

Kyoto Statement 2018

Kyoto, Japan
October 26th, 2018

The 11th Global Earth Observation System of Systems (GEOSS) Asia-Pacific(AP) Symposium was held in Kyoto from 24th to 26th October 2018, by the Group on Earth Observations (GEO) and Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT). The Symposium, attended by XXX participants, addressed the theme of "Strengthening Regional Cooperation through AOGEOSS for the SDGs, Paris Agreement and Sendai Framework", and focused its discussions on contributions to GEO's 3 priority areas, regional cooperation and address the emerging case study of the Mekong River Basin. The Symposium plays significant role of sharing the experiences and find the solutions to overcome challenges under the activities of the Asia Oceania GEOSS (AO GEOSS) initiative as a fundamental piece of regional infrastructure and an overarching vision for other EO initiatives in the Asia Oceania region.

A keynote presentation was delivered by Mr. Takashi Matsuo, Representative, Japanese Representative Office (JRO) Asian Development Bank, and were followed by the introduction of the AOGEOSS Case Study: Mekong River Project and one panel session included cross cutting issues: data sharing and user engagement and communication. The six breakout Task Group(TG) sessions included TG1: the GEOSS Asian Water Cycle Initiative (AWCI), TG2: the Asia-Pacific Biodiversity Observation Network (APBON), TG3: the GEO Carbon and GHG Initiative, TG4: Ocean, Coast, and Island (Blue Planet), TG5: the GEO Global Agriculture Monitoring Initiative (GEOGLAM) and TG7: Environmental Monitoring and Protection. Each TG focused on global challenges and discussed the role of Earth observations in strengthening regional cooperation on contributions to GEO's 3 priority areas through their existing and emerging activities.

1. The Participants agreed to the following outcomes and resolved to take the following actions toward the next Symposium.

(1) SDGs:

The 2030 Agenda for Sustainable Development (the 2030 Agenda) is a set of international development goals from 2016 to 2030, which was adopted by the UN Sustainable Development Summit held in September 2015 building on the success of Millennium Development Goals.

TG4 promotes to make catalog of the state-owned data including parameters on ocean acidification and biodiversity with consideration for the sea area under jurisdiction to collect the coastal in-site observation data which has a great gap among Earth Observation Data. Also, it implements the Research and Development of Ocean Science and Technology and the utilization of the Earth Observation Data to activate the economy in Island countries. These activities will contribute to the International (UN) Decade of Ocean Science for Sustainable Development which is passed the United Nations General Assembly Resolution.

TG5 directly addresses the issues of SDG 1, 2, 13 and 15, and indirectly SDG 10 through better agri-food policy implementation. Compiled agro-met information from various earth observation systems in Japan (JAXA/JASMIN), India (ISRO/MOSDAC) and other countries in GEOGLAM and Asia-RiCE under TG5 will greatly contribute to the global and regional food security, by improving the outlook of crop production and the precision agriculture, and developing the decision-support systems and early warning systems for biotic and abiotic stresses (e.g. the outbreak of pests and diseases and the occurrence of drought and flood), in cooperation with ASEAN Food Security Information System (AFSIS) project. TG5 also deals with unmanned aerial vehicles (UAVs), a global navigation satellite system (GNSS), to fill the gap between the satellite-based and

on-the-ground earth observations for the ICT-based precision agriculture. Earth observation data with agro-met information can accurately unravel the dynamic change in land use and land coverage, which would help farmers choose appropriate crop species and also help policy makers develop the agricultural land use policies.

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(2) Paris agreement:

The Paris Agreement established a long-term goal of keeping the global average temperature well below 2 °C above the pre-industrial level by achieving a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs). To monitor and evaluate the impacts of climate change measures for implementing the Paris Agreement, accurate knowledge of emission trends and reliable GHG inventories are essential. Emission reporting from developing countries is particularly important. Urgent needs are to harmonize the increasing number of platforms for monitoring GHGs in Asia–Oceania, and to reduce their source/sink estimation uncertainties. Relevant institutions and agencies for GHG observation will cooperate to improve up-to-date analysis systems and data coverage in Asia–Oceania and to provide the data and knowledge to stakeholders in time with such activities as the Global Stocktake Process under the Paris Agreement.

Methane is also the key component of greenhouse gas, and the lowland rice field is one of the major sources of methane emission. As mentioned in Paris Agreement, optimizing water management to reduce methane emission from lowland rice fields is one of the topics for climate change mitigation. The earth observation data with methane emission model collected in **TG5 and TG3** would be able to optimize water inundated period in paddy fields for minimum methane emission, without sacrificing rice productivity due to less irrigation input.

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(3) Sendai Framework:

The Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework) is the first major agreement of the post-2015 development agenda endorsed by the UN General Assembly following the 2015 Third UN World Conference on Disaster Risk Reduction (WCDRR).

Integrated climate models with earth observation data and information would be useful for improving climate resilience. For the risk management of water-related disasters, it is important to understand the impact of drought and flood on agriculture, which can be estimated by the agro-met information and the monitoring of inundated area based on the earth observation data in the activities of **TG5**. This task is closely linked with SDG 13.

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(4) Emerging Case Study for Mekong River basin:

The GEOSS AP Symposium has increased its number of activities by 12 Task Groups. It is expected to cooperate and solve the various problems in the AO regions and utilize these experiences and knowledges to overcome the other global and regional challenges.

In 2018, AOGEOSS Initiative determined that each Task Group concentrate on their knowledge to overcome the specific challenges of the Mekong River Basin.

TG1 will enhance its effort for facilitation dialogue among all stakeholders in each country to formulate Platform on Water Resilience and Disasters for advancing the concerted actions towards achieving SDGs, Paris Agreement and Sendai Framework. AWCI will also accelerate its regional coordination for taking advantage of existing initiatives and programs to improve understanding, strengthen governance, inform investment and support implementation for reducing water-related disaster and environmental risks. AWCI will develop re-

gional research networks, integrated scientific tools for assessing risks, and science and policy integrator including higher education and put them into supports of countries.

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2. The Participants resolve to reconvene at the 12th GEOSS Asia-Pacific Symposium to be held in Canberra, Australia in 2019.