

Contents

- natESM enters phase 2
- Registration for Community Workshop now open
- natESM Uni Master Course
- Welcome ZMT
- KickOff of OBGC working group
- natESM at CELLO & NHR 2025
- Call for abstracts: EGU 2026 ESS13.4
- New RSE guides online
- Sprint status

natESM enters phase 2

In September, natESM entered its second phase, marking a new chapter in developing a sustainable and nationally coordinated Earth system modeling framework. Building on the achievements of Phase 1, we're taking concrete steps to connect the community, pool resources, and strengthen long-term collaboration across institutions, making our system more agile and resilient.

With extended funding, additional RSE positions, and closer links between scientific and technical developments, natESM is now positioned to consolidate Germany's expertise into a coherent, future-oriented modeling system. A central task in this phase will be to establish a long-term funding strategy for RSE support at DKRZ, ensuring that this essential service continues well beyond the project — reliably and sustainably.

Together, we're advancing toward one goal: a modular, scalable, and sustainable Earth system modeling framework for Germany.

Community Workshop in Leipzig **Registration now open!**

-  When: 24-25 February 2026
-  Where: Marriott Hotel, Leipzig

Once a year, we come together to share sprint results, exchange ideas, and shape the next steps in building Germany's Earth system modeling framework. The workshop will kick off with presentations of the latest sprint results, showcasing what RSEs and scientists have achieved together over the past year.

This year's focus: two breakout groups — ICON-Paleo Modeling and Impact Modeling.

 [Check out the preliminary agenda](#)

 [Register here](#)

Successful start of Master Course

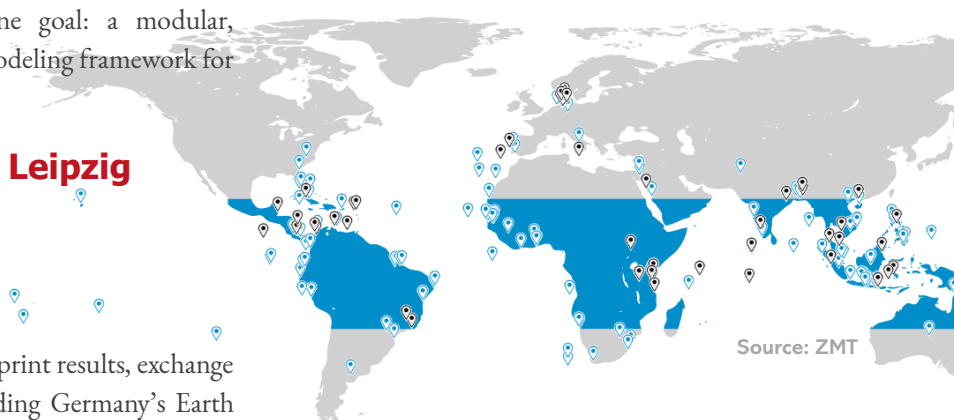
The natESM Master Course on Earth System Modelling has successfully started this semester! Online and in person, a group of around 18 participants from various locations met for the first sessions. The group's backgrounds are wonderfully diverse — from master's students to postdocs, and from computer science to meteorology — creating the perfect basis for lively discussions and shared learning about Earth system models.

 [Curious who's teaching? See the agenda.](#)

If you'd like to join one or more of the lectures and need access to the Zoom room, [please contact us](#) — we'll send you the link. We're not sharing it publicly to preserve the course's interactive character and ensure students feel comfortable asking questions and engaging in discussions — rather than turning it into a large, impersonal seminar series.

The [introductory slides](#), including students' answers to natESM-related questions, are available on our website.

Welcome ZMT!



Source: ZMT

We're happy to welcome the [Leibniz Centre for Tropical Marine Research \(ZMT\)](#) as a new member of the natESM community.

By joining natESM, ZMT will contribute its expertise on the interaction of coastal ecosystems with global climate variability and change. We look forward to future collaborations and to connecting with the team across upcoming natESM activities.

Focus workshop inspires new working group

In September, the natESM Focus Workshop on Ocean Biogeochemistry (OBGC) brought together around 30 researchers from across the community to discuss current approaches and future directions for representing ocean biogeochemical processes within natESM. Presentations covered a broad range of topics — from nutrient cycles and food-web dynamics to model coupling and the integration of higher trophic levels (👉 [Slides on the workshop website](#)).



Building on the momentum of this workshop, two community members – [Judith Hauck](#) (AWI) and [Carsten Lemmen](#) (Hereon) – have volunteered to

lead a new **Working Group on OBGC**. The group aims to develop a coherent, community-driven ocean-biogeochemistry framework within natESM by identifying, comparing, and integrating the most robust model components for a sustainable natESM system.

👉 You can find the working-group proposal [here](#).

Join the KickOff!

As with all natESM working groups, participation is open. Interested colleagues are invited to contact Judith and Carsten or simply join the KickOff meeting.

📅 When: 21 November 2025, 10:00-12:00

👉 Join via [BigBlueButton](#).



Credit: MPI-M



natESM at CELLO and NHR 2025

In September, process coordinator Iris Ehlert showcased natESM at the [CELLO conference](#) in Hamburg and the [NHR conference](#) in Göttingen, highlighting our collaborative sprint process and strategy for developing a sustainable modeling framework for shared use.

👉 Click [here](#) for the CELLO poster



Missed the DWD Academic ICON Training?

Recordings are now available on the [DKRZ YouTube channel](#)!

Call for abstracts: EGU 2026 ESSI3.4



Developing and maintaining complex scientific software is part of everyday work across the geosciences and within the natESM community — from model integration and version control to sustainable code design. These are exactly the topics addressed in [EGU 2026 Session ESSI3.4](#), which invites developers, users, and research software engineers to share experiences, challenges, and solutions.

Topics include:

- Good practices in scientific software development
- modularization, documentation, version control, and testing
- Open-source and community-driven approaches
- Balancing reliability and performance across platforms

Submit your abstract [here](#): 👉 [EGU26 – ESSI3.4](#)

We look forward to your contributions and to exchanging ideas with many of you in Vienna!

Convener: [Diego Jiménez de la Cuesta Otero](#)

Co-conveners: [Clarissa Kroll](#), [Iris Ehlert](#)

Fresh from the RSEs: new guides for your workflows

Our RSEs have shared two new guides to support your modelling work — from code portability to model coupling:



YAC with Python Bindings

– by [Aleksandar Mitic](#).

A detailed installation and testing guide for setting up YAC and YAXT with Python on the LEVANTE system — including practical notes on MPI compatibility.

📌 Access the guide [here](#) ➔

OpenACC Extended Porting Guide

– by [Wilton Jaciel Loch](#).



An advanced companion to the official OpenACC Programming and Best Practices Guide — offering extra tips, steps, and lessons learned to make the porting process more efficient and less error-prone on HPC systems.

📌 Access the guide [here](#) ➔

Sprint status

SPRINT TITLE		INST.	SERVICE DESCRIPTION	On hold Running Reporting Finished
ICON-ART	●	KIT	Analysis of ART code for GPU porting → Sprint report	
ICON-mHM-YAC	●	UFZ	Online coupling mHM into ICON using YAC → Sprint report	
FESOM	●	AWI	Port FESOM 2.1 to JUWELS booster and Levante-GPU → Sprint report	
ParFlow	●	FZJ	Port ParFlow to AMD GPUs, Performance Analysis → Sprint report	
MESSy	●	FZJ	Optimize data transfers between host and device → Sprint report	
ESMValTool	●	DLR-PA	Updating remaining non-lazy preprocessor functions → Sprint report	
HAMOCC	●	MPI-M	Concurrent HAMOCC on GPU → Sprint report	
MESSy-ComIn	●	DLR-PA	Couple MESSy to ICON via ICON Community Interface → Sprint report	
LAGOOn	●	FZJ	Develop concept of Lagr.-transport-modeling framework → Sprint report	
IQ	●	MPI-BGC	Stepwise port of IQ code to GPUs → Sprint report	
modLSMcoup	●	FZJ	Develop proof-of-concept for modular coupling → Sprint report	
CLEO	●	MPI-M	Coupling CLEO to ICON with YAC → Sprint report	
PALM	●	Uni Hannover	Porting PALM modules related to urban processes to GPUs → Sprint report	
MESSy-ComIn2	●	DLR-PA	ComIn integration time loop → Sprint report	
PDAF2GPU	●	AWI	Porting PDAF to GPUs → Sprint report	
PISM-AsyncIO	●	MPI-GEA	Resolve the issue with the I/O library for asynchronous output	
CLEO2	●	MPI-M	Uniting CLEO's domain decomposition with its two-way coupling to ICON	
WAM	●	Hereon	Full NetCDF I/O and performance optimization	
ICON-XPP	●	DWD	Optimization of ICON-XPP for DWD NEC Aurora vector computer	
MESSy IMPORT	●	FZJ	Revise data-import function of MESSy for ICON/MESSy	
COFARE	●	AWI	Coupling FABM and REcoM3	
FESOM-C	●	AWI	Performance sprint (profiling, analysis, optimization roadmap)	

Additional information from the sprints, beyond what is covered in the sprint reports, is available in our [GitLab wiki](#).

Refined sprint-check process

The sprint check remains your low-threshold entry point into natESM, now with a clearer structure and defined outcomes. Within about two weeks, you'll receive focused feedback to help ensure each sprint starts from a solid technical foundation and makes the best use of RSE time.

👉 How to request a sprint check — and all details of the process — can be found in the [updated strategy on our website](#).