



Stockholm
University

Bolin Centre for Climate Research

A collaboration between Stockholm University, KTH and SMHI

Week 20, 2021

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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.



New study for the Swedish Civil Contingencies Agency (MSB) by Bolin researcher

A new study by Bolin Centre scientists Fernando Jaramillo and colleagues assesses the potential slow onset risks occurring in Sweden due to climate change by the year 2050 and map these risks spatially.

In September 2020, the Department of Crisis Preparedness and Civil Defence of the Swedish Civil Contingencies Agency (MSB) contacted the Department of Physical Geography and the Bolin Centre for Climate Research of Stockholm University. The request was to conduct a literature review regarding the potential risks in Sweden from climate change by 2050, especially those occurring after the adaptation and mitigation strategies are adopted by the Swedish Government to tackle climate change. The study would be developed during four months, from September to December 2020, and would comprise mainly of a literature review.

"We have worked together with colleagues at Uppsala University and Mid Sweden University. Our group took a particular focus on hydro climatology and water resources, taking advantage of the Department of Physical Geography's background and the focus of Research Area 3 of the Bolin Centre for Climate Research," says lead researcher Fernando Jaramillo.

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

The climate festival kicks off today!



"All our activities for pupils are fully booked and we are excited to get going," says Annika Granebeck and Laila Islamovic in between the final preparations on Tuesday.

[You'll find Wednesday's, Thursday's and Friday's programme on BolinCentre's website »](#)

Antarctic ice sheet retreat could trigger chain reaction

The Antarctic ice sheet was even more unstable in the past than previously thought,

and at times possibly came close to collapse, new research suggests. The article, co-authored by Agatha de Boer and Helen Coxall, is published in Nature Geoscience.

[Read the press release about this study on Stockholm University's website »](#)



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.

- Dangendorf, S., Frederikse, T., Chafik, L., Klinck, J.M., Ezer, T., & Hamlington, B.D., 2021. Data-driven reconstruction reveals large-scale ocean circulation control on coastal sea level. *Nat. Clim. Chang.* <https://doi.org/10.1038/s41558-021-01046-1>
- Bradshaw, C.D., Langebroek, P.M., Lear, C.H., Lunt, D.J., Coxall, H.K., Sosdian, S.M., & de Boer, A.M., 2021. Hydrological impact of Middle Miocene Antarctic ice-free areas coupled to deep ocean temperatures. *Nature Geoscience.* <https://doi.org/10.1038/s41561-021-00745-w>
- Jaramillo, F., Lund, V., Stock, B., Piemontese, L., 2021. Slow-onset risks from climate change in Sweden in 2050 (SV: Långsamma kontinuerliga risker från klimatförändringar i Sverige 2050). Swedish Civil Contingencies Agency (MSB).
- Årthun, M., Wills, R. C. J., Johnson, H. L., Chafik, L., Langehaug, H.R., 2021. Mechanisms of decadal North Atlantic climate variability and implications for the recent cold anomaly. *J Clim*, 1–52. <https://journals.ametsoc.org/view/journals/clim/34/9/JCLI-D-20-0464.1.xml>
- Kalantari, Z., 2021. Enlivening our cities: Towards urban sustainability and resilience. *Ambio.* <https://doi.org/10.1007/s13280-021-01518-w>
- Page, J., Kåresdotter, E., Destouni, G., Pan, H., Kalantari, Z., 2021. A more complete accounting of greenhouse gas emissions and sequestration in urban landscapes. *Anthropocene*: 34, 100296. <https://doi.org/10.1016/j.ancene.2021.100296>
- Kreplin, H.N., Ferreira, C.S., Destouni, G., Keesstra, S.D., Salvati, L., Kalantari, Z., 2021. Arctic wetland system dynamics under climate warming. *WIREs Water*. 2021;e21526. <https://doi.org/10.1002/wat2.1526>
- Linderholm, H.W., Gunnarson, B.E., Fuentes, M., Buntgen, U., Hormes, A., 2021. The origin of driftwood on eastern and south-western Svalbard. *Polar science* 100658. <https://doi.org/10.1016/j.polar.2021.100658>
- Ghazi, B., Jeihouni, E. & Kalantari, Z., 2021. Predicting groundwater level fluctuations under climate change scenarios for Tasuj plain, Iran. *Journal of Geosciences*: 14, 115. <https://doi.org/10.1007/s12517-021-06508-6>
- Chafik, L., T. Rossby, H. Hátún, and H. Søliland, 2021. Rethinking oceanic overturning in the Nordic Seas. *Eos*: 102. <https://doi.org/10.1029/2021EO156810>
- Yuan, Q., Barbolini, N., Ashworth, A., Rydin, C., Gao, D.L., Wei, H.C., Fan, Q.S., Qin, Z.J., Du, Y.S., Shan, J.J., Shan, F.S., Vajda, V., 2021. Palaeoenvironmental changes in Eocene Tibetan lake systems traced by geochemistry, sedimentology and palynofacies. *Journal of Asian Earth Sciences*: 214, 104778. <https://www.sciencedirect.com/science/article/pii/S1367912021001164>
- Meijer, N., Dupont-Nivet, G., Barbolini, N., Woutersen, A., Rohrmann, A., Zhang, Y., Liu, X., Licht, A., Abels, H., Hoorn, C., Tjallingii, R., Andermann, C., Dietze, M., Nowaczyk, N., 2021. Loess-like dust appearance at 40 Ma in central China. *Paleoceanography and Paleoclimatology*: 36(3), e2020PA003993. <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2020PA003993>
- Jardine, P.E., Hoorn, C., Beer, M., Barbolini, N., Woutersen, A., Bogota-Angel, G., Gosling, W.D., Fraser, W.T., Lomax, B.H., Huang, H., Sciumbata, M., He, H.J., Dupont-Nivet, G., 2021. Sporopollenin chemistry and its durability in the geological record: an integration of extant and fossil chemical data across the seed plants. *Palaeontology*: 64(2), 285–305. <https://onlinelibrary.wiley.com/doi/10.1111/pala.12523>

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



Sharpen your communication skills in Researchers' Grand Prix!

In Researcher's Grand Prix, researchers are challenged to present their research in the most captivating, inspiring and educational way possible – in just four minutes! The audience and expert judges jointly decide on the winner. You can speak Swedish or English.

Researchers' Grand Prix Digital is a digital event open for researchers all over Sweden, between September 20-24. Accepted participants to the digital event receives coaching in presentation, recording a professional film and the possibility to qualify for the national final.

There are two alternatives to apply to the competition:

- Record a video presenting yourself, including: Who are you? What is your area of research? Why do you want to compete in Researcher's Grand Prix? Max 2 minutes.
- Record a first version of the 4 minutes presentation you want to compete with. It doesn't have to be perfect! You'll get coaching to make it better, if you are accepted to the competition.

You can speak Swedish or English. Apply before August 1! A decision on August 3 will tell you if your application to participate in the contest was successful.

Researchers' Grand Prix is arranged by Formas, Forte, The Swedish Research Council and Vinnova, and is coordinated by Vetenskap & Allmänhet.

[Read more and apply on Forskar Grand Prix's website »](#)

Baltic Breakfast Russia edition: Impact on the Baltic Sea by climate change

The Baltic Breakfast Russia edition is about climate change and how it affects the Baltic Sea in general and the Eastern Gulf of Finland in particular.

Associate Professor Tatiana Eremina, Russian State Hydrometeorological University, and Professor Christoph Humborg, Stockholm University Baltic Sea Centre, present recent research on the topic.

Date: 21 May, 2021, 9:00-9:45 Local time in Sweden (CEST), 10:00-10:45 Moscow time

No registration is needed.

[Read more on Baltic Sea Center's website »](#)

Gunilla Svensson, guest professor of Fluid Mechanics

Gunilla Svensson, Professor of Meteorology at Stockholm University, joined the faculty on half time as a Guest Professor of Fluid Mechanics with specialization in Climate Modelling first of May. She will continue her research at the Department of Meteorology at SU along side with her new position. Her research covers many aspects of atmospheric flow on weather and climate time scales with a special interest to understand climate and climate change in the Arctic.

[Visit Flow KTH's website »](#)

Donation in support of Tarfala Research Station

A fundraising campaign by employees at Google in the USA and Sweden has led to a donation of 101,000 SEK to research at Tarfala Research Station.

[Read more on Stockholm University's website »](#)

CIVIS summer course on remote sensing

Master and PhD students are welcome to apply a summer school on remote sensing!

This summer school will consist of lectures given by the participant experts on remote sensing techniques applicable to the study of climate and environmental change and related phenomena, and on the other, of using those techniques in practical sessions to perform local studies focused on a different topic each summer school edition. Complimentary activities such as (virtual) visits to institutions or facilities relevant to the course topic are also planned.

Course date: 28 June - 9 July 2021.

Application deadline: 21 May 2021.

[Read more on Civis' website »](#)

BOLIN CENTRE EVENTS

20

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»](#)

9

JUNE

Bolin Centre Seminar Series | Research Area 4

Time & venue: June 9 at 10h00, Zoom

Title: Protection of Permafrost Soils from Thawing by Increasing Herbivore Density

Speaker: Prof. Christian Beer, Heisenberg-Professor for dynamics of soil processes, Institute of Soil Science, University of Hamburg

[Read more »](#)

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, Bolin Centre, Erik Cronberg

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