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PROGRESS REPORT

Task Group on Data and Scenario Support for Impact and Climate Assessment (TGICA)

(Submitted by the Co-chairs on behalf of the Task Group)

1 Progress Report
2 **Task Group on Data and Scenario Support for Impact and Climate Assessment**
3 **(TGICA)**

4 Submitted by Dr Richard Moss and Dr Jose Marengo, Co-Chairs
5 on behalf of the Task Group
6

7 **Background**
8

9 The TGICA facilitates distribution and application of climate change related data and
10 scenarios. The TGICA oversees a Data Distribution Centre (DDC), which provides data sets, climate
11 and other scenarios, and other materials (e.g., technical guidelines on the use of scenarios). TGICA
12 contributes to building capacity in the use of data and scenarios for climate-related research in
13 developing and transition-economy regions and countries. The TGICA also convenes expert meetings
14 on an as needed basis.
15

16 The TGICA held its 11th session in Cape Town, South Africa, from 7-9 February 2006.
17 During the session, the Task Group discussed a number of topics, including (1) management of the
18 DDC, (2) the status of the transfer to the DDC of the WG I AR4 model simulations for eventual use by
19 the impacts and adaptation research communities, (3) the status of a TGICA initiative to build capacity
20 and develop appropriate data products for use in developing/transition economy countries, and (4) a
21 proposal for an expert meeting on data/scenarios to support integrated regional analysis of interactions
22 between climate processes/phenomena and ecological/socio-economic vulnerability. The TGICA also
23 prepared a comment on the draft recommendations of the IPCC Task Group on New Emissions
24 Scenarios (TGNES). A copy of the Agenda of TGICA-11 is attached.
25

26 This report briefly touches on items 1-4 highlighted in the previous paragraph.
27

28 **1. DDC Management**
29

30 1.1 The Intergovernmental Panel on Climate Change (IPCC) Data Distribution Centre (DDC)
31 <<http://ipcc-ddc.cru.uea.ac.uk/>> provides data sets, climate and other scenarios, and other materials
32 (e.g., technical guidelines on use of scenarios). The TGICA is responsible for the DDC, providing
33 leadership and oversight for its operations. It makes decisions about the materials (observational data,
34 model data (including “scenarios”), technical guidelines, and links to other materials) to be distributed
35 through the DDC. As specified in the TGICA’s mandate, information provided through the DDC
36 includes IPCC “approved” “adopted,” “accepted,” and “supporting” material.
37

38 1.2 The operations of the DDC are primarily supported through voluntary “in-kind” contributions
39 from governments that fund the data centers that comprise the DDC. The TGICA seeks to maintain
40 regular communication with representatives of supporting governments and the home institutions of
41 the data centers. The DDC is currently a shared operation of the Climatic Research Unit (CRU) in the
42 United Kingdom, the World Data Center Climate at the Max-Planck-Institute for Meteorology
43 (WDCC / MPI-M) in Hamburg, Germany, and the Socioeconomic Data and Applications Center
44 (SEDAC) operated by the Center for International Earth Science Information Network (CIESIN) at
45 Columbia University, New York, USA. Each of these institutions has voluntarily taken on
46 responsibility for managing access to a subset of the data and information provided by the DDC. Lead
47 responsibility for the DDC currently rests with the Climatic Research Unit, which coordinates the
48 overall management of the DDC.
49

50 1.3 Staff members at the host institutions (the “DDC Managers”) are accountable for the
51 successful operation of the DDC. They are charged with developing and maintaining the DDC in
52 keeping with international standards and best practices for user access and support, appropriate
53 cataloging, documentation, quality control, archiving, and preservation of DDC holdings.
54

55 1.4 The TGICA reviews the DDC and approves major updates to the site at its regular meetings.
56 The TGICA must approve additions of data, scenarios, technical guidelines, and other materials to the

1 DDC’s holdings. Before being added to the DDC, materials must be peer reviewed to assure their
2 quality and reliability for their intended purpose. For climate data and scenarios, review is usually
3 handled through existing model intercomparison and diagnostic processes. For IPCC “approved”
4 “adopted,” “accepted,” and “supporting” materials, review is through processes defined in IPCC
5 procedures.
6

7 1.5 The contract for managing the lead data center supporting the DDC (currently CRU in the
8 UK) is concluding. The U.K. Department of Environment, Food, and Rural Affairs (DEFRA) is
9 putting out a call for bids on a new support contract, and the TGICA is providing input regarding
10 necessary specifications. The TGICA thanks DEFRA for its ongoing support of the DDC, and for its
11 receptivity to input from the Task Group.
12

13 1.6 TGICA will keep the IPCC informed regarding this transition and future management of the
14 DDC.
15

16 **2. Transfer to the DDC of the WG I AR4 model simulations**

17

18 2.1 Following discussions at TGICA-9 (September 2004), the TGICA Co-Chairs wrote to PCMDI
19 requesting permission to download a subset of variables from the WG I AR4 model runs that are
20 stored at PCMDI and to make these data available for impacts researchers through the DDC. The
21 request was approved by PCMDI. The TGICA thanks PCMDI for their cooperation.
22

23 2.2 The data are being downloaded to the GCM archive within the DDC held at the Max Plank
24 Institute in Hamburg. Data transfer is proceeding. Seven experiments (of the 12 archived at PCMDI)
25 will eventually be placed on the DDC. Presently, data from 16 models for the A1b, B1, and A2
26 scenarios are archived. Monthly means for the core DDC variables are included. Extreme events
27 indices will be included when these have been reported by participating modeling groups.
28

29 **3. Building capacity and developing appropriate data products for use in developing/ 30 transition economy countries**

31

32 3.1 During several recent meetings, TGICA has discussed a variety of challenges to research on
33 climate change impacts and adaptation that are especially relevant for developing and transition-
34 economy countries.
35

36 3.2 The recent coordination of GCM model output, the growth in scope of this output, and the
37 complementary albeit slow increase in derivative products relevant to the impacts community,
38 suggests a significant window of opportunity. An appropriate framework and resources must be put in
39 place to support activities that develop capacity and facilitate the dissemination of and access to
40 regional scenario products and information.
41

42 3.3 Recognizing that the IPCC does not have a mandate to conduct training and fellowship
43 programs, TGICA has discussed a framework for training and overcoming capacity limitations that
44 could be implemented by an agency with experience in capacity building, such as the System for
45 Analysis, Research, and Training (START). The TGICA framework relies on establishment of a
46 network of post-doctoral or early career scientists located in (1) capacity rich developed countries, (2)
47 capacity “middle class” developing countries, (3) and capacity/resource limited developing countries.
48 The framework stresses mentorship and guidance.
49

50 3.4 Postdocs in the developed countries would be responsible for addressing issues of data access
51 and dissemination using media and formats relevant to end users, along with support documentation
52 and guidance. Through this mechanism, climate change data resources would be accessible to regional
53 scientists in the “capacity middle class” – those with the need and resources to handle this data directly
54 but with limitations (such as bandwidth) that effectively restrict the access. To address such capacity
55 issues, strengthening of existing regional research nodes (or establishment of new nodes) should be
56 considered. Scientists in the capacity middle class countries would be responsible for further

1 development of the data resources into forms relevant to the needs and capacity of the regional
2 research community. They would also play a mentoring role in facilitating scientists in the “capacity
3 poor” regions. Additional junior scientists and post-docs drawn from the capacity poor regions would
4 receive usable data with which to address their specific regional needs. Resources should be available
5 to permit the postdocs to rotate to different nodes in the network to gain experience in nations of
6 different status.

7
8 3.5 The network would facilitate communication between scientists of different communities,
9 ready access to appropriate data and skills, and a means for effective mentoring while growing the
10 experiential skill base of all communities. Scientists in more capacity rich communities would benefit
11 from access to the regional expertise essential to any relevant regional climate impacts research, as
12 well from access to regionally held data archives currently unavailable to the broader community.

13
14 3.6 TGICA believes that implementing this on a medium term basis (5-10 years) would be
15 relatively cost effective (especially as measured against much of the current investment in capacity
16 building).

17
18 3.7 IPCC 24 (Montreal, 26-28 September 2005) endorsed the TGICA framework for capacity
19 building and data development. During COP-11, the TGICA framework was noted during SBSTA’s
20 development of a five-year programme of work of on impacts, vulnerability and adaptation to climate
21 change. At its 11th meeting, the TGICA discussed the relationship of this initiative to the work of
22 SBSTA. TGICA members noted that SBSTA is a political body, and agreed that the Task Group
23 would need to work through the IPCC Secretariat in exploring how to follow up on this interest. Work
24 continues to find potential implementing agencies and funders for the framework.

25
26 3.8 TGICA welcomes suggestions and inputs from governments and other interested parties. The
27 Task Group will continue to inform IPCC of developments in this area.

28 29 **4. Integrated regional analysis of interactions between climate processes/ phenomena and** 30 **ecological/socio-economic vulnerability**

31
32 4.1 Within the mandate of TGICA, a meeting is proposed to bring together experts and emerging
33 scientists to explore innovative approaches in addressing the multi-scale and multi-disciplinary
34 problems associated with research in climate change impacts, adaptation, and vulnerability (CCIAV).
35 Specifically, this meeting has six primary objectives:

- 36 1. To identify innovative approaches to dealing with multi-scale issues of CCIIV and associated
37 mitigation issues;
- 38 2. To continue to foster dialogue among the climate systems, CCIIV and mitigation researchers,
39 and other stakeholders;
- 40 3. To explore the complexities arising from the combination of multiple climatic and non-
41 climatic stressors;
- 42 4. To engage emerging scientists active in earth system modeling, CCIIV and mitigation
43 activities;
- 44 5. To identify the ways in which the TGICA can continue to facilitate research; and
- 45 6. To recognize and prepare for the implications to the IPCC/DDC.

46
47 4.2 TGICA is planning to issue a call for abstracts for presentations on innovative research in this
48 area. Abstracts can focus on either methodological approaches or regional case studies that integrate
49 challenges and/or multiple scales. TGICA will encourage scientists from any of the fields of climate
50 systems, impacts and adaptation, or mitigation, as well as integrated assessment, to participate in this
51 meeting. Abstracts should clearly include a description of the challenge(s), the specific issue under
52 consideration, the method or approach that will be presented and/or the region of interest.

53 4.3 The Regional Experts Meeting will be held some time in June/July 2007, depending on the
54 timing of other IPCC-related activities and professional meetings. A steering committee is being
55 formed and will meet in association with the next TGICA meeting, in October 2006.

56



TGICA 11 – Document # 1: Draft Agenda

The meeting will begin at 9 a.m. on the 7th and finish at 5:00 p.m. on the 9th, with breaks for lunch and morning and afternoon tea. A reception is planned for the evening of 6 February, and a group dinner is scheduled for the evening of 8 February.

1. Welcome and overview of objectives (*J. Marengo, R. Moss*)

Welcome

Meeting objectives – discussion and approval of the Agenda [[Doc. 1: Draft Agenda](#)]

2. Minutes of TGICA-10, April 2005 (*R. Moss*)

[[Doc. 2: TGICA-10 draft Minutes](#)]

3. Follow-up to TGICA report to 24th Session of the Panel (26–28 Sept. 05, Montreal) (*R. Moss*)

Brief report from the 24th IPCC Plenary. [[Doc. 3a: TGICA Progress Report to IPCC 24](#)] and UNFCCC COP 11 [[Doc. 3b: Compendium of materials from the IPCC Secretariat of relevance to TGICA capacity building/data development activities](#)]

4. Scenario Issues (*T. Kram*)

Follow-up to TGICA submission to the IPCC Workshop on Scenarios for AR5 at IIASA (Laxenburg, Jul 2005) and subsequent Panel decisions at IPCC 24. [[Doc. 4a: TGICA Submission to IPCC Scenarios Workshop](#); [Doc. 4b: Update on Task Group on New Emission Scenarios \(TGNES\)](#) (*prepared by L. Meyer, WG III TSU*)]

5. DDC Management (*D. Viner or other CRU representative, M. Lautenschlager, Xiaoshi Xing, R. Moss*)

Review of decisions at TGICA 10 on DDC oversight (*R. Moss*) [[Doc. 5a: Agreed Governance Structure for DDC Oversight](#)]

Report from DDC working group (*Hewitson, Palutikof, Pitcher, Nyong, and Marengo*)

Report on DDC operations (*D. Viner or other CRU representative, M. Lautenschlager, Xiaoshi Xing*) [[Doc. 5b: Report on DDC Operations covering user statistics and previously implemented or proposed modifications to the DDC](#)] [[Doc 5b Addendum](#)]

6. AR4 model simulations, *M. Lautenschlager, B. Hewitson*

Status of data transfer to DDC and preparation of website for open access to the model simulations (*M. Lautenschlager*) [[Doc 6: Report on DDC support for access to AR4 model simulations](#)].

Status of effort to make the Isaac Held visualizations of the AR4 archive available through the DDC (*B. Hewitson*)

7. Technical guidelines (*T. Carter et al.*)

Final approval of agreed revisions to technical guidelines (*T. Carter*) [[Doc. 7a: Revised Guidelines](#)].

Initial review of guidelines for socio-economic scenarios, including downscaling (*H. Pitcher*) [**Doc. 7b: Draft technical guidelines**]

Extremes (*J. Marengo, S. Emori*) [**Doc. 7c: Predictability of Climate Extremes: Is it possible to achieve?**] [**Doc. 7d: Future Climate Change Projection by High-Resolution Climate Models and its Implication for Impact Assessments**] [**Doc. 7e: Future Climate Change Projection by High-Resolution Climate Models and its Implication for Impact Assessments**]

8. TGICA Capacity Building and Data Development Initiatives (*R. Moss, B. Hewitson, J. Marengo, N. Leary, D. Viner, and M. Lautenschlager*)

Discussion of initiative to build capacity and develop appropriate data products (*R. Moss, J. Marengo, B. Hewitson, N. Leary*) [**Doc. 8a: Draft proposal for capacity building/data development initiative; see also Doc. 4b: Compendium of materials from the IPCC Secretariat of relevance to TGICA capacity building/data development activities**]

Proposal for “mirror” DVD of the CRU and CIESIN sites and regional DVDs of the AR4 model runs on the Hamburg site (*D. Viner or CRU Representative and M. Lautenschlager*) [**Doc. 8b: Proposals for DVD production**]

9. Regional analyses, interactions, synthesis, and data (*R. Moss L. Mearns, T. Nyong, and B. Bass*)

Proposal for an expert meeting on data/scenarios to support integrated regional analysis of interactions between climate processes’ phenomena and ecological/socio-economic vulnerability. [**Doc. 9: Draft Proposal**]

10. Socio-economic historical data (*N. Arnell, T. Nyong, H. Pitcher, and T. Kram*)

Proposal for increasing information on the DDC related to historical and current socio-economic conditions including emissions

11. Report on progress in WG II AR4 chapter on observed impacts (*B. Seguin*)

12. Pending projects, other topics, and potential initiatives (*J. Mitchell; open discussion*)

Update on development of probabilistic climate scenarios [**Doc. 12: On probabilistic predictions**]

13. Other business

14. Next meetings

Set dates and venues for TGICA-12 and Expert Meeting