



Stockholm
University

Bolin Centre for Climate Research

A collaboration between Stockholm University, KTH and SMHI

Week 12, 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.



Natural gas deposits are source of methane released into the eastern Arctic Ocean

High levels of methane is escaping from the thawing subsea permafrost but the source(s) of that methane has long remained elusive. Now, a new study shows, for the first time, that the methane originates largely from a thermogenic (natural gas) deposit that breaks through the subsea permafrost and release into the shallow water column and the overlying atmosphere. The study was published recently in Proceedings of the US National Academy of Sciences.

[Read more on Department of Environmental Sciences website»](#)

In Swedish | Skogen är en buffert mot uppvärmning

Att förstå hur mikroklimatet varierar i rum och tid är viktigt för att kunna förutse effekterna av klimatförändringarna på alltifrån arters utbredning och hur mycket kolinlagring som kan ske i skogen. Det visar en review-artikel publicerad i Global Change Biology, med titeln "[Forest microclimates and climate change: Importance, drivers and future research agenda](#)".

[Läs mer på Institutionen för ekologi, miljö och botaniks webbplats»](#)



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.

- Röbber, S., Witt, M.S., Ikonen, J., Brown, I.A., Dietz, A.J., 2021. Remote Sensing of Snow Cover Variability and Its Influence on the Runoff of Sápmi's Rivers. *Geosciences*: 11(3), 130. <https://doi.org/10.3390/geosciences11030130>
- Vigouroux, G., Kari, E., Beltrán-Abaunza, J., Uotila, P., Yuan, D., and Destouni, G., 2021. Trend correlations for coastal eutrophication and its main local and whole-sea drivers - application to the Baltic Sea. *Science of The Total Environment*, page 146367. <https://www.sciencedirect.com/science/article/pii/S0048969721014352>
- Räsänen, A., Wagner, J., Hugelius, G. & Virtanen, T., 2021. Aboveground biomass patterns across treeless northern landscapes, *International Journal of Remote Sensing*: 42:12, 4536-4561. [DOI:10.1080/01431161.2021.1897187](https://doi.org/10.1080/01431161.2021.1897187)
- Lindh, M., and Manzoni, S., 2021. Plant evolution along the 'fast-slow' economics spectrum under altered precipitation regimes. *Ecological Modelling*: 448, 109531. <https://doi.org/10.1016/j.ecolmodel.2021.109531>
- Lomas Vega, M., Fransson, T., Kullberg, C., 2021. The effects of four decades of climate change on the breeding ecology of an avian sentinel species across a 1,500-km latitudinal gradient are stronger at high latitudes. *Ecol Evol.*: 1–15. <https://doi.org/10.1002/ece3.7459>

- Wilson, R.M., Zayed, A.A., Crossen, K.B., Woodcroft, B., Tfaily, M.M., Emerson, J., Raab, N., Hodgkins, S.B., Verbeke, B., Tyson, G., Crill, P., Saleska, S., Chanton, J.P., Rich, V.I., IsoGenie Project Coordinators, IsoGenie Project Field Team, 2021. Functional capacities of microbial communities to carry out large scale geochemical processes are maintained during ex situ anaerobic incubation. PLoS ONE: 16(2), e0245857. [doi:10.1371/journal.pone.0245857](https://doi.org/10.1371/journal.pone.0245857)
- Bruhwiler, L., Parmentier, F.-J.W., Crill, P., Leonard, M., and Palmer, P.I., 2021. The Arctic Carbon Cycle and Its Response to Changing Climate. Current Climate Change Reports: 7, 14–34. [doi:10.1007/s40641-020-00169-5](https://doi.org/10.1007/s40641-020-00169-5)

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

Time lapse imagery of Ryder glacier



Calving processes at marine terminating glaciers are poorly understood, hindering efforts to reduce the uncertainty of future sea level rise estimates. Observational data is often low resolution and satellite-based, meaning individual calving events cannot be identified. During the Ryder 2019 expedition, a time lapse camera was set up overlooking the calving front of Ryder glacier in order to create a high resolution data set of calving events during a 12-day period.

"We placed the camera on a cliff overlooking Ryder glacier, which we accessed by helicopter. Photos were taken every 5 seconds in order to allow detailed analysis into which processes trigger calving. At Ryder glacier, the majority of calving events were linked to waterline weaknesses – suggesting that melting of the ice by the ocean is a key driver of mass loss" says Felicity Holmes.

The project was funded by the Bolin Centre, Stockholm University, and the Polar Research Secretariat.

[View time lapse imagery of the calving front of Ryder Glacier»](#)

The time lapse imagery of Ryder glacier is part of [a collection of several datasets from the Ryder 2019 expedition»](#)

"The Bolin Centre Database welcomes other scientists at the centre to also publish datasets containing images. Welcome to contact us with your ideas" say database staff Rezwan Mohammad and Anders Moberg (bolindata@su.se).

Call for proposal: Engineering Mechanics for Climate Research

The aim is to increase collaboration between Bolin Centre members with expertise in the natural sciences and the engineering sciences.

Proposal application deadline: April 16, 2021

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

In Swedish | Elever samlar in berättelser om hur pandemin förändrat våra vanor

Under 2020 har människors beteenden förändrats på grund av Covid-19. I ett nytt forskningsprojekt kallat Utopian Stories ska elever hjälpa forskare att undersöka vad vi låtit bli att göra på grund av pandemin, och vad vi kan tänkas fortsätta att avstå från framöver för att bidra till ett bättre klimat. Elever runt om i Sverige görs till medforskare och framtidsspanare i projektet.

I projektet samarbetar Nobel Prize Museum med forskare från Göteborgs universitet, Bolincentret för klimatforskning vid Stockholms universitet, Kungliga Tekniska Högskolan, Åbo Universitet och Helsingfors universitet.

[Läs mer på Bolincentrets webbplats »](#)

In Swedish | Forskare möter media – distansutbildning

För dig som är forskare på Stockholms universitet och vill veta mer hur media arbetar och få praktiska råd och tips om vad du kan tänka på inför och under intervjuer.

Två gånger per år erbjuder Kommunikationsavdelningen utbildningen Forskare möter media där du som är forskare på Stockholms universitet kan få verktyg som kan hjälpa dig i dina kontakter med media. På grund av situationen med Covid 19 ges utbildningen den här gången digitalt via Zoom. Kursen genomförs på svenska.

Kurstillfället kommer innehålla en teoretisk genomgång av journalistik och medias villkor samt konkreta råd för eventuella intervjusituationer. De som deltar på utbildningstillfället kommer ges möjlighet att boka in en enskild zoom-träff med intervjuträning. Den kommer ge verktyg både för generella intervjusituationer och för intervjuer över videolänk.

När: Tisdagen 20 april

Var: Zoom, länk skickas ut till alla anmälda dagen innan

Tid: 10:00-11:30

Anmälan skickas till johnny.foglander@su.se senast den 16 april.

Climate Change in the Geological Record

Event type: Virtual event, Conference

Date: 26-27 May

Organised by: Geological Society Events

The geological record captures multiple episodes of climate change. It shows that changes in temperature and greenhouse gas concentrations have direct impacts on sea level, the hydrological cycle, marine and terrestrial ecosystems, and the acidification and oxygen depletion of the oceans. By reconstructing past climate changes, we can better understand the dynamics of the climate system and hence the range of impacts possible under current warming.

This symposium is arranged in conjunction with the Geological Society's scientific statement on climate change. It will feature invited keynote lectures and submitted short presentations on nine themes over the course of two days.

The organizers are inviting submissions for short presentations. Deadline: 15 April 2021

[Read more on the Geological Society's website »](#)

14 PhD positions on climate extremes in Europe available within MSCA-ITN project EDIPI

EDIPI (European weather Extremes: Drivers, Predictability and Impacts) is an international consortium of universities, research centres and private companies funded by the European Commission under the H2020 MSCA programme. EDIPI offers 14 fully-funded PhD positions to be filled by September 2021. The positions include a range of exciting training activities, international secondments and generous travel budgets.

[All open positions can be found here»](#)

BOLIN CENTRE EVENTS

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MAR

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

[Read more »](#)

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MAR

Bolin Centre Seminar Series | Research Area 2

Time & venue: March 31 at 14h00, 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 »](#)

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Bolin Centre Seminar Series | Research Area 5

April

Time & venue: April 14 at 14h30, Zoom
Title: Global warming, or global cooling, in the last 10000 years?
Speaker: Zhengyu Liu, Professor of Climate Dynamics, Ohio State University
[Read more »](#)

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MAY

Bert Bolin Science Seminar
Time & venue: May 17 at 15h00, Zoom
Title & abstract: To be announced
Speaker: William F 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 15h00, Zoom
Title: For how long have humans affected the climate?
Speaker: William F Ruddiman, professor emeritus, Dep. of Environmental Sciences, University of Virginia
[Read more»](#)

19-21

MAY

Bolincentrums digitala Klimatfestival
Datum och plats: 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!
[Program och bokning»](#)

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.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.

Editor: Magnus Atterfors
Foto: Martin Jakobsson, Felicity Holmes

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