

# 2020 AOGEO Statement

Online

March 3rd - 5th, 2021

The 13<sup>th</sup> Asia-Oceania Group on Earth Observations (AOGEO) Symposium was held online from 3 to 5 March 2021 with the theme of “Enhancing the well-being of people in the Asia-Oceania region through Earth observations (EO) in the face of COVID-19 impacts - design and implement future steps for EO to realize global agendas.” The Symposium brought together 201 participants from 20 countries, 11 of which presented their country reports.

## Summary:

The participants:

- i. Reaffirmed the importance of EO in addressing global issues, such as climate change, sustainable development and disasters while acknowledging the fact that the COVID-19 pandemic has exacerbated these problems faced by the people who are losing options for countermeasures;
- ii. Reconfirmed their commitment to use the power of science and technology related to EO and its use in addressing the global challenges while contributing to the well-being and quality growth of the people in the region as well as to provide the scientific basis for policy-making in response to the global agendas, such as the Paris Agreement, Sendai Framework for Disaster Risk Reduction and 2030 Agenda for Sustainable Development (SDGs);
- iii. Recognized that EO have a great potential to be the source of knowledge and tools to effectively tackle the global issues in the post COVID-19 era with accelerated growth in ICT;
- iv. Recognized that regional cooperation is essential for achieving healthy ecosystems and sustainable society, with the concerns about the Zoonotic pandemics as a biodiversity and environmental issue because of the increasing contact with wildlife and livestock through land-use change, wildlife exploitation, global transportation, and land exposure by climate change;
- v. Committed to AOGEO’s goal to make tangible impacts as the regional forum of “Earth Observations for Asia-Oceania” in recognizing the ongoing-efforts and achievements of its implementation mechanism, namely Task Groups (TGs) and Integrated Priority Studies (IPs), which will accelerate their work while ensuring coordination and collaboration among them; and
- vi. Agreed to the continuing need for advocacy and extending further the value of EO and AOGEO.

## Engagement Priorities

1. Given the above, Participants agreed that AOGEO members and relevant TGs/IPs will take the following actions toward the next Symposium;
2. Contributing to 2030 Agenda for Sustainable Development
  - 2.1. Encourage continued strengthening of partnerships between the EO and statistical communities to share country use cases which maximize the use of EO data for compiling SDG indicators for the 2030 Agenda for Sustainable Development at national, regional and global levels.
  - 2.2. From AOGEO TGs, AWCI clarifies how water-related disasters under climate change hamper economic and social development and how, in quantitative terms, disaster resilience can contribute to maintaining sustainable development. APBON provides adequate, long-term biodiversity and ecosystem data and knowledge for developing policies for conservation and sustainable use of biodiversity and natural resources. OCI promotes further and better access to marine data through interoperability and standardization of data, in particular coastal data, satellite-based marine and coastal products. Asia-RiCE provides the outlook for rice production, and contributes to regional food security, by integrating

the EO data to be shared with various stakeholders. EMP provides annual reports for sustainable terrestrial ecosystems, clean air, clean water, clean energy, sustainable cities to support evidence-based decision making for environmental protection and global change.

3. Contributing to the Paris Agreement within the UNFCCC

AWCI assesses climate change impacts on water-related disasters and develops adaptation measures. APBON provides data and knowledge by *in-situ* and multidisciplinary observations for assessing ecosystem services for mitigation and adaptation to climate change on land, freshwater, coasts and marine. GEO-C harmonizes various observation platforms for GHGs, reduce uncertainties in sources and sinks, and cooperate among relevant institutes/agencies to support reporting GHG budgets for the Global Stocktake Processes. Asia-RiCE works for sustainable agriculture as a part of climate adaptation. Himalayan GEOSS promotes regional data and information sharing, science and knowledge cooperation aligning with “HKH Call to Action” on climate change. EMP evaluates the terrestrial ecosystem status, variations and their carbon sequestration capacity, and try to investigate their responses and feedback to climate change.

4. Contributing to the Sendai Framework for Disaster Risk Reduction

AWCI takes concerted action responding to water-related disasters intensified by an increasingly warmer climate. The Disaster Resilience Task Group contributes to Disaster Risk Reduction by improving the accessibility and usability of existing EO data and services for all phases of disaster risk management and by advancing the use of EO data to report on Sendai Framework outcomes. The Data Sharing Task Group continually operate the CDDR mechanism to make quick data response to regional disaster events, and greatly contribute to the GEO SDG awarded work on Rapid Disaster Mapping (RDM).

5. Scaling-up through IPS

The Participants support Australia organizing a strategic planning workshop for further updating the IPS demonstrations. Targeting the lower Mekong region, Asia-RiCE improves the agro-meteorological information and the quality of rice crop monitoring, which further enable better estimation and forecasting of yield. EMP provides quantitative remote sensing products for sharing and focus on urban expansion, air pollution, deforestation, fire disaster monitoring and evaluation in the lower Mekong basin. Himalayan GEOSS is exploring biodiversity and forest degradation and tackling new interdisciplinary challenges.

6. In implementing the above, the Participants emphasized the need to produce actionable information by co-designing and co-producing, and for concerted actions among stakeholders towards achieving the quality growth while addressing sustainable development, disaster resilience and climate change adaptation in a comprehensive manner.

### **Cross-cutting**

7. As for the cross-cutting issues, the Participants will:

8. Pacific Islands Countries and Territories

8.1. Support and participate in the relevant discussions and cooperation in line with the Canberra Declaration (Ministerial Summit, November 2019/Canberra, Australia) which encourages the Pacific and other island nations to join the GEO community and highlights the importance of the GEO community in supporting the PICTs with their EO needs;

8.2. Encourage IPS and TGs related to the PICTs to work closely with GEO's Pacific Islands Advisory Group, and call attention to the usefulness of EO for island countries in a coordinated manner at high-level international events such as the up-coming 26th UN Climate Change Conference of the Parties (COP26), the 9<sup>th</sup> Pacific Islands Leaders Meeting and future annual meetings of the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP);

9. Capacity Development

9.1. Encourage the use of facilitators as trusted human resources by making effective use of e-Learning, the critical role of training the trainers and the importance of platforms such as the emerging knowledge hub.

9.2. Support AOGEO work on the construction of regional capacity development cooperation networks and exploration of new or hybrid approaches and virtual technologies to strengthen IPS-oriented capacity development in AOGEO; Acknowledge the efforts by China to conduct the 3rd AOGEO Workshop for capacity development on use of EO in October 2020 in Changzhou, China.

10. Data and Knowledge

10.1. Continue to support and further encourage the ongoing efforts in EO, its use, application development in addition to sharing of data and knowledge;

10.2. Continue promoting such EO efforts appropriate for each country considering the importance of (1) data and knowledge generated by long-term observations, (2) development of applications and new observation technologies as well as (3) sharing of such data and knowledge;

10.3. Note the critical role of systems for sharing knowledge generated by EO data as well as the need for systems to generate integrated analysis and coordinated actions of multiple issues based on the virtuous circle of knowledge and experience through active communication among scientists, policy-makers and stakeholders; and,

10.4. Share the conclusion that each Platform should develop an "Online Synthesis System (OSS)" as its knowledge base.

11. The participants will next reconvene at the 4<sup>th</sup> AOGEO Workshop organized by China and held online followed by the 14<sup>th</sup> AOGEO Symposium organized by Japan and held online. Finally AOGEO shall continue to hold extensive capability building courses throughout the region.

## **Results and Implementation directions for 2021**

### **AOGEO Task Groups**

1. The Asian Water Cycle Initiative (AWCI) (Task Group 1) has agreed to take concerted action regarding the three global agendas adopted in 2015, i.e., the Sendai Framework, the SDGs and the Paris Agreement, responding to water-related disasters intensified by an increasingly warmer climate, which are among the most critical hindrances to sustainable development. Considering that much remains to be learned as to how water-related disasters under climate change hamper economic and social development and how, in quantitative terms, disaster resilience can contribute to maintaining sustainable development, AWCI concluded that each Platform should develop an "Online Synthesis System (OSS)" as its knowledge base and foster "Facilitators" as trustable human resources by making effective use of e-Learning.
2. Asia-Pacific Biodiversity Observation Network (APBON) (Task Group 2) respond to the following new needs to the biodiversity observations: (1) developing national BONs and networking them in the region to contribute to CBD Aichi Biodiversity Targets and post 2020 Global Biodiversity Framework, (2) filling observational and knowledge gaps for biodiversity status and trends to contribute to IPBES assessments, (3) producing data and knowledge to address the issues particularly related to biodiversity and ecosystem sustainability by coordinated activities with GEO and AOGEO, (4) contributing to achievements of SDGs (6, 13, 14, 15) by providing adequate, long-term, site-based and defensible biodiversity data that help developing policy for conservation and sustainable use of biodiversity, and (5) identifying the challenges of biodiversity and related cross-cutting issues under COVID-19 pandemic and on-going climate and societal changes.
3. GEO Carbon and GHG Initiative (GEO-C) (Task Group 3) further develop multi-data integration system, and harmonize the increasing number of platforms, such as remote sensing, in-situ observations, and inventories, to reduce uncertainties in the sources and sinks to support the ultimate goal of reaching net zero emission required by Paris Agreement. Support yearly or speedy reporting regional GHGs budgets by tracking sources and removals as contribute the Global Stocktake Process.
4. Oceans, Coasts, and Islands (OCI) (Task Group 4) continues further development of the AOGEO ocean data networking system based on Geonetworks via individual technology exchanges sessions among participants. The network system will benefit from contributing to coastal data sharing in the region where there are difficulties due to national jurisdictions. The task group will also consider linkages to IODE/ODIS in UNESCO/IOC, and further contribute to Transparent Ocean, one of seven (7) societal outcomes of UN Decade of Ocean Science for Sustainable Developments (2021-2030).
5. Agriculture and Food Security (Asia-RiCE) (Task Group 5) develops the systems of collection, validation and integration of EO data for agro-meteorological information and rice crop monitoring in the Asia-Oceania region. It involves a number of research institutions and national stakeholders to contribute to the food security outlook at the national and regional scales. The Asia-RiCE acts as a network of networks on the EO for agriculture in the region, by organizing and facilitating multilateral research collaborations. In coordination with international and regional initiatives for 2021 such as CEOS and APRSAF, the Asia-RiCE will further strengthen the partnership with national and regional agricultural sectors for rice crop monitoring and rice statistics.

6. Environmental Monitoring (Task Group 7) develops the Multi-source Synergized Quantitative Remote Sensing Production system (GEOMUSYQ) and the in-situ validation network in the Asia-Oceania region, and focus on the monitoring and evaluation of the status, variations and the interactions of terrestrial ecosystems, atmosphere and inland water body. EMP downscales the Global Ecosystem and Environment Observation Analysis Research Cooperation (GEOARC) in Asia-Oceania region and release the annual report to support the Sustainable Development Goals (SDGs), Paris Agreement, and Sendai Framework for Disaster Risk Reduction, etc. EMP will strengthen the Ecosystem monitoring and application network in the Asia-Oceania Region in the framework of the Mekong River Basin IPS.
7. Disaster Resilience (DR) (Task Group 8) establish links to related international or regional collaborations and work programmes tackling similar issues and identify opportunities for joint work programme activities e.g. UN-GGIM, UN-SPIDER and CEOS.
  - Raise awareness of existing available EO services to support disaster management
  - Facilitate Satellite-based emergency mapping for major disasters
  - Begin the development of guidelines to support the use of EO data for Sendai Framework reporting
8. Himalayan GEOSS (Task Group 9) focused on promoting EO applications on agriculture and food security, water and disasters, ecosystems and biodiversity, and climate change in the HKH region. In 2021, TG9 will prioritize on capacity building, integrated pilot study in the Eastern Himalaya, and developing a knowledge platform, leveraging from SERVIR-HKH efforts, cross cutting TGs and GEO initiatives, and network of partners. It will specifically contribute to SDG Goal 2 (drought early warning), Goal 5 (empower women), Goal 13 (climate change and disasters), and Goal 15 (land cover monitoring). It will work in coherence with the member countries and aligning with Action 6 of ICIMOD's "HKH Call to Action" on regional data and information sharing, and science and knowledge cooperation.

## Background on AOGEO

1. Asia-Oceania holds two thirds of the world's population, all land types, all levels of development and is the most vulnerable region in the world to natural disasters. EO is a key technology to understanding and acting on sustainable development, climate change and disasters. AOGEO brings together just under half of the global economy, the fastest growing space agencies on Earth and experts from the top of Mt Everest to the smallest islands in the Pacific. AOGEO focuses on the three areas of GEO's Engagement Strategy, including 2030 Agenda for Sustainable Development (SDGs), Paris Climate Agreement within the UNFCCC (Paris Agreement), and Sendai Framework for Disaster Risk Reduction (Sendai Framework) by implementing three activity types: Regional Application Activities, Foundational Tasks and Integrated Priority Studies.
  - 1.1. Regional Application Activities: AOGEO will enhance EO capacity and their applications through 1) Asian Water Cycle Initiative (AWCI); 2) Asia-Pacific Biodiversity Observation Network (AP-BON); 3) GEO Carbon and GHG Initiative (GEO-C); 4) Oceans, Coasts, and Islands (OCI); 5) Agriculture and Food Security (AsiaRiCE); 6) Drought monitoring and evaluation; 7) Environmental Monitoring and Protection (EMP); 8) Disaster Recovery (DR); and 9) Himalayan GEOSS.
  - 1.2. Foundational Tasks: To promote regional coordination, AOGEO will implement selected, often enabling, activities including 1) Data Sharing; 2) Data Platforms and Cubes; and 3) User Engagement and Communication.
  - 1.3. Integrated Priority Studies: To exemplify the cross-cutting and inter-related nature of various Societal Benefit Areas (SBAs), AOGEO recognizes that, with respect to SDGs, Paris Agreement and Sendai Framework, special efforts for integrating EO and harmonizing research and operational activities are needed in some specific areas including 1) Mekong River Basin; 2) Small Island States; and 3) Himalayan Mountains.