

Part One: Project Summary (13 columns: 2 pages)

COLUMN 1

Title of proposed project: **Please use Verdana 10-point size for all the responses**
Promoting a Data Sharing Environment within the Earth Observation System of Systems: The Asia-Pacific Perspective

COLUMN 2

Proponent's Name and Title: Dr. Robert S. Chen, Secretary General, CODATA; Director, Center for International Earth Science Information Network, the Earth Institute, Columbia University
Name of Organisation: CIESIN, Columbia University
Address: P.O. Box 1000, 61 Route 9W, Palisades, NY 10964 USA
Telephone: +1 845-365-8952
Fax: +1 845-365-8922
Email: bchen@ciesin.columbia.edu
Website URL: <http://www.ciesin.columbia.edu>

COLUMN 3

Briefly describe the proposed activity and its relevance to the APN Science and/or Policy Agenda(s), capacity building and sustainable development.
Changes in the Earth system are having a profound impact around the world. This has led to increasing global demand for Earth observation data at local, regional, and global scales. Both scientists and policy makers recognize the importance of widespread data sharing for scientific research, capacity building, and sustainable development. However, many legal, economic, technological, and political barriers must be overcome before an effective working environment for data sharing can be realized. This project aims to highlight specific barriers to data sharing important in the Asia-Pacific region and to develop strategies to overcome them. The project will bring together major stakeholders from the scientific, legal, and policy communities within the region, reviewing experiences around the world, suggesting solutions based on best practices, and identifying useful models and tools, e.g., open access licenses. The project supports the core strategies defined in the APN 2005-2010 Strategic Plan, especially with regard to helping establish a sound scientific basis for policy making. It specifically addresses APN goals related to regional cooperation on data needed for global change research, strengthening science-policy interactions in support of decision making and public knowledge, and building scientific capacity and partnerships through improved data access and networking. It supports the APN Scientific Agenda by promoting the sharing and transfer of data and information on both physical and human changes in the Earth system and the Policy Agenda by accelerating the transfer of knowledge between the science and policy communities.

COLUMN 4

Amount requested from the APN for 2010/11: US\$ 40,000
Duration of Proposed Project: No. of Years: One Year
Funding secured from other sources: approximately US\$ 30,000
Total amount of APN funding requested: US\$ 40,000

COLUMN 5

List the member & approved countries involved with a brief description of their role(s).
The project will be led by Columbia University in the U.S. in close coordination with CODATA, the Committee on Data for Science and Technology, an interdisciplinary body of the International Council for Science. CODATA will directly involve its national member bodies in APN countries: Australia, China, India, Indonesia, Japan, Republic of Korea, Russia, and the U.S. CODATA and its national members provide direct access to scientific and legal experts on data policy and management from around the world and to key institutions involved in Earth observations and global change policy.

COLUMN 6

Is the project a local, national or regional activity?
Regional

COLUMN 7

Main Objectives: **1.** Present an overview of data sharing laws, principles, and policies in the context of Earth observation systems with specific emphasis on the Asia-Pacific region. **2.** Identify and document case studies that illustrate the benefits of data sharing and important obstacles and problems likely to arise in implementing data sharing frameworks for Earth observation systems in the Asia-Pacific context. **3.** Recommend how to address these obstacles and problems to promote improved data sharing environments within the Asia-Pacific Region.

COLUMN 8

Summary of Proposed Project in 100 words: This project will highlight and promote the importance of data sharing within and between Earth observation systems in the Asia-Pacific region for research and applications in key societal benefit areas, e.g., disasters, health, energy, climate, water, weather, ecosystems, agriculture, and biodiversity. It will bring together major stakeholders in this region from both the scientific and policy communities to identify barriers to data sharing and appropriate strategies for overcoming them. The project will organize a workshop in the Asia-Pacific region and a side event and training session at the Group on Earth Observations (GEO) Ministerial meeting in fall 2010.

COLUMN 9

Expected Outcomes: A major outcome of the project will be a formal document summarizing the results and recommendations coming from the workshop. The document will be provided as an input into the 2010 GEO Ministerial, supporting the development of an international consensus on practical steps to implement the Global Earth Observing System of Systems (GEOSS) Data Sharing Principles. An editorial will also be prepared and submitted to a prominent scientific or policy journal. In addition, workshop participants will gain access to a range of information, models, tools, and experts useful for implementing improved data sharing policies and procedures at institutional, national, and regional levels. The workshop, side event, and training session will help educate policy makers about the need for widespread data sharing and scientists about the importance of clear and harmonized data policies.

COLUMN 10

Provide a summary of the project methodologies: Conduct an international workshop in Kuala Lumpur, Malaysia in summer 2010. This workshop will be led by national, regional, and global experts on scientific data sharing and will focus on barriers, issues, and recommended solutions. Results will be summarized in a formal document and presented in a side event and training/education session for policy and scientific representatives from APN countries at the GEO Ministerial.

COLUMN 11

Proposed Mode of Operation of the Project Team: The core project team will be led by R. Chen of CIESIN and CODATA, P. Uhlir of the U.S. National Research Council, J. Gabrynowicz of the University of Mississippi School of Law, Prof. Huadong Guo of the Center for Earth Observation and Digital Earth (CEODE) of the Chinese Academy of Sciences, Prof. Krishan Lal, CODATA President, and Prof. Mohd Nordin Hasan, Director of the ICSU Regional Office for Asia and the Pacific. Additional members and liaisons will be invited through CODATA national members in APN countries and other relevant organizations. CODATA Executive Director K. Cass will facilitate planning and coordination of all activities and preparation of reports.

COLUMN 12

Provide a concise literature review: Uhlir, P.F., R.S. Chen, J.I. Gabrynowicz, and K. Janssen. 2009. Toward implementation of the Global Earth Observation System of Systems data sharing principles. *J. of Space Law* **35**(1):201–290, <http://www.spacelaw.olemiss.edu/index2.html>; CODATA *Data Science Journal* **8**:GEO2–GEO91, <http://www.jstage.jst.go.jp/article/dsj/8/0/GEO1/> pdf. Draft Implementation Guidelines: http://www.earthobservations.org/geoss_dsp.shtml GEO interview: <http://www.codata.org/resources/newsletters/newsletterspecialissueA4.pdf> Editorials in *Science*: Science and the Information Society (Lubchenco & Iwata, 2003): <http://www.sciencemag.org/cgi/content/summary/301/5639/1443>; Science and the Digital Divide (Iwata & Chen, 2005): <http://www.sciencemag.org/cgi/content/short/310/5747/405>

COLUMN 13

Provide any other relevant information (for example, has the proponent or collaborators received funding from the APN before or been involved in APN projects etc.)

Project activities will be co-ordinated with GEO and the GEO Secretariat. Three of the project leaders serve as one of the co-chairs of the GEO Data Sharing Task Force. The team has strong links with relevant organizations such as the Science Commons, the ICSU Regional Office Malaysia, the International Steering Committee on Global Mapping (ISCGM), the Global Spatial Data Infrastructure Association (GSDI), and the Open Geospatial Consortium. R. Chen is an *ex officio* member of the IPCC Task Group on Data and Scenario Support on Impacts and Climate Analysis (TGICA) and a member of ICSU's ad hoc Strategic Coordinating Committee on Information and Data.

Part Two: Project Duration and Funding Requirements (3 columns: 1 page)

Column 1: Timeline

Provide a concise timeline for the activities:

May-early June 2010: The project steering committee will communicate by e-mail and telephone to confirm logistical arrangements, invitations, and a tentative agenda.

June-mid July 2010: Invitations will be sent to participants and background materials prepared and distributed.

July 26-27, 2010: International workshop will take place in Kuala Lumpur, Malaysia.

August-September 2010: Project leaders will work with the GEO Secretariat and GEO Data Sharing Task Force to ensure that the outputs of the workshop are distributed in time before the GEO Plenary and Ministerial in fall 2010.

October 2010: Session held at the 2010 CODATA Conference in Cape Town, South Africa.

November 2010: Side event and training session held in conjunction with the GEO Plenary and Ministerial.

December 2010-March 2011: All materials posted to the CODATA web site and results disseminated and publicized.

Appendix 2: Proponent & Major Collaborators

List of the proponent and major collaborators (names, organisations, contact details). This should also include the contribution, if any, of developed country expertise.

Proponent: Robert S Chen, Director and Senior Research Scientist Center for International Earth Science Information Network (CIESIN) Columbia University, PO Box 1000, 61 Route 9W, Palisades, New York 10964 USA

Tel: +1 845-365-8952, Fax: +1 845-365-8922, email bchen@ciesin.columbia.edu

<http://www.ciesin.columbia.edu>, <http://sedac.ciesin.columbia.edu>

Collaborators:

Joanne Irene Gabrynowicz, Director, National Center for Remote Sensing, Air and Space Law and Research Professor of Law, The University of Mississippi, School of Law, P.O. Box 1848, Lamar Law Center, RM 527, University, MS 38677 USA

Tel.: (662) 915-6877; email: jgabryno@olemiss.edu

<http://www.spacelaw.olemiss.edu/index2.html>

Paul F. Uhler, Director of the Board on Research Data and Information, Policy and Global Affairs Division, The National Academies Room 511, 500 Fifth Street, NW Washington, DC 20001 USA

Tel.: (202) 334-1531, Fax: (202) 334-2231, email: puhler@nas.edu

<http://sites.nationalacademies.org/PGA/brdi/index.htm>

Guo Huadong, Professor. Director-General Center for Earth Observation and Digital Earth, CAS, Kedian Tower f14, No 9 Beiyitiao Road, Zhongguancun, Haidian District, Beijing 100190, China

Tel.: 86-10-58887300, Fax. 86-10-58887302, email: hdguo@ceode.ac.cn

<http://english.ceode.cas.cn/au/hy/>

Krishan Lal, President CODATA, Indian National Science Academy; Senior Scientist, Former Director, National Physical Laboratory, New Delhi-110 012, India.

Tel.: +91 11 2574 1733; EPBAX 2574 6910-12 / Extn 2297 (Office); Fax: +91 11 2572 6938, 2572 6952; email: klal@mail.nplindia.ernet.in

<http://insaindia.org/index.php>

Mohd Nordin Hasan, Director, ICSU Regional Office for Asia and the Pacific, 902-4 jalan Tun ismail, 50480 Kuala Lumpur, Malaysia.

Tel.: + 603-2694-9898/ Fax: +603-2691-7961/E-mail: nordin.hasan@icsu-asia-pacific.org

<http://www.icsu-asia-pacific.org>

Gabrynowicz and Uhler are leading scholars on the legal and policy issues concerned with Earth observation data and scientific data access more generally, including digital divide and information commons issues. Chen is a geographer with long-standing experience on global change issues, application of scientific data to complex policy problems, and data management and stewardship approaches. Other legal and policy experts from developed countries, especially APN countries, will be invited to the workshop and subsequent events.