

# Research cruise in Bering–Chukchi Sea by training ship Oshoro–Maru in 2017

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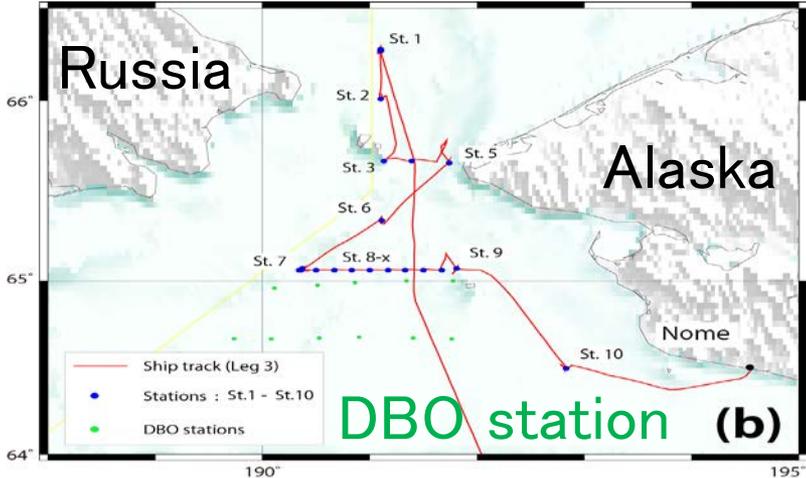
Chief Scientist; Atsushi Ooki

Research cruise by T/S Oshoro-Maru in 2017 carried out various surveys on oceanography and ecosystem.

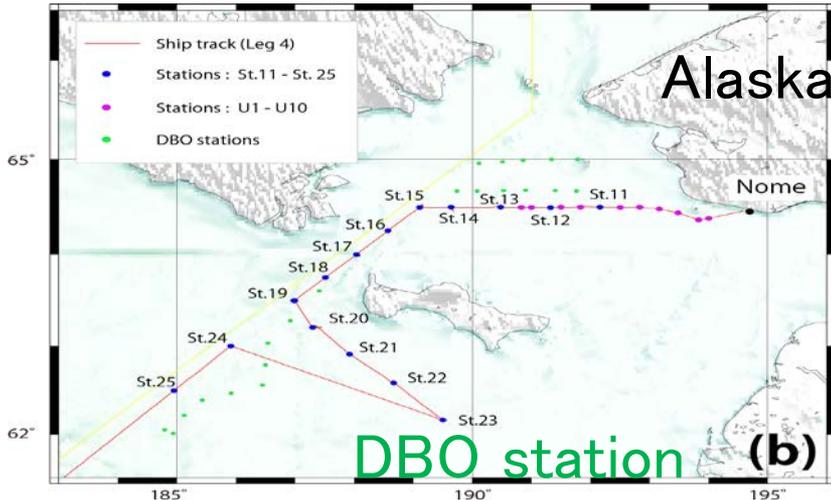
### Leg 3 (July 6 – 14, 2017)

The observation items;

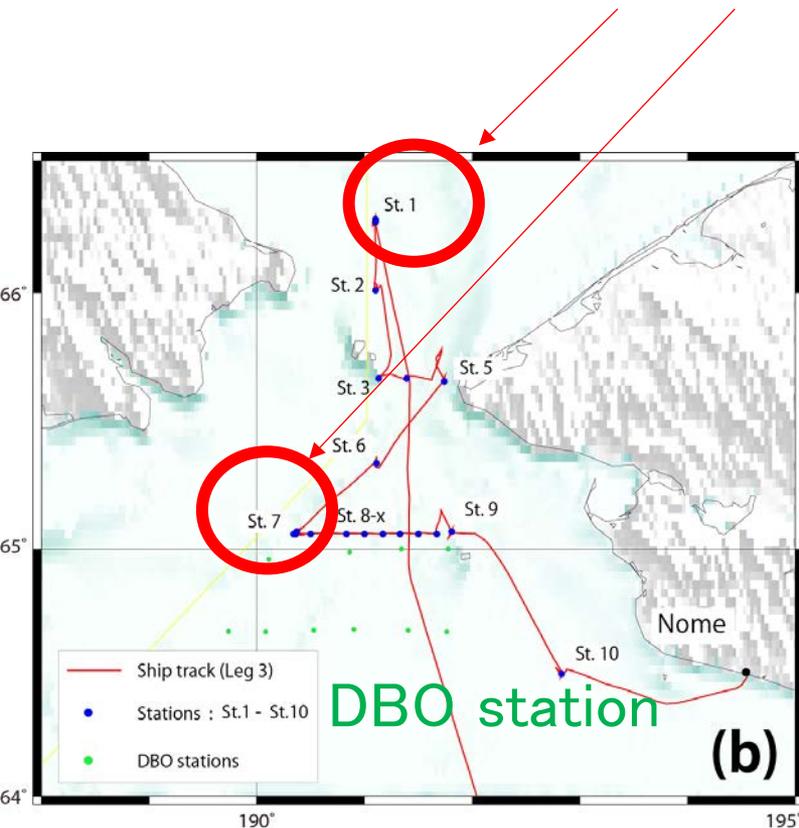
- CTD and ADCP  
(Acoustic Doppler Current Profiler)
- biological and chemical analyses of water
- bio-optical measurements for satellite oceanography
- plankton collection
- sediment sampling
- fish larvae collection
- sea bird and mammal sighting surveys



### Leg 4 (July 16 – 27, 2017)



Two mooring systems, which were deployed in 2016 summer, were recovered by T/S Oshoro-Maruru in 2017 summer.



## Samples/data Collected

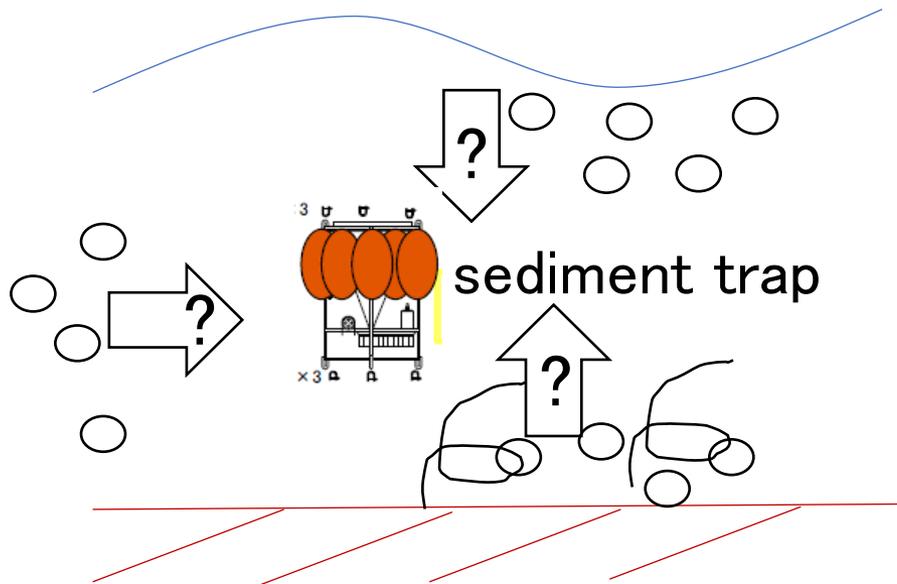
- Sinking particles collected at  $\sim 25$  m depth
- Turbidity and chlorophyll *a* concentration data at  $\sim 3$  m a.b. the bottom
- Current speed and direction between  $\sim 5$  m and  $\sim 50$  m depth

( $66^{\circ} 16\text{N}$ ,  $168^{\circ} 54\text{W}$ ) and  
( $65^{\circ} 03\text{N}$ ,  $169^{\circ} 38\text{W}$ )

Bottom depth is 50 m.

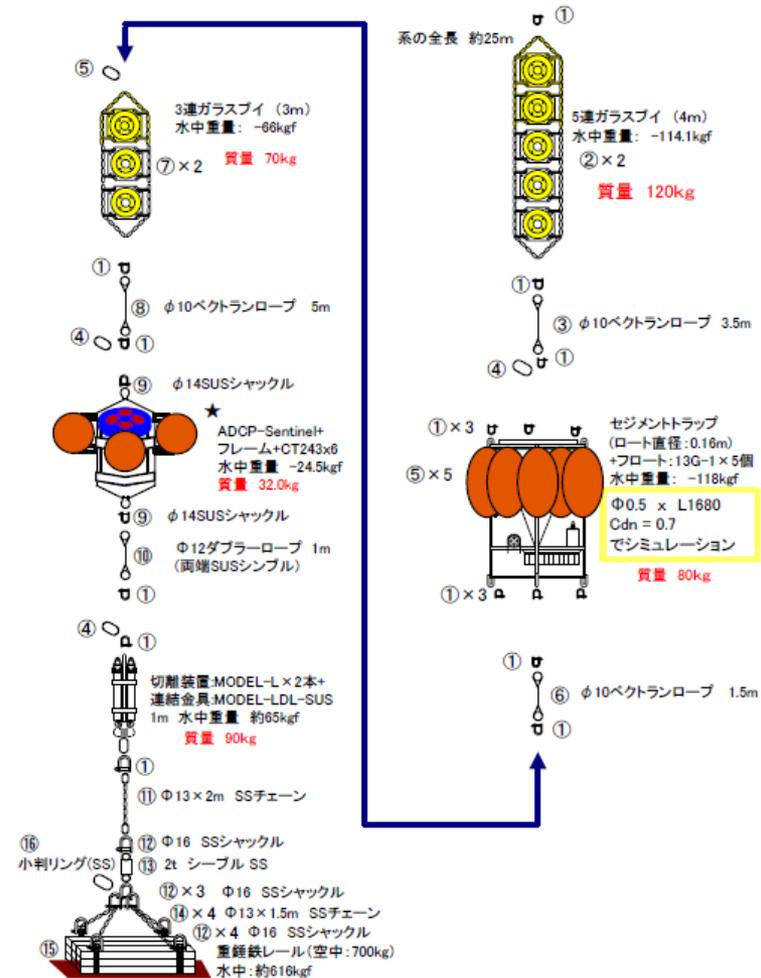
Same mooring systems were re-deployed at the same places for 2018 recovery.

We aim at quantifying processes of vertical and/or horizontal transportation of particulate organic carbon (POC) and nitrogen (PON) in the Bering strait area.



設置用係留系

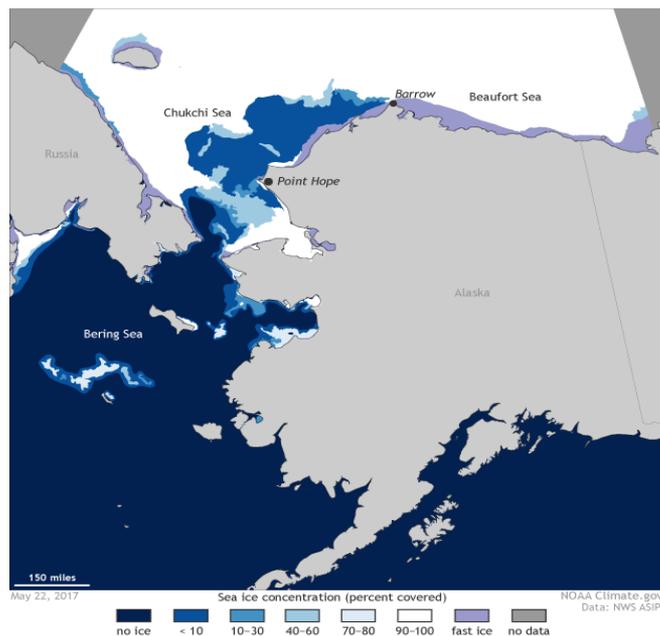
☐ φ16SUSシャックル  
○ SUS小判リング



Sinking particles collected at ~25 m depth

## Preliminary result;

Our time series analysis of chlorophyll *a* concentration estimated from moored chlorophyll fluorescence sensor and ocean color satellite sensor indicated occurrence of spring phytoplankton bloom at early May, which is one month earlier than usual year.



This may be caused by rapid retreat of sea ice in spring 2017.

Figure : Sea ice concentrations on May 20, 2017.  
(R. Thoman, Low sea ice in the Chukchi Sea off Alaska, May 23, 2017)

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