

New WCRP Structure

Joint Scientific Committee

WCRP Secretariat

Lighthouse Activities *New*

International Offices

Core Projects and Research Communities

- Climate and Cryosphere (CliC)
- Global Energy and Water Exchanges (GEWEX)
- Climate and Ocean Variability, Predictability and Change (CLIVAR)
- Stratosphere-troposphere Processes And their Role in Climate (SPARC)
- Earth System Modelling and Observational Capabilities *New*
- Regional Climate Information for Societies *New*

Ongoing Activities and Fora

- Fixed-term projects
- Conferences and workshops
- Reference datasets, evaluations and benchmarking
- Diversity and capacity building: ECRs, regions
- Rapid updates, syntheses, assessments, gap analysis
- Communications and outreach

WCRP Open Science Conference 2023
Advancing climate science for a sustainable future

FIRST CIRCULAR



TENTATIVELY
End 2023!

Themes

- Recent advances in climate science
- Climate research challenges and opportunities
- Regional climate extremes and risks
- Useful and useable climate information



For more information and to register your interest please visit the Conference webpage

www.wcrp-climate.org/WCRP-OSC23



WCRP Climate Research Forum

Climate research
priorities for the
next decade

Southern Asia: 30 November 2021

9:00 – 12:30 Coordinated Universal Time (UTC)



ESMO science priorities

Observations

What are the WCRP observational requirements and best practices to derive these requirements?

What are the systematic errors in observation data and observation systems?



Modelling

What is the future of climate modelling?

What are the sources and magnitude of systematic errors across time and space scales in Earth System models?

Data assimilation

How can we bring together information from observations and models in coupled systems across spatio-temporal scales?



Carbon cycle*

What are the current and future changes in the Carbon Cycle?



WCRP Lighthouse Activity on Explaining and Predicting Earth System Change.

To design, and take major steps toward delivery of, an integrated capability for quantitative observation, explanation, early warning and prediction of Earth System Change on global and regional scales and multi-annual to decadal timescales.

Identified Gaps

1. Persistent biases in model simulations, model error accumulation over time unclear;
2. Under-utilization of diverse observational data from GCOS and GOOS for comprehensive climate model calibration, which may alleviate climate model biases;
3. A disconnect between Earth system reanalysis and climate modelling, and/or data assimilation efforts/approaches that are not necessarily targeting major needs (e.g., initial condition estimation versus model parameter calibration);
4. Sparse observational sampling of parts of the Earth system, in particular the ocean, which warrants extra care in using the observations that do exist in the context of modelling; quantitative observing system design for climate;
5. At the present time, only simple, ad-hoc approaches at dealing with the combined stream of diverse sources of uncertainties from observations and models.