

## OCEAN ICE News – March 2025



*OCEAN ICE is a Horizon Europe project, funded by the European Commission and UKRI. OCEAN ICE stands for Ocean-Cryosphere Exchanges in Antarctica: Impacts on Climate and the Earth System.*

**OCEAN ICE News** is a monthly newsletter updating about the project's progress, results, and other exciting events! Be sure to follow us on LinkedIn to stay informed.

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### Welcome!

Welcome to March's edition of OCEAN ICE News. We're excited to bring you the latest updates from the OCEAN ICE community.

In this issue, you'll meet our featured researcher of the month and catch up on key activities, including the upcoming webinars hosted by the European Polar Board, highlighting February's Climate Coffee and TiPACCs final video. We have upcoming Climate Coffees that you can register for in March, April, May and June. As well as participants that are planning to present at EGU. Don't forget to mark your calendars for the upcoming events where OCEAN ICE will be represented.

We hope you enjoy exploring this month's updates, and we look forward to sharing more in April!

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## Researcher in the Spotlight: Birte Gülk

Check out our latest 'Researcher in the Spotlight' feature on Birte Gülk, a post-doctoral working at [LOCEAN](#) in Paris.

Read the feature on Birte [here](#).

Stay tuned for more features from our Research Team in OCEAN ICE.



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## Catching up on the Latest OCEAN ICE Activities

### OCEAN ICE Webinar Series

The OCEAN ICE webinar series, hosted by the European Polar Board, is set to continue! The webinars offer insights into the OCEAN ICE project, showcasing ongoing research, key findings, and expected outcomes from various work packages.

Don't miss out - join the conversation and stay informed about the latest developments of the project.

Read the description of the upcoming webinar in April for WP7 under **Upcoming events!**

Find the post [here](#) and keep an eye out for upcoming webinars.



UK Partners are funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding Guarantee.

## OCEAN ICE Climate coffee - February

Catch up on February's Climate Coffee with Beatrice Maddalena Scotto on Multi-Model Framework for Tracking Pollutant Dispersion in the Mediterranean Sea [here](#).

This research is driven by the increasing vulnerability of the Mediterranean Sea to pollution from shipping, which necessitates the development of reliable oil spill monitoring systems. A comprehensive framework for the analysis of oil spill dynamics using several oceanographic models is presented. The study first compares surface current hindcast data from Copernicus Marine Services, Shom France and Ifremer and then improves the dispersion simulation results by incorporating Stokes drift and wind effects at 10 metres height, using data from the Copernicus ERA5 and WaveWatchIII models operated by DICCA Unige. A Lagrangian particle tracking model, OceanParcels, is used to simulate the dispersion and trajectory of oil slicks, plotting their centre of gravity over time and assessing spatial and temporal deformation. A real case study is used to validate the framework, with results compared to Sentinel-1 satellite imagery and reports from days after the spill. The results demonstrate the potential of the framework to accurately predict the trajectory of pollutant spills, providing critical information for environmental monitoring and response efforts.



**20 February 2025 | 10:00 - 10:45 CET**  
**Online**

**Beatrice Maddalena Scotto (ETT)**

**Multi-Model Framework for Tracking  
Pollutant Dispersion in the  
Mediterranean Sea**



Danish Meteorological Institute



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the European Union

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## OCEAN ICE TiPACCs Final Video

Watch TiPACCs final video [here](#).

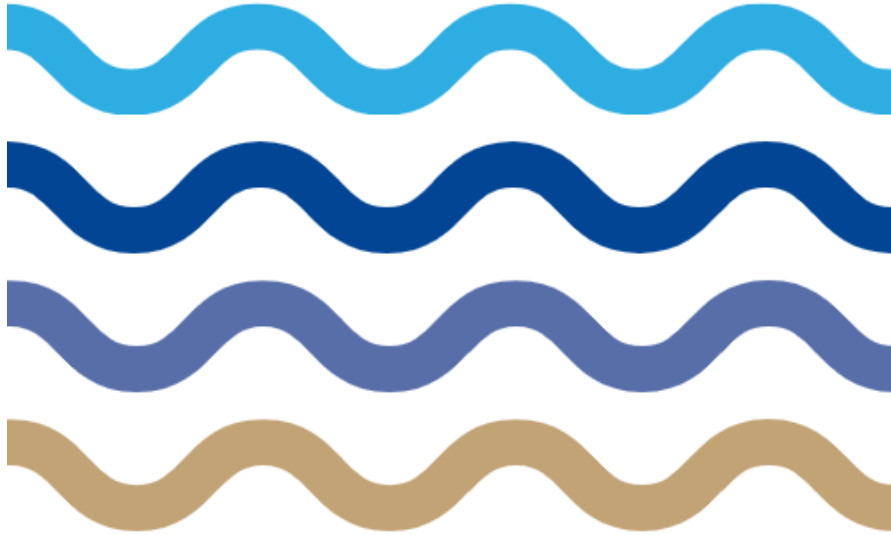
This project included some participants from OCEAN ICE and the video highlights the great work included in the project.



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## Climate Coffees

Since its relaunch the [Climate Coffee series](#) has been in full swing. If you've missed any of the recent ones, don't you worry, you may catch up [here](#).



# Climate Coffee

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## Upcoming Event

### Climate Coffee

We have five upcoming Climate Coffee events, make sure you register for all of them through the link on [OCEAN ICE](https://oceanice.eu).

Climate Coffee with Sofia Darmaraki on Marine Heatwaves in the Mediterranean Sea: A Literature Review  
20 March 2025, 10:00 – 10:45 (CET)



20 March 2025 | 10:00 - 10:45 CET  
Online

**Sofia Darmaraki** (FORTH)

**Marine Heatwaves in the Mediterranean Sea: A Literature Review**



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Climate Coffee with David Chandler on Warming of circumpolar deep water  
16 April 2025, 10:00 – 10:45 (CET)



16 April 2025 | 10:00 - 10:45 CEST  
Online

**Dave Chandler** (NORCE)

**Warming of circumpolar deep water: a million-year perspective on recent changes around Antarctica**



Danish Meteorological Institute



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Climate Coffee with Inga Sauer on Extreme weather events: tipping points & societal implications  
22 May 2025, 10:00 – 10:45 (CEST)



22 May 2025 | 10:00 - 10:45 CEST

Online

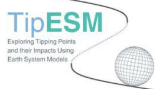
Inga Sauer (PIK)

### Extreme weather events: tipping points and societal implications

The poverty implications of increasing frequencies of extreme weather events - identifying tipping points across households from different income groups



Danish Meteorological Institute



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Climate Coffee with Amen Al-Yaari on Recent AMOC variations and the implications for the future (tbc)  
19 June 2025, 10:00 – 10:45 (CEST)



19 June 2025 | 10:00 - 10:45 CEST

Online

Amen Al-Yaari (University Bordeaux)

### Recent AMOC variations and the implications for the future (tbc)



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## OCEAN ICE WP7 Webinar: Data Management

Join us for a webinar on data management in the OCEAN ICE project (Work package 7 / WP7), with a special focus on using Jupyter Notebooks/Google Colab in the framework of polar research.

This webinar will feature talks by: Pietro Viglino (ETT) & Mariaclaudia Paolini (ETT)

Date and time: Apr 8, 2025 14:00 CEST

**Registration Here:** [https://us02web.zoom.us/webinar/register/WN\\_y8qX\\_GPdRe66Uw5uJO7Zmw](https://us02web.zoom.us/webinar/register/WN_y8qX_GPdRe66Uw5uJO7Zmw)

OCEAN ICE webinar series is facilitated by the [European Polar Board](#).



The poster features a background image of a large ice formation. At the top left is the OCEAN:ICE logo, and at the top right is the EUROPEAN POLAR BOARD logo. The title 'OCEAN ICE WP7 WEBINAR' is centered, followed by 'DATA MANAGEMENT' in large, bold letters. Below this, a line of text states: 'This webinar will be the third in a series introducing the EU-funded OCEAN ICE project.' In the bottom left, a blue box contains the date and time: '8 April 2025 14:00 CEST'. In the bottom right, there is a QR code with the text 'Register here:' above it. A small vertical text on the right edge of the QR code reads '@ Dr. Renuka Badhe'.



UK Partners are funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding Guarantee.

## OCEAN ICE EGU Participation

Some participant's from OCEAN ICE plan to present at EGU:

### **Marte Hofsteenge:**

I'm planning to present a poster in session CR2.2 – Ice-sheet and climate interactions.

The title is: Modelling future Antarctic climate and surface mass balance with RACMO2.4p1 (2015-2100).

Here a short summary:

We present results from future Antarctic climate simulations using the polar-adapted Regional Atmospheric Climate Model (RACMO2.4p1). Our study explores how the Antarctic surface mass balance (SMB) responds to two possible future climate scenarios, both based on the SSP3-7.0 pathway but simulated with different global climate models. We focus on changes in surface melt and investigate the temperature-melt relationship over Antarctic ice shelves, linking these with SEB components driving the strength of this relationship.

### **Andrew Meijers:**

I'll be presenting OCEAN ICE related work on the future shutdown of Antarctic Bottom Water formation and subsequent climatic impacts under future climate change. This work uses CMIP6 climate models to show that under any future climate forcing scenario the formation of Antarctic bottom water, and the deep ocean overturning that this drives, collapses by around 50% over the coming century. The exact timing of this shutdown is set by internal variability in the models, but is initialised by present day warming, as even under strong climate mitigation emissions scenarios the shutdown still happens at the same rate. The work then goes on to show how this impacts Southern Ocean water mass properties and warming, and wider climate implications. It falls under WP5.

### **Max Brils:**

Using data inversion to infer basal melt rates underneath ice shelves

The summary of the result's:

More than 80% of the grounded ice of the Antarctic ice sheet drains into the ocean through ice shelves. It is estimated that roughly half of the ice shelves' mass is eventually lost through melting from the underside, where the ice gets in contact with warmer ocean waters. Loss of these ice shelves could cause an increase of the discharge of grounded ice which would lead to additional sea-level rise. It is thus important to accurately quantify the rate at which ice shelves are melting if we wish to estimate future sea-level rise. Here, we present a novel methodology for estimating basal melt rates, by assimilating remotely derived estimates of surface velocities, ice sheet thickness, surface elevation changes and modelled surface mass balance using an ice sheet model (Ua). This methodology allows for a less noisy, physically consistent estimate of the ice mass divergence, and considers the uncertainty associated with each data product. The resulting estimates of the melt rate pattern at almost every Antarctic ice shelf is compared with previous remotely derived estimates.

**Katie Lowery:**

Presenting a poster on the relative importance of ice shelf geometry and ocean conditions on Pine Island Glacier melt rates over the last decade.

**Birte Glk:**

The response of the Southern Ocean to freshwater hosing in an equilibrated 1° NEMO configuration with realistic ventilation

**Xabier Davila:**

Southern Ocean freshwater sources are quantified by identifying d18O-Salinity relationships through machine learning. Speaker: Xabier Davila. Title: Freshwater Sources and their Variability through Salinity-d18O Relationships: A Machine Learning Solution to a Water Mass Problem

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## Happening Soon

OCEAN ICE will be at these upcoming events. Will you also be there? Let us know!

- 20-28 March 2025, [Arctic Science Summit Week \(ASSW\) 2025](#), Boulder, Colorado (USA)
- 8 April 2025, 11:00 CEST, Deep uncertainty in freshwater fluxes Cross-Cutting Theme Meeting
- 15 April 2025, 11:00 CEST, OCEAN ICE Bottom Water and the Lower Cell Meeting - Cross Cutting theme meeting
- 27 April - 2 May 2025, [EGU General Assembly 2025](#), Vienna
- 8 May 2025, The Role of the Poles Cross-Cutting Theme Meeting
- 16 May, 11:00 CEST, Isotope Cross Cutting Theme Meeting, Online
- 9-13 June 2025, [United Nations Ocean Conference \(UNOC3\)](#), Nice
- 20-25 July 2025, [Busan IAMAS-IACS-IAPSO Joint Assembly 2025 \(JMCP20\)](#), the Republic of Korea

*Do you know of any exciting events that OCEAN ICE should be a part of? Shoot us a mail at [oceanice.eu@gmail.com](mailto:oceanice.eu@gmail.com).*

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## Are you following us on Social Media?

Stay up to date with OCEAN ICE on our following channels:

[www.ocean-ice.eu](http://www.ocean-ice.eu)

<https://www.linkedin.com/company/euoceanice/>

[https://twitter.com/OCEANICE\\_EU](https://twitter.com/OCEANICE_EU)

<https://fediscience.org/@OceanIceEU>

<https://www.facebook.com/OCEANICEEU/>

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## Who is OCEAN ICE?

OCEAN ICE stands for Ocean-Cryosphere Exchanges in Antarctica: Impacts on Climate and the Earth System. OCEAN ICE is a Horizon Europe project, funded by the European Commission and UKRI. OCEAN ICE focus on understanding how the Antarctic ice sheet and the surrounding Southern Ocean influence our global climate and reduce the level of uncertainty around how much the Antarctic ice sheet will melt in the coming centuries. OCEAN ICE considers the critical role of feedbacks between ocean circulation, ice sheet change and tipping points and the global climate. [Find out more](#)





**Funded by  
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**UK Research  
and Innovation**

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