



Bolin Centre for Climate Research

A collaboration between Stockholm University, KTH and SMHI

February 2023

[Click here to view the newsletter in your web browser](#)



Photo: Maria Basova

Bolin Centre Newsletter # 2

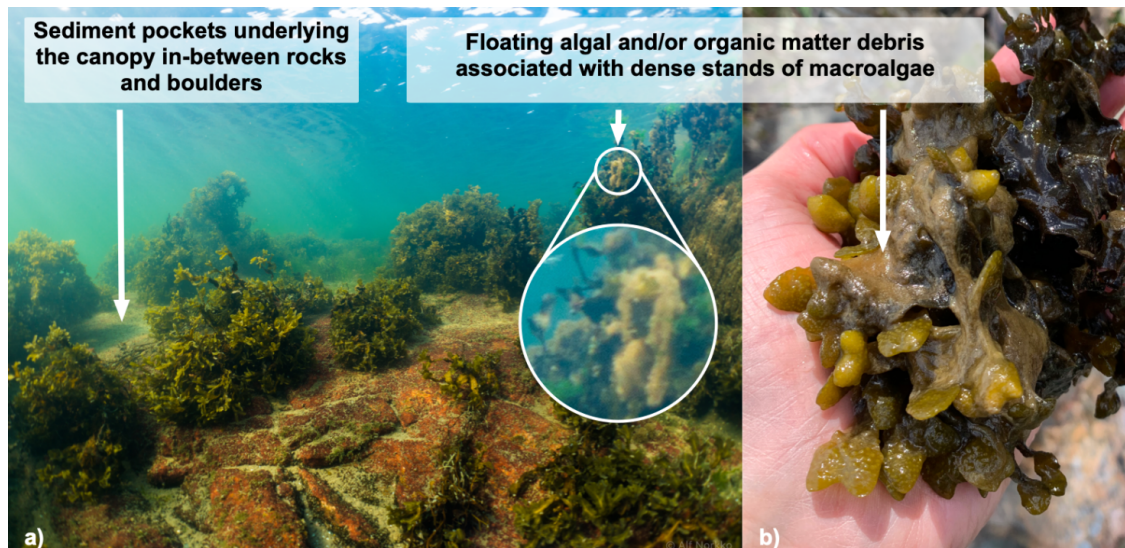
Dear Bolin Centre members,

January passed really fast and 2023 is expected to be intense and rich in events and opportunities. The Bolin Directorate is currently finalizing the Strategic Plan 2023–2027, which will guide our work and set priorities for the next five years. Once the strategic plan is ready, it will be available to the network. We have also started several major processes such as a new website, Bolin postdoc program, new member base and annual report where we will need input from the network. If you are interested in participating more actively, there is always a need, just let us know.

We will continue to inform you of the latest news in our monthly Newsletter.

We strive to make the Newsletter a valuable source of information, inspiration and research exchange, but we need your help. Don't forget to share information you want us to publish in the upcoming Newsletter, send it to bolin@su.se.

NEWS



Methane forming microorganisms were found both in small pockets of sediment and on filamentous algae overgrowing the bladderwrack. Picture from the publication by Roth et al.

New study: Methane emissions offset carbon uptake in Baltic macroalgae habitats

Bladderwrack in the Baltic Sea emits significant amounts of methane, which, to some extent, can offset the uptake of atmospheric carbon dioxide by these algae. This is shown by a new study from Askö Laboratory, where the fluxes of greenhouse gases between surface waters and the atmosphere were measured continuously over several seasons.

[Read more](#)



The Greenland and the West Antarctic ice sheets are at an especially high risk of tipping. Photo: Jay Ruzesky via Unsplash.

Overshooting climate targets could significantly increase risk for tipping cascades

Temporarily overshooting the climate targets of 1.5–2 degrees Celsius could increase the tipping risk of several Earth system elements by more than 70 per cent, a new risk analysis study shows.

Story highlights

- The risk for some tipping events could increase very substantially under certain global warming overshoot scenarios
- Especially the Greenland and the West Antarctic ice sheet are at risk of tipping even for small overshoots
- Current mitigation policies are expected to lead to 2 – 3.6 degrees Celsius of global warming by the end of this century

[Read more](#)



Thawing permafrost. Photo: Gustaf Hugelius

Only halving emissions by 2030 can minimize risks of crossing cryosphere thresholds

Considering cryosphere and warming uncertainties together implies drastically increased risk of threshold crossing in the cryosphere, even under lower-emission pathways, and underscores the need to halve emissions by 2030 in line with the 1.5 °C limit of the Paris Agreement.

[Read the article](#)

Ozone layer recovery is on track, helping avoid global warming by 0.5°C

The ozone layer is on track to recover within four decades, with the global phaseout of ozone-depleting chemicals already benefitting efforts to mitigate climate change. This is the conclusion of a UN-backed panel of experts, presented today at the American Meteorological Society's 103rd annual meeting. Examining novel technologies such as geoengineering for the first time, the panel warns of unintended impacts on the ozone layer.

[Read more](#)

OPPORTUNITIES



Probing Northern Niche. Photo: Annika Granebeck

Application open – master student grant at Tarfala Research Station

This grant is available for master students and its purpose is to cover field work cost at Tarfala Research Station, TRS for a master thesis. At TRS you can investigate Swedish alpine and glacial environments, changes caused by the retreating glaciers, the impact these changes have on ecosystems and people, and much more.

Application deadline and process

Deadline for application is February 28, 2023.

Application form **and more information** can be found [here](#)

[Read more and apply](#)

PhD Position: Reconstructing Holocene methane oxidation pathways in the Beaufort Sea

100% //Start 1st of August 2023

The Aquatic and Isotope Biogeochemistry Research Group at [the Department of Environmental Sciences, University of Basel](#) invites applications for one PhD position in the field of paleoclimatology (methane oxidation/ biogeochemistry in marine environments). The project investigates Holocene methane processes (oxidation and production) in the Canadian Beaufort Sea using organic biogeochemistry in sedimentary record.

[Read more](#)

Intensive summer school on biosphere–atmosphere modelling

Are you interested to learn how to create a biosphere–atmosphere model and/or tired of running existing models without a detailed understanding what is going on inside the code?

If yes, you should consider participating our 2–weeks summer school in Lahti, Finland, 5th to 16th of June 2023.

The course fee is 2000 EUR

If you have any question concerning the course, please contact Michael Boy (michael.boy@helsinki.fi).

[Registration](#)

[Read more](#)

Early Career Scientist program on board I/B Oden – ARTofMELT 2023 expedition

The Swedish Polar Research Secretariat invites Early Career Scientists to take part in an expedition with the Swedish Icebreaker Oden, focusing on atmospheric rivers and the onset of sea ice melt (ARTofMELT). The ARTofMELT expedition will start in Longyearbyen, Svalbard 7 May 2023 and end in Longyearbyen on 15 June 2023.



The Oden icebreaker in the Arctic Ocean during SAS 2021. Photo: Swedish Polar Research Secretariat

PostDoc / PhD student in ground-based remote sensing of low-level clouds and fog at Karlsruhe Institute of Technology (KIT), Germany

[Read more here](#)

25th International Transport and Air Pollution and 3rd Shipping and Environment Conference

Submission of abstracts is open. Deadline for submitting abstract is 15 February 2023.

[Read more](#)

Liljevalch's and Augustinsson's Travel Grants

Travel grants for PhD students of the Faculty of Science. These grants are awarded annually and the call for applications occurs in January each year.

Application closes: 15 February 2023

[More information](#)

Soapbox Science's 2023 speaker call is NOW OPEN!

Apply online [here!](#)

Deadline 28th February 2023

Are you a woman, non-binary or genderqueer person who works in science and who is passionate about your research? Are you eager to talk to the general public about your work in a fun, informal setting? If so, then Soapbox Science needs **YOU!**

Soapbox is looking for scientists in all areas of STEM, from PhD students to Professors, and from entry-level researchers to entrepreneurs, to take part in this grassroots science outreach project.

CALENDAR

SAVE THE DATE

17
MAY

Bert Bolin Climate Lecture 2023

Place: Aula Magna and Zoom
More information will come

15 - 16
NOVEMBER

BOLIN DAYS 2023

Place: Aula Magna, Geoscience Building and Zoom
More information will come

PARTNERS' EVENTS

Celebrate World Wetlands Day

2
FEBRUARY**With Forma's breakfast: Is the wetland the salvation of our time?****(in Swedish)****"Är våtmarken vår tids räddning?"****Time:** 07.30 - 09.00**Place:** Nobel Prize Museum and digital (registration required)**[Event link and registration](#)**2
FEBRUARY**With Swedish Environmental Protection Agency's seminar on several results from authorities' wetland work during the past year.****(in Swedish)****"Så gick våtmarksarbetet 2022"****Time:** 10.00 - 12.00**Place:** Youtube**[Youtube link](#)**

8
FEBRUARY

Career fair in science 2023

Time: 12.00 – 16.00

Plats: Aula Magna

[Registration and more information here](#)

9
FEBRUARY

CELSIUS–LINNÆUS LECTURES 2023

Celsius–Lecture: A safe and just future for humanity on Earth

The 2023 Celsius–Lecturer is [Johan Rockström](#), Director of the Potsdam Institute for Climate Impact Research, Professor at the Institute of Earth and Environmental Science at Potsdam University, and Professor in Water Systems and Global Sustainability at Stockholm University.

Time: 09.00–16.15

Place: Eva von Bahr, Ångström Laboratory, Uppsala University

[Read more here](#)

27–28
MARCH

Stockholm University Baltic Sea Centre's event

Open Sea Lab Hackathon

Location: Online

[Read more here](#)

”Jag tycker väldigt mycket om is, snö och kyla. Det är en fascinerande miljö, rofylld tycker jag. Den ger mig en känsla av lugn.”

[Nina Kirchner](#),
[Director of Tarfala Research Station](#)



Photo: Adam af Ekenstam

”These days, scientists spend much of their time taking “professional selfies” — effectively spending more time announcing ideas than formulating them.”

["Science in the age of selfies" by Donald Geman and Stuart Geman](#)

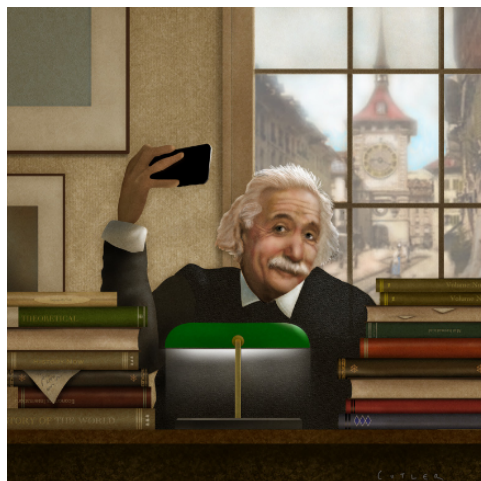


Image courtesy of Dave Cutler

PUBLICATIONS

Bolin Centre publications

On bolin.su.se/publications you'll find a list of scientific journal publications by Bolin Centre scientists.

Here are some of the latest:

- Śliwińska, K.K., Coxall, H.K., Hutchinson, D.K., Liebrand, D., Schouten, S., and de Boer, A.M., 2023. Sea surface temperature evolution of the North Atlantic Ocean across the Eocene–Oligocene transition. *Clim. Past*: 19, 123–140. <https://doi.org/10.5194/cp-19-123-2023>
- Luo, m., Hong, W-L., Torres, M.E., Kutterolf, S., Pank, K., Hopkins, J.L., Solomon, E.A., Wang, K.-L., Lee, H.-Y., 2023. Volcanogenic aluminosilicate alteration drives formation of authigenic phases at the northern Hikurangi margin: Implications for subseafloor geochemical cycles. *Chemical Geology*: 619, 121317, ISSN 0009–2541. <https://doi.org/10.1016/j.chemgeo.2023.121317>
- Kiel, S., Jakubowicz, M., Altamirano, A., Belka, Z., Dopieralska, J., Urbina, M., and Salas-Gismondi, R., 2023. The late Cenozoic evolution of the Humboldt Current System in coastal Peru: Insights from neodymium isotopes: *Gondwana Research*, v. 116, p. 104–112. <https://www.sciencedirect.com/science/article/pii/S1342937X23000011?via%3Dihub>
- Roth, F., Broman, E., Sun, X., Bonaglia, S., Nascimento, F., Prytherch, J., Brüchert, V., Lundevall Zara, M., Brunberg, M., Geibel, M. C., Humborg, C., and Norkko, A.: Methane emissions offset atmospheric carbon dioxide uptake in coastal macroalgae, mixed vegetation and sediment ecosystems, *Nat Commun*, 14, <https://doi.org/10.1038/s41467-022-35673-9>, 2023.
- Scaini, A., Vico, G., Thorslund, J., Hugelius, G., and Manzoni, S., 2022. Water Availability and Land Management Control Catchment-Scale Agricultural Nitrogen and Phosphorous Use Efficiencies. *Global Biogeochemical Cycles*. [doi:10.1029/2022GB007487](https://doi.org/10.1029/2022GB007487)
- Büntgen, U., Crivellaro, A., Arseneault, D., Baillie, M., Barclay, D., Bernabei, M., Bontadi, J., Boswijk, G., Brown, D., Christie, D.A., Churakova (Sidorova), V., Cook, E., D'Arrigo, R., Davi, N., Esper, J., Fonti, P., Greaves, C., Hantemirov, R.M., Hughes, M.K., Kirilyanov, A.V., Krusic, P.J., Le Quesne, C., Ljungqvist, F.C., Myglan, V.S., Nicolussi, K., Oppenheimer, C., Palmer, J., Qin, C., Reinig, F., Salzer, M., Stoffel, M., Torbenson, M., Villalba, R., Wiesenberg, N., Wiles, G., Yang, B. & Piermattei, A., 2022. Global wood anatomical network reveals repeated summer cooling at the onset of the Late Antique Little Ice Age. *Science Bulletin*, 67: 2336–2344: <https://doi.org/10.1016/j.scib.2022.10.019>
- Diodato, N., Ljungqvist, F.C., Fiorillo, F., Esposito, L., Ventafridda, G. & Bellocchi, G., 2022. Climatic fingerprint of spring discharge depletion in the southern Italian Apennines from 1601 to 2020 CE. *Environmental Research Communications*, 4: 4: 125011. <https://doi.org/10.1088/2515-7620/acae23>

DATABASE, MODELLING COORDINATION, CRS

Bolin Centre Database

On bolin.su.se/data you'll find open access to Climate and Earth System Data

Modelling coordination

Starting 1 January 2023, [the National Academic Infrastructure for Supercomputing in Sweden \(NAISS\)](#) is the new organization for high-performance computing, storage, and data services for academic users in Sweden. Linköping university is the host organization for NAISS, but NAISS acts independently with a national perspective and responsibility.

We would like to draw your attention to the trainings and events:

CodeRefinery training

- **CodeRefinery workshop, March 21–23 and 28–30, 2023**

Training events organised by HPC centres in Sweden

- **Online introduction to running R, Python, and Julia in HPC, 8–10 February 2023**
- **UPPMAX Introductory Course, February 13–16, 2023 (online)**
- **Online training workshop: Basic Singularity: “Running and building Singularity containers”, 10 March**

ENCCS training events

- **SciML GPU Bootcamp, 21–22 February 2023, 09:00 – 13:00 CET**
- **AMD GPU Hackathon, 7 and 14–16 March, 2023**
- **Creative AI Webinar, February 24, 09:00 – 12:00 CET**

Workshop

- **CodeRefinery workshop, March 21–23 and 28–30, 2023**

Organised by CodeRefinery and partners, among which are NAISS, UPPMAX, PDC, and ENCCS.

[More information](#)

Revitalization of the Climate Research School (CRS)

The Bolin Center's goal for 2023 is to continue to develop an active community of ECRs through the Climate Research School (CRS).

We will rethink the concept and take inventory of the courses currently available to understand where we can collaborate to meet ECR's needs. Some activities are planned for the spring and will be announced shortly.

For more information contact the coordinator of the Climate Research School: Carmen Prieto (carmen.prieto@natgeo.su.se)

Promotional material

If you need promotional material with Bolin Centre's logos for your field trip or work, let us know. We have T-shirts, bags and buffs and some hoodies in limited sizes. Contact Maria Basova bolin@su.se with the request.

The Bolin Centre Newsletter 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 Newsletters, please contact bolin@su.se.

Please note that the frequency of the newsletter is approximately once a month.

Editor: Maria Basova (Coordination)

Bolin Centre for Climate Research

Contact: bolin@su.se

SOCIAL MEDIA

