



Stockholm  
University

Bolin Centre for Climate Research

A collaboration between Stockholm University, KTH and SMHI

Week 11, 2020

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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.



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### News feature in Nature: How microbes in permafrost could trigger a massive carbon bomb

This Nature news feature highlights the projects IsoGenie and Emerge in Stordalen Mire near Abisko. Bolin Centre researcher Patrick Crill is co-principal investigator on both projects.

[Read the article on Nature's website»](#)

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### Scientific methods, media coverage, public awareness and climate change

In a Tellus editorial, Bolin Centre researchers Abdelwaheb Hannachi and Hans Christen Hansson discusses a Tellus letter by Caserini et al, that attempts to investigate claims made by a group of scientists and their supporters/signatories by analyzing their scientific credentials. Hannachi and Hansson write:

"The letter provides one suggestion on how to evaluate credibility of scientific statements. And its dissemination is important for both the scientific community and the public, and should contribute to rectify some of the misinformation that could have resulted. In summary, the letter is a good initiative, and we, as scientific community, should encourage more debate on what scientific quality is and how scientific results should be evaluated and trusted. We welcome more articles and debate on this issue. Equally important, is the role played by the media in following and disseminating the scientific results, and presenting the scientific process, to the general public, a challenging task ahead! The media today is multifaceted, with one-way (broadcasting) and interactive (social) media. We believe both media are invaluable, and should be used to accomplish the above task. It is therefore important to encourage and boost interaction between the scientific community and the media, and welcome any such initiative."

[Read the full article on Taylor & Francis Online's website »](#)

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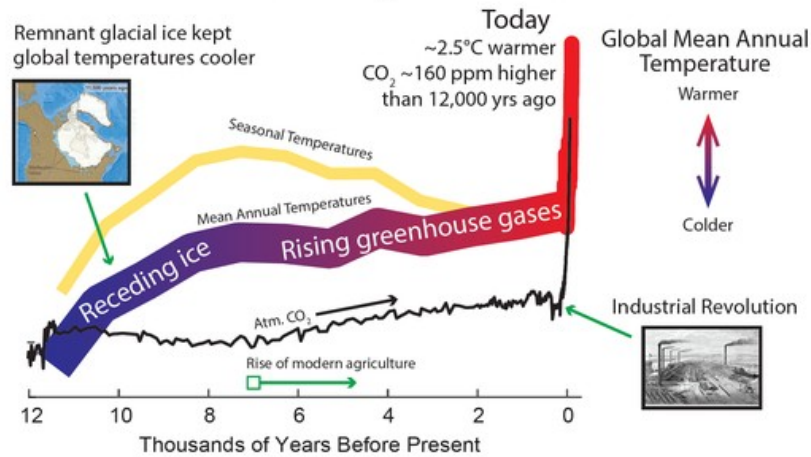
### Bolin Centre Seminar Series | Research Area 5

**Time & venue:** April 14 at 14h30, Zoom

**Title:** Global warming, or global cooling, in the last 10000 years? The Holocene temperature conundrum

**Speaker:** Zhengyu Liu, Professor of Climate Dynamics, Ohio State University

## Holocene Temperature Evolution



Most previous temperature reconstruction of global annual temperature shows an early Holocene warming followed by a cooling trend through the middle to late Holocene. This global cooling is puzzling because it is opposite to the expected and simulated global warming trend due to the retreating ice sheets and rising atmospheric greenhouse gases, leading to the Holocene temperature conundrum. Our critical re-examination of this apparent contradiction between the reconstructed cooling and the simulated warming points to potentially significant biases in both the seasonality of the proxy reconstruction and the climate sensitivity of current climate models. A new analysis of tropical-subtropical mean-annual SST reconstruction produces a cooling trend, after using a method to filter the seasonal bias signal in the original SST reconstruction. The conundrum is likely resolved over the ocean.

[Read more on the Bolin website »](#)



### Publications

#### Recent Bolin Centre publications

On [bolin.su.se/publications](https://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.

- Kylander, M.E., Holm, M., Fitchett, J., Grab, S., Martinez Cortizas, A., Norström, E., and Bindler, R., 2021. Late glacial (17,060–13,400 cal yr BP) sedimentary and paleoenvironmental evolution of the Sekhokong Range (Drakensberg), southern Africa. *PLOS ONE*: 16(3), e0246821. <https://doi.org/10.1371/journal.pone.0246821>
- Desbruyères, D., Chafik, L. & Maze, G.A., 2021. shift in the ocean circulation has warmed the subpolar North Atlantic Ocean since 2016. *Commun Earth Environ*: 2, 48. <https://doi.org/10.1038/s43247-021-00120-y>
- Radtke, J., Mauritsen, T., and Hohenegger, C., 2021. Shallow cumulus cloud feedback in large eddy simulations – bridging the gap to storm-resolving models. *Atmos. Chem. Phys.*: 21, 3275–3288. <https://doi.org/10.5194/acp-21-3275-2021>
- 55 Sutyryn, G.G., Radko, T., and Nycander, J., 2021. Steady radiating baroclinic vortices in vertically sheared flows. *Phys. Fluids*: 33, 031705. <https://aip.scitation.org/doi/pdf/10.1063/5.0040298>
- Messori, G., Harnik, N., Madonna, E., Lachmy, O., and Faranda, D., 2021. A dynamical systems characterization of atmospheric jet regimes. *Earth Syst. Dynam.*: 12, 233–251. <https://doi.org/10.5194/esd-12-233-2021>
- Messori, G. and Faranda, D., 2021. Technical note: Characterising and comparing different palaeoclimates with dynamical systems theory. *Clim. Past*: 17, 545–563. <https://doi.org/10.5194/cp-17-545-2021>
- Asplund, M.E., Dahl, M., Ismail, R.O., Arias-Ortiz, A., Deyanova, D., Franco, J.N., Hammar, L., Hoamby, A.I., Linderholm, H.W., Lyimo, L.D., Perry, D., Rasmussen, L.M., Ridgway, S.N., Salgado Gispert, G., D'Agata, S., Glass, L., Angelot Mahafina, J., Ramahery, V., Masque, P., Björk, M., Gullström, M., 2021. Dynamics and fate of blue carbon in a mangrove–seagrass seascape: influence of landscape configuration and land-use change. *Landscape Ecology*: 1–21. <https://link.springer.com/article/10.1007/s10980-021-01216-8>

Please send your newly published publication to [bolin@su.se](mailto:bolin@su.se) »



### Time lapse imagery of Lake Tarfala – a new dataset in the Bolin Centre Database

The rapid warming in the Arctic leads to changes in aquatic ecosystems including Arctic lakes. It is therefore important to monitor lake-physical changes through continued measurements. A project at Lake Tarfala, led by Nina Kirchner, Annika Granebeck and Marnie Hancke, is looking into these changes.

“We use temperature loggers to capture changes in lake temperatures in Lake Tarfala, and have now continuous records since 2016. In 2020, we also placed a time-lapse camera overlooking the lake with the aim to learn about the timing and length of the lakes ice-free period as this influence, among others, mixing processes in the lake. The images will also be used to correlate the timing of ice-on and ice-off at the lake with the water temperatures measured in situ by the temperature loggers. This dataset contains 955 images taken of Lake Tarfala every 2 hours during the summer of 2020,” says Annika Granebeck.

The project was funded by the Bolin Centre and Arctic Avenue.

[View the visualization and dataset on the Bolin website»](#)

[View lake water temperature dataset»](#)



### New datasets in the Bolin Centre Database

- John Prytherch (2021). Weather data from MISU weather station during the Arctic Ocean 2018 expedition. Dataset version 3.0. Bolin Centre Database. <https://doi.org/10.17043/ao2018-misu-weather-3>
- Matthias Gottschalk, Ulrike Egerer (2021). Tethered balloon measurements from the Arctic Ocean 2018 expedition. Dataset version 1.0. Bolin Centre Database. <https://doi.org/10.17043/ao2018-tethered-balloon>
- Barbara Wohlfarth, Kweku Afrifa Yamoah, Akkaneewut Chabangborn, Sakonvan Chawchai (2021). Multi-proxy sediment record from Lake Pa Kho reconstructing MIS-3 climatic and environmental changes in northern Thailand. Dataset version 1.0. Bolin Centre Database. <https://doi.org/10.17043/wohlfarth-2021-pa-kho>
- Nina Kirchner, Annika Granebeck, Marnie Hancke (2021). Time lapse imagery of the ice-off event at Lake Tarfala, Kebnekaise Mountains, northern Sweden, summer 2020. Dataset version 1.0. Bolin Centre Database. <https://doi.org/10.17043/tarfala-ice-off-2020>

### Gia Destouni’s vision for AGU’s journal Water Resources Research

Professor of Hydrology, Hydrogeology and Water Resources Gia Destouni, Head of the Department of Physical Geography at Stockholm University, has just taken over as Editor in Chief of Water Resources Research, one of AGU’s 22 peer reviewed journals. Sina Khatami, hydrology researcher at Stockholm University asked her some

questions about her research interests and her vision for the journal.

[Read the article on EOS Science News by AGU's website »](#)

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## Check out ClimBEco's courses

In 2020, a cooperation started between Bolin Centre for Climate Research and ClimBEco Graduate School at Lund University. ClimBEco stands for Climate, Biodiversity and Ecosystem services in a changing world. It is a two-year graduate research school that promotes interdisciplinary research by supporting PhD students in networking and learning across different fields of study. The ClimBEco research school offers a number of courses and workshops each year, including both in-depth disciplinary as well as interdisciplinary curricula.

[Read more about the courses on ClimBEco's website »](#)

and [the Bolin Centre website »](#)

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## KTH | Velibor Zeli's PhD defence

Velibor Zeli from KTH will defend his PhD thesis on March 19, 10:15-12:00.

Title: Modelling of stably-stratified, convective and transitional atmospheric boundary layers using the explicit algebraic Reynolds-stress model.

[Read more on the Bolin Centre website »](#)

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## In Swedish - Välkommen på lansering av Klimatpolitiska rådets rapport

**Årets tema:** Coronapolitiken och klimatet

**TID:** 25 mars kl. 10:00-15:00

**PLATS:** Digital sändning på klimatpolitiskaradet.se

Välkommen att delta då Klimatpolitiska rådet presenterar sin årliga granskning av regeringens samlade politik med avseende på klimatmålen, med särskilt fokus på krispolitiken år 2020. Miljö- och klimatminister samt vice statsminister Per Bolund tar emot och kommenterar rapporten.

Den årliga rapporten granskar regeringens politik för att nå klimatmålen.

[Mer info »](#)

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## 15 PhD research positions in ice core-related climate science available within MSCA-ITN DEEPICE project

The DEEPICE project (Research and training network on understanding Deep ice core Proxies to Infer past antarctic climate dynamics), funded by the European Commission under the Horizon 2020 programme (Marie Skłodowska-Curie Actions - Innovative Training Network) calls for applications for 15 fully funded PhD positions (early-stage researcher, ESR) to be filled between July and October 2021, with attractive complementary training activities and associated research and travel budgets. Closing date is around end of March / early April for most of the positions.

Read more in this newsletter's attachment.

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## Future Earth is looking for a Research Scientist

The Earth Commission Scientific Secretariat seeks a full-time or part-time research scientist with deep expertise in biodiversity science and international collaboration. The successful candidate will join the team of the Earth Commission Secretariat from Future Earth, the Potsdam Institute for Climate Impact Research (PIK) and the International Institute for Applied Systems Analysis (IIASA). S/he will ensure the scientific support of the Earth Commission Working Group on the Biosphere including coordinating workshops and facilitating scientific collaborations between working group members.

Deadline for applications is 31 March. Starting date: as soon as possible.

[Read more on Future Earth's website »](#)

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## BOLIN SCIENTISTS IN MEDIA

- 2021-03-17 [Patrick Crill in Nature: "How microbes in permafrost could trigger a massive carbon bomb"](#)
- 2021-03-17 [Gia Destouni på SR: "Världens vattendrag i förändring – vad det beror på diskuteras"](#)
- 2021-03-15 [Heather Wood intervjuad i P4 Stockholm om projektet Batmapper](#)

- 2021-03-12 [Erik Kjellström och Kevin Noone i SVT Rapport: Kritik mot ballongexperiment](#)
- 2021-03-11 [Gustaf Hugelius in UK's Met Office pod Mostly Climate](#)
- 2021-03-11 [Martin Jakobsson i SR: Sverige samordnar viktig klimatexpedition till Arktis \(in English\)](#)

## BOLIN CENTRE EVENTS

30 MAR	<p><b>Bolin Centre Seminar Series   Research Area 1</b>  <b>Time &amp; venue:</b> March 30 at 13h00, Zoom  <b>Title:</b> Mid-water hydroacoustics with oceanographic applications  <b>Speaker:</b> Christian Stranne, assistant professor, Dep. of Geological Sciences, Stockholm University  <a href="#">Read more »</a></p>
31 MAR	<p><b>Bolin Centre Seminar Series   Research Area 2</b>  <b>Time &amp; venue:</b> March 31 at 14h00, Zoom  <b>Title:</b> Addressing the Arctic cloud problem in regional and global models  <b>Speaker:</b> Gillian Young, Institute for Climate and Atmospheric Science, School of Earth and Environment, University of Leeds, UK  <a href="#">Read more »</a></p>
14 April	<p><b>Bolin Centre Seminar Series   Research Area 5</b>  <b>Time &amp; venue:</b> April 14 at 14h30, Zoom  <b>Title:</b> Global warming, or global cooling, in the last 10000 years?  <b>Speaker:</b> Zhengyu Liu, Professor of Climate Dynamics, Ohio State University  <a href="#">Read more »</a></p>
17 MAY	<p><b>Bert Bolin Science Seminar</b>  <b>Time &amp; venue:</b> May 17 at 15h00, Zoom  <b>Title &amp; abstract:</b> To be announced  <b>Speaker:</b> William F Ruddiman, professor emeritus, Dep. of Environmental Sciences, University of Virginia</p>
20 MAY	<p><b>Bert Bolin Climate Lecture 2021</b>  <b>Time &amp; venue:</b> May 20 at 15h00, Zoom  <b>Title:</b> For how long have humans affected the climate?  <b>Speaker:</b> William F Ruddiman, professor emeritus, Dep. of Environmental Sciences, University of Virginia  <a href="#">Read more»</a></p>
19-21 MAY	<p><b>Bolincentrets digitala Klimatfestival</b>  <b>Datum och plats:</b> 19–21 maj 2021, digitalt via länk            Vi bjuder in till ett fullspäckat program som sträcker sig över tre dagar. Det blir aktiviteter, föreläsningar och ett livesänt avslut från Campus Frescati den 21 maj som ni garanterat inte vill missa. Välkomna!  <a href="#">Program och bokning»</a></p>
18-19 NOV	<p><b>Bolin Days 2021 - Save the date!</b>            The 12th annual Bolin Days will be held on 18-19 November. Please save the date!</p>

## 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](mailto:magnus.atterfors@su.se) (Communications)
- Annika: 072-148 91 49, [annika.granebeck@su.se](mailto:annika.granebeck@su.se) (Coordination)
- Laila: [laila.islamovic@su.se](mailto:laila.islamovic@su.se) (Communications & coordination during the spring)
- Eva: 076-650 03 08, [eva.gylfe@su.se](mailto:eva.gylfe@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](mailto:bolin@su.se).

Editor: Magnus Atterfors

Foto: Martin Jakobsson, Annika Granebeck

### Stay updated

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

[YouTube.](#)

