Japan's Activities for GEOSS Development

The Second GEOSS Asia-Pacific Symposium

-The role of earth observations in tackling climate change-

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1.Climate Change Today

IPCC-4AR (2007)

- Most of the observed increase in global average temperatures since the mid-20th century is **very likely** due to the observed increase in anthropogenic GHG concentrations.

- Difficulties remain in simulating and attributing observed temperature changes at smaller than continental scales.

Fourth Earth Observation Summit (Nov.2007,Cape Town)

- Working together to improve the interoperability of and access to observation and associated prediction and information systems towards the continued strengthening of GEOSS and the full realization of the 10-Year Implementation Plan were promised.

IPCC Chair's proposal (Feb.2008)

- It is essential to promote investigation to influence of climate change ,especially involving developing countries.

G8 Hokkaido Toyako Summit (Jul. 2008)

- G8 Summit meeting in Hokkaido Toyako will focus on the Climate Change

Climate Change is at the top of the political agenda.
GEOSS is the key element in tackling this issue.

2.Fourth Earth Observation Summit in Cape Town

Minister TOKAI attended the 4th Earth Observation Summit in Cape Town on 30 November 2007 and announced the followings;

-To supply useful earth observation data and to contribute to the world especially to Asia

-To host 2nd GEOSS Asia Pacific Symposium in Tokyo

3.Group on Earth Observations of Japan

Direction & Supervise

Council for Science and Technology Policy (CSTP)

"Earth Observation Promotion Strategy" (Est. in Dec. 2004)

Checking the progress of project carried out by implementation organization according to the strategy

Plan & See

Ministry of Education, Culture, Sports, Science and Technology (MEXT)

"Action Plan for Japanese Earth Observations" (every year)

Developing the annual action plan based on the Strategy

Do

Implementation Organization
(7 ministries, 5 agencies, 10 organizations and Universities)

Implementation of Earth Observation based on "Action Plan"

4.Recent Development in Policy Planning

G8 Ministerial Level Meeting on Science and Technology (June 15, 2008)

Council for Science and Technology Policy (CSTP)

Innovative R&D for Environment and Energy Technology Plan

- International contribution to Earth observation and climate change projection

Toward the Reinforcement of Science and Technology Diplomacy

- Strengthen science and technology cooperation with developing countries to solving global environmental problems

Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Drafting "Action Plan for Japanese Earth Observations, FY2009"

Earth observation for Monitoring and Projection of Climate Change

Main points under discussion

1. Grasping the user needs for adapting to climate change and mitigating the impact of global warning
2. Standardization of the data observed by various organization to promote interoperability
3. Promoting data distribution to be shared among organizations

5.GEOSS Early Achievements

Sentinel-Asia

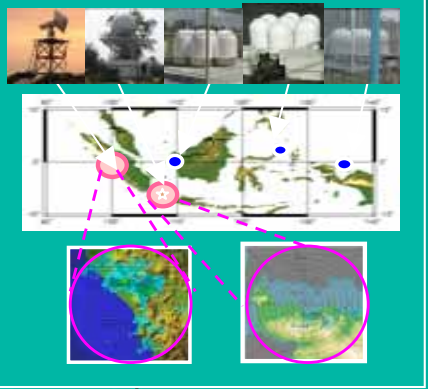
Data & info. sharing system on disaster in AP region for disaster management

Sat. Observation

Grasp situation
Relief activity

HARIMAU

Planned radar and profiler observation network over Indonesia to provide data and to contribute global climate change prediction.



NPOESS/GCOM Cooperation

Cooperation on complementary missions between National Polar-orbiting Operational Environmental Satellite System(NPOESS) of NOAA and Global Change Observation Mission(GCOM) of JAXA

GCOM-W

Asian Water Cycle Initiative (AWCI)

Integrated water resources management approaches for addressing the various water related issues such as participated by national hydrological and meteorological departments and of services of 17 countries in Asia.

Global Monitoring of Greenhouse Gases (GMGG)

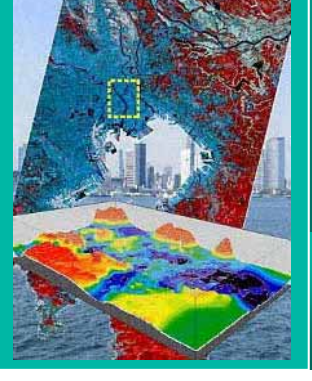
Global monitoring on greenhouse gases' distribution and changes by Greenhouse gases Observing SATelle(GOSAT), air plane, and in-situ observation.

GOSAT

CO2 Distribution Simulation

GEO Grid

System to integrate all relevant EO data virtually, again enabled by Grid technology, and is accessible as a set of services.



~Sentinel Asia~

Observation

Communication Satellite

Utilization

Space Agency

Earth Observation Satellite

Value-added Information

Disaster Information

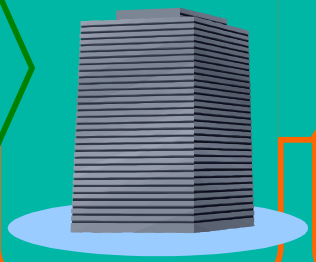
Transmissions

Sharing (Web)

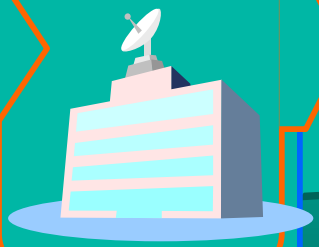
Disaster Management Organization

User Expansion

Governmental Organization (ADRC members)



Local Governmental Organization



End User

Human Network

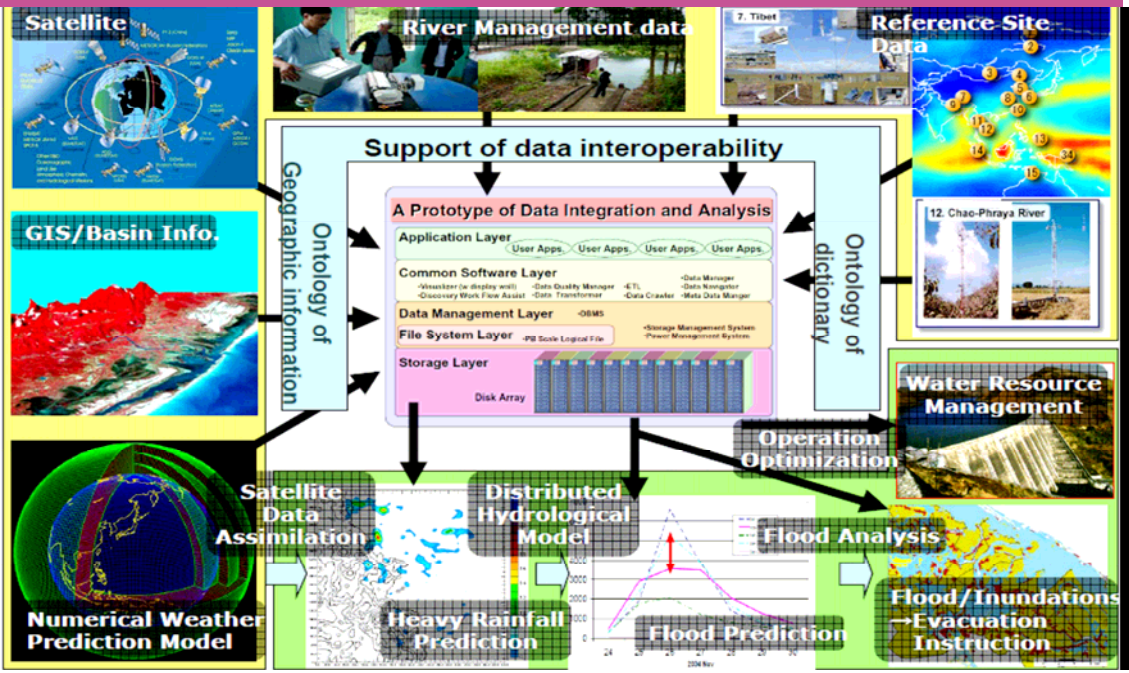
Capacity Building & Outreach

~Asian Water Cycle Initiative~

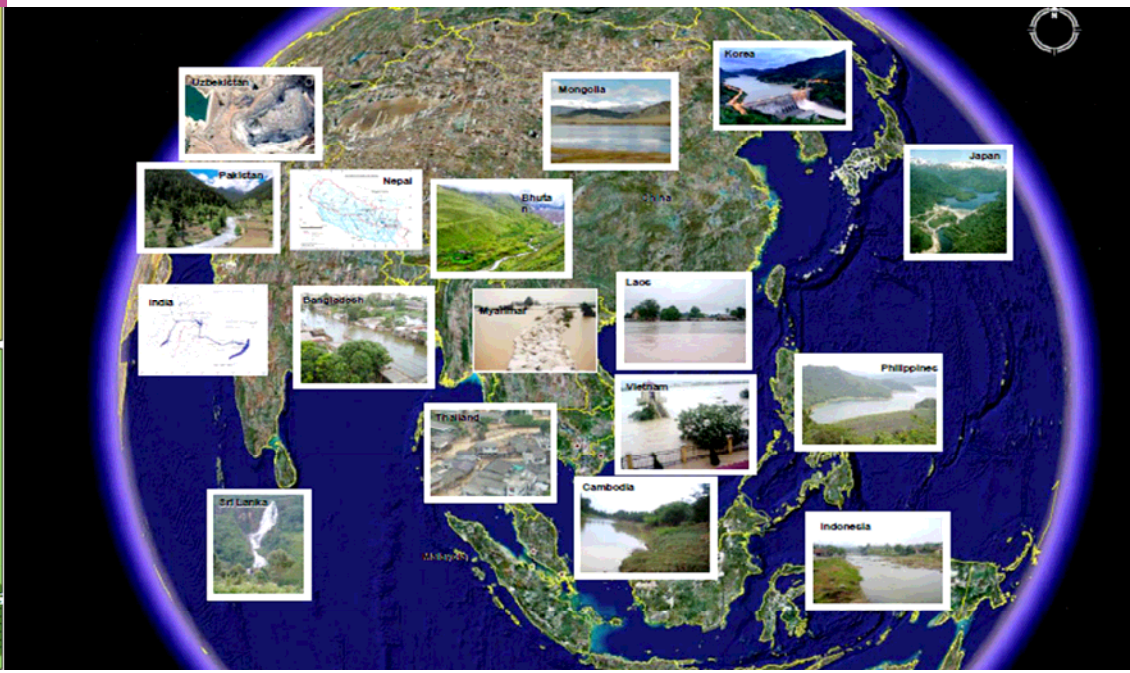
A Series of Discussion

Asian Water Cycle Symposium 1, Tokyo, Nov. 2005
Task Team Meeting, Bangkok, Sep. 2006
Capacity Building Workshop, Sep. 2006
Asian Water Cycle Symposium 2, Tokyo, Jan. 2007
GEOSS AP Symposium 1, Tokyo, Jan. 2007
International Coordination Group Meeting 1, Bali, Sep. 2007
Asian Water Cycle Symposium 3, Beppu, Jan. 2007

Data Integration and Analysis System



Demonstration in 17 Countries in Asia



6.How Japan contribute to GEOSS

Space-based Observations

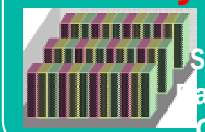
Remote sensing using Satellites

Simulations

Projections using the Earth Simulator

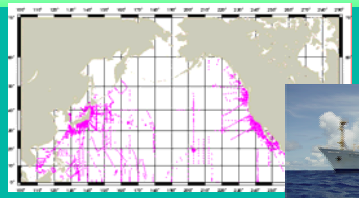
Innovative Program of Climate Change Projection for the 21st Century

Data Integration and Analysis System



Strage System (1PB<)
ata mining technology
Ontology technology

Oceanographic Observations



Buoys

Oceanographic platforms

Ground truth Observations

Weather Watches

Japan Earth Observation System Promotion Program

Socio-Economical Data

Provision of information supporting sound decision making and application use

Societal Benefit Areas

- Disasters
- Climate
- Water
- Health
- Energy
- Weather
- Ecosystems
- Agriculture
- Biodiversity

←3 areas focused by Japan

1. Promotion of changes in the consciousness of civil for Earth Environment and improvements of their life styles
2. Contributions to developing countries *etc.*

7.Expectation to GEO and Japan's contribution to GEOSS

Asia-Pacific countries are expected to collaborate their observation systems each other and establish global observation system under GEOSS. And GEO is expected to accelerate GEOSS's tasks. Especially, Japan will make contribution to GEOSS's tasks below.

<Monitoring and Predicting Climate Change>

- Sustained Reprocessing and Reanalysis Efforts
- Key Climate Data from Satellite Systems
- Global Ocean Observation System
- Seamless Weather and Climate Prediction System

<Earth Observations for Sustainable Water Management>

- Forecast Models for Drought and Water Resource Management
- Global Water Quality Monitoring
- Integration of In-Situ and Satellite Data for Water Cycle Monitoring

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