

March 5, 2019

ArCS' Program for Overseas Visits by Young Researchers Debriefing Session FY2019

The role of sea ice in bio- related material cycle

Institute of Low Temperature Science, Hokkaido Univ.
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Overview of Research Activity

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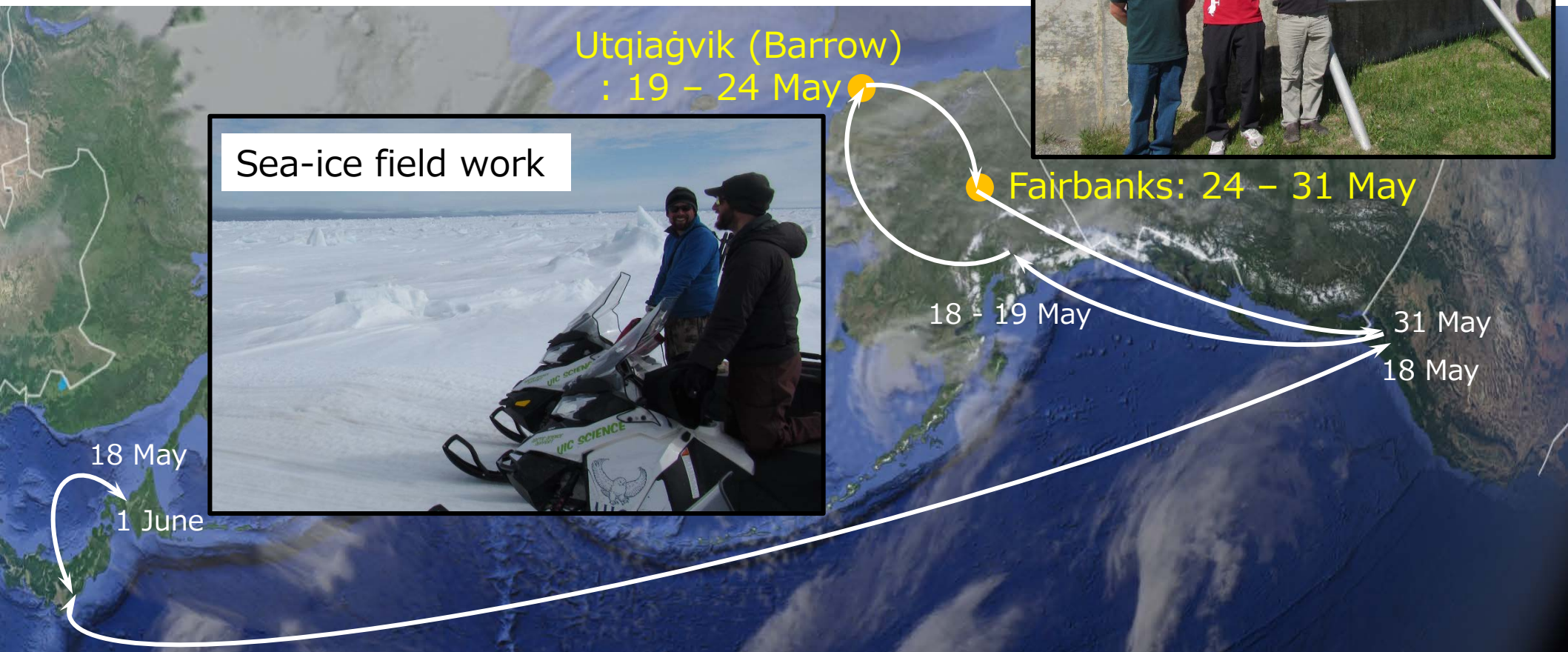
Research Theme: The role of sea ice in bio-related material cycle

Destination: Alaska, U.S.

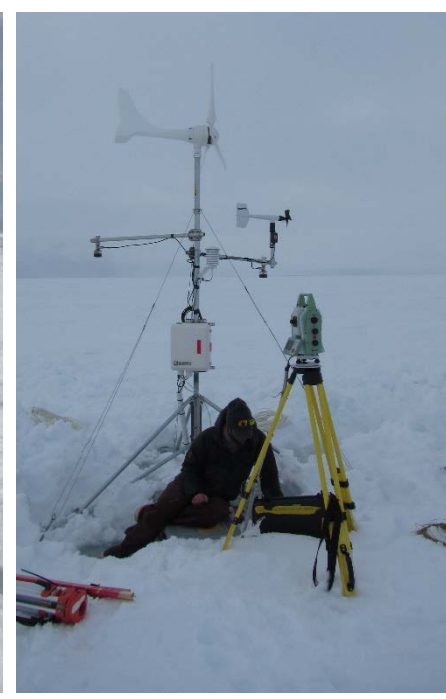
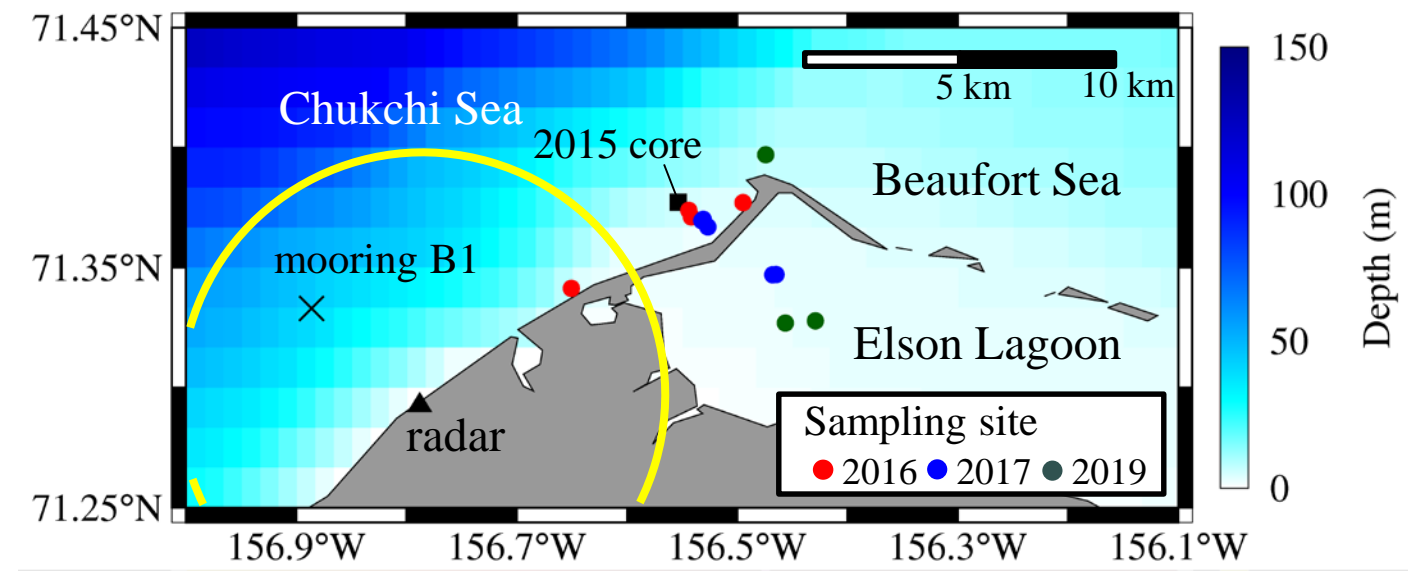
Sea ice around Utqiagvik (19 – 24 May)

University of Alaska, Fairbanks (24 -31 May)

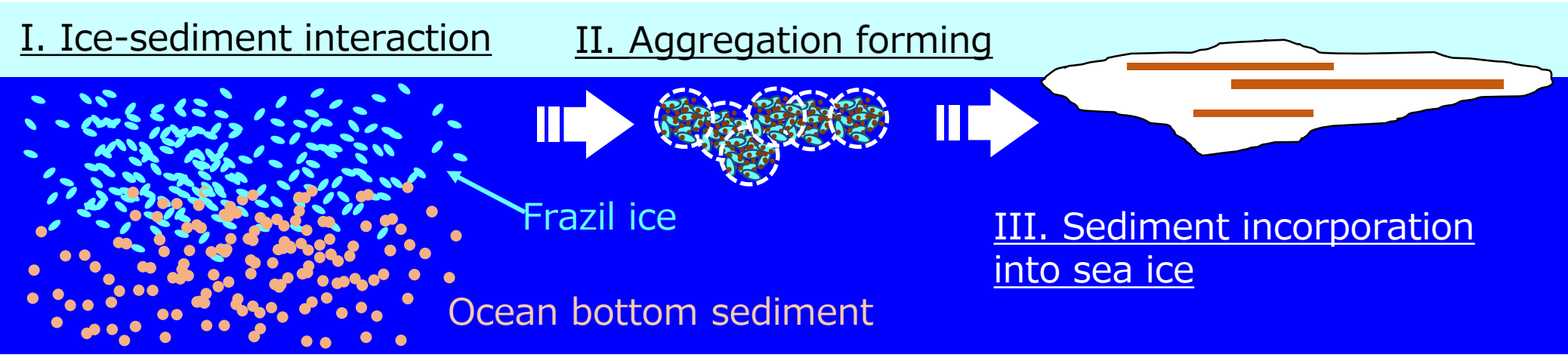
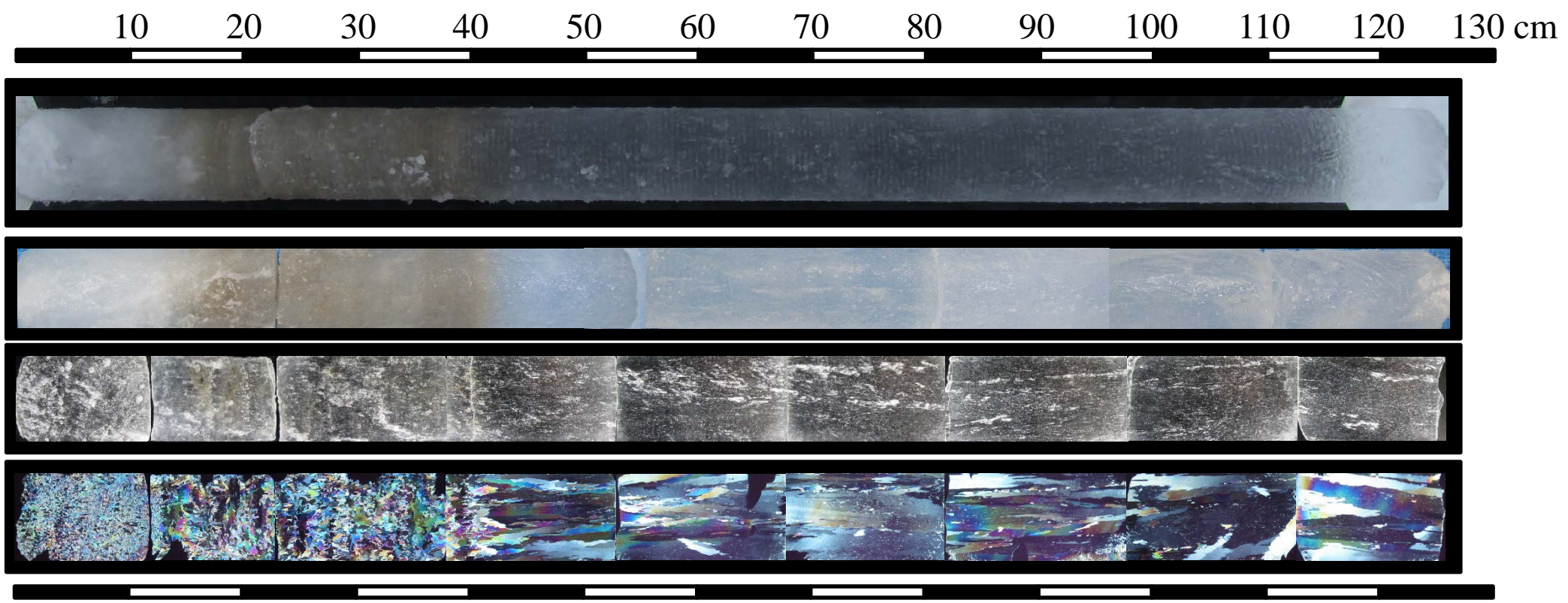
Host researcher: Andy Mahoney (@UAF)



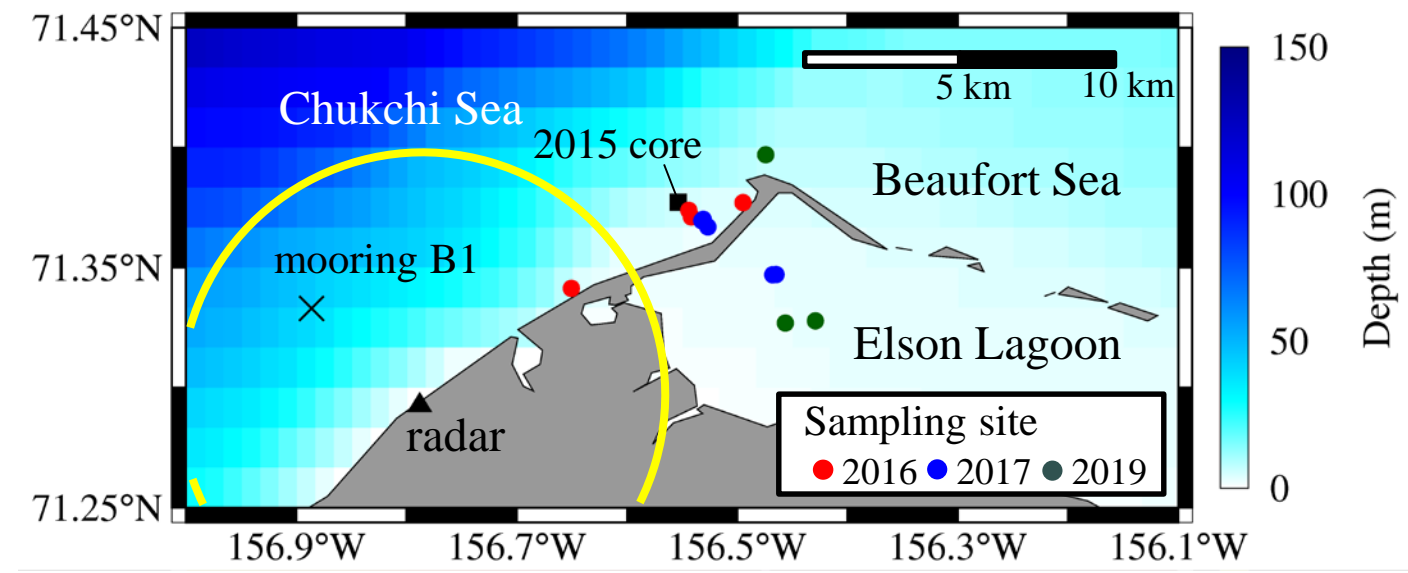
Research Results: sea-ice field work



Research Results: sea-ice field work 3



Research Results: mooring, radar & ice core data analysis 4



JGR Oceans

RESEARCH ARTICLE
10.1029/2019JC015536

Favorable Conditions for Suspension Freezing in an Arctic Coastal Polynya

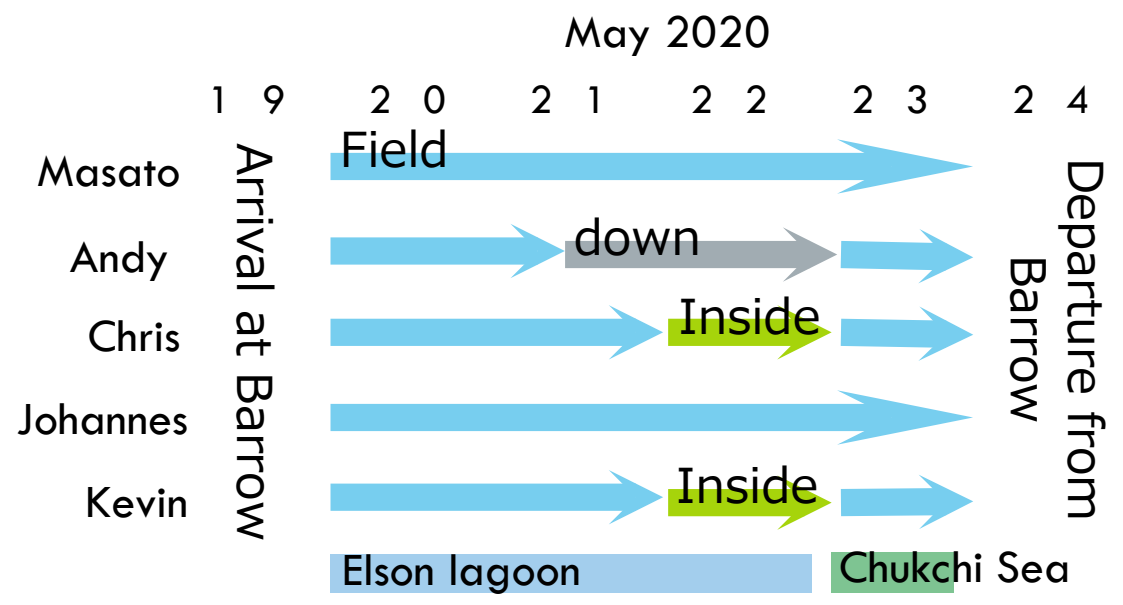
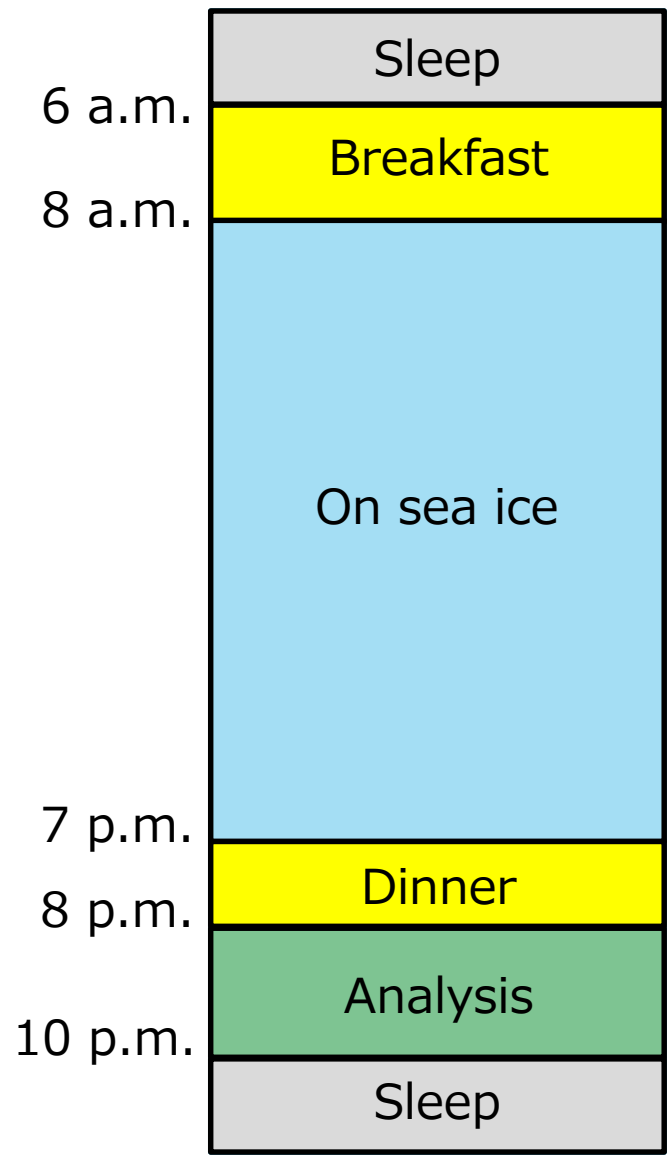
Masato Ito¹, Kay I. Ohshima^{1,2}, Yasushi Fukamachi^{1,2,3}, Daisuke Hirano¹, Andrew R. Mahoney^{3,4}, Joshua Jones⁴, Toru Takatsuka¹, and Hajo Eicken^{3,5}

- Key Points:**
- ADCP data provided evidence of frazil ice penetrating to ~25 m in the water column during supercooling episodes in a coastal polynya
 - The combination of acoustic and optical measurements revealed underwater frazil ice-sediment interaction at water depths of 10–25 m

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Life and Experiences

Time schedule of sea-ice field work



Life and Experiences

Time schedule of sea-ice field work

