

Call for members: Task Team on Machine Learning for Downscaling

CORDEX is launching a new **Task Team on Machine Learning for Downscaling** to coordinate and advance machine learning (ML)-based downscaling activities within the CORDEX framework in close link with other CORDEX activities. This Task Team will implement the programme defined by the preceding Task Force (see the [final report](#)) with a particular focus on:

- Addressing key scientific challenges in ML-based downscaling while coordinating closely within CORDEX to ensure alignment with other activities and with strategic priorities;
- Continuing and expanding the CORDEX MLBench intercomparison studies;
- Developing capacity-building activities to enable all CORDEX domains to apply reference ML methodologies, building on benchmarking outcomes and helping to reduce regional disparities;
- Contributing to the CMIP7 experimental framework by providing technical input to the CMIP7 Task Team; and
- Coordinating the contribution of ML-based downscaling methods to CORDEX-CMIP6 and CMIP7 and supporting their integration within the broader CORDEX framework.

The Task Team will play a central role in structuring the CORDEX contribution to AI-based regional climate modeling, including the design of coordinated benchmarking experiments, the development of best-practice guidelines, and the integration of ML approaches with existing downscaling protocols. The Task Team will also collaborate with relevant CORDEX and external initiatives to promote harmonization, methodological rigor, and the establishment of community-wide standards.

We aim to build a balanced team that combines the experience of senior scientists with the fresh perspectives and technical expertise of early-career researchers. Two members will be appointed as coordinators. The Task Team will contribute to shaping the future integration of AI-based downscaling within CORDEX, ensuring methodological robustness, transparency, and global inclusivity.

1. Tasks and responsibilities of the TT members

- Attend and contribute to meetings, typically convened twice per month, to drive progress and make decisions.
- Work with other TT members to support the delivery of the objectives.
- Contribute to the preparation and oversight of the specific activities (experiment design, benchmarking protocols, evaluation frameworks, data archiving specifications, etc.)
- Facilitate collaboration across CORDEX regions and with other WCRP initiatives.
- Contribute to the documentation and dissemination of technical guidelines and community standards.
- The two coordinators will be responsible for coordinating the activities and for reporting to the SAT, which oversees and approves the actions undertaken.
- Follow the [WCRP Code of Conduct](#).

2. Expertise

We are seeking members with expertise in:

- Regional climate modeling and experiment design, with diverse geographical expertise (e.g., tropics, coasts, mountainous regions, small islands, polar regions),
- Empirical–Statistical Downscaling
- Machine Learning and AI for climate applications
- Benchmarking, evaluation metrics, and reproducibility
- Experience with AI data and processing frameworks
- Programming skills and use of community tools (e.g. GitHub)

- Regional phenomena in different domains (CORDEX regional Points of Contact are welcome to participate),
- Data archiving and distribution (ESGF, ESGF-CORDEX nodes), and metadata conventions
- Data standards, workflows, and reproducibility,
- Working with end-users, especially non-scientists

3. Time commitment

Meetings will take place regularly, typically for one hour, twice per month. Some out-of-hours work will be required due to time zones, but every effort will be made to rotate meeting times to ensure fairness across the members. Furthermore, most work will be required between meetings to reach the objectives of the TT. The estimated load is about 10–15% FTE.

The initial membership term is 2 years, with a possible 1-year extension.

4. How to apply

To nominate someone (including self-nomination), please complete this [application form](#). If interested in serving as co-coordinator please indicate this in your application.

Deadline: Applications must be received by **July 15th** (any time zone).

5. Selection process and criteria

The call selection panel will consist of the members of the Task Force on Machine Learning. The call selection panel will undertake the shortlisting of the applications. The identified names will then be submitted as a recommendation to the CORDEX Scientific Advisory Team for final approval. Two members will be appointed as coordinators.

Some members will be selected to serve as liaisons with other Task Teams.

6. Remuneration



Task team members are not paid. Financial support to travel and participate in person to relevant meetings may be available on a case-by-case basis.

7. Diversity and inclusion

WCRP is committed to diversity and inclusion. We strongly encourage applications from:

- Early to mid-career researchers
- Experts from all regions of the world
- Women and other underrepresented groups in climate science

8. Questions and contact

For questions about this call, please contact mwanzala@wmo.int

Context

In addition to its governance bodies (the International Project Office, **IPO** and the Science Advisory Team, **SAT**) CORDEX currently operates through several key instruments: **Domain Activities** (covering 14 regional domains, plus the CORE experiment for global coordination), **Flagship Pilot Studies (FPS)**, which coordinate research on emerging scientific challenges, and **Task Forces (TFs)**, which facilitate rapid strategic planning. Within the structure of WCRP Core Projects such as ESMO and RiFS, **Task Teams (TTs)** play a central role in coordinating scientific and technical activities and promoting broad community engagement. TTs are time-bound, goal-oriented instruments established to deliver specific outputs within a defined timeframe. The three new Task Teams in this call will complement the existing [Task Team on CORDEX-CMIP7 protocols and infrastructure](#). Together, these mechanisms ensure that WCRP projects remain strategically coherent yet operationally flexible, balancing broad community consensus with focused, solution-oriented progress.