

The International Project Office for CORDEX would like to thank the CORDEX community for all the valuable work during 2024 and also wish all of you

## Happy Holidays!



The CORDEX office will be unmanned during the period of 21 December to 1 January.

For urgent matters regarding CORDEX data access please have a look at our website under [Data access](#) and/or our [FAQ](#).

For other CORDEX matters please take a look at the [general FAQ](#) or contact one of our [Points of Contact](#) (POCs) or one of our [Science Advisory Team](#) (SAT) members.

For more WCRP-related matters you can turn to the [WCRP secretariat](#)

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### New CORDEX co-chair and new SAT members



As of September, **José Manuel Gutiérrez** has been appointed as the new third co-chair for the CORDEX [Science Advisory Team](#) (SAT). José Manuel Gutiérrez is from the Institute of Physics of Cantabria a joint research

In addition, **new SAT members** have been appointed to start in 2025 bringing new scientific and regional expertise. We would like to warmly welcome **Dong-Hyun Cha**, **Erika Coppola**, **Faye Abigail Cruz**, **Ulrich Jacques Diasso**, **Alessandro**

center of the Spanish Research Council (CSIC) and the University of Cantabria, Santander, Spain and has been a SAT member since 2019.

During the work with restructuring CORDEX it has been decided to enlarge the SAT and to have three co-chairs instead of two. José Manuel Gutiérrez will co-chair SAT together with the other two co-chairs, Silvina Solman and Daniela Jacob.

**Dosio, Jesús Fernández, Marcus Thatcher and Sabin TP** as new members of the Science Advisory Team.

We would also like to thank the four **SAT members stepping down, Grigory Nikulin, Sanjay Jayanarayanan, Fredolin Tangang and John Cassano**. Thank you all for your excellent contribution during the years!

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## CORDEX Task Forces

At the International Regional Climate Conference - CORDEX 2023, the conference sessions brought to light several scientific and technical challenges. These challenges require rapid coordination and strategic planning within CORDEX, as well as collaboration with other WCRP and external communities.

In these discussions, it was recognised that the challenges require urgent planning and coordination action beyond the existing CORDEX instruments (domain activities, downscaling intercomparison experiments and Flagship Pilot Studies, FPS), so the CORDEX SAT decided to implement a new instrument (Task Force) to address these challenges.

Task Forces (TFs) are established as short-term planning actions, lasting up to one year from the time of endorsement, to address rapidly evolving challenges in coordination with other relevant initiatives, where appropriate. The primary goal of a TF is to identify strategic needs and tasks, ultimately developing a proposal of planning steps to implement these activities within the CORDEX framework. This will allow CORDEX SAT to make informed decisions that may involve new instruments, such as working groups.



### The established Task Forces are:

- Regional ocean modeling and climate projections
- Convection permitting modelling
- Machine learning
- CORDEX-CORE CMIP6
- Preparing CORDEX-CMIP7

More information about the Task Forces will be published on the website soon.

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**The call for proposals to host the International Project Office of CORDEX is still open!**

The World Climate Research Programme (WCRP) is opening a call for proposals to host the International project office of CORDEX.



The deadline for proposals is 28 February 2025.

More information about the call can be found at the [WCRP website](#).



## CORDEX East Asia and CORDEX Central Asia domains

**CORDEX-East Asia (EA)** has been established since 2009, building on the Regional Climate Model Intercomparison Project (RMIP), which began in the late 1990s. China, Korea, and Japan collaboratively held seven RMIP workshops to focus on reproducing the East Asian climate and advancing Regional Climate Models (RCMs). During the RMIP period, downscaling research was conducted using ECHAM5, a model contributing to CMIP3, with the RCMs from each country. CORDEX-EA subsequently succeeded RMIP, expanding efforts to downscale Global Climate Models (GCMs) from CMIP5 and CMIP6 using multiple RCMs and Empirical Statistical Downscaling (ESD) methods.

China, Korea, and Japan have jointly led the CORDEX Phase 1 and Phase 2 experiments for the EA domain, producing results from both historical experiments and future scenario simulations under the CORE program.

- **Phase 1:** RCMs with a horizontal resolution of 50 km were employed, covering a broad domain that included East Asia, South Asia, parts of Oceania, and India. Based on Assessment Report 5 (AR5)'s Representative Concentration Pathways (RCP) scenarios, detailed regional climate change projections were conducted.
- **Phase 2:** Higher-resolution RCMs with a 25 km horizontal resolution were used to refine regional climate change scenarios based on AR5's RCP scenarios. This phase also incorporated a larger number of GCM-driven large-scale forcings into RCMs, significantly increasing the ensemble size compared to Phase 1. Recently, CORE experiments based on AR6's Shared Socioeconomic Pathways (SSP) emission scenarios have been completed.

Additionally, participating countries have conducted research using ESD methods to statistically downscale GCM outputs. In Korea, for example, scenarios with a resolution as fine as 1 km have been produced by combining dynamic downscaling with RCMs and further refining them statistically.

In addition to the CORE program, each country is actively conducting studies under FPS to improve the simulation of high-impact weather and climate phenomena, such as heavy rainfall, typhoons, and heat waves. These efforts involve using convection-permitting models with resolutions of 4 km or finer. Research is also ongoing to develop coupled regional climate models integrating atmosphere-ocean interactions.

Starting with the Jeju Workshop in 2012, several regional scientific workshops have been held in Korea and China to compare simulation results and share scientific achievements. Over the past 15 years, CORDEX-EA teams have published approximately 200 papers in international SCI(E) journals. Since 2015, they have also hosted a regular CORDEX session at the annual Asia Oceania Geoscience Society (AOGS) meeting.

The CORDEX-EA CORE output is distributed through the ESGF node jointly operated by the National Institute of Meteorological Sciences (NIMS) and the APEC Climate Center (APCC). The data can be accessed [here](#).

During several years there were not many activities in the **CORDEX Central Asia domain**. At the end of 2021 when Dr. Shaukat Ali, took on the role of Point of Contact (PoC) for the CORDEX Central Asia it was clear that the domain faced significant challenges in building a cohesive research group and advancing CORDEX activities. The lack of regional climate research initiatives and limited collaborations posed major

obstacles to progress in climate modeling and capacity building. The first year was dedicated to overcoming barriers and laying the groundwork for CORDEX activities in the region. Despite resource constraints, we saw promising progress as regional researchers and institutions showed growing interest.

Key initiatives during this period were identification of researchers, compilation of publications, preparation of a list of climate modeling publications relevant to the Central Asia domain to support researchers and encourage knowledge sharing, proposal of development for funding and tutorial on Accessing CORDEX Data.

These foundational efforts established a solid base for future collaborations and activities, setting the stage for meaningful progress in the years ahead.

2023 was a year of progress and achievements. The biggest event was the [CORDEX Central Asia Workshop](#) in Samarkand, Uzbekistan. Michelle Simões Reboita was the main trainer and it included technical sessions, hands-on training, and discussions on future collaborations. Other events were a seminar at National Research University in Tashkent, Uzbekistan and represented the CORDEX Central Asia Domain at COP28, presenting its activities at the Uzbekistan Pavilion and also a two-day workshop in Bahawalpur, Pakistan.

2024 was the year of presentation and collaboration. Stefan Rahimi and Callie Merissa Berman from the University of Wyoming collaborated with Shaukat Ali and Michelle to promote the dissemination of CORDEX activities in the Central Asia domain and support efforts to conduct climate projections for the region. This team has been holding regular online meetings to plan a workshop in Central Asia for 2025 and provide capacity-building opportunities for undergraduate, master's, and PhD students interested in climate modeling. During these meetings, professors from Central Asia were invited to discuss the challenges and opportunities related to regional climate downscaling initiatives.

Shaukat Ali and Michelle Simões Reboita also presented at two events in China during 2024: Scientific Forum for Numerical Simulation of Asian Regional Climate Change and Earth System Process and CORDEX - MAIRS-FE Joint Workshop: Multi-scale climate-air-water nexus for sustainable health, food and energy.

The plans for the near future are to hold another workshop in Central Asia, hopefully including all countries of Central Asia and to have joint projects and research papers with Universities in Central Asia domain.

The current Points of Contact in these domains are:

**CORDEX East Asia: Young-Hwa Dyun, Hiroaki Kawase, Dong-Hyun Cha and Koji Dairaku**

**CORDEX Central: Shaukat Ali**

More information on activities can be found at the CORDEX website under [Domain activities](#).



East Asia Jeju meeting 2019



CORDEX Central Asia Workshop in Samarkand, Uzbekistan in 2023



#### Submit your publications

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