

Bering Strait Mooring Program

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(University of Washington)

Research Expedition Details

Dates: 8th – 18th Sept 2022

Departs from: Nome, Alaska

Returns to: Nome, Alaska

Research Area Location: Bering Strait/southern Chukchi Sea

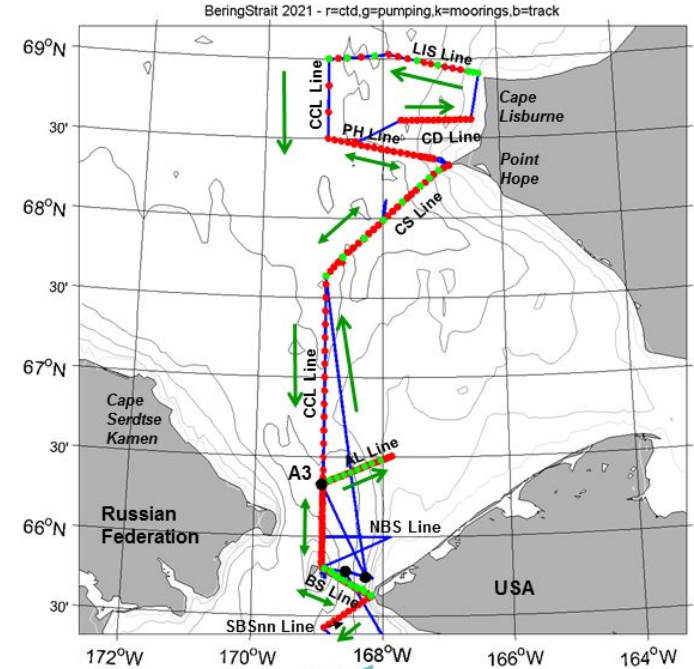
Vessel: Norseman2

Research website: psc.apl.washington.edu/BeringStrait.html

Project supported by: NSF-OPP-Arctic Observing Network

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Key Scientific Questions & Motivations

- What are the properties of the oceanic flow through the Bering Strait into the Arctic?
How much water, what temperatures, what salinities, what nutrient content?
- How are these properties changing?
Data (started in 1990) show the flow to be increasing, warming, and freshening
- Why is the flow changing?
Our results suggest both Bering Sea and Arctic change are impacting the flow
- What are the impacts of the flow (and its changes) on the Chukchi, the Arctic and beyond?
*Extra heat melts sea ice. Extra nutrients(?) fuel ecosystems.
Freshening modifies the upper Arctic Ocean.*

Key Activities & Data to be collected

Since 1990, we have placed year-round moorings (subsurface instruments, moored to the sea floor) in the Bering Strait to measure, hourly, the water properties.

These need annual servicing (data download, cleaning, replacement).

Our new NSF_OPP project extends these moorings to summer 2026, with annual cruises.

Data collected include:

- physics data: *water velocity, temperature, salinity, and ice thickness and motion*

and NEW

- biogeochemistry data: *nutrients (nitrate), fluorescence, and dissolved oxygen*

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Implications & Broader Impacts

To quantify, understand and predict change in the Chukchi, the western Arctic, and beyond, you must know

- the amount and properties of the incoming Pacific Water
- how much it is changing, and (to predict) also why.

This information is used for studies from phytoplankton, to fish, to humans, and includes data for the best models of the region.

We provide data products (e.g., annual and monthly properties of the flow) and a fieldwork frame work for others working in the strait (e.g., year-round marine mammal acoustic recorders for Kate Stafford)

Potential Areas of Collaboration

Is there available berth space?

Perhaps, the ship is quite full, but feel free to contact us.

Is there space for other equipment and/or to collect data for other teams?

Possibly, please contact us.

Can you make your data available for other teams to collaborate on? And how?

Yes, see our website: psc.apl.washington.edu/BeringStrait.html, contact us if you want more.

Opportunities to work with Indigenous and local communities?

- In 2013, worked with Kawerak and Bering Strait Communities on indigenous/western knowledge of Bering Strait currents. Would be very interested in more such interactions.*
- When Covid allows, very keen to engage with Schools in Nome, and Straight Science.*

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