Newsletter
German Climate Computing Center
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Spotlight: Understanding Extreme Events in a Climate Change Context

Europe is experiencing increasingly frequent and intense extreme weather events. In the ClimXtreme project, researchers investigated whether and to what extent the 2023-24 winter floods in Germany and the rainfall in May-June 2024 were due to natural climate variability or anthropogenic climate change. Their conclusion: Both events underscore a complex reality: climate change is subtly but significantly altering the probability and character of extreme events, sometimes also stretching them out in time or expanding them in space. The complex nature of such events, as well as their rarity by definition, requires the analysis of a very heterogeneous collection of large datasets and the use of considerable computational resources at DKRZ. Further information: www.dkrz.de/en/spotlight-climXtrem/

WCRP Global Km-Scale Hackathon

From May, 12 to 17, 2025 researchers from around the world came together virtually and in person for the first Global Km-Scale Hackathon of the World Climate Research Programme (WCRP). Coordinated by the ESMO International Project Office at DKRZ, it took place simultaneously at 10 institutions worldwide on 5 continents in 9 time zones. In Hamburg, the MPI-M hosted the event jointly with DKRZ and CEN at the University of Hamburg. The DKRZ team supported the work both in Hamburg and at the Beijing node in China as well as at the European Space Agency's ESRIN node in Italy. During the week-long event, over 600 researchers worldwide collaborated on regional and global climate simulations at the kilometer scale. Further information: www.dkrz.de/en/wcrp-hackathon2025/

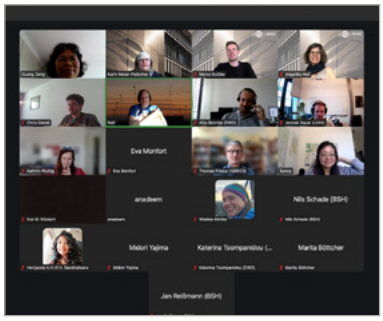
DKRZ & Partners present climate research at EGU25

More than 20,000 researchers participated in this year's meeting of the European Geosciences Union (EGU) from April 28 to May 2, 2025, both in-person in Vienna and online, to exchange scientific findings and network. At a joint booth, the DKRZ, the WCRP ESMO International Project Office based at the DKRZ, and the Excellence Cluster CLICCS at the University of Hamburg presented new results, structures, and services from and for climate research. Visualizations on the DKRZ climate globe and touch table illustrated the diversity of research conducted on the DKRZ supercomputer. This provided numerous opportunities for fruitful discussions. Partners such as NFDI4Earth, LRZ, and DLR presented their work in close proximity, reflecting the close networking among German Earth system science institutions. The DKRZ team was also strongly represented in the EGU conference program: 11 sessions and two town hall meetings were (co-)convened. DKRZ work was presented in 10 oral presentations, 12 posters, five PICO presentations, and one workshop (short course). Further information: www.dkrz.de/en/egu2025/

CAP7: German contribution to CMIP7

The CAP7 initiative officially launched with the kick-off meeting at the end of February at the German Meteorological Service (DWD) in Hamburg. The aim of CAP7 is to make a clearly visible and high-quality German contribution to the 7th phase of the international Climate Model Intercomparison Project (CMIP7) using Earth system models developed and deployed in Germany. Representatives from seven research institutions, including the project coordinator DWD, DKRZ, University of Hamburg, AWI, and MPI-M, agreed on goals and milestones. The focus is set on DECK simulations (DECK stands for Diagnostic, Evaluation, and Characterization of Klima) and climate projections based on various future scenarios. The data will be processed according to FAIR principles and evaluated using the ESMValTool. The DKRZ will play a central role in data processing and provision for research and the public. Further information: www.dkrz.de/en/cap7-kickoff/

DKRZ Python course continues its success story



For the eighth time, the DKRZ team, co-jointly with the Scientific Computing group, held its popular Python course for geoscientists from March 31 to April 4, 2025. 60 participants attended the online training. New this year: The introduction to Linux and the use of JupyterHub took place the day before – a step that gave participants an optimal start to the actual course. The interactive course format and the opportunity to ask questions directly were once again particularly positively highlighted. Even participants with previous experience from other Python courses reported that they truly understood the basic concepts of the Python programming language for the first time in this workshop. The next DKRZ Python course is scheduled for fall 2025. Further information: www.dkrz.de/en/python-ws-april2025/

Deep Learning at DKRZ

From March 19 to 21, 2025, the DKRZ once again hosted a workshop introducing deep learning with a focus on applications in climate science. The event was jointly organized by the Machine Learning group within the DKRZ department Data Analysis and the Helmholtz AI group at Hereon and was aimed at PhD students, graduate students, and postdocs in the field of climate research. The three-day workshop combined theoretical concepts with practical exercises. The goal of the workshop was to provide participants with a basic understanding of deep learning and to provide them with tools to apply these methods to their scientific questions in the future. Due to strong demand, the DKRZ plans to continue offering the workshop once or twice a year. Further information: www.dkrz.de/en/deeplearning-WS-2025/

Making climate change visible – on a scale of 1:87

At Miniatur Wunderland Hamburg, Telekom presented its mixed-reality project „Warmland," which visualizes the consequences of climate change on a scale of 1:87. Using interactive iPad applications, visitors can see how extreme weather events could impact global warming of 2° or 5° Celsius in four miniature locations – Schwanstein Castle, the Austrian Alps, Monaco, and Venice. DKRZ visualizer Michael Böttinger accompanied the project as a scientific advisor. His role was to professionally classify the realistic effects of climate change and to reconcile creative freedom with scientific foundation. The project impressively demonstrates how complex topics such as climate change can be made tangible and emotionally engaging. More information: https://green-magenta.com/en/together/

Girls' and Boys'Day: A day in climate research

On April 3, 2025, 21 girls and boys had the opportunity to get a glimpse into the everyday working lives of climate researchers: MPI-M and DKRZ jointly offered a diverse program for Girls' and Boys' Day. The youngsters had the opportunity to get hands-on: They experimented with simple climate models, toured through DKRZ's high-performance computing hall and data archive, had possible climate scenarios explained to them on the climate globe, and were able to ask young climate researchers about their careers and daily work. The day was finished after a tour to the weather station on the roof of the Geomatikum and a visit to the wind tunnel. Perhaps this day was the first step toward a scientific career in the climate and environmental field for some of them?!

On our own account: Open job offers at DKRZ

Do you want to join the DKRZ team – we are looking forward to your application:

- Computer Scientist / Research Software Engineer for a LLM based Climate Data Analysis Framework
- IT system administrator focussing on network and security (in German)
- System adminstrator for virtualization and cloud (in German)
- Research Software Engineer for Climate Science

You are also welcome to send us your unsolicited application using our Web form. General information about vacancies and working conditions at DKRZ: www.dkrz.de/en/about-en/vacancies/

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