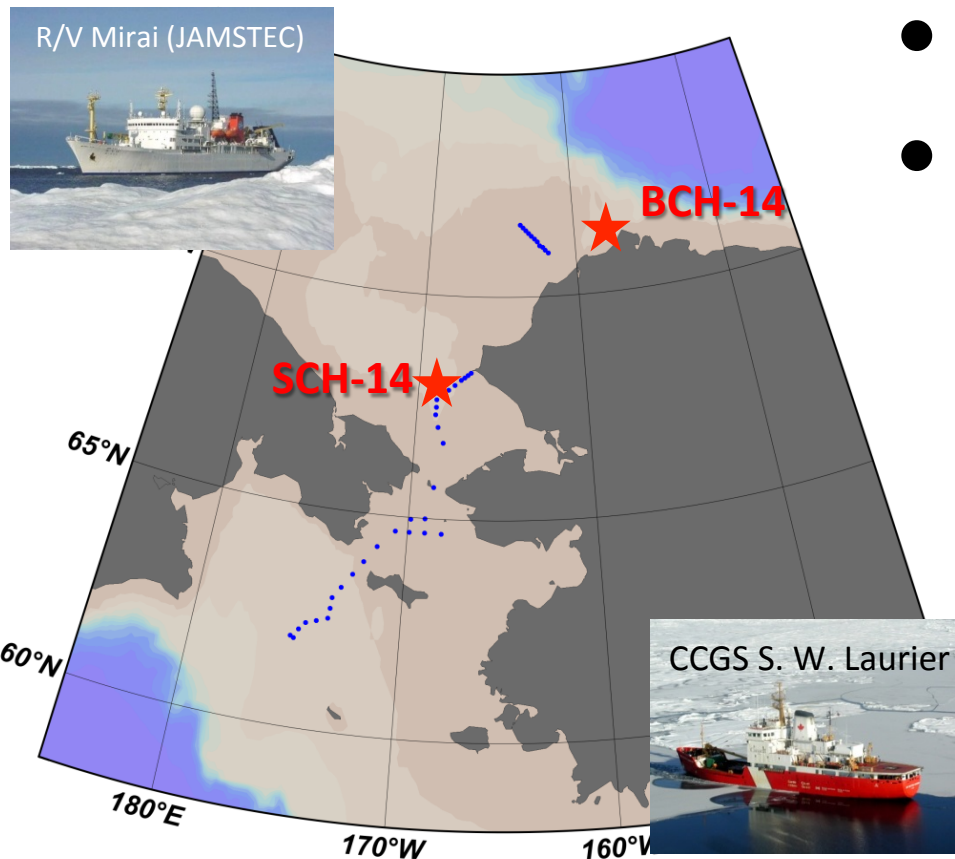


Progress on DBO-3 & 5 mooring observation

Takashi Kikuchi (JAMSTEC)

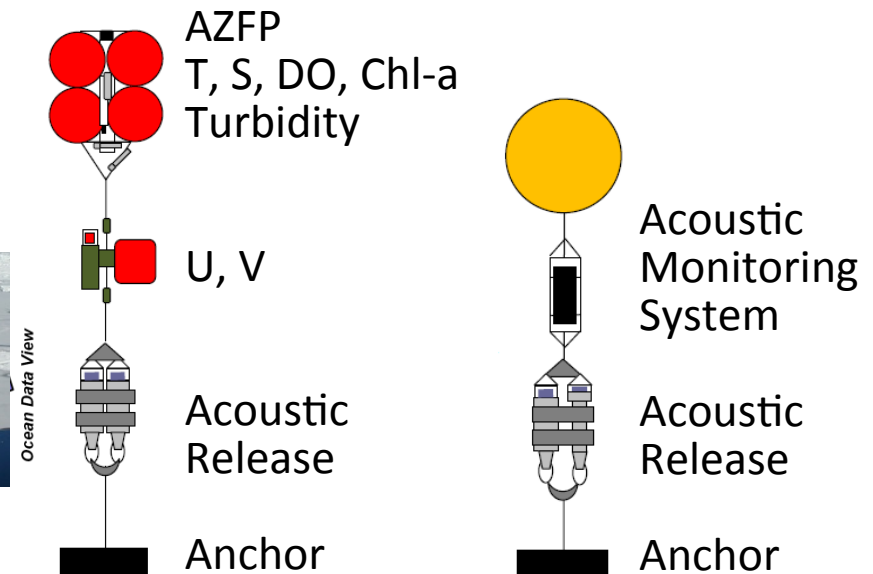
with inputs from other Japanese collaborators



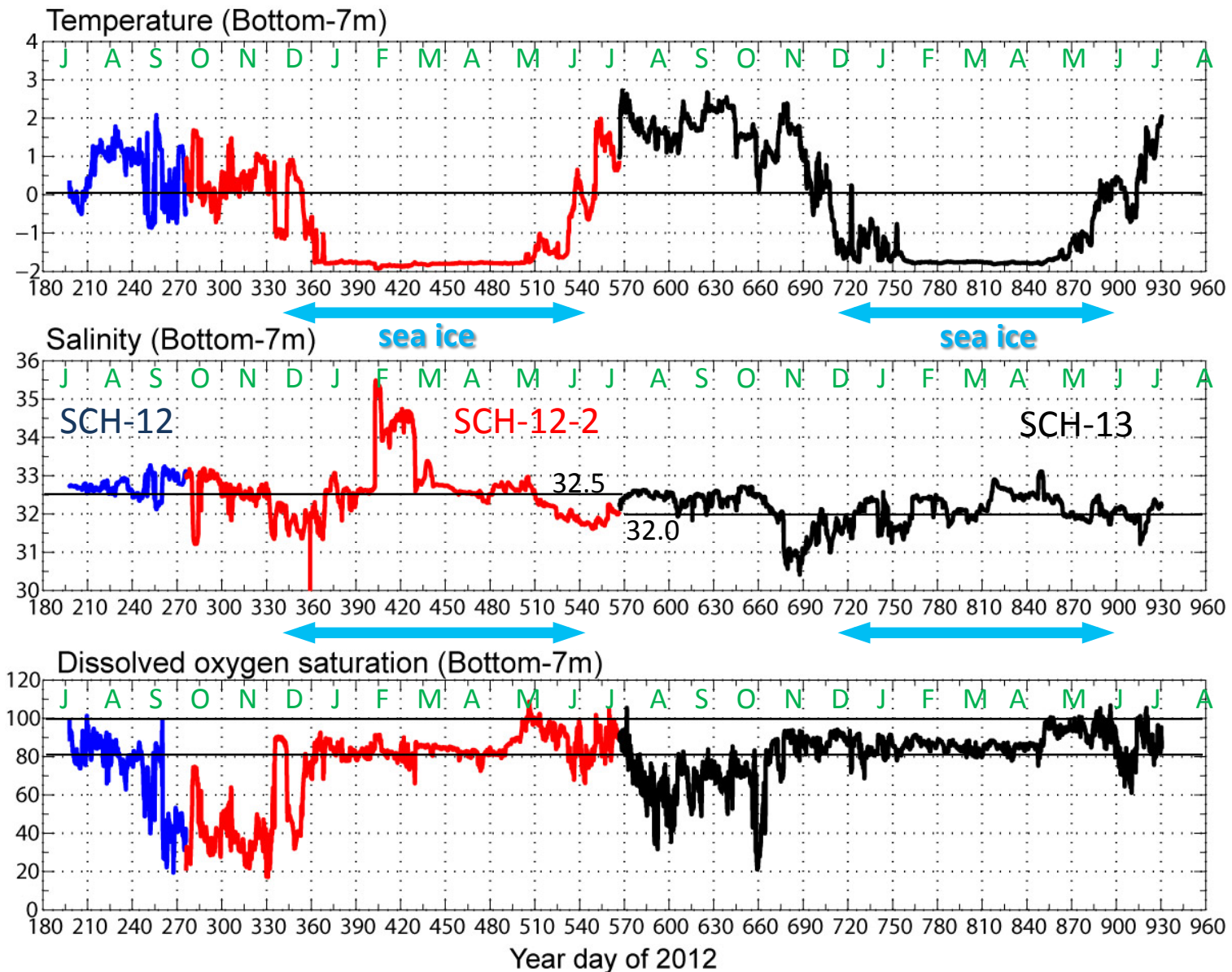
CTD station during SWL July cruise in 2014

- Barrow Canyon Hotspot (BCH: DBO-5)
07/23/2012 ~ present
- Southern Chukchi Hotspot (SCH: DBO-3)
07/17/2012 ~ present

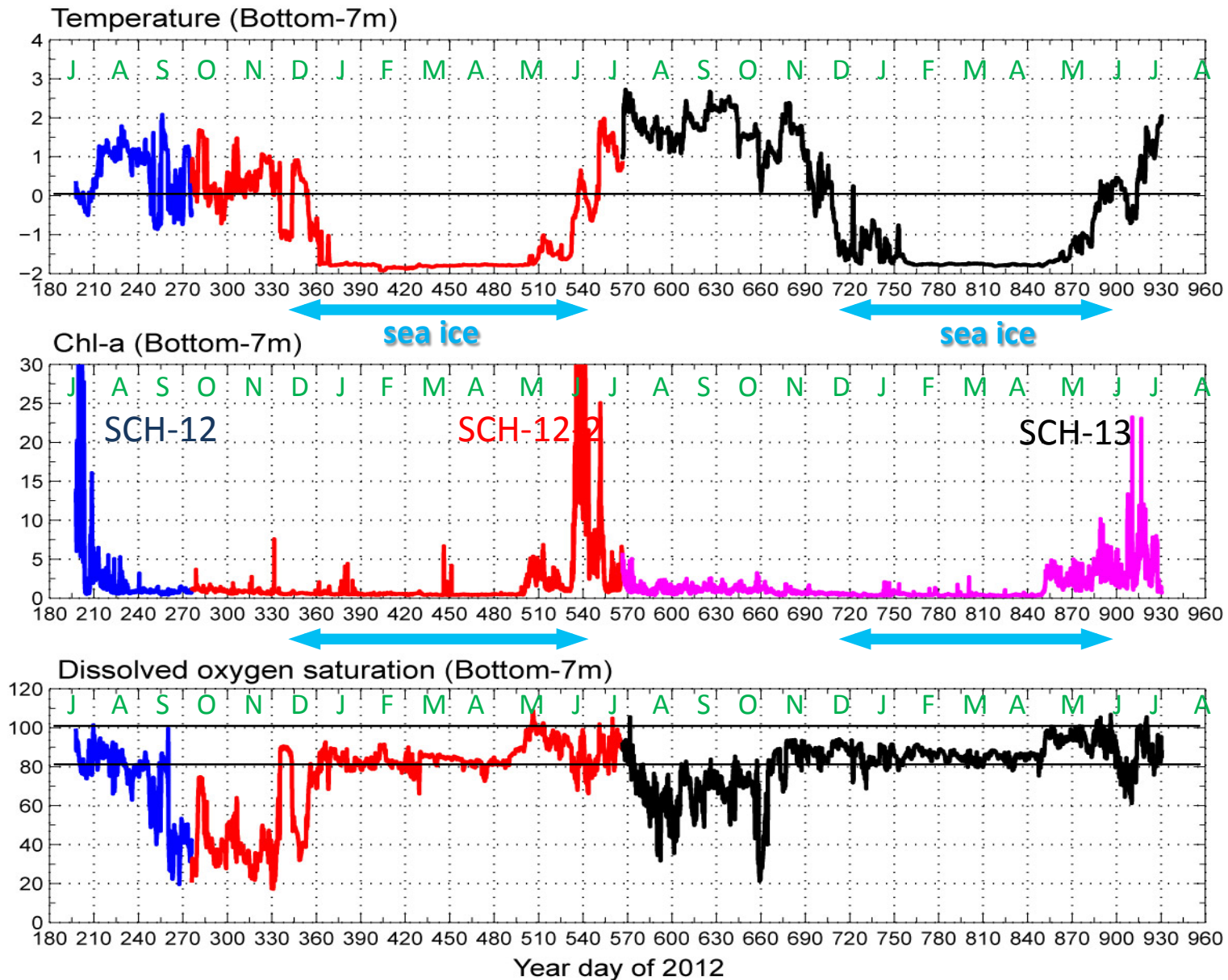
[Mooring diagram of SCH-14 & SCH-14w]



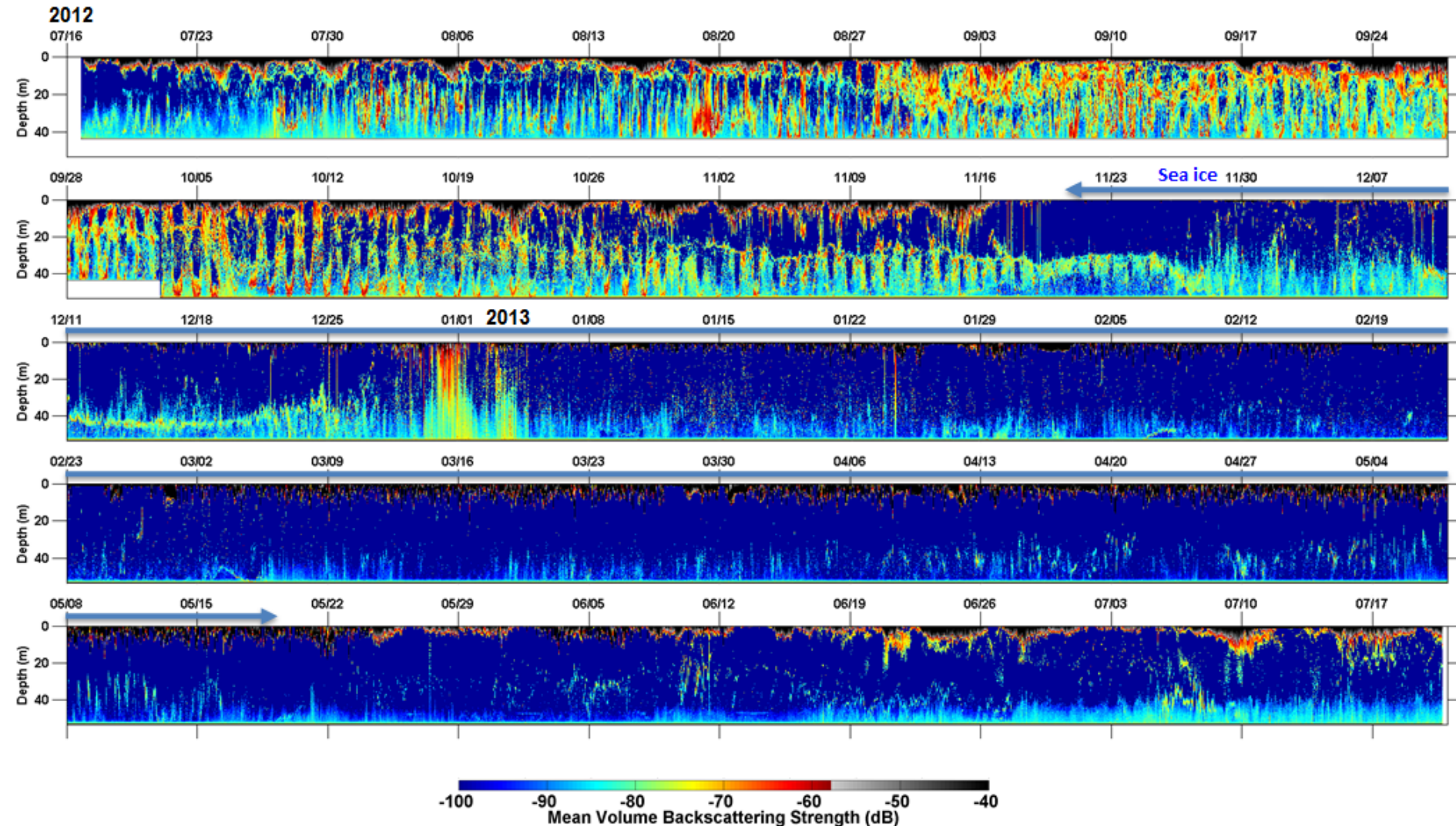
SCH (DBO-3) mooring: T, S, DO



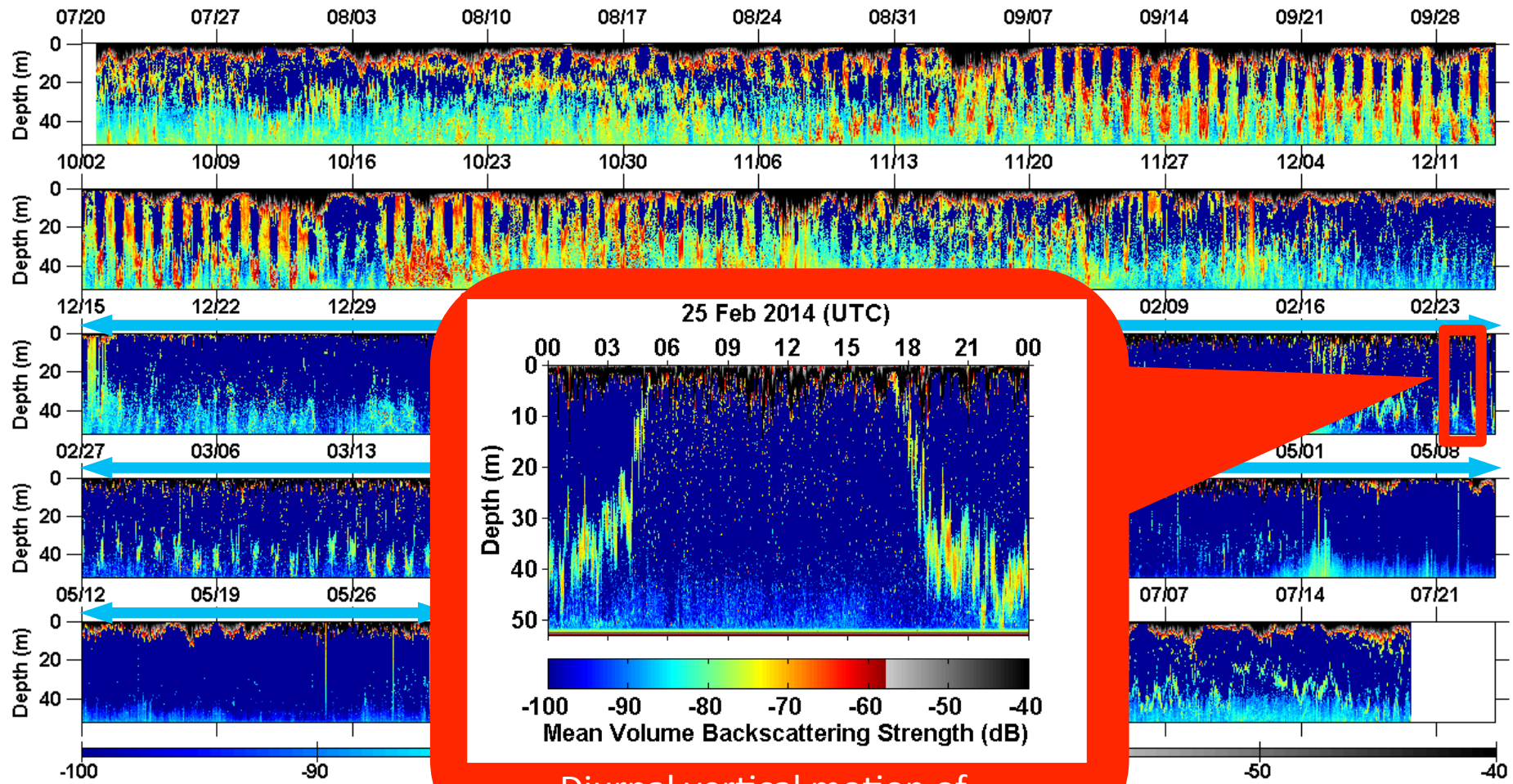
SCH (DBO-3) mooring: T, Chl-a, DO



SCH (DBO-3) mooring: AZFP 125 kHz Echogram (Oct. 2, 2012 to Jul.20, 2013)



SCH (DBO-3) mooring: AZFP 125 kHz Echogram (Jul. 20, 2013 to Jul.20, 2014)

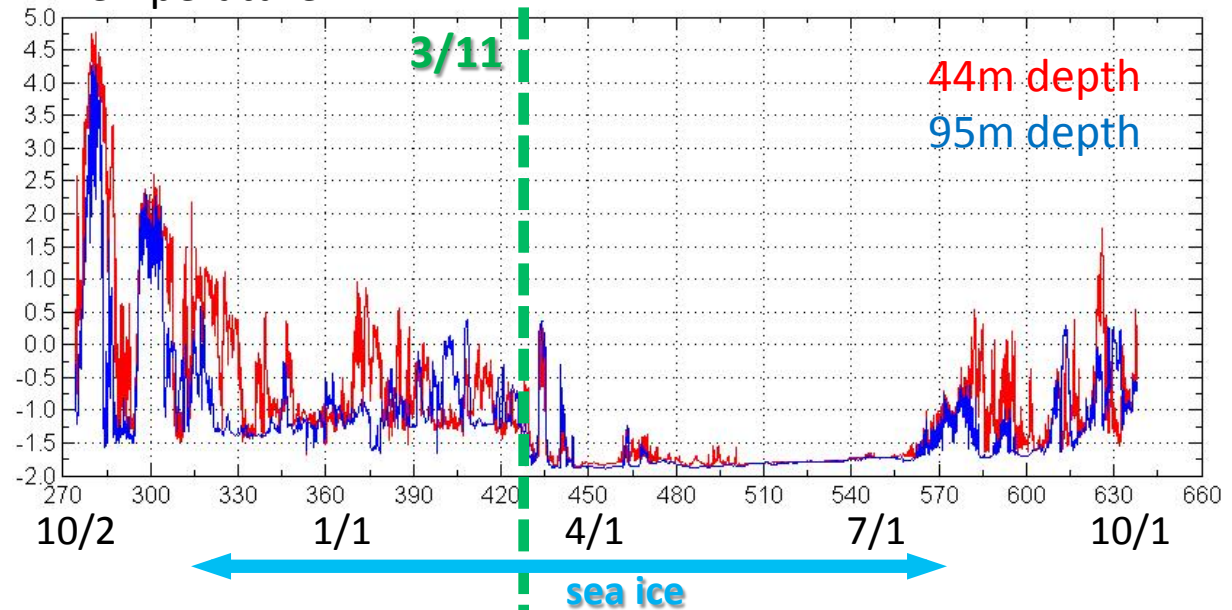


BCH mooring

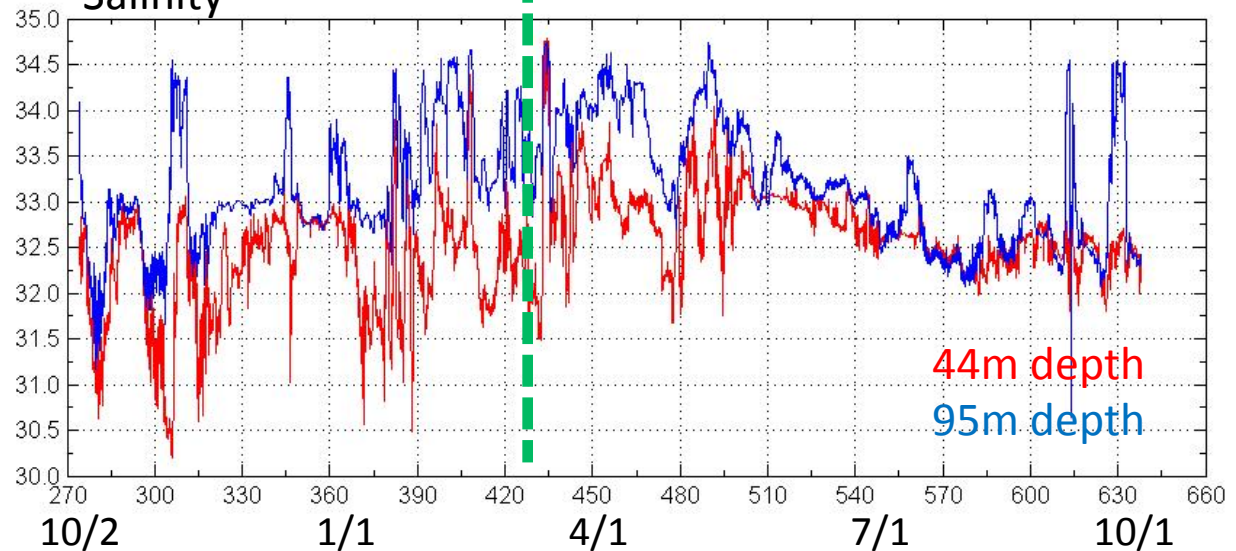
Time series of T, S
(Oct. 1, 2012 to Oct.1, 2013)

Distributed Biological Observatory
2nd data workshop
October 29-31, 2014
@ PMEL/NOAA, Seattle

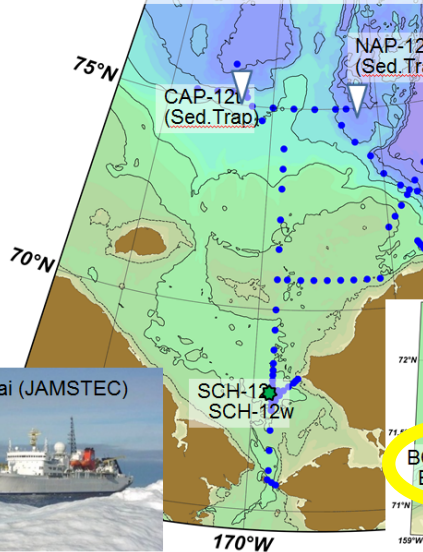
Temperature



Salinity



JAMSTEC mooring array in the Chukchi S



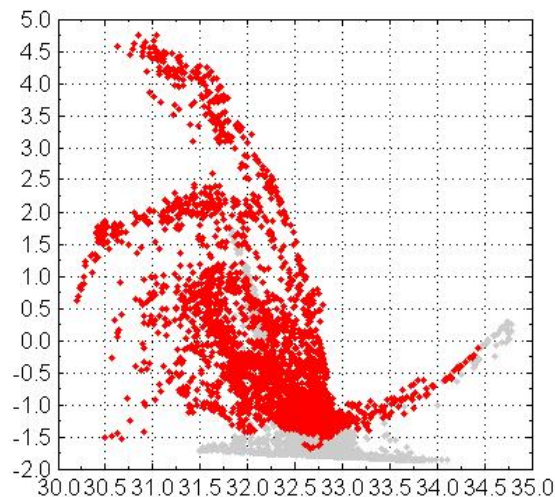
BCH mooring

T-S diagram
(Oct. 1, 2012 to Oct.1, 2013)

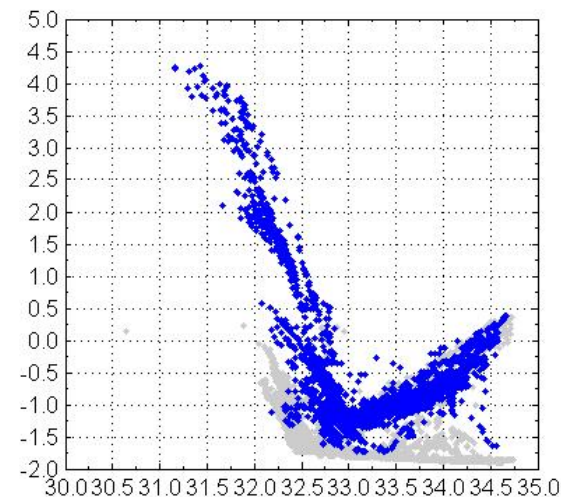
Distributed Biological Observatory
2nd data workshop
October 29-31, 2014
@ PMEL/NOAA, Seattle

Before Mar.11, 2013

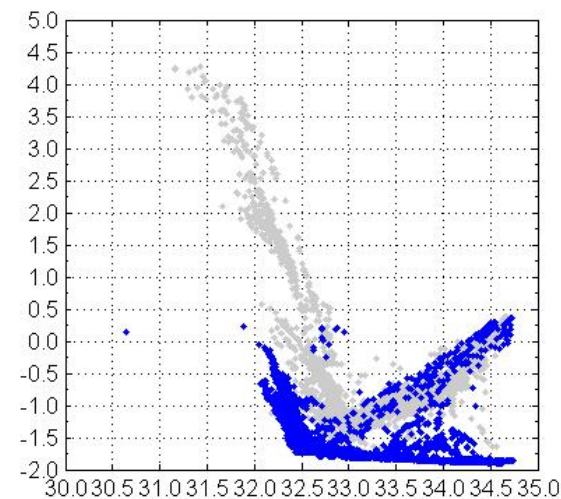
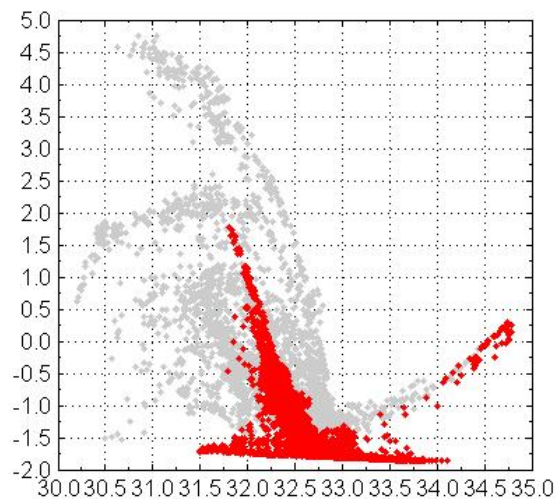
BCH-12-2 43m depth



BCH-12-2 95m depth



After Mar.12, 2013



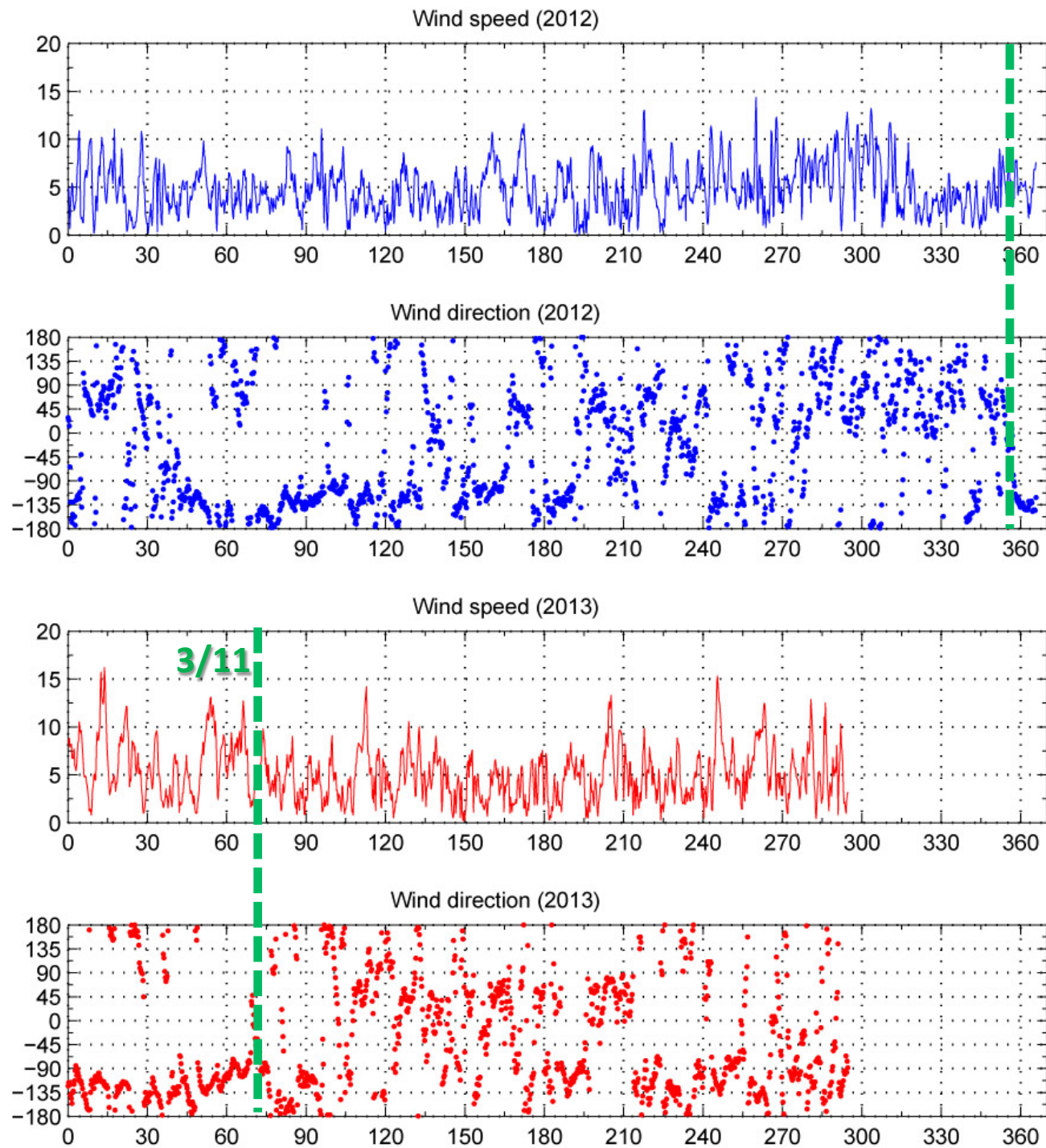
BCH mooring

NCEP wind data
(2012 - 2013)

Strong north-easterly wind
was continuously blowing
during December 2012 and
March 2013.

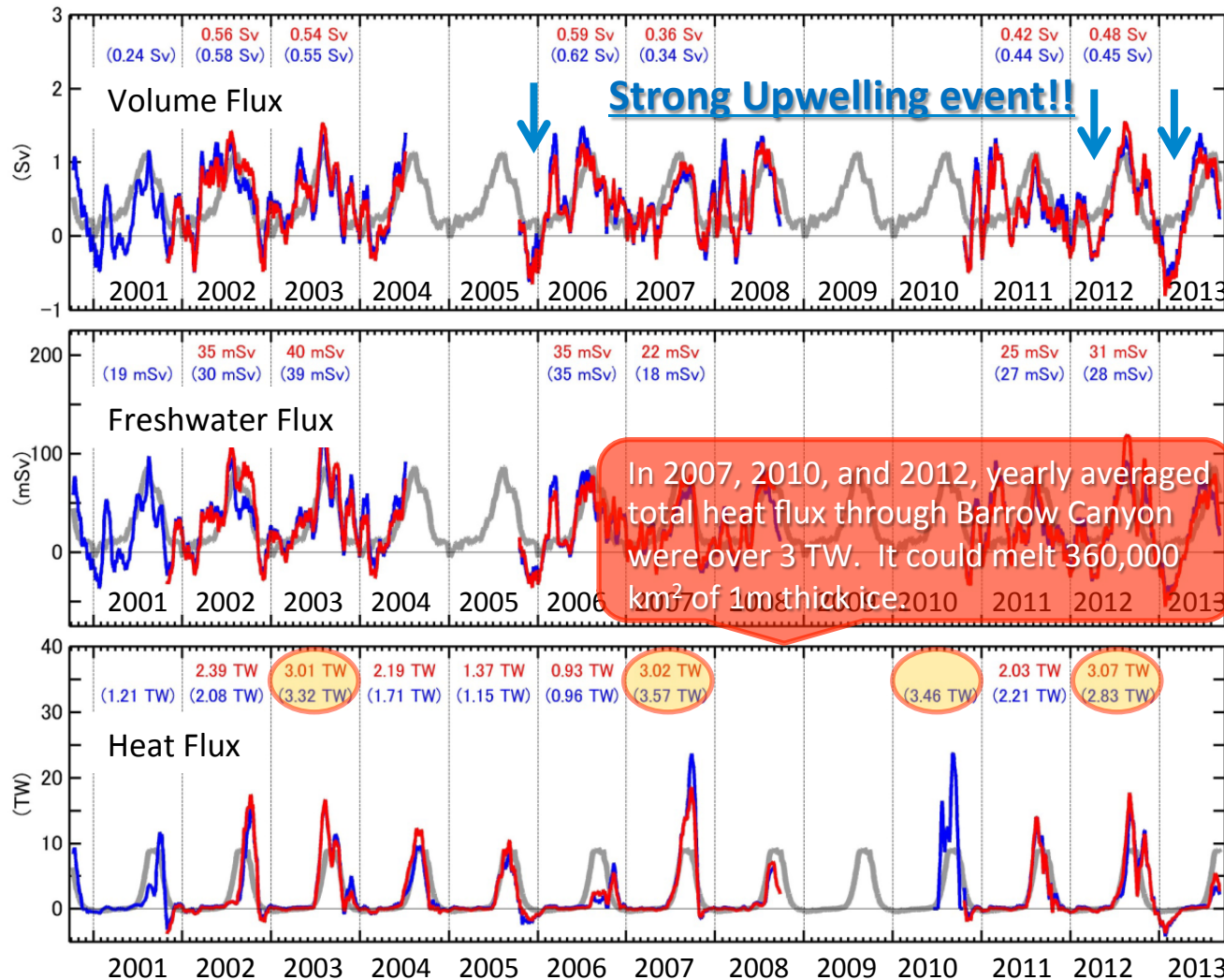


- * Polynya activity
- * Strong upwelling



Participation in ice breaker cruise in 2014

Monitoring of volume, heat and freshwater fluxes through **Barrow Canyon** by long-term moorings (2000 to present)



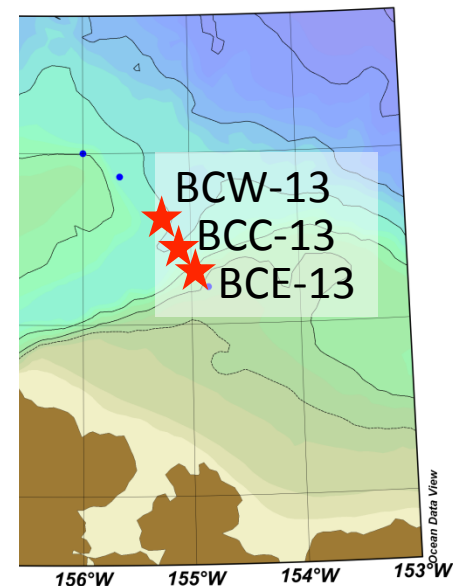
Yearly averaged fluxes
 through Barrow Canyon
 between 2001 and 2012

Volume: 0.48 Sv

Freshwater: 31 mSv

Heat: 2.25 TW

(Updated from Itoh et al., 2013)



Update from Itoh et al. (2013, *J. Geophys. Res.*)

JAMSTEC moorings in the Chukchi Sea and Canada Basin

Sediment trap in the Canada Basin

CAP-12t; 75d 12.371m N, 172d 32.919m W, 447m dep
 NAP-12t; 75d 00.171m N, 162d 00.182m W, 1971m dep
 NAP-13t; 74d 31.361m N, 161d 55.592m W, 1681m dep
 → Recovered

At the mouth of Barrow Canyon

BCW-14; 71d 47.742m N, 155d 20.750m W, 170m dep.
BCC-14; 71d 43.585m N, 155d 11.108m W, 283m dep.
BCE-14; 71d 40.353m N, 154d 59.742m W, 106m dep.
 → Recovered and Re-deployed

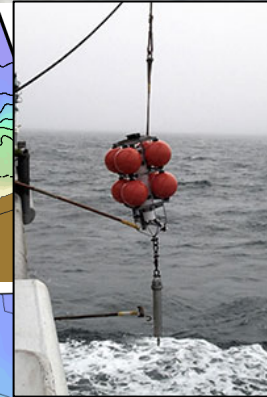
Barrow Canyon close to DBO-5 line

BCH-14; 71d 18.920m N, 157d 08.802m W, 62m dep
 → Recovered and Re-deployed

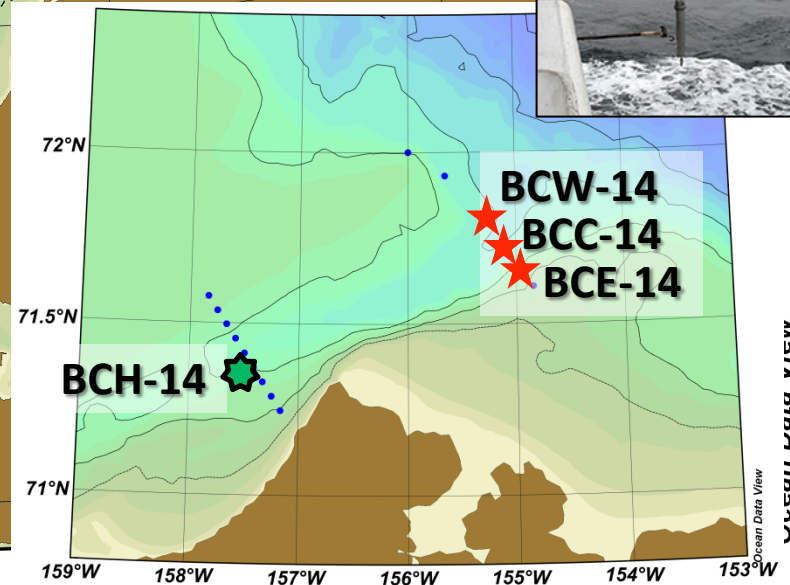
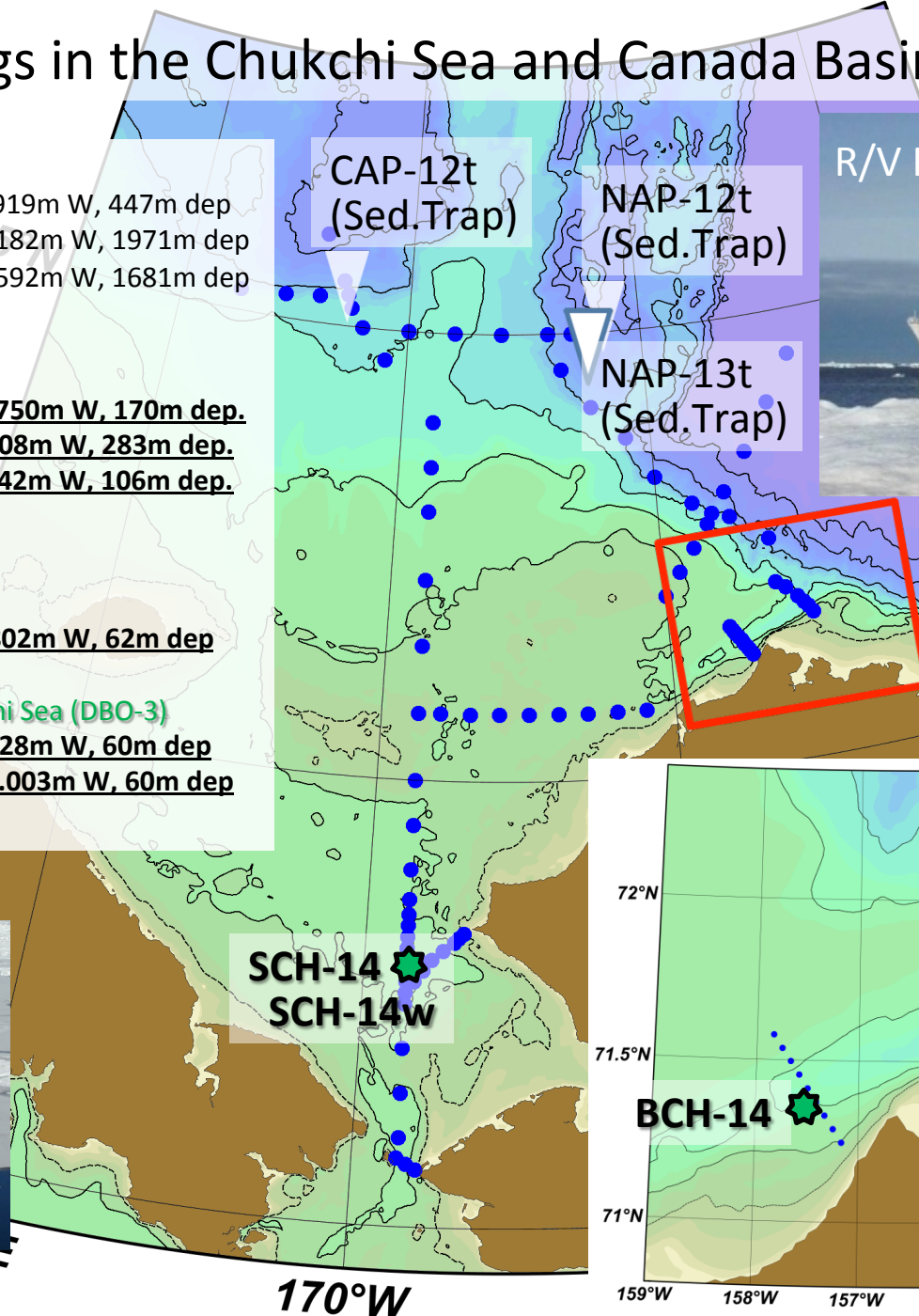
Hope Valley in the southern Chukchi Sea (DBO-3)

SCH-14; 68d 02.002m N, 168d 50.028m W, 60m dep
SCH-14w; 68d 03.006m N, 168d 50.003m W, 60m dep
 → Recovered and Re-deployed

R/V Mirai (JAMSTEC)



CCGS S. W. Laurier



Japanese research vessel cruise in 2015

R/V Mirai Arctic cruise in September-October 2015

“Observational Studies on the Arctic Ocean Climate and Ecosystem Variability”



R/V Mirai (JAMSTEC)

PI: Dr. S. Nishino (JAMSTEC)

[Tentative cruise plan]

August 25: Hachinohe (JAPAN)

September 4: Bering Str.

**Observations
in the Arctic Ocean**

October 3: Bering Str.

October 6: Dutch Harbor (in)

October 9: Dutch Harbor (out)

October 21: Hachinohe (JAPAN)

