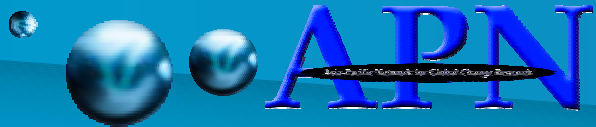


Ongoing & Planned APN Activities Related to Water

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Presented at the 2nd GEOSS Asia-Pacific International Symposium :
Breakout Session on Climate Change Impacts & Water Resources Management
14-16th April 2008, Tokyo, Japan



What is the APN?

Asia-Pacific Network for Global Change Research

- ✿ Inter-governmental Network to foster global change research in the Asia-Pacific region
- ✿ Established in '96 as a result of the '90 White House Conference on Science & Economics Research Related to Global Change
- ✿ 21 member countries
- ✿ Dedicated secretariat in Kobe, Japan since '99
- ✿ Major activities
 - Funding research projects (ARCP)
 - Funding capacity building projects (CAPaBLE)
 - Science-policy linkages



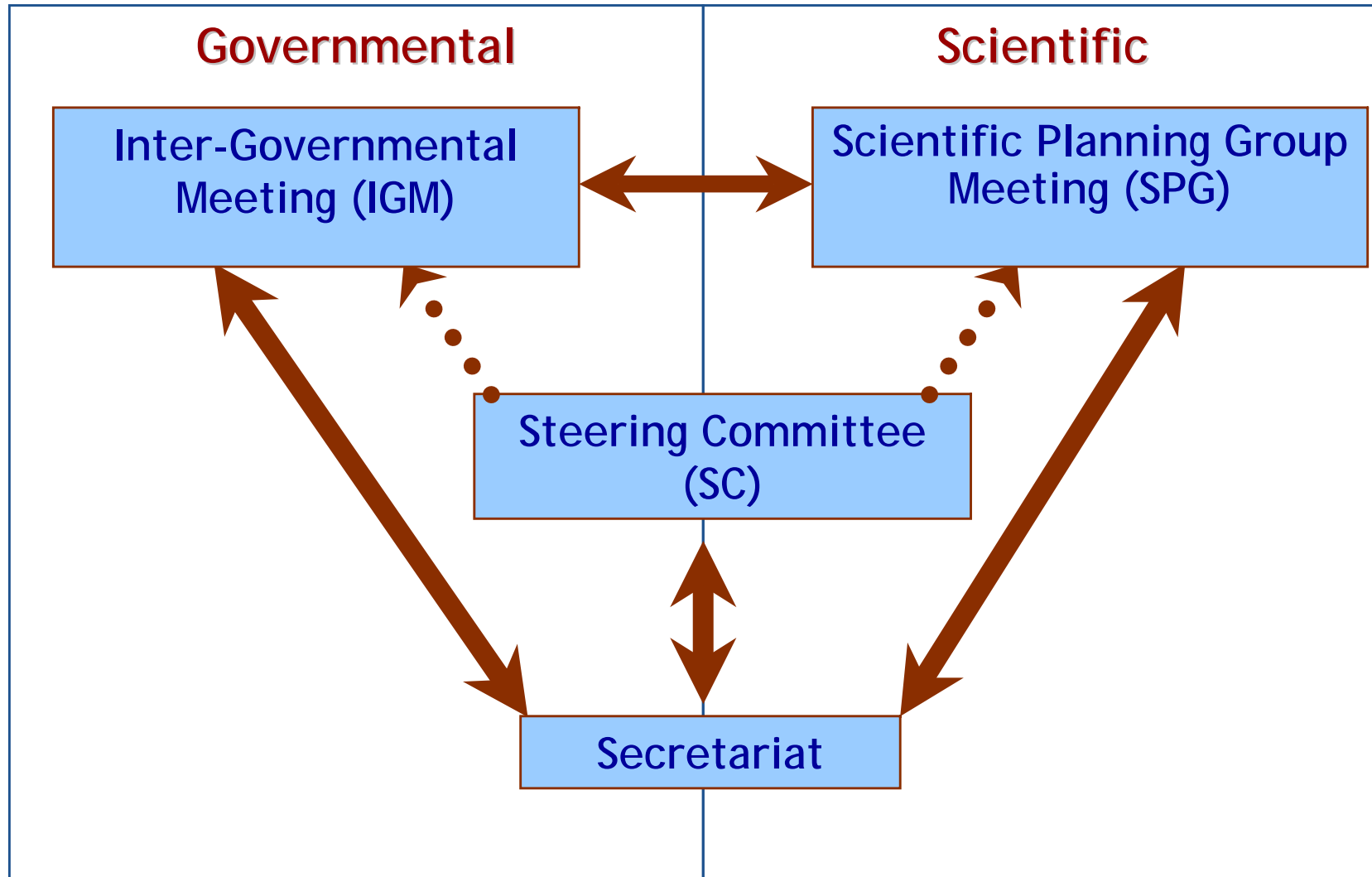
APN
Asia-Pacific Network for Global Change Research

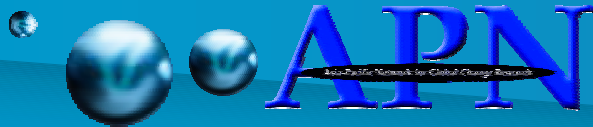
APN Member Countries

- ✿ Australia
- ✿ Bangladesh
- ✿ Cambodia
- ✿ China
- ✿ Fiji
- ✿ India
- ✿ Indonesia
- ✿ Japan
- ✿ Lao PDR
- ✿ Malaysia
- ✿ Mongolia
- ✿ Nepal
- ✿ New Zealand
- ✿ Pakistan
- ✿ Philippines
- ✿ Republic of Korea
- ✿ Russian Federation
- ✿ Sri Lanka
- ✿ Thailand
- ✿ United States of America
- ✿ Viet Nam



Pacific Island Countries and Singapore are approved countries whose scientists are eligible to receive funding under APN awards.





APN's Mission

(APN Strategic Plan 2005/06 – 2009/10)

The mission of the APN is to enable investigation of change in the Earth's life support systems as it occurs in the Asia-Pacific region to:

- ✿ Identify, explain and predict changes in the context of both natural and anthropogenic forcing,**
- ✿ Assess potential regional and global vulnerability of natural and human systems, and**
- ✿ Contribute, from the science perspective, to the development of policy options for appropriate responses to global change that will also contribute to sustainable development.**

The APN is sponsored by the governments of:

- ✿ Australia (Department of Environment and Water Resources)
- ✿ Japan (Ministry of the Environment and Hyogo Prefecture)
- ✿ New Zealand (Ministry for the Environment)
- ✿ Republic of Korea (Ministry of Environment)
- ✿ United States of America (National Science Foundation, US Climate Change Science Program)



Ministry for the
Environment
Maeum, Eum, Beon, Eon



Key Scientific Themes

1. Climate
2. Ecosystems, Biodiversity and Land Use
3. Changes in Atmospheric, Terrestrial and Marine Domains
4. **Use of Resources (food, water, energy, materials) and Pathways for Sustainable Development**
5. Crosscutting and Science-Policy Linkages

- **Annual Regional Call for Proposals**
 - One of the scientific pillars of APN to support global change research in the Asia-Pacific region
 - Competitive process launched in 1998 to select projects for funding under the Science Agenda of the APN
- **Capacity Development Programme (CAPaBLE)**
 - The second pillar of APN supporting capacity development projects and activities
 - Registered as WSSD Type II Partnership Initiative
- **Science-Policy Linkages**
 - APN's Policy Agenda: "strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy- and decision-making and scientific knowledge to the public"



APN
Asia-Pacific Network for Global Change Research

Water/Climate related

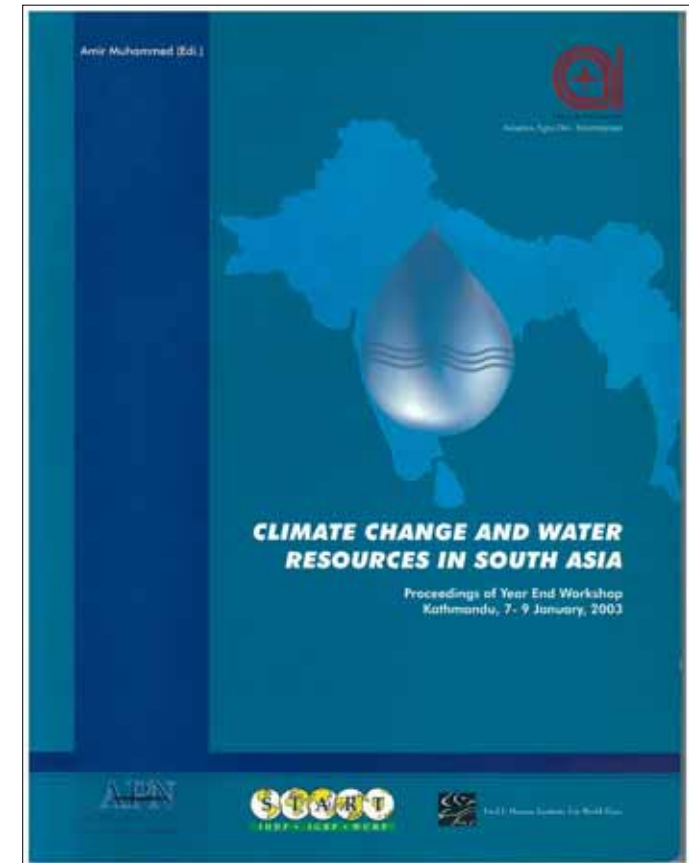
APN-Supported Research Projects and Capacity Building Activities



Water Resources in **South Asia**: An Assessment of Climate Change-Associated Vulnerabilities and Coping Mechanisms

Objectives, among others:

- ✿ To determine the vulnerability of regional water resources to climate change
- ✿ To identify key risks to each sub-region and prioritize adaptation responses
- ✿ To evaluate the efficacy of various adaptation strategies or coping mechanisms that may reduce vulnerability of the regional water resources



ICIMOD Project

- ✿ Inventory of Glaciers and Glacial Lakes and the Identification of Potential Glacial Lake Outburst Floods (GLOFs) Affected by Global Warming in the Mountains of India, Pakistan and China/Tibet Autonomous Region/Tibet Autonomous Region

An inventory of glaciers and glacial lakes is an important undertaking to get accurate information and knowledge of GLOFs. While the potential GLOF hazards in the region is still unknown, this study will add a database to enhance the ability of researchers, policy-makers and water resource planners as well as to understand and mitigate GLOF-associated hazards.

GWSP Project

✿ Global Water System Hotspots in the Asian Region: Mega Cities and Dams

Workshop aimed to summarize existing state of knowledge on current cumulative impacts of mega cities and that of dams in Asia and to set and launch a research agenda for mega cities and dams in Asia in the context of the global water system

- ✿ Climate Change in **Southeast Asia** and An Assessment on the Impacts, Vulnerability and Adaptation on Rice Production and Water Resources

3-year comprehensive research project that aims to identify how long-term climate change will impact water resources and crop production



- ✿ The Mega-Deltas of Asia: A Conceptual Model and its Application to Future Delta Vulnerability
- ✿ Asian Mega-deltas: Monsoon Circulation in Relation to Deltaic-Coastal Hazards and Future Mitigation – Millennial to Seasonal Dimensions

Aim to establish a comprehensive database and enhance the understanding of the mechanisms of coastal landform change in response to monsoon circulation. Outputs will include a website for circulating relevant information and an assessment of monsoon-related hazard and assessment criteria.

AWCI Project:

✿ International Integrated Water Data Access and Transfer in Asia (IIWaDATA) Project

The IIWaDATA project aims to develop a sustainable scheme for water cycle data collection, sharing, exchange, and management at the regional level in Asia.

❖ Regional Collaborative Research on Climate Change Impacts on Surface Water Quality in Eastern Monsoon Asia: Towards Sound Management of Climate Risks

aims to provide scientific baseline information that will be translated into practical knowledge for assessing and managing risks associated with changing water quality under a rapidly changing climate and increasing demand for safe and clean freshwater resources.



New Activities from April 2008

- ✿ **The Global Earth Observation System of Systems Asian Water Cycle Initiative Observation Convergence and Data Integration (GEOSS/AWCI/OCDI)**
- ✿ **Capacity Building for Drought Monitoring and Studying in Monsoon Asia under the Framework of Asian Water Cycle Initiative (AWCI)**
- ✿ **Assessment of Food and Water Security in South-Asia under Changing Climate Scenario Using Crop Simulation and Water Management Models, and Identification of Appropriate Strategies to Meet Future Demands (GCISC)**

Aims to assess food and water security in South Asian countries for sustainable development under changing climate to help national planners and policy makers to introduce appropriate strategic corrective measures, as necessary.



New Activities from April 2008

✳Flood Risk Management Demonstration Project under the Asian Water Cycle Initiative for the Global Earth Observation System of Systems (FRM/AWCI/GEOSS)

✳Reducing Water Insecurity through Stakeholder Participation in River Basin Management in the Asia-Pacific combine human response options (scientific, engineering, institutional, financial, social, economic) and partnerships (domestic and transboundary), as a tool in good water governance and a precondition for effective policy process towards sustainable development

✳Impacts of Global Change on the Dynamics of Snow, Glaciers and Runoff over the Himalayan Mountains and Their Consequences for Highland and Downstream Regions.

assess the impacts of climate change on dynamics of snow, glaciers and runoff over the Himalayan mountains and their consequences for people's livelihood



**For more information,
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