



INTERNATIONAL GLACIOLOGICAL SOCIETY

International Symposium on  
**Sea Ice**  
in a Changing Environment



Hobart, Australia  
10–14 March 2014

*Co-sponsored by:*

❄ Antarctic Climate and Ecosystems CRC  
❄ Tasmanian Department of Economic Development, Tourism & Arts  
❄ Climate and Cryosphere

SECOND CIRCULAR

July 2013

<http://www.igsoc.org/symposia/2014/hobart>

<http://seaice.acecrc.org.au/igs2014>



The International Glaciological Society will hold an International Symposium on Sea Ice in a Changing Environment in 2014. The symposium will be held in Hobart, Australia from 10 to 14 March 2014. This will be the fourth IGS symposium dedicated to sea-ice research.

#### THEME

Sea ice plays a crucially important and dynamic role in global climate and high-latitude ecosystems. It forms a highly sensitive indicator and modulator of climate change and variability. Sea ice is currently one of the fastest responders to changing climate conditions across the globe – with both hemispheres responding differently overall but with regional similarities. This symposium presents a timely opportunity to showcase recent advances in our knowledge and technological capabilities, and to encourage holistic discussion of the most recent changes, long-term trends and variability in the sea-ice environment. Therefore, the symposium specifically includes topics pertinent to advancing our knowledge of sea ice from recent observations, advances in instrumentation and data processing, and progress in sea-ice and coupled modelling. To improve our understanding of the processes contributing to sea-ice change, including interactions with and response to other climatic components, and to fathom how sea-ice change may impact on ecosystem dynamics, biogeochemical systems, and polar operations, the symposium aims to provide a general discussion of changes in these components of the global cryosphere by providing a sounding board on the topics of cross-disciplinary data acquisition and exchange, technical improvements of observational and analytical tools, and integrated project planning.





## TOPICS

Meeting participants are encouraged to present on a wide variety of relevant topics, including

1. **Pole to pole: Large-scale change and variability in sea ice and climate**, including:  
regional to hemispheric response, teleconnections, attribution of change (including large-scale atmospheric and oceanic circulation changes and feedback mechanisms), and possible extreme events
2. **Seymour Laxon and Katherine Giles celebration session: Advances in sea-ice analysis using remotely sensed data**, including:  
hemispheric and global assessment, sea-ice thickness and volume, algorithm development and validation, accuracy of retrieved parameters, multisensor synergies, new technologies
3. **Advances in instrumentation and observation methods**, including:  
non-destructive observations, autonomous observatories (including underwater and aerial platforms), new analytical methods
4. **The challenge of melding sea-ice modelling with observations**, including:  
sea-ice and coupled model validation, advances in numerical parameterizations, current gaps, translating observations into models, IPCC-AR5 ensemble synthesis
5. **A new regime for sea-ice growth and decay?**, including:  
New observations of sea-ice growth and decay processes and of the characteristics of the sea-ice matrix, including the contribution of snow to sea-ice formation and decay (e.g. snow-ice and melt-pond formation), microphysical properties
6. **Snow on sea ice**, including:  
snow thickness, density, characteristics and processes, gas exchange, surface radiation budget and remote sensing considerations





7. **Interactions between sea-ice drift & deformation and sea-ice morphology**, including:  
ice kinematics, dynamics and mechanics, linkage to floe-size distribution and ice concentration, and dynamic effects on the sea-ice matrix
8. **Ocean–ice–atmosphere interactions**, including:  
boundary-layer processes, waves, tides, drag coefficients, synoptic scale forcing
9. **The marginal ice zone**, including:  
processes at the outer ice–ocean boundary, numerical and experimental advances in wave–ice interaction, wave attenuation, and floe-size modification
10. **Sea-ice interaction with ice sheets, ice shelves and icebergs**, including:  
fast ice, polynyas, basal melt and refreeze, water-mass modification, freshwater balance, oceanic heat content, and possible linkage to ice-shelf stability
11. **The role of sea ice in ecosystems dynamics**, including:  
sea-ice biota, primary productivity, microorganisms, microbial food webs, trophic levels
12. **Sea-ice biogeochemical properties and processes in a world of change**, including:  
gas fluxes, nutrients, trace elements, carbon and oxygen cycling, brine composition and nutrients
13. **Palaeo and pre-satellite sea ice distribution**, including:  
historical records and observations, reconstructions from ice core records and deep-sea sediments.





## PROGRAMME

The symposium will consist of plenaries and oral sessions, with presentations in the 15' (presentation) + 5' (for questions and discussion) format as well as lightning presentations (3' + 1' format)/posters, with a large amount of free time to allow participants to exchange scientific information in an informal setting. Wednesday afternoon will be reserved for a symposium activity or excursion. The Governor of Tasmania will host a reception for delegates on Tuesday evening (RSVP required), and the symposium banquet will be held on Thursday evening.

Should you wish to hold a smaller break-out meeting, please contact [petra.heil@utas.edu.au](mailto:petra.heil@utas.edu.au). Several side meetings have been confirmed, including:

- 8 March: International Antarctic Buoy Programme (IPAB) participants meeting
- 15 March: Antarctic Sea-ice Processes and Climate (ASPeCt) workshop
- 16 March: Climate and Cryosphere (CliC) Arctic sea-ice working group meeting (TBC)
- 17–19 March: SIPEX-2012 workshop.

A public science day involving interested participants is scheduled for the opening day of the symposium (9 March 2014).

## REGISTRATION FEES

All fees are in Australian dollars, AUD

– Delegate (IGS member):	\$650
– Delegate (not IGS member):	\$780
– Student or retired (IGS member):	\$325
– Student or retired (not IGS member):	\$390
– Accompanying person (18 years or over):	\$330
– Accompanying person (12–17 years):	\$265
– Late registration surcharge (after 1 November 2013):	\$100

The fees include the icebreaker, daily morning and afternoon tea, luncheons (Mon, Tues, Thurs, Fri), a mid-week excursion with packed lunch, reception at Tasmanian Government House (RSVP required) and the symposium banquet.

Please note that the deadline for full refund is 20 December 2013, while the deadline for partial (on a sliding scale) refund is 3 February 2014. After that, refund requests cannot be accepted. All refunds will be made less any bank charges. Payments made after 1 November 2013 must include the additional \$100 late-registration fee.



**ACCOMPANYING PERSONS:** The accompanying persons' registration fee covers the icebreaker, the Government House reception (RSVP required), the mid-week excursion and the banquet, but not attendance at the presentation sessions. There is no charge for accompanying persons under 12 years.

## VENUE

The symposium will be held at the Grand Chancellor Hotel in Hobart, the capital of Tasmania. Hobart has long played an important role in Australia's Southern Ocean and polar activities, originating in sealing and whaling pursuits as well as early expeditions. Today Hobart is Australia's hub for Antarctic and Southern Ocean activities, including science, education, logistics and tourism. These days, Hobart is home to many ocean, cryosphere and climate scientists.

Hobart lies close to 43 S and has a temperate marine climate. The city experiences a predominantly northwesterly air stream, and local weather is dominated by katabatic winds descending from the Wellington Range. The average rainfall for Hobart is 622 mm per year. Mount Wellington regularly receives snow, especially in winter and spring. While solid precipitation typically falls during winter, it can be encountered at any time of year. Consequently, one may experience 'four seasons in a day' while in Hobart. The symposium will be held in March in late summer, when the daily mean maximum and minimum temperatures are 20.7 and 10.3 C. For further information about Hobart see the Hobart Travel Centre, <http://www.hobarttravelcentre.com.au/>.

## TRAVELLING TO HOBART

Several national airlines service Hobart with multiple flights per day. To enter Australia all international visitors need to present their visa. For more information please see your travel agent or the Australian Department of Immigration and Citizenship. Please note that Australia has strict quarantine rules, which apply to importing plants, animals and their products, including food.





## ACCOMMODATION

Block bookings have been arranged at several hotels in Hobart for the duration of the symposium. To take advantage of these, please reserve rooms by 18 January 2014, noting that venues may fill up before then. We will release the rooms on 18 January, and cannot guarantee accommodation after that date. Most hotels are near the waterfront or in the city centre, within walking distance of the symposium venue. A list of available accommodation can be found on the conference website.

## SYMPOSIUM ABSTRACTS AND THEMATIC PUBLICATION

Participants wishing to present a paper at the symposium are required to submit an abstract by 30 August 2013. Abstract submission is now open through the IGS web portal, <http://www.igsoc.org/symposia/2014/hobart/>. Each abstract will be assessed on its scientific merit and relevance to the symposium theme. Abstract acceptance will be communicated to the corresponding author on 4 October 2013. The programme and all accepted abstracts will be provided on a digital medium for all registered participants at the symposium.

The International Glaciological Society will offer a thematic volume of *Annals of Glaciology*, volume 56, issue 69, *Sea Ice in a Changing Environment* on topics consistent with the symposium topics, and participants are encouraged to submit manuscripts to this volume. When submitting abstracts to the symposium, you will be asked to indicate whether you intend to submit a paper for the *Annals* volume, so that reviewers may be sought in advance. Papers submitted for consideration in the *Annals* may not be submitted to another publication. Submission to this issue will not be contingent on presentation at the symposium, and material presented at the symposium is not necessarily accepted for inclusion in the *Annals*. The submission deadline for this *Annals of Glaciology* volume is 20 December 2013. Papers should be submitted through the IGS web portal and will be refereed according to the Society's exacting standards. We aim to complete reviews before the symposium, providing an opportunity for editors and authors to discuss the papers during the symposium.



Photo courtesy of Tony Lomas



## SYMPOSIUM ORGANIZATION

Magnús Már Magnússon (International Glaciological Society)

## SCIENTIFIC STEERING AND EDITORIAL COMMITTEE

Petra Heil (Chief Editor), Gerhard Dieckmann, Hiroyuki Enomoto, Sebastian Gerland, Ken Golden, Stefan Kern, Pat Langhorne, Robert Massom, James Renwick, Sharon Stammerjohn, Julienne Stroeve, Petteri Uotila

## LOCAL ORGANIZING COMMITTEE

Petra Heil (Co-chair), Robert Massom (Co-chair), Ian Allison, Jo Jacka, Jan Lieser, Klaus Meiners, Jessica Melbourne-Thomas, Tony Press, Phil Reid and Guy Williams

## FURTHER INFORMATION

Information will be updated on the conference website, <http://seaice.acecrc.org.au/igs2014>, as it becomes available

Please register online at [www.igsoc.org/symposia/2014/hobart/registration](http://www.igsoc.org/symposia/2014/hobart/registration)  
Registration will open in August 2013. In case of difficulty with the online registration, please contact the IGS office.

## IMPORTANT DATES

### *International Symposium on Sea Ice in a Changing Environment*

Abstract submission deadline:	30 August 2013
Notification of acceptance:	4 October 2013
Pre-registration deadline:	1 November 2013
Student/postdoc travel support application deadline:	18 October 2013
Deadline for full refund:	20 December 2013
Deadline for partial refund:	3 February 2014
Icebreaker and registration desk opens:	9 March 2014
Symposium:	10–14 March 2014

### *Annals of Glaciology volume 56, issue 69*

Paper submission deadline:	20 December 2013
Final revised papers deadline:	14 April 2014