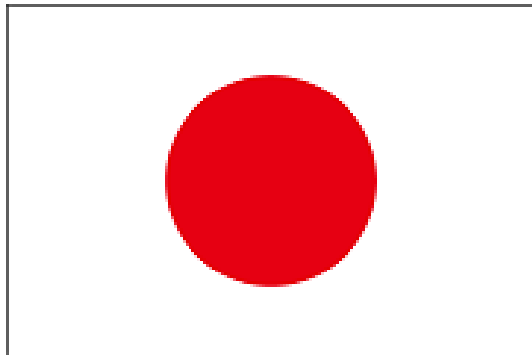
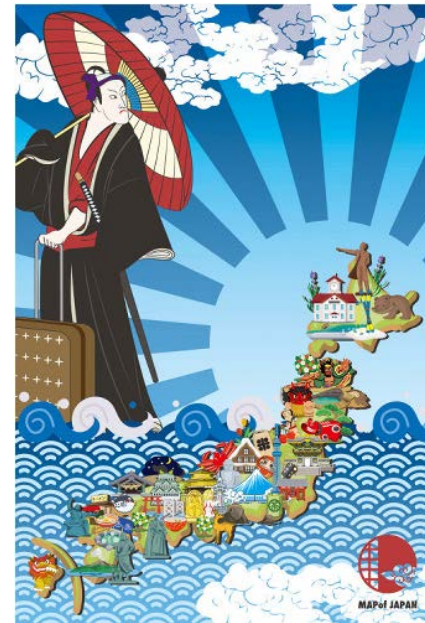


Update plans for 2018 field season



JAPAN



Shigeto Nishino

Japanese Arctic cruises in 2018



- T/S Oshoro-Maru cruise
29 Jun (Dutch Harbor) – 15 Jul (Dutch Harbor)
- R/V Mirai cruise
25 Oct (Hachinohe) – 7 Dec (Shimizu)

T/S Oshoro-Maru (Hokkaido Univ.)



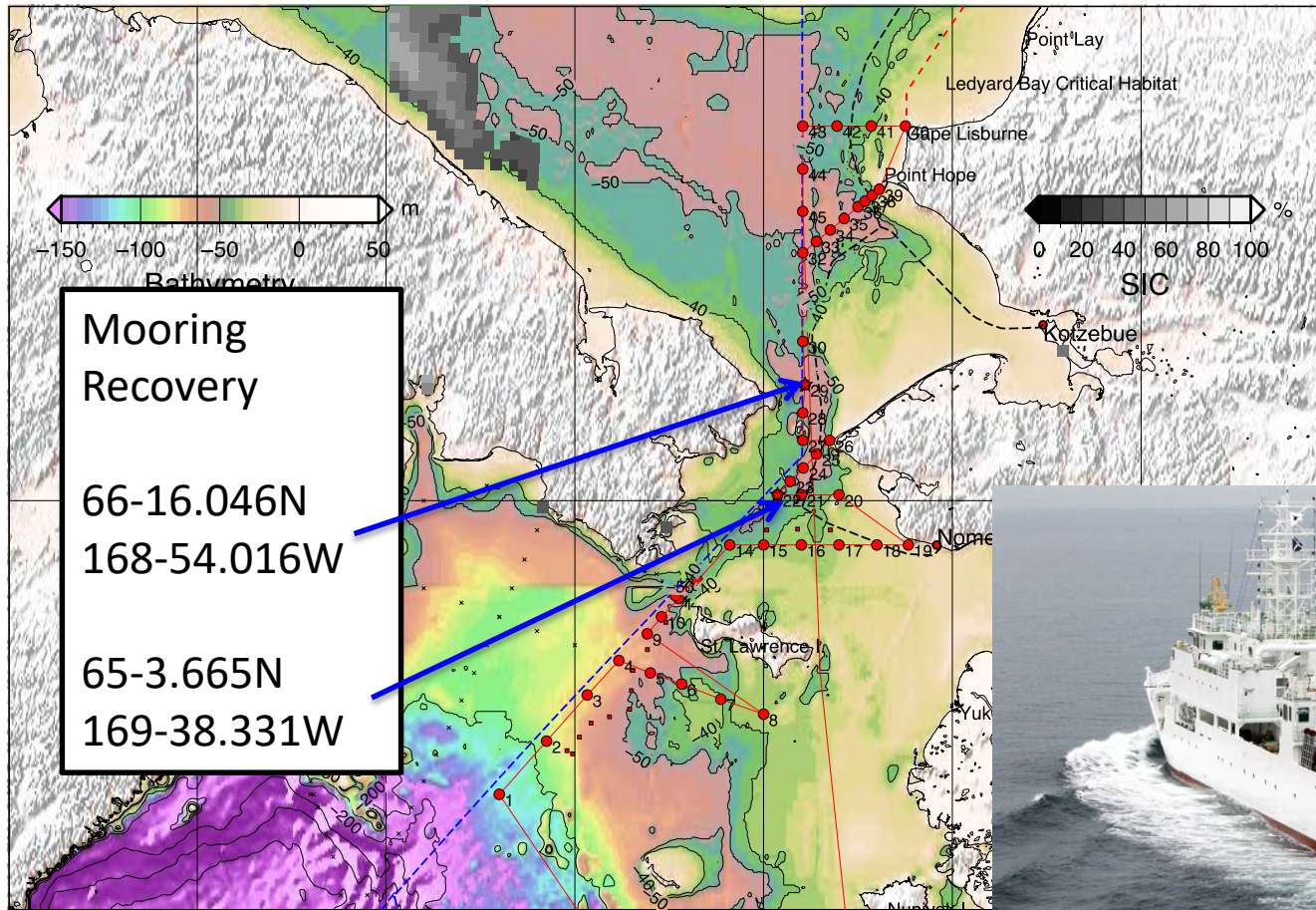
R/V Mirai (JAMSTEC)



T/S Oshoro-Maru 2018 Cruise (PI: Toru Hirawake, Hokkaido Univ.)



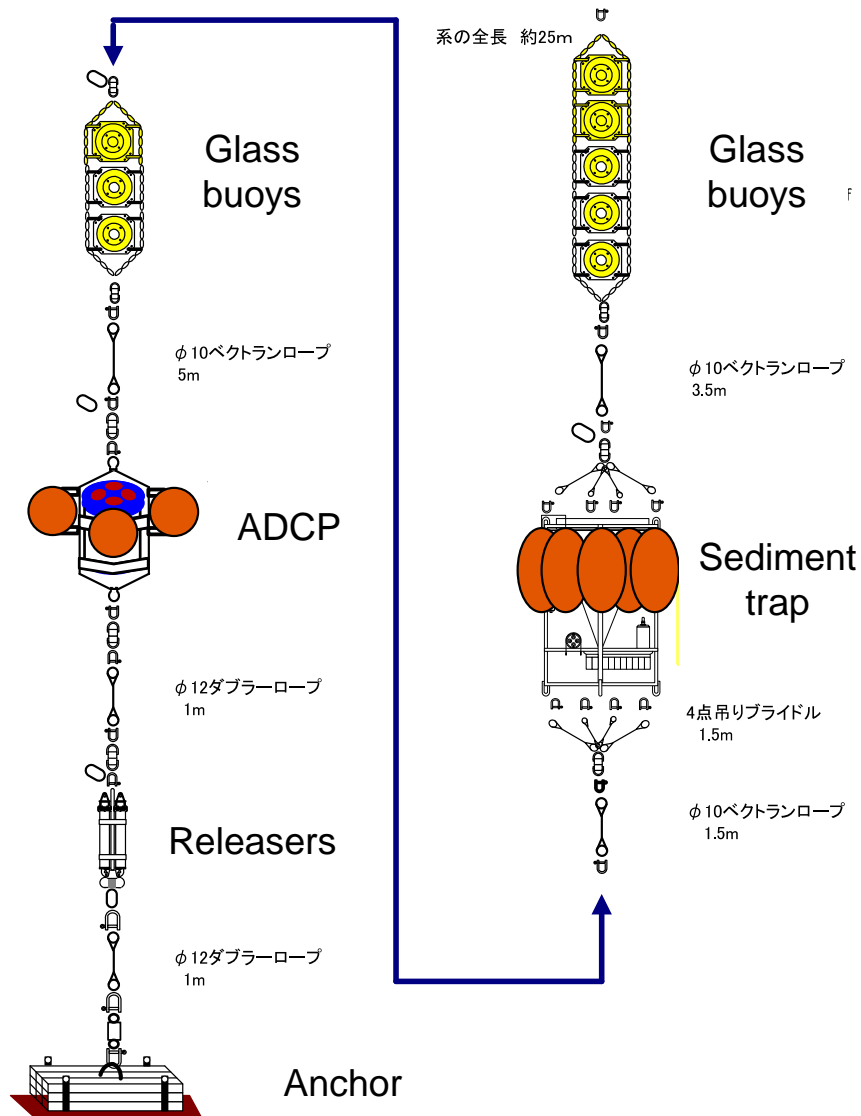
T/S Oshoro-Maru 2018 Cruise (ArCS project)



29 June–15 July

Dutch Harbor – Bering/Chukchi Seas – Dutch Harbor

Mooring (Sediment trap) diagram and photos from R/V Mirai in 2016



Observations during T/S Oshoro-Maru 2018 cruise

- CTD, DO, Salinity A. Ooki and H. Ueno
- Optical properties and primary productivity T. Hirawake
- Biogeochemistry of iodine and organic gases A. Ooki
- Mooring recovery M. Sampei
- Benthic ecology M. Nakaoka
- Ichthyoplankton survey O. Yamamura
- Marine mammal sighting survey Y. Mitani
- Plankton Y. Abe & A. Yamaguchi
- Seabirds B. Nishizawa

Data obtained near the DBO sites will be shared.

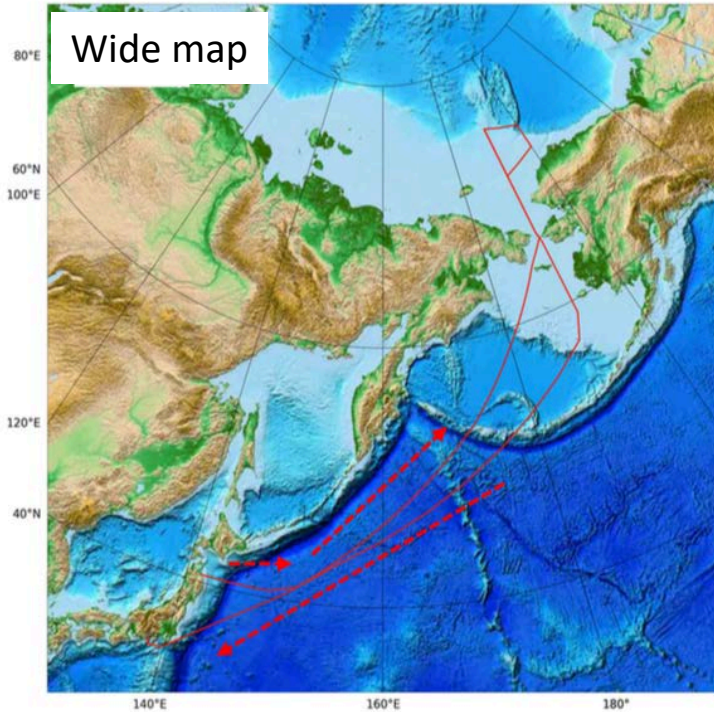
Observations during T/S Oshoro-Maruru 2018 cruise

- We hope to use a small beam trawl and dredge in the North Bering Sea Climate Resilience Area (NBSCRA) for sampling of benthos and demersal fish.
- Oshoro-Maruru (PI: Dr. Hirawake) departed Hakodate on 4 June.

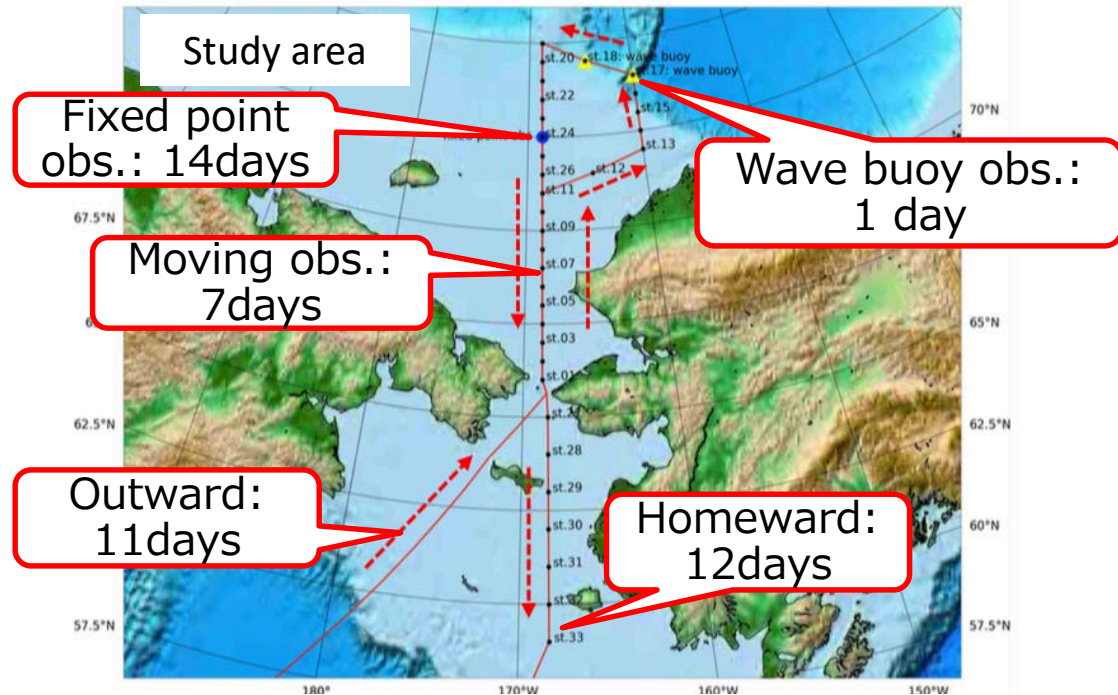
R/V Mirai 2018 Arctic Cruise (PI: Jun Inoue, National Institute of Polar Research)



Cruise Plan



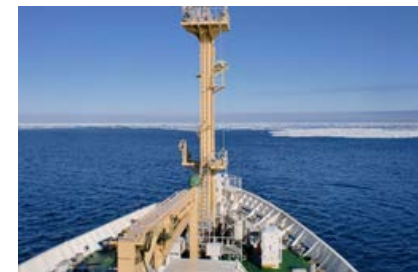
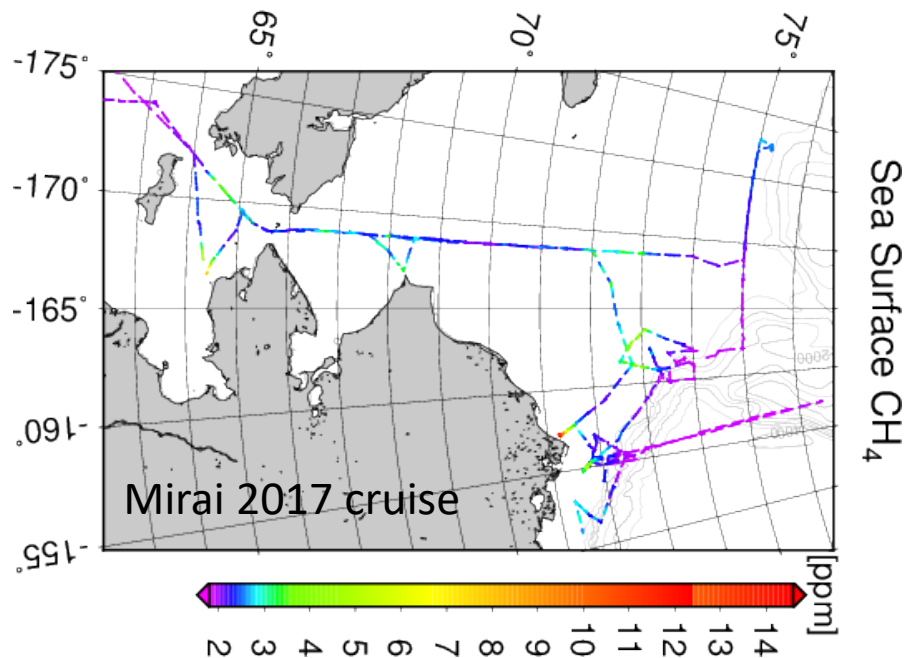
25 Oct: Hachinohe
03 Nov: Bering Strait
↓ : Arctic Ocean
27 Nov: Bering Strait
07 Dec: Shimizu



Black dots: CTD stations
Blue dot: Fixed point observation station
Yellow deltas: Wave buoy launch positions

ArCS International Collaborative Researches

- ❑ Predictability study on weather and sea-ice forecasts linked with user engagement (National Institute of Polar Research)
- ❑ Ship-based observations of trace gases and aerosols over the Arctic Ocean, Bering Sea, and North Western Pacific Ocean (JAMSTEC)
- ❑ Ship-board observations of atmospheric greenhouse gases and related species in the Arctic ocean and the western North Pacific (National Institute for Environmental Studies)
- ❑ Spatial and temporal changes of seawater CO₂ and CH₄ in the western Arctic Ocean (JAMSTEC)



Other activities



COGS Sir Wilfred Laurier
Photo: K. MacGregor - CG 979



CCGS *Louis S. St-Laurent*

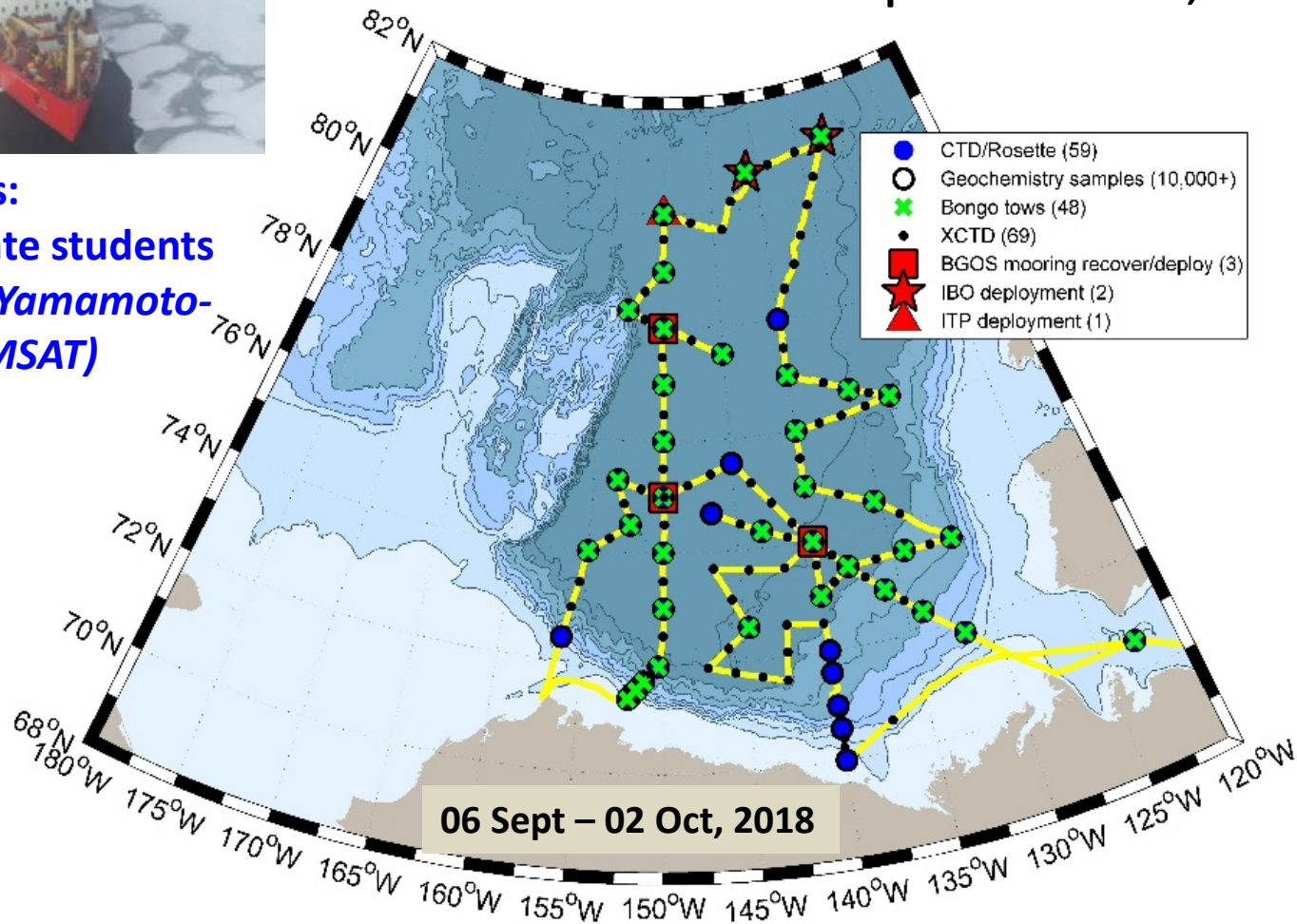


Participants:
Two graduate students
of *Michiyo Yamamoto-Kawai (TUMSAT)*

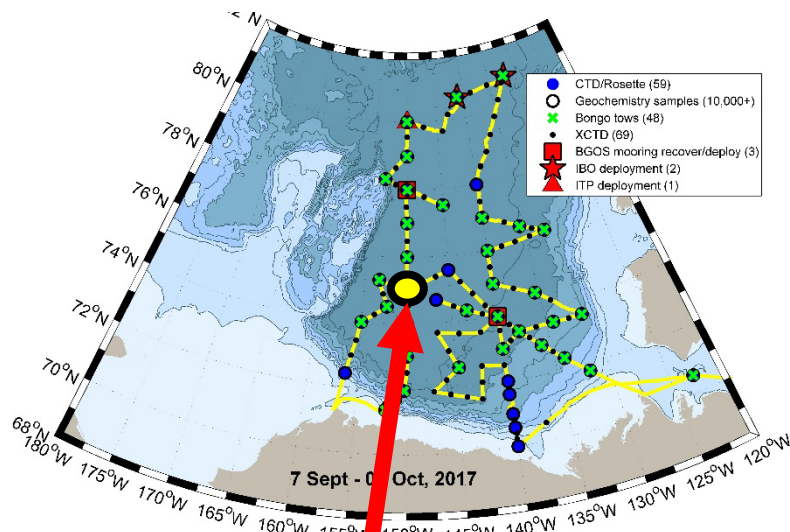
ArCS & JOIS

Canada Basin

06 Sept - 02 Oct, 2018



ArCS & JOIS



<Objectives>

Seasonal variations in
FW sources
& ocean acidification



<Operations>

Recovery of a **RAS (water sampler)**

Salinity

$H_2^{18}O$

Nutrients

DIC/TA

+ **CTD, Fluoro, DO sensors**

JAMSTEC mooring activities by Canadian Coast Guard Ship *Sir Wilfred Laurier* (SWL)

CCGS *Sir Wilfrid Laurier*

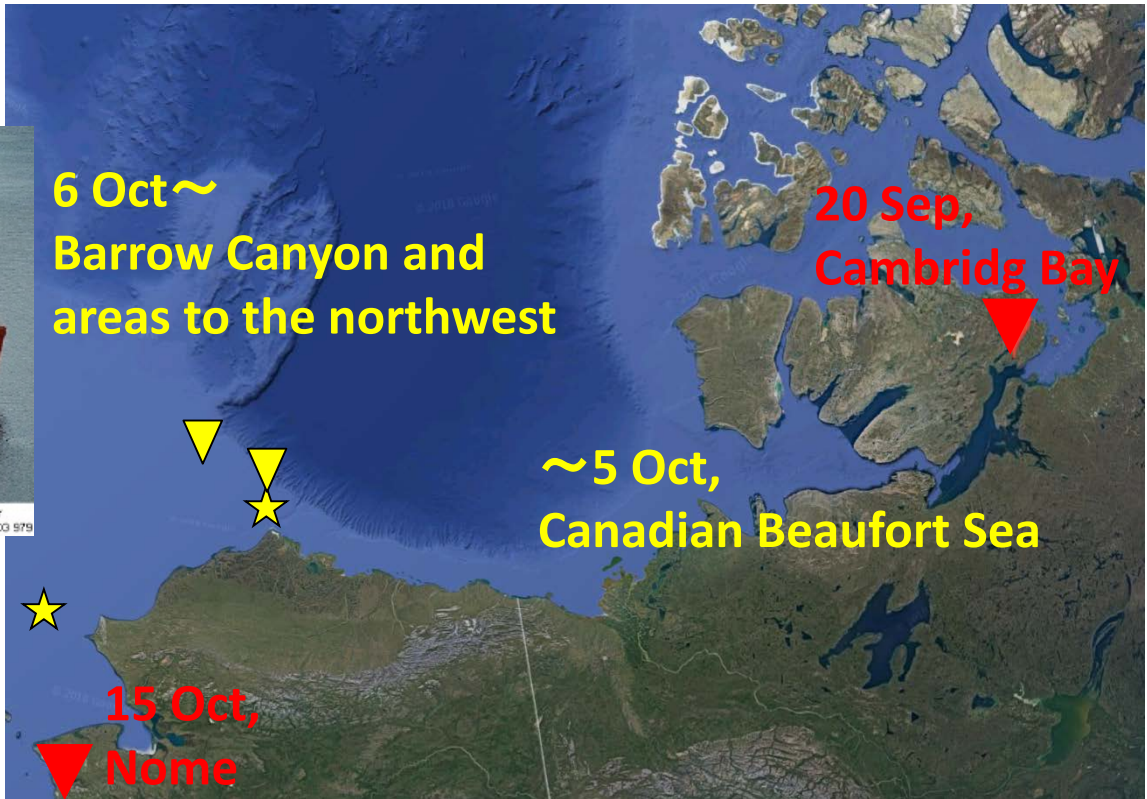


CCGS Sir Wilfrid Laurier
Photo: K. MacGregor - CG 579

Participants:

Motoyo Itoh (JAMSTEC)

Jo Onodera (JAMSTEC)



- ★ Turn-around three moorings at the mouth of Barrow Canyon.
one mooring at the DBO3 hotspot off Pt. Hope.
- ▼ Recover one sediment trap north of the Barrow Canyon.
Turn-around one sediment trap north of the Hanna Canyon.

JAMSTEC mooring activities by Canadian Coast Guard Ship *Sir Wilfred Laurier* (SWL)

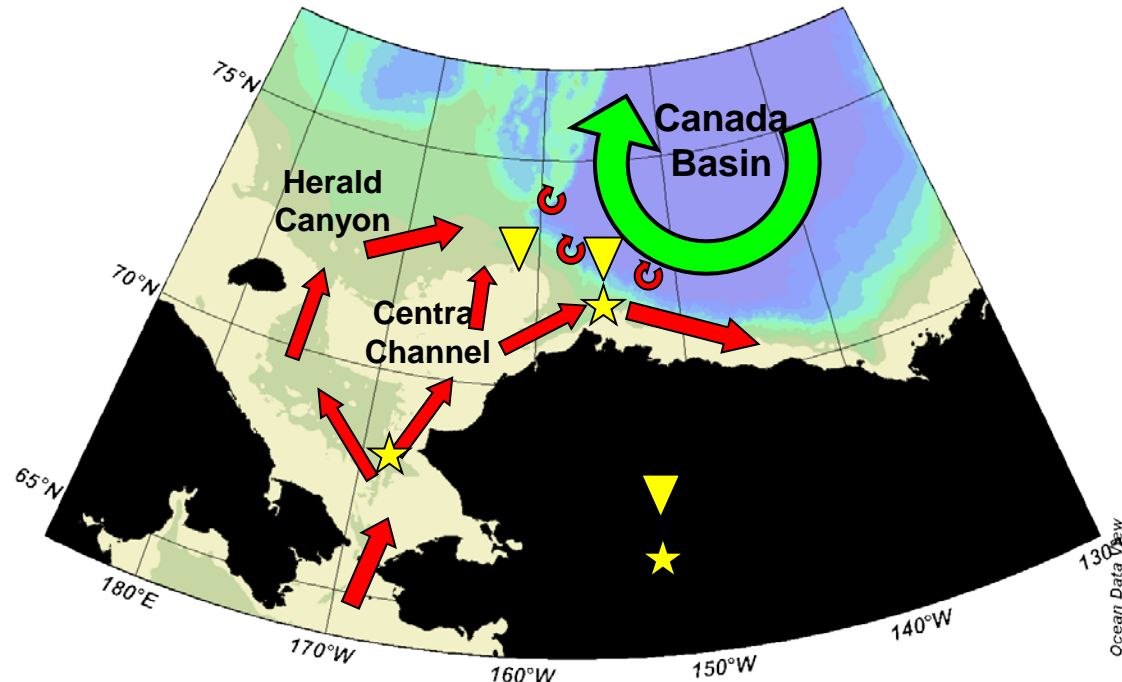
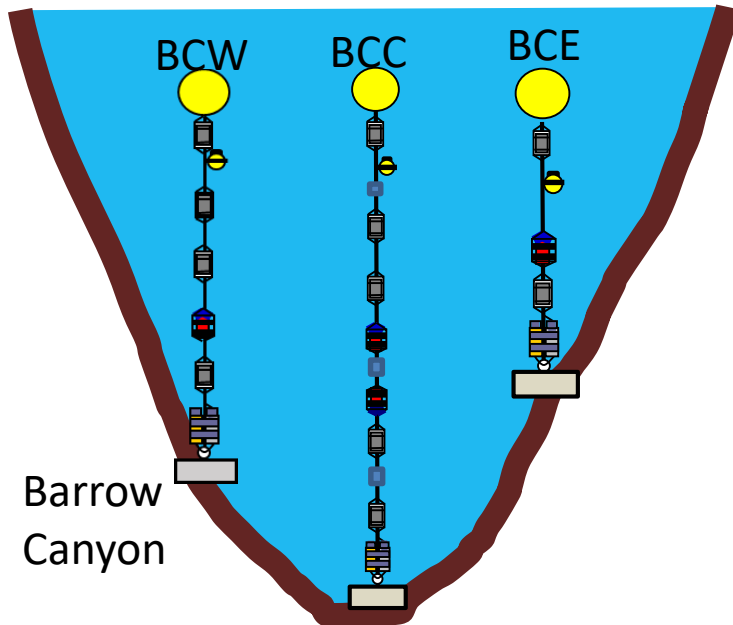
CCGS *Sir Wilfrid Laurier*



CCGS Sir Wilfrid Laurier
Photo: R. MacGregor - CG 579

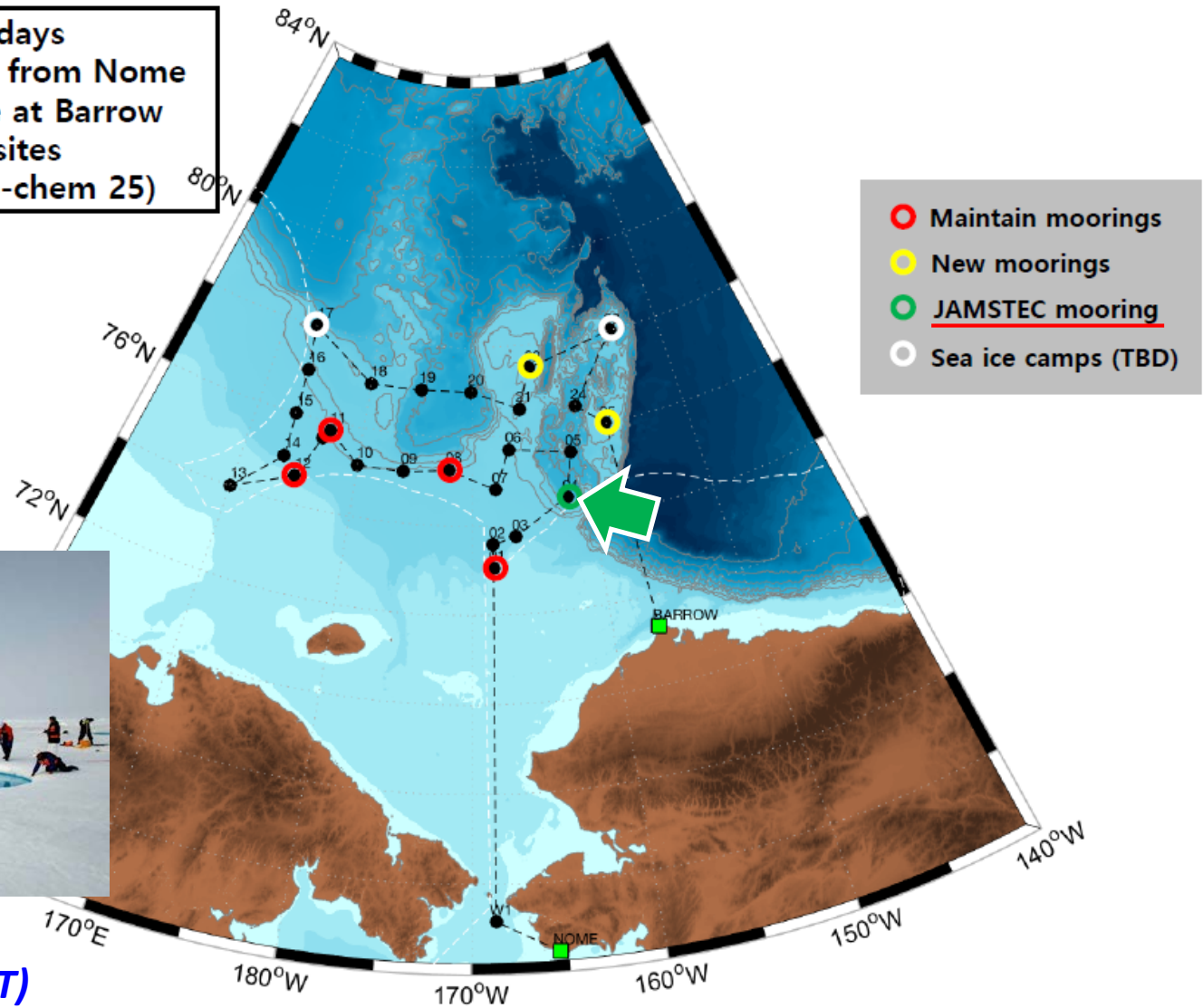
<Objectives>

The goal of this monitoring efforts is to detect and quantify on-going changes in flows, temperature and salinity of waters, phyto- and zooplanktons, and sediments from the Pacific to the Arctic Ocean.



2018 Arctic Ocean Expedition Plan (ARA09B) by *Araon*

- Research Cruise: 18 days
- Aug. 4 12:00 Depart from Nome
- Aug. 26 12:00 Arrive at Barrow
- Sea ice camps: 1~2 sites
- CTD 25 stations (bio-chem 25)

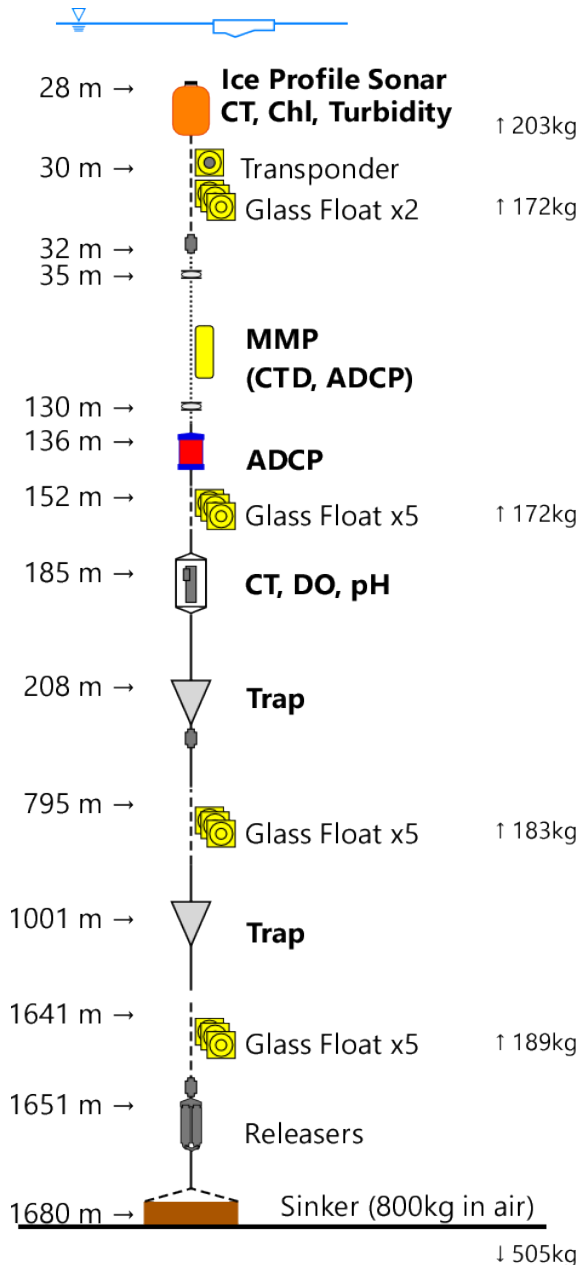


RV *Araon*



Participants:
Koji Shimada (TUMSAT)
Jo Onodera (JAMSTEC)

Deployment of Sediment Trap Mooring (NAP18t)



Deployment of one sediment trap mooring in the southern Northwind Abyssal Plain

Position 74°31.36'N 161°55.59'W (1,680 m water depth)
Deployment period ~1year from this August

Start of collaborative research with KOPRI

Basic research for evaluation on the impacts of polar environmental change on marine ecosystem and climate change (Japan side PI: Harada)

Monitoring on pH and CaCO₃ shell density of pteropods in sub sea-surface layer (PI: Harada, Kimoto)

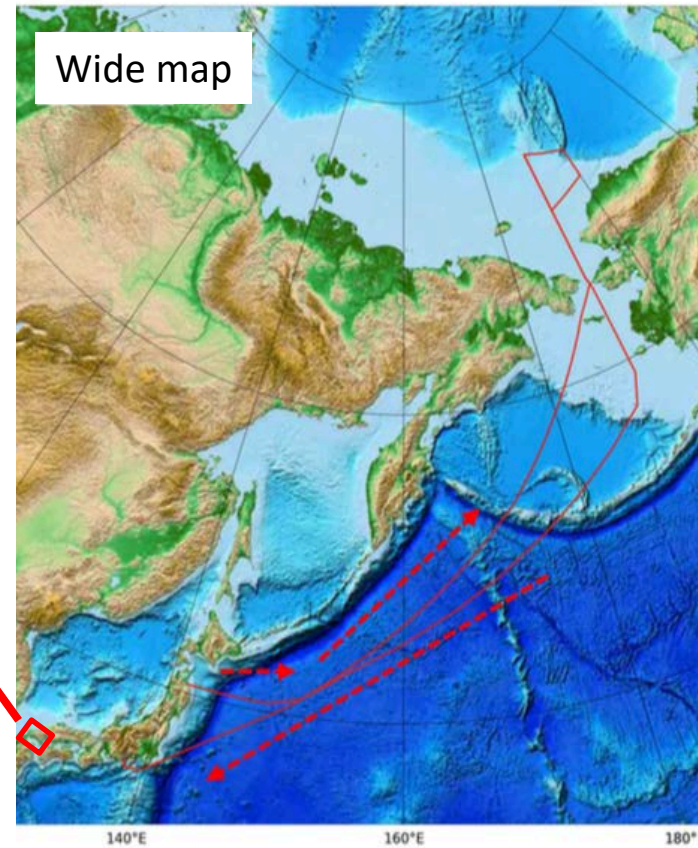
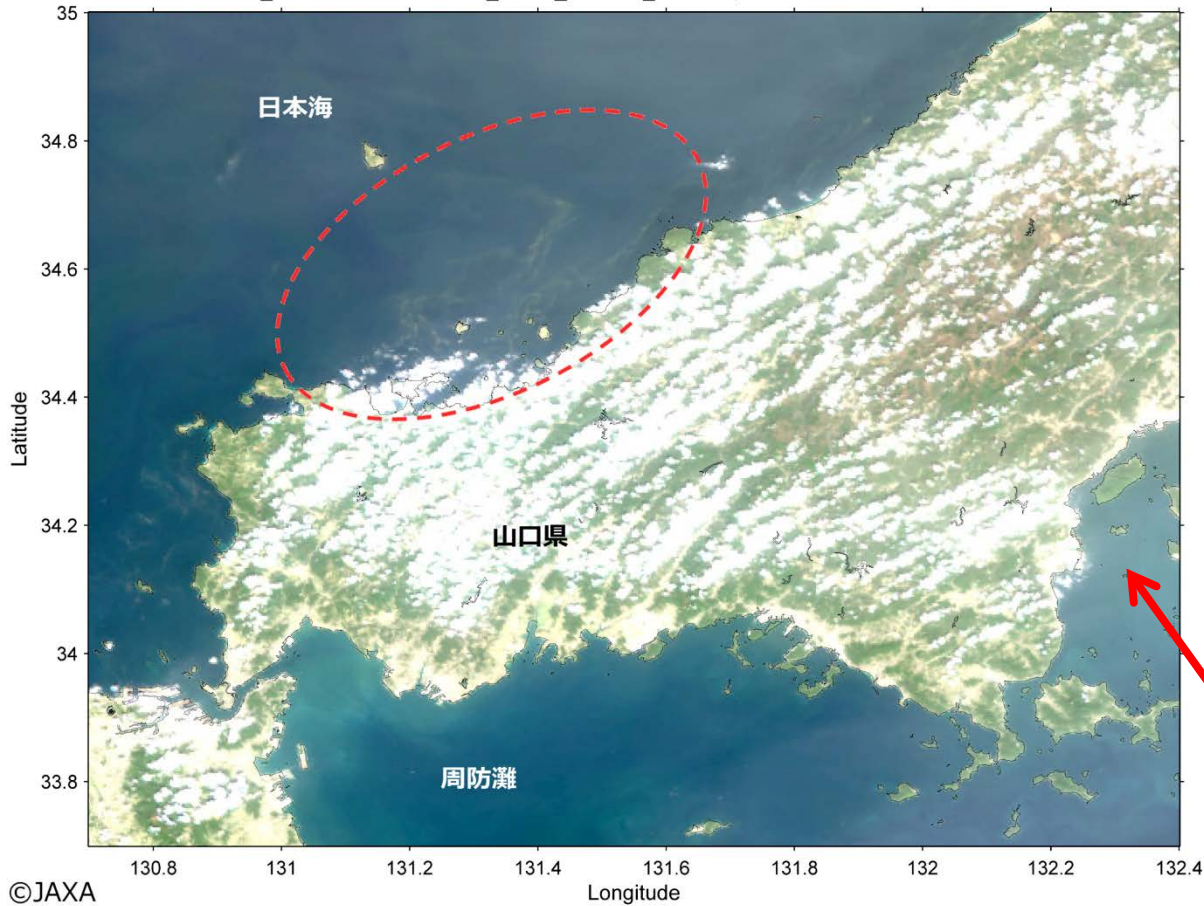
Getting sea ice information and settling particles of ice algae to improve lower-trophic ecosystem model for sea ice environment (PI: Eiji Watanabe)

SGLI/GCOM-C was launched!

December 23 2017



http://suzaku.eorc.jaxa.jp/GCOM_C/index.html



- Ocean color and thermal sensors
- 250 m spatial resolution in shelf region
- Chl.a, primary production, CDOM, Phytoplankton Functional Type (PFT), etc.

Japanese Arctic cruises in 2018



- T/S Oshoro-Maru cruise
29 Jun (Dutch Harbor) – 15 Jul (Dutch Harbor)
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T/S Oshoro-Maru (Hokkaido Univ.)



R/V Mirai (JAMSTEC)

