

Week 7, 2021

[Click here to read the letter in your browser](#)

The Bolin Centre is a multi-disciplinary consortium of over 400 scientists in Sweden that conducts research and graduate education related to the Earth's climate.



New policy brief: Making an educated decision about Carbon Capture and Storage

The Bolin Centre Climate Arena just published its third policy brief, titled "Making an educated decision about Carbon Capture and Storage". This policy brief provides decision- or policymakers with the information needed to make decisions or policies concerning CCS, by presenting the necessary background knowledge on the carbon cycle and giving motivated answers to specific questions about CCS as a climate change solution.

The policy brief is available in English and Swedish, and you can find them (and other policy briefs) [on our website](#), or you can click [here for the English version](#) and [here for the Swedish version](#).

Send in external grants awarded during 2020

For the annual report 2020, we would like Bolin members to email us information concerning the external grants that you have been awarded during 2020. Please indicate funding agency, amount, name of applicant, and name of research project. We would like to summarize the grants from the following funding agencies:

- Swedish Research Council (VR)
- Swedish Research Council for Sustainable Development (FORMAS)
- European Research Council (ERC)
- EU H2020
- Swedish Innovation Agency (VINNOVA)
- Swedish Foundation for International Cooperation in Research and Higher Education (STINT)
- Grant from other funding agencies you find relevant

Mail your information to bolin@su.se no later than March 1st.



Time & venue: March 31 at 14h00 (CET), Zoom

Title: Addressing the Arctic cloud problem in regional and global models

Speaker: Gillian Young, Institute for Climate and Atmospheric Science, School of Earth and Environment, University of Leeds, UK

Clouds are a key component of the Arctic climate system. They warm or cool the surface by trapping terrestrial heat or reflecting solar radiation and are the primary control for the surface energy balance. However, numerical models often fail to capture their long lifetime and associated radiative impact due to the poor representation of small-scale interactions which occur internally within the clouds themselves and externally with their environment. Such processes act on scales much smaller than the grid size of a climate model, and the mathematical relationships we use to describe them in our model world are typically still based on knowledge gained from the mid-latitudes. These relationships are therefore often inappropriate for the unique polar atmosphere, and are likely hindering our ability to properly model the role of clouds in the Arctic climate system.

Using measurements from the recent Arctic Ocean 2018 expedition to the central Arctic, I will show that two different large-scale models – the Met Office Unified Model and European Centre for Medium-range Weather Forecasting Integrated Forecasting System – have consistent weaknesses when simulating Arctic clouds and their interactions with their environment. By identifying where these models are under-performing, we can inform development strategies to improve our Arctic cloud modelling capability and thus enable more representative predictions of the future Arctic climate.

[Read more on the Bolin website »](#)



Extreme drought threatens forest biodiversity

How does extreme drought affect our forests? What can we change in today's forestry to protect the important key biotopes? Follow plant ecologist Kristoffer Hylander in a research experiment to understand how extreme weather affects the forest's biological diversity.

[View the video on Stockholm University's website \(in Swedish\) »](#)



Publications

Recent Bolin Centre publications

On bolin.su.se/publications you'll find a list of scientific journal publications by Bolin Centre scientists. Here are the most recent ones we have published on the website.

- Cheng, G., Kirchner, N., Lötstedt, P., 2021. Sensitivity of ice sheet surface velocity and elevation to variations in basal friction and topography in the Full Stokes and Shallow Shelf Approximation frameworks using adjoint equations. *The Cryosphere*: 15, 715–742. <https://doi.org/10.5194/tc-15-715-2021>
- Larsen, E., Lyså, A., Höskuldsson, A., Davidsen, J.G., Nadeau, M.J., Power, M., Tassis, G. & Wastegård, S., 2021. A dated volcano-tectonic deformation event in Jan Mayen causing landlocking of Arctic charr. *Journal of Quaternary Science*. DOI:10.1002/jqs.3280
- Lindgren, A., Lu, Z., Zhang, Q., & Hugelius, G., 2021. Reconstructing past global vegetation with random forest machine learning, sacrificing the dynamic response for robust results. *Journal of Advances in Modeling Earth Systems*: 13, e2020MS002200. <https://doi.org/10.1029/2020MS002200>
- Varsadiya, M., Urich, T., Hugelius, G. and Bárta, J., 2021. Microbiome structure and functional potential in permafrost soils of the Western Canadian Arctic. *FEMS Microbiology Ecology*. <https://doi.org/10.1093/femsec/fiab008>
- Åhlén, I., Vigouroux, G., Destouni, G., Pietroń, J., Ghajarnia, N., Anaya, J., Blanco, J., Borja, S., Chalov, S., Chun, K. P., Clerici, N., Desormeaux, A., Girard, P., Gorelits, O., Hansen, A., Jaramillo, F., Kalantari, Z., Labbaci, A., Licero-Villanueva, L., Livsey, J., Maneas, G., McCurley Pisarello, K. L., Moshir Pahani, D., Palomino-Ángel, S., Price, R., Ricaurte-Villota, C., Fernanda Ricaurte, L., Rivera-Monroy, V. H., Rodríguez, A., Rodríguez, E., Salgado, J., Sannel, B., Seifollahi-Aghmiuni, S., Simard, M., Sjöberg, Y., Terskii, P., Thorlund, J., Zamora, D. A., & Jarsjö, J., 2021. Hydro-climatic changes of wetlandscapes across the world. *Sci Rep*: 11, 2754. <https://doi.org/10.1038/s41598-021-81137-3>
- Kapović Solomun, M., Ferreira, C.S.S., Eremija, S., Tošić, R., Lazović, N., and Češljarić, G., 2021. Long-term* fire effects on vegetation and topsoil properties in beech forests of Manjaca Mountain (western Bosnia and Herzegovina). *International Journal of Wildland Fire*. <https://doi.org/10.1071/WF20111>

Please send your newly published publication to bolin@su.se »

SMHI online workshop series: Learn how to utilize climate data to develop a climate adaptation service

Time: 2-30 March, 2021. Five workshops
Venue: Virtual classroom

Are you interested in learning how you can utilize climate data to develop a climate adaptation service? Then, this free online training should be of interest to you! The course is a cooperation between Sweden and Island, within EU:s Copernicus Programme.

The training program focuses on helping the participant to develop a climate service using a climate adaptation case study, supported by the Climate Data Store (CDS) and its toolbox in the selection and analysis of relevant climate data. A team of trainers will guide and give support to the participants throughout the steps of the training.

[Read more on the Bolin website »](#)

Upcoming courses: Climate Science 2021, 2 hp

Climate Science is an introductory course to the interdisciplinary climate related research that is performed at Stockholm University. The eight Research Areas within the Bolin Centre for Climate Research is presented as well as other entities at Stockholm University involved in climate science. This course gives you a great opportunity to meet a wide spectra of climate scientists outside your own field.

Date: March 1–April 29, 2021
Venue: Zoom
Application deadline: February 25

[Read more on the Bolin website »](#)

Online course for students, March 1-5

Webinars on Geomorphology and Quaternary Geology is a short-term virtual mobility CIVIS course on geomorphology, geomorphological hazards and Quaternary geology that consists of five webinars, 1-5 March, 2021.

The course is open to Bachelor, Master and PhD students with a background in geology, geomorphology and environmental sciences from the CIVIS member Universities as well as external institutions.

Application deadline: 22 February.

[For more information, visit Civis' website »](#)

Welcome to review IPCC:s report Mitigation of Climate Change

"Mitigation of Climate Change" is one of three final reports within the IPCC Sixth Assessment Report, AR6. The second draft of this report will be available for expert review until 14 March.

This second review of the report and SPM (Summary for Policy Makers) is conducted by experts and governments and **runs from 18 January to 14 March 2021**. Experts need to register, which will be possible until 7 March.

It is not necessary to comment on the entire report. As an expert, you are welcome to focus on the parts in which you have the deepest scientific knowledge.

Please find more information here:

English: <https://www.ipcc.ch/2021/01/04/pr-working-group-iii-ar6-sod/> »

Swedish: <https://www.smhi.se/nyhetsarkiv/var-med-och-expertgranska-ipcc-s-delrapport-om-att-begransa-klimatforandringarna-1.167802> »

BOLIN CENTRE EVENTS

17

March

Engineering Mechanics for Climate Research

Date: March 17th

Time: Afternoon

Venue: Zoom

A workshop arranged by representatives from KTH and the Bolin Centre for Climate Research.

How can engineering mechanics and climate research develop together?

What kind of exchange can be of mutual benefit in between the disciplines?

This workshop aims to create a meeting point between climate and engineering scientists whilst nourishing a discussion of future developments. Information of future funding opportunities will be announced. For questions, contact eva.gylfe@su.se

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March

Bolin Centre Seminar Series | Research Area 1

Time & venue: March 30 at 13h00, Zoom

Title: Mid-water hydroacoustics with oceanographic applications

Speaker: Christian Stranne, assistant professor, Dep. of Geological Sciences, Stockholm University

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March

Bolin Centre Seminar Series | Research Area 2

Time & venue: March 31 at 14h00 (CET), Zoom

Title: Addressing the Arctic cloud problem in regional and global models

Speaker: Gillian Young, Institute for Climate and Atmospheric Science, School of Earth and Environment, University of Leeds, UK
[Read more on the Bolin website »](#)

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May

Bert Bolin Science Seminar 2021

Time & venue: May 17 at 15h00, Zoom

Speaker: Bill Ruddiman, professor emeritus, Dep. of Environmental Sciences, University of Virginia.

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May

Bert Bolin Climate Lecture 2021

Time & venue: May 20 at 15.00, Zoom

Speaker: Bill Ruddiman, professor emeritus, Dep. of Environmental Sciences, University of Virginia.

19-21

May

Climate festival 2021 - Save the date!

The 4th annual Climate Festival will be held on 19-21 May.

18-19

Nov

Bolin Days 2021 - Save the date!

The 12th annual Bolin Days will be held on 18-19 November.

OTHER EVENTS AND INFORMATION

22-23

Feb

Virtual workshop on Values, Choices and Uncertainties in Climate Modelling

Organised by an interdisciplinary team of researchers at Stockholm University and KTH, we will bring together scientific and philosophical expertise with a range of short key-note talks by Andrew Gettelman, Gabi Hegerl, Ted Shepherd, Erica Thompson, Matt Brown, and Wendy Parker, followed by in-group discussions with a limited number of participants. The workshop will be on two consecutive half-days.
[Read more and register on Dept. of Meteorology's website »](#)

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FEB

SND-frågestund om datahantering: Miljö-, klimat- och geovetenskaper

Tid & plats: 24 februari, zoom

Har du frågor om datahantering, FAIR data och öppen tillgång till forskningsdata inom Miljö-, klimat- och geovetenskaper? Varmt välkommen till SNDs digitala frågestund med inriktning mot dessa ämnen.

Evenemanget arrangeras av Svensk Nationell Datatjänst. SND är nätverk med närmare 40 lärosäten och andra forskande organisationer som utgör en nationell infrastruktur för öppen tillgång till forskningsdata.

Frågestunden hålls på svenska men det går också bra att ställa frågor på engelska.

[Läs mer och Zoom-länk på SND:s webbplats »](#)

11, 16,
17

March

NICEST2 hackathon on FAIR climate data

From FAIR principles to FAIR in practices. This hackathon is a combination of training (March 11, 2021) and hands-on using real Climate data (16-17 March, 2021). The goal is to take a bottom up approach to explore how the current international standards and tools for managing climate model output can be reused in a Nordic context to help ensure the valuable climate model outputs are FAIR and open.

[Read more about the hackathon and register »](#)

22

Apr

Stockholm University Sustainability Forum 2021

The Sustainability Forum – Hållbarhetsforum – is a recurring event at Stockholm University where people can meet, build networks, and create collaborations for sustainable development. The third Sustainability Forum will be held on 22 April on the theme "From crisis to sustainability". [Read more on Stockholm University's website »](#)

17-19

Aug

Geological Society of Sweden - 150 years anniversary meeting

In 2021 it is 150 years since the Geological Society of Sweden was founded. To commemorate this, a meeting will be held in Uppsala 17-19 August 2021.

The meeting is open to all geoscientist that are active in Sweden or have an interest in Swedish geoscience.

Deadline for abstract submission: April 30

Deadline for registration: July 30

Venue: Department of Earth Sciences, Uppsala University and the Geological Survey of Sweden, close to the city centre.

[Read more on Department of Geological Science's website »](#)

OFFICE STAFF - BOLIN CENTRE AT CAMPUS

Due to COVID-19, the Bolin Centre Office will be irregularly staffed at the University. Like many of you, we work from home. Don't hesitate to get in touch with us via mobile or e-mail.

- Magnus: 076-695 70 78, magnus.atterfors@su.se (Communications)
- Annika: 072-148 91 49, annika.granebeck@su.se (Coordination)
- Laila: laila.islamovic@su.se (Communications & coordination during the spring)
- Eva: 076-650 03 08, eva.qvife@su.se (Supports the office part-time during the spring).

The **Bolin Centre Weekly News** provides you with a selection of our current activities and latest news and is sent to all members of the Bolin Centre. If you have suggestions that you would like to include or **research that you would like to share** in coming Weekly News, please contact bolin@su.se.

Editor: Magnus Atterfors

Foto: Martin Jakobsson, Alasdair Skelton, Gillian Young

Stay updated

Find news and upcoming events at bolin.su.se and follow us on [Twitter](#), [Facebook](#) and [YouTube](#).

