

North Atlantic sub-polar hydrography synthesis project

BIO (Canada)

NIOZ (Netherlands)

UBremen (Germany)

POL (UK)

CAFAS (UK)

UHamburg

IFM-Kiel (Germany)

NOC (UK)

IO RAS (Russia)

NAFC (Canada)

Perspective:

France – OVIDE

USA – Line W



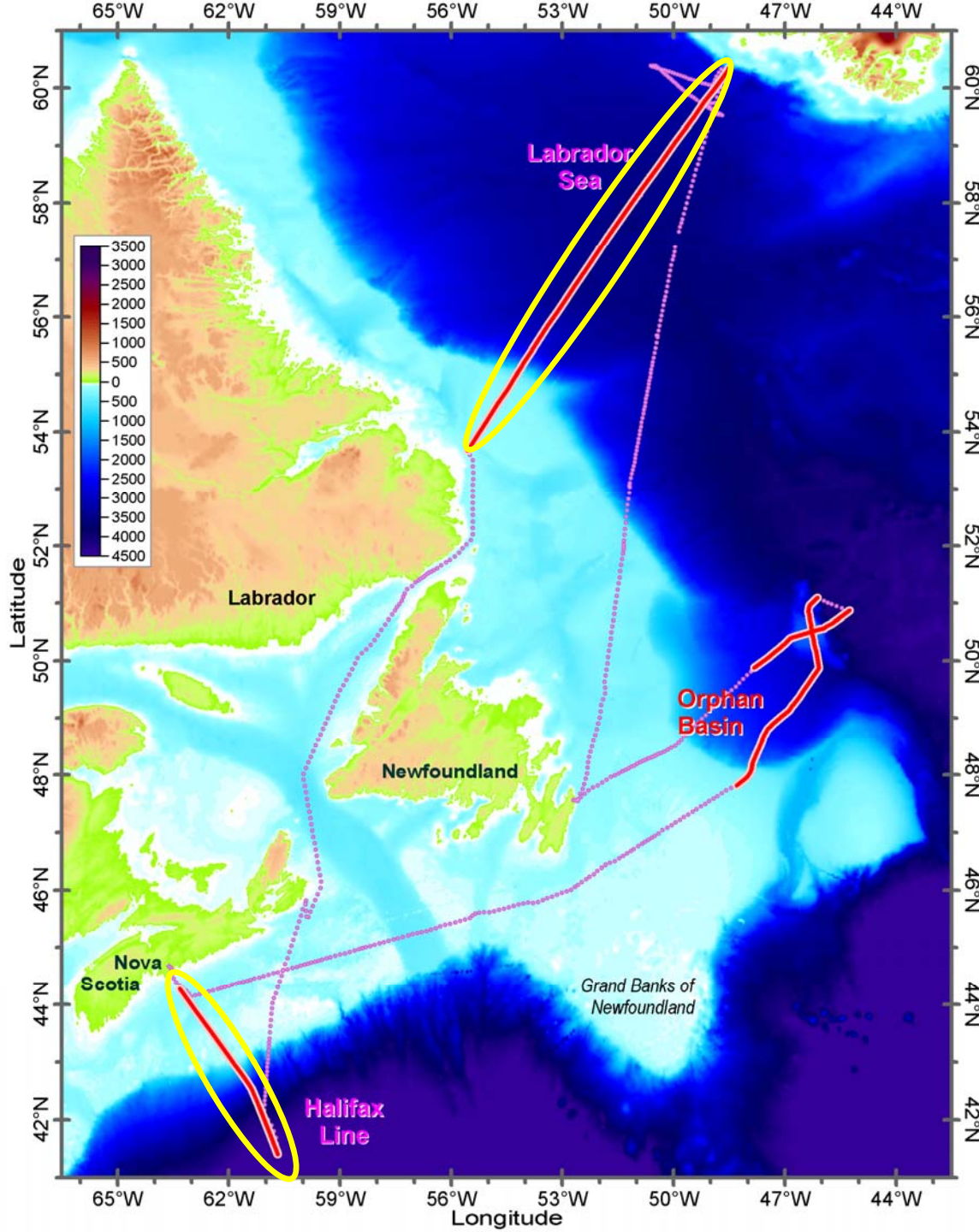
UK RAPID

EU THOR

US AMOC

ASOF

North Atlantic Sub-polar Hydrography Alliance (NASHA)

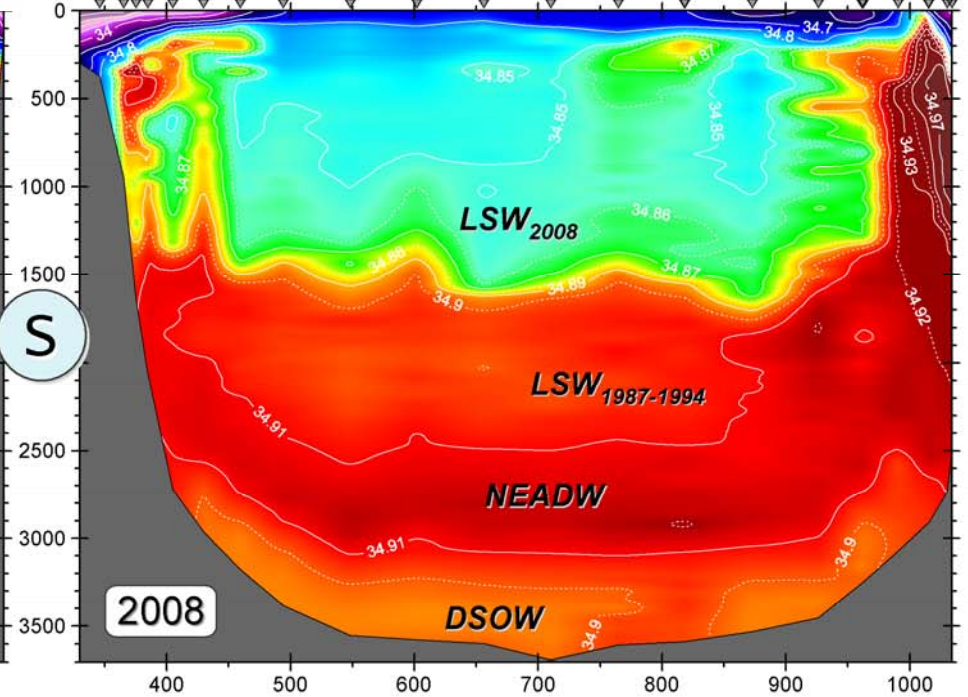
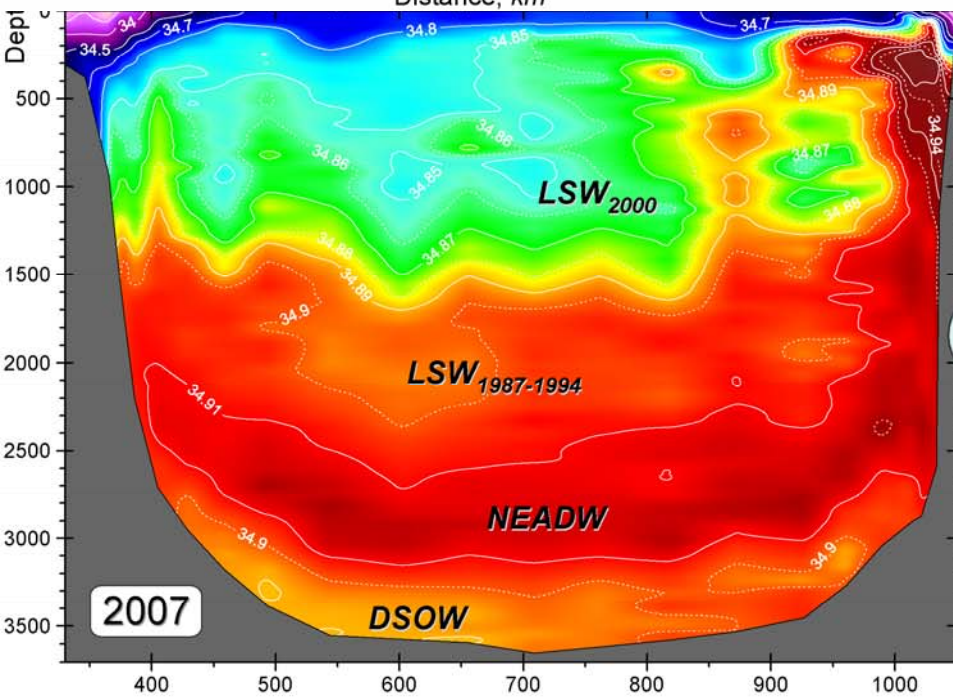
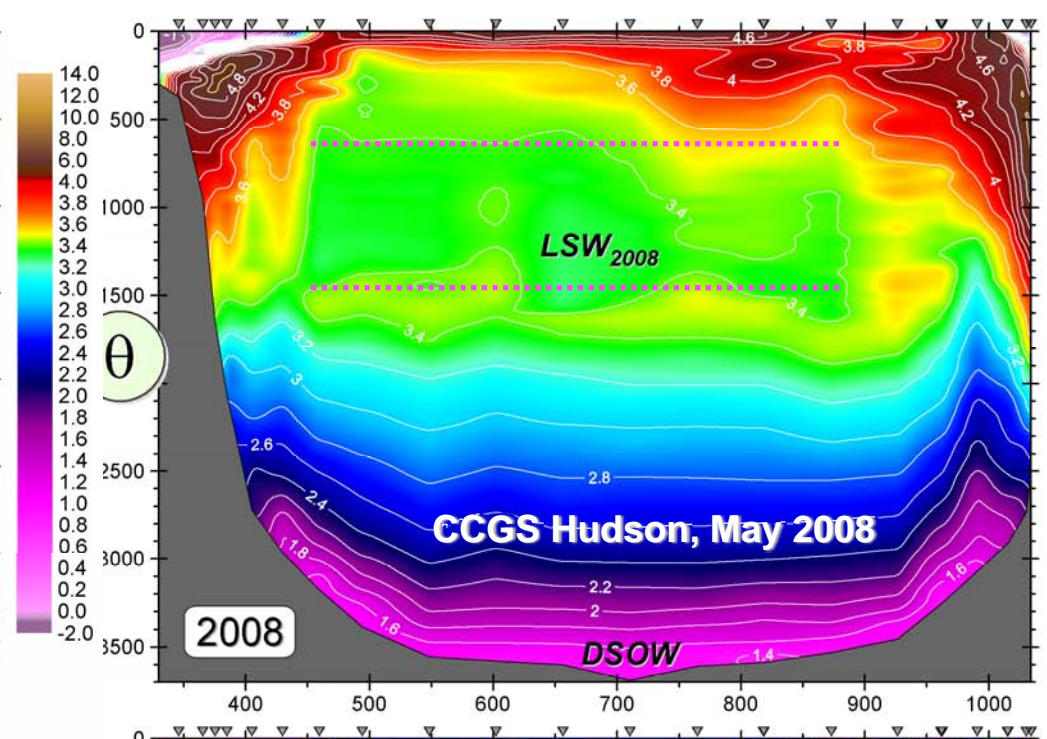
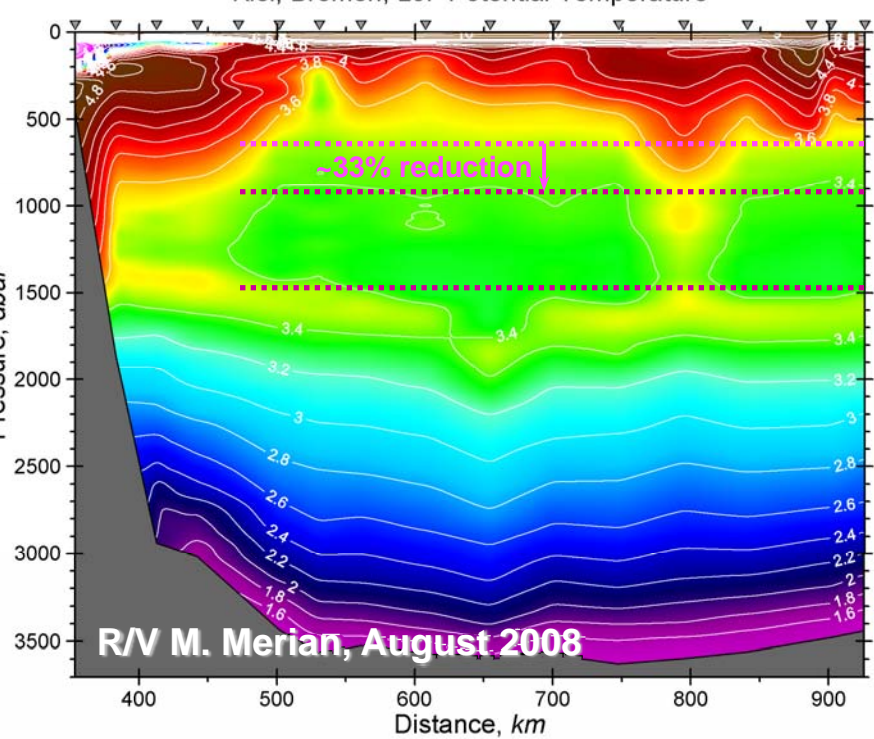


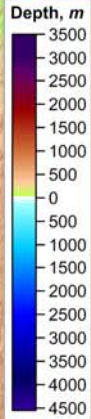
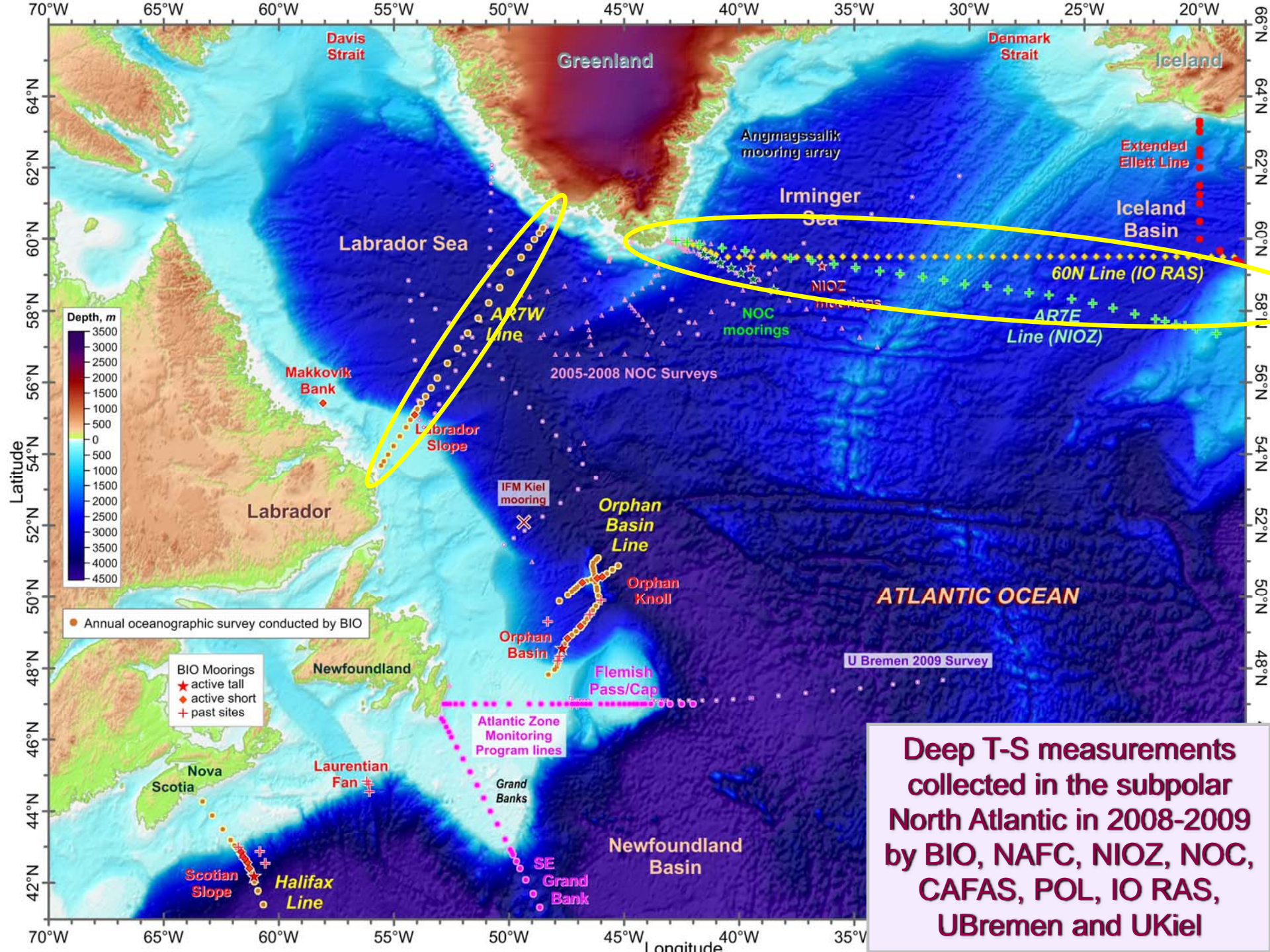
2008 OSD BIO Survey of the NW North Atlantic:

physics
+ biology
+ chemistry

*What can we carry out
from overlaps in
our activities?*

(no two cruises are the same)



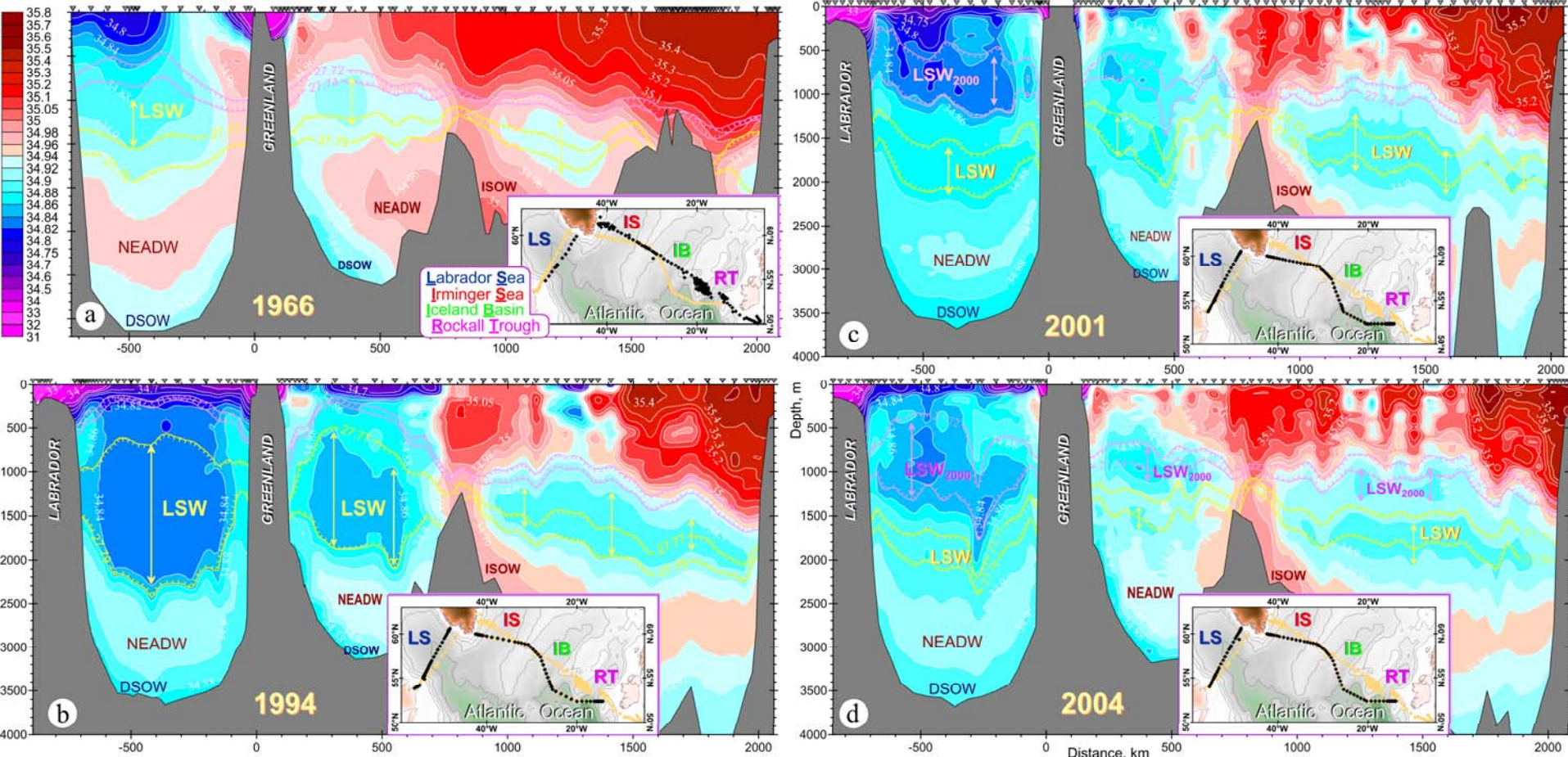


● Annual oceanographic survey conducted by BIO

BIO Moorings
 ★ active tall
 ◆ active short
 + past sites

Deep T-S measurements collected in the subpolar North Atlantic in 2008-2009 by BIO, NAFC, NIOZ, NOC, CAFAS, POL, IO RAS, UBremen and UKiel

AR7 has been occupied annually since 1991, with exception of 1993 and 1998 (missing eastern part)

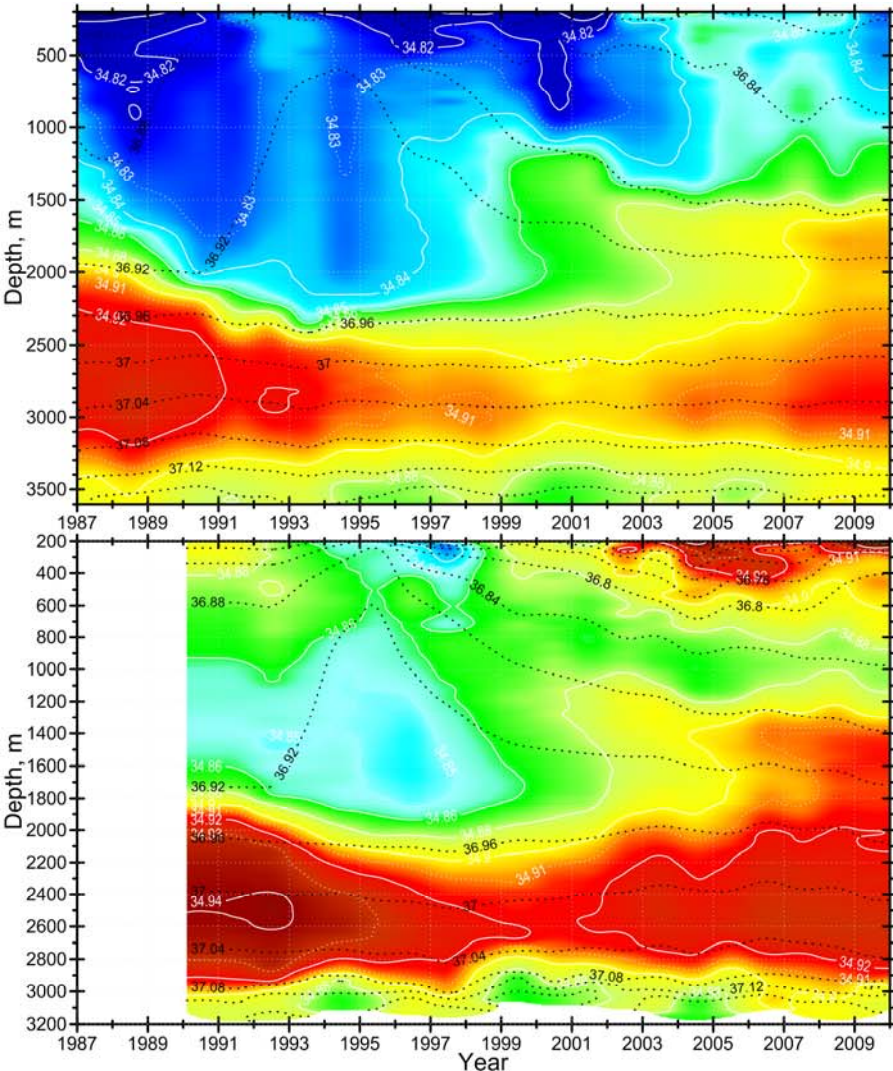


Only once this line was occupied completely or from coast to coast by the same group.

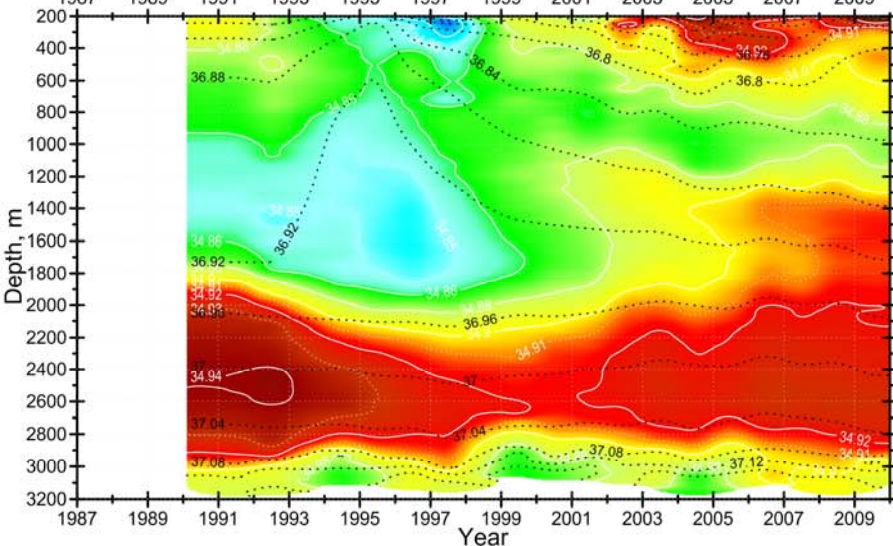
Any other (known) case of completed AR7 was a result of joint effort.

Toward
“real-time” synthesis
of sub-polar
hydrographic
measurements

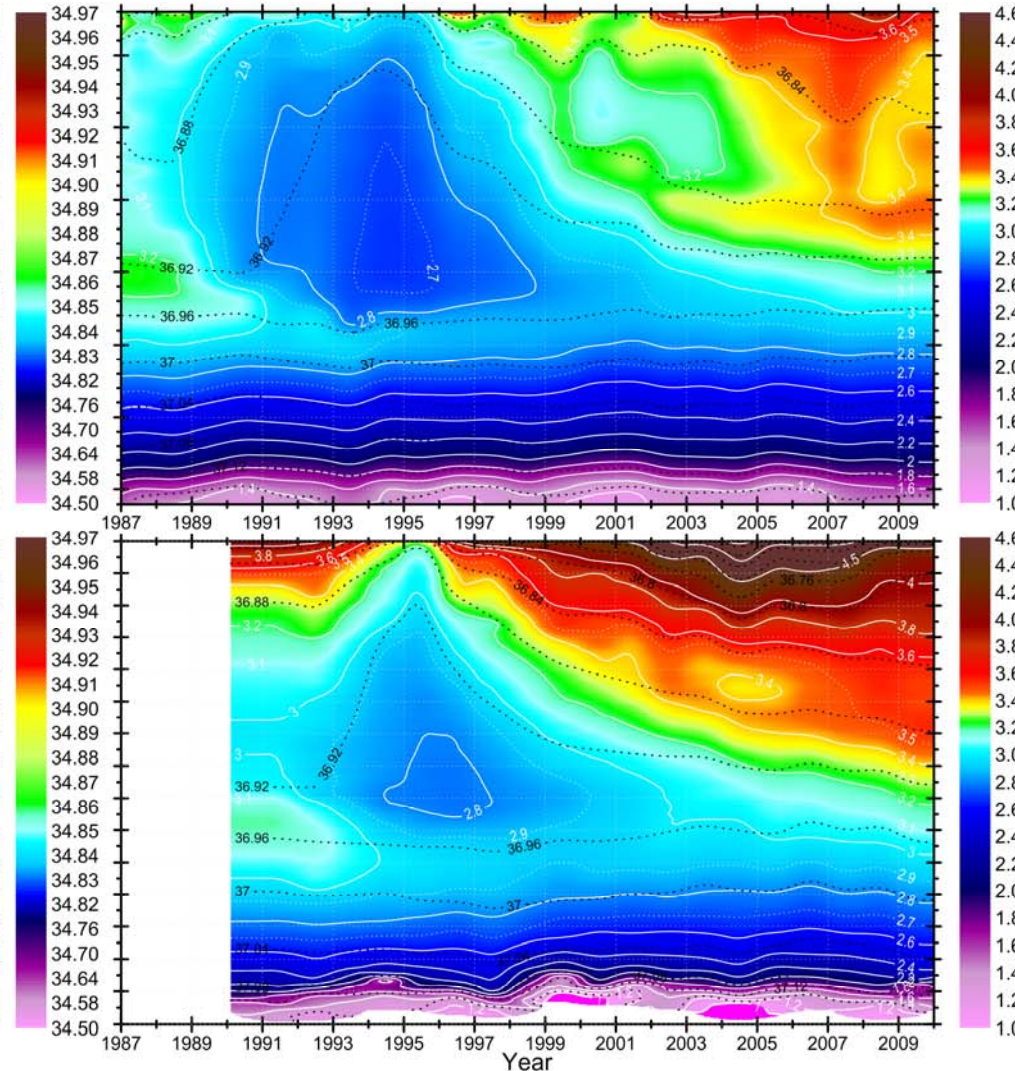
Labrador Sea Salinity



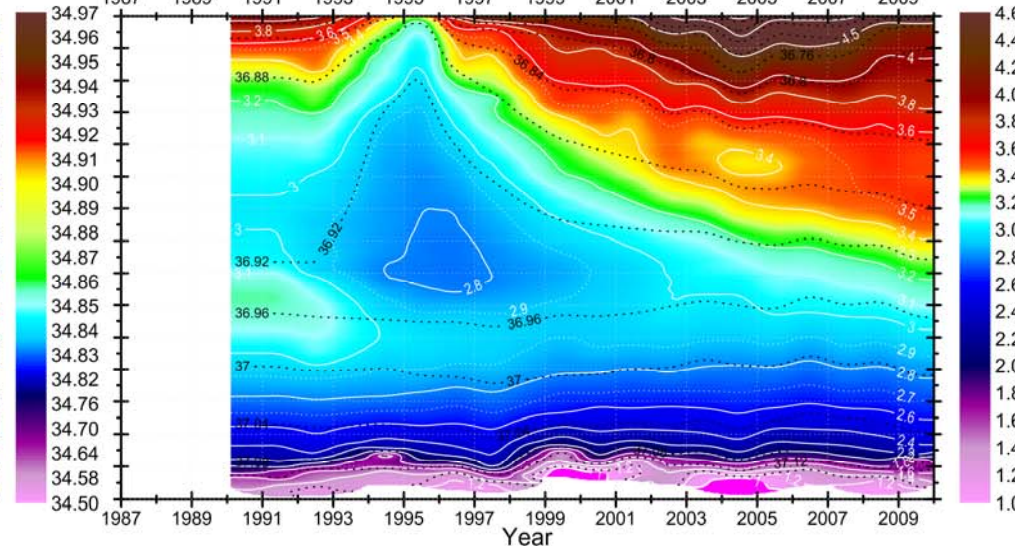
Irminger Sea Salinity



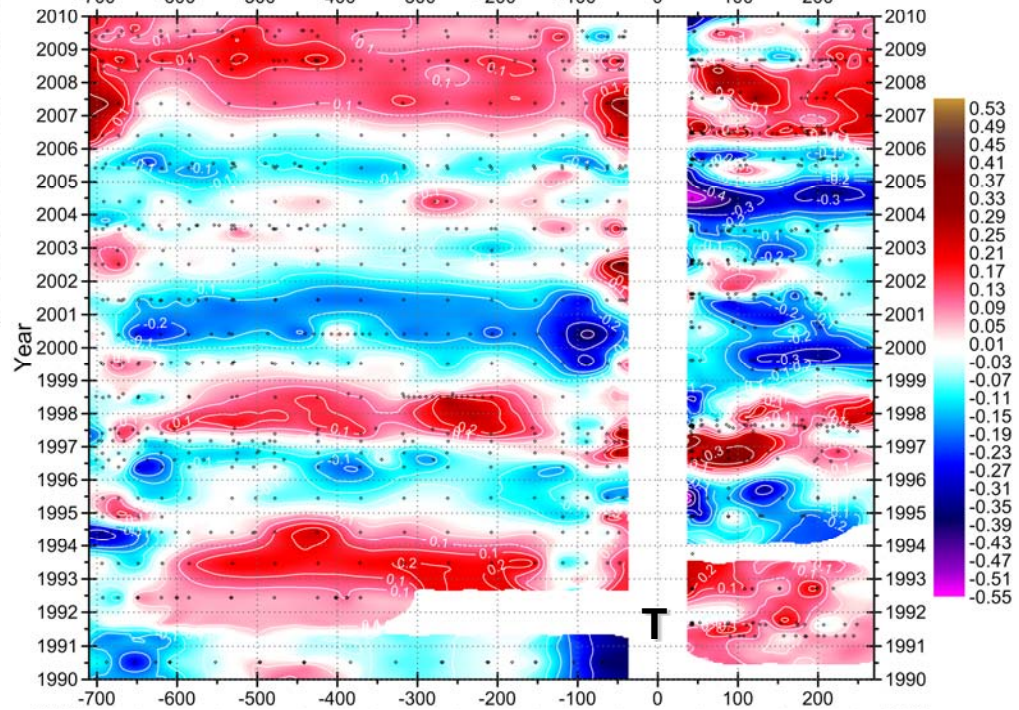
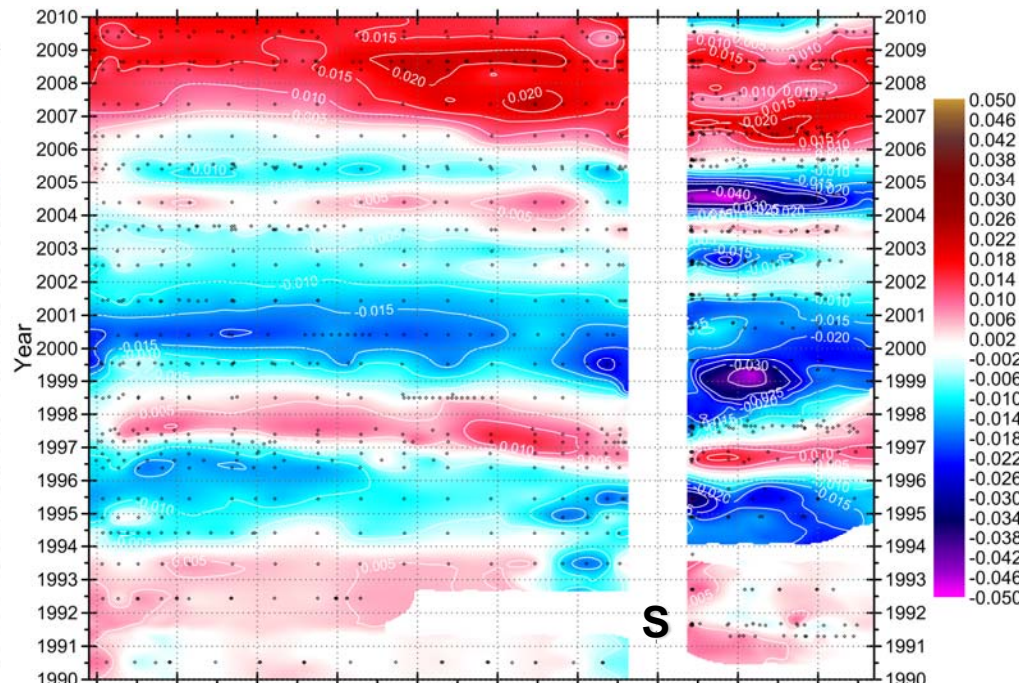
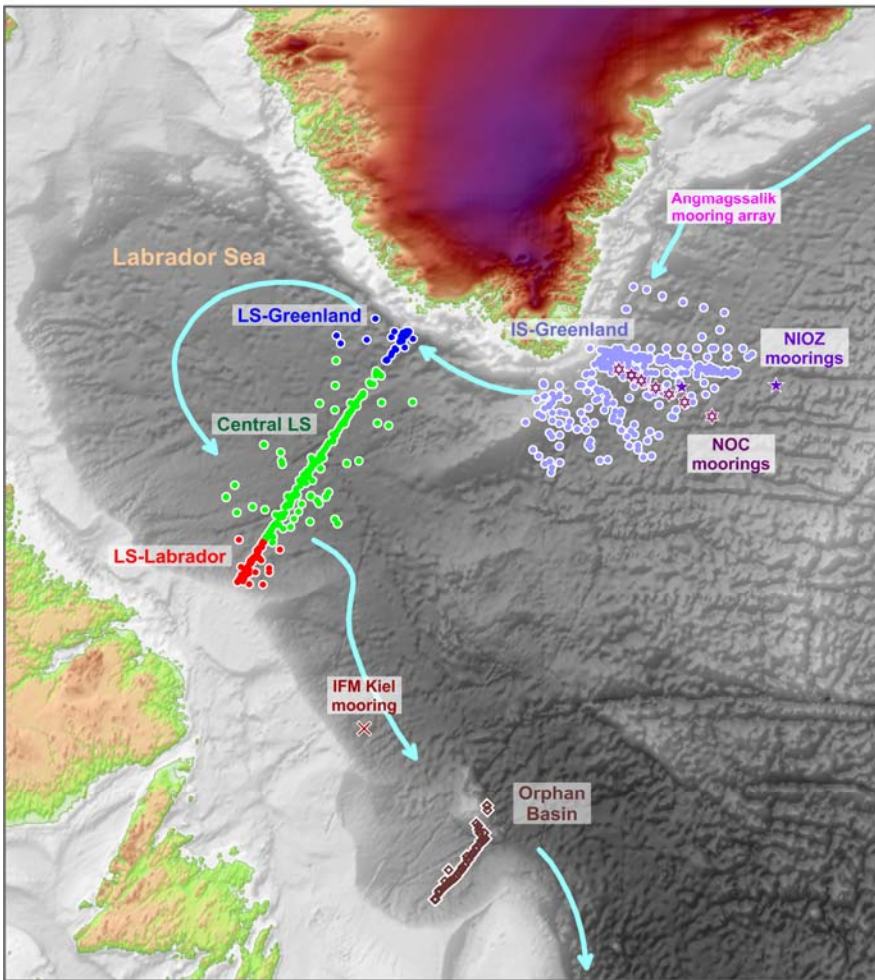
Labrador Sea Temperature



Irminger Sea Temperature



*Analogous time series
for Dissolved oxygen
and Nutrients are
now being built*

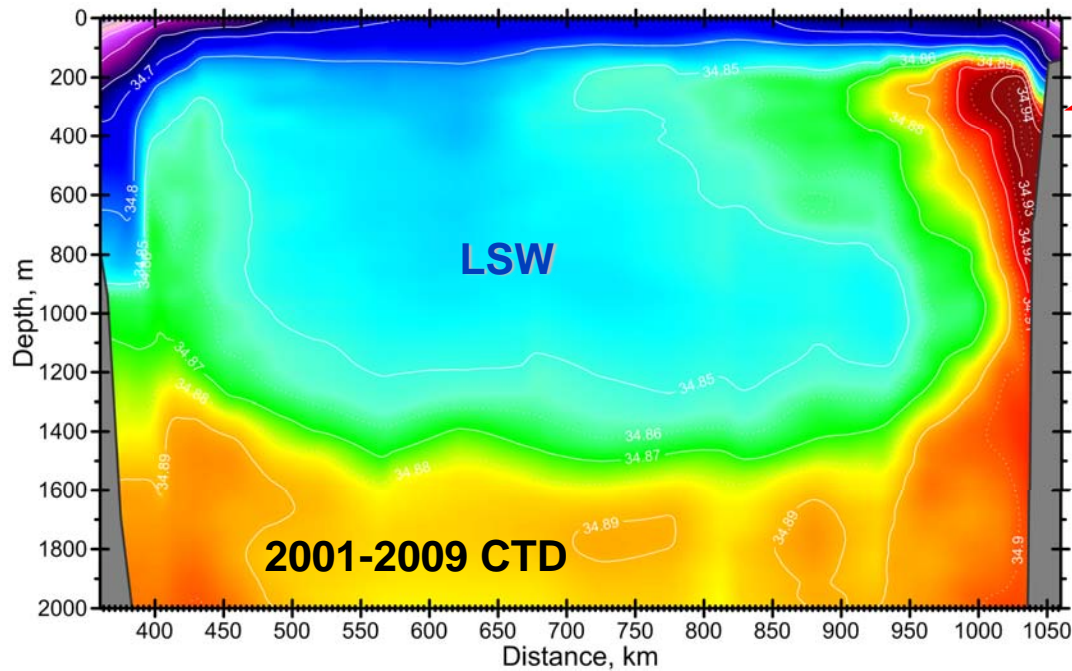
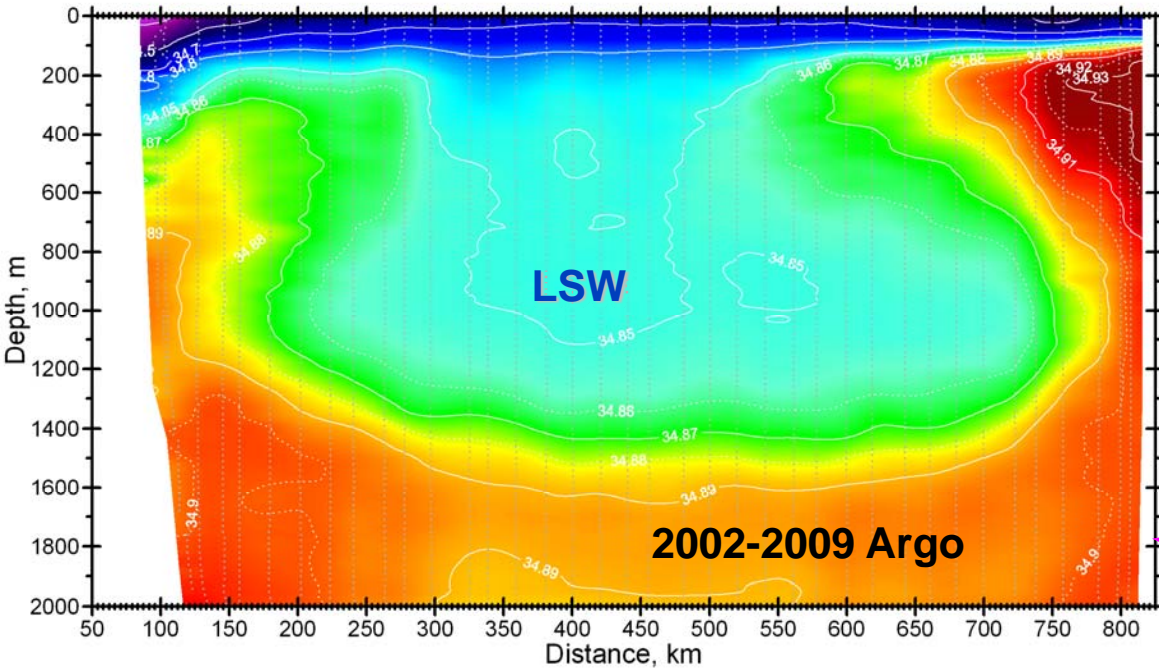


Monitoring the lower limb of the North Atlantic Overturning (anomalies of the bottom layer)

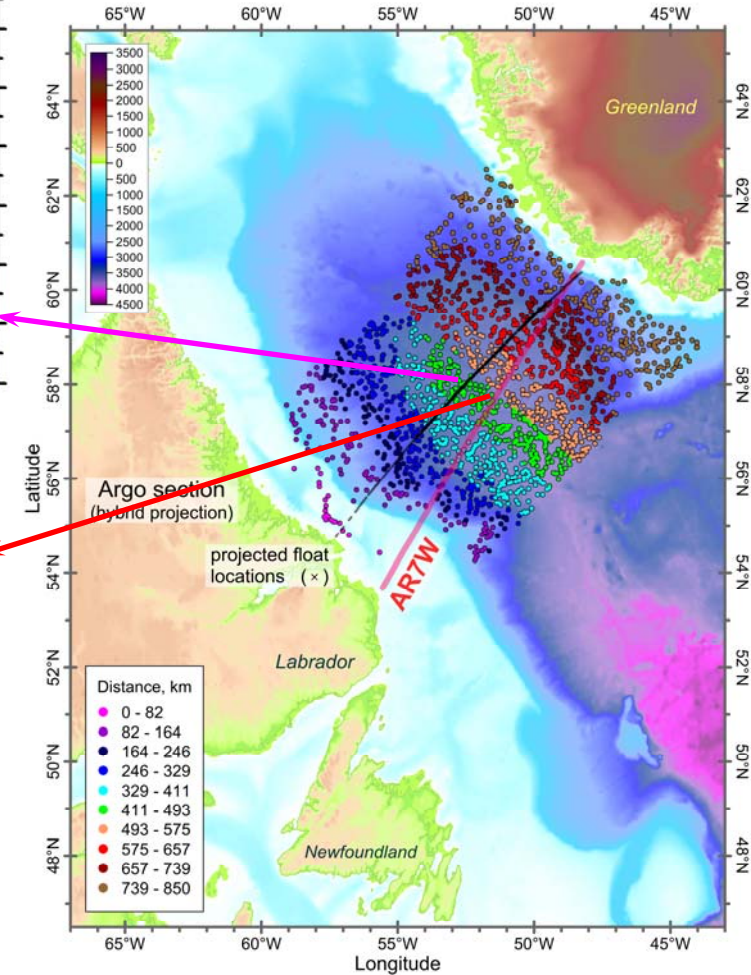
From our presentation at
the upcoming 2010 OS meeting

*Validation of
Argo climatology
with ships' repeat
hydrography
and vice versa*

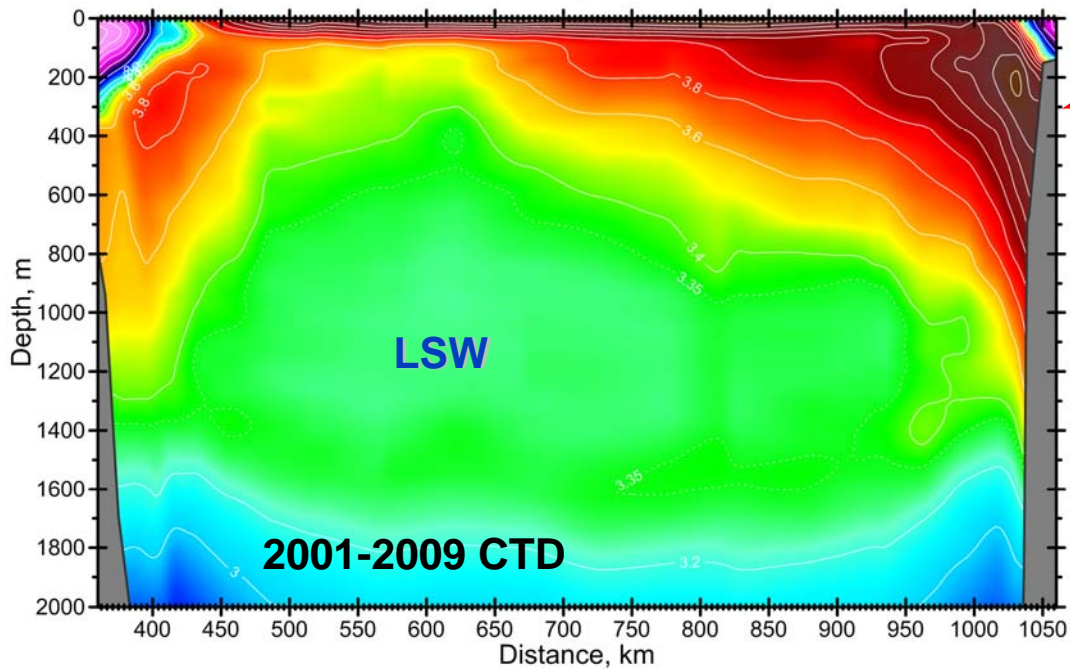
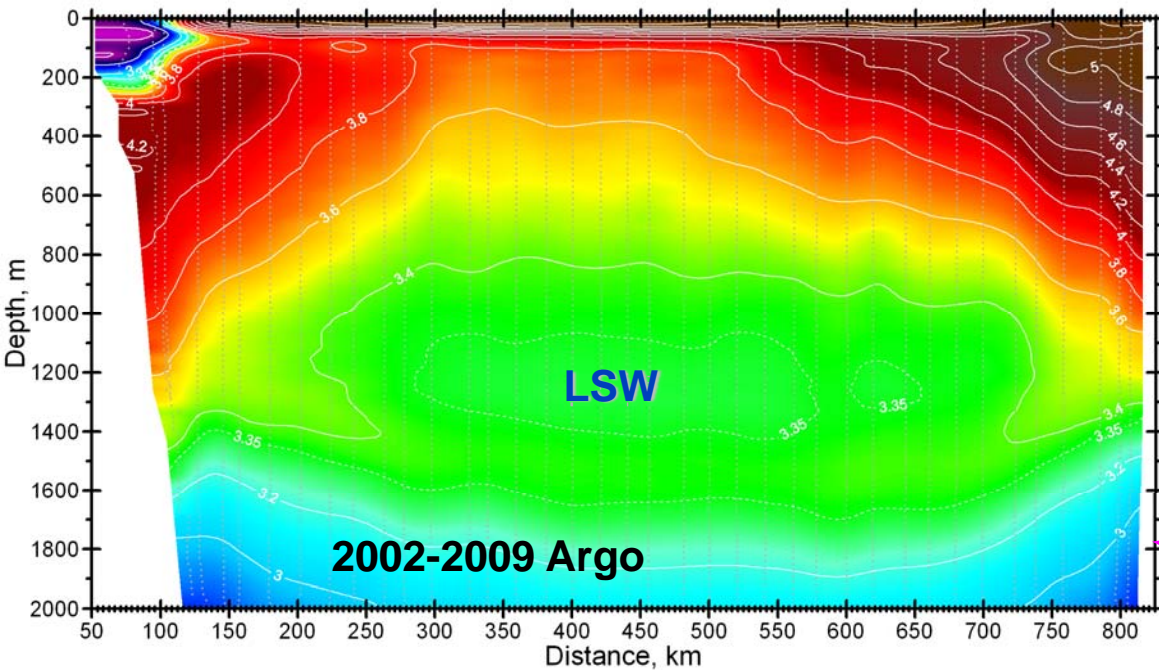
Composite Salinity Section



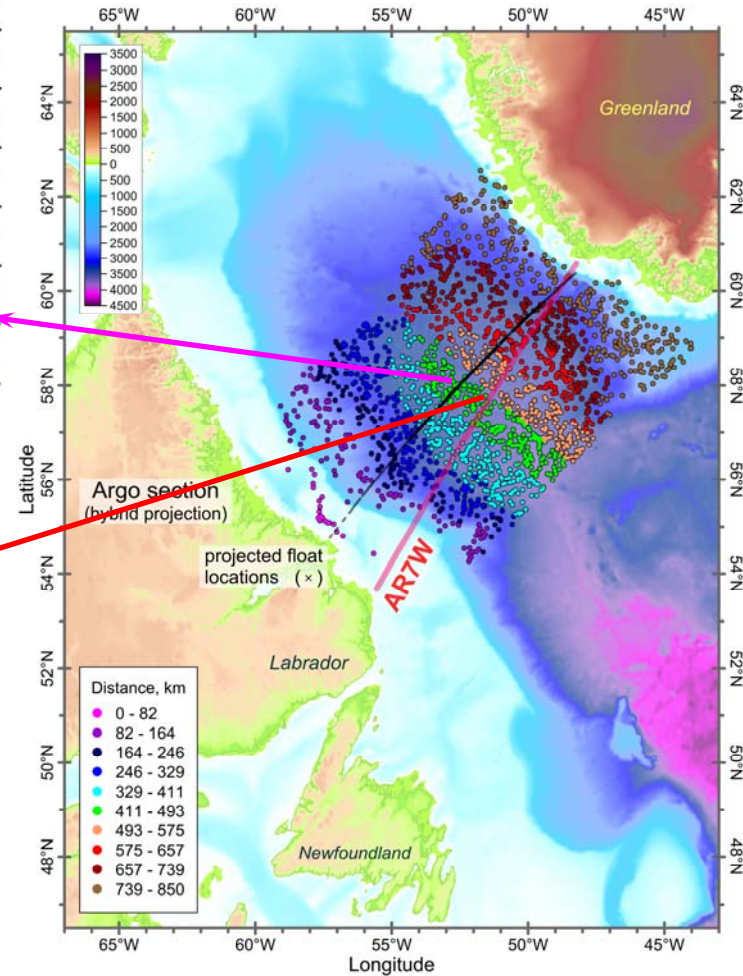
First Argo section of the Labrador Sea



Composite Temperature Section

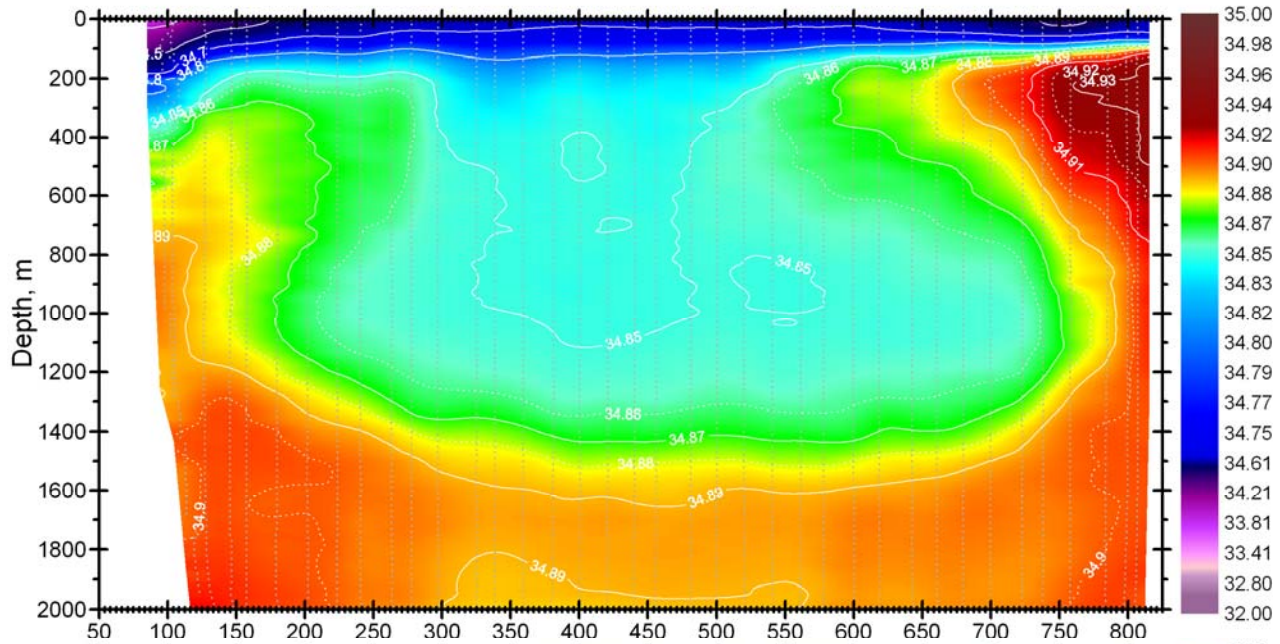


First Argo section of the Labrador Sea

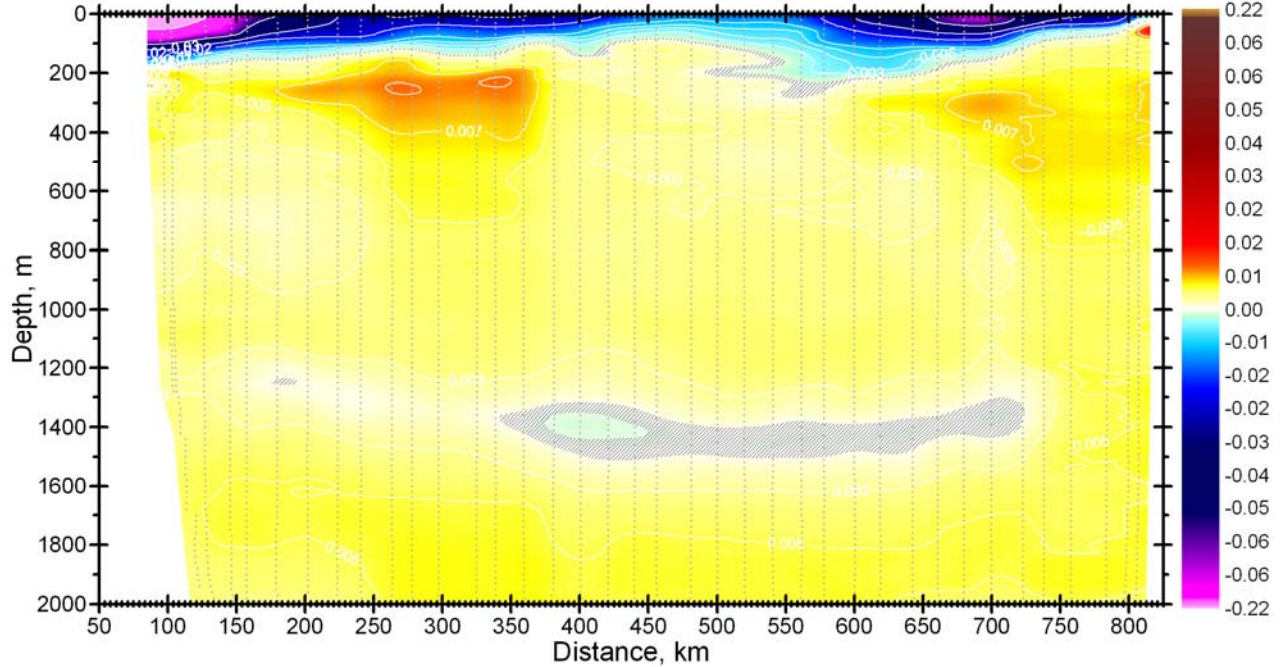


First Argo section of the Labrador Sea

Mean



Trend,
units/year



A photograph of a sunset over the ocean. In the foreground, a crane hook is suspended from a metal arm, holding a dark circular sign with the words "Thank You!" written in bright pink. The sky is a mix of orange, yellow, and purple, with a thin layer of clouds. The ocean is dark and calm.

*Thank
You!*

We see new roles for international collaboration and data integration, use of new observational networks and further involvement of ocean, ice and climate models in real-ocean process and variability studies!