

IGOS International Workshop

“Towards the implementation of the Integrated Global Observing Strategy (IGOS)”

February 4 - 6, 2004

Tokyo International Exchange Center “Plaza Heisei”

Plenary Session

“Update on international and national initiatives for global observations”

February 4 (Wed), 2004

International Conference Hall

Chair: *Prof. Ogawa* (JAXA)

- 13:30 - 13:35 Welcome address (*Mr. Mamiya* (JAXA))
13:35 - 13:40 Welcome address (*Mr. Sakata* (MEXT))
13:40 - 14:00 Keynote Presentation on IGOS (*Prof. Li Deren* (NRSCC, CEOS/IGOS-P
Chair representative))
14:00 - 14:20 Report on Earth Observation Summit (*Mr. Fukai* (MEXT))
14:20 - 14:40 Space agency response to IGOS (*Dr. Furuhashi* (CEOS/SIT Chair))

Global observing systems and IGOS

- 14:40 - 15:00 WMO's Global Observing System (*Dr. Hinsman* (WMO))
15:00 - 15:20 Break
15:20 - 15:40 Global Ocean Observing System (*Dr. Yoshida* (JMA/GOOS))
15:40 - 16:00 Global Climate Observing System (*Dr. Thomas* (GCOS))

International research programs and IGOS

- 16:00 - 16:20 World Climate Research Program (*Dr. Lawford* (WCRP))
16:20 - 16:40 International Geosphere Biosphere Research Program
(*Dr. Canadell* (IGBP))

16:40 - 17:00 Report on the “Workshop on the Satellite Utilization for Water Cycle in
Asia” (*Prof. Nakamura* (Nagoya Univ.))

18:30 - 20:30 Reception at Le Meridien Grand Pacific Tokyo

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Ocean Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 5 (Thu), 2004

Media Hall

Co-chairs:

Eric LINDSTROM (Team Leader; Ocean US & NASA, USA)

Shiro IMAWAKI (Kyushu Univ., Japan)

Program Coordinator and Rapporteur:

Ichio ASANUMA (JAMSTEC, Japan)

9:30 - 11:00	1. Introduction Background information on Ocean Theme, global observing system planning (geo framework), etc (<i>Eric LINDSTROM</i>)
11:00 - 11:15	Break
11:15 - 12:30	2. Status and plans for space component Ocean Surface Topography (<i>Yves MENARD</i> (CNES, France)) Ocean Vector Winds (<i>Naoto EBUCHI</i> (Hokkaido Univ., Japan)) (<i>David HALPERN</i> (Office of Sci. and Tech. Policy, USA)) Sea Surface Temperature (<i>Hiroshi KAWAMURA</i> (Tohoku Univ., Japan)) Sea Ice Concentration, Extent, Drift, and Thickness (<i>Keiichiro OHSHIMA</i> (Hokkaido Univ., Japan)) Precision Gravity Field and Geoid (<i>Tadahiro SATO</i> (Natl. Astronomical Observatory, Japan))
12:30 - 14:00	Lunch
14:00 - 15:30	3. Status and plans for in-situ observation systems GOOS (<i>Takashi YOSHIDA</i> (Japan Met. Agency, Japan)) Argo (<i>Kensuke TAKEUCHI</i> (JAMSTEC, Japan)) CLIVAR (<i>Toshio SUGA</i> (Tohoku Univ., Japan)) Japanese agencies (<i>Koichi ISHIKAWA</i> (Japan Met. Agency, Japan)) (<i>Hiroyuki YORITAKA</i> (Hydrogr. & Oceanogr. Dept., Japan)) (<i>Kaoru NAKATA</i> (Fisheries Res. Agency, Japan)) (<i>Takatoshi TAKIZAWA</i> (JAMSTEC, Japan))
15:30 - 15:45	Break
15:45 - 16:30	4. Synthesis activities for Ocean Theme <Products, Data and Information systems, Modeling, etc.> Data Services, Models, Products, and Applications (<i>Takashi YOSHIDA</i> (Japan Met. Agency, Japan)) (<i>Satoshi SATO</i> (JODC, Japan)) Data Assimilation and Ocean Prediction (GODAE) (<i>Masafumi KAMACHI</i> (Met. Res. Inst., Japan))
16:30 - 17:30	Summary discussion, and next steps (<i>Eric LINDSTROM and Shiro IMAWAKI</i>)
17:30	Closing

Note: Each report for subsections 2 through 4 should be less than 10 min long.

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Global Carbon Observation Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 5 (Thu), 2004

Conference Room #2

Co-chairs:

Dr. Pep Canadell (CSIRO)

Dr. Gen Inoue (NIES)

Program Coordinator and Rapporteur:

Dr. T. Igarashi (JAXA)

- 09:30 - 10:00 IGOS Theme reports of IGCO: Integrated Global Carbon Observation (*Dr. Canadell, CSIRO*)
- 10:00 - 10:20 Global Carbon Project (*Dr. Canadell, CSIRO*)
- 10:20 - 11:00 Terrestrial Carbon Observation
(1) Global Carbon Cycle (*Dr. Y. Awaya, FFPRI*)
(2) Asia Flux (*Dr. S. Yamamoto, AIST*)
- 11:00 - 12:00 Atmospheric Carbon Observation
(1) Atmospheric CO₂ Data Analysis for Global Carbon Cycle Research
(*S. Maksyutov, T. Maki, S. Taguchi, P. K. Patra*)
(2) Oxygen (*Dr. Y. Tohjima, NIES*)
- 12:00 - 13:30 Lunch
- 13:30 - 14:50 Ocean Carbon Observation
(1) Flux on Sea-Surface (*Dr. Y. Nojiri, NIES*)
(2) Carbon Stock in the Ocean (*Dr. M. Ishii, Met.Res.Inst*)
(3) Ocean Biology (*Prof. A. Tsuda, Univ. of Tokyo*)
(4) Primary Productivity (*Dr. I. Asanuma, JAMSTEC*)
- 14:50 - 15:30 Carbon Observation Space Programs
(1) GOSAT (*Prof. Y. Yasuoka, Univ. of Tokyo*)
(2) Kyoto & Carbon Initiative (*Dr. A. Rosenqvist, JAXA*)
- 15:30 - 15:45 Break
- 15:45 - 17:15 Discussion and Summary

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Global Water Cycle Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 5 (Thu), 2004

International Conference Hall

Co-chairs:

Dr. Lawford (WCRP/GEWEX)

Prof. Nakamura (Nagoya Univ., Japan)

Program Coordinator and Rapporteur:

Dr. R. Oki (JAXA)

Morning session (Chair: *Prof. K. Nakamura*)

09:30 - 09:40 Objective of the sub-session (*Prof. K. Nakamura*)

09:40 - 10:10 IGOS-P water theme (*Dr. R. Lawford*)

10:10 - 10:40 Global Water System Project (*Dr. P. Kabat*)

10:40 - 11:00 WMO's activities for water cycle observation (*Dr. D. Hinsman*)

11:00 - 11:20 Current status and plans of precipitation forecasts by the JMA numerical weather prediction system (*Dr. T. Tsuyuki*)

11:20 - 11:40 Observing the Global Water Cycle: The Role of Observations from Space (*Prof. P. Arkin*)

11:40 - 13:30 Lunch

Afternoon session (Chair: *Prof. P. Arkin*)

13:30 - 14:15 Space observation for water theme
(US (*Dr. R. Lawford*), JAXA (*Dr. R. Oki*), ESA (*Dr. S. Briggs*))

14:15 - 14:30 International initiatives relevant to water theme (GEO) (*Prof. T. Koike*)

14:30 - 14:45 Observation program for water cycle in Malaysia (*Dr. S. Moten*)

14:45 - 15:00 Water cycle in arid area (Mongolia) (*Dr. D. Azzaya*)

15:00 - 15:15 A Japan's action for international water hazard and risk management
(*Mr. J. Yoshitani*)

15:15 - 15:35 Break

15:35 - 17:00 Discussion (Chair: *Dr. R. Lawford and Prof. K. Nakamura*)

17:00 - 17:30 Wrap up

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Atmospheric Chemistry Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 5 (Thu), 2004

Co-chairs:

Dr. Barrie (AREP, WMO) / *Dr. Briggs* (ESA)

Prof. Ogawa (JAXA)

Program Coordinator and Rapporteur:

Dr. Shirai (JAXA)

09:30 - 09:40	Opening Remarks (<i>Prof. Ogawa & Dr. Briggs</i>)
09:40 - 10:10	A status report of JMA activities for the WMO Global Atmosphere Watch (GAW) (<i>Dr. Makino</i> (JMA))
10:10 - 10:40	Global Chemical Weather Forecasting System and its future view (<i>Dr. Takigawa</i> (FRSGC))
10:40 - 11:10	JAL's Atmospheric Measurement Program - Current Program and Future Program - (<i>Mr. Suenaga</i> (JAL Foundation))
11:10 - 11:25	Break
11:25 - 11:55	IGACO Status of Theme Report (<i>Dr. Barrie</i> (WMO))
11:55 - 12:25	Ground-based remote sensing of atmospheric species and parameters - Network for the Detection of Stratospheric Change (NDSC) and related activities in Japan (<i>Dr. Nakane</i> (NIES))
12:25 - 13:40	Lunch
13:40 - 14:10	CRL Ground-based observations of the atmosphere (<i>Dr. Murayama</i> (CRL))
14:10 - 14:40	Effect of Anthropogenic Activities in Asian Continent on Ozone over the Western Pacific - Findings from PEACE Aircraft Campaigns and Needs for Satellite Measurements - (<i>Prof. Kondo</i> (RCAST, Univ.of Tokyo))
14:40 - 15:10	Atmospheric Chemistry Observation at the Summit of Mt. Fuji: A Proposal for a Permanent Ground Base Platform of Free Troposphere (<i>Prof. Dokiya</i> (Edogawa Univ.))
15:10 - 15:25	Break
15:25 - 15:55	Aerosols in Taiwan: Impacts on Regional Air Quality and Climate (<i>Prof. Liu</i> (Research Center for Environmental Changes, Academia Sinica))
15:55 - 16:25	Objective of the MEXT Kyosei Project and IPCC scenario runs (<i>Dr. Maruyama</i> (CRIEPI))
16:25 - 17:30	Discussion and Summary (<i>Dr. Barrie, Dr. Briggs and Prof. Ogawa</i>)
17:30	Adjourn

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Geohazards Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 5 (Thu), 2004

Conference Room #3

Co-chairs:

Dr. Marsh (BGS)

Dr. Ohkura (NIED)

Program Coordinator and Rapporteur:

Dr. Shimada (JAXA)

- 09:30 - 10:10 Introduction of the DISASTER monitoring by Space (*Dr. Marsh*)
- 10:10 - 10:30 Recommendation (Draft) (*Dr. Marsh and Dr. Ohkura*)
- 10:30 - 10:50 Break
- 10:50 - 11:10 International Charter “Space and Major Disasters” (*Ms. Kato* (JAXA))
- 11:10 - 11:30 Monitoring systems for geohazards in NIED (*Dr. Ohkura* (NIED))
- 11:30 - 11:50 Key Points for Volcanic Hazard Monitoring from the Space (*Dr. Ohmura* (Kochi Women's' College))
- 11:50 - 12:10 Combining space and ground data to understand how volcanoes work (*Dr. Briole* (IPGP))
- 12:10 - 13:30 Lunch
- 13:30 - 13:50 Disaster monitoring from space (*Mr. Miyatake* (Cabinet Office))
- 13:50 - 14:10 Interferometric observation of the volcanoes (*Dr. Ohkura* (NIED))
- 14:10 - 14:30 The Capability of Differential SAR Interferometry to Landslide detection: A Case Study of Takisaka Landslide, Fukushima, Japan (*Dr. Furuta* (JAXA))
- 14:30 - 14:50 Disaster Monitoring by PRISM and AVNIR-2 onboard ALOS (*Dr. Tadono* (JAXA))
- 14:50 - 15:10 An Integrated Global Observation System for Earthquake Prediction (*Dr. Van Genderen*)
- 15:10 - 15:30 Break
- 15:30 - 16:30 Discussion and Summary (Chair: *Dr. Marsh and Dr. Ohkura*)

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Coastal Theme Splinter Session

“Review of IGOS-P Theme Papers and recommendations for their implementation”

February 6 (Fri), 2004

Conference Room #2

Co-chairs:

Dr. DiGiacomo (JPL)

Dr. Iwasaki (NIED)

- 09:30 - 09:50 An Overview and Status of the IGOS Coastal Theme (*Dr. P. DiGiacomo, JPL*)
- 09:50 - 10:05 Coastal Hazards and Needs in Situ Observations (*Dr. S. Iwasaki*)
- 10:05 - 10:20 Tokyo-Bay Regeneration Project -and the usage of satellite data in the project-
(*Dr. S. Yamao*)
- 10:20 - 10:35 Strategies for the *in-situ* monitoring of anthropogenic deterioration of coastal ecosystem - with special emphasis on the use of ferry - (*Dr. A. Harashima*)
- 10:35 - 10:50 THE CHALLENGE OF OBSERVING CORAL REEFS (*Dr. A. Dahl, UNEP*)
- 10:50 - 11:05 Coastal and Ocean Theme Correspondence (*Dr. E. Lindstrom, NASA*)
- 11:05 - 11:15 ALOS Coastal Land Monitoring- DEM Generation & Expected Applications -
(*Dr. T. Tadono*)
- 11:15 - 11:25 SAR and Hyperspectral Applications for Coastal Waters (*Dr. D. DeLisle, CSA*)
- 11:25 - 11:35 Ocean Color Sensors for the coastal monitoring" (*Dr. H. Murakami*)
- 11:35 - 12:00 Group Discussion and Summary (Chair: *Dr. DiGiacomo and Dr. Iwasaki*)

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Data Integration Splinter Session

“Cross-cutting Issues”

February 6 (Fri), 2004

International Conference Hall

Chair: *Prof. Koike* (Tokyo Univ., Japan)

- | | |
|---------------|---|
| 09:30 - 09:40 | Opening Remarks (<i>Prof. Koike</i> (Tokyo Univ.)) |
| 09:40 - 10:00 | Integration of satellite observation data (<i>Prof. Koike</i> (Tokyo Univ.)) |
| 10:00 - 10:20 | Integration of in-situ data (<i>Dr. S. Williams</i> (UCAR)) |
| 10:20 - 10:40 | Integration of model outputs (<i>Dr. H. Luthardt</i> (Max-Planck-Institute for Meteorology)) |
| 10:40 - 10:50 | The Challenge of Climate Monitoring (<i>Dr. P. Mason</i> (GCOS)) |
| 10:50 - 11:10 | Global Mapping (<i>Dr. Nagayama</i> (MLIT)) |
| 11:10 - 11:30 | Data Integration Strategy (<i>Prof. Shibasaki</i> (Tokyo Univ.)) |
| 11:30 - 11:40 | Break |
| 11:40 - 12:00 | Discussion and Summary |

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Capacity Building Splinter Session

“Cross-cutting Issues”

February 6 (Fri), 2004

Conference Room #1

Chair: *Prof. Murai* (Tokyo and Keio Univ.)

- | | |
|---------------|--|
| 09:30 - 09:40 | Opening Remarks (<i>Prof. Murai</i>) |
| 09:40 - 10:00 | NOAA and MODIS mosaic data distribution
(<i>Prof. Yasuoka</i> (Tokyo Univ.)) |
| 10:00 - 10:20 | Digital Asia (<i>Prof. Fukui</i> (Keio Univ.)) |
| 10:20 - 10:40 | JAXA's contribution to Remote Sensing and GIS capacity building
activities in Asian Region
(<i>Dr. Lal Samarakoon</i> (GIS Application Center/AIT)) |
| 10:40 - 11:00 | JERS-1 Satellite Data Dissemination
(<i>Dr. Ake Rosenqvist</i> (EORC/JAXA)) |
| 11:00 - 11:20 | e-Learning (Remote education of Remote Sensing and GIS)
(<i>Prof. Murai</i>) |
| 11:20 - 11:40 | Break |
| 11:40 - 12:00 | Discussion and Summary |

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Plenary session

“Recommendations for IGOS implementations”

February 6 (Fri), 2004

International Conference Hall

Chair: *Prof. Ogawa*

Report of splinter sessions (IGOS themes)

- 13:30 - 13:40 Ocean Theme
- 13:40 - 13:50 Global Carbon Observation Theme
- 13:50 - 14:00 Global Water Cycle Theme
- 14:00 - 14:10 Atmospheric Chemistry Theme
- 14:10 - 14:20 Geohazards Theme
- 14:20 - 14:30 Coastal Theme

Report of splinter sessions (cross-cutting issue)

- 14:30 - 14:40 Data Integration
- 14:40 - 14:50 Capacity Building

14:50 - 15:10 Break

15:10 - 16:40 **Panel discussion “How can IGOS-P Themes best be developed?”**

(Moderator: *Prof. Shimoda* (Tokai Univ., EORC/JAXA),

Panelists:

- Dr. Lindstrom* (NASA),
- Dr. Lawford* (WCRP),
- Dr. Marsh* (BGS),
- Dr. Mason* (GCOS),
- Dr. Furuham*a (CEOS/SIT, JAXA),
- Dr. Hinsman* (WMO),
- Dr. DiGiacomo* (NASA/JPL)

16:40 - 17:00 Break

17:00 - 17:30 Conclusions and recommendations of the workshop (*Prof. Ogawa*)

17:30 - 17:35 Closing Remarks (*Dr. Furuham*a)