

**THIRTY-SEVENTH SESSION OF THE IPCC
Batumi, Georgia, 14 - 18 October 2013**

IPCC-XXXVII/Doc. 12
(10.IX.2013)
Agenda Item: 15.2
ENGLISH ONLY

PROGRESS REPORTS

**Progress Report of the Task Group on Data and Scenario Support for Impact
and Climate Analysis (TGICA)**

(Submitted by the TGICA Co-Chairs, Timothy Carter and Bruce Hewitson)

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This report outlines notable developments related to the Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA) since the last progress report, delivered for IPCC-XXXV (Geneva, 6-9 June 2012, IPCC-XXXV/Doc. 22) by the TGICA Co-Chairs. During this period, the Task Group met for two full meetings in St Petersburg, Russian Federation, (TGICA-18) on 18-20 September 2012 and in Jeju, Republic of Korea (TGICA-19) on 14-16 May 2013. A Webex teleconference was also held on 14 March 2013. These are described in the next two sections, followed by a summary of status on key TGICA agenda items approved, in progress and upcoming, and an update on TGICA membership. The Interim Co-Chairs, who were due to stand down in May 2013, have now agreed to extend their tenure to the end of the present IPCC cycle in 2015.

1. TGICA-18: 18-20 September 2012, St Petersburg, Russian Federation

TGICA-18 was held on 18-20 September 2012 in St Petersburg, Russian Federation, generously supported by Roshhydromet and kindly hosted by the Director and staff of the Voeikov Main Geophysical Observatory (MGO). It was attended by 18 TGICA members and *ex officio* members, Drs Vladimir Kattsov and Igor Shkolnik of the local hosts and IPCC Working Group II Vice Chair, Dr Sergey Semenov. Three members were welcomed to their first full TGICA meeting: Drs Marianne Diop-Kane, Kejun Jiang and Francisco Meza. Another six members contributed by teleconference to segments of the meeting, and there was a Webex presentation by Dr Filipe Lúcio, WMO.

This was the first TGICA meeting to be held in Russia, and the Task Group used the opportunity to devote one session to a discussion of climate change research and associated data and scenario needs in Russia. This session was also attended by additional staff from MGO. The Co-Chairs presented a brief introduction to TGICA for Russian participants and members attending for the first time. There were next presentations from Drs Kattsov, Shkolnik and Semenov about the organisation and co-ordination of climate change research in Russia, the availability and provision of climate data, recent climate modelling efforts including regional modelling, and work on the first and second (ongoing) national climate change assessments. This was followed by some very useful discussions, which the Task Group members hope can form a basis for continued interaction in the future.

2. TGICA-19: 14-16 May 2013, Jeju, Republic of Korea

TGICA-19 took place on 14-16 May 2013 at Hotel Ramada Plaza, Jeju, Republic of Korea, generously organised under the auspices of the Korean Meteorological Administration (KMA), with IPCC Vice-Chair Dr Hoesung Lee of Keimyung University, Daegu also in attendance to welcome TGICA on behalf of the hosts. The meeting was attended by 11 TGICA members and *ex officio* members with another 11 members contributing by teleconference at different points in the meeting. In addition to Dr Lee and TGICA member Dr Won-Tae Kwon (who co-ordinated the local arrangements), there were five other local participants: from KMA, Seoul, the National Institute of Meteorological Research (NIMR), Seoul (relocating in Jeju from late-2013) and the APEC Climate Center (APCC), Busan.

This meeting of the Task Group was unique in two ways, as it represented the first TGICA meeting to be hosted by the Republic of Korea as well as the first to be held in Asia. In order to take advantage of this, two sessions of the meeting were set aside for discussions on data and scenarios for climate change research in South Korea and elsewhere in east Asia. There were presentations on climate monitoring and climate change research in South Korea (Dr Won-Tae Kwon, KMA); downscaling of climate processes (especially monsoon evolution) under CORDEX and the east Asia data bank (Dr Hyun-Suk Kang, NIMR); the APCC information hub for providing climate data and information, training and user support (Dr Jin Ho Yoo, APCC); recent climate change related

research programmes in Japan, and the national task group co-ordinating data and scenario exchange (Dr Seita Emori, Center for Global Environmental Research, Tsukuba and TGICA); and the Asian Development Bank's plan for developing an Asia-Pacific regional climate consortium, which is currently being piloted in India, Indonesia, Philippines and Thailand (Dr Xianfu Lu, UNFCCC, Bonn and TGICA). Subsequent discussion on these themes highlighted the desirability for an improved exchange of experiences between national, regional and international bodies responsible for the provision of data, scenarios and guidance. Some issues of direct relevance to TGICA included downscaling (methods, interpretation and guidance); the representation of climate uncertainty for risk assessment; and training and capacity building in the use (and co-production) of climate data and scenarios to support climate risk and vulnerability assessment and adaptation planning.

3. Items approved

Procedural documents on *Governance of the IPCC Data Distribution Centre (DDC) by TGICA and DDC Linking Criteria*, approved at TGICA-17, have now been posted. In addition, the *TGICA Mandate* document is now consistent across the DDC and IPCC web sites, with the Co-Chair names removed so as to be consistent over time.

New DDC home page and structure: the IPCC Data Distribution Centre (DDC) web pages have been harmonised among the three institutions managing the site, the entry page re-designed and the structure of the site re-organised. Approval to release the new pages was granted at TGICA-19. Some of the content still requires updating and revision.

Cover page designs for Technical Guidelines and Fact Sheets were approved at TGICA-19.

4. Items in progress

Action items that have been timetabled for the coming months relate to: (a) development of the DDC, (b) preparation of Technical Guidelines and Fact Sheets, and (c) Capacity Building.

(a) Development of the Data Distribution Centre is the responsibility of the DDC managers in close collaboration with a DDC work group, and under the overall direction of TGICA.

Archiving of data and scenario information

- A subset of the CMIP5 climate model data prepared for the AR5 process is being quality controlled and transferred to the DDC archive.
- The scope of the CMIP5 datasets to be archived is under review by TGICA, with other datasets to be added if required by the user community, especially for impacts, adaptation and vulnerability (IAV) analysis.

Updating tasks to be completed:

- Pages describing the new scenarios process are under revision to reflect recent developments (see below under Upcoming issues). Methods of making these pages more prominent are also being investigated.
- A progress report on the status of CMIP5 data, including its transfer to the DDC archive, will be posted on the DDC.
- A draft document on policies for the attribution of data hosted or cited on the DDC has been completed and is being reviewed by TGICA and the TSUs.

New supporting documentation under development:

- A prototype version of an online DDC glossary
- A new document including criteria for linking to external data portals has been drafted and is under internal review by TGICA

Practical testing of the new DDC Linking Criteria:

- The criteria for linking to external datasets have been tested for nine datasets already on the DDC, and links are currently being refined based on the findings
- Linking criteria are also being tested for new candidate datasets and a web form is being developed so that suggestions for suitable datasets can be posted
- Linking criteria for portals are being tested on candidate portals nominated by TGICA members, with an initial focus on portals in Asia arising out of TGICA-19 discussions

Feedback:

- A full webpage content review is being conducted to identify pages that require updating or replacement as well as problem datasets
- A new DDC online users' questionnaire is under preparation by a sub-group, with assistance from experts on questionnaire design
- The DDC will continue to monitor usage of the site

(b) Technical Guidelines and Fact Sheets. TGICA also develops guidance material for assisting researchers in the accessing, processing, application and interpretation of data and scenarios.

Four documents are at different stages of preparation:

- The first draft of new Technical Guidelines to replace the 2007 version of "General guidelines on the use of scenario data for climate impact and adaptation assessment"
- The first draft of a Fact Sheet on "Using CMIP5 and other GCM data"
- A revised full draft of a Fact Sheet, provisionally titled "Downscaling of climate data for application in impact and adaptation assessment" ahead of formal TGICA review
- An annotated outline, author list and timeline for a Fact Sheet on "Socioeconomic data and its limitations for IAV analyses"

(c) Capacity Building. TGICA contributes a supporting role to capacity building activities in the use of data and scenarios for climate change research in developing countries and economies in transition.

Three activities are ongoing:

- TGICA members who have had regular contacts with international data providers and similar organisations reported on discussions on data provision, portals and other initiatives with GEOSS, WMO/GCOS and UNEP/PROVIA. A report is being finalised for the Task Group.
- A list of networks for possible future outreach has been compiled and is being reviewed by members
- Preparations for a previously proposed TGICA Expert Meeting/Workshop on Regional Capacity Building were taken forward in a break-out session at TGICA-18 and further discussed at TGICA-19. This Workshop aims to relate existing scientific knowledge (such as that produced by the IPCC) to the needs for regional application of such knowledge in developing and transition economy nations, thus supporting agency agendas that promote capacity building for delivering this information and knowledge. The Workshop is tentatively scheduled for mid-2014. Its target audience includes representatives from climate modelling, socio-economic modelling (incl. scenario development), IAV research, and development partners (such as knowledge brokers, development banks/funders and key regional institutions/initiatives). A task team has been identified to clarify the objectives and desired outcomes of the Workshop, to identify potential members for the steering committee, to develop a programme, and to identify key agencies and partners for funding.

5. Other upcoming issues

Preliminary engagement with GFCS. Filipe Lúcio (Head, Global Framework for Climate Services Office, WMO, Geneva) presented an overview of GFCS at TGICA-18, emphasising that low capacity in many parts of the world is one of the primary motivations for this new global initiative. Discussions with TGICA revolved around the possible role of IPCC with respect to the new global

framework. The Co-Chairs will draft a letter to the TGICA members and to IPCC Co-Chairs suggesting ways in which TGICA might engage with GFCS in the future.

New WCRP Working Group on Regional Climate. The World Climate Research Programme (WCRP) has established a Working Group on Regional Climate (WGRC), which held its first meeting in April 2013. The terms of reference of WGRC are still under development, but seem likely to overlap with several topics of central importance to TGICA. Four TGICA members are on the Working Group, including Dr Bruce Hewitson as Co-Chair. The TGICA Co-Chairs will liaise with the Secretariat for guidance on some next steps for promoting constructive future co-operation with WGRC.

DDC Regionalisation. A set of mockup pages offering regionalised data access on the DDC are under preparation, based on discussion of initial ideas in a break-out group at TGICA-18. Options for extracting regional data from existing global datasets held on the DDC are also being investigated.

New Scenarios. There was a report back at TGICA-18 on the Hague meeting on new socioeconomic scenarios (co-sponsored by the government of the Netherlands and the IPCC) held in May 2012. A special issue of *Climatic Change* is currently in preparation reporting some of the latest progress in developing shared socioeconomic pathways (SSPs). Information about the meeting and any publications on the new scenarios process, as they appear, will be included on the New Scenarios pages of the DDC. In addition, TGICA is taking special interest in the so-called IAV-IAM Handshake document, which is designed to identify data needs for IAV that can be produced from integrated assessment models (IAMs), providing guidance to IA modellers simulating the SSPs.

Archiving of new emission scenario datasets. As part of the AR5 process, IPCC Working Group III will be assessing new datasets on emission scenarios, some of which have not been previously published or archived. The DDC managers will consider how to approach the archiving of these new datasets, in close co-operation with the Working Group III TSU.

Technologies for adaptation. Data on mitigation technologies assumed in emissions scenarios are already hosted by the DDC, but TGICA has not previously addressed the provision of data on technologies for adaptation. Based on discussions at TGICA-19, it was decided to prepare an annotated outline for a proposed Fact Sheet on this topic.

Capacity building pages on the DDC. The DDC managers will prepare draft pages reflecting TGICA's role in supporting capacity building, as currently there is no information about this on the DDC site.

6. TGICA Membership

Change of membership. There has been one change of membership since June 2012. Dr Kristie Ebi, ex officio member from the Working Group II Technical Support Unit, has been replaced by Dr Michael Mastrandrea.

Co-Chairs extension. The two-year term of service of the Interim Co-Chairs was scheduled to end in May 2013, to be succeeded by members designated as Co-Chair elect. However, due to difficulties in confirming a Developing country Co-Chair elect from the existing membership as well as an increased IPCC workload for the Developed country Co-Chair elect, Dr Rachel Warren (UK), the transition has not taken place. Instead, following discussions with the Working Group Co-Chairs, Bureau and Secretariat, the TGICA Co-Chairs have agreed to extend their service to the end of the AR5 cycle in mid-2015.

7. Next meeting

A Webex is scheduled for the final week of October 2013. The next full meeting (TGICA-20) has been scheduled tentatively for February 2014 at a location still to be finalised.