

Climate Limited-area Modelling Community

July 2025

Newsletter

No. 25

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See YOU at the

CLM Assembly 2025

23 – 26 September 2025

Graz, Austria

Announcement:

ICCARUS 2026

16 - 20 March 2026

Offenbach, Germany

Dear Colleagues,

Welcome to the 25th CLM Community Newsletter!

Following the acceptance of the initial recommended configuration for ICON-CLM simulations with a resolution of 12 km at the CLM Assembly last year, the CECPI-Ger group developed an optimized configuration for simulations at convection-permitting resolutions (see the research note by G. Görgen and A. Will in this issue). This configuration will be presented at the CLM Community Assembly in Graz in September.

This issue of the newsletter also contains an interview with Fien Serras from KU Leuven, a review of ICCARUS 2025 and the ICON training, and a preview of the Assembly in September. The second research note is a contribution by Nele Tim (Hereon) about 'The impact of the Agulhas Current system on precipitation in southern Africa in regional climate simulations covering the recent past and future'.

Enjoy reading!



Chandelier at the conference dinner venue at the CLM Assembly in Graz in 2017 (Source DWD).

Five questions to….
Fien Serras

KU Leuven



Fien Serras is a third year PhD student of prof. Nicole van Lipzig at the division of Geography and Tourism within the department of Earth and Environmental Sciences at KU Leuven. Prior to starting at KU Leuven, she obtained her master degree in Bioscience Engineering: Land, Water and Climate at Ghent University in 2022. Her research focusses on the increase of heat waves in Belgium due to climate change, for which she applies a top-down approach. Fien works with global climate models, regional climate models and very high-resolution models (<1km) to investigate the increases in temperature in different Belgian cities. She is interested in assessing the impact of urban adaptation on the temperature. Her PhD is part of the larger CORDEX.be II project, which includes five different Belgian research institutes and has a strong stakeholder interaction.

1. *Fien, you are a PhD student at KU Leuven in the Department of Earth and Environmental Sciences. Can you please tell us something about the institute in general and especially about your PhD project?*

Research at the Department of Earth and Environmental Sciences focusses on geo- and ecosystems at different spatial and temporal scales. Additionally, the impact of humans and their interaction with the surroundings are looked into. The institute is divided into 5 divisions: Geography and Tourism, Geology, Bioeconomics, Soil and Water Management, and Forest, Nature and Landscape. Topics range from applied mineralogy, and bioenergy systems to sustainable food economies, and microbial ecology. My research fits within the 'Earth surface processes and climate'-topic at the Division of Geography and Tourism, with professor Nicole van Lipzig. My PhD is part of the bigger CORDEX.be II project. This is a nationwide project, involving five research institutes and many stakeholders. Together with two other PhD students, I am generating the future climate projections over Belgium. While I am using COSMO-CLM (EUR11 and 2.8km), Josip Brajkovic uses MAR (5km) and Kobe Vandelanotte uses ALARO-0 (EUR11 and 4km).

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With this big dataset, we are analyzing different extreme events in our future. Herein, I focus on the increase of heat waves due to climate change. I am supported by Inne Vanderkelen (Research Expert) and Wouter Lampaert, who both have greatly contributed with many of the setups and analyses.

2. *Why do you think is COSMO-CLM is especially useful for answering your research question?*

As mentioned before, the final goal of the bigger project is to have a set of downscaled GCMs done by multiple RCMs. Compared to other RCMs, COSMO-CLM has a long history of development and cross-country collaborations. It has been used in many interesting publications and previous CORDEX contributions. In recent years, there have been many new developments which contributed to COSMO-CLM's extensive application possibilities. The most important one for my research was the development of TERRA_URB, which makes the model very suitable for studying heatwaves in Belgian cities later on. A practical argument in the use of COSMO-CLM is that my research group has years of experience with running the model. For a 4-year PhD project, this is a very important aspect to ensure the advancement of my research.

3. *As a rather new member, what is your experience with the CLM-Community so far?*

With My experience is generally been very positive, and some examples of the recent years truly stand out for me. While my research group has experience with running COSMO-CLM, I am the first to run COSMO6. We first had to get the model installed and later, had to adapt our existing namelists to the newer version. As the development of COSMO has come to an end, we put a lot of effort into optimizing our runs over Belgium, with a specific focus on cities. Throughout this process, we were into contact with many people of the community. Ha helped with setting up the transient aerosols; thanks to Angelo, Jan-Peter and Marianna we were able to incorporate TERRA_URB after having had some issues. On a train ride at the last CLM-Assembly after a long day, Jan-Peter even wanted to make sure that I had a particular switch on the right setting. Their insights, combined with the help of Jonas also contributed to including ECOCLIMAP-SG in our runs, which is again very valuable for heatwaves in Belgian cities. Furthermore, Hendrik and Marie from KIT shared the NUKLEUS namelists with us, which helped me greatly during the first months to gain insights into namelists in general. In general, it helped me that I had attended the CLM Assembly before I started with setting up COSMO-CLM.

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After all the talks, I more or less knew who was working on what and which issues they ran into that I should also look out for.

4. *What are your expectations to the CLM-Community?*

As said before, the community has been very approachable and a lot has been documented. Therefore, my main expectation is to keep up the good work. The past documentation, together with attending the CLM-Assembly helped to quickly get a general overview of the workings of the community. The documentation was especially important for the installation of COSMO-CLM on Hortense, which is the Flemish Supercomputer. While we were unable to install the starter package, the documentation of the namelists quickened our process of understanding and adapting namelists for our purposes.

5. *What are your personal goals with respect to your scientific career?*

This is a very tough question. As I am approaching the last year of my PhD, I have been thinking a lot about it lately. My interest is, and has always been, (lowering) exposure to heat in cities. I have attended a few conferences over the last years, where this interest has only become greater. While I now have many new ideas, I have not yet any specific plan except from that I want to continue investigating heatwaves, climate change and cities.

Thank you very much for the interview!

CLM-Community issues

Assembly 2024

By Susanne Brienen (Deutscher Wetterdienst)

From 23 to 26 September 2025, the community members are invited to gather for the CLM Community Assembly in Graz, Austria.
This year, 35 abstracts have been submitted. These can be seen at the community webpage: https://www.clm-community.eu/events/clm-community-assembly-2025/
The (preliminary) program is now online as well: https://www.clm-community.eu/events/clm-community-assembly-2025/programme.

The program of the working group meetings as well as the social program will also be provided there as soon as it becomes available.

Two invited talks are scheduled: one from Andreas Prein (ETH Zurich; on Tuesday) and one from Alex Hall (University of California; on Thursday). The wrap-up session of the working groups as well as the Community Meeting with important community-related discussions and decisions (e.g. on the ICON-CLM convection permitting recommended configuration; see agenda which has been distributed via email) will follow on Friday.

Registration for the Assembly is still possible until the 5th September at https://clm2025.uni-graz.at/en/. Here, also some more practical information on the venue - such as hotel, transportation and workshop location - can be found.

We thank Heimo Truhetz and his colleagues from the Wegener Center for Climate and Global Change for organizing this event and hope to meet many community.

Numerical Model Training Course 2025

By D. Rieger(1), S. Gabrian(2), S. Dinicila(2), W. Interewicz (3), U. Schättler(1)
(1) DWD, Germany, (2) NMA, Romania, (3) IMGW-PIB, Poland

From May 12 to 16, the Numerical Model Training Course 2025 for the ICON model took place at the DWD headquarters in Offenbach, Germany. The local organizing team from DWD received further support from the COSMO partners and members of the CLM Community.

The areas of application of the ICON model range from numerical weather prediction (NWP) and regional climate simulations (CLM - Climate Limited Area Model) to the prediction of trace substance dispersion with ICON-ART. Therefore, national weather services, universities and research institutions are among the target group of the training course. Last but not least, the training course also serves to establish contacts between the ICON users and the ICON developers at DWD.

The morning program consisted of lectures on the physical principles and technical details of the ICON model. In the afternoon, the participants were able to learn how to carry out ICON simulations in the exercise blocks. For the exercises, we were able to rely on the proven concept from previous years of offering exercises with different thematic focuses for different areas of application, namely regional climate simulations ("CLM") and NWP for national weather services ("MetServices"). In contrast to previous years, there were no exercises focusing on NWP for the academic sector. These took place in July as part of natESM at the DKRZ in Hamburg (https://www.nat-esm.de/services/workshops-and-trainings/events/dwd-academic-icon-course-dkrz).

Of the 67 participants who were accepted for the course, only 28 were ultimately present. Although not everyone showed up in previous years also, this high proportion came as a surprise to the organizing team. As usual, the course was very international, this year with participants from Botswana, Germany, Italy, Cameroon, Nigeria, Oman, Romania, Switzerland, Senegal, Zimbabwe and Turkey. The course took place at the DWD headquarters in Offenbach. The participants brought their own notebooks for the exercises. Calculations were carried out on Levante at the German Climate Computing Center DKRZ (CLM) and on the ATOS system of the ECMWF (MetServices).

After an introductory lecture that presented many technical details about ICON, there were lectures on initial and boundary data, dynamics, physics overview, advection, nesting and ICON limited-area mode, microphysics, clouds and convection, radiation, gravity wave drag, turbulence, soil and external parameters, lakes and sea ice and ICON-ART.

The CLM exercises were designed and conducted by the CLM Community. The course introduced the Starter Package for ICON-CLM Experiments (SPICE). SPICE is a runtime environment for performing regional climate simulations with ICON-CLM. SPICE was developed within the CLM Community. The CLM course was rounded off with a ComIn exercise (ICON Community Interface).



Fig. 1: Logo Numerical Modelling Training Course 2025 (Source: N. Leps, DWD)

The exercises for the national weather services were created by the COSMO Consortium. The focus was on high-resolution ICON-LAM simulations and the tools required for operational use (ecflow scheduler, verification).

Guided tours through areas of the DWD provided a change from the intensive course program. The participants were able to visit the HPC, the library archive, radioactivity monitoring, the forecasting and advice center and the Global Precipitation Climatology Centre (GPCC) at DWD. Despite the low number of participants overall, the tours were very well attended.



Fig. 2: Group picture, source: M. Kügler (DWD)

ICCARUS 2025

By Christian Steger (Deutscher Wetterdienst)

The ICCARUS (ICON/COSMO/CLM/ART User Seminar) 2025 took place at the DWD headquarters in Offenbach from March 10 to 13. Over the past two and a half decades, the annual meeting has established itself as a hub for the exchange of information on model development, physical parameterization, data assimilation, ensemble generation, verification and applications around the COSMO and ICON models. The event connects the COSMO and CLM community as well as ICON and ART developers.

The event was opened by DWD's new Head of Research and Development, Peter Braesicke. Roland Potthast then gave an overview of how numerical weather prediction and AI forecast models complement each other. Then the scientific lecture program began. This year, it comprised a total of 44 talks on Monday, Tuesday and Wednesday, which were divided into the thematic units "Atmospheric Aerosol", "Climate Applications", "Infrastructure", "Clouds", "SINFONY (Project)", "NWP Case Studies", "Dynamics / Gravity Waves", "Data Assimilation", "CONTRAILS (Project)", "Dynamics", 'Chemistry' and "Earth System Modeling".

The program was enriched by four keynote speeches by Ali Hoshyaripour (KIT) on "ICON-ART: Updates, Enhancements, and What Lies Ahead" and "Evolving Excellence: Updates and Vision for ICON", Claudia Frauen (DKRZ) on "WarmWorld - Exascale Earth System Models to Anticipate Changes in a Warmer World", Christoph Müller (MeteoSwiss) on "Towards a performance portable python implementation of the ICON model" and Günther Zängl (DWD) on "ICON-NWP: Recent development steps and operational upgrades, and plans for 2025".

The poster session took place on site for the first time since 2019. A total of 68 posters were presented in three poster sessions. The exchange at the posters brought some variety to the tight lecture program in the afternoon. On Monday evening, after the scientific program, there was a reception for the participants in Offenbach.

The working group meetings, which took place on Thursday or online the following week, were based on the well-proven concept from the previous year. The main aim is to bring the developers and users of the ICON model from the various communities (COSMO, CLM and ICON) closer together in order to facilitate a better exchange and intensify collaboration. The working groups covered the topics "Soil, Vegetation &; Land Surface", "ICON AI", "Earth System Model", "Data Assimilation", "Ensemble", "Model Dynamics", "Atmospheric Boundary Layer", "Evaluation", "Radiation, Cloud, Aerosol, Chemistry" and "ICON Consolidated (ICON-C)".

The total number of registered participants for ICCARUS 2025 was 347. Of these, 155 people were on site in Offenbach. There was a total of 112 scientific contributions (44 presentations, 68 posters). These numbers impressively demonstrate the great interest in ICCARUS and its importance for the exchange between developers and users of ICON at universities, research institutions and national meteorological services.

The date for ICCARUS 2026 will be announced later this year. It will depend on the availability of rooms in Offenbach and the avoidance of weeks with major trade fairs in Frankfurt. However, it will most likely be in March 2026.

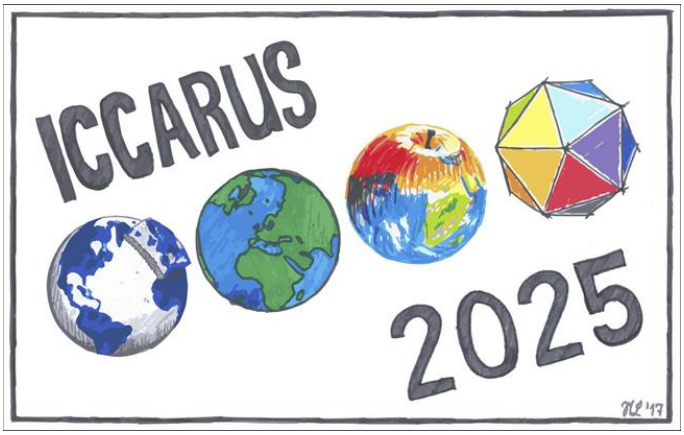

Fig. 1: ICCARUS Logo (Source: N. Leps (DWD))



Fig. 2: Group photo of the participants. Source: Michael Kügler (DWD)

The impact of the Agulhas Current system on precipitation in southern Africa in regional climate simulations covering the recent past and future

Tim, N., Zorita, E., Hünicke, B., & Ivanciu, I. (2023), Weather and Climate Dynamics, 4, 381–397

Southern Africa's climate, particularly its precipitation, is vulnerable to the effects of climate change. In the context of the BMBF-funded project CASISAC (Changes in the Agulhas System and its Impact on Southern African Coasts), this study investigated how the Agulhas Current system, comprising the Agulhas Current and the Agulhas Leakage, influences the region's past and future rainfall trends. Using high-resolution regional climate simulations (CCLM, with a grid spacing of ~16 km) and a global ocean–atmosphere coupled model (FOCI), the study assessed the impact of oceanic changes onregional precipitation.

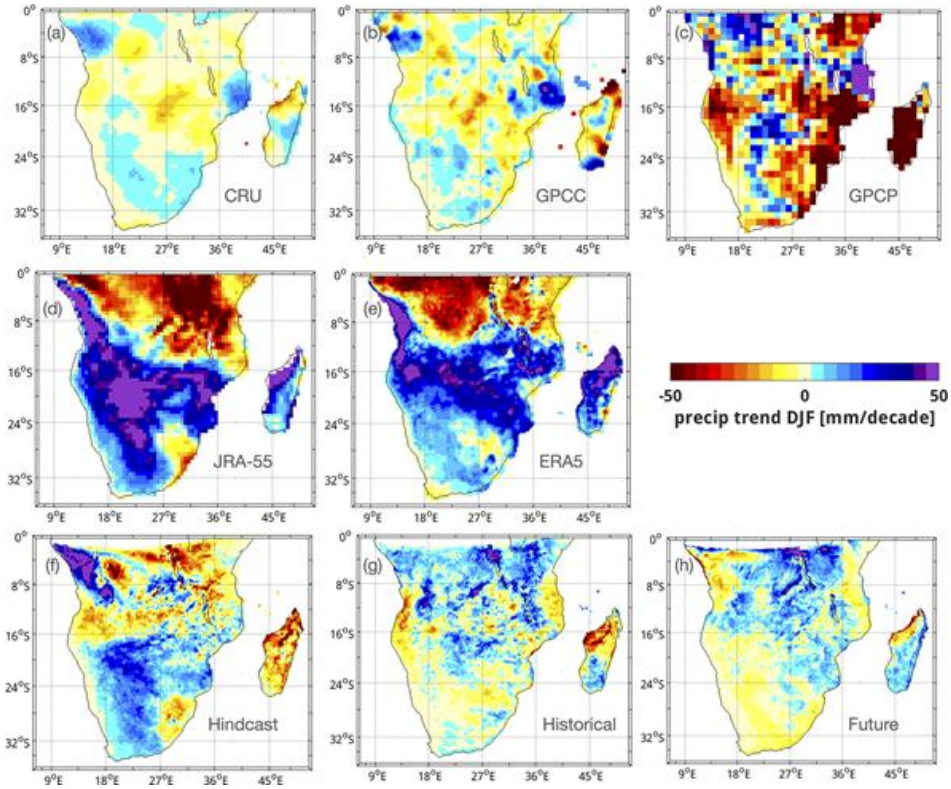

Figure 1: *Precipitation trends for austral summer (December–February) for the observational data sets (a) CRU (1958–2019), (b) GPCC (1958–2019), and (c) GPCP (1997–2018); for the reanalysis data sets (d) JRA-55 (1958–2019) and (e) ERA5 (1979–2020); (f) for the hindcast simulation of CCLM (1958–2019); (g) for the historical simulation of CCLM (1951–2013); and (h) for the scenario simulation of CCLM (2014–2099). Trends are in millimeters per decade. The year dates are January and February of the season.*

The Conclusions

This study highlights the critical role of regional oceanic dynamics, particularly the Agulhas system, in shaping the climate of southern Africa. The weakening of the Agulhas Current and the intensification of the Agulhas Leakage are associated with reductions in rainfall, particularly in coastal regions.

While global climate models (e.g., CMIP6) capture large-scale trends, high-resolution regional models are crucial for understanding the fine-scale interactions between ocean currents and precipitation. This is particularly true in a region like southern Africa, which lies at the intersection of tropical and temperate climatic systems and is highly vulnerable to global and local climate drivers.

Our key findings are:

1. **Model Validation and Current Rainfall Patterns**
The CCLM model reliably captures the spatial structure of precipitation zones across southern Africa, but underestimates absolute rainfall amounts, particularly over Madagascar and certain interior regions of the continent. The annual cycle of rainfall in both the summer rainfall zone (SRZ) and winter rainfall zone (WRZ) is accurately reproduced.

2. Precipitation Trends: Past and Future
Past (1958–2019): In austral summer (DJF), rainfall has increased inland but declined along parts of the southeastern coast. During austral winter (JJA), the WRZ has experienced mixed trends, with some areas drying in the north and others experiencing slight wetting in the south.
Future (2014–2099, SSP5–8.5): Model projections indicate a general decrease in rainfall across southern Africa, especially in coastal areas and during both rainfall seasons. This aligns with IPCC projections.

3. Role of the Agulhas Current System
The Agulhas Current is associated with increased precipitation along the southeast coast, primarily due to warm sea surface temperatures (SSTs) and enhanced moisture transport. Its weakening contributes to drying in that region.
The Agulhas Leakage, the outflow of Indian Ocean water into the South Atlantic, is linked to winter rainfall in the WRZ. Increased leakage is correlated with decreased precipitation in the southwest of Southern Africa.
The Agulhas Current is projected to weaken, and the Agulhas Leakage is projected to intensify over the 21st century. These changes will influence regional SST patterns, alter moisture transport, and reinforce drying trends, particularly in coastal zones.

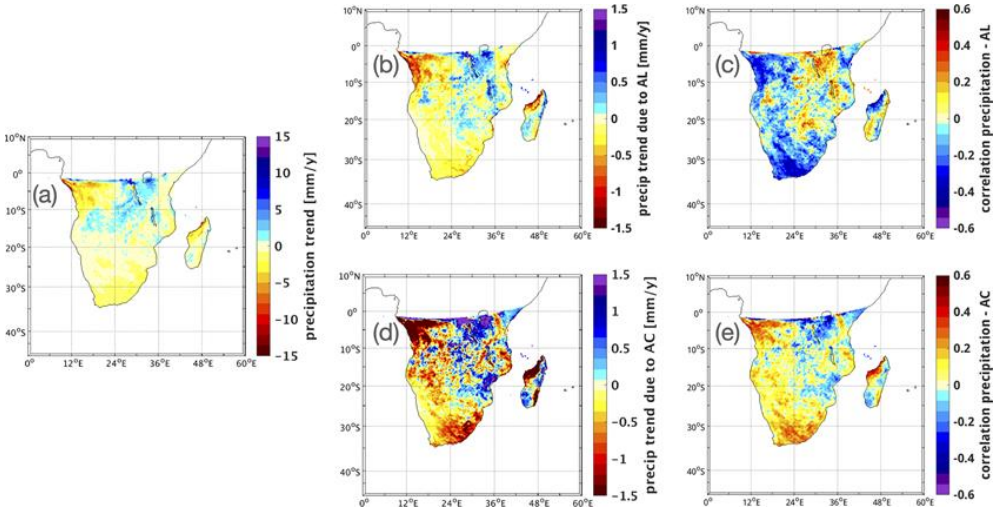

Figure 2: *Impact of the Agulhas leakage (AL) and Agulhas Current (AC) on precipitation over southern Africa in the scenario simulation. (a) The trend in precipitation, (b) the portion of the precipitation trend attributed to the Agulhas leakage, (c) the correlation pattern of precipitation and the strength of the Agulhas leakage, (d) the portion of the precipitation trend attributed to the Agulhas Current, and (e) the correlation pattern of precipitation and the strength of the Agulhas Current. Color bars of the correlation patterns (c, e) are reversed compared to the color bars of the other subplots.*

Outlook

As a follow-up, our ongoing study reveals that simulated precipitation extremes are projected to intensify over the South African coast in the future (Tim et al., in preparation). For example, for the KwaZulu-Natal Province, the heaviest rainfall event in the future is twice as strong as the strongest extreme simulated in the historical period and the recently observed disastrous extreme event in April 2022, which resulted in days of heavy rain leading to deadly floods and a national state of disaster declaration.

Towards an optimized configuration for convection-permitting ICON-CLM climate runs configuration – the CECPI-Germany initiative

*Andreas Will (BTU) and Klaus Goergen (FZJ) on behalf of the CECPI-Ger Team**

In March 2024 the Coordinated Evaluation of Convection Permitting Climate simulations with ICON-CLM for Germany (CECPI-Ger) was started to enhance and optimize existing configurations for upcoming ICON-CLM experiments for a 3km horizontal resolution hydrologic Germany, i.e., a mid-European model domain. Work has been a common effort of the Working Group Convection-Resolving Climate Simulations (WG CRCS) and the BMBF-funded project "Updating the data basis for adaptation to climate change in Germany" (UDAG).

The CECPI-Ger Task Group used the proven Coordinated Parameter Testing (COPAT) (Anders et al., 2016) in combination with the EVA-Suite for analysis and the novel Linear Meta Model (LiMMo) (Petrov et al., 2025) approaches to optimize about 60 parameter values of initial and boundary conditions, surface fluxes, turbulence, mixing, numerical diffusion, convection and microphysics including logical and/or integer ICON namelist parameters. The basis of the optimization was the operational NWP configuration of the DWD, the national weather service of Germany, as of summer 2024 using the latest public release ICON version (https://gitlab.dkrz.de/icon/icon-model). The test runs were done on the DKRZ/Levante HPC system for the years 2002 and 2003, in a one-way double nest setup, with boundary conditions form a previous dynamical downscaling of the ERA5 reanalysis with an optimized ICON 12km simulation from the COPAT2 initiative (Geyer et al., under preparation).

The optimized configuration leads in particular to a reduction of the seasonal maximum 2m air temperature biases; the diurnal cycle and the 99th percentile of precipitation are improved, likewise the spatial skill score (by up to 50%). See Figure 1 for an example of the SCOPI metric, as obtained during the optimization procedure. The optimized configuration exhibits significantly smaller numerical diffusion and significantly higher turbulence and mixing than the operational NWP configuration used as a reference. We identified 11 highly sensitive parameters; it can be expected that the optimization of these parameters only provides a configuration, which has nearly the same quality as the optimum configuration for all 60 parameters. Peer-reviewed publications on the optimized configuration and the ICON's parameter sensitivity (Will et al., under preparation), and the LiMMo methodology (Petrov et al., under preparation) are ongoing.

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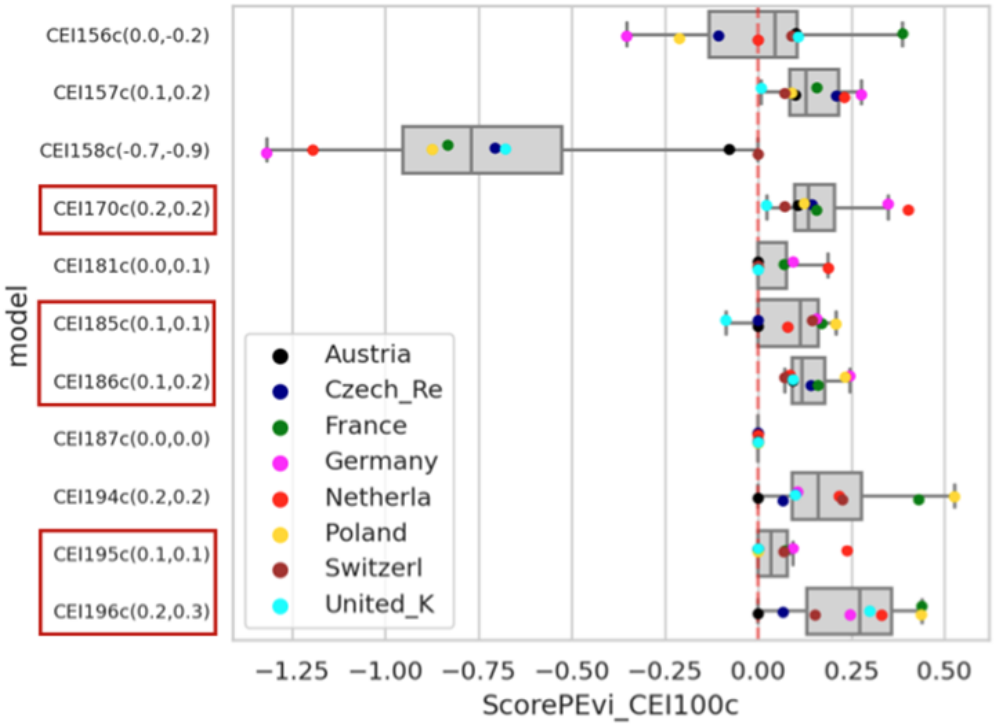

Figure 1: *SCOPI (score points of evidence) from comparison of CECPI-Ger ICON-CLM test runs with HYRAS v6 (Hyrometeorologische Rasterdatensätze) for 2002 and 2003, using equal LiMMo weights. Variables considered for SCOPI metric: rsds, tas, tasmin, tasmax, pr, hurs. CEI195c is the finally chosen reference configuration. Figure courtesy: Shweta Singh (DWD) and Beate Geyer (Hereon).*

By February 2025 a first optimized final configuration had been derived. At the moment, the new configuration is being used for the km-scale UDAG transient climate change production simulations, and testing is ongoing or planned for different model domains (e.g., the Alps, the Mediterranean). The CECPI-Ger effort has been continuing during 2025 to derive a second optimized configuration using the two-moment microphysics scheme. The optimized single-moment scheme configuration is planned to be presented during the CLM-Community Assembly in September 2025. The distribution of the optimized configuration, e.g., by means of SPICE is under way, and it will be findable through the CLM-Community website.

*The CECPI-Ger Team is: Andreas Will (BTU), Klaus Goergen (FZJ), Beate Geyer (Hereon), Christian Beier (BTU), Susanne Brienen (DWD), Hadi Bordbar (IOW), Angelo Campanale (CMCC), Gabriella Ceci (CMCC), Evgenii Churiulin (KIT), Eleonora Cusinato (KIT), Hendrik Feldmann (KIT), Shabeh Ul Hasson (Univ. HH), Adam Jaczewski (IMGW), Muhammed Karadan (BTU), Pavel Khain (IMS), Divyaja Lawand (BTU), Patrick Ludwig (KIT), Midhuna Thayyil Mandodi (Hereon), Vera Maurer (DWD) Sergei Petrov (Hereon-KS), Christopher Purr (DWD), Stefan Poll (FZJ), Martina Schubert-Frisius (Hereon-GERICS), Jan-Peter Schulz (DWD), Shweta Singh (DWD), Christian Steger (DWD).

References

Anders, I., Brienen, S., Bucchignai, E., et al. (2016). COPAT - towards a recommended model version of COSMO-CLM. EGU General Assembly 2016, 17-22 April 2016, Vienna, Austria.

Petrov, S., Will, A., and Geyer, B. (2025). Linear Meta-Model optimization for regional climate models (LiMMo version 1.0), EGUsphere [preprint]. https://doi.org/10.5194/egusphere-2025-710.

Recent publications

2023

Gofa, F., A. Bundel, M.S. Tesini, C. Marsigli, M. Hoff, D. Boucouvala, A. Mazur, J. Linkowska, G. Duniec, D. Cattani, B. Pasquier, A. Muraviev, E. Tatarinovich, Y. Khlestova, D. Zakharchenko (2023): The COSMO Priority Project AWARE: Appraisal of "Challenging WeAther" FoREcasts. Final Report. COSMO Technical Reports, No. 50, DOI: 10.5676/DWD_pub/nwv/cosmo-tr_50, https://www.cosmo-model.org/content/model/cosmo/techReports/docs/techReport50.pdf

2024

Cavalleri, F. C. Lussana, F. Viterbo, M. Brunetti, R. Bonanno, V. Manara, M. Lacavalla, S. Sperati, M. Raffa, V. Capecchi, D. Cesari, A. Giordani, I.M.L. Cerenzia, M. Maugeri (2024): Multi-scale assessment of high-resolution reanalysis precipitation fields over Italy. Atm. Res., Vol. 312, 107734, https://doi.org/10.1016/j.atmosres.2024.107734

Friederichs, P., J. Grieger, T. Kunz, U. Ulbrich, G. Burger, S. Buschow, S. Christ, E.E.L. Eceiza, F.S. Fauer, H. Feldmann, X. Guan, M. Heistermann, F. Kaspar, M. Kunz, E.P. Meredith, B. Merz, S. Mohr, D. Niermann, J.G. Pinto, J. Schröter, S. Szemkus, P. Voit, S. Vorogushyn (2024): Ergiebige Dauerniederschläge und Hochwasser in Süddeutschland im Mai und Juni 2024. Bericht des Forschungsnetzwerkes ClimXtreme, http://dx.doi.org/10.17169/refubium-44009

2025

Adinolfi, M., L.L. Loprieno, M.-E. Demory, C. Zeman, C. Schär (2025): Km-scale climate simulations over Madeira and Canary Islands under present and future conditions: a model intercomparison study. Climate Dynamics, 63:89, https://doi.org/10.1007/s00382-024-07563-x

Alifdini, I., J. Moemken, A.M. Ramos, J.G. Pinto (2025): Future Changes of European Windstorm Losses in EURO-CORDEX Simulations. Tellus A: Dynamic Meteorology and Oceanography, 77(1): 20–37. DOI: https://doi.org/10.16993/tellusa.4094

Borgers, R., J.G. Pinto, N. van Lipzig (2025): Quantifying the Near-Future Wind Energy Production over the North Sea Using a Novel Statistical–Dynamical Approach to GCM Downscaling. J. of Applied Met. and Climatology, 64(4), https://doi.org/10.1175/JAMC-D-24-0116.1

Bügelmayer-Blaschek, M., J. Züger, T. Tötzer, (2025): Assessing the potential of urban wide greening for climate-resilience: The example of Vienna. Sustainable Futures, 9, 100532, https://doi.org/10.1016/j.sftr.2025.100532h

Campanale, A., M. Adinolfi, M. Raffa, J.-P. Schulz, P. Mercogliano (2025): Investigating urban heat islands over Rome and Milan during a summer period through the TERRA_URB parameterization in the ICON model. Urban Climate, Vol.60, 102335, https://doi.org/10.1016/j.uclim.2025.102335

Heinemann, G. (2025): A case study of a wintertime low-level jet associated with a downslope wind event at the Tiksi observatory (Laptev Sea, Siberia). Meteorology, 4(1), 7. https://doi.org/10.3390/meteorology4010007

Hundhausen, M., H.J. Fowler, H. Feldmann, J.G. Pinto (2025): Sub-hourly precipitation and rainstorm event profiles in a convection-permitting multi-GCM ensemble. Weather and Climate Extremes, Vol. 48, June 2025, 100764, https://doi.org/10.1016/j.wace.2025.100764

Klimiuk, T., P. Ludwig, A. Sanchez-Benitez, H.F. Goessling, P. Braesicke, J.G. Pinto (2025): The European summer heatwave of 2019 – a regional storyline perspective. Earth Syst. Dynam., 16, 239–255, 2025, https://doi.org/10.5194/esd-16-239-2025

Kohnemann, S., G. Heinemann (2025): Gap flows in Nares Strait: Multi-Scale Numerical Model Simulations in Comparison to Aircraft Measurements. Earth and Space Science, 12, e2024EA003912. https://doi.org/10.1029/2024EA003912

Latt, M., M. Adinolfi, P. Mercogliano, A. Hochman (2025): High-resolution projection of wind energy in the Eastern Mediterranean and Middle East summer.Climatic Change, 178:111, https://doi.org/10.1007/s10584-025-03951-2

Laux, P., D. Feldmann, F. Marra, H. Feldmann, H. Kunstmann, K. Trachte, N. Peleg (2025): Future precipitation extremes and urban flood risk assessment using a non-stationary and convection-permitting climate-hydrodynamic modeling framework. J. of Hydrology, Vol. 661, 133607, https://doi.org/10.1016/j.jhydrol.2025.133607

Sangelantoni,L., S.P. Sobolowski, P.M.M. Soares, K. Goergen, R.M. Cardoso, M. Adinolfi, A. Dobler, E. Katragkou, E. Scoccimarro, R. Ferretti, M. Tölle, H. Feldmann (2025): Heatwave Future Changes From an Ensemble of Km-Scale Regional Climate Simulations Within CORDEX-FPS Convection. Geophysical Research Letters, 52, Issue 2, https://doi.org/10.1029/2024GL111147

Teske, V., R. Timmermann, C. Nissen, R. Zentek, T. Semmler, G. Heinemann (2025): Simulated density reorganization on the Weddell Sea continental shelf sensitive to atmospheric forcing. Ocean Sci., 21, 1205–1221, https://doi.org/10.5194/os-21-1205-2025

Please send all information about new publications related to COSMO-CM or ICON-CLM (peer-reviewed, reports, thesis etc.) with the corresponding links to clm.coordination[at]dwd.de. Please do not forget to name the project in the topic browser to which the publication is related. Thank you very much!

Welcome to new Members

Bogor Agriculture University (IPB University)
(https://www.ipb.ac.id/)

Contact: Dr. Idung Risdiyanto

Indian Institute of Tropical Meteorology
(https://www.tropmet.res.in/)

Contact: Dr. Suvarna Fadnavis

Institute of Geodesy and Geoinformation - University of Bonn
(*https://www.igg.uni-bonn.de/de/home*)

Contact: Francis Lopes

Upcoming events

2025

September 01 – 05: COSMO General Meeting 2025, Basel, Switzerland
September 23 – 26: CLM Community Assembly 2025, Graz, Austria
October 15 – 16: ICON Seamless Meeting, Offenbach, Germany
October 27 – 29: ICON All Hands Meeting 2025, Zurich, Switzerland

2026

March 16 – 20: ICCARUS (ICON/COSMO/CLM/ART USER Seminar) , Offenbach, Germany

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