



Parallel Session (1)

Jan 11 2007

**GEOSS Symposium on Integrated Observation for Sustainable  
Development in the Asia-Pacific Region  
(GEOSS AP Symposium)  
At Dai-ichi Hotel Tokyo Seafort in Tokyo, Japan  
On January 11-12, 2007**

**Monitoring Ecosystems and Biodiversities**

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*Chair: Dr. Yoshifumi Yasuoka <Professor, The University of Tokyo>*

*Rapporteur: Dr. Doug Muchoney (GEO Secretariat)*

*Co-Chairs : Dr. Yoshiaki Honda (Chiba University)*

*Dr. Tohru Nakashizuka (Tohoku University)*

*Dr. Yoshikazu Ohtani*

*(Forestry and Forest Product Research Institute (FEPRI))*

*Dr. Eitaro Wada (Frontier Research Center for Global Change (FRCGC))*

Ecosystem is an essential component in our earth system. However, because of the complexity, locality and heterogeneity in the ecosystem, its observation and modeling seem to be lagging behind other fields such as atmosphere and ocean. The session will exchange information on current activities in ecosystem and biodiversity monitoring with conventional ground observation methods and with remote sensing, and discuss how to promote collaborative observation activities in Asian Pacific regions in terms of GEOSS. Finally, the session will propose recommendations for the future activities. The session will, in particular, focus the discussions in the following three fields;

# Asia-Flux Network for observing carbon exchange between ecosystem and atmosphere

# DIVERSITAS for biodiversity monitoring network

# Remote sensing for ecosystem and biodiversity monitoring.



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## **Monitoring Ecosystems and Biodiversities**

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### **January 11 (Thu)**

**16:20-16:50** Welcome remarks and discussions on the agenda

*Chair: Dr. Y. Yasuoka (University of Tokyo)*

**16:50-18:50** **Remote sensing;** reports and discussions

*Chair: Dr. Y. Honda (University of Tokyo)*

(1) Remote sensing programs for ecosystem monitoring in Singapore

*Dr. L. K. Kwoh (National University of Singapore)*

(2) "Ecosystem monitoring & process studies with satellite phenology observations" for the GEOSS meeting

*Dr. A. Huete (University of Arizona)*

(3) A challenge of global biomass estimation using satellite data

*Dr. Y. Honda (Chiba University)*

(4) Satellite observation network for environmental monitoring in Asia

*Dr. Y. Yasuoka (University of Tokyo)*

*and Dr. W. Takeuchi (University of Tokyo)*

(5) JAXA's Challenge for Long Term Earth Observation System

*Dr. N. Matsuura (JAXA)*

### **January 12 (Fri)**

**10:00-11:30** **Asia-Flux Network;** reports and discussions

*Chair: Dr. Y. Ohtani (FEPRI)*

(1) AsiaFlux activities in relation to the carbon flux observations in Asia:

*Dr. Y. Ohtani (FEPRI)*

(2) Strategy to evaluate the Global Carbon Budget of Terrestrial Ecosystem

*Dr. G. Inoue (Nagoya University)*

(3) HydroKorea and CarboKorea: Cross-scale studies of ecohydrology and biogeochemistry in complex landscapes of Korea

*Dr. Joon Kim (Yonsei University)*

(4) Situation of the terrestrial carbon/water observations in China

*Dr. Yu Guirui (Institute of Geographic Sciences and Natural Resources Research)*

(5) Outline of "Integrated Research on Carbon Budget Management in Terrestrial Ecosystems of Asia in the 21st Century"

*Dr. T. Oikawa (University of Tsukuba)*



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**Monitoring Ecosystems and Biodiversities**

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**11:30-13:00** DIVERSITAS; reports and discussions

*Chair Dr. T. Nakashizuka (Tohoku Univ.) and Dr. E. Wada (FRCGC)*

(1) Introduction

*Dr. E. Wada (FRCGC)*

(2) DIWPA and JaLTER activities

*Dr. T. Nakashizuka (Tohoku University)*

(3) Activities on biodiversity-monitoring in China - On the Chinese forest biodiversity monitoring network

*Dr. K. Ma (Chinese Academy of Science )*

(4) Activities on biodiversity-monitoring in Malaysia - Ecological monitoring of tropical peat swamp forest ecosystems

*Dr. A. R. Nik (Forest Research Institute )*

(5) Activities on biodiversity-monitoring in Korea

*Dr. I. K. Lee (Seoul National University )*

(6) Cross-cutting networks with emphasis on freshwater biodiversity

*Dr. Z. Kawabata (Research Institute for Humanity and Nature)*

(7) Global Land Project and other related activities in Japan

*Dr. T. Kohyama (Hokkaido University)*

(8) Wireless LAN for large-scale observation of biodiversity and ecosystem

*Dr. T. Yahara (Kyushu University)*

*and Dr. M. Hirafuji (National Agricultural Research Center)*

**13:00-14:00** Lunch

**14:00-15:00** Integration of observation and modeling; reports and discussions

*Chair Dr. Y. Yasuoka (University of Tokyo)*

(1) ALOS Kyoto and carbon initiative - to the global detection of the forest biomass

*Dr. M. Shimada (JAXA) and Dr. A. Roseqvist (JRC)*

(2) Coupling between observation and modeling for ecosystem

*Dr. Y. Yasuoka (University of Tokyo)*

(3) Linking ecology, remote sensing and micrometeorology from plot to regional scales

*Dr. H. Koizumi (Gifu University)*

**15:00-15:30** Drafting of recommendations



**Resolving the climate change and water cycle**

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**Chair:** *Dr. Toshio Koike <Professor, The University of Tokyo>*

**Co-Chairs:** *Dr. Iqbal Bg. Gen. Shah Mohammad Sultan uddin*

*(Beer Protik NDU PSC)*

*Dr. Tokunosuke Fujitani*

*(Director, Office for Coordination of Climate Change Observation, Japan*

*(MOE & JMA))*

**Rapporteur:** *Ms. Natasha Brutsch (GEO Secretariat)*

The Asian Water Cycle Initiative (AWCI) contributing to GEOSS was established at the 1st Asian Water Cycle Symposium, in Tokyo, November 2005, in recognition of the need for accurate, timely, long-term, water cycle information as a basis for sound and effective water resources and risk management.

Demonstration projects have been proposed for promoting Integrated Water Resources Management (IWRM) in river basins in Asia through application of integrated Earth observation data, model output, and downscaling techniques under GEOSS.

In order to utilize the rapidly increasing Earth observation data and related socio-economic information from different sources, Capacity Building programs in different modules and at different stakeholder levels shall be devised and implemented.

Based on review of the updated status of the AWCI, this breakout session focuses on Capacity Building programs effectively interacted with the observation, data integration and prediction projects under the framework of GEOSS.

**January 11 (Thu)**

**16:20-18:50**

***Opening Climate and Water Breakout Sessions***

16:20-16:30 Opening Remarks

*Co-Chairs*

16:30-16:45 GEO Work Plan for Climate and Water

*GEO Secretariat*

***Breakout Session 1***

“Updated Status of the AWCI Contributing to GEOSS”

*chaired by T. Fujitani*

16:45-17:00 Summary Report of AWCS

*Koike*



Parallel Session (2)

**Resolving the climate change and water cycle**

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- 17:00-17:30 Short Reports from Science Projects (5 min. each)  
GWSP/CEOP/MAHASRI/MAIRS/PUB/JEPP
- 17:30-17:45 Summary Report of the Capacity Building Workshop in Bangkok *C. Ishida*
- 17:45-18:20 Short Reports from Participating Organizations (5 min. each)  
ICHARM/UNU/MRC/JAXA/AIT/JAMSTEC/OCCCCO (JACCO)
- 18:20-18:50 Direction for Capacity Building in Asia (10min.each)
- Flood Management *K.Fukami*
- Drought Management *C.Fu*
- Water Quality Management *B..Hoque*

**January 12 (Fri)**

**10:00-12:30**

***Breakout Session 2***

- “International Cooperation for Capacity Building in Asia” *chaired by S. Iqbal*
- 10:00-12:00 Needs and Proposals from Participating Countries (5 min. each)  
Bangladesh/Bhutan/Cambodia/China/India/Indonesia/Korea/Laos/Malaysia/  
Mongolia/Myanmar/Nepal/Pakistan/Philippines/SriLanka/Thailand/  
Uzbekistan/Vietnam
- 12:00-12:30 Supporting & Assistance Programs
- APN *A. Matthews (APN)*
- WASABI *M.Nishimura(MOFA)*

**13:30-15:30**

***Breakout Session 3***

- “Toward Convergence” *chaired by T. Koike*
- 13:30-14:00 A Framework of the Capacity Building Combined with the Convergence  
of Observation in Asia *Discussion Lead: S. Herath*
- 14:00-15:00 Implementation Plans for Capacity Building in Asia (20 min.each)
- Flood Management *K.Fukami*
- Drought Management *C.Fu*
- Water Quality Management *B..Hoque*
- 15:00-15:20 Summary of the Breakout Session on Climate and Water *All*



Parallel Session (2)

***Resolving the climate change and water cycle***

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*Closing Climate and Water Breakout Sessions*

15:20-15:30 Concluding Remarks

*Co-Chairs*



## **Monitoring Forest Fire**

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**Chair:** *Dr. Masami Fukuda* <Professor, Hokkaido University >

**Co-Chair :** *Dr. Orbita Roswintiarti*

*(National Institute of Aeronautics and Space (LAPAN))*

**Rapporteur:** *Mr. Osamu Ochiai* (GEO Secretariat)

Wildfire is one of the major and chronic disasters from which many countries in south-east Asia are suffered. It causes a serious of issues of global warming. The task of wildfire control is urgently important in both regional and global scale. Sentinel Asia Wildfire Working Group has established its activities as to contribute to reduce wildfire damage using MODIS data. In this meeting, the improvement of hotspot detection algorithm from MODIS data is discussed based on the results of validation experiment in Kalimantan of Indonesia during October 2006. Hopefully at the end of the meeting, very concrete future activities and plans will be made through discussions cooperating with the user members.

### **January 11 (Thu)**

- 16:20-16:30** Welcome Remarks  
*Prof. Fukuda (Hokkaido University)*  
Self Introduction of the participants
- 16:30-16:45** Sentinel Asia Activities  
Dr. Moriyama (JAXA)
- 16:45-17:05** Working Group Activities  
Symposium Purposes  
*Prof. Fukuda (Hokkaido University)*
- 17:05-17:20** Break
- 17:20-17:50** Results of Ground Patrol  
*Prof. Hayasaka (Hokkaido University)*
- 17:50-18:20** Evaluation of Fire Detection using MODIS
- 17:50-18:20** Results of Detection at each organization  
*Dr. Nakamigi (Hokkaido University)*
- 18:20-18:50** Evaluation and Improvement of Algorithm  
*Dr. Kushida (Hokkaido University)*



## **Monitoring Forest Fire**

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### **January 12 (Fri)**

- 10:00-10:30** Wildfire semi real time Monitoring and Modeling using MODIS data  
*Dr. Takeuch (Tokyo University)*
- 10:30-11:00** Prediction of fire and smoke spread  
*Prof. Tanaka (Tsukuba University)*
- 11:00-11:15** Break
- 11:15-12:45** Reports from Users' Groups  
Status of using, plans, requests of Hot Spot Information in each country
- ✓ *Dr. Orbita Roswintiarti (LAPAN)*
  - ✓ *Dr. Aswin Usup (Palangka Raya University (UNPAR))*
  - ✓ *Ms. Virany SENGTIANTHR*  
*(Science Technology and Environment Agency (STEA), Prime Minister Office (PMO))*
  - ✓ *Mr. Odbayar Mishigdorj*  
*(National Agency of Meteorology, Hydrology and Environmental Monitoring of Mongolia Ministry of Nature and Environment)*
  - ✓ *Mr. Siri Akaakara*  
*(National Park, Wildlife and Plant Conservation Department (DNP))*
  - ✓ *Mr. Hoang Minh Hien*  
*(Ministry of Agriculture and Rural Development (MARD))*
- 12:45-13:45** Lunch
- 13:45-14:45** Reports from Participants of JAXA Training  
*Invited trainees (5 people\*12min)*
- 14:45-15:00** Break
- 15:00-15:30** Summary and future plans  
*Prof. Fukuda (Hokkaido University)*





## **Monitoring Earthquakes**

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**Chair:** *Dr. Mizuho Ishida* <Senior Scientist, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)>

**Co-Chair :** *Rhett Butler* (Incorporated Research Institute for Seismology (IRIS) )

**Rapporteur:** *Dr. Giovanni Rum* (GEO Secretariat)

**Countries in South-East Asia and North-West Pacific are subject to geohazards, in particular earthquakes and associated tsunamis.**

**There is a compelling need to better understand mechanisms and precursors of severe earthquakes and to expand and improve monitoring networks and real time sharing of the observed data.**

**The goal of this session is to discuss the scientific and technical status and perspectives of the key components of an Earthquake monitoring and warning system and to promote further cooperation among the Countries affected.**

**GEO Workplan 2007-2009 fully recognize this priority and foresees the definition and execution of an end to end pilot project dealing with Geohazards in SE Asia.**

**To meet the goal of the session and with reference to GEO provided framework, Researchers and Operators have been invited to discuss the issues and to provide recommendations for scientific and technical developments, as well as future cooperation opportunities**

### **January 11 (Thu)**

**16:20-16:25** Welcome Remarks

*by Mizuho Ishida* (JAMSTEC)

**16:25-18:50**

*Chaired by Yoshimori Honkura* (Tokyo Institute of Technology )

Global seismic networks

**16:25-16:55** Current Situation and future vision of the earthquake monitoring network in wide area ...*by Federico Guendel* (Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO))

**16:55-17:25** IRIS and FDSN Monitoring Network: Current situation and vision of the earthquake monitoring network in wide area *by Rhett Butler* (IRIS, U.S.A)

**17:25-17:55** Earthquake monitoring network in Indonesia *.by Fauzi* (BMG, Indonesia)

**17:55-18:25** Tsunami warning in Japan, and Tsunami advisory for Northwest Pacific and Indian Ocean Regions *by Mitsuyuki Hoshiba* (JMA)

**18:25-18:50** Discussions



Parallel Session (4)

## *Monitoring Earthquakes*

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### January 12 (Fri)

**10:00-12:30**

*chaired by Rhett Butler (IRIS, U.S.A)*

Contribution and suggestions to GEOSS

**10:00-10:30** Nationwide dense seismic observation networks in Japan --- Hi-net, F-net, KiK-net  
*by Kazushige Obara ( National Research Institute for Earth Science and Disaster  
Prevention (NIED))*

**10:30-11:00** International Seismic Networks of NIED by *Hiroshi Inoue* (NIED)

**11:00-11:30** Observation of crustal deformation of the Japanese islands by GEONET  
*by Yuki Hatanaka (Geographical Survey Institute (GSI))*

**11:30-12:00** Earthquake Early Warning --Information before strong ground motion ---- *by  
Mitsuyuki Hoshiba (Japan Meteorological Agency (JMA))*

**12:00-12:30** The advanced ocean floor network system in the Nankai trough seismogenic  
zone.....*by Yoshiyuki Kaneda ( JAMSTEC )*

**13:30-15:30**

*Chaired by Kiyoshi Suyehiro (JAMSTEC)*

Contribution and suggestions to GEOSS (Continue )

**13:30-13:55** Volcanic hazard simulation using ASTER DEM data: an application of the GEO  
Grid Project.....*by Shinji Takarada (Geological Survey of Japan, AIST)*

**13:55-14:20** ALOS status and the latest results on its applications for geohazard or  
environmental studies .....*by Makoto Murakami (GSI)*

**14:20-14:45** A tale of three marine observatories and the integrating cyber infrastructure....*by  
Alan Chave (Woods Hole Oceanographic Institution)*

**14:45-15:15** Establishment of data center in Asia and west Pacific area *by Seiji Tsuboi  
(JAMSTEC )*

**15:15-15:35** "Suggestions to GEOSS" *by Rhett Butler (IRIS, U.S.A)*