

OCEAN-ATMOSPHERE-ICE (OAI) INTERACTIONS REPORT

ARCSS ALL HANDS MEETING
SEATTLE
FEB. 2002

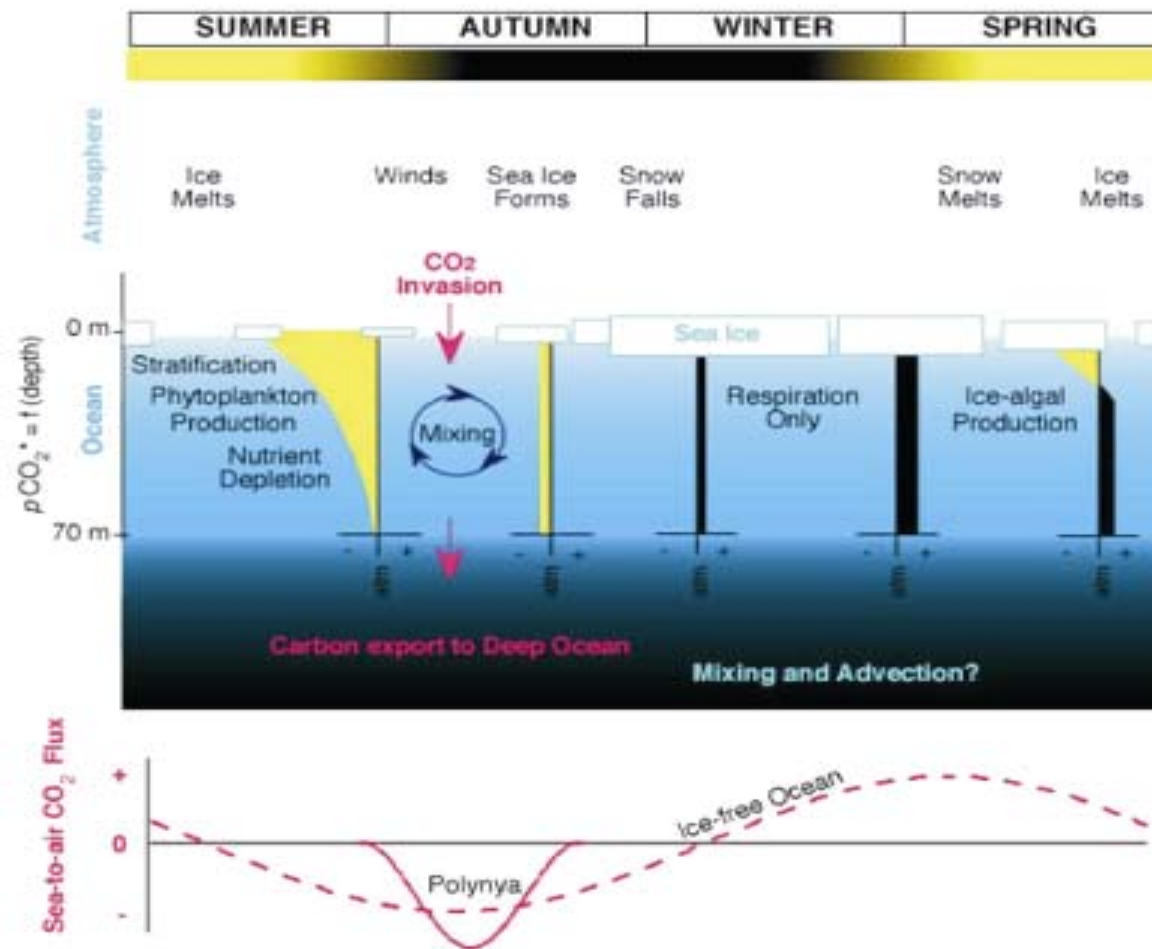
L.A. Codispoti and the OAI SSC

<http://arcss-oai.hpl.umces.edu>



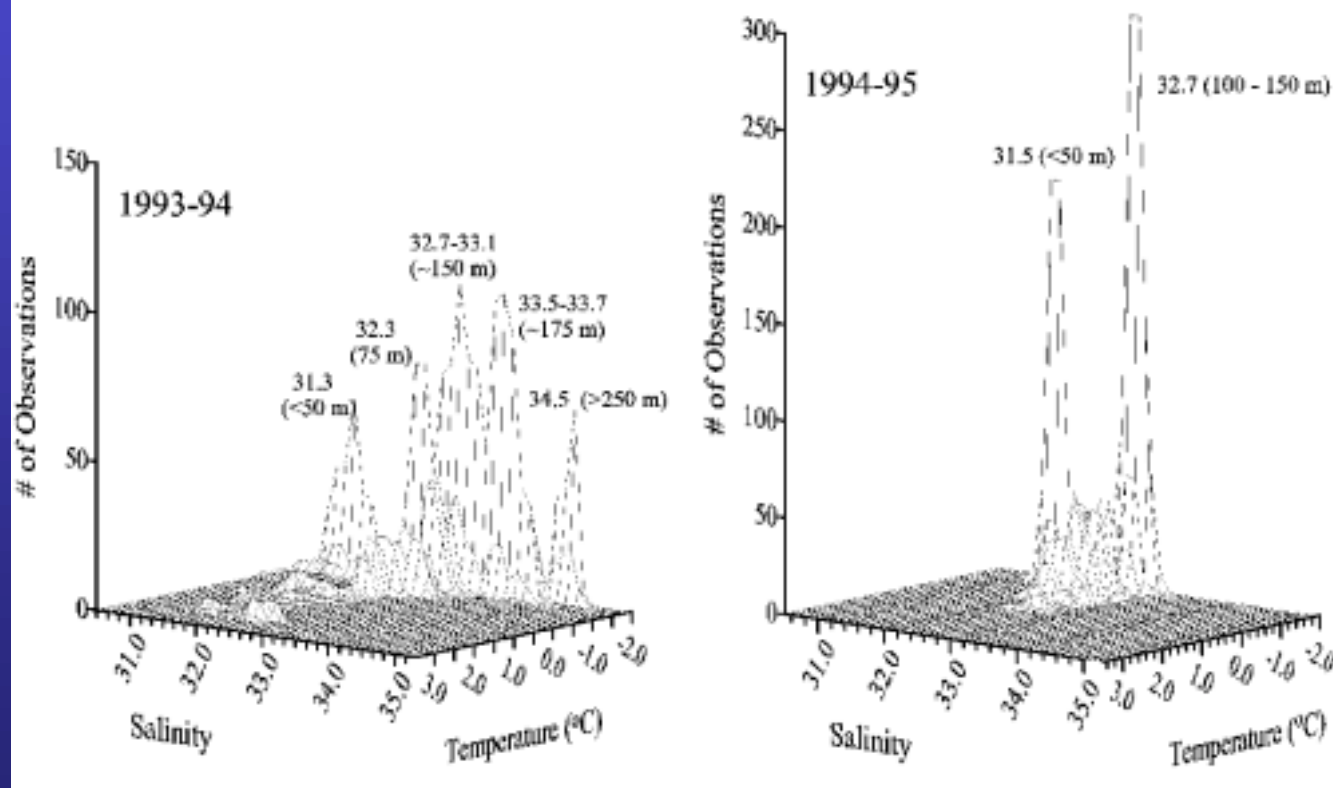
NEW: Carbon Cycling in Seasonally Ice-Covered Seas (Yager *et al.*)

A testable hypothesis for carbon cycling in seasonally ice-covered seas:



Investigations of the Western Arctic (a.k.a.) Western Arctic Moorings (T. Weingartner)

TEMPERATURE/SALINITY DISTRIBUTIONS 1993-94 vs. 1994-95
(NORTHEAST CHUKCHI SEA)

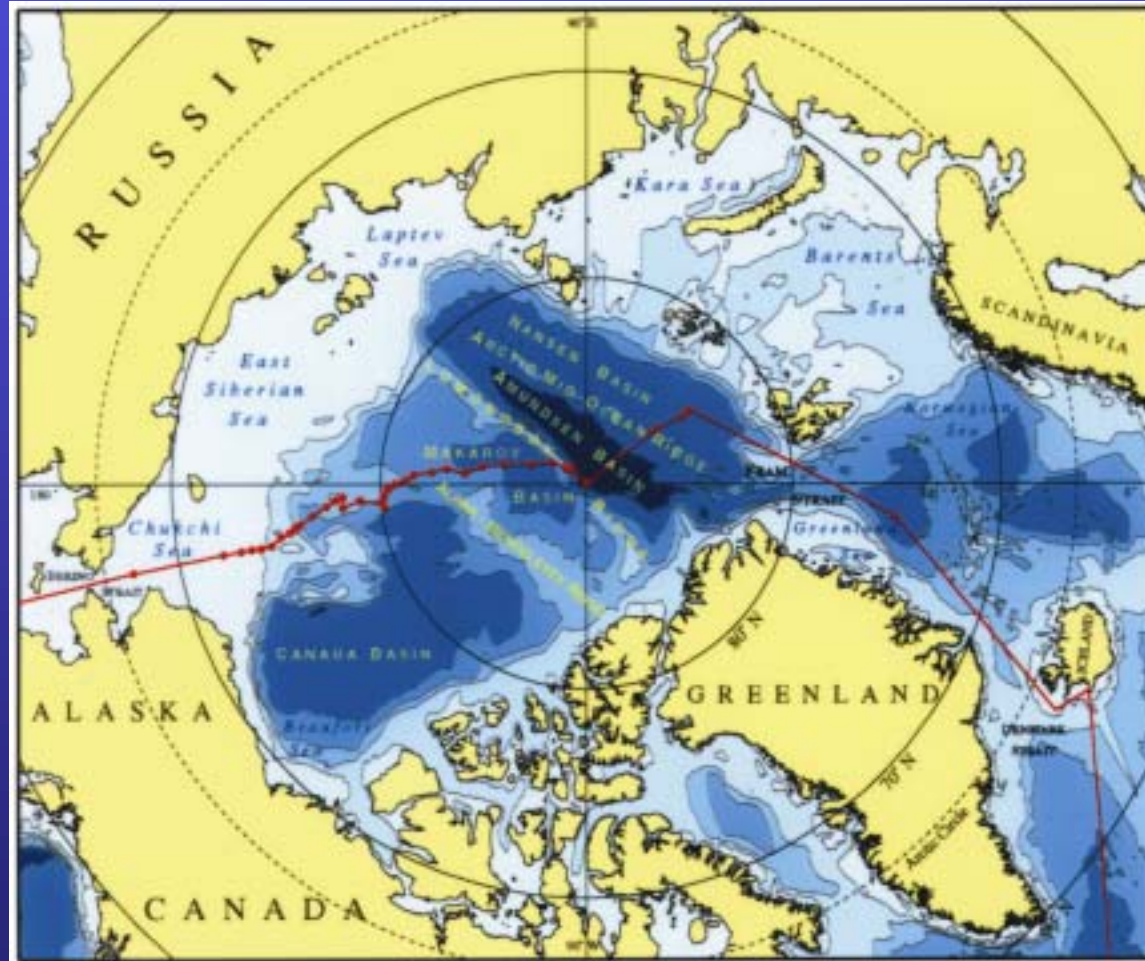


Canadian Icebreaker *Des Groseilliers* and SHEBA Ice Camp

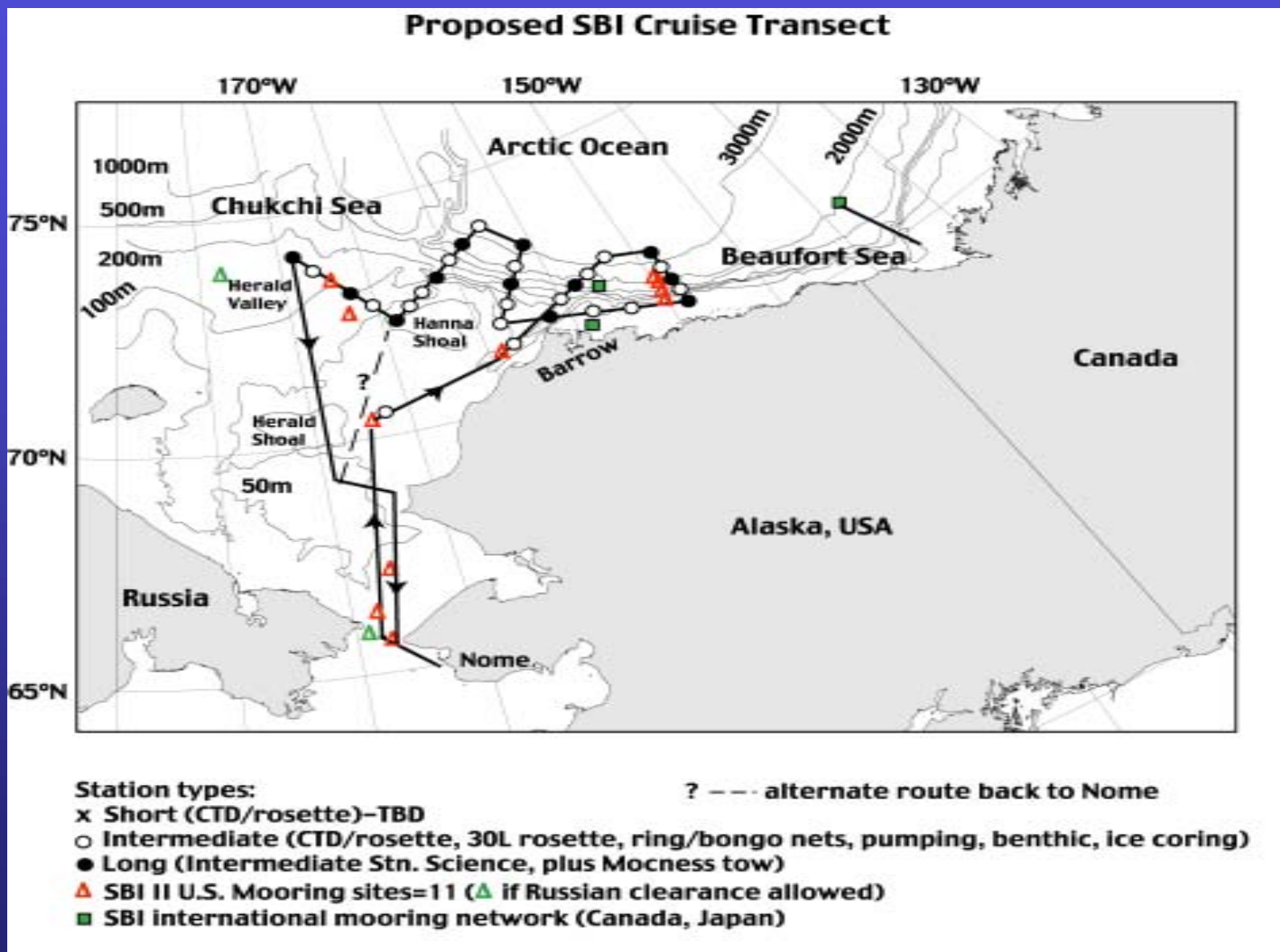


Arctic Ocean Section (AOS)

[Wheeler *et al.*]

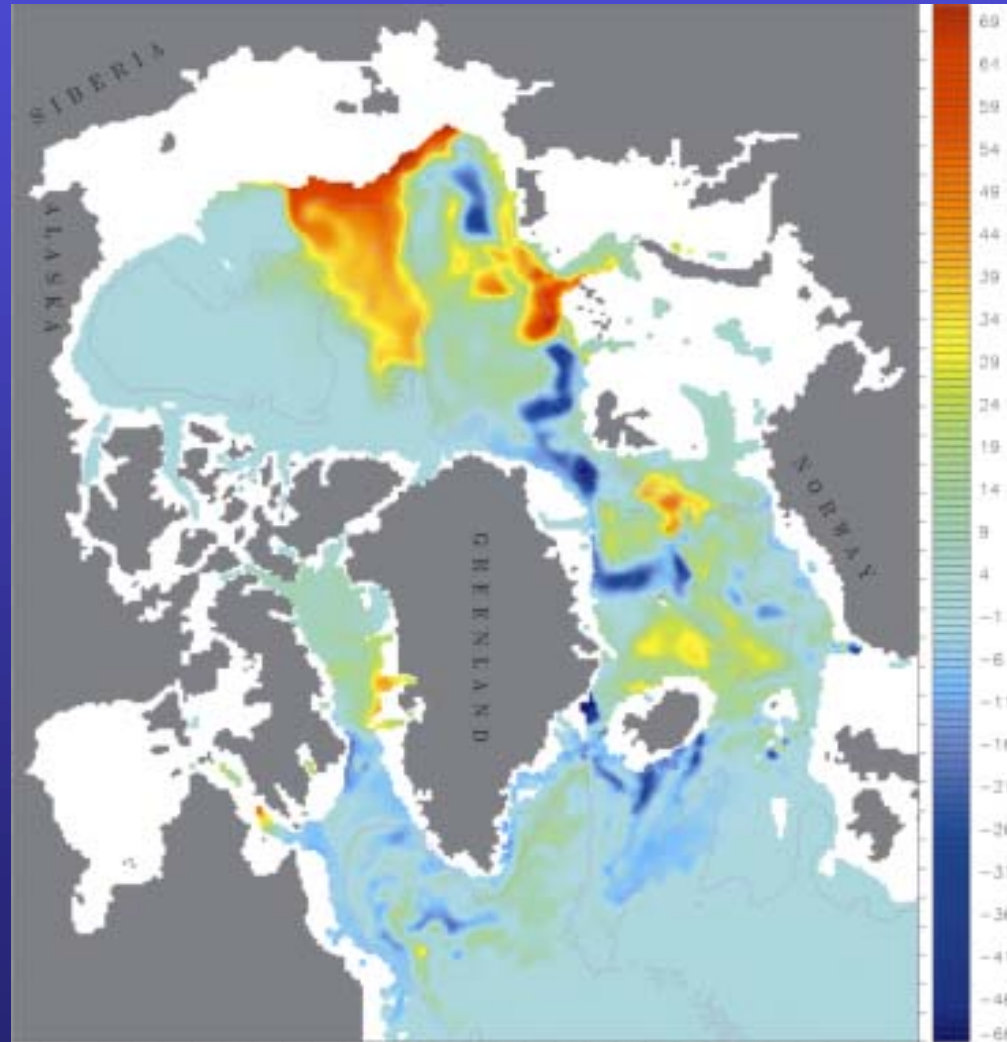


Proposed SBI Phase II Cruise Track

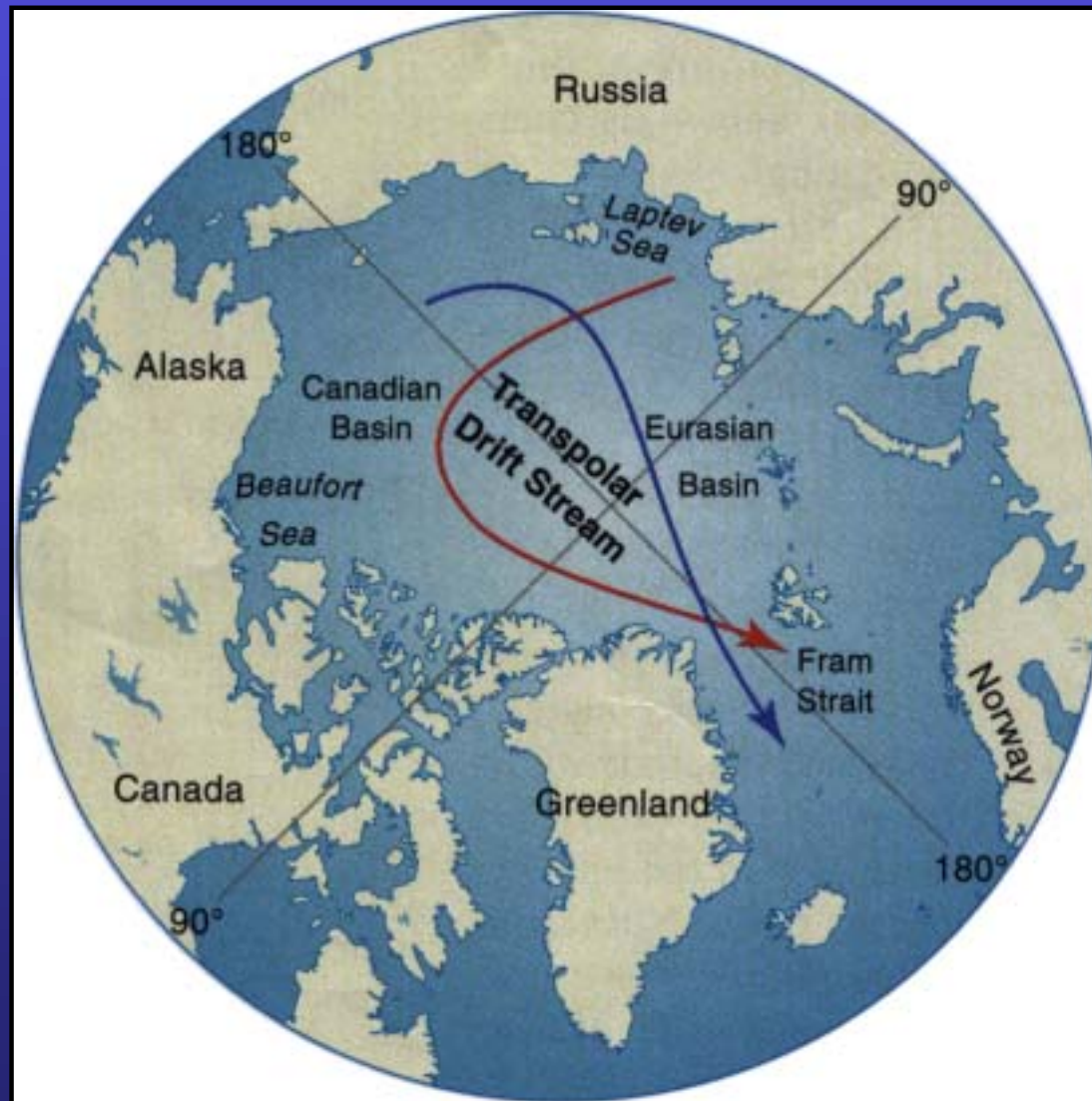


OAI Modeling

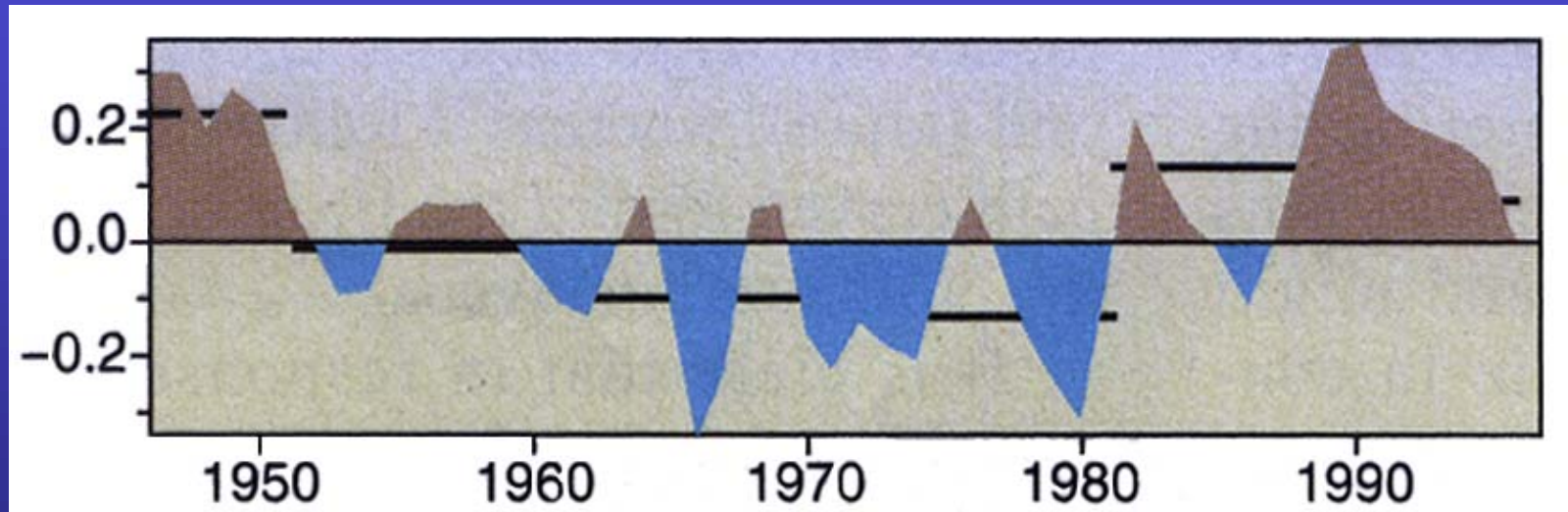
(Maslowski, *et al.*)



OAI/SBI Paleooceanography



Vorticity Index
(mb)

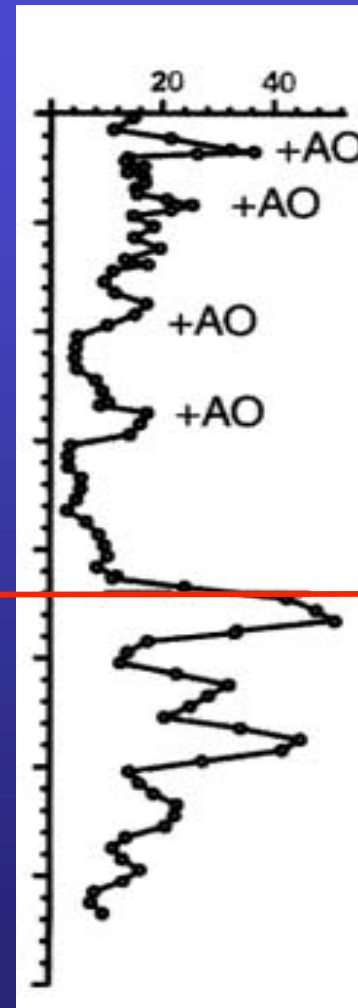
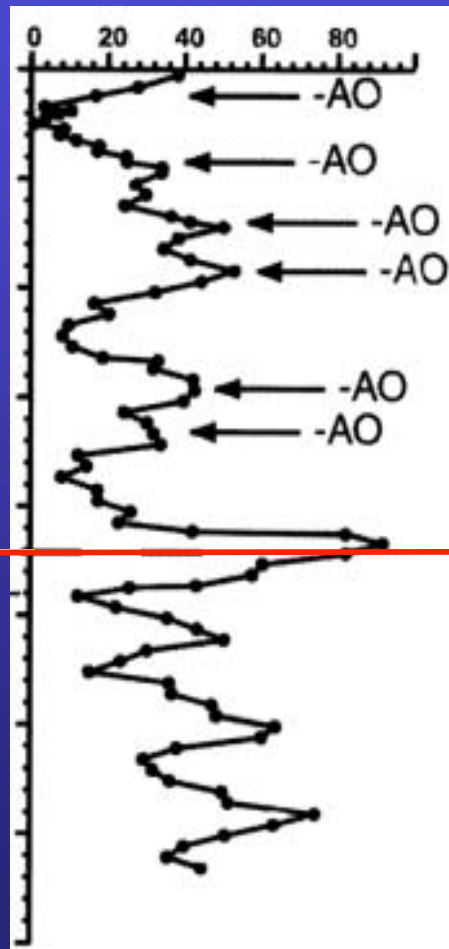


Years

% N. Canada

% Laptev Sea

Holocene
Pleistocene



Rationale for SEARCH

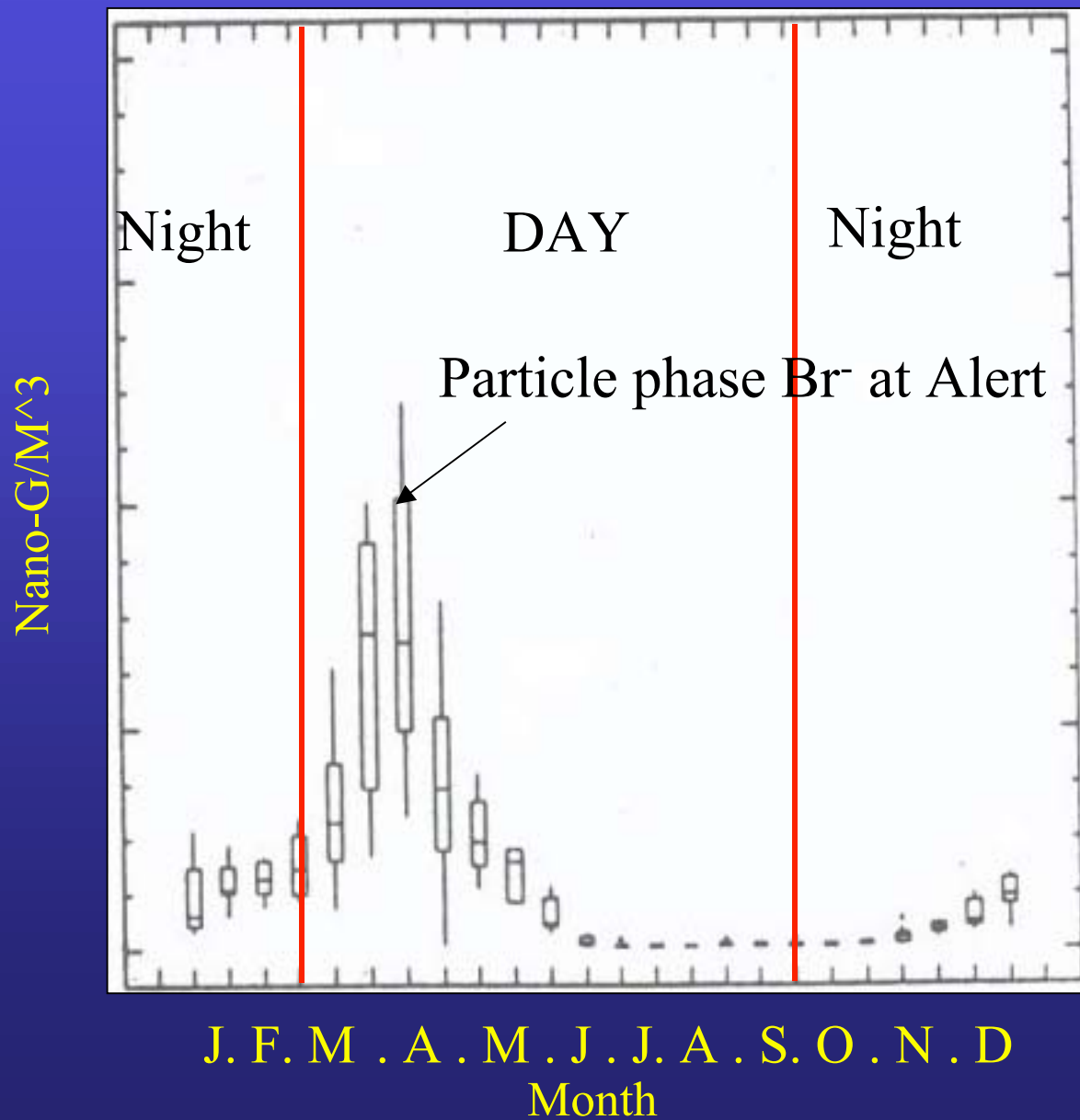
- The Arctic is in the midst of a major change - Atmosphere, Ocean, Land, Ecosystem, and Society.
- The Arctic change is connected to changes in the atmospheric circulation of the Northern Hemisphere.
- Observed impact on the ecosystem and society
- Future course unknown, but
- Fingerprint of global warming
- Requires long-term program of observations, analysis, modeling, and assessment.
- SEARCH science plan: <http://psc.apl.washington.edu/search>.

Other Possible New Starts

- Troposphere-Ice-Ocean Chemical Fluxes, Transformations, and Processes in Collaboration with SOLAS [Surface Ocean-Lower Atmosphere]
- Nearshore Processes in Collaboration with LAII and RAISE
- Model Inter-Comparisons

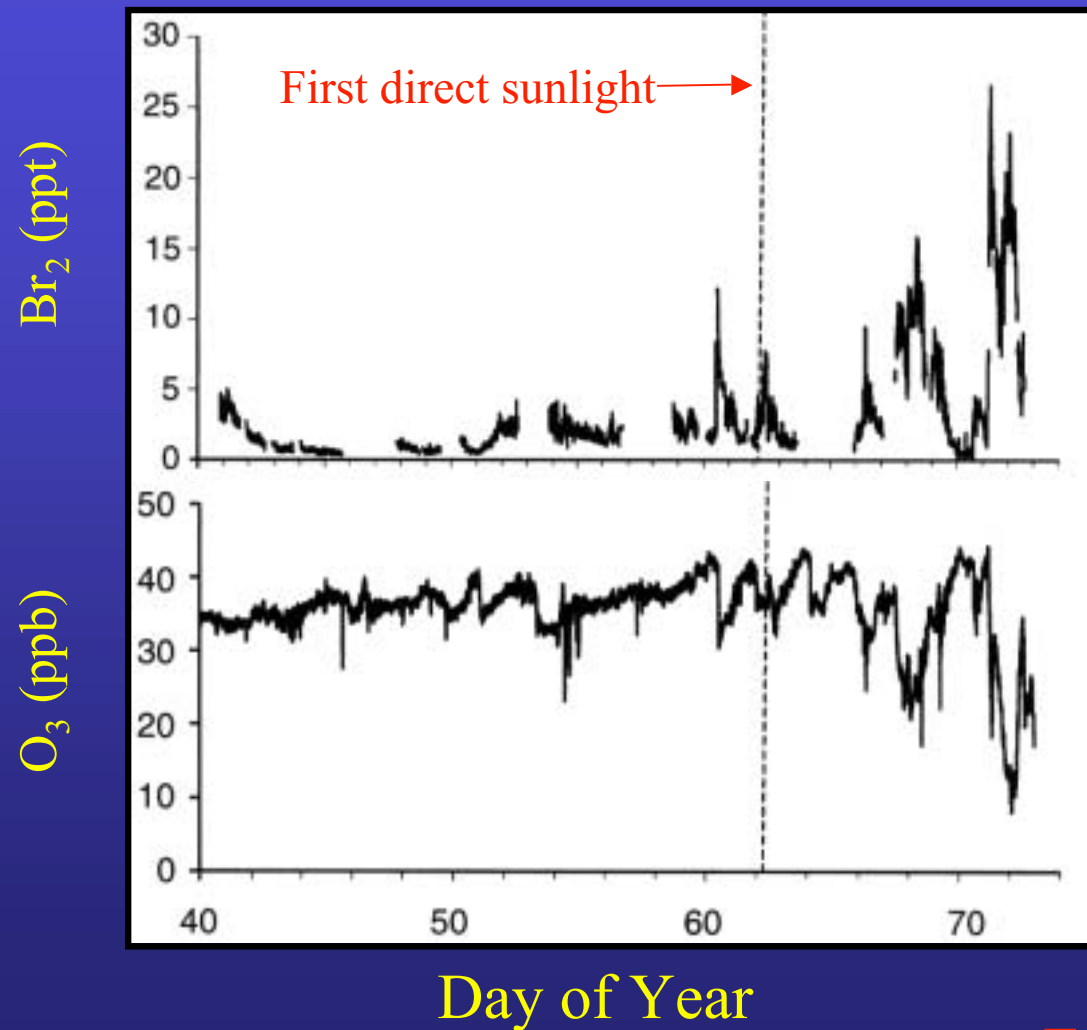
Rationale for OAI "SOLAS"

Bromine



Barrie et al.

Ozone Depletion (and Hg Deposition) at Polar Sunrise



Foster *et al.*, 2001

BEST IDEAS X \$0 = 0 Science

WE HAVE A STRONG CASE, BUT WE ARE NOT
MAKING IT STRONGLY ENOUGH
TO THOSE WHO CONTROL
THE PURSE STRINGS!!

“Some months ago I wrote of the growing chorus of voices both in Alaska and at the national level favoring increased attention to Arctic research. The sound has not subsided, yet positive forward action on an idea of very real importance both to the nation and to Alaska remains elusive.”

William R. Wood, *Daily News-Miner*, 1981 (in Norton, 2001)