



## September 2017

The Bolin Centre is a multi-disciplinary consortium that conducts research, graduate education and outreach related to the Earth's climate.

If you have news, please email us on [bolin@su.se](mailto:bolin@su.se). We ask all scientists for recent news about:

- Publications
- Funding
- Outreach
- Anything else you think we should know about

### Director's Corner

- The directors have met with Karin Helander, Vicerektor for the Humanities at Stockholm University, to plan a joint workshop where scientists from the Humanities and researchers from the Bolin Centre can explore possible avenues of collaboration. The workshop will likely take place in February 2018, and an exact date will soon be announced.
- The directorate has also started working on a communication strategy and communication plan, details will be discussed at the SAG meeting on September 14. Viktoria Arwinge supports the Directorate in this task, and we would like to thank her for engaging in this task.
- Alasdair Skelton has submitted an application the Swedish Research Council for funding of a new research school for school teachers. The proposed school is a collaboration with LUCCI at Lund University and ICOS-Sweden.
- The directors have also met with the Pro-Rector to discuss the future of the Stordalen research station.
- Gabrielle Jarvik Stockmann participated at the Goldschmidt 2017 Conference where she presented the Bolin Center Climate Festival.

### Research Area 1: Oceans-Atmosphere Dynamics and Climate

- Gabriele Messori is organising a workshop on Extreme Weather Events in the Department of Meteorology on the 5th and 6th October in collaboration with Prof. Rodrigo Caballero and the Bolin Centre's RA1. Please contact Gabriele Messori ([gabriele.messori@misu.su.se](mailto:gabriele.messori@misu.su.se)) if you would like further information about the meeting.
- Fabien Roquet is organizing a Bolin Centre RA1 funded workshop on the Southern Ocean. The workshop will be held at MISU on October 9-10. Register by sending an email to Fabien Roquet ([roquet@misu.su.se](mailto:roquet@misu.su.se)) before September 22.

### Research Area 2: Clouds, Aerosols, Turbulence and Climate

- RA2 continues to support various research activities through evaluation of applications from scientists within the RA.
- Among other things RA2 have funded a project lead by John Prytherch (MISU) to facilitate the setup of an eddy covariance flux system, and supported two PhD students (Lena Frey and Eva Nygren, MISU) in their participation at the CFMIP meeting on Cloud processes, circulation and climate sensitivity in Tokyo in September.
- Professor Ulrike Lohmann from ETH Zurich, will be on sabbatical at the Bolin Centre/MISU during the fall semester.



## Research Area 3: Hydrosphere, Cryosphere and Climate

- RA3 had an open call for proposals during the summer and have allocated 400,000 SEK to the following projects, to be finished during 2017:
  - Testing a multi data set calibration by applying the Swedish HYPE to an Icelandic study site- a pilot project (PI: Zahra Kalantari)
  - Adaptive governance to cope with socio-economic and hydro-climatic drought: case study of the Lake Urmia basin (PI: Josefin Thorslund)
  - Examining the effect of changing glacier thermal regime on glacier retreat patterns and depositional processes (PI: Benedict Reinardy)
  - Using an uncertainty framework to isolate hydrological and hydraulic change impacts (PI: Valentin Mansanarez)
  - Hydro-climatic catchment effects on linked hydrodynamics & water quality in the Baltic Sea (PI: Romain Goldenberg)
  - Impact of changing climatic conditions on landscape dynamics in the high alpine cryosphere of the Andes, NW Argentina (PI: Niels Weiss)

## Research Area 4: Biogeochemical Cycles and Climate

- A well-recognized presentations about carbon-use efficiency (Stefano Manzoni, INK) and carbon mean residence time (Christian Beer, ACES) was carried out at BIOGEOMON symposium August 20-24 (biogeomon.cz).
- RA4 Seminar Series will continue in September. Date to be announced.
- RA4 leaders propose to extend the leadership group by Gustaf Hugelius, Department of Physical Geography.
- Gabrielle Jarvik Stockmann participated at the Goldschmidt 2017 Conference where she gave a presentations about the Bolin Center research project *What controls ikaite (CaCO<sub>3</sub>·6H<sub>2</sub>O) formation in Ikka Fjord, Greenland?*

## Research Area 5: Historical to Millennial Climate Variability

- Supported by STINT fund (Joint China-Sweden Mobility), a summer course on “Climate model simulations” has been organised by RA5 during June 19-30, together with Lanzhou University in China. Seven PhD students from Sweden and 35 students from China joined the summer course. The Bolin scientists teaching in this summer course, Qiong Zhang, Fredrik Charpentier Ljungqvist, and Paul Krusic are appointed as visiting professor of Lanzhou University for two years 2017-2019.
- The 1st PMIP4 conference will be held in The Swedish Museum of Natural History on 25-29 September, website <http://www.pmip2017.se>. The Conference is jointly supported by VR, PAGES and Bolin Centre RA5. The conference has received 170 abstracts and 158 registration.
- The IPA-IAL Joint Meeting is now taking session suggestions with a deadline of October 1: <http://ipa-ial.geo.su.se>
- RA5 will be accepting applications for autumn funding up until September 25th. Contact RA5 leaders Malin Kylander ([malin.kylander@geo.su.se](mailto:malin.kylander@geo.su.se)) and/or Qiong Zhang ([qiong.zhang@natgeo.su.se](mailto:qiong.zhang@natgeo.su.se)) for application forms.
- Lindsey Higgins will defend her thesis "Linking lake variability, climate, and human activity in Basotu, Tanzania" on October 6th, 2017 at 13.00 in De Geersalen.

## Research Area 6: Deep Time Climate Variability

- Paleoclimate modelling expert Prof. Dan Lunt of the University of Bristol has spent two months on sabbatical at Stockholm IGV-MISU working together with Agatha de Boer, David Hutchinson, Helen Coxall and Rodrigo Cabellero.



- Agatha de Boer and David Hutchinson at IGV are presenting new palaeoclimate modelling results on ocean circulation changes during the initiation of Antarctic glaciation 34 Ma at the IAPSO Oceans conference in Capetown, South Africa Aug 27-Sept 1.
- David Hutchinson is leading a review of the Eocene Oligocene Climate Transition which is a direct result of our Bolin Centre supported 'EOT' workshop held at IGV in February this year.
- Margret Steinthorsdottir has had three new papers published on deep-time climate research.
- Margret Steinthorsdottir together with Helen Coxall will go to Idaho in early September to collect exceptionally well-preserved Miocene age plant fossils (~14 million years old) for palaeo- CO<sub>2</sub> analysis.
- Helen Coxall and Margret Steinthorsdottir will attend the conference 'Climate and Biota of the Paleogene' in Utah September 3-7.

## Research Area 7: Landscape Processes and Climate

- RA7 funds have been awarded to Tack, Gordon, Manzoni and Frampton with project titles:
  - Ayco Tack (DEEP) - *The relationship between climate, disease and coffee yield: optimizing management for smallholder farmers*
  - Line Gordon (SRC) - *Remote and local drivers of water tipping points*
  - Stefano Manzoni (NG) - *Unintended consequences of improved water use efficiency in tropical agricultural systems*
  - Andrew Frampton (NG) - *Hydro-climatic change and large-scale sustainability of ecosystem services of constructed, restored and unmanaged wetlands*
- RA7 will have a workshop with a focus on research in Africa in the fall (December 5).
- Three new PhD-student positions (funded by the RA7-leader support money) are announced on September 1 by:
  - The Department of Ecology, Environment and Plant Science. The title is "Managing the microclimate for climate-tracking forest species" with Kristoffer Hylander as main supervisor.
  - The Department of Physical Geography. The title is "Water-related risks from hydro-climatic and land-use changes" with Zahra Kalantari as main supervisor.
  - The Department of Physical Geography. The title is "Effects of climate and land use on grassland ecosystems" with Regina Lindborg as main supervisor.

## Research Area 8: Biodiversity and Climate

- The first Bolin project receiving RA8 funding has been granted, to Tack, Gotthard & Lehman for "*Climate, life-history and a multitrophic food web on oak*".
- Karl Gotthard gave a popular science seminar this spring at the Swedish Society for Nature Conservation in Österåker, entitled "*Hur övervintrar fjärilar och hur påverkas de av klimatförändringen?*"
- Philipp Lehmann, who received seed money from RA8 for the project "*Putting the  $\mu$  in butterfly microclimates: characterization of abiotic climatic variability on scales that matter*", has started the project at Tovetorp Research Station by placing out more than a hundred temperature/humidity loggers to characterize the microclimate of overwintering insects.
- Cecilia Kullberg (SU) and Kjell Bolmgren (SLU) visited Falsterbo Bird show September 2-3 and presented Fågelkalendern, a citizen science program within the Swedish National Phenology Network.

## Coordination & Communication

- **Coming events:**
  - **Bolin Centre Seminars:**
    - Research Area 6: Wednesday 20 September, 2017, 13:00–14:00, Ahlmanssalen, Geoscience  
*Building Evolution of climate and biodiversity along the Chilean coast* by Steffen Kiel, Swedish



- Museum of Natural History
- Research Area 7: Tuesday 10 October, 2017, 10:00–11:00, Högbomsalen, Geoscience Building  
*The Forest Cover – Water Yield Debate: Implications for land management in Ethiopia* by Prof. Kevin Bishop, Swedish University of Agricultural Sciences
- Research Area 8: Monday 4 December, 2017, 13:00–14:00, Ahlmannsalen, Geoscience  
*Building Long-term biodiversity-climate disequilibria - a macroecological Perspective* by Prof. Jens-Christian Svenning, Aarhus University
- **ForskarFredag:** The Bolin Centre will arrange activities together with ACES September 29.
- **Bolin Days:** This year's Bolin Days are scheduled to 22-23 November.
- **ESAG visit:** The External Science Advisory group, see [www.bolin.su.se/index.php/external-science-advisory-group](http://www.bolin.su.se/index.php/external-science-advisory-group) will visit during the Bolin Days 22-23 November.
- **AGU conference:** The Bolin Centre will have a booth at the coming AGU in New Orleans, 11-15 December, see <https://fallmeeting.agu.org/2017>.
- Please visit [www.bolin.su.se](http://www.bolin.su.se) for more events.

## Bolin Centre Database

- 10 new datasets have been released since the last Newsletter:
  - Hydro-chemical data of Kilombero Valley (Alexander Koutsouris)
  - Isotope measurements in precipitation, Mouzaki, SW Messenia, Greece (Karin Holmgren, Elin Norström)
  - Jämtland tree-ring chronology, Sweden, sample depth and RCS index data (Björn Gunnarson)
  - Lithology and thermal data from subsea permafrost drillcores of the SE Laptev Sea (Natalia Shakhova, Igor Semiletov, Örjan Gustafsson)
  - Carbon use efficiency along resource stoichiometry gradients (Stefano Manzoni)
  - Marine sediment core data from Chukchi Sea, Arctic Ocean, core SWERUS-L2-2-PC1 (Martin Jakobsson)
  - Marine sediment core data from Chukchi Sea, Arctic Ocean, core SWERUS-L2-4-PC1 (Martin Jakobsson)
  - Sub-bottom profiling data from Herald Canyon, Chukchi Sea (Martin Jakobsson)
  - Chemical composition of aerosol particles at Mt. Åreskutan, Sweden (Johan Ström, Paul Zieger)
  - Profiles of aerosol optical properties measured during CAESAR 2014 (Johan Ström, Paul Zieger, Mattias Tesche)
- The Database Advisory Group (DAG) met on June 13. They discussed short and long term priorities. Meeting notes can be obtained by the coordinator Anders Moberg.
- VR will announce its decision on September 22, concerning the application for a national "Infrastructure for the integration and accessibility of data for climate-related research" that was sent in by a consortium led by SU earlier this year.

## Bolin Centre Climate Research School

- CRS is working on a new master's program in climate science. The program is multidisciplinary and spans several institutions and disciplines and aims to provide an overview of climate and environmental changes in different time scales and geographical areas, observed and possible future development. Further, the program aims to provide insight into and understanding of climate change and its consequences as well as different types of measures to prevent and reduce the consequences. The master's program provides a good foundation for work on climate and environmental issues in government, organizations or international agencies or further research at universities and colleges. The new program is going to be launched in fall 2018.





## Member news

- Robin Blomdin received the Ahlfortpriset for the best dissertation in Physical Geography in 2016 from the Swedish Society for Anthropology and Geography (SSAG). In addition to a certificate, he also received 40 000 crowns for this achievement. The prize was handed to him by Sten Hagberg, chairman of SSAG at the traditional Vega supper.
- Joachim Jansen has won an Outstanding Student Poster (OSP) Award on last EGU. The award ceremony and official announcement will take place at next EGU, in April 2018.

## Outreach by Bolin Centre scientists

- RA5 members Malin Kylander, Jenny Sjöström, Richard Gyllencreutz, Mikaela Holm and Jan Risberg will be heading to Store Mosse National Park and surrounding areas to work with gymnasium students from Per Brahegymnasiet in an outreach project funded by the Samverkansavdelning at SU.
- Ninis Rosqvist has been interviewed by Sveriges radio about how reindeers living patterns are affected by climate change, see <http://sverigesradio.se/sida/artikel.aspx?programid=83&artikel=6749703>

## New publications related to Bolin Centre for Climate Research

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