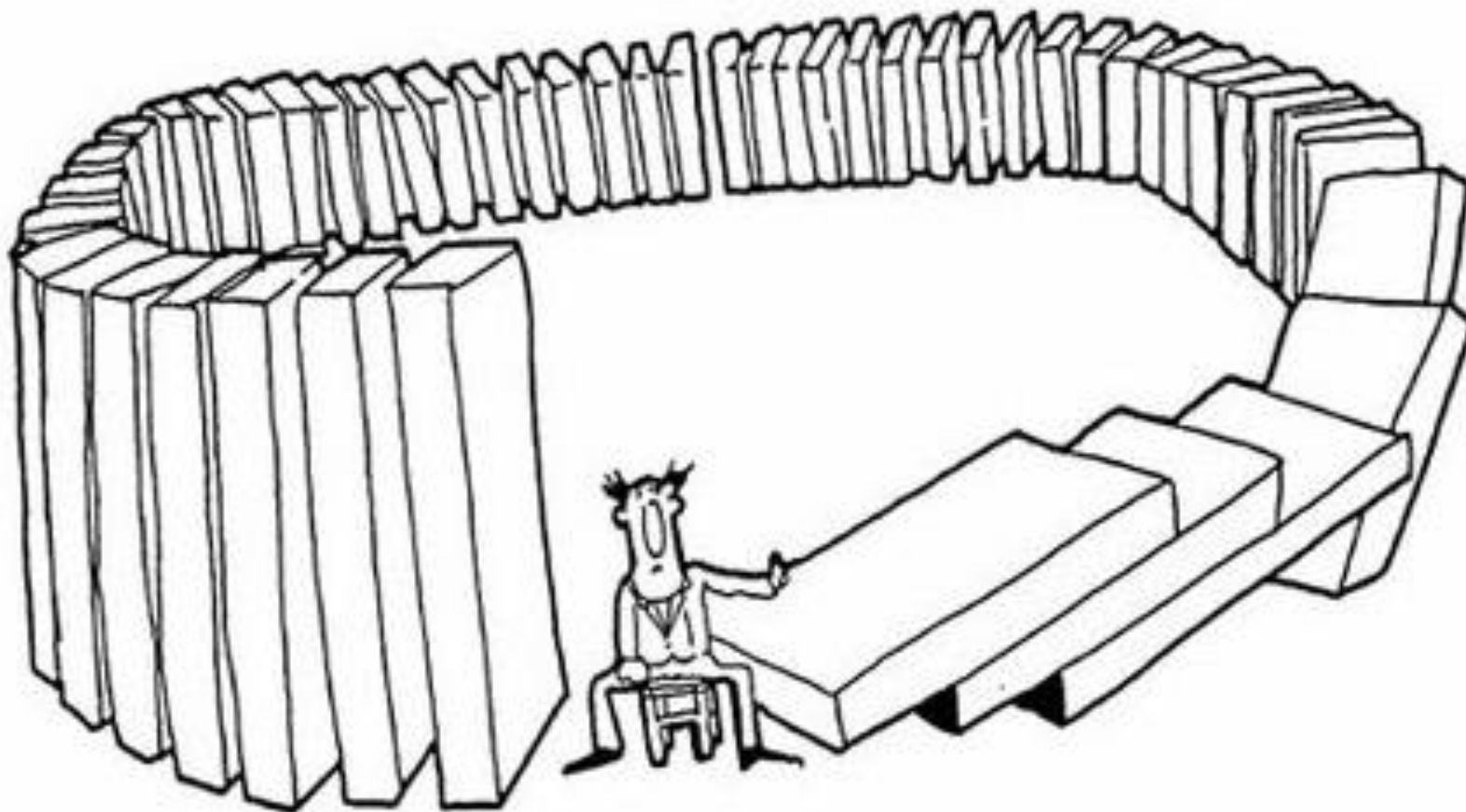


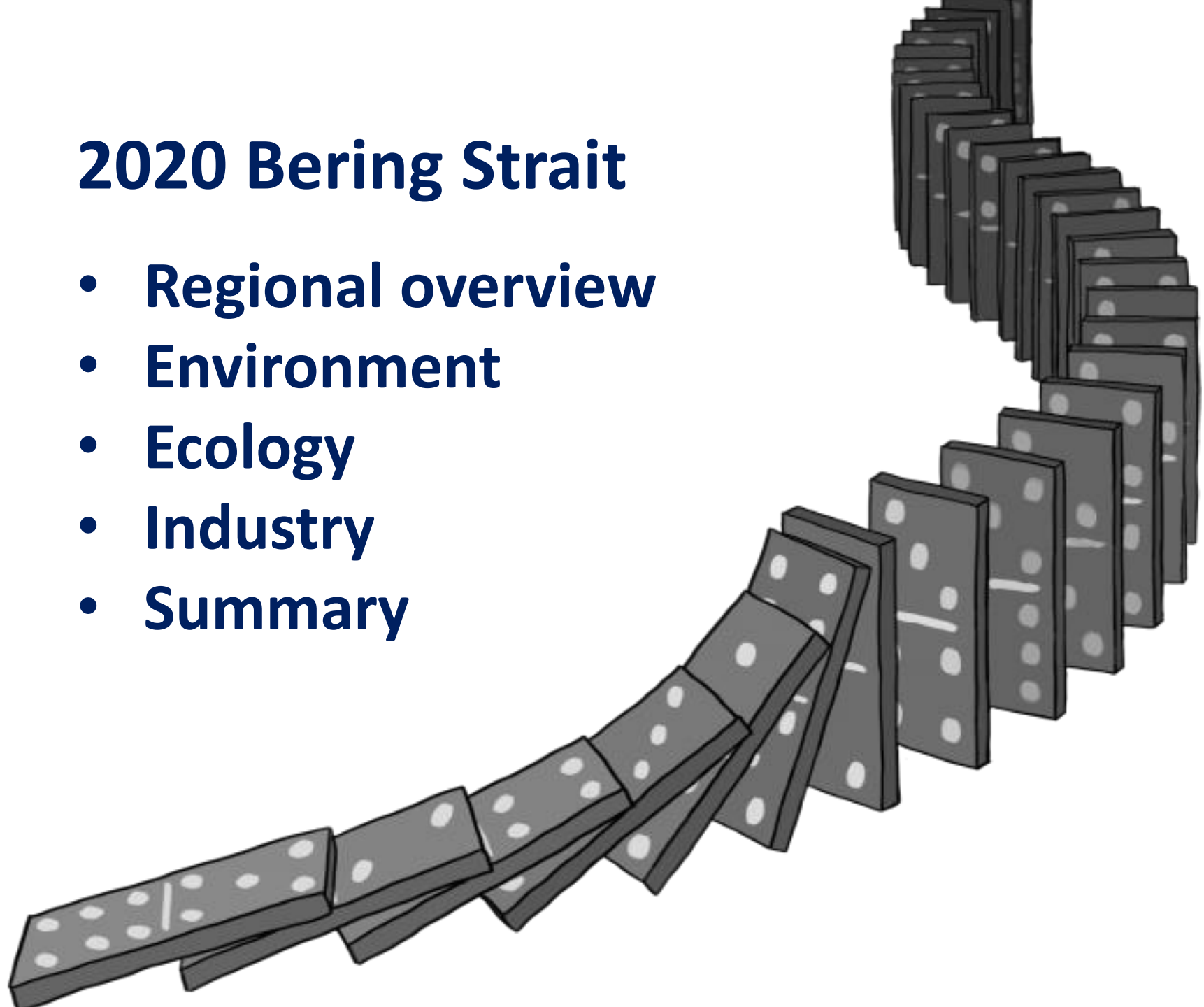
Bering Strait - Update

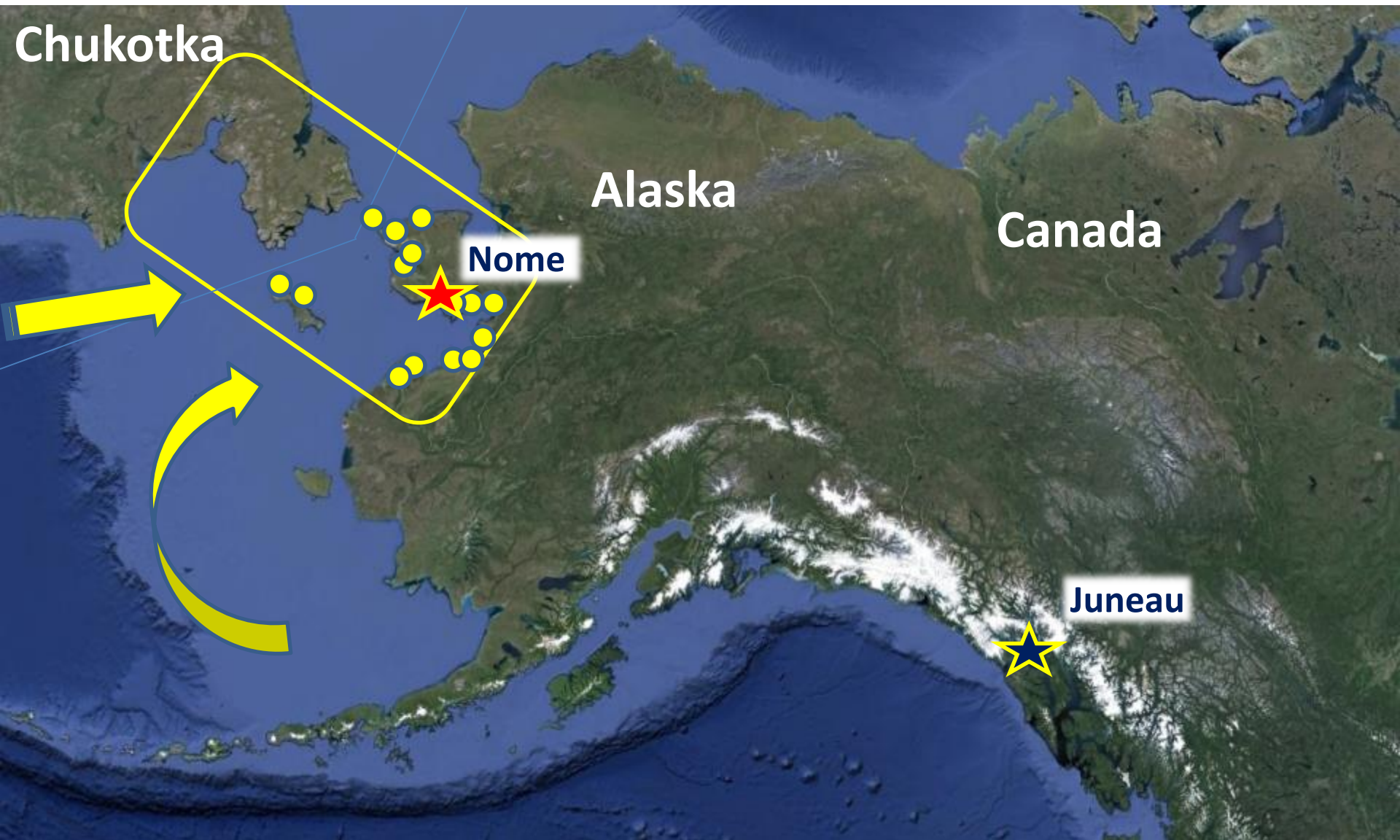


Gay Sheffield
LEO Network
June 22, 2021

2020 Bering Strait

- **Regional overview**
- **Environment**
- **Ecology**
- **Industry**
- **Summary**





Chukotka

Alaska

Canada

Nome

Juneau



Bering Strait



Chukotka

Diomede Islands

Alaska

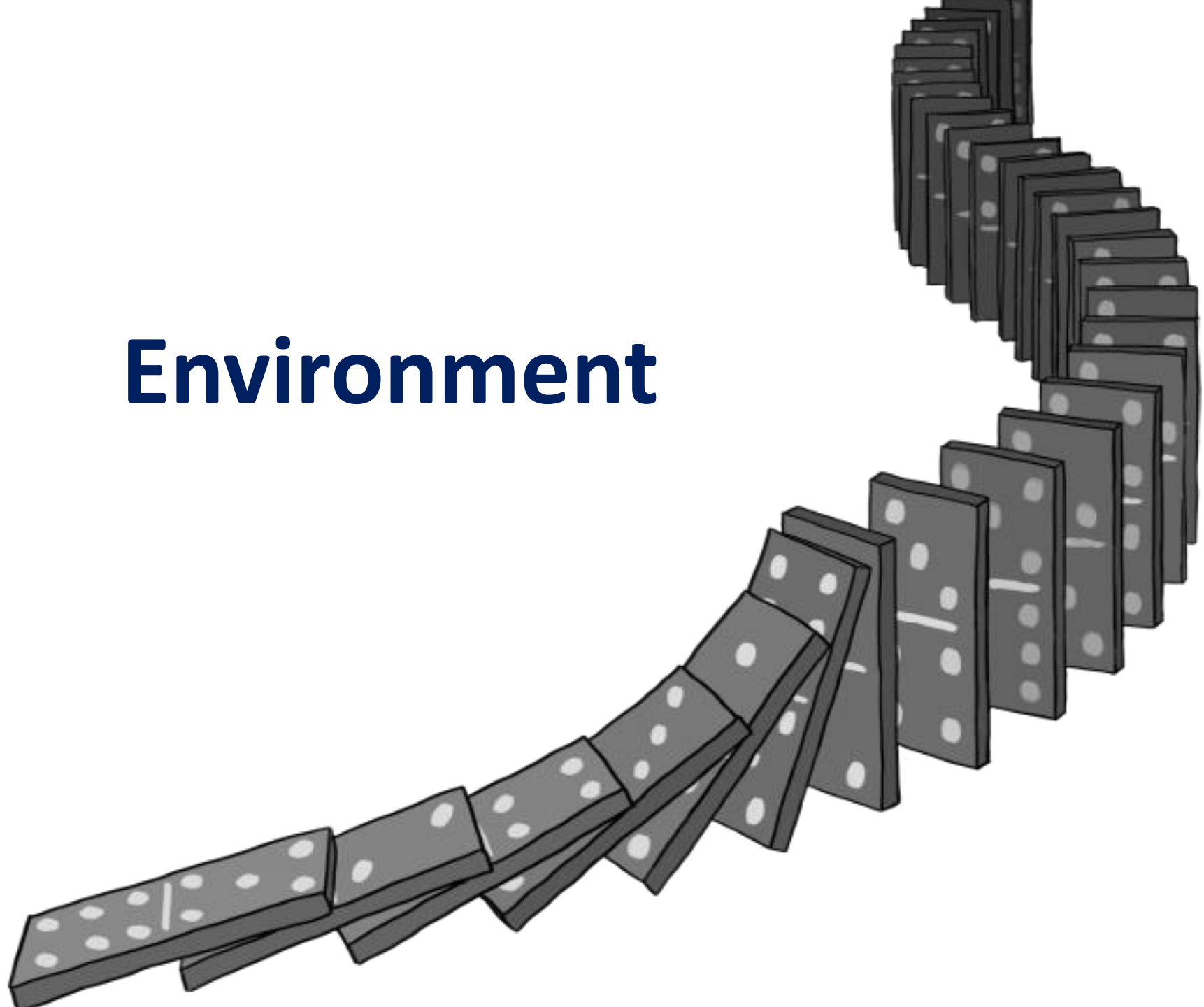
TRANSBOUNDARY

- **Peoples**
- **Marine ecosystems**
- **Food & Health concerns**
- **Risks / Opportunities**



Priority regional concerns regarding marine resources include food security and wildlife/human health

Environment



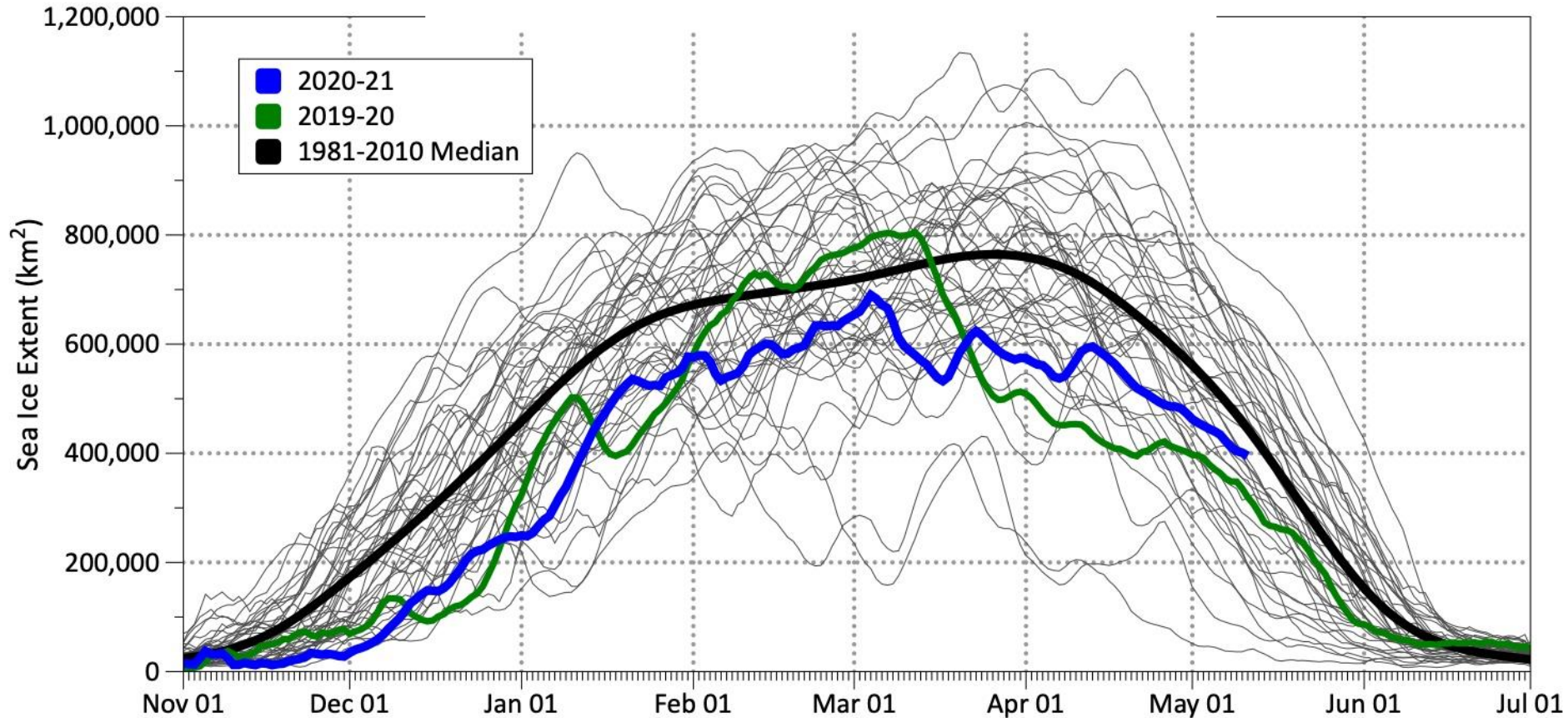
Sea ice



Thermal barrier - two ecosystems

Bering Sea Daily Ice Extent

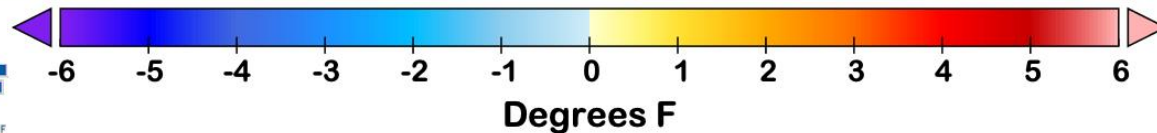
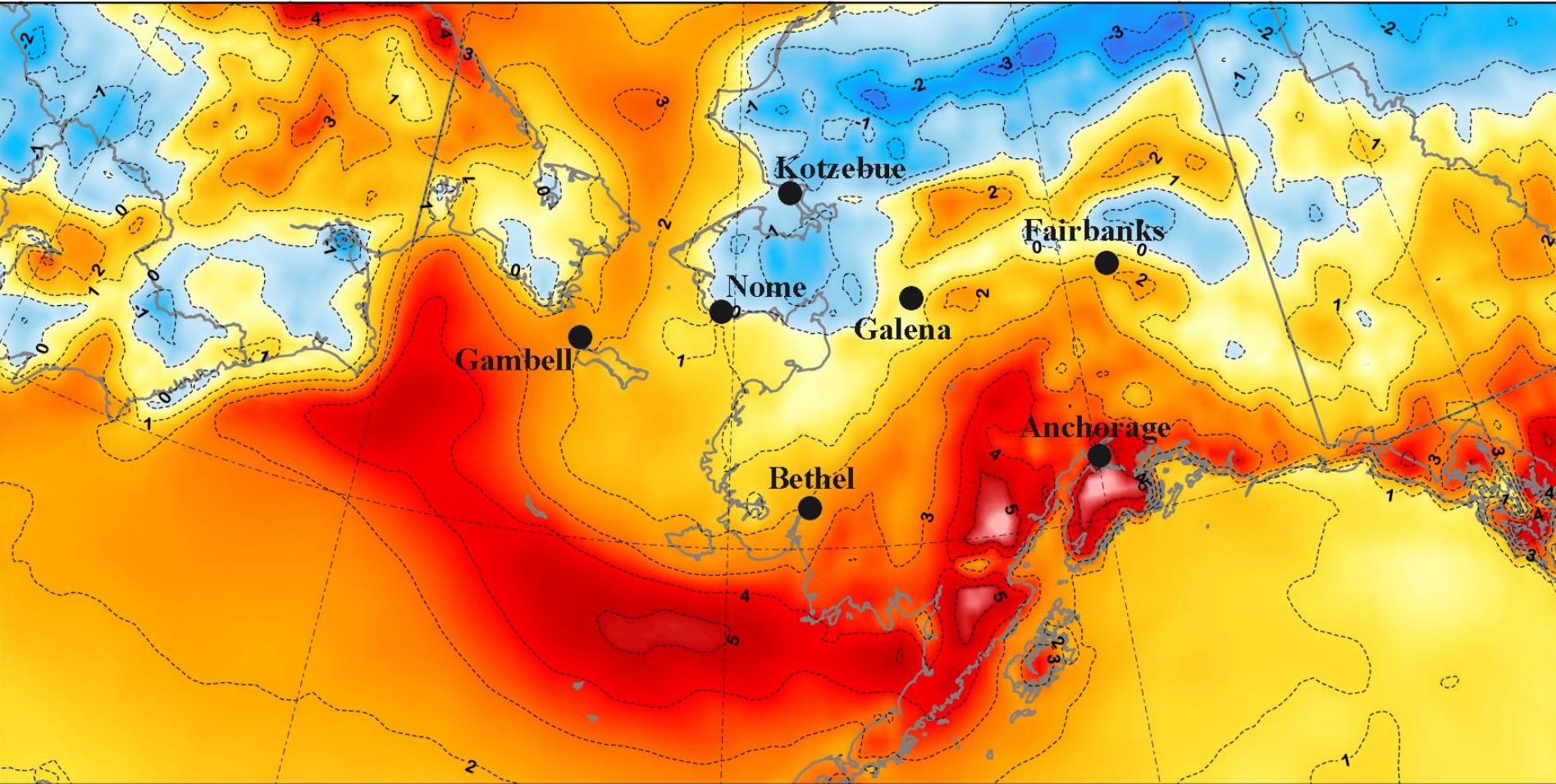
2020-21: Below Average



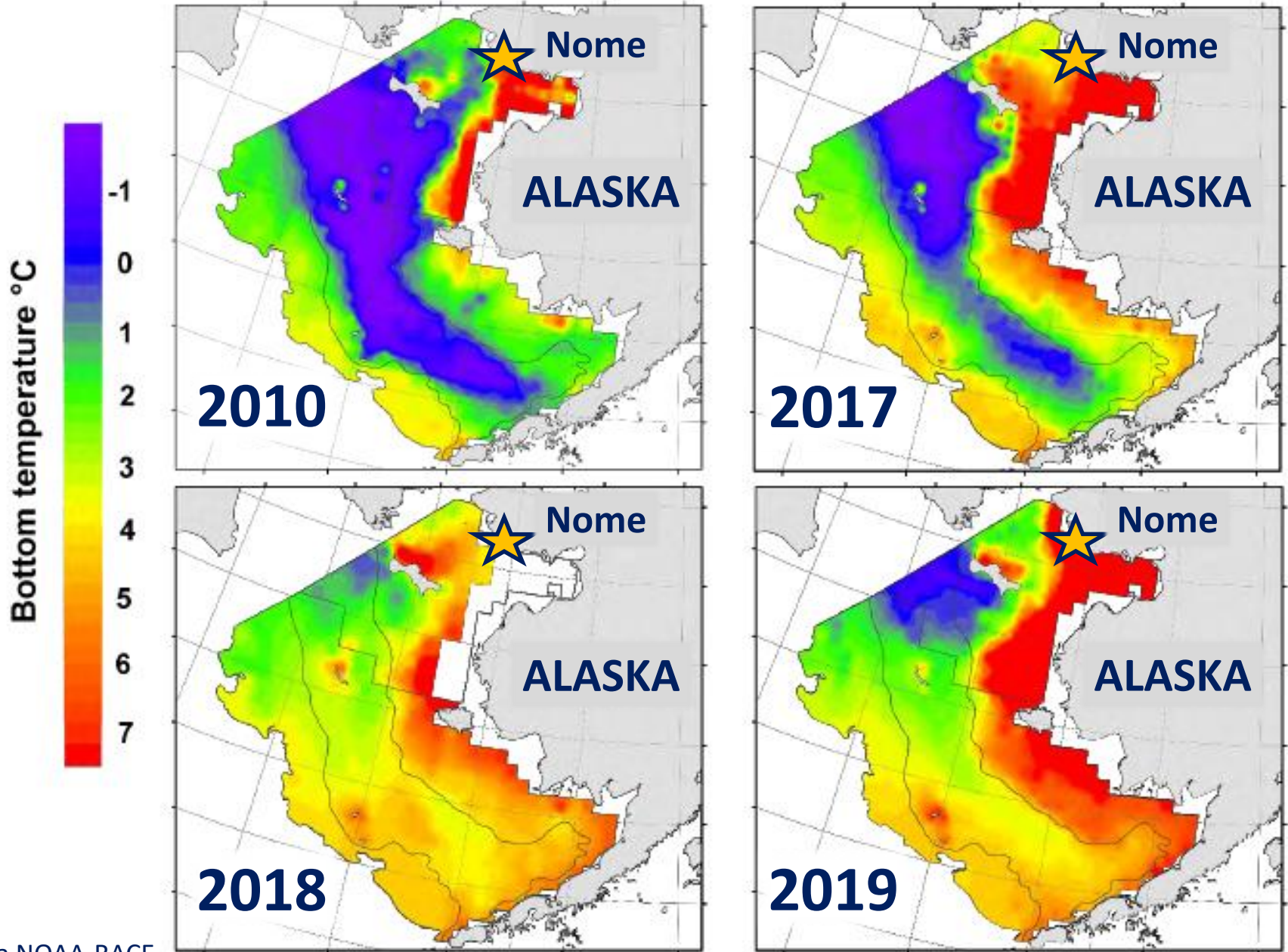
Mid-Winter Temperatures

Average Temperature Departure from Normal

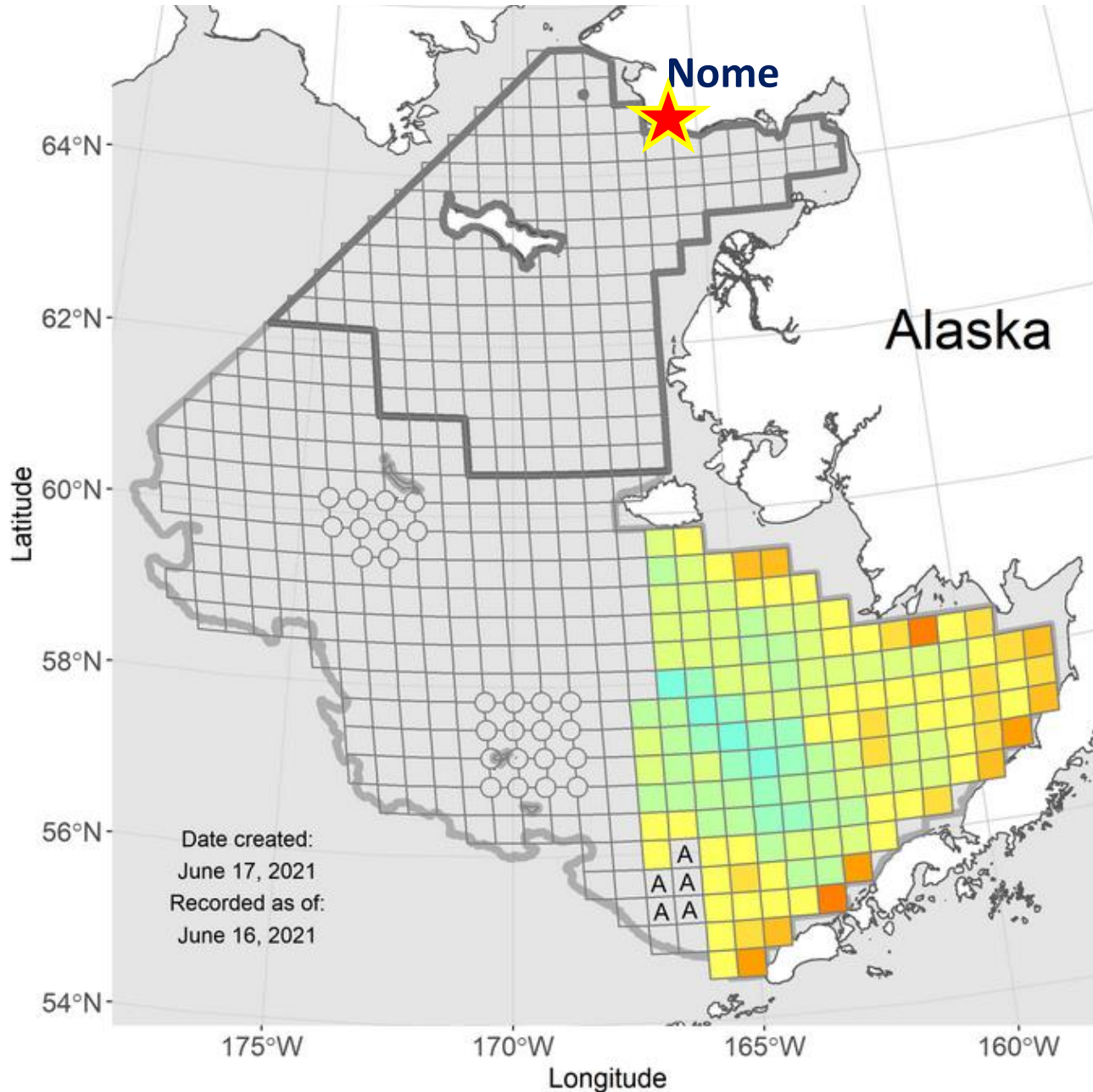
Winter (December-February) 2020-21



Bering Sea: Bottom Water Temperatures...



2021: Bottom Water Temperatures...



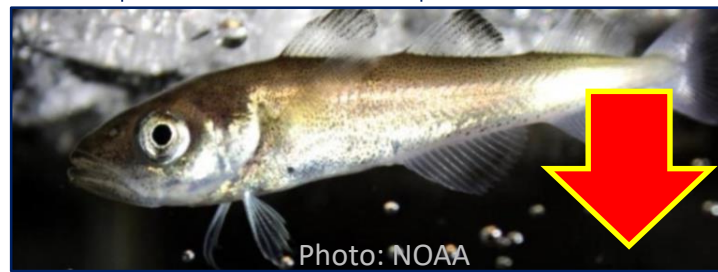
Ecology

Update and impacts



Bering Strait: 2018-2019

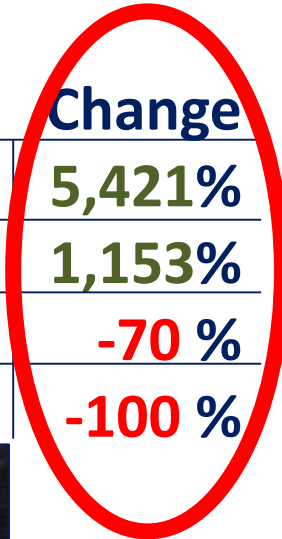
- NO THERMAL BARRIER
- MASSIVE ECOLOGICAL SHIFTS



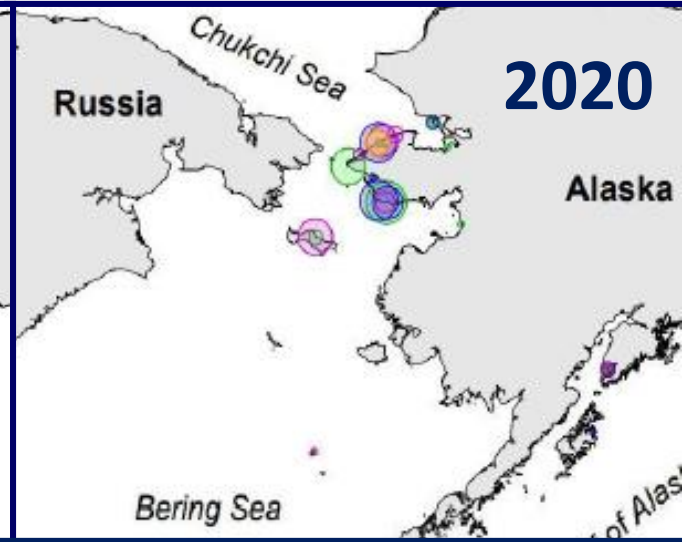
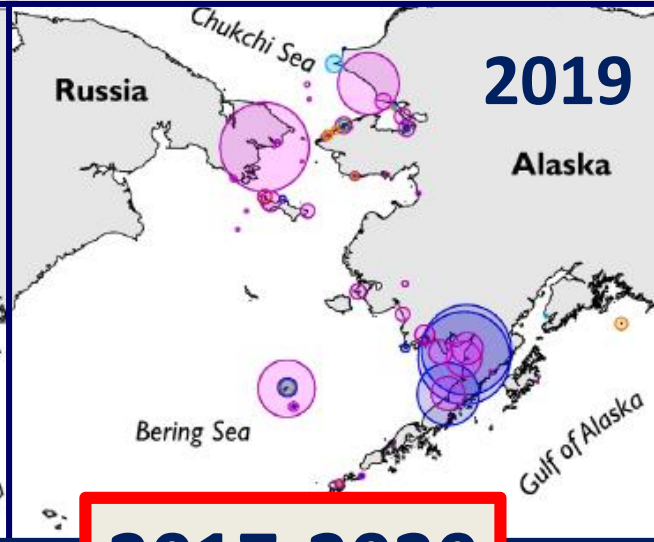
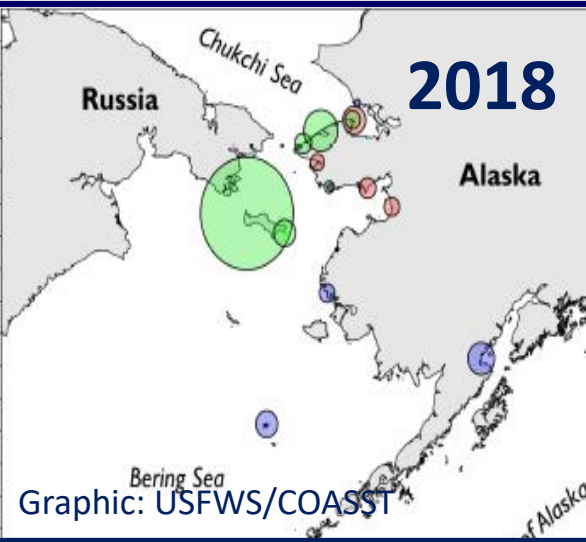
NOAA – RACE Div.

NBS: Biomass (mt)

	2010	2017	2019	Change
Pollock	21,141	1,319,062	1,167,099	5,421%
Pacific Cod	29,124	287,535	364,982	1,153%
Smelts	16,377	5,260	4,891	-70 %
Arctic Cod	37,861	3,906	47	-100 %



Seabirds 2020



**2017-2020
Starvation**



2021...

2020 USGS-ASC: not HAB-related

**2018-2019
Poor body condition**



Yr.	Bearded	Ringed	Spotted	Unid.	Total
2018	35	29	20	28	112
2019	49	36	23	57	165
2020	10	9	8	11	38



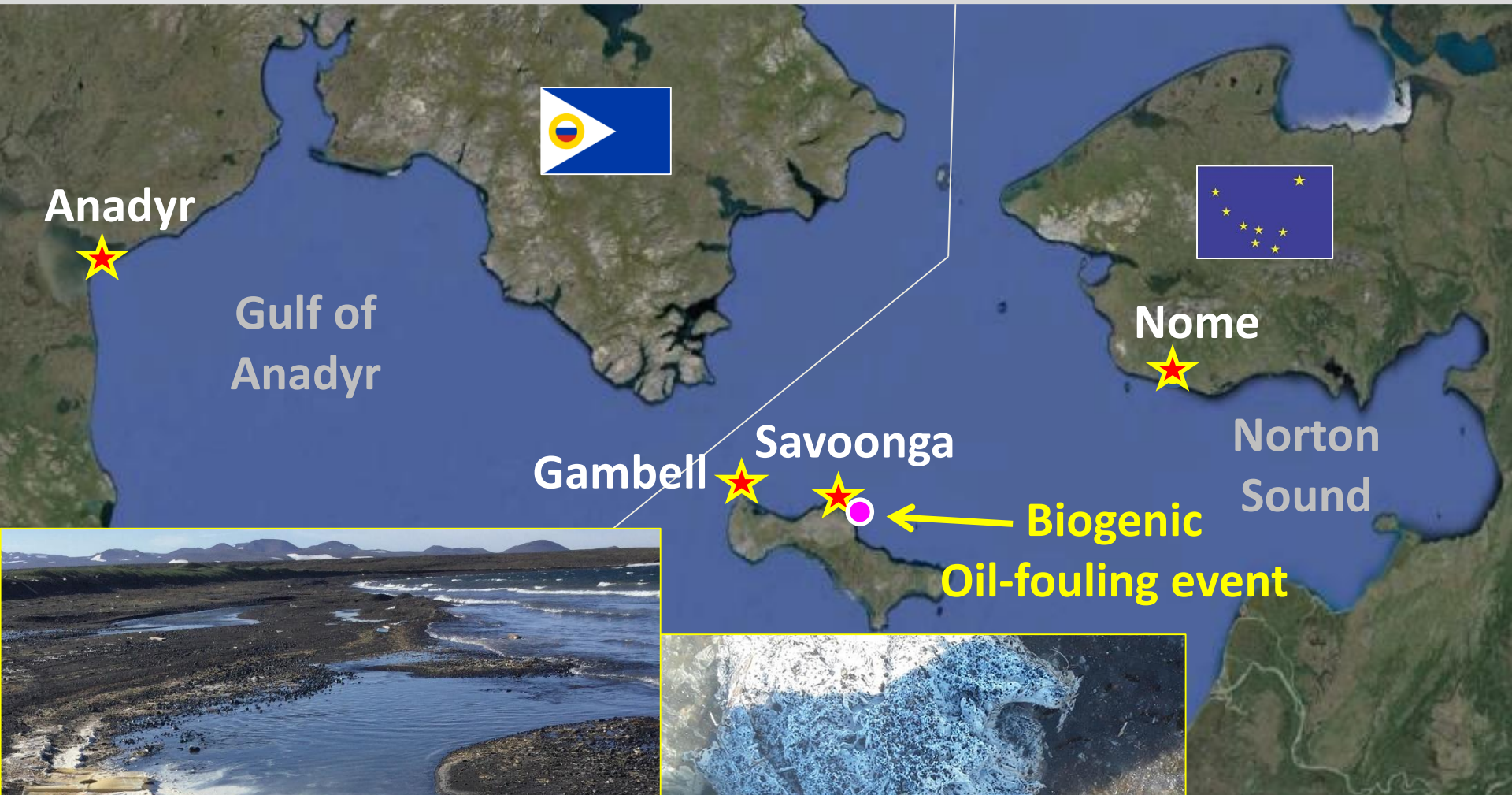
2020 “Normal” Stranding rates

Industry

Update and impacts



Biogenic oil-fouling event: June 2020



Foreign Marine Debris July-November 2020



**USCG Icebreaker
Polar Star
Dec-Feb 2020/21**



Photo: US Coast Guard

December 4, 2020

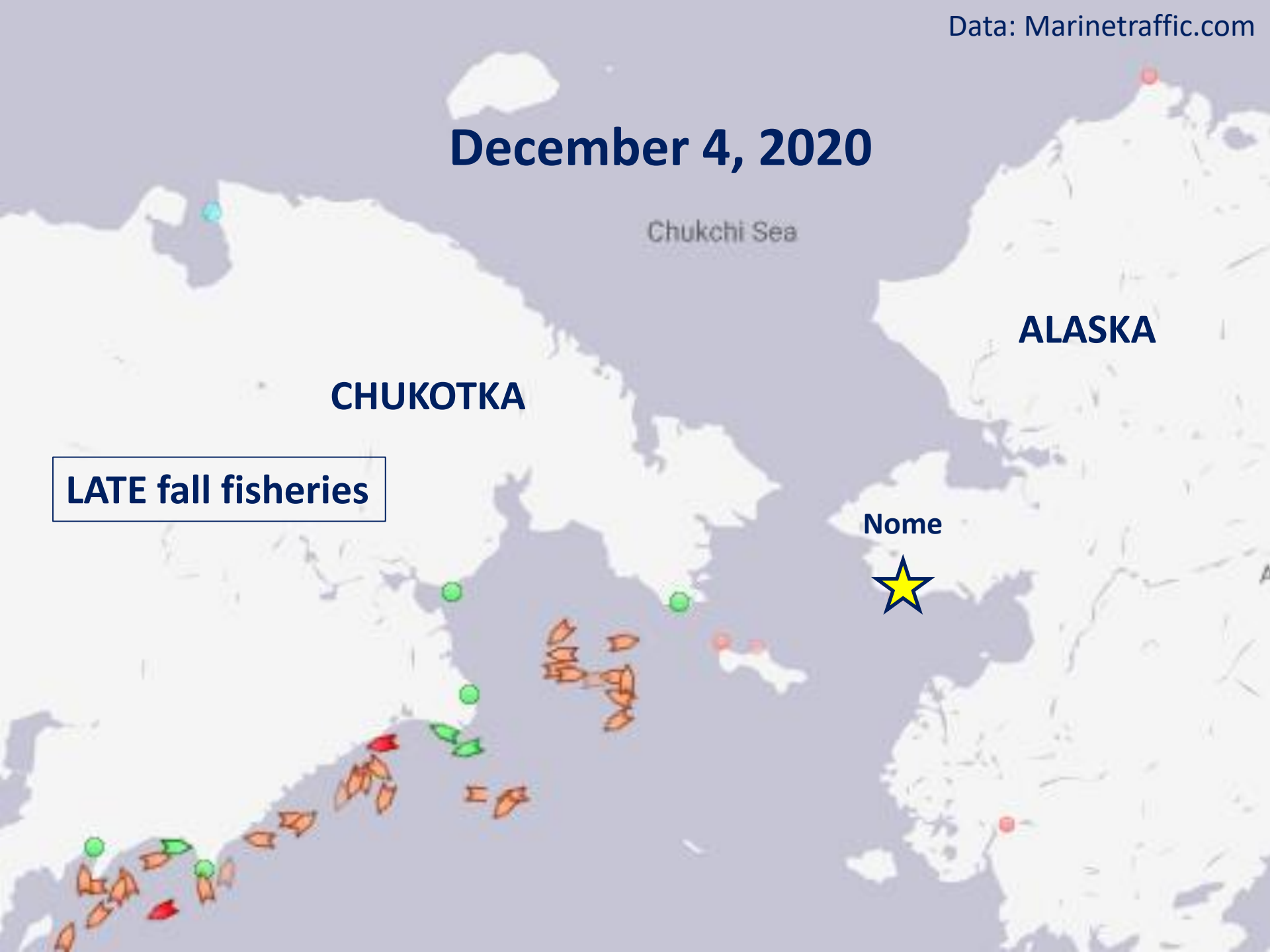
Chukchi Sea

CHUKOTKA

ALASKA

LATE fall fisheries

Nome



NIKOLAY YEVGENOV

NIKOLAY ZUBOV

CHRISTOPHE DE MARGERIE

Kara Sea

East Siberian Sea

Yamal Peninsula

RUSSIA

Jan. 11, 2021

JAN/FEB 2021 Commerce: LNG Tankers

Anadyr

POLAR

STAR

Nome

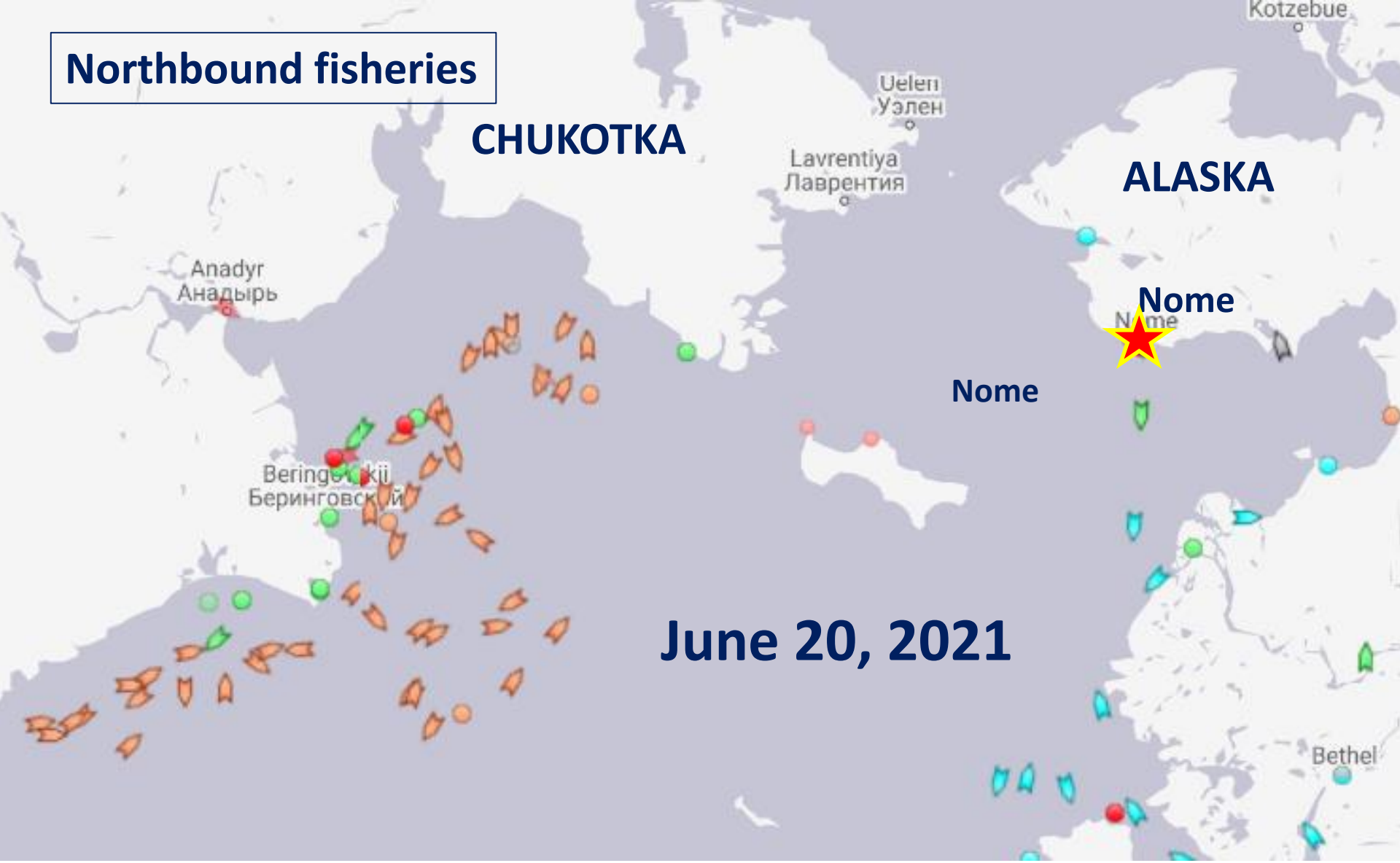


Spring/Summer Industries



Spring/Summer Industries

Northbound fisheries



Russian: Pacific cod Longline / Pollock trawl fleet

P-cod Longline fleet



Chukchi Sea: Pollock trawlers (2-3?)



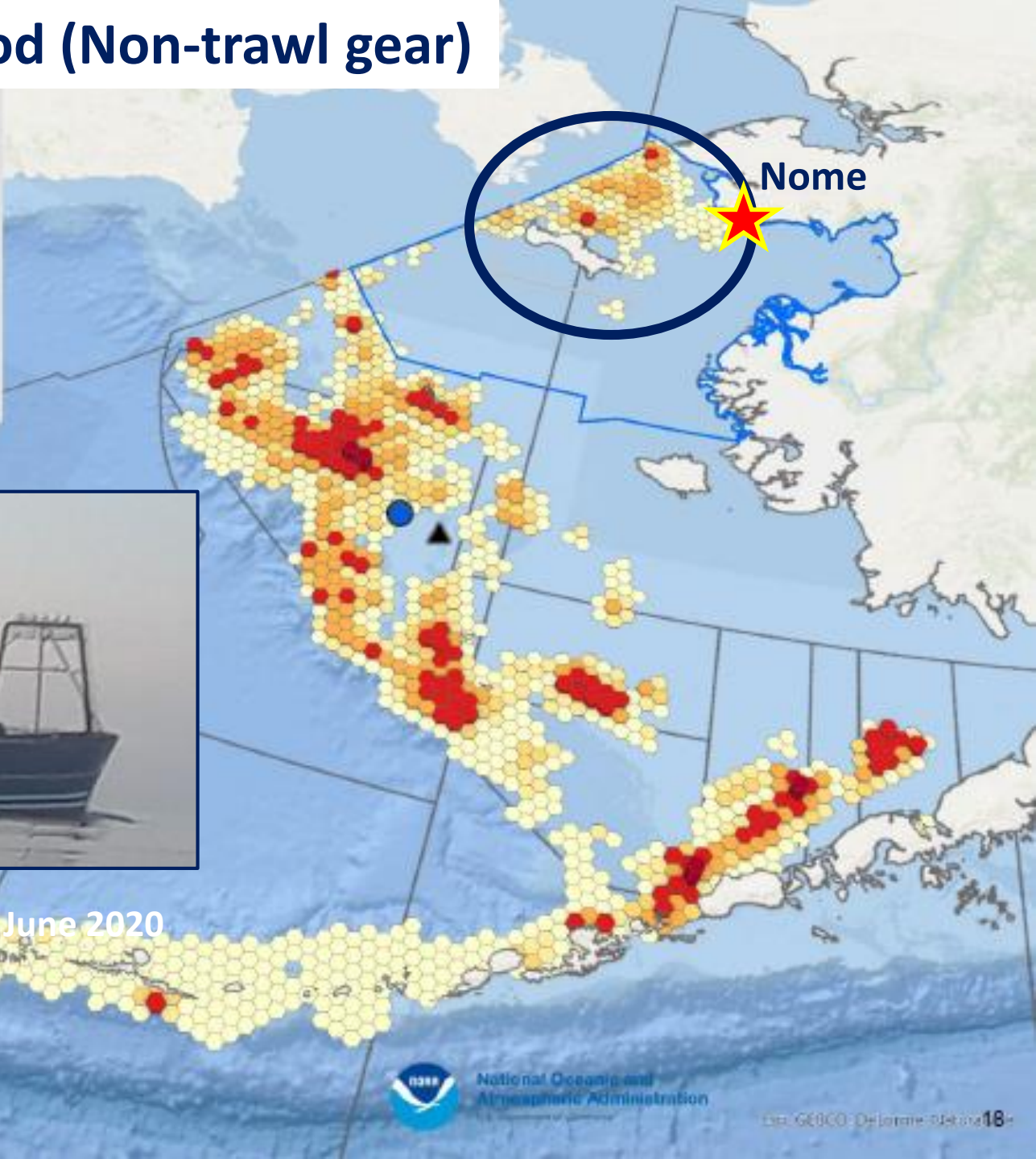
Norton Sound commercial fishery 2020

- Red king crab: NO buyer
- Pacific cod:
 - >100,000 lb. high quality, all sold
 - First dedicated harvest – good future
- Salmon:
From \$2.1 million (2019) to \$290,000 (2020)
 - Strong pink run
 - Low chum run (not forecasted) 90% decline
 - Low coho run (not forecasted) 83% decline and low body weight (avg. 6lb)

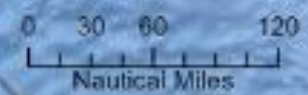


Photo: Kawerak, Inc.

2020: BSAI Pacific Cod (Non-trawl gear)



Near Gambell: June 2020



2021...

The Nome Nugget

Alaska's Oldest Newspaper

• USPS 598-100 • Single Copy Price - 50 Cents in Nome •

Icicle To Buy Pinks, Brings Processor To Norton Sound

THU, 06/03/2021 - 10:46PM admin

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By Julia Lerner

Icicle Seafoods wants to buy Norton Sound's pink salmon.

This summer, Icicle Seafoods plans to bring a processing vessel as well as four or five fishing tenders to buy pinks from local fishermen. Icicle's headquarters are in Seattle, but the

ndfish primarily in the Dutch Harbor area and

harvest and process the large surplus of pink Sound river systems," said Icicle Seafoods fleet excited to offer a market for Norton Sound is effort."

pink salmon as possible from local fishermen, offering competitive pay, following last year's

ers across the state last summer, pink salmon



Summary: Cooler winter / more industry...

Environment:

- Warm SSTs, *low* sea ice but better extent, duration, and quality than recently, more spring snow due to open water. Marine research is underway...!

Ecology:

- Seals/seabirds more “normal” stranding rates...?
- Fish...?

Maritime Industries

- Winter tanker traffic - unexpected
- Locally fisheries: changed / expanding
- US/Russian commercial fishing fleets moving N
- Impacts to marine wildlife this summer...?

