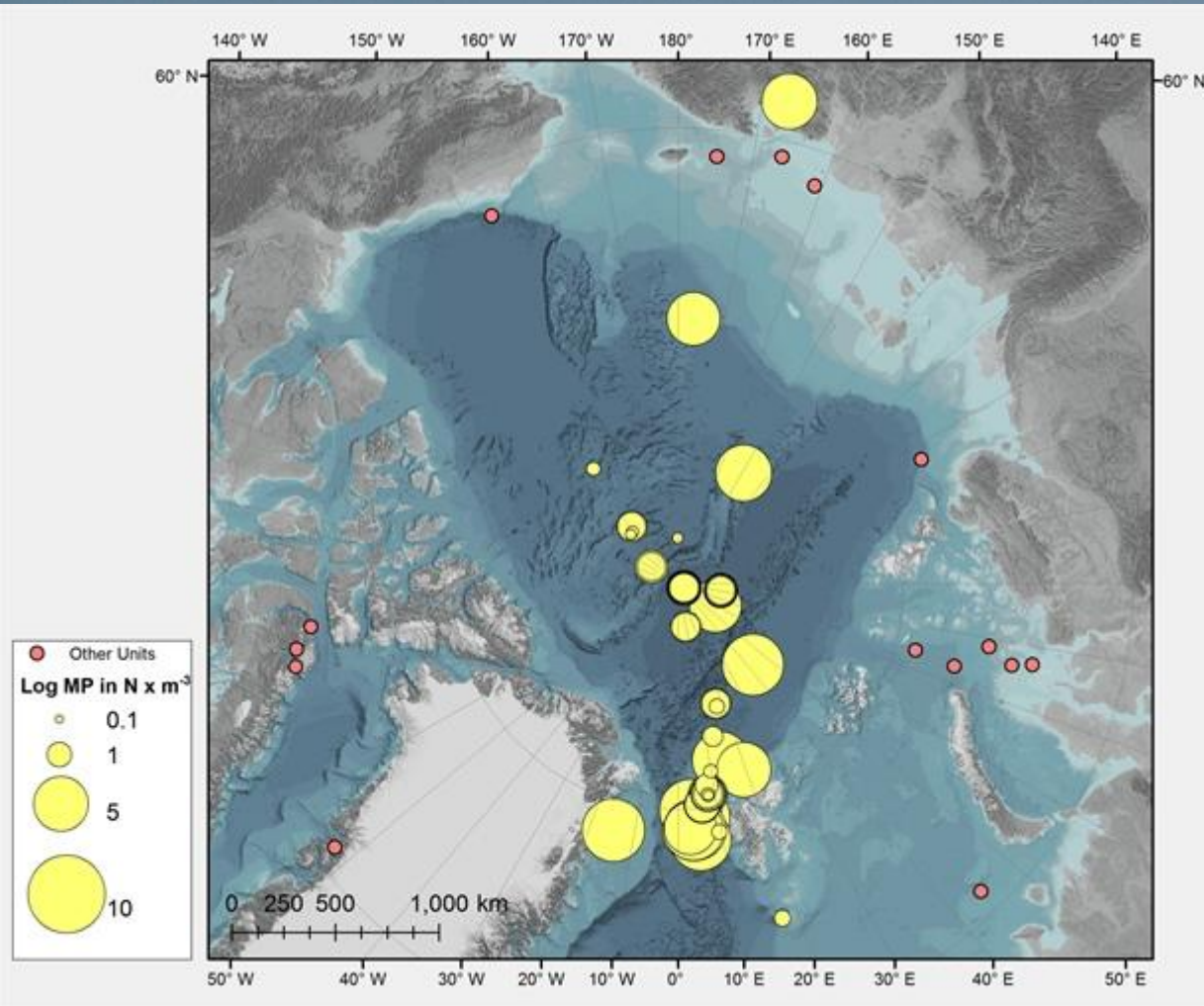
no decline Other colors used only to clarify herd boundaries.

*Not confirmed since 2009.



Despite increase of vegetation available for grazing, herd populations of **caribou and wild reindeer** across the Arctic tundra have declined by nearly 50% over the last two decades.





Microplastic contamination is on the rise in the Arctic, posing a threat to marine life that can ingest debris.

2018 Arctic Report Card

Full report: www.arctic.noaa.gov/Report-Card



Panelists

Retired Navy Rear Adm.
Timothy Gallaudet,
acting NOAA administrator

Emily Osborne,
NOAA's Arctic Research
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WHAT
**SCIENCE
STANDS**
FOR





2018 ARCTIC REPORT CARD

<https://www.youtube.com/watch?v=XntO9a-NpeM>



The media stories in 700 outlets reached an estimated 655 million readers.

The Report Card received 5,676 page views the week it was posted, making it the second most read item on NOAA.gov.

The ARC2018 was @NOAA's top tweet for the month at 109K impressions and the Facebook post reached 29.4K people.





Questions?

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