

Winter 2015

PROGRAMME COORDINATOR: JEREMY WILKINSON BRITISH ANTARCTIC SURVEY, UK

Happy New Year everyone!

It is almost two years since we gathered in Brussels for our Kick-Off meeting. Since that time Arctic change and the impacts of Arctic change has moved up the political and scientific agenda. Even President Obama has highlighted the importance of the Arctic by stating at a recent conference that:



“the Arctic is the leading edge of climate change -- our leading indicator of what the entire planet faces”

Just as the visibility of Arctic change has increased internationally so too has our programme. We have real-time data coming in from the ocean, ice and atmosphere, new parameterisations being included in models, strong integrations with local communities that are at the forefront of Arctic change, and improvements to how we assess the economic impact of Arctic change. As a result I am sure we all have different highlights from last year. For me it was seeing ICE-ARC come together and grow internationally. Including the acceptance of ICE-ARC co-sponsoring a session at the COP21. I am pleased to say that this session was very well received.

This coming year is possibly the most important for our programme, many of our WP tasks will be bearing fruit and the number of deliverables due will increase significantly. Given the high visibility of our programme there is a need to get our results out to the scientific and wider community. If you have any questions no matter how small remember the Project Office here at BAS are here to help.

All the best for 2016 and look forward to continuing to work together.



ICE-ARC members at the General Assembly in Bologna

MEETINGS AND EVENTS

24-29 January **Arctic Frontiers**
Tromsø, Norway

1-2 March **ICE-ARC Steering Committee** Copenhagen, Denmark

12-18 March 2016 **ASSW 2016**
Fairbanks, Alaska, USA

15-18 March 2016 **Arctic Observing Summit** Fairbanks, Alaska

17-22 April **EGU** Vienna, Austria

12-16 September **Uarctic Congress** St Petersburg, Russia

7-9 October **Arctic Circle** Reykjavik, Iceland

18-19 October **ICE-ARC General Assembly** Tromsø, Norway

19-21 October **ICE-ARC General Assembly** Tromsø, Norway

FURTHER DETAILS:

<http://www.ice-arc.eu/events/>



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SUMMER DEPLOYMENTS

ICE-ARC scientists participated to two summer campaigns on board icebreakers to deploy autonomous instruments. One cruise was operated by the Korea Polar Research Institute (KOPRI) on the Korean icebreaker Araon in July (Nome-Barrow), the second was the Transarc II cruise operated by the Alfred Wegener Institute (AWI) on board the German icebreaker Polarstern (Tromsø August 15- Bremerhaven October 15).

On board the three-week long Araon cruise, the ICE-ARC team was composed of Zoe Koenig (UPMC, LOCEAN) and Vincent Mariage (UPMC, LATMOS) and Raphael Sitjar from CSIC. Two IMBs from BAS, one SATICE buoy from CSIC and two IAOOS platforms from UPMC were deployed. Phil Hwang from SAMS contributed to the success of the



The ICE-ARC team deploying a IAOOS platform in July 2015 (Icebreaker Araon in the background).



Nicolas and Jean-Philippe after having deployed a SATICE buoy (to the left) and a IAOOS platform (to the right). (Icebreaker Polarstern in the background)

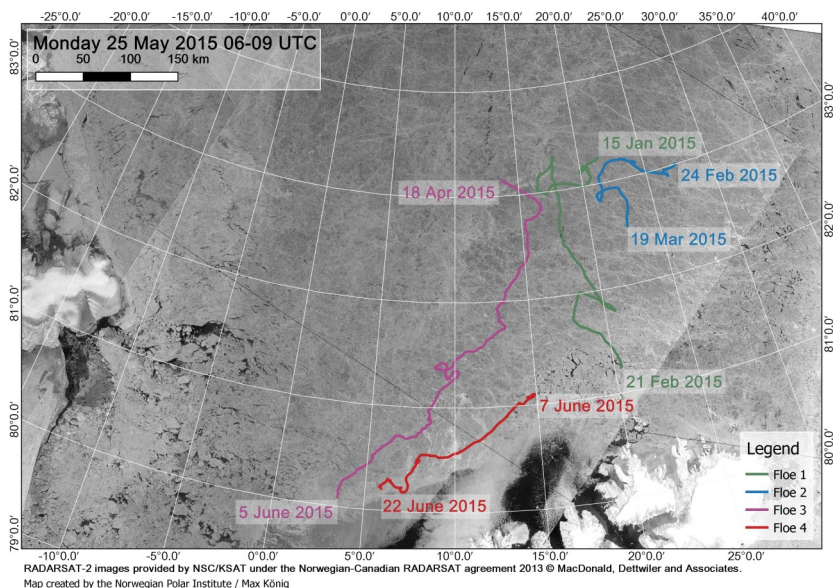
deployments.

Nicolas Villacieros (UPMC-LOCEAN) and Jean-Philippe Savy (CNRS-LEGOS) composed the ICE-ARC team on board the nine-week long Polarstern cruise. They contributed to the hydrographic shifts of the Transarc II program and deployed four IAOOS platforms, two IMBs from BAS and one SATICE buoy from CSIC. Help from Sergey Pisarev (Shirshov Institute) is warmly acknowledged. | **Christine Provost**

SUCCESSFUL FIELD CAMPAIGN (N-ICE) COMES TO AN END

Early January 2015, the Norwegian Polar Institute (NPI) launched a five and a half month ship-based research campaign in the drift ice north of Svalbard. The aim of the [Norwegian young sea ICE \(N-ICE2015\)](#) expedition was to gather data from the polar night to the early summer to investigate the effects of a thinner and younger Arctic sea ice pack on the behaviour of the ice, dynamics of the atmosphere and ocean and effects on the marine ecosystem. During N-ICE, a total of 70 researchers and 27 support staff spent time on *RV Lance* while she was in the ice serving as a research platform. During the period from January to June *Lance* drifted out of the ice three times and when that happened she was taken back to about 83N, making four major drifts (Figure 1). Dynamic ice conditions and the cold made conditions challenging to do work in this very dynamic thinner ice pack, with the pressure of the ice lifting the ship up by a meter at best.

In addition to work near the ship, several tens of drifting buoys were deployed some distance from the ship, by ski in the polar night and by helicopter later in the season. Many of these are contributed by ICE-ARC and collaborations between ICE-ARC and NPI. These observations will give better insights to the dynamics of the ice pack and how well the observations near the ship represent the surrounding ice pack. The ship also provided a unique opportunity for in situ data for overflights by aircraft carried out by NASA Operation Icebridge and British Antarctic Survey, the latter as part of ICE-ARC (see the ICE-ARC summer newsletter). Media attention on this expedition was high. Visits by the Minister of Climate and Environment and the Crown Prince and Princess of Norway, and a youth program by the Norwegian broadcasting company (NRK) on climate change also brought attention to Arctic climate change. In addition to Norwegian media both BBC and National Geographic visited the ship. You may also look for the #NICE2015Arctic hashtag on Instagram and Twitter, and find more information about the expedition.



| **Mats Granskog**

ICE-ARC COP21 SESSION

ICE-ARC was proud to take part in this year's historic Paris Climate Change Conference in December (COP21). Our programme co-hosted an Arctic Side Event with the EU-funded consortium programme EU-PolarNet and the European Polar Board. A small team represented by each of the hosts organised speakers for a 90-minute briefing session in the EU pavilion to provide high-level decision-makers with a holistic overview of Arctic change and its multi-sector impacts (climatic, societal, and economic).

Session speakers included Sir David King, UK Government Special Representative for Climate Change; Professor Jean-Claude Gascard, Senior Scientist, Centre National de la Recherche Scientifique (CNRS); Anthony Hobley, Chief Executive, Carbon Tracker Initiative;



Session speakers at the COP21 ICE-ARC Side Event

Sheila Watt-Cloutier, Former Chair of the Inuit Circumpolar Conference; and Thorben Hoffmeister, Executive Officer Geopolitics, Bundeswehr Geoinformation Center. The session was introduced by Peter Horvath, European Commission Directorate General for Research and Innovation.

Our Arctic Side Event attracted around 100 people and the European Commission reported that this had been the most popular event held in its pavilion that day. Tweets tagged to #ArcticCOP21 give a flavour of the event with pictures of the speakers in action and you can read more about the side event programme on our website. | **Heather Martin**

WP3 DELIVERABLES

Two WP3 deliverables were submitted during December. Firstly, Naja Mikkelsen and Sofia Ribeiro (GEUS) have submitted a manuscript to the journal Polar Geography. The manuscript presents a review of the adaptation strategies of Indigenous communities in Greenland during the last 4500 years that Greenland has been inhabited. The deliverable report can include the full paper and can be read [here](#).

The second deliverable titled Socio-economic scenarios for communities in NW Greenland was produced by Mark Nuttall and Lene Kielsen Holm (GCRC). The report summarises some of the work they have been carrying out into the importance of hunting and fishing livelihoods in northwest Greenland today and how these livelihoods are being challenged by a range of environmental, social and economic circumstances. It provides a foundation for publications that are in preparation. The deliverable report can be read [here](#).



WP3 members at the General Assembly

WP4 NEWS

Pentland
Centre

Lancaster
University



WP4 Lead Gail Whiteman and her team Jimena Alvarez and Dmitry Yumashev have recently moved from the Rotterdam School of Management to University of Lancaster. Gail has taken on the role of Director of the Pentland Centre for Sustainability in Business, which was launched this autumn. The vision of the Pentland Centre is to create a world-class hub for transdisciplinary research on sustainability, Gail describes the role of the Centre as to act as a link between science and business, to help business leaders to understand what science is telling us about climate change and social issues, and getting this message across in terms they understand.

NEW ICE-ARC MEMBERS

NEW MEMBERS

We welcome the following new members to ICE-ARC:

- Ida Margrethe Ringgaard, Oceanographer, DMI
- Diana Bour Karam Francis, UPMC LATMOS/ IPSL
- Neil Cobbett, Electrical Engineer working on EMsled project for WP3, NERC-BAS
- Meaghan Grabrovaz, Communications, Lancaster University.

PUBLICATIONS GUIDANCE

As many project members will be working on publications, we would like to remind you about the [publication guidance](#), important points to note are:

- Obtain a manuscript number from the Programme Office.
- Add the acknowledgement text.
- Send a copy of the manuscript to the Programme Office at the time of submission.
- Inform the Programme Office of acceptance of your manuscript.

PROGRAMME OFFICE NOTICES

GENERAL ASSEMBLY 2016—TROMSØ, NORWAY

The next ICE-ARC General Assembly will be held in Tromsø, Norway on 19th-21st October 2016. We are finalizing exact timings, further details will follow shortly but please put this in your calendars.

NEW— MEMBERS AREA OF WEBSITE

There is now a members area of the [ICE-ARC website](#) where project documents, reports, meeting notes, logos can be found (as is currently available on Dropbox).

Login by clicking on 'Members Area' entering your username (which is your email address) then click on 'lost your password?' to receive a new password, which you can change once you login. Contact Katie Gosling katsli@bas.ac.uk if you have any problems.

EU UPDATES

We previously expected our formal review of the project by the EC and external reviewers at this time. However our project officer Claus Bruning retired at the end of 2015.

Our new Project Officer, Justine Madahogora, has now taken over the project (welcome!) and it getting up to speed with what we've been doing and what we have planned.

Our first priority is finalising the Amendment to the Grant Agreement.

Finances

As we have Reporting Period 2 ending on the 30th September, it would be prudent to ensure you or your finance personnel start on a draft Form C to determine costs to the end of the Financial Year.

UPCOMING DELIVERABLES AND MILESTONES

Deliverable/ Milestone	Due
D2.6I Assessment of model uncertainties related to treatments of atmospheric processes (aerosols, clouds).	Mar 16
D6.05 Steering Committee Meeting Minutes 2016 Spring	May 16
D6.10 Advisory Board Meeting minutes 2015	May 16
MS23I Description and results performed with the CREG configurations	Jun 16
MS28I Assessment of present + future impact of Arctic warming on status, functioning and CO2 exchange	Jun 16
MS333 Historical accounts of interactions between communities in NW Greenland and western civilisations	Jun 16
MS43I Refinement of management options as inputs to PAGE-ICE	Jun 16
MS54I Policy brief at roundtables with stakeholders #1	Sep 16
D4.1I New socio-economic model, PAGE-ICE	Oct 16

Recently submitted deliverables:

D1.24 [Report on interannual ocean variations at, and conceptual model framework for fjord systems](#)

D2.2I [Report and dataset describing the snow water equivalent and ice thickness distribution and the sea ice rheology based on the AMSR-E era from 2001-2011](#)

D3.1I [Socio-economic scenarios for communities in NW Greenland](#)

D3.3I [Past and present adaptation strategies of indigenous marine based communities in NE Greenland based on published literature and field studies](#)

D2.1I [Report on improved model parameterizations](#)

D6.04 [Steering Committee Meeting Minutes Autumn 2015](#)

Thank you to those who contributed to this newsletter. If you would like to contribute to the next edition please send your text and images to ice-arc@bas.ac.uk. **Deadline:** 15 April 2016