

What are the WCRP Grand Challenges?

The WCRP Grand Challenges are highly-focused priority areas of climate science and address specific obstacles to progress. The Grand Challenges provide actionable knowledge for decision makers and compelling storylines for public and media interest. The current WCRP Grand Challenges, and the questions that they address, are:



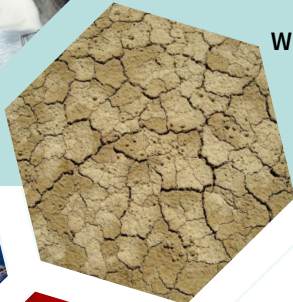
MELTING ICE AND GLOBAL CONSEQUENCES

How will melting ice respond to, and feedback on, the climate response to increasing greenhouse gases, and what will the impacts be?



REGIONAL SEA LEVEL CHANGE AND COASTAL IMPACTS

How much sea level rise can we expect in the future, both globally and regionally, and what are the likely consequences?



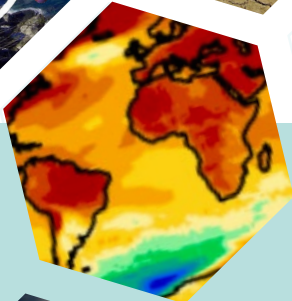
WEATHER AND CLIMATE EXTREMES

How can we better understand variability and change in extremes, and improve prediction and projection of extreme events?



CARBON FEEDBACKS IN THE CLIMATE SYSTEM

How does the carbon cycle influence climate and vice versa? What will a warming climate mean for land and ocean carbon reservoirs?



NEAR-TERM CLIMATE PREDICTION

How can annual to decadal climate predictions be improved? How can climate predictions be collated and issued to best support decision makers?



CLOUDS, CIRCULATION AND CLIMATE SENSITIVITY

How do clouds influence Earth's temperature, tropical rain belts and extra-tropical storm tracks? How will clouds, circulation and storminess respond to global warming or other forcings?



WATER FOR THE FOOD BASKETS OF THE WORLD

What are the consequences of a warmer climate for water resources, for human interactions with them, and their value to society?

More information can be found on the WCRP website:
www.wcrp-climate.org/grand-challenges

WCRP GRAND CHALLENGES