

## The World Climate Research Programme: science for a changing planet



We are a global programme uniting the world's leading climate experts and other stakeholders to understand one of the planet's most urgent challenges: climate change.

Sponsored by WMO, IOC-UNESCO, and ISC, WCRP coordinates global climate research to ensure society has the knowledge it needs to make smart and safe decisions.

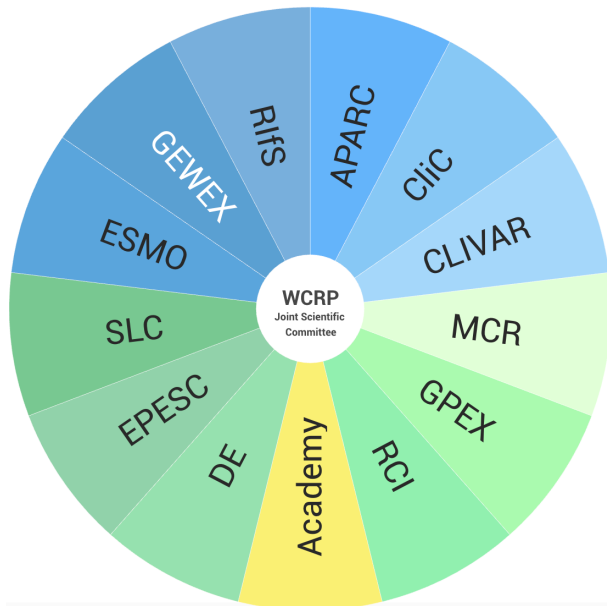
### Why does climate science matter to you?

Your livelihood. Your family. Your future.

Climate science is not just about the environment! It is about your life, how you grow food, build cities, run your business, and how to support and protect your family.

From predicting floods and wildfires to preparing for heatwaves and rising seas, WCRP-backed science helps governments, companies, and communities prepare for what is coming before it arrives.

## Our teams



## WCRP flagship activities

### CORDEX

The Coordinated Regional Climate Downscaling Experiment (CORDEX) advances and coordinates the science and application of regional climate model (RCM) downscaling through global partnerships, providing critical insights into local and regional climate change to support adaptation and resilience where it is needed most.



### CMIP

The Coupled Model Intercomparison Project (CMIP) coordinates the evaluation and comparison of the global climate models from modelling centers worldwide. These models help us understand how the Earth's climate is changing and are the foundation for major climate risk impact assessments, like those from the IPCC.



## WCRP Academy

The Academy is the training and coordination arm of the WCRP, created to strengthen global climate science capacity. It has supported the connection between training providers and thousands of learners around the world.

The Academy links experts, early-career scientists, and institutions. It ensures high-quality, accessible, and diverse learning opportunities.



**The future is not something we can wait for,  
it is something we must prepare for now!**



# WCRP

## World Climate Research Programme



## The climate is changing and so is our world around us

Discover how science is helping to protect  
your future



**Core Projects:** Permanent projects that form the scientific foundation to understand the global climate system.

# WCRP scientific activities

**Lighthouse Activities:** Temporary and flexible initiatives that apply science to deliver solutions and social benefits.

Atmospheric  
Processes and  
their Role in  
Climate

**APARC**

Core Project

How do clouds, winds,  
and storms shape our  
climate?

APARC studies the atmosphere, how it moves, how it changes, and how it drives extreme weather.

Climate and  
Cryosphere

**CLiC**

Core Project

Why do ice and snow  
matter?

CLiC studies the frozen parts of the planet, including sea ice, permafrost, mountains, the Arctic and Antarctica, and how melting ice affects sea level, weather, and ecosystems.

Climate and  
Ocean Variability,  
Predictability and  
Change

**CLIVAR**

Core Project

What role do oceans  
play in climate  
change?

CLIVAR studies ocean currents, heat storage, and how oceans influence global weather patterns.

Earth System  
Modelling and  
Observations

**ESMO**

Core Project

How do we simulate  
and observe the  
planet?

ESMO combines satellite data and climate models to better predict future local and global conditions.

Global Energy  
and Water  
Exchanges

**GEWEX**

Core Project

Where does Earth's  
water and energy go?

GEWEX tracks how heat, moisture, and clouds move across the planet critical for forecasts and water security.

Regional  
Information for  
Society

**RIfS**

Core Project

How can science help  
in your region?

RIfS helps enhance the scientific value of regional climate information for farmers, cities, and decision-makers.

Digital Earths

**DE**

Lighthouse  
Activity

What if we had a  
digital twin of the  
Earth?

DE builds powerful simulations to explore possible futures and better inform climate action.

Explaining and  
Predicting Earth  
System Change

**EPESC**

Lighthouse  
Activity

Why is the climate  
changing and what's  
next?

EPESC work helps us understand why changes are happening, and how they will evolve over time.

Global  
Precipitation  
Experiment

**GPEX**

Lighthouse  
Activity

Can we predict rain  
and drought better?

GPEX improves how we understand and forecast rainfall essential for food, water, and disaster planning.

My Climate Risk

**MCR**

Lighthouse  
Activity

How can we make  
climate risks easier to  
understand?

By taking a bottom-up approach, MCR helps communities understand how climate change affects them directly and what actions they can take.

Research on  
Climate  
Intervention

**RCI**

Lighthouse  
Activity

Should we consider  
technologies to cool  
the planet?

RCI explores the risks and ethics of ideas like reflecting sunlight or removing carbon from the air.

Safe Landing  
Climates

**SLC**

Lighthouse  
Activity

What is a "safe" climate  
future and can we get  
there?

SLC asks what thresholds and pathways must be avoided to ensure the planet supports healthy populations and ecosystems in the future.