The 27th session of the Intergovernmental Panel on Climate Change (IPCC) will begin today at the Museo de las Ciencias y Arte in Valencia, Spain, to finalise deliberations on the Fourth Assessment Report (AR4). During the session, delegates will consider the AR4 Synthesis Report (SYR), with a view to approve the Summary for Policymakers of the SYR and adopt the Longer Report of the SYR. Participants will also discuss the future of the IPCC, the IPCC programme and budget 2008-2010, membership of the IPCC Bureau and the Task Force Bureau, and hear progress reports on the IPCC Task Force on National Greenhouse Gas Inventories, Future Work on Scenarios, Technical Paper on Climate Change and Water, Task Group on Data and Scenario Support for Impact and Climate Assessment (TGICA), and Outreach.

A BRIEF HISTORY OF THE IPCC AND AR4

The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the UN Environment Programme (UNEP). The purpose of the IPCC is to assess scientific, technical and socioeconomic information relevant to understanding the risks associated with human-induced climate change. The IPCC does not undertake new research, nor does it monitor climate-related data, but bases its assessments on published and peer-reviewed scientific and technical literature.

The IPCC Secretariat is located in Geneva, Switzerland, and is staffed by the WMO and UNEP. The IPCC has three working groups: Working Group I (WGI) addresses the scientific aspects of the climate system and climate change; Working Group II (WGII) addresses the vulnerability of socioeconomic and natural systems to climate change, negative and positive consequences of climate change, and adaptation options; and Working Group III (WGIII) addresses options for limiting greenhouse gas emissions and otherwise mitigating climate change.

The IPCC also has a Task Force on National Greenhouse Gas Inventories. The Task Force oversees the IPCC National Greenhouse Gas Inventories Programme, which aims to develop and refine an internationally-agreed methodology and software for the calculation and reporting of national greenhouse gas emissions and removals, and to encourage the use of this methodology by countries participating in the IPCC and by UNFCC signatories. The IPCC Bureau, comprised of 30 members elected by the Panel, assists the IPCC Chair in planning, coordinating and monitoring progress in the work of the IPCC.

Since its inception, the IPCC has prepared a series of comprehensive assessments, special reports and technical papers subject to extensive review from experts and governments, and which provide scientific information on climate change to the international community, including policymakers and the public. This information has played an important role in negotiations under the UN Framework Convention on Climate Change (UNFCCC) and in framing national and regional policies.

The IPCC completed its initial comprehensive assessment of climate change in the First Assessment Report in 1990 and the Second Assessment Report in 1995. The IPCC’s Third Assessment Report (TAR), completed in 2001, addresses policy-relevant scientific, technical, and socioeconomic dimensions of climate change, and concentrates on findings since 1995 at both regional and global levels. The TAR is composed of a comprehensive assessment by each of the three IPCC working groups, Summaries for Policymakers (SPM) and Technical Summaries of each working group report, and a Synthesis Report.

Special reports prepared by the IPCC include the Special Report on Safeguarding the Ozone Layer and the Global Climate System, accepted at IPCC-23 (8 April 2005, Addis Ababa, Ethiopia) and the Special Report on Carbon Dioxide Capture and Storage, accepted at IPCC-24 (26-28 September 2005, Montreal, Canada). The IPCC Guidelines for National Greenhouse Gas Inventories were first released in 1994, and a revised set was completed in 1996. In 2000 and 2003 the Panel approved additional good practice guidance reports, and in 2006 the IPCC approved the 2006 IPCC Guidelines.

AR4: The IPCC decided to continue preparing comprehensive assessment reports at IPCC-18 (24-29 September 2001, London, UK). Subsequent meetings discussed the timing and other details of the next report, with participants agreeing to late 2007 as the completion date for the AR4. The overall outline of the working groups’ contributions to the AR4 was accepted at IPCC-21 (19-21 February 2003, Paris, France). That same year, the scope and outline of AR4 were developed during two scoping meetings (April, Marrakesh, Morocco, and September, Potsdam, Germany), and the author teams were assembled.
The AR4 is structured in three volumes, one for each working group. Each working group’s contribution comprises the underlying assessment report, a Technical Summary, Executive Summary, and SPM, all of which undergo a thorough review process. The review process generally takes place in three stages: a first review by experts, a second review by experts and governments, and a third review by governments. In addition to the three working groups’ contributions, the AR4 SYR SPM, like the SPMs of the working groups, is approved line-by-line by the IPCC. More than 2500 expert reviewers, 800 authors, 450 lead authors, and 130 governments have participated in the elaboration of the AR4.

The tenth session of WGI met from 29 January to 1 February 2007 in Paris, France. The eighth session of WGII met from 2-6 April in Brussels, Belgium. The ninth session of WGIII was held from 30 April to 3 May in Bangkok, Thailand. All three working groups accepted their respective contributions to the AR4, including the SPMs, Technical Summaries and underlying reports. At its 26th session, held on 4 May 2007 in Bangkok, Thailand, the IPCC accepted the actions taken by the three working groups.

AR4 SYR: Following initiation of the AR4 SYR scoping process by the IPCC Bureau at its 31st session in April 2004, IPCC-22 (9-11 November 2004, New Delhi, India) decided the SYR outline of topics to be addressed. At its 35th session, the IPCC Bureau agreed on the composition of the Core Writing Team and Review Editors for the SYR, and the list was presented to the Panel at IPCC-25 (26-28 April 2006, Port Louis, Mauritius).

The SYR represents the final integrated product of the AR4, covering relationships between the causes of climate change, its effects and response options and other policy-relevant aspects based on scientific advances since the publication of the TAR in 2001. A major component of the AR4 SYR is the assessment of impacts of anthropogenic climate change and possible responses in a development context. The SYR Core Writing Team is composed of lead authors from all working groups. The SYR has been reviewed by experts, governments and organizations between May and October 2007.

The SYR is organized around six topics. Topic 1 presents observed changes in climate and their effects on human and natural systems. Topic 2 summarizes causes of the observed changes. Topic 3 discusses climate change and its impacts in the near and long term under different scenarios. Topic 4 covers adaptation and mitigation options and responses, and the inter-relationship with sustainable development, at global and regional levels. Topic 5 addresses the long-term perspective, in particular scientific and socioeconomic aspects relevant to adaptation and mitigation, consistent with the objectives and provisions of the UNFCCC, and in the context of sustainable development. Finally, Topic 6 highlights robust findings and key uncertainties.

The SYR SPM highlights the most relevant aspects of the SYR Longer Report.

INTERSESSIONAL HIGHLIGHTS

IPCC EVENTS: Since IPCC-26, several meetings related to other IPCC activities have been held. From 6-8 August 2007, Lead Authors of the Technical Paper on Climate Change and Water met in Victoria, Canada. The purpose of the meeting was for the authors to incorporate revisions to the Technical Paper in response to 1600 comments by expert reviewers and 700 comments from governments. A new draft of the Technical Paper was submitted to the WGII Technical Support Unit on 9 November 2007, and will be open for final government review from 26 November to 24 December 2007.

From 19-21 September 2007, an Expert Meeting on New Scenarios was held at Noordwijkhout, the Netherlands, as decided by IPCC-25 and IPCC-26. The meeting’s objective was to identify requirements and plans for the development of new scenarios of emissions, climate change, impacts, vulnerability, adaptation and mitigation. The outcomes include: a proposed set of “Representative Concentration Pathways” (benchmark scenarios) to be used in initial Earth system model runs; plans for further coordination, organization and communication of actions for the development of new integrated scenarios; a plan for increasing involvement of experts from developing countries and economies in transition; and a meeting report.

UNFCCC SUBSIDIARY BODIES: The twenty-sixth sessions of the UNFCCC Subsidiary Bodies (SB-26) took place from 7-18 May 2007, in Bonn, Germany, in parallel with the third session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-3), as well as the third workshop under the Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention (Convention Dialogue). The meeting addressed many technical issues in advance of the 13th Conference of the Parties to the UNFCCC (COP 13) and the third meeting of the Parties to the Kyoto Protocol (COP/MOP 3), which will take place in Bali, Indonesia, from 3-14 December 2007.

VIENNA CLIMATE CHANGE TALKS: The fourth session of the AWG and the fourth Convention Dialogue workshop took place from 27-31 August 2007, in Vienna, Austria. AWG-4 focused on the analysis of mitigation potentials and the identification of possible ranges of emission reductions for Annex I parties. Delegates adopted conclusions referring, among other things, to some of the key findings of IPCC WGIII, including that global greenhouse gas emissions need to peak in the next 10-15 years and be reduced well below half of 2000 levels by the middle of the 21st century in order to stabilize their concentrations in the atmosphere at the lowest levels assessed by the IPCC to date in its scenarios. The AWG’s conclusions also recognize that to achieve the lowest stabilization level, Annex I parties as a group would be required to reduce emissions by a range of 25-40% below 1990 levels by 2020. At the Convention Dialogue workshop, participants initiated discussion on next steps after the results of the Dialogue are reported to COP 13.

HIGH-LEVEL MEETINGS ON CLIMATE CHANGE: On 24 September 2007, a special session of the UN General Assembly was held at UN headquarters, entitled “The Future in Our Hands: Addressing the Leadership Challenge of Climate Change.” The meeting was attended by 80 Heads of State or Government, and representatives from 150 countries. Participants emphasized, \textit{inter alia}: halving emissions by 2050; limiting the temperature increase to 2°C; and making deep emissions reductions in developed countries.

NOBEL PEACE PRIZE: On 12 October 2007, the IPCC was awarded the Nobel Peace Prize jointly with former US Vice-President Al Gore. The Norwegian Nobel Committee awarded the prize “for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change.” The award will be presented to the winners in Oslo, Norway, on 10 December 2007.