Japan's Activities for GEOSS

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Items

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1. GEOSS Working Group in Japan

2. Japan's Contribution in GEO Framework

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0.How Japan Promotes GEOSS ?

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

With Implementation Organization (Ministries, Agencies, Institutions, and Universities)

Implementation of Earth Observation based on "Action Plan"

1. GEOSS Working Group in Japan

2. Japan's Contribution in GEO Framework

2002 Sep World Summit on Sustainable Development

2003 June G8 Evian Summit : Agreed to draw up 10-year implementation plan and hold ministerial meetings

Foundation Phase of GEO/GEOSS

2003-2005 AD-HOC GEO
(Co-chaired by **Japan,** EC, South Africa, US)

2004-2005 GEO Implementation Plan Task Team
(Composed by **Japan,** EC, South Africa, US)

2005 Establishment of 10-year GEOSS Implementation Plan and GEO

2005-2007 GEO Executive Committee
(China, **Japan,** Thailand) (EC, Italy, German) (Russia) (South Africa, Morocco) (US, Brazil, Honduras)

2007-2008GEO Executive Committee
(China, **Japan,** Australia) (EC, German, Norway) (Russia) (South Africa, Uganda) (US, Panama, Argentina)

2009-2010 GEO Executive Committee
(China, **Japan,** Australia, Korea) (EC, France, Italy) (Russia) (South Africa, Cameroon) (US, Chili, Brazil)

2010-2011 GEO Executive Committee
(China, **Japan,** Australia、Korea) (EC, German, Italy) (Russia) (South Africa, Niger) (US, Chili, Brazil)

Nov 2011- Executive Committee
(China, **Japan,** Korea, New Zealand,) (EC, German, UK) (Russia) (South Africa, Morocco) (US, Canada, Brazil)

2. Japan's Contribution in GEO Framework

Japan's Contributions to GEO 2010 &2011

	Country	Contribution (1,000CHF)	Percentage (%)
1	USA	1,106	30.0
2	EC	877	23.8
3	**Japan**	**404**	**10.9**
4	Norway	298	8.0
5	South Africa	219	5.9

GEO Total contributions in 2010 = 3,686,414

	Country	Contribution (1,000CHF)	Percentage (%)
1	EC	770	24.2
2	USA	671	21.1
3	**Japan**	**404**	**12.7**
4	Norway	283	8.0
5	Australia	256	8.0

GEO Total contributions in 2011 = 3,175,820

2. Japan's Contribution in GEO Framework

GEO Executive Committee

- Principal :
- Principal Alternate : Mr. Toshihide Fukui

Seconded experts in GEO Secretariat

- Dr. Y. Okubo

GEO Management Board

- Infrastructure Implementation Board: Dr. R. Shibasaki (University of Tokyo)
  Dr. K. Iwao (AIST)

GEO Working Group

- Post 2015 GEOSS WG: Dr. T. Koike (University of Tokyo)
- Monitoring and Evaluation WG: Dr. M. Fukasawa (JAMSTEC),
  Mr. T. Fukui (MEXT)
  Evaluation Team : Dr. M Nakayama (University of Tokyo)
- Data Sharing WG : C. Kawamoto (JAXA), M. Kamei (RESTEC)

2. Japan's Contribution in GEO Framework

GEO Tasks of GEO 2012-2015 Work Plan led by JAPAN

Infrastructure

- IN-02 Earth Data Sets (C1)
  : University of Tokyo
  IN-02 Earth Data Sets (C2)
  :GSI, AIST, JAXA)
- IN-03 GEOSS Common Infrastructure (C1)
  : University of Tokyo
- IN-05 GEOSS Architecture, Design and Interoperability
  :University of Tokyo

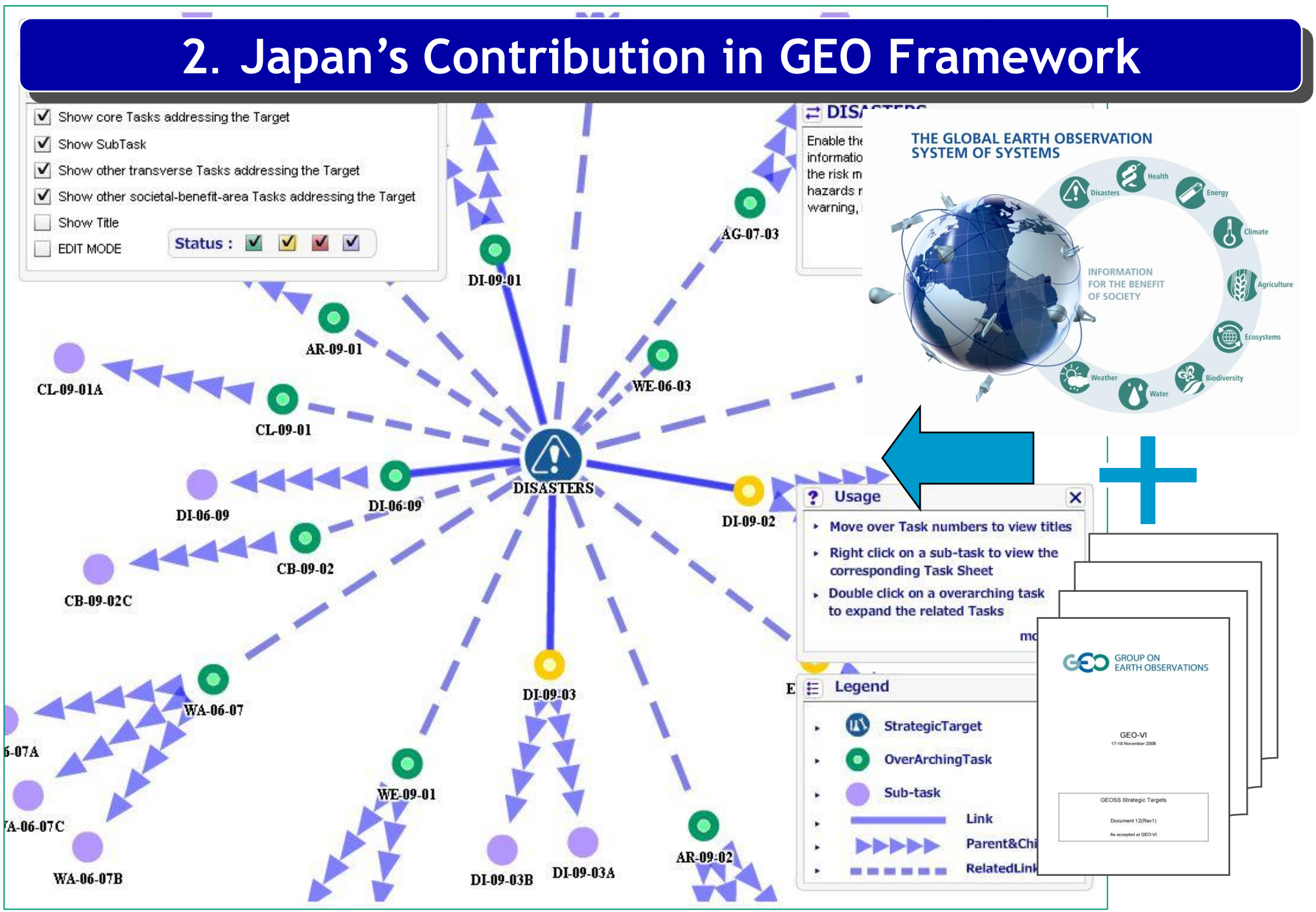
Social Benefit

- SB-03 Global Forest Observation (C1)
  : JAXA
- HE-02 Tracking Pollutants (C1)
  : NIES
- CL-02 Global Carbon Observation and Tracking (C1)
  : NIES, JAXA
- WA-01 Integrated Water Information(C1,C5)
  : University of Tokyo, JAXA(CEOS)
- AG-01 Global Agriculture monitoring and Early warning
  : JAXA
- BI-01 Global Biodiversity Observation
  : University of Kyushu

Task activities under GEO 2012-2015 Work Plan

15 institutes, agencies and universities are involved in total 21 tasks.

2. Japan's Contribution in GEO Framework



3. Recent Activities for GEOSS Development in Japan

Advanced Land Observing Satellite-2 (ALOS-2)

Launch：2013(FY)
Missions：Global Land monitoring (Radar)

Greenhouse gases Observing SATellite (GOSAT/IBUKI)

Launch: 2009.1.23
Mission：Greenhouse Gases Monitoring （CO_2 、CH_4）

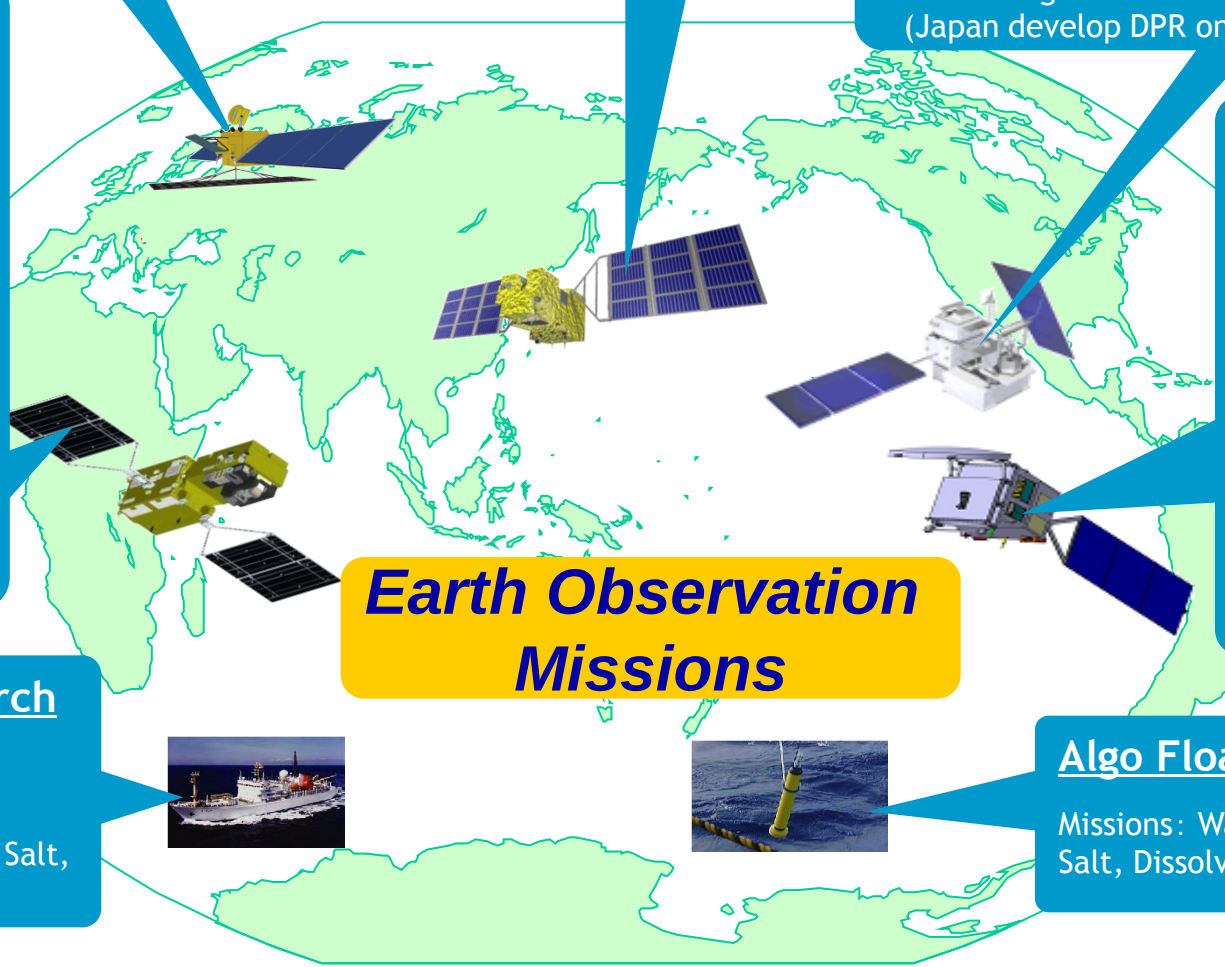
Global Precipitation Measurement (GPM)/Dual-frequency Precipitation Radar (DPR)

Launch：2013(FY)
Mission：Global Precipitation Monitoring
(Japan develop DPR on board GPM)

Global Change Observation Mission (GCOM)

＜GCOM－W/SHIZUKU＞
Launch：2012(FY)
Mission：Global Sea Surface Temperature, Precipitation, Sea Ice etc

＜GCOM－C＞
Launch：2015(FY)
Mission：Global Cloud, Moisture, Vegetation etc



Earth Observation Missions

EarthCARE/ Cloud Profiling Radar（CPR）

Launch:2014(FY)
Mission：cloud and aerosol particles observation
(Japan develop CPR on board ESA's EarthCARE mission.

Oceanographic Research Vessel M/V Mirai

Missions：Water temperature, Salt, Current Speed etc

Algo Floats

Missions：Water temperature, Salt, Dissolved oxygen etc

3. Recent Activities for GEOSS Development in Japan

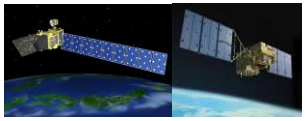
Data Integration and Analysis System (DIAS)

GOALS

- ***To create knowledge to be shared among different disciplines***
- ***To create knowledge to be shared throughout the world***
- ***To disseminate data and information that brings awareness***

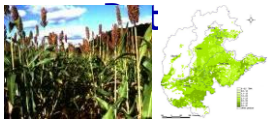
The mission of DIAS is to produce the scientifically and socially valuable information by integrating and analyzing earth observation data, numerical model outputs and socio-economical data effectively.

Satellite Observation

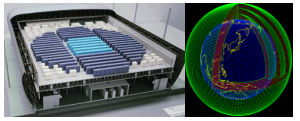


In-situ Observation

Socio-Economical



Weather and Climate Model



A Prototype of Data Integration and Analysis

Application Layer — User Apps. | User Apps. | User Apps.

Common Software Layer

- Visualizer
- Data Transformer
- Data Quality Manager etc.

Data Management and File System Layer

Storage Layer — Disk Array

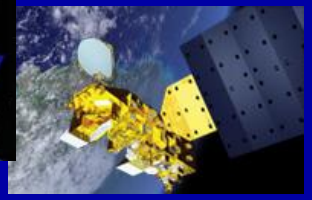
3. Recent Activities for GEOSS Development in Japan

~DIAS Applications~

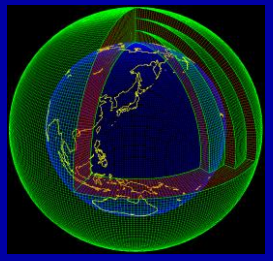
DIAS
Data Integration & Analysis System

Greenhouse Gas and Aerosol High-Resolution Analysis Program

To generate information for Greenhouse Gas and Aerosol inventories, including those transportations, DIAS integrates data from satellites and in-situ observation networks, together with mass transport model outputs.

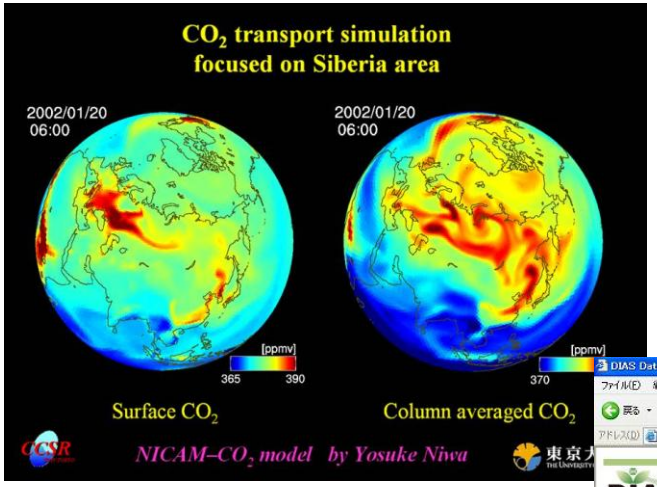


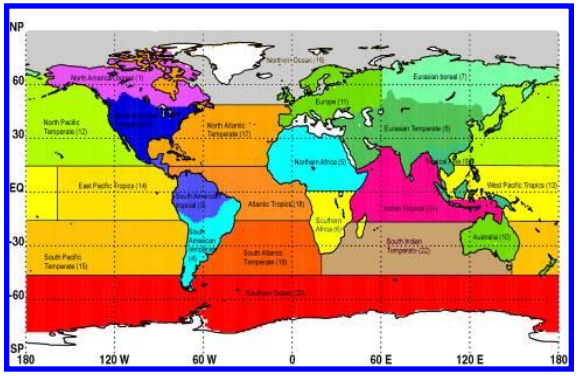
Satellite observation data



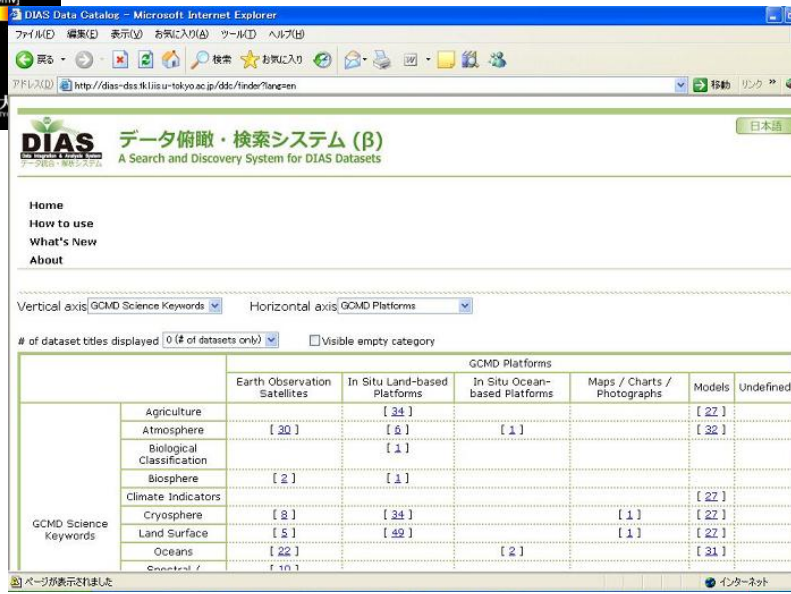
Mass transport model outputs

In-situ observation data





Greenhouse Gas inventories



4. Beyond 2015 GEOSS

- ***We should set the purpose of post-2015 GEOSS, as follow;***

  By gathering, cataloging, and providing global earth observation data, GEOSS establishes the comprehensive security and supports the transition to the Green Economy. It also promotes Green Growth and contributes to the Sustainable Development.

- ***We should add following points to the benefits from GEOSS.***

  - Each country makes a commitment for problem solving.

  - The earth observation activities and their data will be important for decision making.

  - Researchers, decision makers, public companies, and citizens utilize earth observation and its data for daily life with understanding the uncertainty.

At the fifth Asia Pacific GEOSS Symposium, it is expected to discuss specific action plans contributing to the 2012- 2015 GEO Work Plan, prospects and proposals for Post-2015 GEOSS, and Contribution of the GEOSS toward Rio+20.