



Stockholm  
University

Bolin Centre  
for Climate Research

# EC-Earth General Assembly

## PROGRAM

25-27 March 2025

Stockholm University



# EC-Earth4 Clinic

EC-Earth4 clinic will take place on **Monday 14:00-18:00, 24 March** at room Y12 (first floor), Geoscience building, Stockholm University.

## Day 1 – Tuesday 25

**8:30 REGISTRATION (45 min.)**

Zoom Link: <https://stockholmuniversity.zoom.us/j/62883434487>

### WORKING GROUP REPORTS

Chair: Qiong Zhang

9:15	Ilona Riipinen (Bolin Centre)	Bolin Centre Welcome
9:30	Shuting Yang (DMI)	Opening
10:00	Klaus Wyser (SMHI)	Status report of ECE4 WG
10:15	Philippe Le Sager (KNMI)	Technical WG activities report
10:30	Twan van Noije (KNMI)	Atmospheric Composition WG report
10:45	Anna Lewinschal	Practical information

10:50 *Coffee break*

Chair: Philippe Le Sager

11:10	Andrea Alessandri (CNR-ISAC) Lars Nieradzick (Lund University)	Land and Vegetation WG report
11:25	Valentina Sicardi (BSC)	Ocean/ISM WG report
11:40	Jost von Hardenberg (Politecnico di Torino)	Tuning WG report
11:55	Qiong Zhang (Stockholm University)	Paleo WG report

12:10 *Lunch*

### SICENCE TALKS

Chair: Twan van Noije

13:00	Valentina Sicardi (BSC) Maria Gracia Puga Villanueva (BSC)	<i>(invited)</i> Bridging the gap in climate sciences: Advancing science through equity and inclusion
13:30	Lianghai Wu (KNMI)	The HAM-M7 aerosol scheme within OpenIFS 48r1: developing EC-Earth4
13:45	Tommi Bergman (FMI)	Implementation of the aerosol module HAM-M7 within OpenIFS: Evaluation of surface concentrations
14:00	Declan O'Donnell (FMI)	The Regional Aerosol Model Intercomparison (RAMIP) Project (Online)
14:15	Arundathi Chandrasekharan (FMI)	Evaluation of TM5-MP in the Arctic using MOSAiC observations
14:30	Xavier Yepes-Arbós (BSC)	HPC adaptation and developments for EC-Earth4 at BSC
14:45	Léon Chafik (Stockholm University)	Poleward propagation of thermohaline anomalies: New perspectives and challenges
15:00	Valentina Schüller (Lund University)	Updates on the EC-Earth Coupled Single Column Model
15:15	Annalisa Cherchi (CNR-ISAC)	On a preliminary evaluation of EC-Earth3-ESM-1: global metrics and tropical circulation (Online)
15:20	Irene Trombini (CNR-ISAC)	Impact of prescribed Antarctic meltwater in EC-Earth3: a first analysis of the SOFIA experiments
15:25	Tido Semmler (Met Éireann)	Refined Greenland freshwater input and its impact on AMOC
15:30	Oliver Mehling (Utrecht University)	Impacts of realistic Greenland meltwater in future projections with EC-Earth3 (Online)

15:35 *Group photo and Coffee break*

### 16:00 – 18:00 SG MEETING & BREAKOUT SESSIONS

SG meeting	Land / Vegetation	Ocean	Ice Sheet	C-Cycle	Atmospheric Composition
Chair: Shuting	Chair: Lars + Andrea	Chair: Valentina	Chair: Dorothée	Chair: Etienne	Chair: Twan
Room: Y23	<a href="#">Room: Y21</a>	<a href="#">Room: Y22</a>	<a href="#">Room: U26</a>	<a href="#">Room: U28</a>	<a href="#">Room: U29</a>

16:00 - 18:00

### POSTER SESSION

See list at the end of this program

## Day 2 – Wednesday 26

Zoom Link: <https://stockholmuniiversity.zoom.us/s/62934646126>

### SICENCE TALKS

Chair: Jost von Hardenberg

09:00	Clément Rousset (LOCEAN-CNRS)	(Invited) NEMO 4.2 and NEMO 5.0 highlights
09:30	Valentina Sicardi (BSC)	Advancing biogeochemistry in EC-Earth4
09:45	René Gabriel Navarro Labastida (SMHI)	North Atlantic ocean circulation changes under increased CO2 concentrations using EC-Earth3-HR (Online)
10:00	Feba Francis (Univ. catholique de Louvain)	The southern ocean sea ice in anomaly-forced EC-Earth
10:15	Alessandro Sozza (CNR-ISAC)	Accelerating ocean spin-up: a data-driven approach
10:30	Eveline van der Linden (KNMI)	The Antarctic ice melt emulator: modelling interactions between Antarctic ice sheet melt and the Southern Ocean (Online)

10:45 *Coffee break*

Chair: Valentina Sicardi

11:05	Detlef van Vuuren (Utrecht University)	(Invited) Design of Scenario MIP in CMIP7 (Online)
11:35	Marcus Köhler (ECMWF)	Updates on OpenIFS user support and the OpenIFS Data Hub
11:50	Adrian Hill (ECMWF)	OpenIFS : update on 48r1 and overview of plans for future releases and developments
12:05	Chuncheng Guo (DMI)	Earth system modeling of idealized overshoot scenarios using EC-Earth3-ESM: first results from HEU OptimESM/TipESM projects

12:20 *Lunch*

Chair: Andrea Alessandri

13:20	Pasha Karami (SMHI)	Historical Climate and Future Projection in the North Atlantic and Arctic: Insights from EC-Earth3 High-Resolution Simulations
13:35	Dorothee Vallot (SMHI)	Opening ice shelves in EC-Earth4
13:40	Vladimir Lapin (BSC)	Developments in the ECE4 Ocean Model (Online)
13:45	Joakim Kjellsson (SMHI)	FOCI-OpenIFS: A global coupled model based on OpenIFS and NEMO-AGRIF
13:50	Marco Possega (CNR-ISAC)	Effects of modeled soil characteristics on drought persistence in EC-Earth (Online)

### 14:00 -17:00 PLENARY DISCUSSION SESSION

14:00 EC-Earth4 development and tuning **Chair: Philippe and Jost**

15:00 *Coffee break*

15:30 CMIP7 **Chair: Klaus and Jost**

18:30 **Dinner at Man in the Moon**  
Tegnérsgatan 2C, 113 58 Stockholm

## SICENCE TALKS

Chair: Lars Nieradzik

09:00	Christoph Rudiger (ECMWF)	(Invited) ecLand - Recent developments and current plans (Online)
09:30	Andrea Alessandri (CNR-ISAC)	Feedbacks between surface soil moisture and vegetation in land surface models
09:45	Emanuele Di Carlo (CNR-ISAC)	Effects of the realistic vegetation cover on predictions at decadal time scales (Online)
10:00	Lina Teckentrup (BSC)	Bottom-up estimate of the carbon dioxide removal potential of land-based mitigation technologies using a coupled ESM/ land-use-change model framework
10:15	Etienne Tourigny (BSC)	Time-varying vegetation in IFS for EC-Earth and Destination Earth: ongoing and future projects
10:30	Iria Ayan-Míguez (BSC)	Implementing Carbon Cycle in EC-Earth4 / OpenIFS 48r1 framework
10:35	Emanuele Di Carlo (CNR-ISAC)	Effective cover and land albedo parameterisations in EC-Earth4 (Online)
10:40	Katherine Power (Stockholm University)	Using EC-Earth Transient 8K simulation to evaluate the Late Bronze Age collapse; an inter-model comparison of Holocene transient simulations
10:55	<i>Coffee break</i>	
11:10	Reports from BOGs	
11:40	Final remarks and closure	
12:10	<i>Lunch</i>	

Chair: Shuting Yang

## Posters

1	Valentina Sicardi	Equity, diversity and inclusion in EC-Earth
2	Maria Gracia Puga Villanueva	Equity, diversity and inclusion at the BSC
3	René Gabriel Navarro Labastida	North Atlantic ocean circulation changes under increased CO <sub>2</sub> concentrations using EC-Earth3-HR
4	Rashed Mahmood	Multi-decadal initialized climate predictions using the EC-Earth3 model
5	Rafaila - Nikola Mourgela	Fast climate responses to wildfire emissions from pre-industrial to present-day
6	Tian Tian	Detecting thresholds for forecasting an Ice-Free Arctic in CMIP6
7	Laura Thölix	Evaluating physical and biogeochemical climate effects of boreal forests
8	Zhengyao Lu	Increased frequency of multi-year El Niño-Southern Oscillation across the Holocene
9	Manolis Petrakis	Response of aerosols and tropospheric gases to wildfire emission scenarios
10	Matteo Nurisso	AQUA: A modular framework for model evaluation - First implementation on EC-Earth4 and lessons learnt
11	Marianna Albanese	A novel kernel-based tool for the evaluation of spectrally-resolved climate feedbacks and radiative sensitivities for model tuning
12	Massoud Behboudian	Evaluation of urban heat islands under climate change impacts, case study: Stockholm city
13	Marios Chatziparaschos	New primary and secondary ice production parameterization for mixed-phase clouds in EC-Earth3-AerChem: climate impacts and the role of SIP
14	María Gonçalves Ageitos	Exploring atmospheric aerosols deposition relevant for ocean biogeochemistry with EC-Earth

## On-site Participants

1	Esteban Rodríguez Guisado	AEMET	43	Anna Schultze	Lund University
2	Jose Antonio Parodi-Perdomo	AEMET	44	David Wårlind	Lund University
3	José María Rodríguez González	AEMET	45	Lars Nieradzik	Lund University
4	Jan Streffing	AWI	46	Valentina Schüller	Lund University
5	Laszlo Hunor Hajdu	AWI	47	Zhengyao Lu	Lund University
6	Nadine Wieters	AWI	48	Hamish Struthers	Linköpings universitet
7	Etienne Tourigny	BSC	49	Saji Varghese	Met Éireann
8	Francisco Doblás-Reyes	BSC	50	Tido Semmler	Met Éireann
9	Iria Ayan-Míguez	BSC	51	Jost von Hardenberg	Politecnico di Torino
10	Lina Teckentrup	BSC	52	Marianna Albanese	Politecnico di Torino
11	Valentina Sicardi	BSC	53	Dorothee Vallot	SMHI
12	Xavier Yepes-Arbós	BSC	54	Joakim Kjellsson	SMHI
13	Marios Chatziparaschos	BSC	55	Julien Lenhardt	SMHI
14	Maria Gracia Puga Villanueva	BSC	56	Klaus Wyser	SMHI
15	María Gonçalves Ageitos	BSC/UPC	57	Mikhail Ivanov	SMHI
16	Alessandro Sozza	CNR-ISAC	58	Pasha Karami	SMHI
17	Andrea Alessandri	CNR-ISAC	59	René Gabriel Navarro Labastida	SMHI
18	Federico Fabiano	CNR-ISAC	60	Shiyu Wang	SMHI
19	Irene Trombini	CNR-ISAC	61	Torben Koenigk	SMHI
20	Matteo Nurisso	CNR-ISAC	62	Aino Kaltiainen	Stockholm University
21	Paolo Davini	CNR-ISAC	63	Anna Lewinschal	Stockholm University
22	Renata Coppo	CNR-ISAC	64	Arjen Stroeven	Stockholm University
23	Jorge Bernales	DMI	65	Erik Schwarz	Stockholm University
24	Rashed Mahmood	DMI	66	Erland Källén	Stockholm University
25	Shuting Yang	DMI	67	Gunilla Svensson	Stockholm University
26	Tian Tian	DMI	68	Verena Jung	Stockholm University
27	Chuncheng Guo	DMI	69	Katherine Power	Stockholm University
28	Adrian Hill	ECMWF	70	Léon Chafik	Stockholm University
29	Marcus Köhler	ECMWF	71	Lin Peng	Stockholm University
30	Arundathi Chandrasekharan	FMI	72	Lorenzo Donati	Stockholm University
31	Declan O'Donnell	FMI	73	Qiong Zhang	Stockholm University
32	Laura Thölix	FMI	74	Rebecca Varney	Stockholm University
33	Risto Makkonen	FMI	75	Kristofer Döös	Stockholm University
34	Tommi Bergman	FMI	76	Inga Monika Koszalka	Stockholm University
35	Lianghai Wu	KNMI	77	Tove Hermansson	Stockholm University
36	Philippe Le Sager	KNMI	78	Zhenqian Wang	Stockholm University
37	Roderik van de Wal	KNMI	79	Manolis Petrakis	Technical University of Crete
38	Thomas Reerink	KNMI	80	Rafaïla - Nikola Mourgela	Technical University of Crete
39	Twan van Noije	KNMI	81	Konstantina Paraskevopoulou	Technical University of Crete
40	Massoud Behboudian	KTH	82	Feba Francis	Universite catholique de Louvain
41	Clément Rousset	LOCEAN-CNRS	83	Biao Zhao	Uppsala University
42	Paul Miller	Lund University	84	Erik J. Schaffernicht	Uppsala University

## Online Participants

1	Peter Langen	Aarhus University	30	Petri Räisänen	FMI
2	Rayanne Vitali	Aarhus University	31	Tomi Raatikainen	FMI
3	Ulas Im	Aarhus University	32	Eemeli Holopainen	FORTH/ICE-HT
4	Carl Svenhag	Aarhus University	33	Stelios Kakavas	FORTH/ICEHT
5	Christopher Danek	AWI	34	Paul Nolan	Irish Centre for High-End Computing & Met Éireann
6	Marcel Cases Freixenet	BSC	35	Athanasios Tsikerdekis	KNMI
7	Roc Salvador	BSC	36	Erwin Lambert	KNMI
8	Vladimir Lapin	BSC	37	Eveline van der Linden	KNMI
9	Eric Ferrer	BSC	38	Xuemei Wang	KNMI
10	Montserrat Costa-Surós	BSC	39	Martin Lindahl	Lund University
11	Annalisa Cherchi	CNR-ISAC	40	Nitin Chaudhary	Lund University
12	Chiara Ventrucchi	CNR-ISAC	41	Wilhelm May	Lund University
13	Deborah Rotoli	CNR-ISAC	42	Enda O'Dea	Met Éireann
14	Emanuele Di Carlo	CNR-ISAC	43	John Hanley	Met Éireann
15	Marco Possega	CNR-ISAC	44	Stelios Myriokefalitakis	National Observatory of Athens
16	Roberta D'Agostino	CNR-ISAC	45	Qiang Li	NSC
17	Valerio Lembo	CNR-ISAC	46	Detlef van Vuuren	PBL
18	Vincenzo Senigalliesi	CNR-ISAC	47	Fuxing Wang	SMHI
19	Alessandro Montanarini	CNR-ISAC	48	Yi-Chi Wang	SMHI
20	Virna Meccia	CNR-ISAC	49	Rahul Ranjan	Stockholm University
21	Stefano Della Fera	CNR-IFAC	50	Iulian-Alin Rosu	Technical University of Crete
22	Leonie Röntgen	DMI, University of Copenhagen	51	François Massonnet	Université catholique de Louvain
23	Devilliers	DMI	52	Jerome Sauer	Université catholique de Louvain
24	Charles Pelletier	ECMWF	53	Barriat Pierre-Yves	Université catholique de Louvain
25	Christoph Rüdiger	ECMWF	54	Jing Tang	University of Copenhagen
26	Retish Senan	ECMWF	55	Cheng Shen	University of Gothenburg
27	Souhail Boussetta	ECMWF	56	Oliver Mehling	Utrecht University
28	Franco Catalano	ENEA	57	Fei Luo	VU Amsterdam   KNMI   CCRS
29	Kasper Juurikkala	FMI			