

Proposal for a Joint IPCC WGI/WGII Expert Meeting on Detection and Attribution Related to Anthropogenic Climate Change

Submitted by the Co-Chairs of IPCC Working Group I and Working Group II

Background

In the IPCC Fourth Assessment Report in 2007, the WGI report concluded that “it is likely that there has been significant anthropogenic warming over the past 50 years averaged over each continent except Antarctica,” but that “difficulties remain in reliably simulating and attributing observed temperature changes at smaller scales.” Combining this with several sets of evidence including that “Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases,” WGII was able to conclude that “Anthropogenic warming over the last three decades has likely had a discernible influence at the global scale on observed changes in many physical and biological systems.” Improving technical aspects of detection and attribution, especially harmonizing terms and definitions, is an important goal to advance this topic, with emphasis on impact-relevant changes in the climate system and impacts in natural and human systems. The expert meeting will cover the full set of fundamental detection and attribution issues, including techniques, interpretation and specific examples that are relevant to changes in climate and impacts for the Fifth Assessment Report (AR5).

Aims of Expert Meeting

1. Develop consistency and coherence of terminology used for detection and attribution in WGI and WGII, and better understanding of the methods used by the two working groups including their advantages and limitations;
2. Advance the science of attribution of impact-relevant climate change, such as attribution of changes on regional scales, in precipitation and extremes, and of events; as well as the science of the attribution of impacts of climate change, such as on ecosystems, cryosphere, human health, agriculture, etc. Consideration will also be given to the attribution of specific weather events;
3. Improve the understanding of the role that may be played by confounding influences in attribution studies, including internal variability of climate and of the systems, and other factors such as land-use change, other natural and anthropogenic forcings including aerosols, pollution, invasive species, human management, etc.;
4. Expand coverage of data and studies to include more regions and more systems, particularly in the tropics and the Southern Hemisphere, and in developing countries;
5. Develop a better understanding across the two working groups at an early stage in the development of the AR5, thereby improving the process of synthesis.

Steering Group

Thomas Stocker (WGI Co-Chair)

Dahe Qin (WGI Co-Chair)

Chris Field (WGII Co-Chair)

Vicente Barros (WGII Co-Chair)

A scientific steering committee with broad representation is being formed.

Timing: 14-16 September 2009, immediately before planned IPCC Bureau Meeting

Duration: 2.5 to 3 days

Location: Geneva (tbc)

Participants

About 40 participants in total, with broad international representation. It is proposed that 16 journeys for experts from developing countries and economies in transition including WGI and WGII Vice-Chairs are allocated as part of the line item “expert meetings related to the AR5” in the already agreed IPCC Trust Fund budget for 2009.

Expertise

Detection and attribution of climate change and of the impacts of climate change;
additional expertise: climate observations and modelling, cryosphere, hydrology, terrestrial ecosystems, marine ecosystems, coastal zones, agriculture, human health, etc.