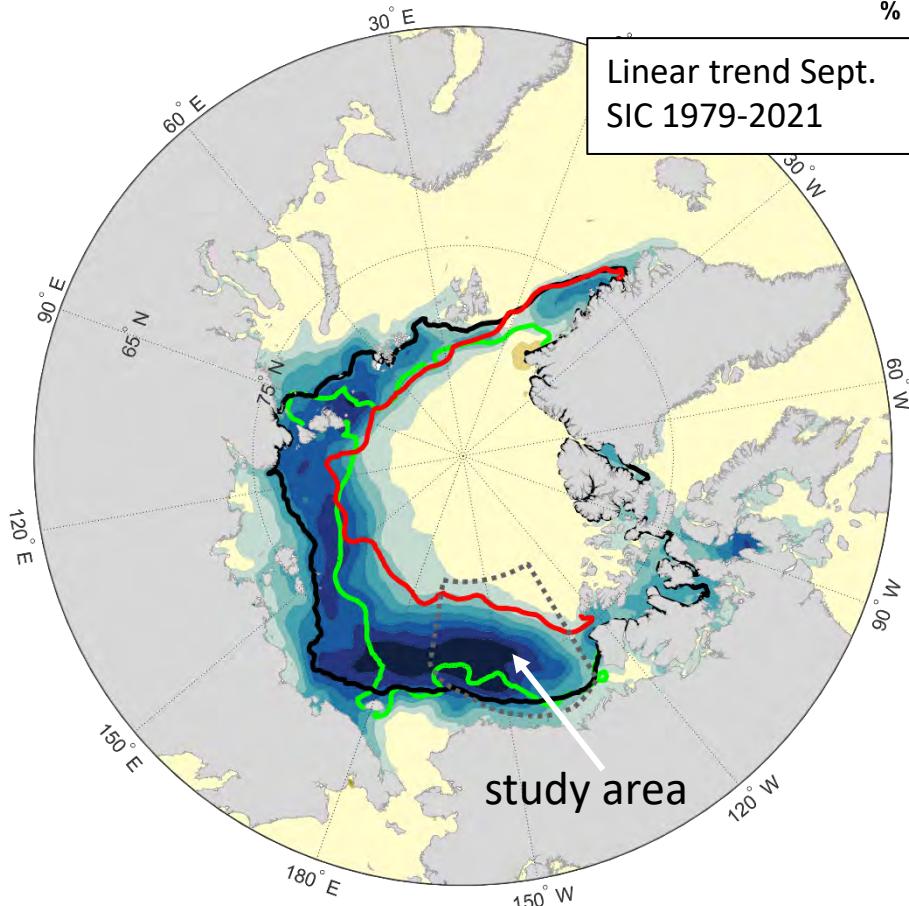


Beaufort Gyre Observing System/Joint Ocean Ice Study (BGOS/JOIS)

Annual expeditions aboard the CCGS Louis S. St-Laurent since 2003. Funded through 2024.



NSF AON Collaborative Research:
Continuation of long-term
Beaufort Gyre observations



Mary-Louise
Timmermans
Yale

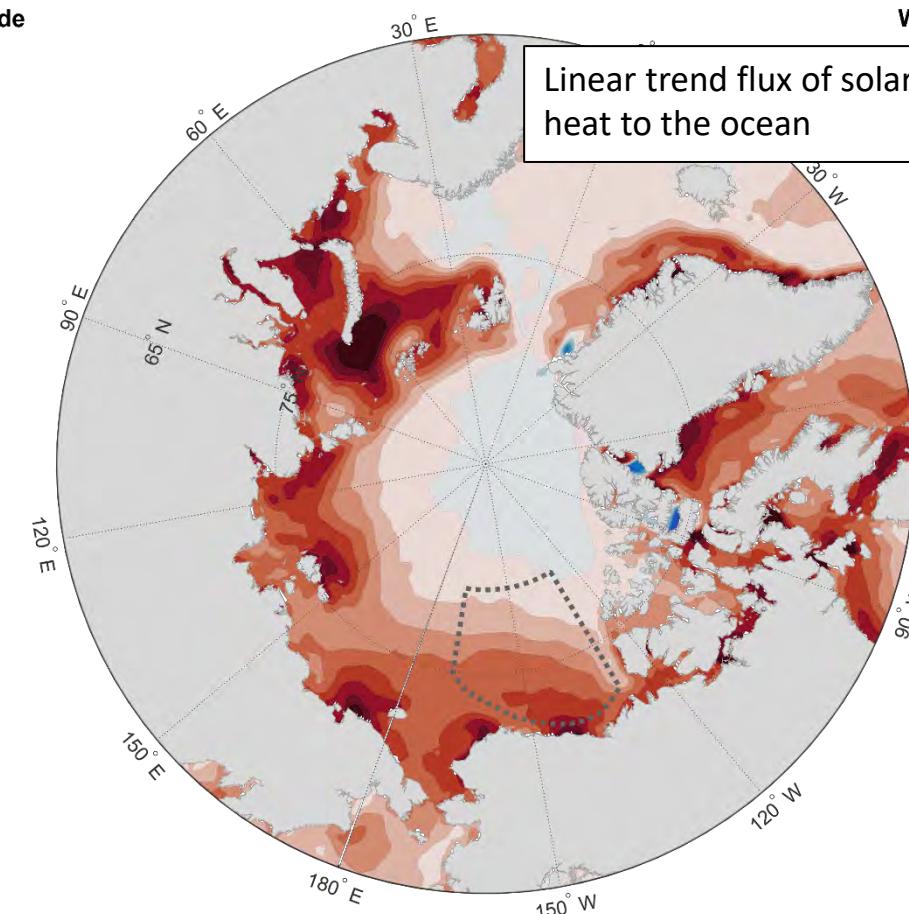
Isabela Le Bras
Andrey Proshutinsky
Rick Krishfield
John Toole



Bill Williams
Sarah Zimmermann



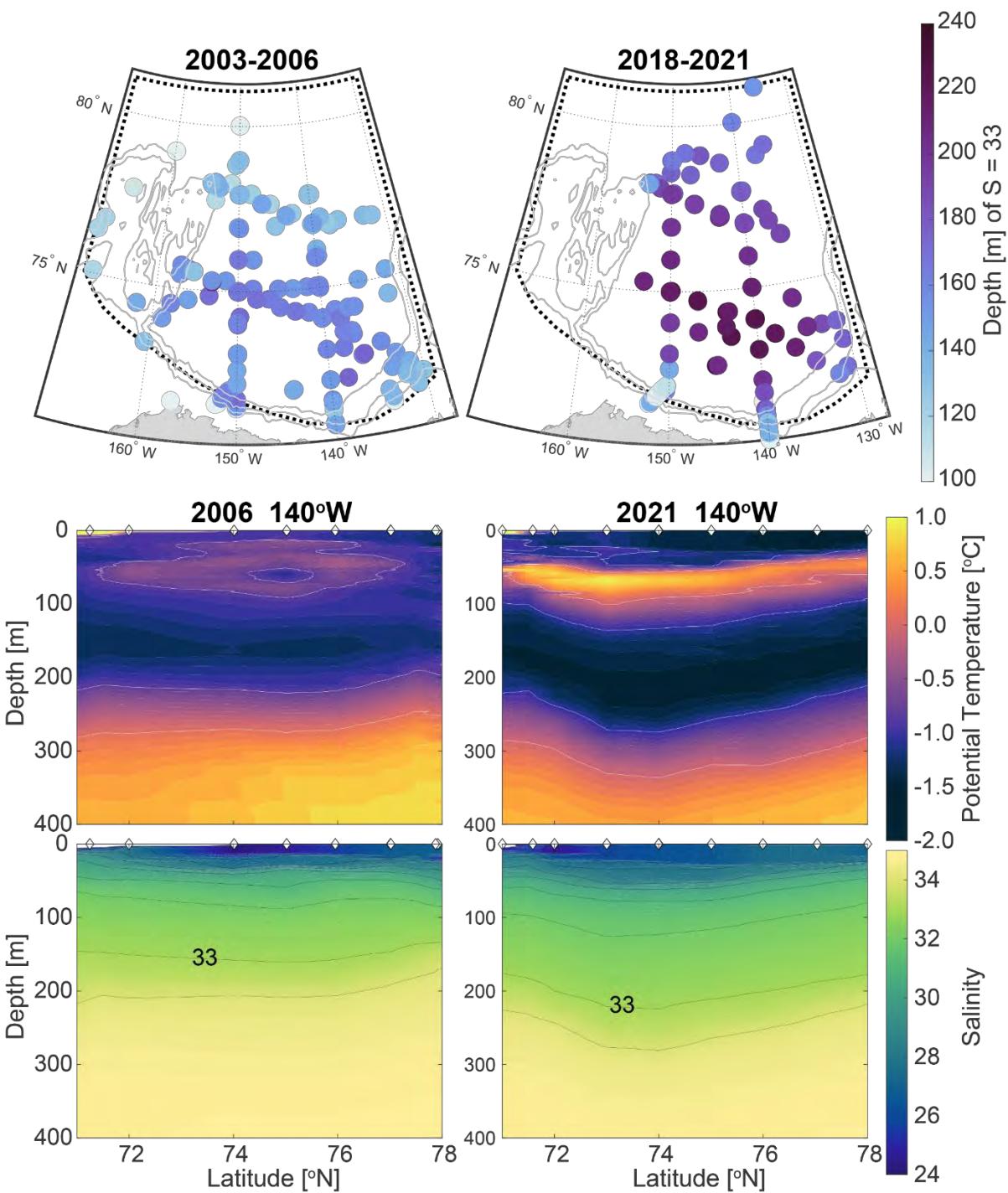
Fisheries and Oceans
Canada



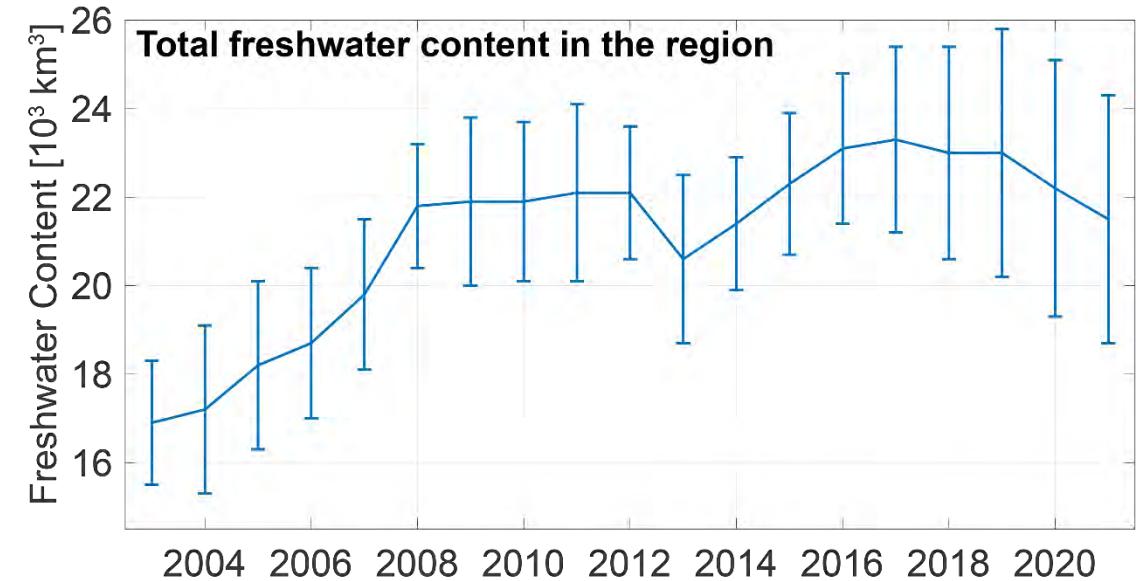
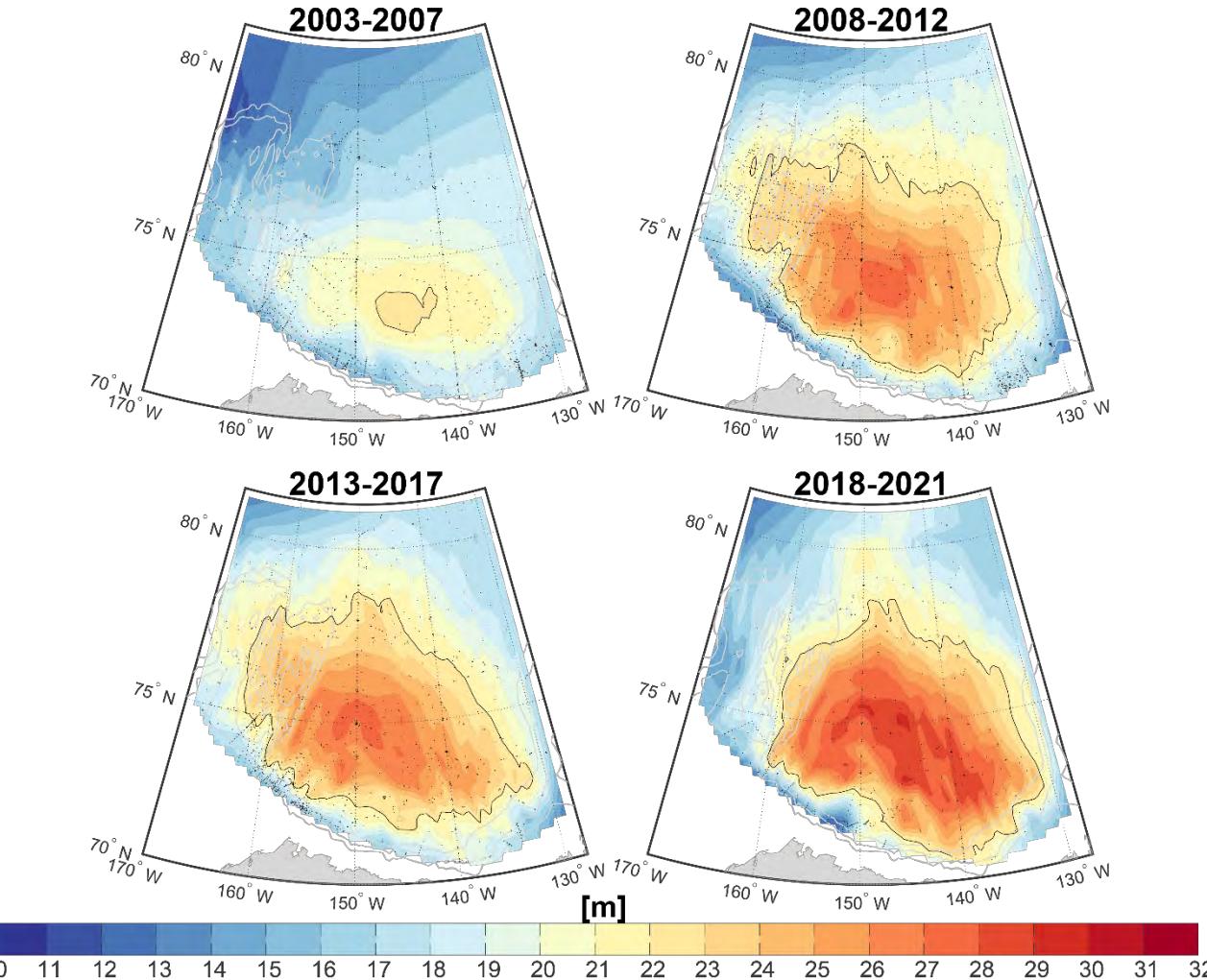
W/m²/year

0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8

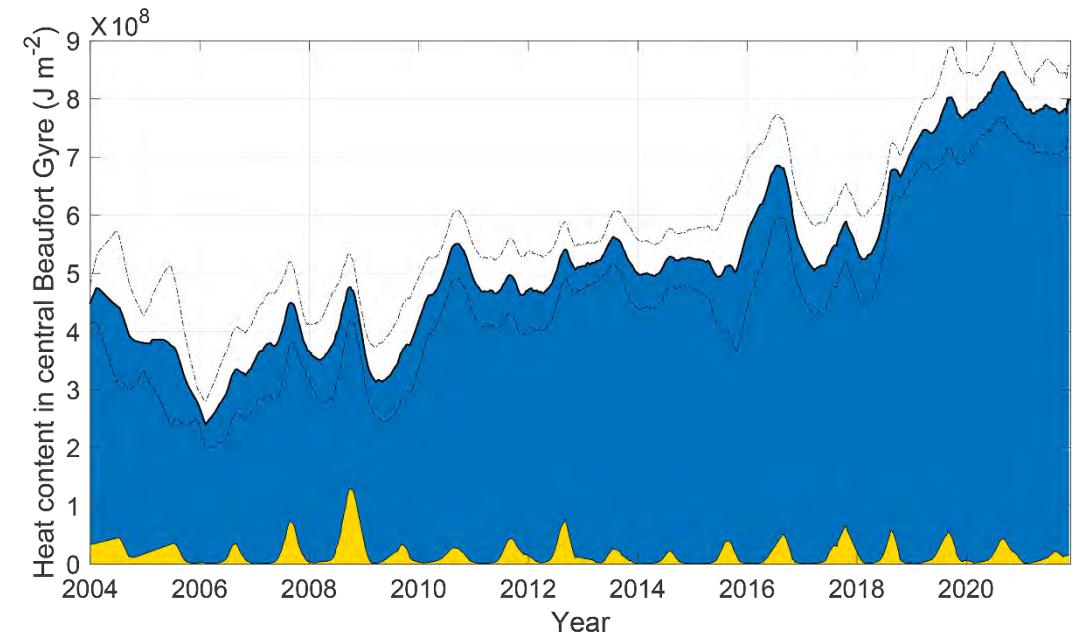
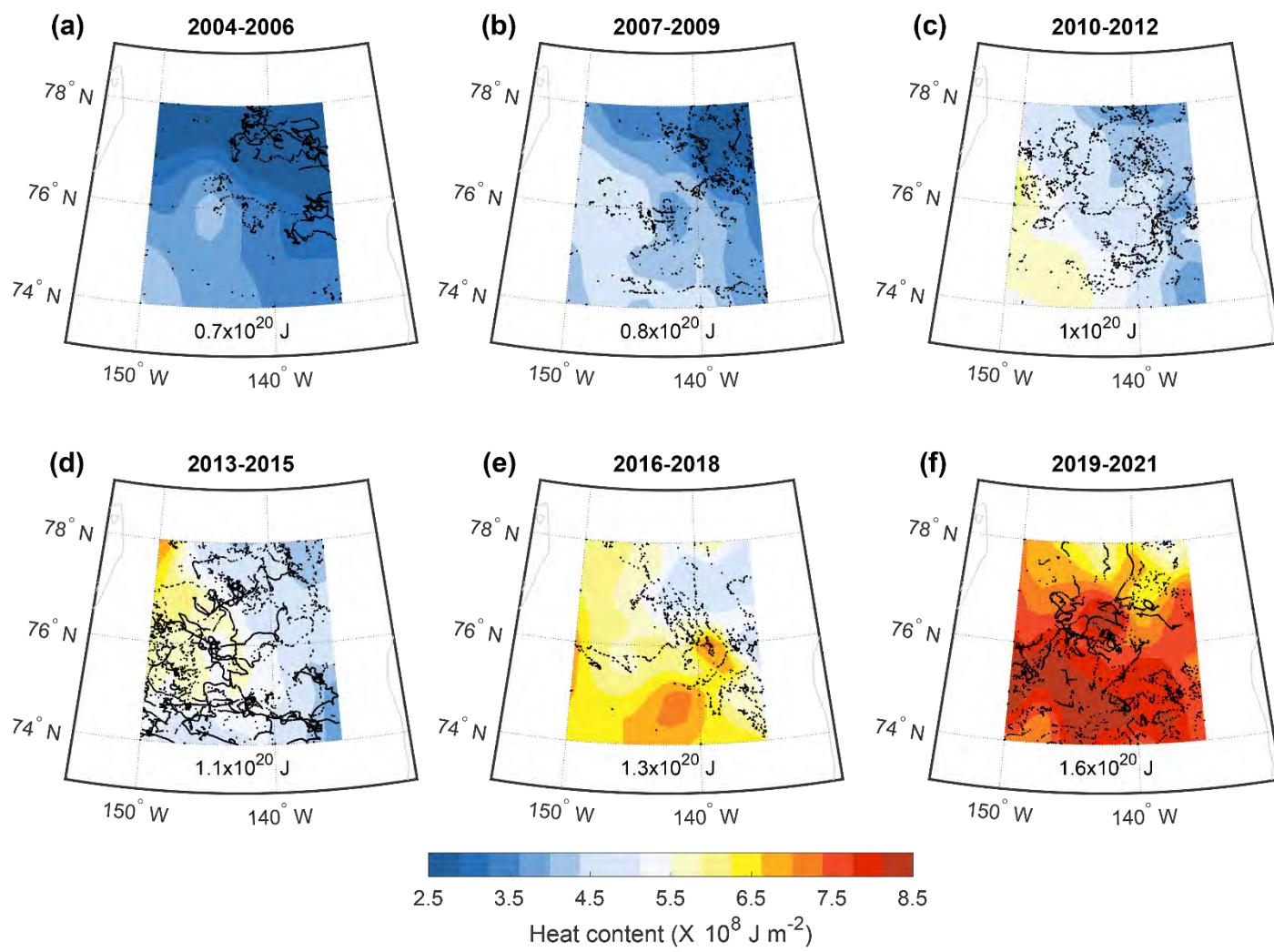
Beaufort Gyre
intensification,
increased
freshwater and
heat content
over 2003-2021



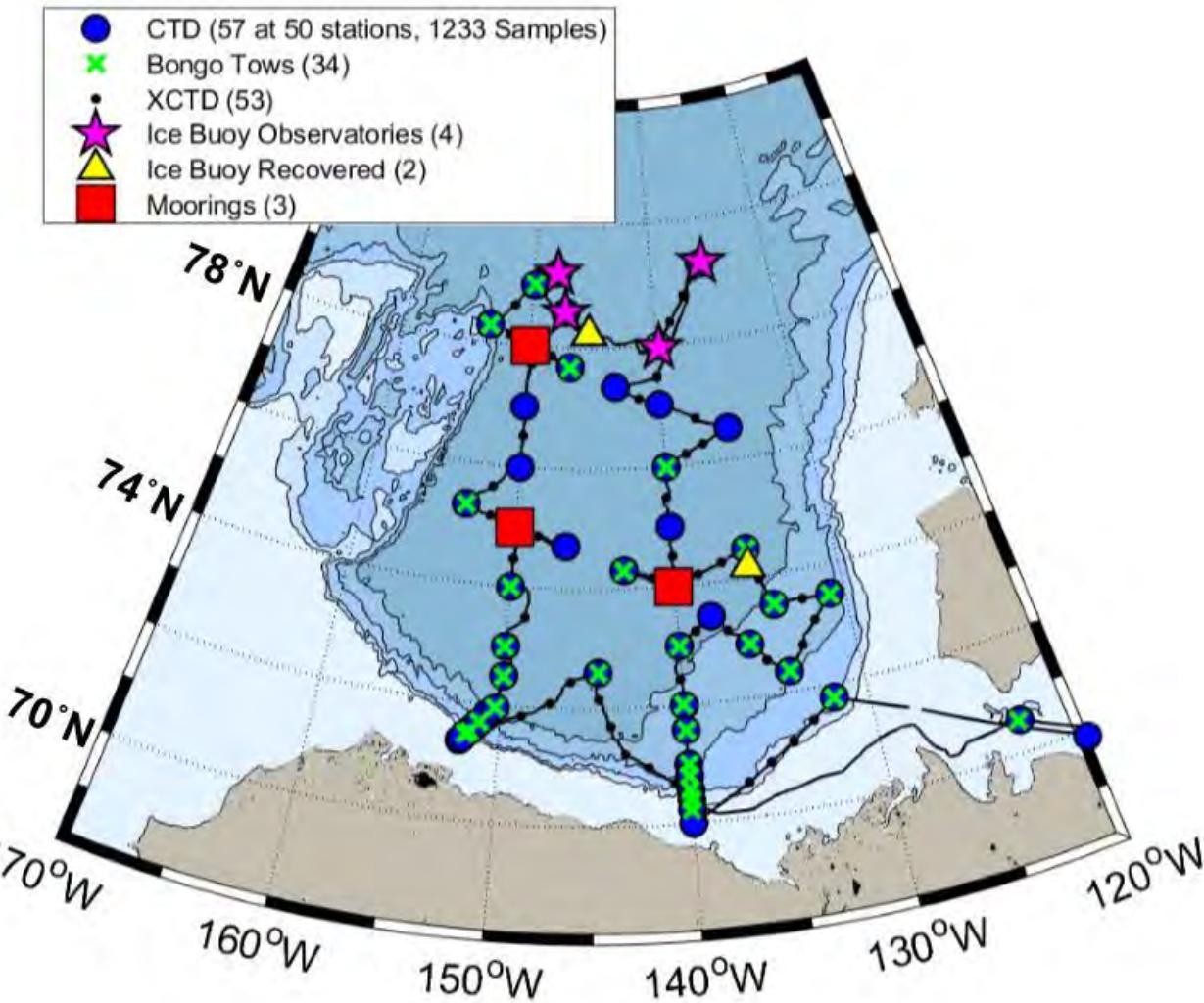
Beaufort Gyre Freshwater Content



Beaufort Gyre Heat Content

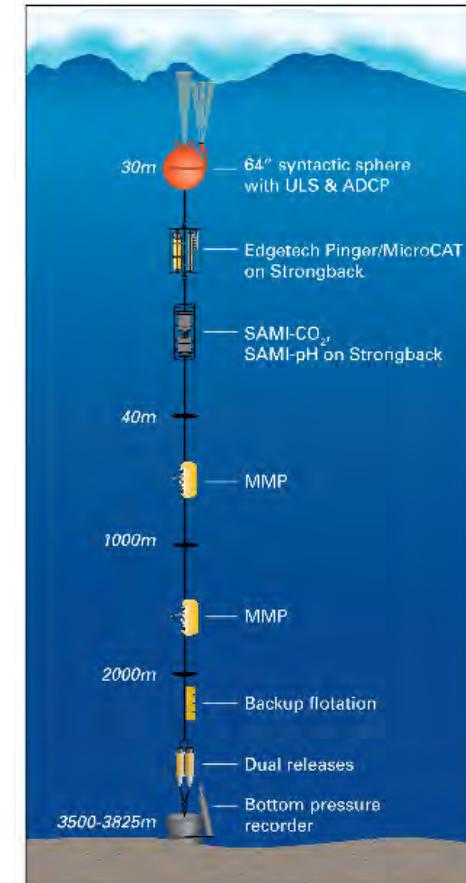


2021 Expedition: Aug. 19 to Sept. 16 (25 science days)

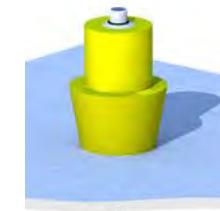


3 moorings: A, B, & D
mooring C ended in 2008

BGOS mooring configuration

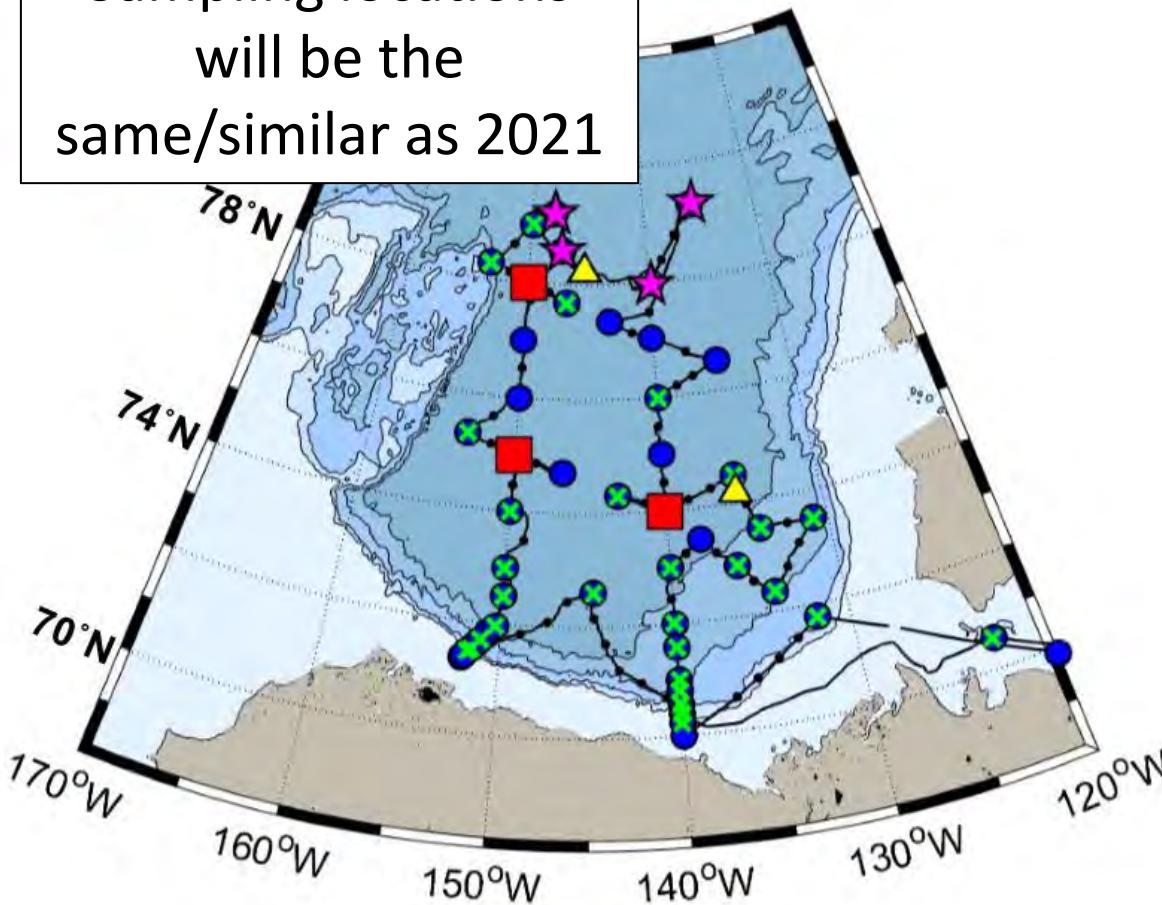


4 Ice-Tethered Profilers



2022 Expedition: Exact dates TBD: likely Sept 15-Oct 11

Sampling locations
will be the
same/similar as 2021



2022 Activities:

Moorings A, B & D
Hydrographic survey (CTD/XCTD)
Barrow & Mackenzie River lines

Chemistry sampling: Iodine-129,
Cesium-134, Fluorescent DOM,
Barium, Oxygen Isotope Ratio,
DIC & Alkalinity, Nutrients, DO,
Salinity, Chl-a, Bacteria

Buoy deployments (Toole et al.):

4 ITPs
3 TOPs (200 m tethers)
1 AOFB (Stanton et al.)
SIMBs

Underway and Moored $p\text{CO}_2$ and
pH (DeGrandpre et al.)

Vertical net tows

