The 7th International Coordination Group (ICG) Meeting
GEOSS Asian Water Cycle Initiative (AWCI)

Summary Report including Updates of the Demonstration Projects

Toshio Koike
Professor, The University of Tokyo

11 Year History of GEOSS Water
5 Year History of GEOSS/AWCI

2000 – **Integrated Global Observing Strategy (IGOS) Water Theme** Proposal

2001 – Water Theme Approved

2002 –Team Report Writing Team

2003 – Preparation for "**Integrated Global Water Cycle Observation (IGWCO)**"

2004 – IGWCO Team Report → Preparation for 10-year Implementation Plan

2005 – 1st IGWCO in Tokyo

2006 – 2nd IGWCO in Paris

2007 – 3rd IGWCO in DC

2008 – 4th IGWCO in Geneva

2009 – 5th IGWCO in Kyoto

2010 – 6th IGWCO in New York

World Summit on Sustainable Development (WSSD)
Ad-hoc (GEO)

GEO/GEOSS Asian Water Cycle Initiative (AWCI)

1st GEOSS AP in Tokyo

2nd GEOSS AP in Tokyo

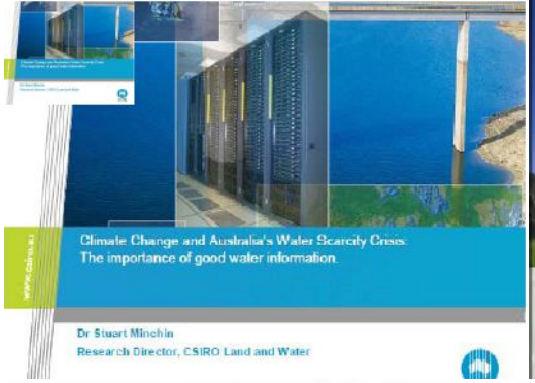
3rd GEOSS AP in Kyoto

4th GEOSS AP in Bali

5th EO Summit in Beijing

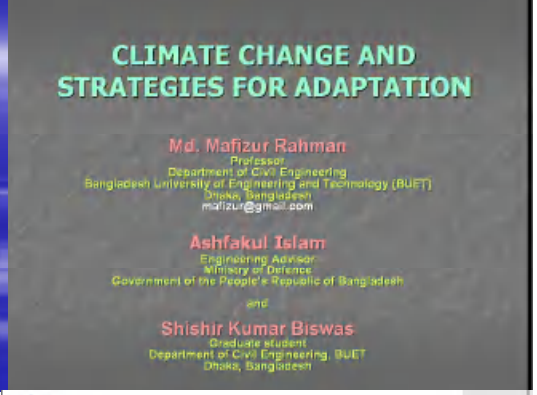
1st Sump. in Tokyo
1st TTM in Bangkok

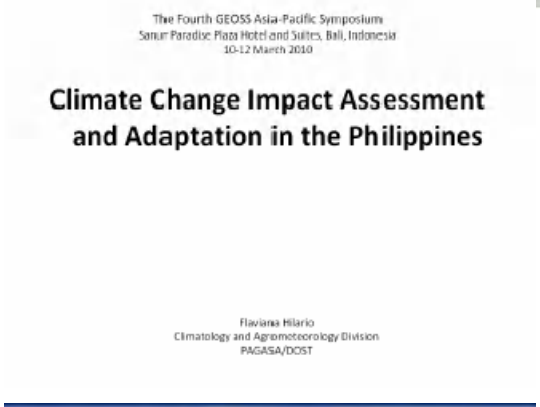
2nd Simp..in Tokyo
1st ICG in Bali
3rd Simp. in Beppu
2nd ICG in Tokyo
3rd ICG in Beijing
4th ICG in Kyoto
5th ICG in Tokyo
6th ICG in Bali
7th ICG in Tokyo


Climate Change and Australia's Water Scarcity Crisis:
The importance of good water information.
Dr Stuart Minchin
Research Director, CSIRO Land and Water

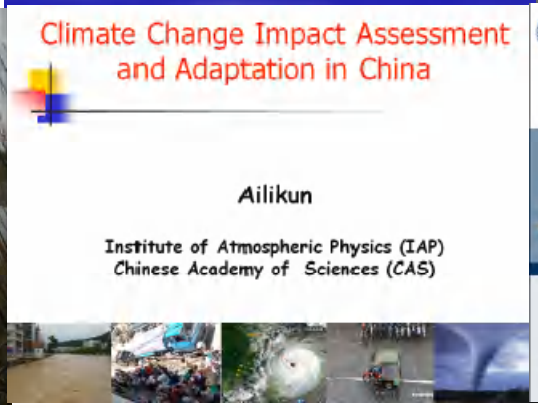

Climate Change Impacts and Adaptation in Bhutan
National Environment Commission/
Hydro-met Services Division
Department of Energy
Ministry of Economic Affairs
Thimphu: Bhutan


The 6th meeting of the GEOSS Asia Water Cycle Initiative
(AWCI) International Coordination Group (ICG)
10-13 March 2010, Sanur Paradise Plaza, Bali, Indonesia
Climate Change Impact and Adaptation
Measures in Cambodia
Ministry of Water Resources and Meteorology
Cambodia


CLIMATE CHANGE AND
STRATEGIES FOR ADAPTATION
Md. Mafizur Rahman
Professor
Department of Civil Engineering
Bangladesh University of Engineering and Technology (BUET)
Dhaka, Bangladesh
mafizur@gmail.com
Ashfakul Islam
Engineering Advisor
Ministry of Defence
Government of the People's Republic of Bangladesh
and
Shishir Kumar Biswas
Graduate student
Department of Civil Engineering, BUET
Dhaka, Bangladesh

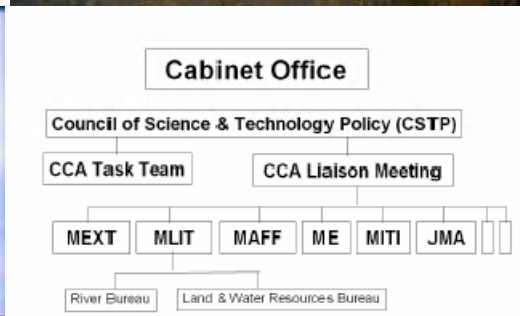

The Fourth GEOSS Asia-Pacific Symposium
Sanur Paradise Plaza Hotel and Suites, Bali, Indonesia
10-12 March 2010
Climate Change Impact Assessment
and Adaptation in the Philippines
Flaviana Hilario
Climatology and Agrometeorology Division
PAGASA/DOST

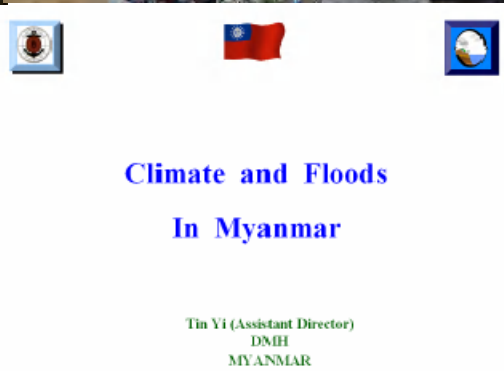

Climate Change Impact
Assessment and Adaptation
aspects in Mongolia
G. Davaa
Institute of Meteorology and Hydrology, Mongolia


Climate Change Impact Assessment
and Adaptation in China
Ailikun
Institute of Atmospheric Physics (IAP)
Chinese Academy of Sciences (CAS)


Drought Monitoring
using Satellite Remote
Sensing Data
in Java Island, Indonesia
Parwati, Orbita Roswintiarti, and Nanin Anggraini
Indonesian National Institute of Aeronautics and Space (LAPAN)

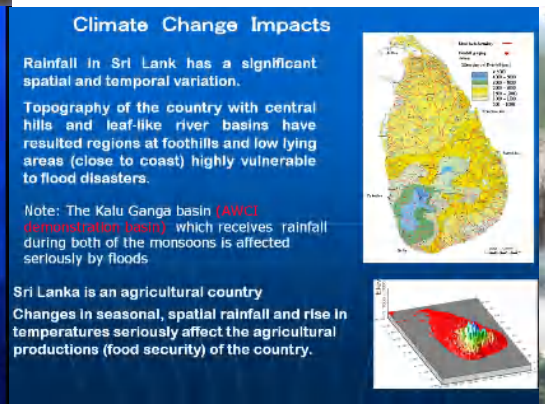

Climate Change Impact
Assessment and Adaptation in
Uzbekistan
Irina Dergacheva
NIGMI of Uzhydromet
E-mail: nigmi@albatros.uz


Cabinet Office
Council of Science & Technology Policy (CSTP)
CCA Task Team
CCA Liaison Meeting
MEXT
MLIT
MAFF
ME
MITI
JMA
River Bureau
Land & Water Resources Bureau


Climate and Floods
In Myanmar
Tin Yi (Assistant Director)
DMH
MYANMAR


Snow, Glacier and GLOF
Upper Indus Basin
6th International Coordination Group (ICG) Meeting
GEOSS Asian Water Cycle Initiative (AWCI)
Bali, Indonesia, 11 March 2010


Vietnam Short Country Report
(Presentation on the Fourth GEOSS Asia-Pacific Symposium
The Parallel Session: Hydrometeorological – Related Disaster and Water
Resources Management
The topic: Climate Change Impact Assessment and Adaptation)
National Centre for Hydro-Meteorological
Forecasting (NCHMF), HMS
Bali, Indonesia, 11 March 2010
Dr Dang Ngoc Tinh


Climate Change Impacts
Rainfall in Sri Lank has a significant spatial and temporal variation.
Topography of the country with central hills and leaf-like river basins have resulted regions at foothills and low lying areas (close to coast) highly vulnerable to flood disasters.
Note: The Kalu Ganga basin (AWCI demonstration basin) which receives rainfall during both of the monsoons is affected seriously by floods
Sri Lanka is an agricultural country
Changes in seasonal, spatial rainfall and rise in temperatures seriously affect the agricultural productions (food security) of the country.


COUNTRY REPORT ON GEOSS / AWCI
CLIMATE CHANGE IMPACT ASSESSMENT
and ADAPTATION
THADA SUKHAPUNNAPHAN
Royal Irrigation Department
THAILAND
11 March 2010

Relationship between Climate Change and Urbanisation

Implications of urbanisation

- Cities are engines of growth
- High degree of economic dependence on cities
- Urban share of GDP in Asia 80%
- Changes in lifestyles, energy use and fuel consumption

Implications for the climate

- Changes have serious implications for climate change
- Cities contribute up to 80% of the global CO2 emissions

Implications for cities

- Health effects
- Implication for food production
- Coastal areas affected
- Infrastructure and economic impact

Therefore in order to fight climate change, it is important to study the role played by urban areas

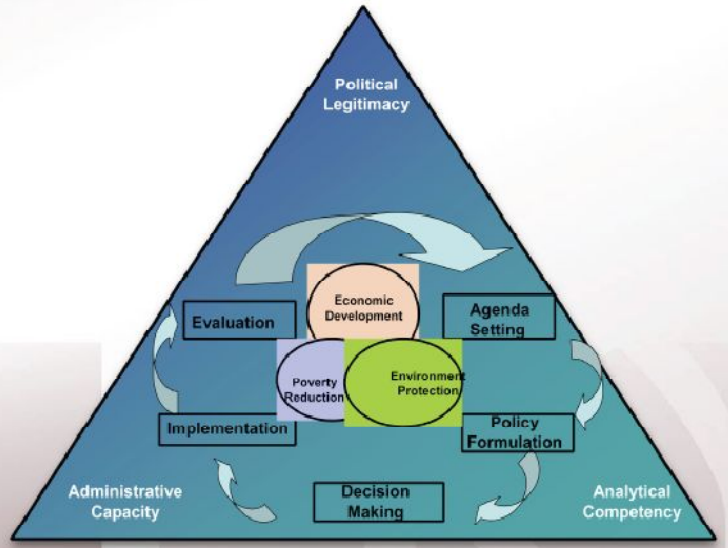
What is IPSD?

- Integrated Policy-Making for Sustainable Development (IPSD) is a process by which governments translate the objectives of sustainable development into policy actions in a given policy environment
- Three features of IPSD:
  - It aims at integrating three objectives of sustainable development: economic development, poverty reduction and environmental protection
  - It systematically places sustainable development in the whole policy process
  - It aligns policy actions for implementing sustainable development with critical components in policy environment ("strategic triangle" analysis)

Achieving a common ground for science and policy

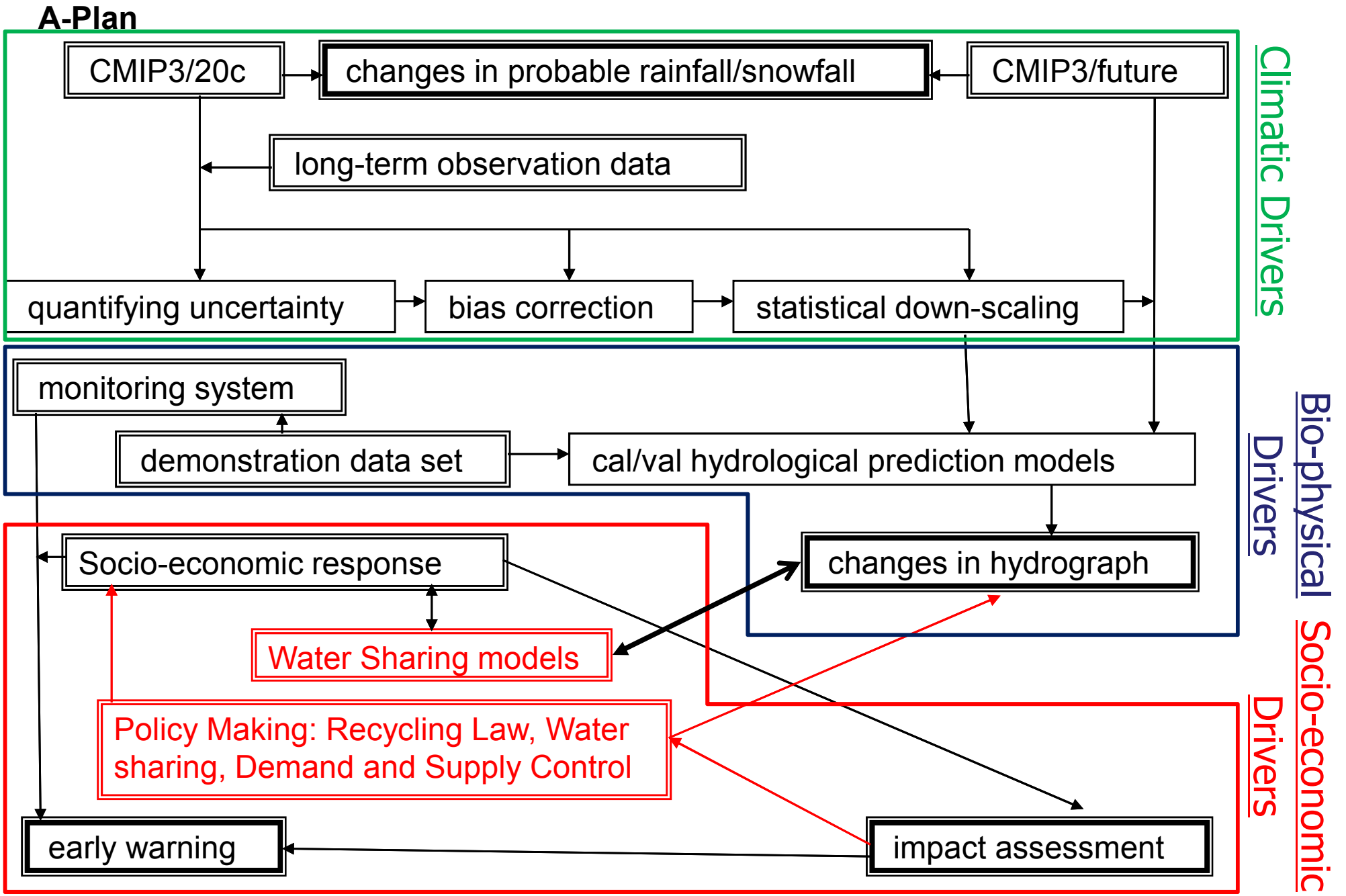
- Current tensions between the two worlds arise mainly due to different language, operational issues, and value systems.
- How does the scientific enterprise operate?
  - objectivity
  - repeatability
  - falsifiability
  - peer review
- Public (and policy makers') perception of science and technology vastly different from the way those enterprises operate
- How does the policy process work?
  - special interests
  - public interest
  - suboptimal results
- Scientists' impatience with the policy process and policymakers' tendency to wait till receiving scientific "certainty".
- Mechanisms for receiving impartial science and technology input for policy process is key for addressing many 21st century challenges.

Integration of Policy Objectives, Policy Environment and Policy Process



Implementation Planning

Question 1: What should be added, removed and modified?



GEOSS Asian Water Cycle Initiative (AWCI)
- Member Countries -


1st Asian Water Cycle Symposium, Tokyo, Nov. 2005


1st Task Team Meeting, Bangkok, Sep. 2006


1st Capacity Building Workshop, Sep. 2006


2nd Asian Water Cycle Symposium, Tokyo, Jan. 2007


1st GEOSS AP Symposium, Tokyo, Jan. 2007


1st International Coordination Group Meeting, Bali, Sep. 2007


3rd Asian Water Cycle Symposium, Beppu, Dec. 2007

GEOSS
Asian Water Cycle Initiative (AWCI)

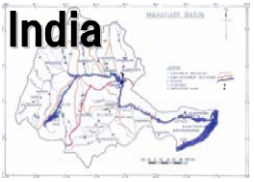
To promote integrated water resources management by making usable information from GEOSS, for addressing the common water-related problems in the Asia-Pacific region.

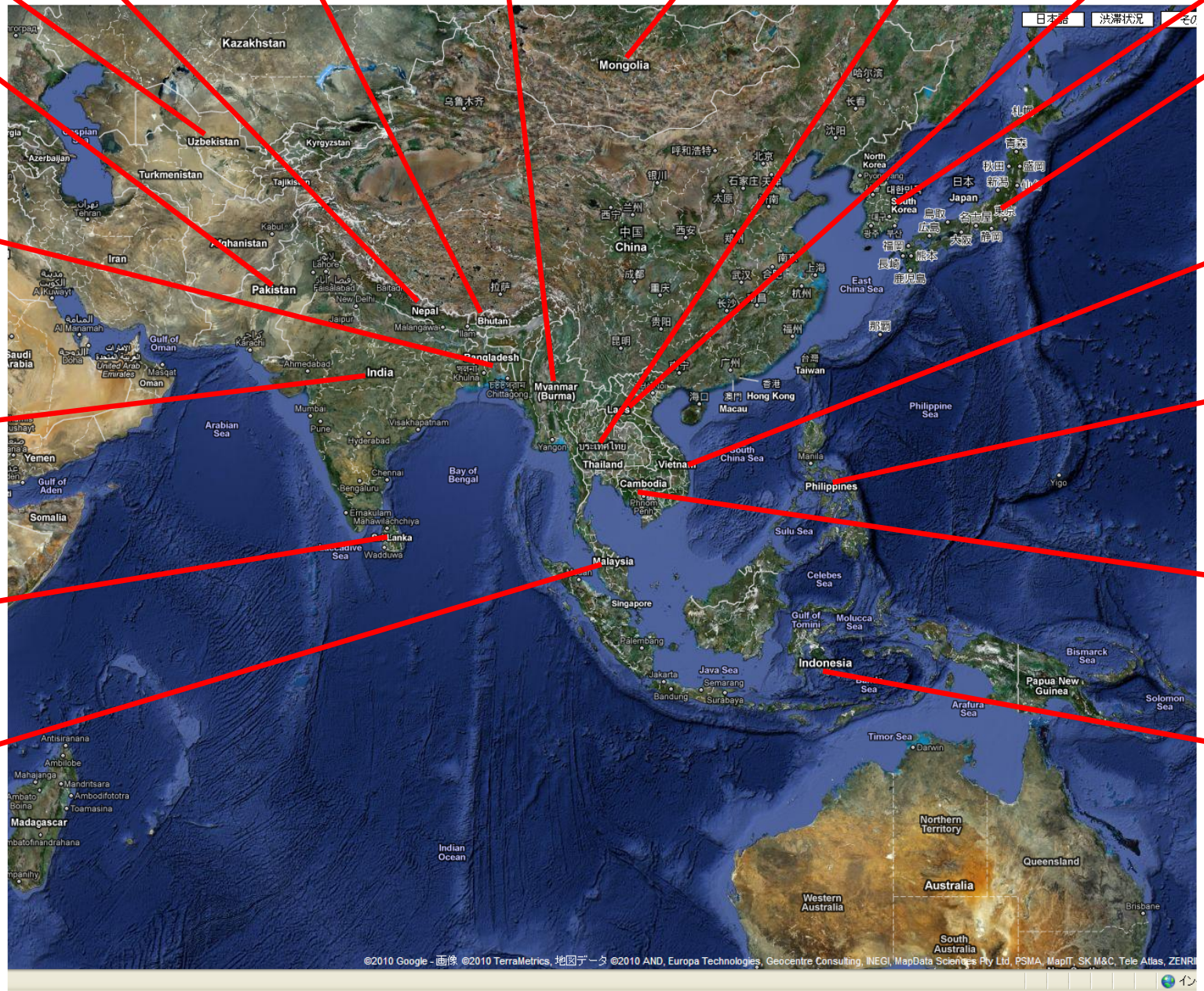
Uniqueness

- A River Basin of Each Country
- Observation Convergence
- Interoperability Arrangement
- Data Integration
- Open Data & Source Policies
- Capacity Building
- Early Achievements

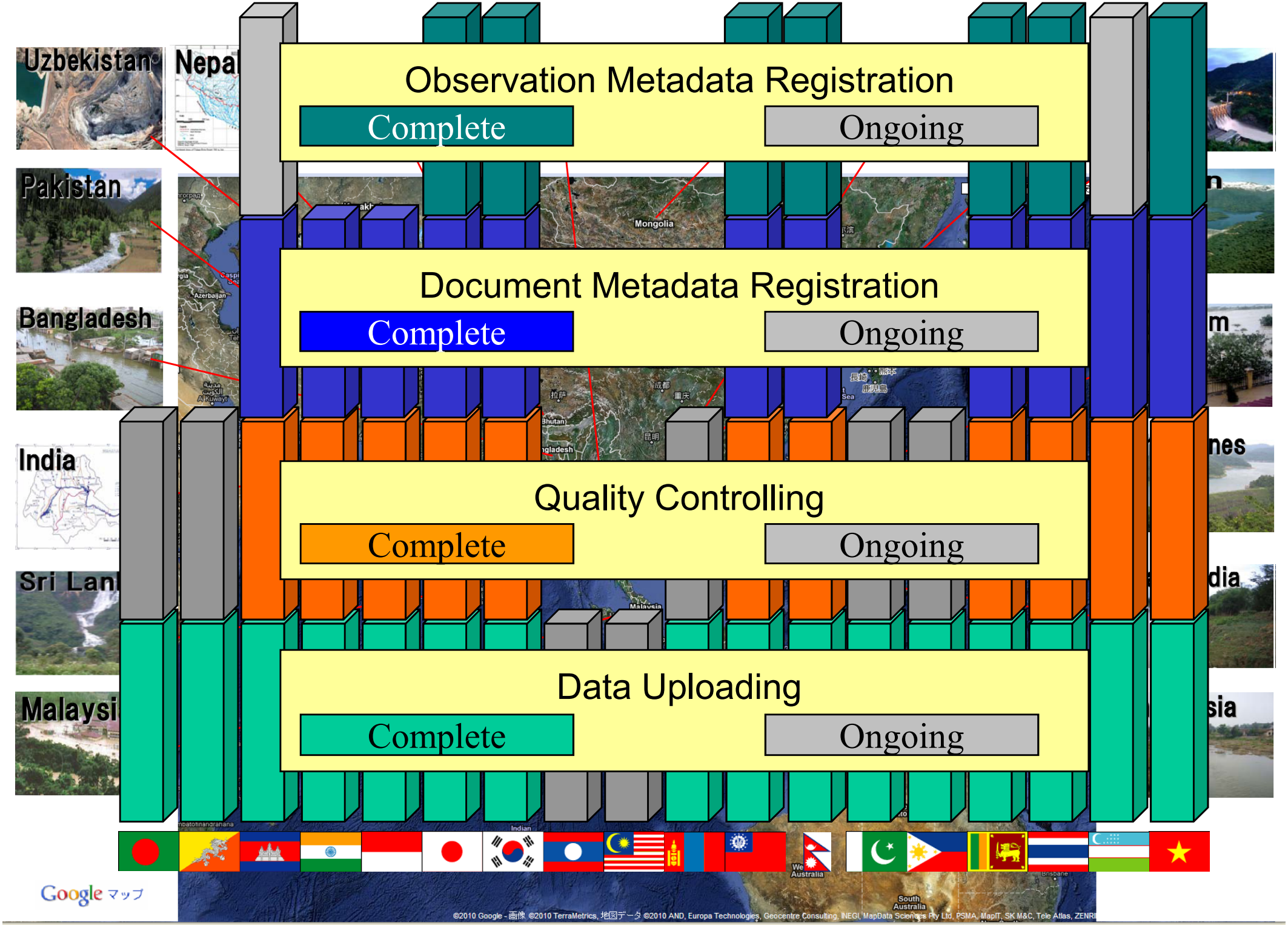
Asian Water Cycle Initiative

Demonstration River Basins





Asian Water Cycle Initiative


Uzbekistan
Nepal
Pakistan
Bangladesh
India
Sri Lanka
Malaysia
Observation Metadata Registration
Complete
Ongoing
Document Metadata Registration
Complete
Ongoing
Quality Controlling
Complete
Ongoing
Data Uploading
Complete
Ongoing
Mongolia
Azerbaijan
Bhutan
Malaysia
Indian
Google マップ
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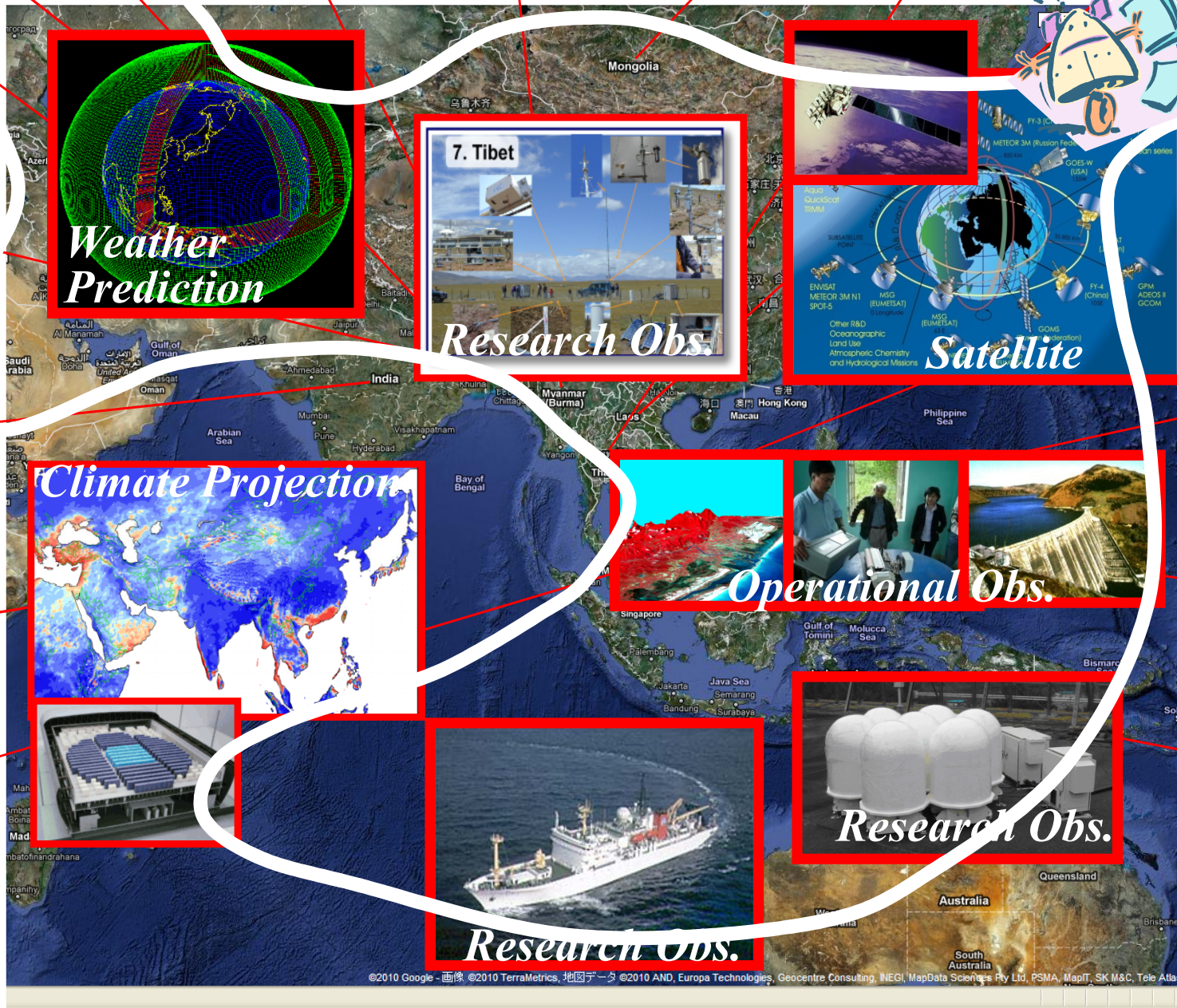
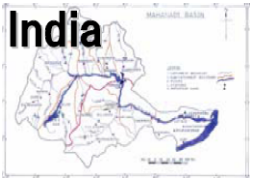
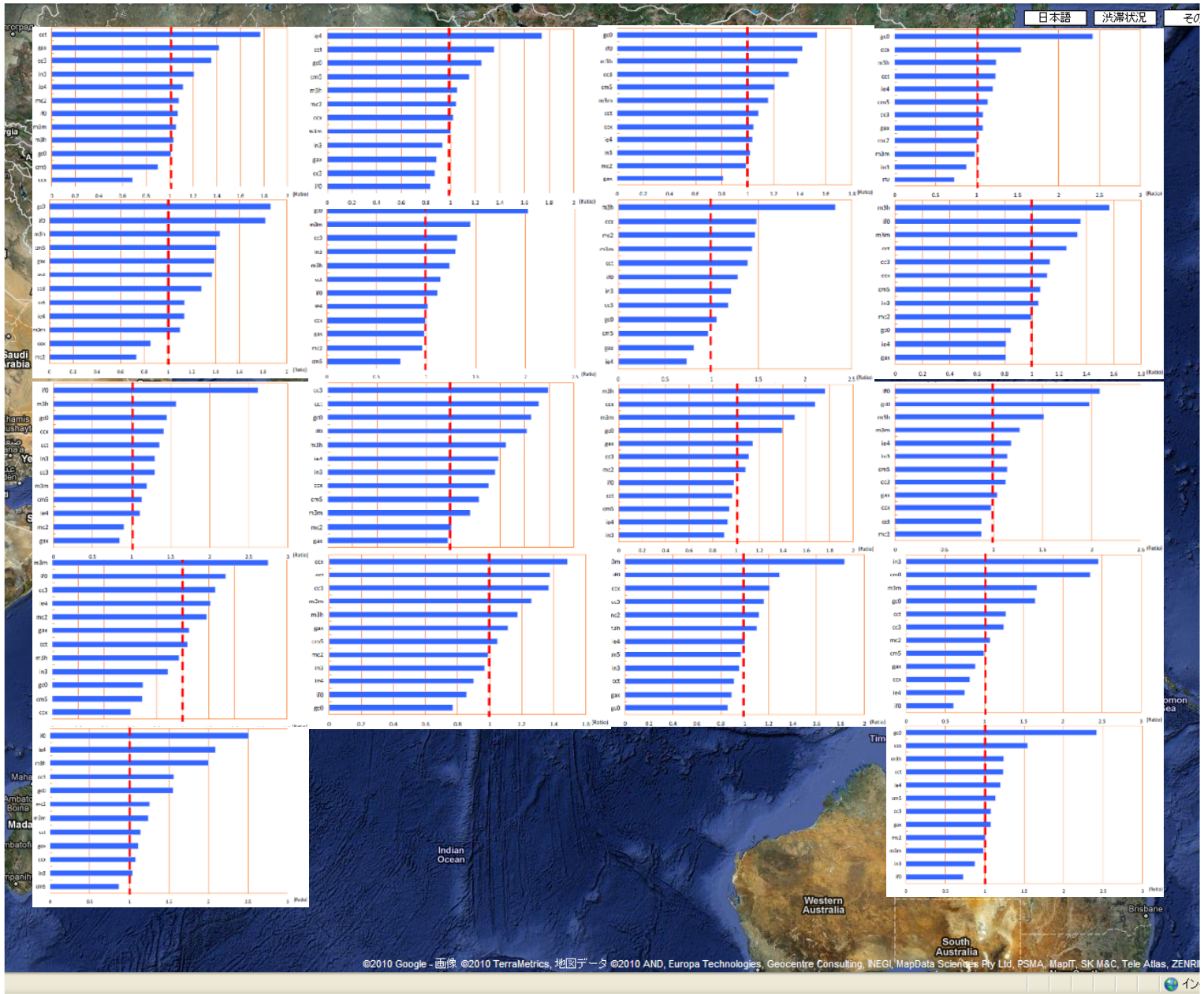
Data Integration and Analysis



Asian Water Cycle Initiative

Demonstration River Basins

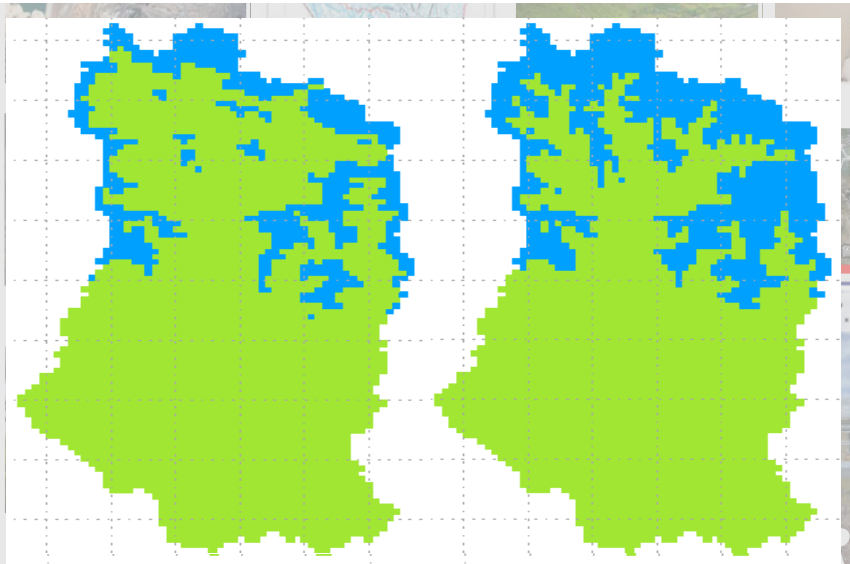




Asian Water Cycle Initiative

Data Integration and Analysis

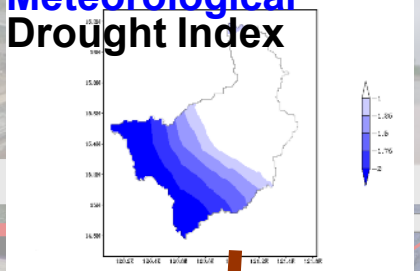
Snowfall-melt-runoff prediction and Climate Change Assessment System in Nepal



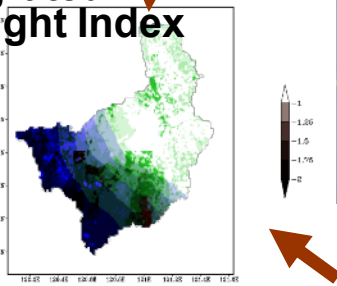
from satellite from model

May 25, 2003

Meteorological Drought Index

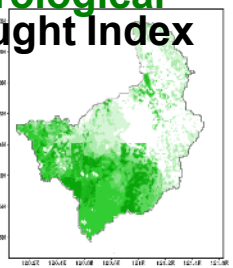


Integrated Drought Index

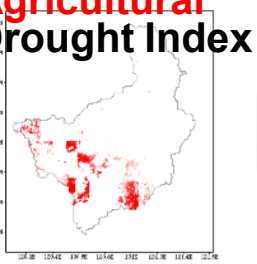


Integrated Drought Monitoring and Climate Change Assessment System in Philippine

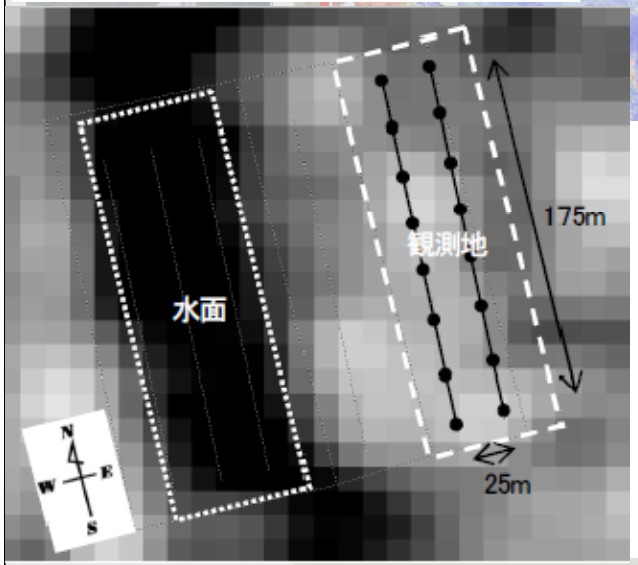
Hydrological Drought Index

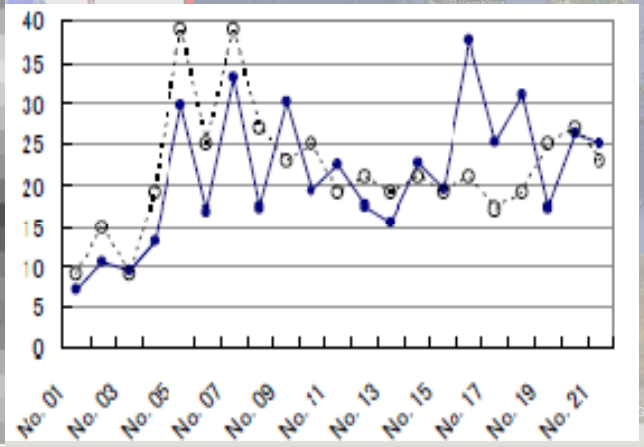


Agricultural Drought Index

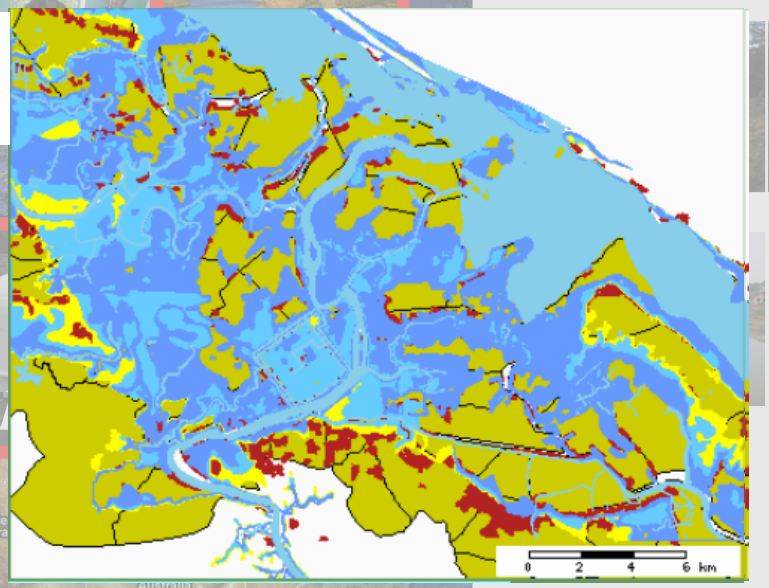


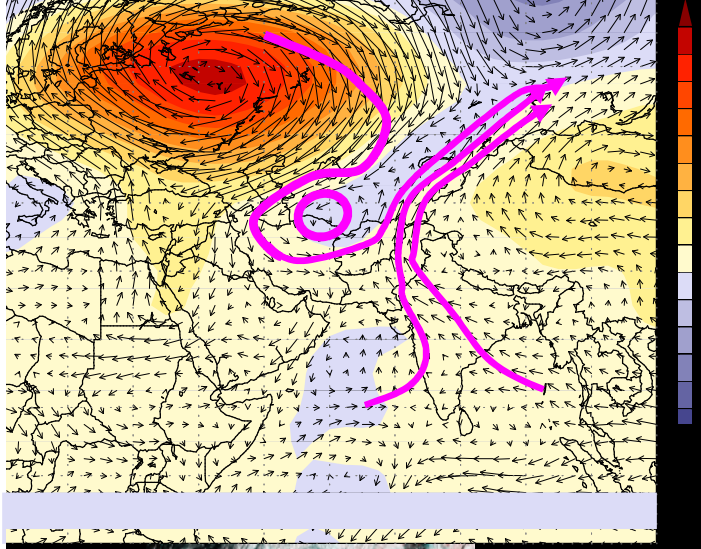
Soil Moisture Observation by PALSAR, Cambodia

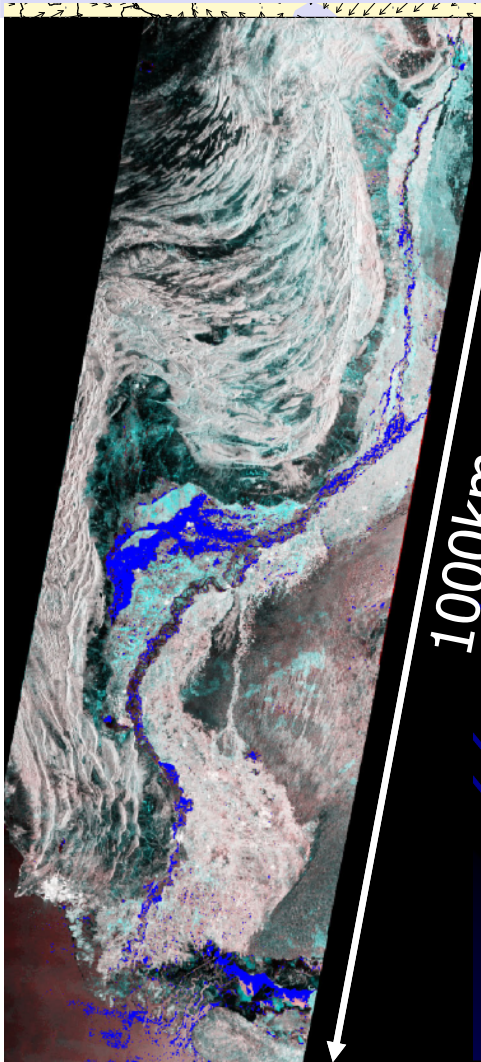




Inundation Prediction System in Hue, Vietnam







1000km


N45°
N35°
N25°
Tropic of Cancer
N15°
N5
E15°
E25°
E35°
E45°
E55°
E65°
E75°
E85°
E95°
E105°
E125°
Equator
00:01
Navy, NGA, GEBCO
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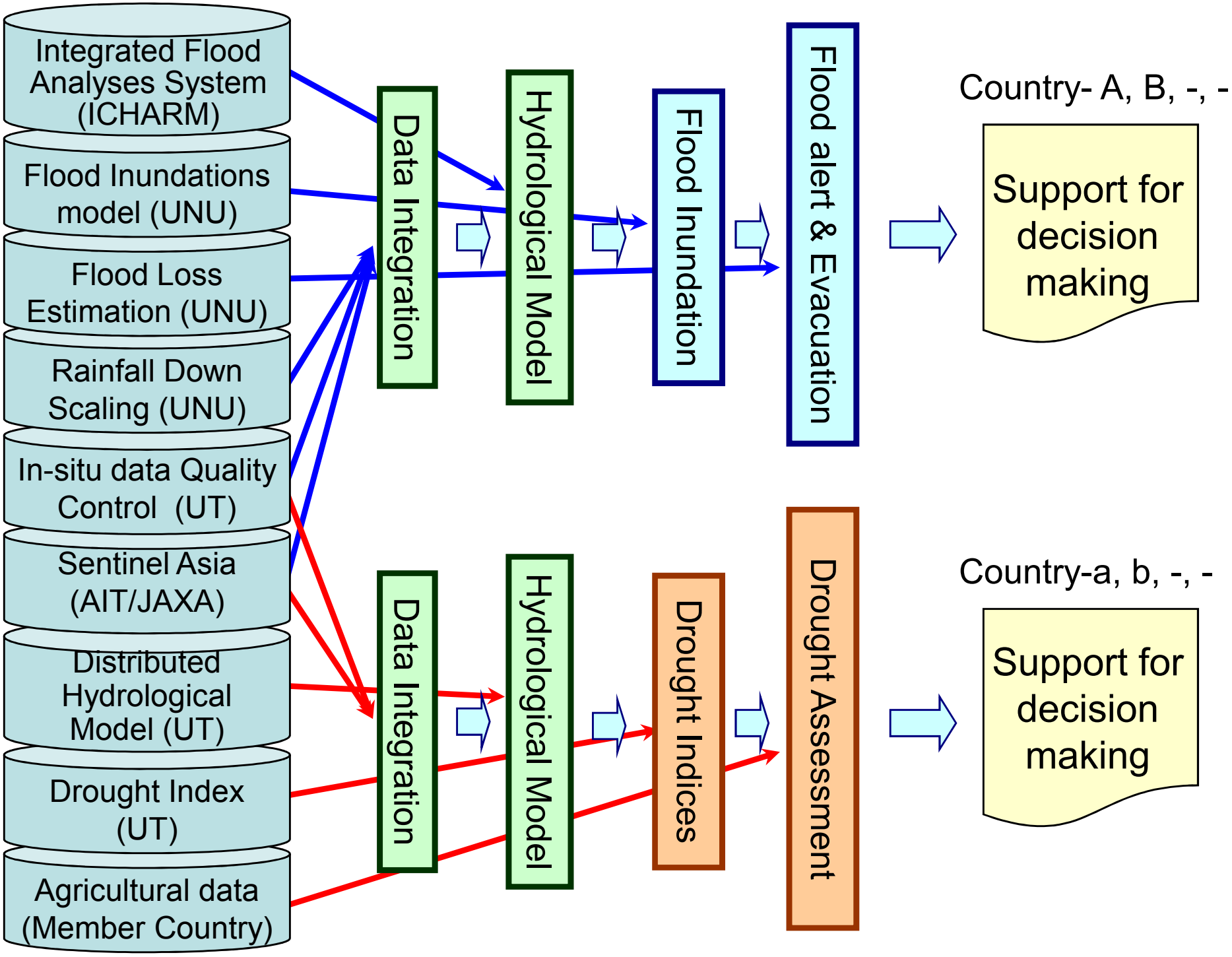
Google

Training Modules

Training Course



Agenda

1. Opening
2. AWCI Activity Reports
3. "Capacity Building" Implementation
4. Flood and Climate Change
5 Drought and Climate Change
6 Water-Quality and Climate Change
7 Snow-Glacier-GLOF and Climate Change
8 Preparation for Implementation Plan for Climate Change Assessment & Adaptation
9. Breakout Sessions for Harmonization
   - 9.0 Introduction to White Paper and Points of Breakout Discussion
   - 9.1 Climate Change Assessment & Adaptations - Flood
   - 9.2 Climate Change Assessment & Adaptations - Drought
   - 9.3 Climate Change Assessment & Adaptations - Water Quality
   - 9.4 Climate Change Assessment & Adaptations - Snow-Glacier-GLOF
10. Summary Session