



INTERNATIONAL GLACIOLOGICAL SOCIETY

International Symposium on
**Sea Ice Across
Temporal and Spatial Scales**



Bremerhaven, Germany
4–9 June 2023

Co-sponsored by:

❄ Alfred Wegener Institute,
Helmholtz Institute for Polar and Marine Research
❄ University of Bremen

FIRST CIRCULAR

March 2022

<https://www.igsoc.org/symposia/2023/bremerhaven2023/>

The International Glaciological Society (IGS) will hold the next **International Symposium on Sea Ice** in Bremerhaven, Germany, 4–9 June 2023. Registration will begin in January 2023.

THEME

Sea Ice Across Temporal and Spatial Scales. Sea ice is an important component of the Earth's climate system and strongly affects marine ecosystems and human activities in both hemispheres. Sea ice is changing rapidly on various temporal and spatial scales, and systematic observations and modelling across these scales is required to better understand underlying processes and interactions, and to predict the ice's future fate. This symposium will invite contributions by the international sea ice research community to exchange recent findings and advances in observations, process understanding, and modelling of sea ice worldwide. While the focus of the symposium will be on the physical ocean–ice–atmosphere system, cross-cutting interdisciplinary contributions are invited from fields such as sea-ice ecology and biogeochemistry, ice engineering, human use of the sea-ice environment, and others.

TOPICS

We seek papers and presentations on any timely topic related to **sea ice across temporal and spatial scales**, ranging from case studies to year-round investigations as during MOSAiC. All contributions may include and/or combine observational, numerical, theoretical, laboratory or conceptual approaches. Key focus areas include (but are not limited to):

- 1. Sea ice in the regional and global climate:** past, present, and future variability and change of sea ice and climate on various scales, including observations, attribution and prediction, feedbacks, extreme events, polar–midlatitude linkages, Arctic–Antarctic contrasts
- 2. Sea-ice processes and ocean–ice–atmosphere interaction:** sea-ice mass balance, dynamics versus thermodynamics, ocean heat flux, surface energy balance
- 3. Snow on sea ice:** snow thickness, density, thermal and microwave properties, metamorphism, redistribution
- 4. Physical properties of sea ice:** from the microscopic to the macroscopic, optics, ice mechanics
- 5. Sea ice ecology and biogeochemistry:** from microorganisms to fish and marine mammals, primary productivity, ecosystem change, particulate and dissolved organic matter, carbon cycle, gas fluxes, aerosols, bio-physical interactions and feedbacks

6. **Methodological advances, coupling and upscaling in sea ice studies:** Remote sensing, autonomous observations and vehicles, instrumental advances, new data products, coupling sea-ice modelling with observations, advances in numerical parameterizations
7. **Humans and sea ice:** Indigenous sea ice knowledge and use, community-based monitoring programmes, shipping and resource development in ice-covered waters, ice management, information systems, adaptation and mitigation.

In the preparation of the conference we will invite more specific proposals for sessions related to one or several of the topics above. Contact: Christian.Haas@awi.de

PROGRAM

The symposium will include oral and poster sessions, and will be a friendly and intellectually stimulating environment to facilitate face-to-face interactions and networking. Additional activities will include an opening Icebreaker reception, a banquet dinner and a mid-symposium afternoon excursion.

ABSTRACT AND PAPER PUBLICATION

Participants who wish to present a paper (oral or poster) at the Symposium will be required to submit an abstract. Accepted abstracts will be posted on the Symposium's website. The Council of the IGS has decided to publish a thematic issue of the *Annals of Glaciology* on topics consistent with the Symposium themes. Participants and nonparticipants alike are encouraged to submit manuscripts for this *Annals* volume . A call for abstracts will be issued in the Second Circular.

SIDE MEETINGS

The organizing committee welcomes requests from groups and organizations for meeting spaces to host side meetings before or after the symposium. Send all requests to Marcel.Nicolaus@awi.de

VENUE

The symposium will take place in the waterfront hotel ATLANTIC Hotel Sail City in Bremerhaven, Germany. The hotel is centrally located at the Weser River waterfront and near the city centre, and next to many of Bremerhaven's renowned tourist attractions, such as the Climate House, German Emigration Centre and Museum, German Maritime Museum, U-Boat Museum, Bremerhaven Zoo by the Sea (with live polar bears and penguins), and New Harbor Havenwelten. There are numerous eating venues, markets and shops nearby. The Hanseatic City of Bremen, with its medieval city centre, is less than one hour away. The symposium will utilize additional meeting rooms at the Climate House, the German Maritime Museum, and the Alfred Wegener Institute, all within very short walking distance.

<https://www.atlantic-hotels.de/hotel-sail-city-bremerhaven>



SYMPOSIUM ORGANIZATION

Magnús Már Magnússon (International Glaciological Society)

LOCAL ORGANIZING COMMITTEE

Marcel Nicolaus, Gunnar Spreen, Christian Haas, Lilian Schubert, plus numerous representatives of AWI's senior and junior interdisciplinary sea-ice research community.

SCIENCE STEERING AND EDITORIAL COMMITTEE CHAIRS

Christian Haas, Marcel Nicolaus, Gunnar Spreen

International Members of the Science Steering Committee and Editorial Committee will be invited after publication of the First Circular.

FURTHER INFORMATION

If you wish to attend the Symposium, please **register your interest online** at <https://www.igsoc.org/symposia/2023/bremerhaven2023/>

The Second Circular will give further information about accommodation, the scientific programme, additional activities, preparation of abstracts and final papers. Members of the International Glaciological Society, as well as all those who have expressed an interest, will automatically receive notification of the Second Circular.

Information will also be updated on the IGS conference website, <https://www.igsoc.org/symposia/2023/bremerhaven2023/> as it becomes available. A local website will open in due course.