



## COUNCIL OF MANAGERS OF NATIONAL ANTARCTIC PROGRAMS (COMNAP) WORKSHOP

### SEA ICE CHALLENGES

Jointly hosted by the Australian Antarctic Division (AAD) and the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC)



Australian Government  
Department of the Environment  
Australian Antarctic Division

University of Tasmania Waterfront Building  
20 Castray Esplanade  
Hobart, Tasmania, Australia



12–13 May 2015

Convened by Dr. Rob Wooding (Australian Antarctic Division), COMNAP Vice Chair

### Agenda and Programme *(version final)*

#### Agenda

The following sessions are part of the workshop programme:

- Session 1:** Recent National Antarctic Program Experiences with Changing Sea Ice
- Session 2:** Sea Ice Trends
- Session 3:** Sea Ice Technology (Display)
- Session 4:** Operational Implications
- Session 5:** Sea Ice Navigation: Operational Requirements and Technologies
- Session 6:** Alternative Solutions

#### Programme

##### **MONDAY 11 MAY: PRE-WORKSHOP EVENTS**

##### **4.30–6.00 pm: Welcome function/icebreaker**

(Sponsored by the Tasmanian Polar Network)

Venue: University of Tasmania Waterfront Building (20 Castray Esplanade), Rori and Tarlanga Rooms, Ground Floor

##### **6.00–7.30 pm: Public Lecture “Why is the sea ice changing around Antarctica?”** Professor Tony Worby, ACE CRC

Tony is the CEO of the Antarctic Climate and Ecosystems Cooperative Research Centre. Prior to that he was the Deputy Chief for Marine Research at CSIRO's Division of Marine and Atmospheric Research, and before that Senior Principal Research Scientist at the Australian Antarctic Division and leader of the Australian Antarctic climate program. His primary interest is the physical properties of Antarctic sea ice, in particular the thickness distribution of the ice and its interaction with the atmosphere and ocean.

*Delegates free to make informal dinner arrangements*

## **TUESDAY 12 MAY: WORKSHOP DAY ONE**

**8.45 am: Welcome and Opening of Workshop** Professor Kazuyuki Shiraishi, COMNAP Chairman

Venue: University of Tasmania Waterfront Building (20 Castray Esplanade), Rori-Flex Room, Ground Floor

**9.00 am: Session 1: Recent National Antarctic Program experiences with changing sea ice** (Session Chair: Rob Wooding)

9.00–9.20 Yves Frenot (Institute Paul Emile Victor, France)

The impact on the French Antarctic Program of sea ice conditions around Dumont D'Urville since 2011

9.20–9.40 Takeshi Tamura, Shuki Ushio & Daisuke Simizu (National Institute of Polar Research, Japan)

Recent tough sea ice conditions around Syowa Station

9.40–10.00 Robb Clifton (Australian Antarctic Division)

Adapting to a new normal for sea ice access and operations at Australian Antarctic stations

10.00–10.20 Wang Jianzhong, Yuan Shaohong & Lei Ruiبو (Polar Research Institute of China)

China's experiences with impenetrable and changing sea ice in the Antarctic

**10.30 am: Morning coffee/tea break**

**11.00 am: Session 2: Sea Ice Trends** (Session Chair: Tony Worby)

11.00–11.30 Rob Massom (Australian Antarctic Division)

An overview of sea ice and challenges for navigation

11:30–11:50 Marilyn Raphael (University of California Los Angeles (UCLA), USA)

Antarctic sea ice: variability, trends and 21<sup>st</sup> century projections

11.50–12.10 Sharon Stammerjohn (University of Colorado, USA)

Comparing and contrasting regional sea ice challenges around Antarctica

12.10–12.30 Will Hobbs (Institute for Marine and Antarctic Studies, Australia)

Antarctic sea ice changes – natural or anthropogenic?

**12.30 pm: Lunch and official opening of Session 3: Sea ice technology (display)**

**1.30 pm: Session 2 (continued): Sea Ice Trends**

1.30–1.50 Xavier Crosta (University of Bordeaux, France)

Sea ice dynamics off George V Land, East Antarctica: beyond the instrumental period

1.50–2.10 Mark Curran (Australian Antarctic Division)

A 100-year reconstruction of Antarctic sea ice extent from ice cores

2.10–2.30 Petra Heil (Australian Antarctic Division)

Fast-ice variability in East Antarctica

2.30–2.50 Phil Reid (Australian Bureau of Meteorology)

Summation

2.50–3.00 Questions/discussion

**3.00 pm: Afternoon coffee/tea break**

**3.45 pm: Session 4: Operational Implications** (Session Chair: Rob Wooding)

Responses from national Antarctic programs to the latest scientific findings, focusing on factors such as:

- Coastal station resupply/personnel transfer
- Sustainment of inland stations
- Scientific research programs
- Demands for search and rescue for private vessels (tourist, fishing, etc.)

**5.00 pm: Close of Workshop Day One**

**6.30–10.00 pm: Conference Dinner** (Hosted by the Australian Antarctic Division)

Venue: The Hobart Function & Conference Centre, Elizabeth Street Pier (<http://hfcc.com.au/>)

*Suggested dress standard: Business/smart casual*

## **WEDNESDAY 13 MAY: WORKSHOP DAY TWO**

### **9.00 am: Session 5: Sea Ice Navigation: Operational Requirements and Technologies**

(Session Chair: Yves Frenot)

9.00–9.20 Lei Ruibo (Polar Research Institute of China)

Ship-based measurements on sea ice morphology during the CHINARE Antarctic and Arctic cruises

9.20–9.40 Caryn Panowicz (US National Naval Ice Center)

US National Ice Center - Sea Ice Analysis in Antarctic Waters

9.40–10.00 Lin Zhang (National Marine Environmental Forecasting Center, Polar Environmental Research & Forecasting Division)

Operational sea ice forecasting and navigation service for the Chinese National Antarctic Research Expedition (CHINARE)

10.00–10.20 Andrew Fleming (British Antarctic Survey, UK)

Polar View – Developing and delivering operational sea ice information for the polar regions

### **10.20 am: Morning coffee/tea break**

11.00–11.20 Xiao Cheng (Beijing Normal University, China)

Navigational sea ice analysis for the RV *Xuelong* in Prydz Bay, East Antarctica 2011/12 to 2013/14

11.20–11.40 Penelope Wagner (Norwegian Meteorological Institute)

International Ice Charting Working Group (IICWG) collaborative Antarctic sea ice product

11.40–12.00 Thomas Krumpfen, Lasse Rabenstein, Stefan Hendricks, Paul Cochrane (Drift & Noise Polar Services GmbH, Germany)

On-Site Sea Ice Information (OSSI): a system to support operations in polar regions

12.00–12.20 Scott Carpentier, Neal Young & Jan Lieser (Australian Bureau of Meteorology)

A case for coordinating Antarctic marine weather services

See also information paper which will not be presented but is sent to share information by:

D. Ram Rajak, R. K. Kamaljit Singh, Jayaprasad P., Sandip R. Oza, Space Applications Centre, ISRO, Ahmedabad, India) and M. Javed Beg (National Centre for Antarctic and Ocean Research, Goa, India)

Sea Ice Advisories for Indian Research & Supply Vessels Operating in central Dronning Maud Land & East Antarctica

### **12.00–12.30 Summary of morning session/questions and discussion**

### **12.30 pm: Lunch**

### **1.30 pm: Session 6: Alternative Technologies**

(Session Chair: Michelle Finnemore)

1.30–2.00 Patrice Godon (Institute Paul Emile Victor, France)

Dealing with the sea ice around Dumont d'Urville

2.00–2.20 Doug Thost (Australian Antarctic Division) & Guy Williams (Institute for Marine and Antarctic Studies)

Using remotely piloted aircraft (RPA) in ice reconnaissance roles: from crystal ball gazing & some practical results

2.20–2.40 Ted Maksym (Woods Hole Oceanographic Institution, USA)

Autonomous platforms: emerging technologies for sea ice research and operations

See also information paper which will not be presented but is sent to share information by:

A. Korotkov, V. Korablev and V. Lukin (Arctic & Antarctic Research Institute of Roshydromet)

Ice navigation support for marine operations of the Russian Antarctic Expedition

2.40–3.30 Questions/answer session

### **3.30 pm: Afternoon coffee/tea break**

### **4 pm: Summing up/future directions**

(Session Chair: Rob Wooding)

### **5.00 pm: Close**

**THURSDAY 14 MAY, TOUR of Hobart's Antarctic –related organisations and facilities**

Details will be confirmed closer to the time of the workshop.

9.00am Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC)

9.30 Bus departs

9.40 Australian Antarctic Division (AAD) Antarctic Cargo and Quarantine Facility

10:10 Bus departs

10:15 Commission for the Conservation of Antarctic and Marine Living Resources (CCAMLR) Secretariat

10:45 Bus departs

11:00 Australian Antarctic Division (AAD) Café (coffee break)

11:30 Australian Antarctic Division (AAD) Kingston facilities

12:30pm Bus departs

12:45 Bureau of Meteorology (BOM) Forecasting Centre

1:15 Bus departs

1:20 Return of delegates to either Tasmanian Museum and Art Gallery (TMAG) where they are very welcome to look around the exhibitions and then at 2:00pm have a guided tour by the TMAG Manager of the "Islands to Ice" exhibition, or if the delegate prefers the bus will return them to the conference venue.