



## Number 1: December 2013

[www.bolin.su.se](http://www.bolin.su.se)

### Welcome to the first quarterly newsletter of the Bolin Centre

The Bolin Centre for Climate Research is a multi-disciplinary consortium of approximately 190 researchers led by Stockholm University that conducts fundamental research on the climate system. Founded in 2006, it involves collaboration between the Departments of Meteorology, Applied Environmental Science, Physical Geography and Quaternary Geology and Geological Science at Stockholm University together with FLOW at Royal Institute of Technology (KTH) and the Rossby Centre at the Swedish Meteorological and Hydrological Institute (SMHI).

The research program strives to understand natural climate evolution and variability, as well as changes imposed by the increasing human impact on the Earth System. It aims to build next generation expertise and knowledge on climate-influencing processes, over a range of time-scales and subsystems while addressing related societal issues. The challenge is to effectively harness Sweden's scientific expertise in a growing international effort to understand, mitigate and adapt to climate change.

Our research is structured into six multidisciplinary and cross departmental Research Areas (RA):

1. Oceans-atmosphere dynamics and climate- A. de Boer, J. Nilsson, R. Caballero
2. Clouds, aerosols, turbulence and climate- A. Ekman, G. Svensson, I. Riipinen
3. Water and climate- J. Jarsjö, U. Ring
4. Biogeochemical cycles and climate- C. Beer, V. Bruchert, Ö. Gustafsson
5. Historical to millennial climate variability- M. Kylander, Q. Zhang
6. Orbital to tectonic climate variability- H. Coxall, N. Kirchner

### Directors' Message

This year was highlighted by the release in September in Stockholm of the climate science assessment report "Climate Change 2013: The Physical Science Basis". This is an updated international consensus on what we know about climate change. It came from Working Group I of the Fifth Assessment of the UN Intergovernmental Panel on Climate Change (IPCC). Bert Bolin, the Swedish scientist after whom this centre is named, was a leader in founding the IPCC which won the Nobel Peace Prize of 2007. The assessment concluded that: "*Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radiative forcing, observed warming, and understanding of the climate system.*"

Bolin Centre research has contributed significantly to the knowledge base in peer-reviewed literature that is the foundation upon which this conclusion is laid. We can say that the Swedish and the international public benefit greatly from the efforts of the 190 climate researchers in the Bolin Centre. We are dedicated to the implementation of the new research framework that was introduced this year and thank all those involved for making it a success. The aim of this newsletter is to inform centre researchers of recent-past and upcoming activities.

Leonard Barrie  
Director for Research

Alasdair Skelton  
Director



## Centre News

- September 2013. The Faculty of Science approved “**An Implementation Plan for the Annual Bert Bolin Climate Lecture**”. A transparent process of nomination call and selection has begun and the lecturer selected for May 2014 will be announced in January 2014.
- In September 2013, the Bolin Centre was effectively confirmed as an **associate member of the European Climate Research Alliance** (ECRA: <http://ecra-climate.eu>) which aims to strengthen, expand and optimize EU climate research capabilities through the sharing of world-class national facilities in Europe and the collaborative realisation of pan-EU programmes. Many Bolin Centre members attended the ECRA cosponsored International Conference on Regional Climate Modelling 4–7 October 2013 in Brussels. Consult the website for upcoming climate related ECRA meetings.
- On 20 September 2013, RA 1 hosted a **half-day climate and ocean seminar** with invited speakers:
  - Maxim Nikurashin - University of Tasmania:  
A theory of meridional overturning circulation and associated deep ocean stratification
  - Olivier Marchal - WHOI, USA:  
On the observability of oceanic gyres
  - Henk Dijkstra - Utrecht University:  
Complex networks: a useful tool to detect climate transitions?
- 20–21 November 2013 **Annual Bolin Days Science Symposium**. This science event was a resounding success attended by approximately 140 scientists with 47 posters. An award for the best poster was won by Jonas Mortin. Integrated into the session was a public presentation by honorary doctor Karin Bojs, a leading Swedish science journalist and communicator. See the website for the agenda and presentations/posters. An outcome of the Bolin Days was an increase in membership by approximately 35% including several new members from SMHI and KTH joining RA1.
- Congratulations to Patrick Crill, Jan Backman, Johan Kleman, Sara Greenwood, Nina Kirchner and Christophe Sturm for **successful VR grants** related to climate.
- Congratulations and thanks to H.C. Hansson of ITM for negotiating **the extension of climate related aerosol physical measurements at Zeppelin Mountain, Ny Alesund, Svalbard** with Norsk Polar Institute and Norsk Department of Environment. This allows a 25-year record by Stockholm University to be maintained into the future in collaboration with Norsk Polar and the Norwegian Centre for Air Research (NILU). Johan Ström and ITM Luftlab personnel will continue this important observational activity.
- Dec 9–13 2013. The Bolin Centre organized a **booth at the American Geophysical Union (AGU) Fall Meeting in San Francisco** (see Bolin Centre website). This year about 22,000 scientists attended. The meeting contained a large component of climate science. Several scientists from the Bolin Centre presented their research. We acknowledge with thanks the strong support from staff across all Departments



## Upcoming Activities

- **Preparation of a strategic plan and highlights report.** December 2013 to March 2014. The Bolin Centre Directorate will call upon research area leaders and researchers to contribute. The outcome will be a document for general purposes including management and public outreach and will feed directly into the Evaluation of the Bolin Centre to happen later in the year. Watch the next newsletter for news.
- **Bolin Centre Horizon 2020, Climate, Weather and Environment Related Information and Discussion Session fueled by Pizza.**  
22 January 2014 from 11:45 to 13:00 in the west part of the lunch room on the 4th floor of Geovetenskap, you are invited and encouraged to attend. Anders Clarhäll and his colleagues in the Faculty of Science project opportunities office will inform about Horizon 2020 in general. We will discuss potential for Earth Science research resourcing in particular. See the email announcement for details.
- **Nordic Society of Aerosol Research (NOSA) symposium** 30-31 January 2014 in Stockholm ([www.itm.su.se/nosa2014](http://www.itm.su.se/nosa2014))
- **The first Bolin Days for Schools** May 5–9, 2014 at Naturens hus for lower and middle schools and their teachers contact: Alasdair Skelton
- **Bert Bolin Climate Lecture and Science Forum** 21-22 May 2014 This year the lecture will be delivered by Prof. Corinne Le Quéré Professor of Climate Change Science and Policy, Director of the Tyndall Centre for Climate Change Research .  
<http://www.tyndall.ac.uk/people/corinne-le-quere> This will take place afternoon of 22 May 2014. On 21 May 2014 a joint science forum will be held by the Bolin Centre and the EKOKLIM centre including the Bert Bolin lecturer and other prominent scientists to be announced later.
- **SVERUS Arctic Expedition** July and August 2014, The Arctic Ocean Oden icebreaker-based expedition led by Bolin Centre Scientists. Preparations and planning are well underway.
- **External Science Advisory Group of the Bolin Centre.** The Directorate is currently in the process of completing a renewal of the External Science Advisory Group for the Bolin Centre. Consultation with the Board and Research Area Leaders will be part of the process centred on a document outlining the mandate, role and modus operandi of the group.
- **RA 1 Upcoming events**
  - An RA1 email list will be launched in January.
  - Speedmeet science talks will commence again in the spring.
  - At least nine Bolin Centre scientists will attend the Ocean Science meeting in February 2014.
  - A workshop focusing on the Southern Ocean and climate is planned to be held in June -- more information in early 2014