ECV–Ice:
Measuring Essential Climate Variables in Sea Ice
SCOR WG152 since 2016

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Aim of ECV-Ice for sea ice biogeochemistry
• Publish synthetic reviews
• Design inter-comparison experiments
• Create a guide of best practices
Annual ECV-Ice update 2022-2023

Highlight

• Final ECV-Ice annual meeting in USA

• Creating a guide of best practices for sea ice research
Final ECV-Ice annual meeting in USA
Scripps Institute of Oceanography, La Jolla, California, USA, 12 March 2023 with BEPSII
Intercomparison experiments during ECV-Ice

#1: March 2016 Saroma-ko Lagoon, Hokkaido, Japan  
The effect of melting treatments on the assessment of biomass and nutrients in sea ice

#2: March 2018 Saroma-ko Lagoon, Hokkaido, Japan  
Sea ice primary production

#3: February 2019 Saroma-ko Lagoon, Hokkaido, Japan  
Under/over ice light measurements

#4: January 2020 Roland von Glasgow sea ice chamber in Univ. of East Anglia, UK  
Gases in sea ice and sea ice-air gas flux

#5: February 2020 Tsukuba, Japan  
Eddy covariance (EC) drying air comparison for air-sea ice CO2 flux measurement

#6: February 2021 Saroma-ko, Lagoon, Hokkaido, Japan  
Eddy covariance (EC) drying air comparison for air-sea ice CO2 flux measurement

#7: May 2022 CHARS, Cambridge Bay, Canada  
Primary production and air-sea ice CO2 flux measurement
#2: March 2018 Saroma-ko Lagoon, Hokkaido, Japan

Sea ice primary production

Photos: Daiki Nomura
#4: January 2020
Roland von Glasgow sea ice chamber in Univ. of East Anglia, UK

Gases in sea ice and sea ice-air gas flux

Photos: Daiki Nomura
Inter-comparison experiment for gas in sea ice, flux, and primary production in Cambridge Bay, Canada, Spring 2022

Participant from ECV-Ice:
B. Else, D. Nomura, B. Delille, K. Campbell
Odile, Jo, Rosalie, Manami etc
(Total: 17 scientists including 10 students and 3 ECS)
Intercomparison papers during ECV-Ice


Discussion for creating a guide of best practices for sea ice research based on our previous intercomparison experiments

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ECV-Ice_2016-2023
Acknowledgements

Photo: D. Nomura