

APRSAF-18

Earth Observation WG

9 December 2011

Co-chairs of EO WG:

Dr. Leong Keong Kwoh,

Center for Remote Imaging, Sensing and Processing (CRISP)

Dr. Shin-ichi Sobue,

Japan Aerospace Exploration Agency (JAXA)

EO-WG Report Index



- **Conclusions and Recommendations of Earth Observation Working Group on December 6-7**
- **Proposal of an APRSAF new initiative, APRSAF Regional Readiness Review for Key Climate Missions (Climate R³)**

A nighttime photograph of the Helix Bridge and Marina Bay Sands in Singapore. The Helix Bridge is illuminated with blue lights, and the Marina Bay Sands is illuminated with green and yellow lights. The water in the foreground reflects the lights.

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Conclusions and Recommendations

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Summary of EO WG



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- 104 Participants
- Joint Session with CSA WG
- Joint Session with SEU & SEA WG welcoming special guest Mr. Soichi Noguchi, JAXA astronaut

Summary of EO WG



- SAFE initiative
 - Overview
 - Approved new prototype presentation
 - Wrap-up Report (MOWRAM, Cambodia) (MONRE, Lao PDR)
 - Final Report (CCD, Sri Lanka) (LAPAN, Indonesia)

✓ Recognize good progress of SAFE prototyping, especially emerging knowledge sharing among prototypes; and encourage further knowledge sharing and collaborations in Asia and Pacific region through SAFE web portals, SAFE workshops, and stakeholder meetings in each prototype implementation and its following-up operations.

Summary of EO WG



- APRSAF Regional Readiness Review for Key Climate Missions (Climate R³) Session - Recommendation

✓ Confirm the review of activities and outcomes of the Pilot Phase of the Climate R³ (Regional Readiness Review) initiative led by Australia since APRSAF-17, agreeing that Climate R³ has significant potential in promoting improved connections between space data suppliers and climate information users* in the region; and this can play an important role in developing a regional advocacy voice in support of the region's space data suppliers and in supporting the development of well-informed regional climate policy.

✓ Recommend Climate R³ to be adopted as an ongoing and high profile initiative of APRSAF, initially managed under the auspices of the EOWG.

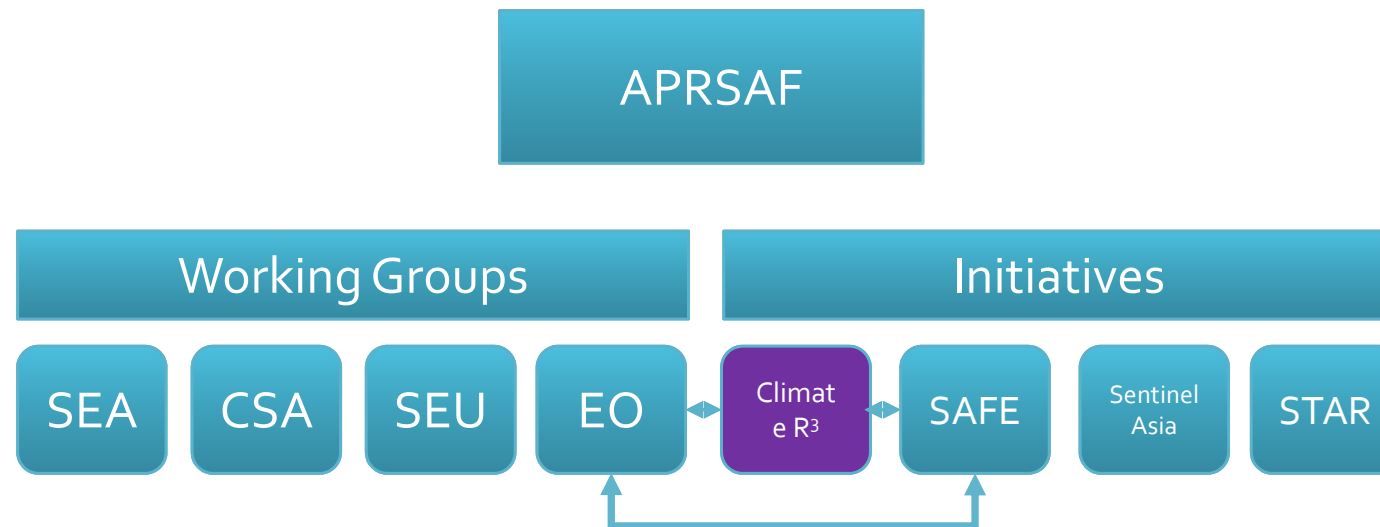
✓ Further discussion on the scope and approach to the next steps in 2012 will be held with EOWG Co-Chairs in the coming months with a view to developing a terms of reference and work plan to see Climate R³ formally introduced as a new initiative. 2012 activities will build and expand on the Pilot Phase topics of soil moisture, precipitation, and land cover.

*Climate information users considered to be primarily government science/research groups

Summary of EO WG



- APRSAF Regional Readiness Review for Key Climate Missions (Climate R³)
– Relationship with WGs and Other Initiatives



Summary of EO WG



- Agriculture & Food Security session
 - Global Agricultural Geo-monitoring Initiative (Masami Onoda, GEO Secretariat)
 - UNOOSA/UNSPIDER: Agriculture Monitoring and Food Security Assessment (Ms. Suju Li)
 - Country engagement with Agriculture and food security
 - Singapore: Food Security and Remote Sensing (Mr. Leong Keong Kwoh, CRISP,)
 - Indonesia: Agriculture development for strengthening food security (Ms. Rizatus Shofiyati, Indonesian Center for Agric LAnd Resources R & D, Ministry of Agriculture)
 - Kasetsart University, Thailand: Earth Observation System Experiences on Thailand Agriculture Disaster (Prof. Hansa Vathananukij)
 - RESTEC, Japan: RESTEC Activities for Agriculture and Food Security (Mr. Kaname Ikeda)
 - Pakistan: EO Systems, Technologies and their Application for Food Security and Agriculture (Mr. Khalid Bashir, SUPARCO)
 - Vietnam: Results of remote sensing application for rice monitoring in southern Viet Nam. (Dr. Nguyen Dao Lam, GIRS, HCMIRG, VAST)
 - Food Security: EO Application framework in India (Dr. V. K. Dadhwal, Director, National Remote Sensing Centre, ISRO)

✓ Recognize the importance of climate change impacts on food security and note anticipated discussion around the water-food-energy debate at Rio+20 in June 2012 (APEC Agriculture meeting in January at Tokyo & in February at Canberra, WG5 (Agriculture and Food Security) of 5th GEOSS Asia Pacific Symposium in April 2012 at Tokyo and G20 Agriculture ministers meeting in June at Mexico)

✓ Support the GEO-GLAM activity through nomination of an APRSAF EOWG representative, participation, and promotion of data provision by APRSAF participating agencies.

✓ EOWG Chairs to contact GEO SEC to

✓ propose the inclusion of rice crop monitoring in Asia within the GEO-GLAM Work Plan

✓ Ensure linkages with FAO AMICAF to include climate impacts on food security

✓ Recognize the advantage of virtual satellite constellations including SAR, especially for continuous acquisition of phenological data.

Summary of EO WG



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- Agriculture & Food Security session II (Private Sector Initiative)
 - Private Sector Report
 - JAMSS: Dynamic mapping for crop growing status using constellation satellite data and GPS (Dr. Dorj Ichikawa)
 - Fujitsu: Remote sensing solutions for advanced agriculture (Mr. Toshiaki Ariyama)
 - AGI: Acquiring satellite data for food security (Mr. Adam Gorski)
 - PASCO: Paddy Rice Field Monitoring By A High Resolution Sar Satellite (Dr. Tadashi Sasagawa)
 - MELCO: Evolution of SAR Satellite for Agriculture Applications (Mr. Hiroyuki INAHATA)
 - RSV Geoconsulting and Management Services: Public-Private Partnership in Geospatial Information Management: A Conceptual Framework in Mitigating the Ill-effects of Natural Disasters in Agricultural Development Process (Mr. Randolph Sevidal Vicente)

✓ Recognize contribution from private sectors for agricultural monitoring and food security by EO and geospatial information technology, and endorse not-for-profit collaboration between APRSAF governmental agencies, private sector and other related entities for food security issues.

Summary of EO WG



- Joint Session with CSA Working Group
 - Introduction of sea ship monitoring in Europe and America cases (JAXA/SAPC)
 - Report of sea-ship monitoring in Asian region
 - a) The result of ALOS collaborative investigation (Dr. Motofumi Arii, Mitsubishi Space Software Co., Ltd., Japan)
 - b) AIS by SDS4 mission (Mr. Suetsugu Shinohara, JAXA, CSA WG)
 - c) Indonesian Maritime Surveillance by LAPAN-ORARI and LAPAN-IPB (Mr. Robertus Heru Triharjanto, LAPAN, Indonesia)
 - d) Research and potential applications of nano-satellite for ship traffic monitoring in Viet Nam: (Mr. Tri Dinh Quoc, FSpace Laboratory - FPT University, Vietnam)
 - e) Commercial case (Dr. Albert Antoine, Exact Earth, Canada)

✓ Recognize the growing applications of space-based Automatic Identification System (AIS) for maritime sector in Asia and Pacific region, especially recognize the advantage of space-based AIS & SAR data fusion; and encourage further research & development for its applications, data fusion, and integration of sensors in one platform.

✓ Encourage the continuous information sharing between EO and satellite communication community on the integration of space-based AIS and SAR data; and expect EO and CSA working groups to hold future joint session in coming APRSAF.

Summary of EO WG



- Special Session: Water session
 - Pi-SAR-L flood observation in Thailand(Dr. Shin-ichi Sobue, JAXA)
 - ADB: Space Technology Applications to Water Sector in Asian Development Bank (Mr. Yusuke Muraki)
 - JICA: Space Technology Applications in water and disaster sector in JICA (Mr. Kazuya Suzuki, JICA)
 - UNSGAB (Dr. Olivia la O'Castillo)

✓ Realize the importance of tackling water issues induced by climate changes, using space technology; and recommend to share success stories or good practices in Asia and Pacific region in APRSAF and other opportunities such as 2nd Asia-Pacific Water Forum in Thailand, 6th world water forum in April at Marseille, and WG1 (Asian Water Cycle Initiative) of 5th GEOSS Asia Pacific Symposium in April 2012 at Tokyo.

✓ Appreciate having increased contribution from donor entities (ADB & JICA), national science funding agencies (JSPS) and UN organization (UNSGAB); and encourage EO community to expand discussions/dialogues with donor entities for future projects applying space-based technology for various application and scientific research areas including water issues.

✓ Support planning of a technical session in 2nd Asia-Pacific Water Forum next year (in consultation with UNSGAB and other related entities) – to promote the application of space technology to water issues and knowledge sharing.

Summary of EO WG



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- Joint Session with SEU and SEA Working Groups
 - Astronaut Photography, for Earth Observation, Outreach and Enhanced utilization of the ISS (Mr. Soichi Noguchi, JAXA Astronaut)

- ✓ Appreciate fantastic presentation from Astronaut Noguchi on the photographs of beautiful earth from ISS.
- ✓ Recognize the contribution of photographs from ISS both for scientist and general people, as well as the psychological benefit for astronauts.

Conclusions & Recommendations to the Plenary



- APRSAF in support of Climate Change
 - Recommend that the APRSAF Regional Readiness Review for Key Climate Missions (Climate R³) be adopted as an ongoing and high profile initiative of APRSAF.

- EO Applications in Food Security Issues
 - Support the inclusion of rice crop monitoring in Asia within the GEO Global Agricultural Monitoring (GEO-GLAM) Initiative Work Plan.

- EO Applications in Water Issues
 - Recognize the importance of tackling water issues induced by climate change using space technology in the Asia and Pacific region; and support planning of a technical session in the 2nd Asia-Pacific Water Forum next year (in consultation with United Nations Secretary-General's Advisory Board on Water & Sanitation (UNSGAB) and other related entities) – to promote the application of space technology to water issues and knowledge sharing.