

Update observation plans for 2014 field season

Japan

Takashi Kikuchi (JAMSTEC)
with inputs from other Japanese scientists

Japanese observational plan in 2014

1) Japanese Research vessel cruise

- **R/V Mirai Arctic cruise in September-October 2014**

2) Participations in ice-breaker cruises

- CCGS S. W. Laurier July cruise; *Mooring recoveries and deployments*
- CCGS Louis S. St.- Laurant cruises;
*Sea ice observation, hydrography & water sampling,
and mooring recoveries & deployments*
- IBRV Araon Arctic cruise;
Hydrography and mooring recoveries & deployments
- CCGS Amundsen cruise;
*Sea ice observation, hydrography & water sampling,
mooring recoveries & deployments, and buoy deployments*

3) Others

- Ice thickness monitoring off Barrow, Alaska
- XCTD observation in the Arctic Ocean and so on. . .

Japanese observational plan in 2014

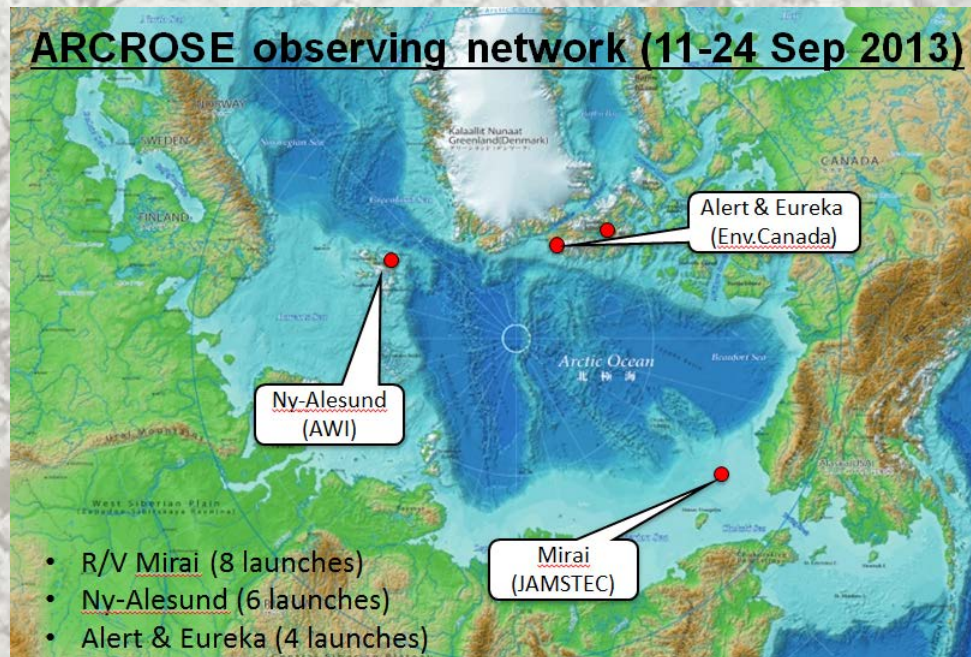
R/V Mirai Arctic cruise in September-October 2014

Leading to a better understanding of the uncertainty of the Arctic atmospheric circulation
→ **Fixed point observation for 3 weeks**

**Intensive observation of radiosonde
under international collaborations**

**Arctic Research Collaboration for Radiosonde
Observing System Experiment (ARCROSE)**

ARCROSE observing network (11-24 Sep 2013)



**Assimilation of radiosonde data from polar
regions could improve the reconstruction of
atmospheric circulation in the mid-latitudes.**

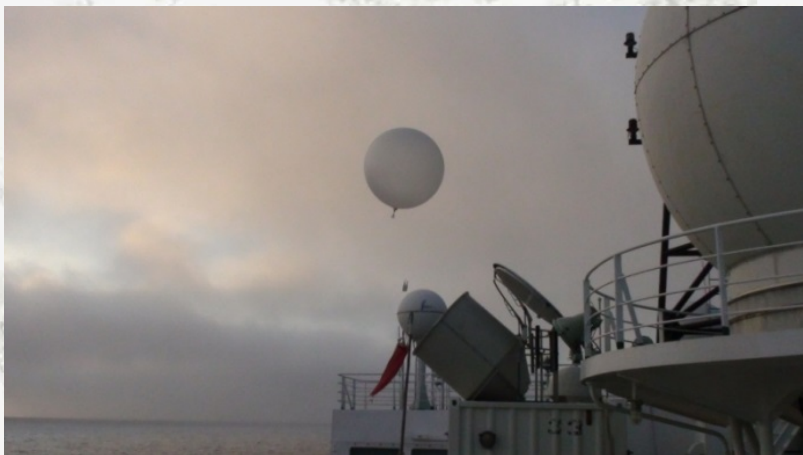
Objectives:

*1) Leading to a better understanding
of the uncertainty of the Arctic
atmospheric circulation.*

*2) Understanding the impact of
atmospheric events on the ocean
stratification and ecosystem in the
sea ice reduction region of the Arctic
Ocean*



Courtesy from Dr. Inoue (NIPR/JAMSTEC)



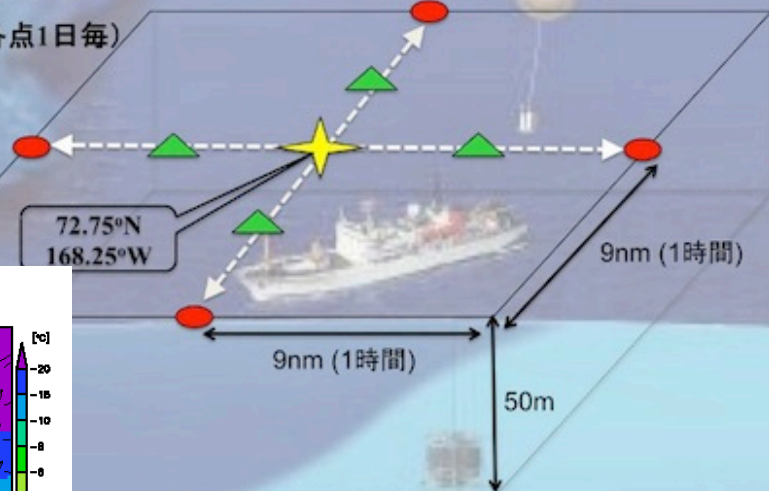
MR13-06定点観測 (9/11-9/25)



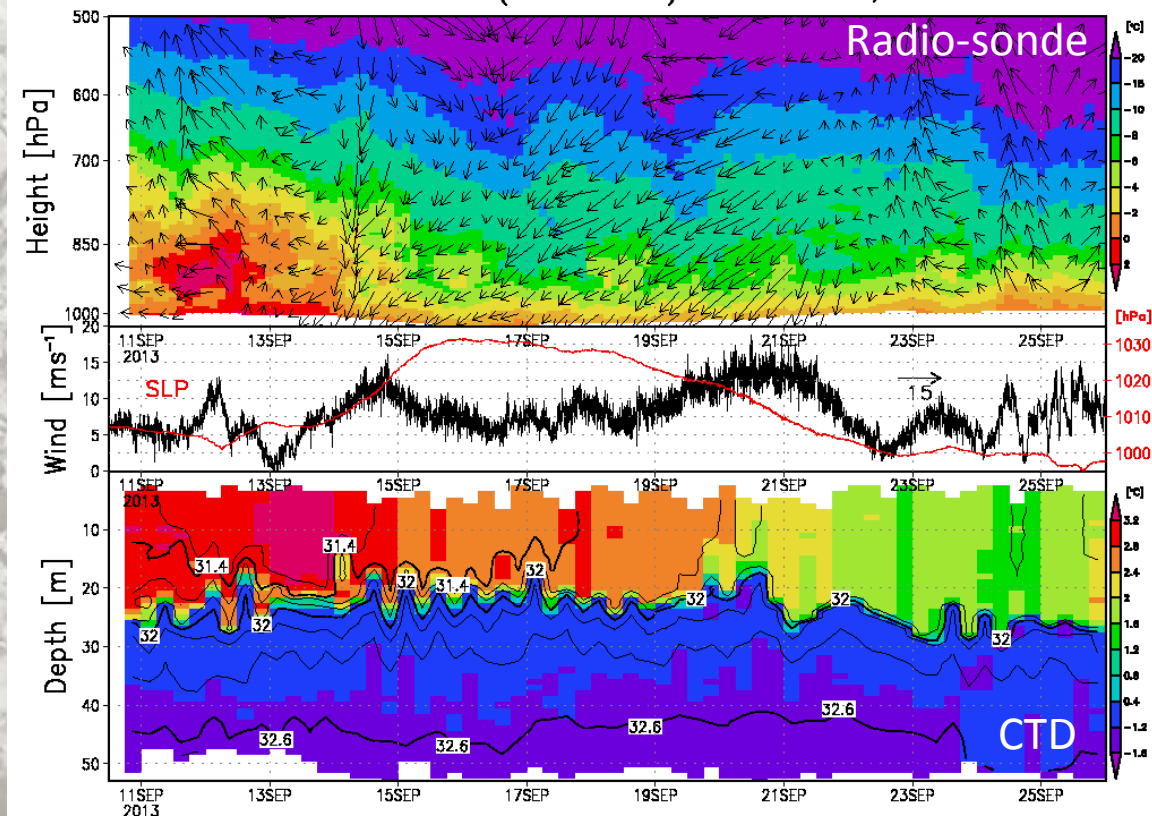
★ ラジオゾンデ(3時間毎), CTD/R(6時間毎), プラントンネット(6時間毎)
海洋乱流観測 (1日3回), 水中光学観測(1日1回), clean採水(1日1回)

● CTD(各点1日毎)

▲ XCTD(各点1日毎)



Radiosonde & CTD (MR13-06) @ 72.75°N, 168.25°W

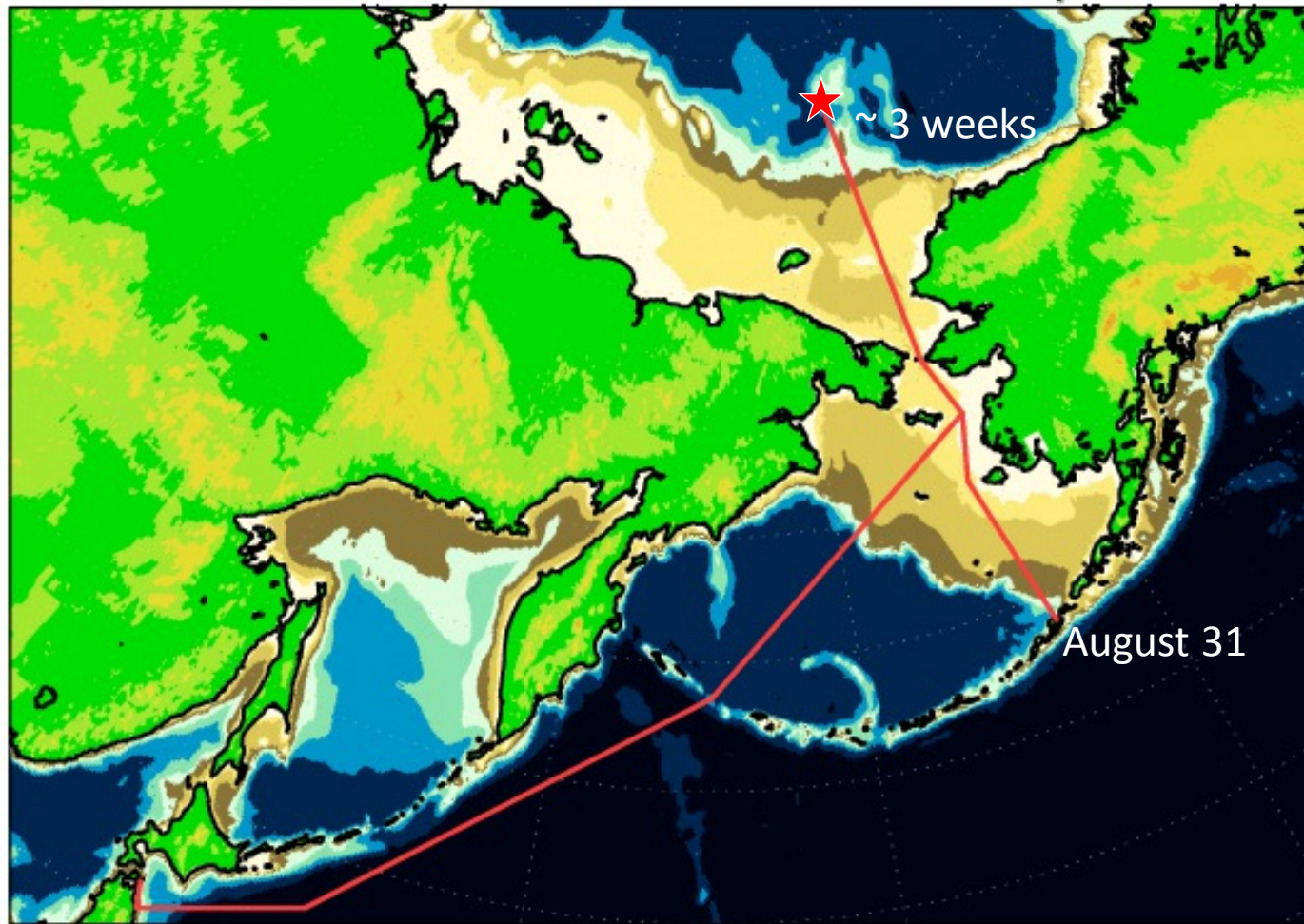


Courtesy from Dr. Inoue (NIPR/JAMSTEC)

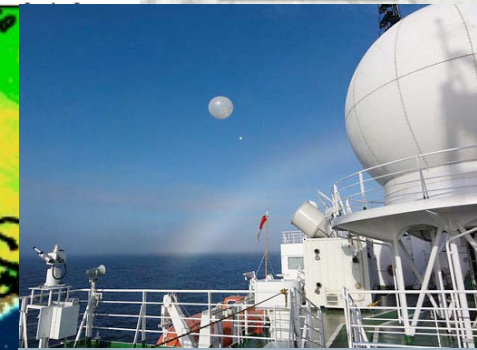
Japanese observational plan in 2014

R/V Mirai Arctic cruise in September-October 2014

→ **Fixed point observation for 3 weeks**



October 10



Courtesy from Dr. Inoue (NIPR/JAMSTEC)

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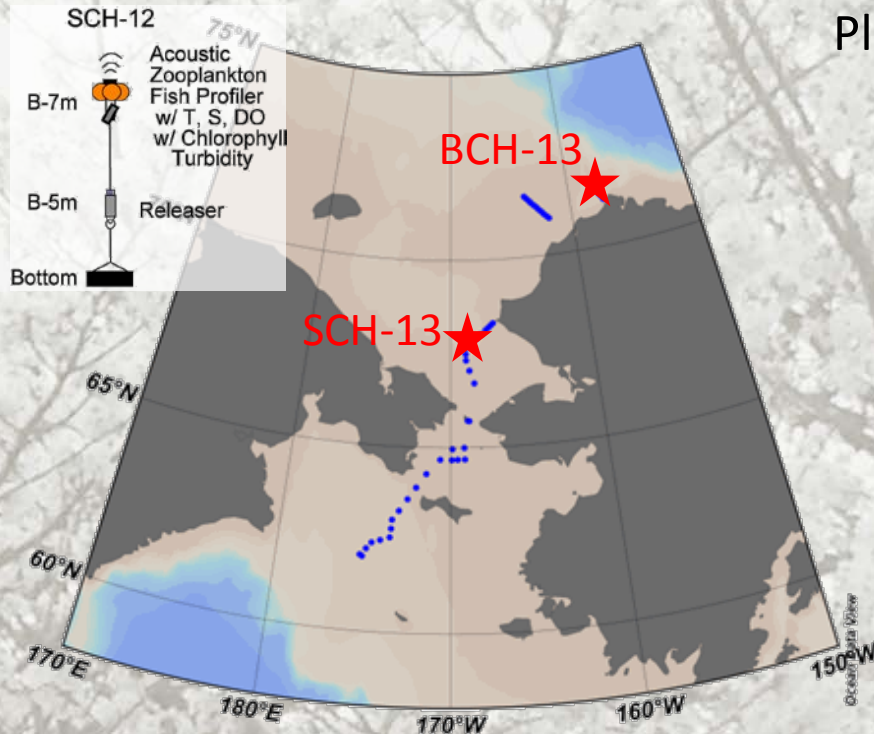
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Japanese observational plan in 2014

CCGS S. W. Laurier July cruise; *Mooring recoveries and deployments*



Plan of SWL July cruise in 2014

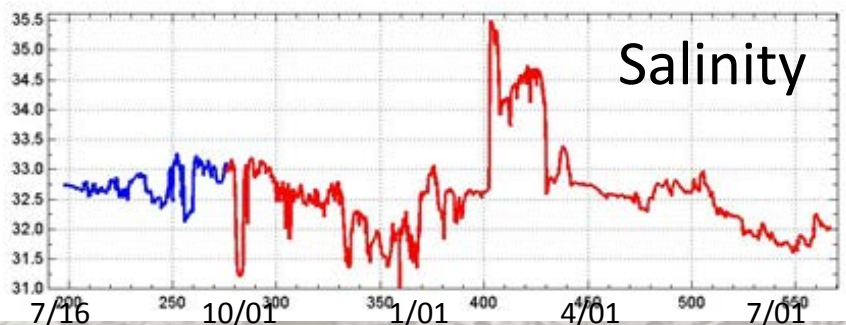
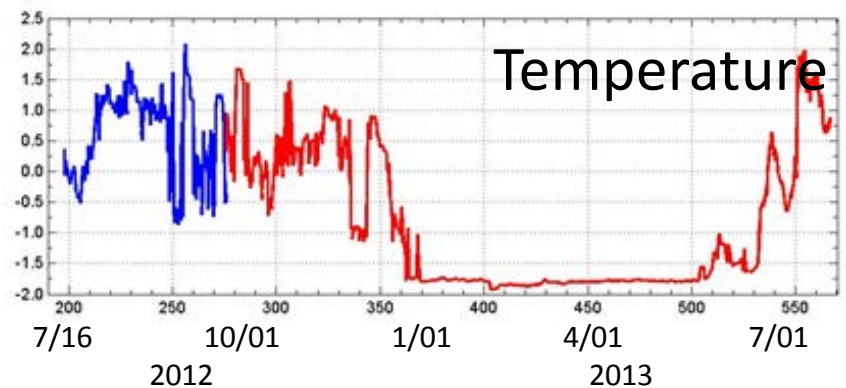
- July 11 (?) Dutch Harbor
- ✓ DBO-1,2,3
 - ✓ SCH-13 recovery & SCH-14 deployment
 - ✓ DBO-4, 5
 - ✓ BCH-13 recovery & BCH-14 deployment
- July 25 (?) Barrow

CTD stations during SWL July cruise in 2013

Photo: Recovery of SCH-12-2 on July 20, 2013

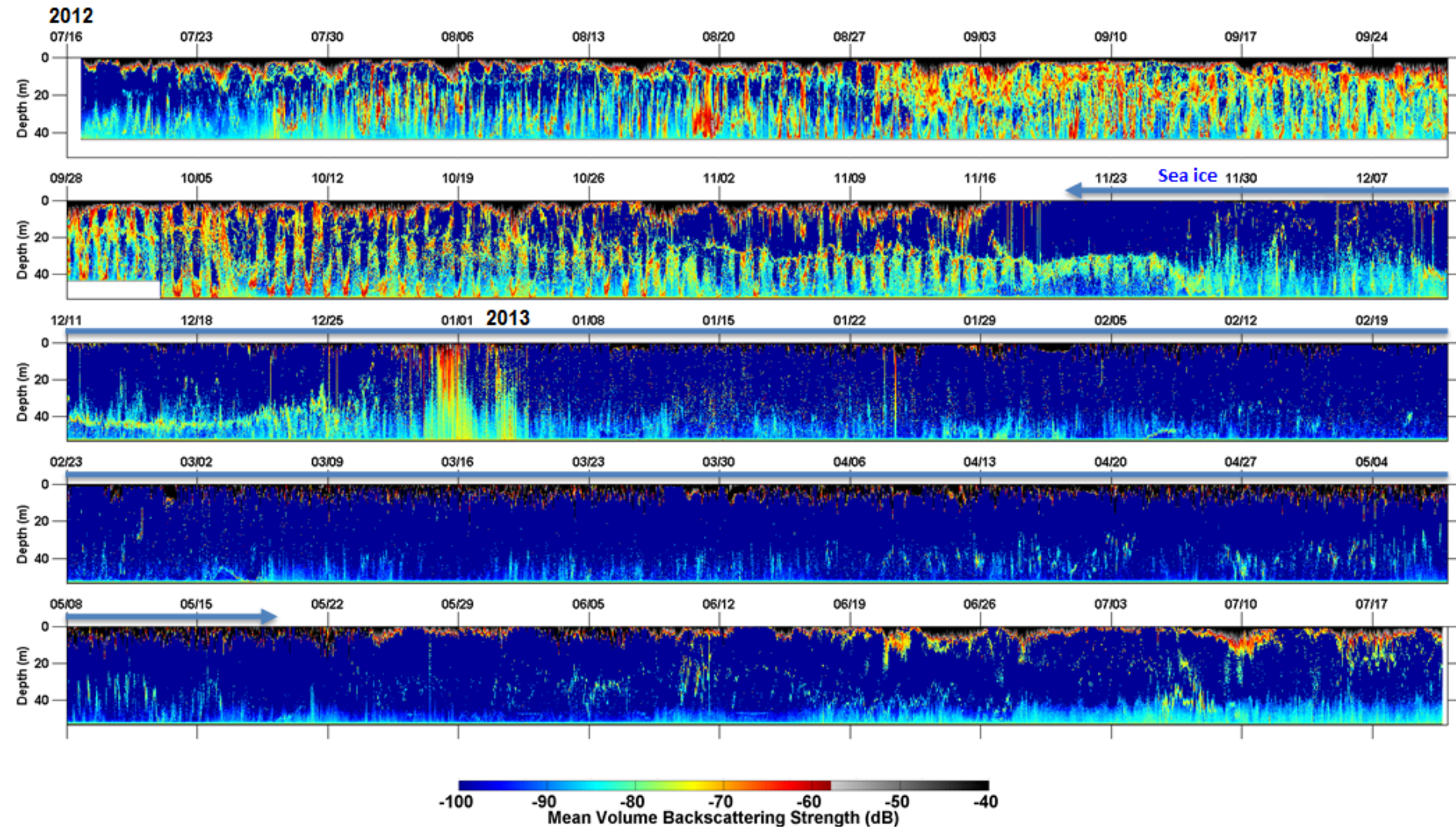


CCGS S. W. Laurier



Japanese observational plan in 2014

Time series of AZFP 125 kHz Echogram (Oct. 2, 2012 to Jul.20, 2013)



Japanese observational plan in 2014

CCGS Louis S. St.- Laurant cruises (Sept.~ Oct. ???);

*Sea ice observation, hydrography & water sampling,
and mooring deployments*

IBRV Araon Arctic cruise (July ~ Sept.);

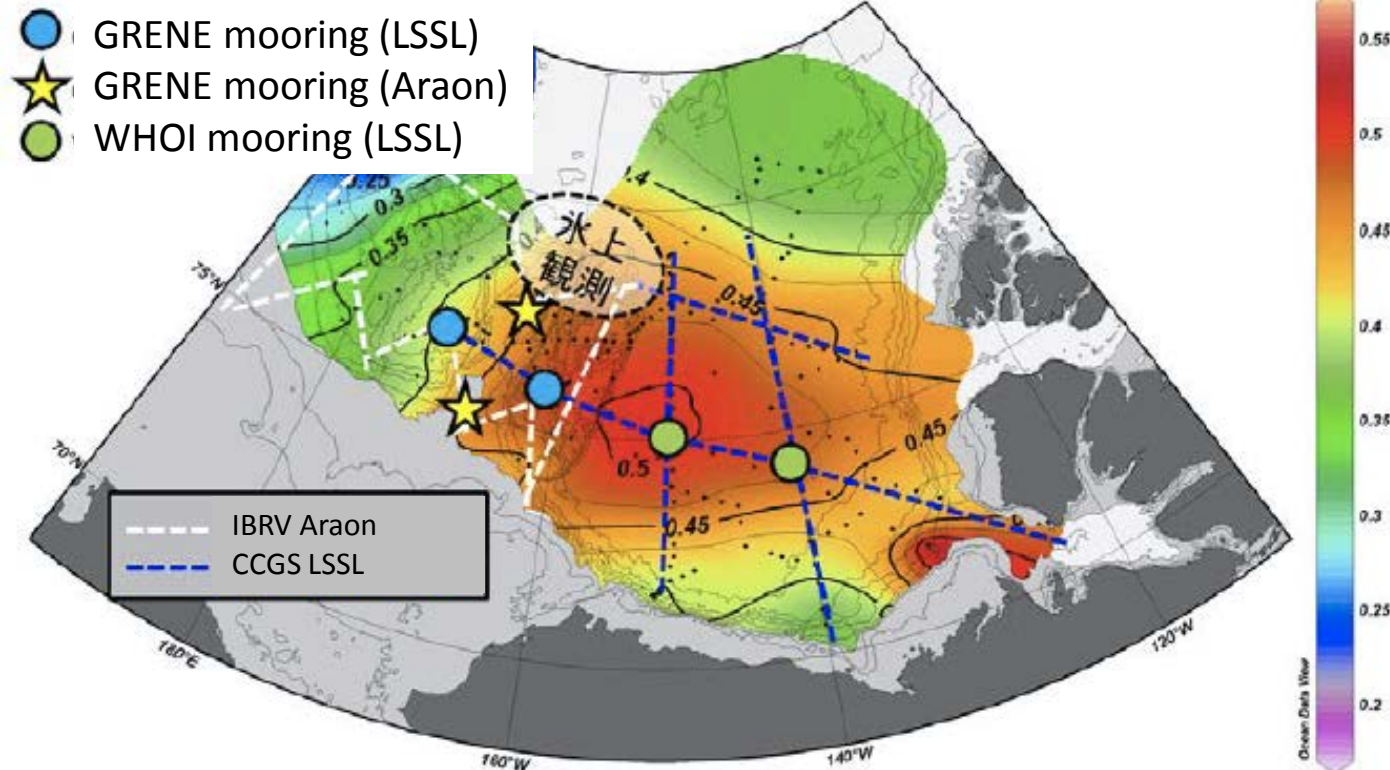
Hydrography and mooring recoveries & deployments



CCGS Louis St. S-Laurant
(From CCG web site)



RV ARAON
(From KOPRI web site)



After “FY2014 plan of GRENE Arctic Climate Change Research Project” by Dr. Shimada

Japanese observational plan in 2014

CCGS Amundsen cruise;

Sea ice observation, hydrography & water sampling, mooring recoveries & deployments, and buoy deployments

2014 Amundsen Expedition – Leg 2b



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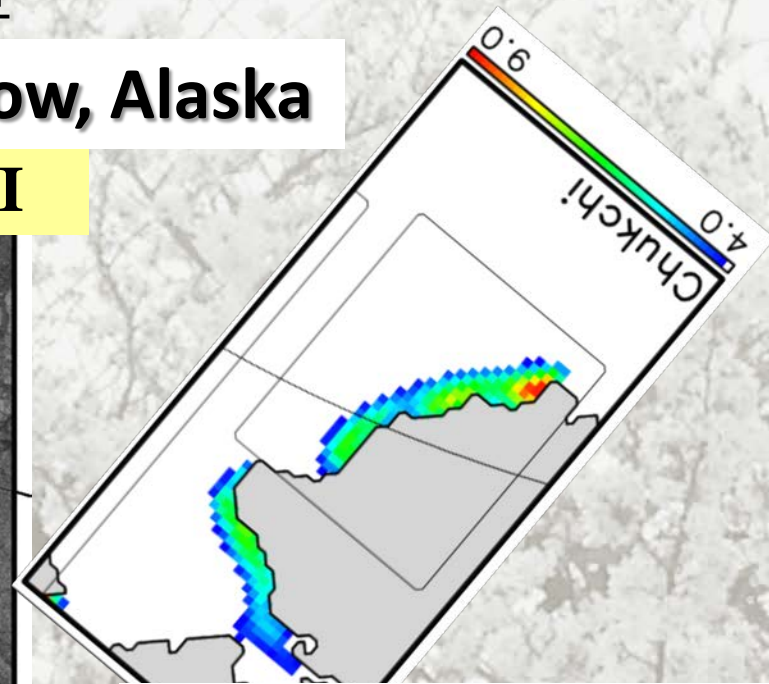
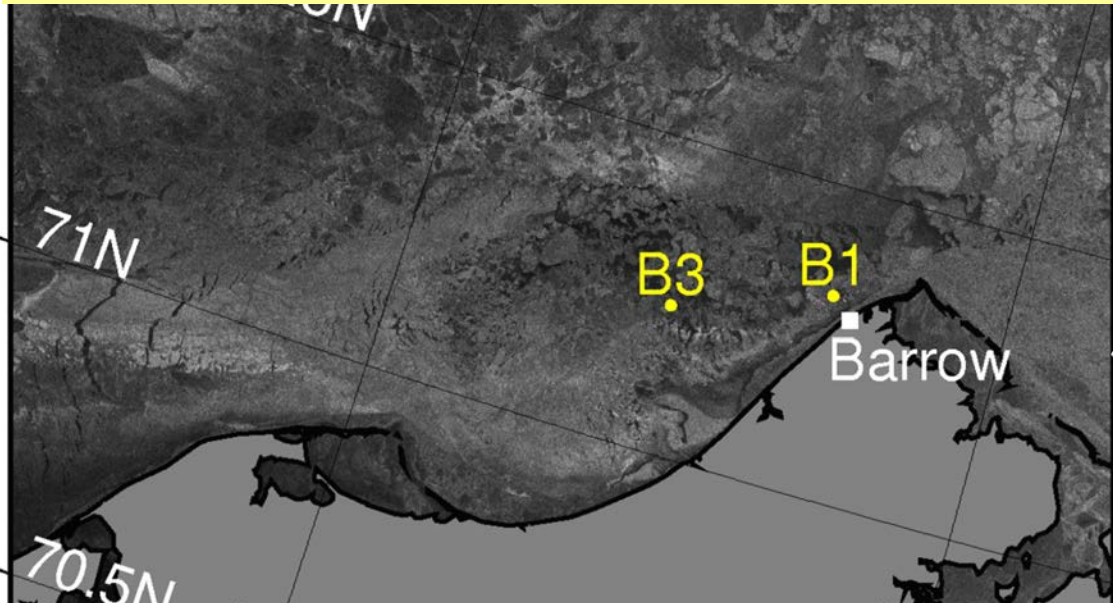
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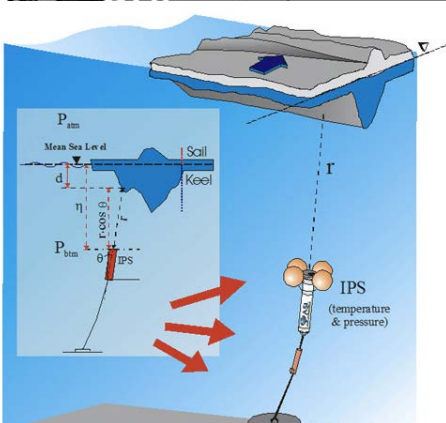
Japanese observational plan in 2014

Ice thickness monitoring off Barrow, Alaska

Mapping of sea ice production by SSM/I



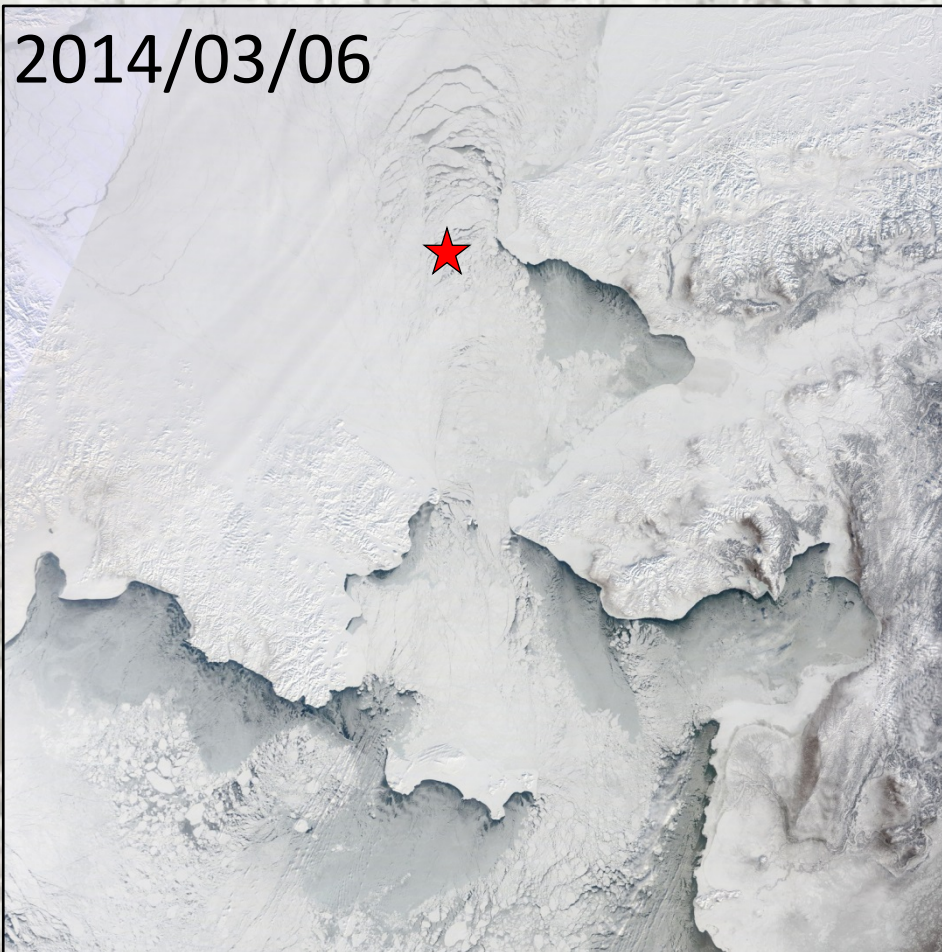
Tamura & Ohshima, 2011, JGR



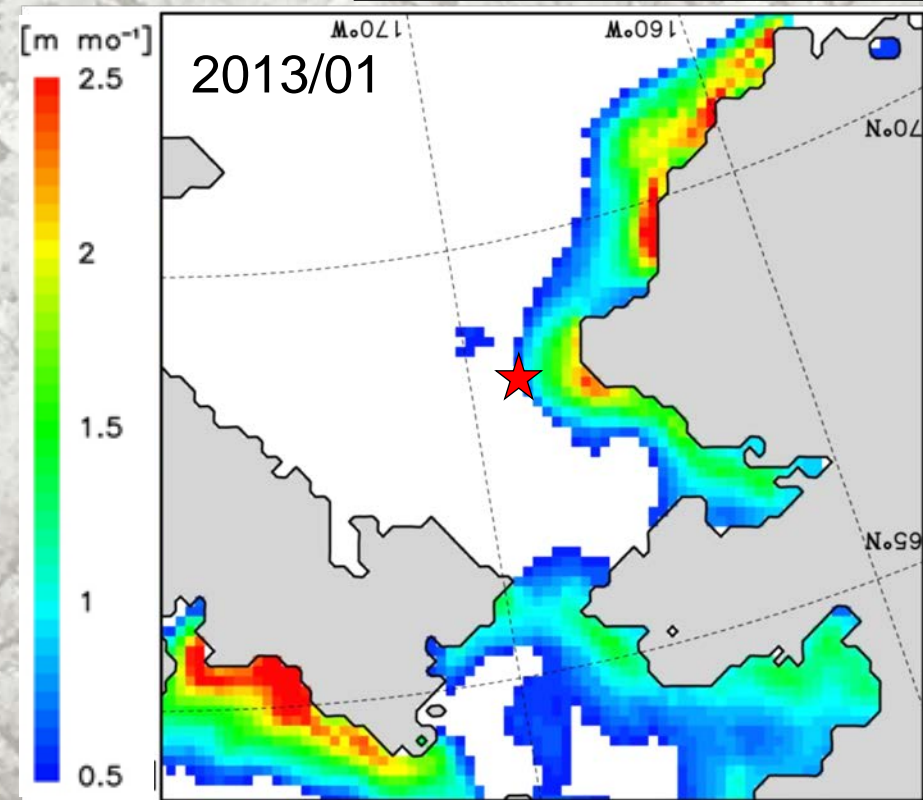
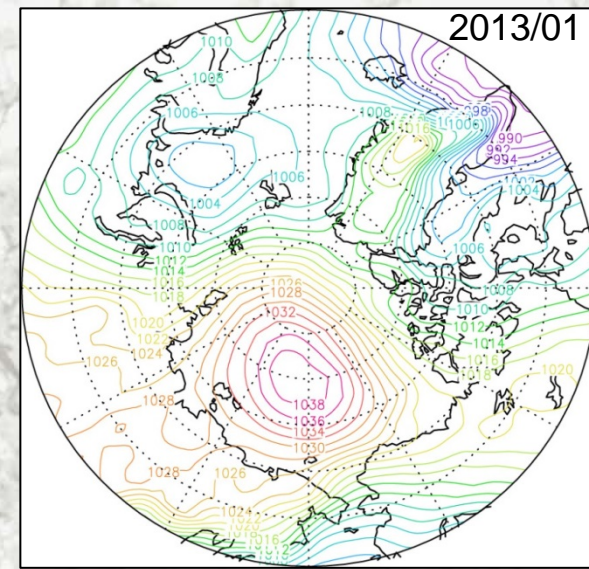
Courtesy from Dr. Ohshima (Ints.Low Tem. Sci., Hokkaido University)

Japanese observational plan in 2014

Ice thickness monitoring off Barrow → Mapping of sea ice production



Terra satellite image / Bering Strait ~ Hope Valley
NASA EOSDIS Rapid Response - Arctic Mosaic - Web site



Courtesy from Dr. Tamura (NIPR)

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