

# **GEOSS support for IPCC assessments**

## **A workshop on the data needs of the climate impacts, adaptation and vulnerability research community**

**1 – 4 February 2011, Room C1, WMO Building, Geneva**

**Organized by the IPCC and GEO with GCOS, WCRP and IGBP**

### **Objective**

To provide guidance on how the Global Earth Observation System of Systems (GEOSS) can improve the delivery of multi-disciplinary data and data products to the climate impacts, adaptation and vulnerability research community, whose work is assessed by the Intergovernmental Panel on Climate Change (IPCC).

### **Agenda**

*Workshop Co-Chairs: IPCC Working Group II Co-Chair Christopher Field and GEO Secretariat Director José Achache*

#### DAY ONE (Tuesday, 1 February)

*Registration and coffee (9:00 – 9:30)*

**INTRODUCTIONS AND EXPECTED WORKSHOP OUTCOMES (9:30 – 9:45)**

#### **SESSION 1: DATA USERS AND DATA PROVIDERS**

##### **1.1 Data needs and priorities of the research community (9:45 – 11:30)**

Chair: Christopher Field

- Key data sources for the IPCC Assessment Reports (AR4 and AR5) (Christopher Field)
- Panel presentations and discussion on needs and priorities:
  - Kevin Trenberth, NCAR
  - Sybil Seitzinger, IGBP
  - Pascal Peduzzi, UNEP
  - Mark Stafford Smith, CSIRO

*Coffee break (11:30 – 12:00)*

##### **1.2 Gathering and providing data (12:00 – 13:00)**

Chair: José Achache

- GEOSS: providing data for models and delivering climate information (José Achache)
- Implementing the GEOSS Data Sharing Principles (Bob Chen, CIESIN)
- The GCOS Assessment Cycle (Carolin Richter, GCOS)
- WCRP data support to IPCC assessments (Valery Detemmerman, WCRP)
- The contribution of space agencies (Stephen Briggs, ESA)

*Lunch (13:00 – 14:00)*

##### **1.2 Gathering and providing data (continued) (14:00 – 15:00)**

*Coffee break (15:00 – 15:30)*

**SESSION 2: MANAGING DATA TO SUPPORT THE ASSESSMENT PROCESS (15:30 – 17:30)**

Chair: *Bob Chen, CIESIN.*

- Mechanisms for pooling and sharing data (José Marengo, TGICA Co-Chair)
- Continuity of measurements (Kevin Trenberth, NCAR)
- Quality control and documentation (Bryan Lawrence, STFC, United Kingdom)
- Longer term archiving and stewardship (Guo Huadong, CEODE)

**SESSION 3: WATER RESOURCES**

Chairs: *Taikan Oki (University of Tokyo) and Stuart Minchin (CSIRO Australia)*

**3.1 Past assessments and data sources (17:30 – 18:30)**

- Critical issues: gaps, shortcomings, coverage, scale and currency (Taikan Oki)
- Quantifying climate change impacts in a data-scarce environment (Bob Su, U of Twente)

*Close (18:30)*

***Cocktail offered by the IPCC Secretariat, Attic (top floor)***

DAY TWO (Wednesday, 2 February)

**3.2 Current data resources (9:00 – 10:30)**

- Newly available monitoring techniques and data (Hans-Peter Plag, U of Nevada)
- Improving the uptake of global data sets (Wolfgang Grabs, WMO)
- Assessing vulnerability and adaptation (Massimo Menenti, Delft U of Technology)

*Coffee break (10:30 – 11:00)*

**3.3 Identifying future needs and sources: AR5 and beyond (11:00 – 12:30)**

- Critical datasets & potential new tools and technologies for detection (Stuart Minchin)
- Water cycle data and information needs (Martin Beniston, U of Geneva)

*Lunch (12:30 – 13:30)*

**SESSION 3: WATER RESOURCES (CONT.) (13:30 – 14:30)**

*Coffee break (14:30 – 15:00)*

**SESSION 4: LAND COVER AND LAND USE**

Chairs: *Steve Running (University of Montana) and Thelma Krug (Brazil's National Institute for Space Research - INPE)*

**4.1 Current data resources (15:00 – 16:30)**

- Global land-cover and change detection (Martin Herold, Wageningen U.)
- Critical ESA satellite missions and datasets (Alan Belward, EC/Joint Research Centre)
- Critical NASA satellite missions and datasets (Steve Running)

**4.2 Future datasets and regional improvements (16:30 – 18:00)**

- Characteristics of future land-cover and land-use datasets (Peter Verburg, U. Amsterdam)
- REDD+ methodologies for regional and local land-cover (Thelma Krug)
- The GEO Global Forest Carbon Initiative (GFOI) (Ivan Petiteville, ESA)

*Close (18:00)*

***Dinner at Cave Valaisanne/Chalet Suisse, bd Georges-Favon 23***

## DAY THREE (Thursday, 3 February)

### **4.3 Integration issues and derived analyses (9:00 – 11:00)**

- Land-cover analysis and integration in broader decision systems (Mark Stafford Smith)
- Human appropriation of net primary productivity (NPP) (Karlheinz Erb, Klagenfurt University)

*Coffee break (11:00 – 11:30)*

## **SESSION 5: EXTREME EVENTS AND DISASTERS**

*Chair: Xuebin Zhang (Environment Canada)*

### **5.1 Past assessments and data sources (11:30 – 12:30)**

- Climate data used by researchers (Xuebin Zhang)

*Lunch break (12:30 – 13:30)*

### **5.2 Current data resources (13:30 – 15:30)**

- Data issues for Latin America (Hugo Hidalgo, University of Costa Rica)
- Data issues for Africa (Arona Diedhiou, AMMA)
- Data issues for Asia (Sagar Ratna Bajracharya, ICIMOD)

*Coffee break (15:30 – 16:00)*

### **5.3 Identifying new needs and sources: AR5 and beyond (16:00 – 17:30)**

- Emerging satellite sources (David Hello, SPOT Image)
- Data on impacts, vulnerability and adaptation (Julio Serje, UNISDR)

## **CLOSING REMARKS AND MANDATE FOR DRAFTING GROUP (17:30 – 18:00)**

### DRAFTING GROUP (Friday, 4 February)

A drafting group consisting of session leads and interested participants will draft a paper with practical, action-oriented recommendations on how to improve access by climate researchers to Earth observation data and data products. The draft will be circulated for comment to all workshop participants and then finalized under the guidance of the workshop Co-Chairs and session leads.

A second group will draft recommendations for the 2012-2015 GEO Work Plan that is currently under development.

## **Additional background**

Over the longer term, the scientific literature and research that underlies the IPCC assessments will benefit enormously from improved and sustained Earth observations. In the shorter term, the IPCC's Fifth Assessment Report, to be published in 2013-2014 based primarily on the peer-reviewed literature available by 2012, would benefit from any additional observation data and information that is made available to researchers over the next two years.

In part because it is so multi-disciplinary, the climate impacts, adaptation and vulnerability community experiences gaps in the availability of observations data and information. It could use additional support in accessing Earth observation data and information. This workshop will therefore explore the potential of the Global Earth Observation System of Systems (GEOSS) to improve and accelerate access by this research community to a broad range of relevant information.

During the workshop, researchers will present their user needs, including quality, quantity, format and timeliness of data and information. The providers of Earth observations will respond to the stated user needs by encouraging and facilitating efforts by its members to improve the collection and dissemination of relevant data and information via GEOSS. In this way, the workshop results can drive the implementation of GEOSS over the next several years in a way that contributes in a concrete and practical manner to the research process for the AR5 and other future assessments.

The AR5 and other future IPCC assessments will benefit from the availability of a stronger research base as reflected in peer-reviewed articles. The organizations and governments that contribute to GEOSS will benefit from the guidance and incentive provided by these key user communities.

The Global Earth Observation System of Systems is being built by the Group on Earth Observations, which currently consists of 80 governments, the European Commission and 58 international organizations (including GCOS and WCRP). GEOSS seeks to connect the producers of environmental data and decision-support tools with the end users of these products, with the aim of strengthening the use of Earth observations for global decision-making. The end result is to be a global public infrastructure that offers free access to comprehensive, cross-cutting and near-real-time environmental data, information and analyses for a wide range of users. For more details visit [www.earthobservations.org](http://www.earthobservations.org).