



Future Climate Change Research and Observations: GCOS, WCRP and IGBP Learning from the IPCC Fourth Assessment Report (AR4)

Task Group Guidelines

The aim of the workshop is to create a synthesis report of required research and observations needed to address key gaps, challenges and deficiencies facing the science of climate change. The report should draw on, but not be restricted to, gaps and deficiencies identified in the IPCC 4th Assessment Report in terms of research and observations. The workshop should both identify and prioritise solutions to address these gaps, and provide guidance for implementation of these solutions as part of the future strategies of GCOS, WCRP and IGBP.

The workshop report will synthesize the results and recommendations from each of the Task Groups. The synthesis will also incorporate the results from the survey carried out before the workshop. The aim is to not only analyze the current gaps in the latest IPCC assessment report, but to also develop a list of concrete recommendations that will lead to immediate actions and guide future research and observations required to underpin the development of future climate change assessments.

In order to make the results from the Task Groups comparable, the following questions have been developed to focus the discussions and to provide a consistent set of input for the synthesis report. They are thematically similar to, but not the same as those in the pre-workshop survey.

Focus questions:

- What important processes/elements are missing from existing knowledge?
- What are the most uncertain of the important processes that *are* currently included?
- What modifications in current models will be needed to address these gaps?
- What process studies are needed to reduce the uncertainties?
- What observations are needed to reduce the uncertainties?
- What *additional* observations are needed, and what improvements to current observations are most critical?
- Are existing observations used effectively? If not, what mechanisms need to be established to increase the use and usefulness of observational data?
- In order of priority, what are the five most important recommendations from your Task Group that are required to underpin future IPCC assessments?