
WP23_25: Asia-Oceania Group on Earth Observations

1224,203

Basic Information

Full title of the Regional GEO

Asia-Oceania Group on Earth Observations

Short Title or Acronym

AOGEO

Please list the key priorities of the Regional GEO.

- no answer given -

Have these priorities changed since the 2020-2022 Implementation Plan?

- no answer given -

Have these priorities been approved by the Regional Caucus?

- no answer given -

Points of Contact

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Engagement

For each member of the GEO Caucus listed below, please indicate their level of participation in the activities of the Regional GEO.

	Co-lead	Quite active	Somewhat active	Not very active	Does not participate
Australia	X				
Bahrain		X			
Bangladesh		X			
Cambodia		X			
China	X				
India		X			
Indonesia		X			
Iran		X			
Israel		X			
Japan	X				
Korea, Republic of	X				
Malaysia		X			
Mongolia		X			
Nepal		X			
New Zealand		X			
Oman, Sultanate of		X			
Pakistan		X			
Philippines		X			
Thailand		X			
Tonga		X			
United Arab Emirates		X			
Vietnam		X			

Do any GEO Members from other Caucuses participate in this Regional GEO?

No

Do any non-GEO Member countries participate in the Regional GEO?

Yes

Please select them.

- Lao, People's Democratic Republic

For those countries in the Region that are not involved in the Regional GEO or are not

active, please identify the most important barriers.

- Do not see benefits of engagement in GEO
- Involved in GEO but do not see benefits of engagement with the Regional GEO
- Resource constraints
- Other constraints

Please describe.

The pandemic has made it challenging for representatives from the Pacific Islands to participate in AO GEO activities. Although AO GEO events have been scheduled to accommodate the Pacific Islands, participation at an individual level by representatives from the Pacific has continued to remain low. This may be as a result of the different EO priorities of the Pacific as island-based states with vastly different topography, culture and industry bases compared with Asia more generally (relates to user needs and value proposition of AO GEO to the PICTs).

Has the Regional GEO identified specific countries to engage more actively in the Regional GEO?

Yes

Please list them.

- Mekong River Basin
- Small Island States
- Himalayan Mountains

Are any Participating Organizations actively involved in this Regional GEO?

Yes

Please select them

- ICIMOD
- ILTER

Please list any international organizations that are involved with the Regional GEO but which are not GEO Participating Organizations.

International Centre for Water Hazard and Risk Management under the auspices of UNESCO (ICHARM)

Please provide any further observations or comments you may have regarding engagement of international organizations.

Pacific Regional Organisations: Representatives from the Pacific regional organisations, SPC, SPREP and USP have presented at AO GEO events and have participated in some AO GEO discussions. A highlight for the Pacific community was the inclusion of a special session within AOGEO's 2021 Symposium on "Satellite Data for the Pacific Islands: Supplier and User Perspectives". This event brought together representatives of several EO data suppliers and users in Pacific Communities, Pacific Regional Organizations and Local Governments. This was an invaluable discussion that helped both the suppliers and the users better understand the services and needs of each party. Shortly thereafter, SPC released its Digital Earth Pacific Needs Assessment Report, which expands on the needs and priorities of the Pacific region in terms of satellite data for the Digital Earth Pacific initiative. This important report will guide SPC's engagement on behalf of the entire Pacific Islands region in terms of what satellite services will be used by the Pacific (including those from members of AO GEO), for DE Pacific as the ODC platform supported by the PICTs.

Has the Regional GEO identified specific international organizations (whether they are currently GEO POs or not) to engage more actively in the Regional GEO?

Yes

Please list them.

New Participating Organization: The Pacific Island Advisory Group to the GEO Executive Committee (PIAG) has encouraged the University of the South Pacific into GEO as a Participating Organisation, in recognition that the technical, geospatial, R&D focus of AO GEO may be of interest to the university and the Pacific GIS and Remote Sensing Council (of which the university is a member). USP's GEO PO membership application was approved at the March 2022 meeting of ExCOM.

Please describe the methods the Regional GEO intends to use to increase engagement.

AOGEO leverages various practices such as holding symposia, workshops, and webinars to progress thematic activities, the Integrated Priority Studies, and capacity development. These are AOGEO's fundamental elements to increase engagement in the next period. Taking advantage of each core competency, AOGEO increases its engagement with the target stakeholders.

Are any commercial sector organizations (including GEO Associates) regularly involved in this Regional GEO?

No

Has the Regional GEO taken actions to increase engagement of the commercial sector in the activities of the Regional GEO?

Yes

Please list them.

AOGEO aims to increase engagement with private sector. The statement adopted at the 14th AOGEO Symposium in 2021 agreed to enhance engagement of stakeholders including the private sector to facilitate regional networks and application to decision-making in the TG activities. Using the Symposium and Workshop as collaborative platforms, we are going to seek further engagement with private sector. However the diversity of upstream and downstream companies, ranging from satellite operators to end-users in agriculture, mining or ICT, for example, will require additional specific and targeted actions.

The Earth Observation for Climate Smart Innovation Project (EOCSI): Private sector engagement is a strong focus of this Australian-led initiative, launched in 2021. It will deploy a new Earth observation analysis platform based on Open Data Cube technology. The platform will be used to engage local government, business and education institutions to take advantage of Earth observation for the development of climate smart applications in South East Asia. Activities including training workshops, hackathons, business support and technical coaching will enable business and research participants from Australia and South East Asia to turn ideas for new geospatial products and services into product prototypes, and beyond. The government of Indonesia is a major partner of this initiative.

Please describe the effectiveness of the actions taken.

- no answer given -

Coordination

Has the Regional GEO set thematic priorities (for example, biodiversity, disaster resilience, agriculture, etc.)?

Yes

Please list the priorities.

- Water Cycle consilience
- Biodiversity

- GHG monitoring
- Disaster Resilience
- Agriculture
- Ocean and Coasts
- Mountain
- Drought characteristics in relation to climate extremes and human activities; impacts of droughts on agriculture
- Environmental Monitoring

How often does the Regional GEO review its priorities / work plan structure?

- As needed/no regular review period

Which of the GEO engagement priorities does the Regional GEO address?

- Sustainable Development
- Climate Action
- Disaster Risk Reduction
- Resilient Cities and Human Settlements

For each engagement priority checked, please describe the key activities/projects/actions the Regional GEO has put in place to address this priority.

SDGs

- Asian Water Cycle Initiative (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.
- Asia-Pacific Biodiversity Observation Network (APBON) provides adequate, long-term biodiversity and ecosystem data and knowledge for developing policies for conservation and sustainable use of biodiversity and natural resources.
- Oceans, Coasts, and Islands (OCI) promotes further and better access to marine data through interoperability and standardization of data, in particular coastal data, satellite based marine and coastal data products.
- Agriculture and Food Security (Asia-RICE) provides the outlook for rice production, and contributes to regional food security, by integrating change.
- Drought Monitoring and Evaluation (DME) is developing a web-based Global Drought Monitoring and Analysis Platform (web-GDMAP).

Climate Action

- 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 Carbon and GHG Initiative (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.
- Environmental Monitoring and Protection (EMP) evaluates the terrestrial ecosystem status, variations and their carbon sequestration capacity, and try to investigate their responses and feedback to climate change.
- Himalayan GEOSS promotes regional data and information sharing, science and knowledge cooperation aligning with "HKH Call to Action" on climate change.

Disaster Risk Reduction

- AWCI takes concerted action responding to water-related disasters intensified by an increasingly warmer climate. Disaster Resilience (DR) 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.
- An international project entitled Integrated Application of Earth Observations for Disaster Risk Reduction supported by Ministry of Science and Technology, China, launched in 2020, aims to support the monitoring of indicators of the Sendai Framework leverage EO data and its application.
- EMP contributes to release long-time series systematic monitoring, analysis and assessment products: Trends of Global Terrestrial Ecosystem change processed and development covered urban expansion and farmland reclamation; Deforestation and forest fires; Human activities and climate change...from 2012 to

2021.

Urban Resilience and Human Settlements

- AWCI has held a series of e-learning online trainings focusing on water-related disaster risk reduction for local government. Those who completed this training are capable of utilizing the data system to send out official water related early warnings, analyze risks and create hazard maps. They are assigned to city districts or communities to facilitate discussions about urban planning and design elements such as evacuation, contingency, and land use plans.

Please describe the key lessons learned from the Regional GEO experience in implementing actions to address the engagement priorities.

- no answer given -

Please identify the GEO Initiatives that the Regional GEO interacts with regularly

- DIAS - Data Integration and Analysis System
- EO4SDG - Earth Observations for the Sustainable Development Goals
- GEO BON - GEO Biodiversity Observation Network
- GEOGLAM - GEO Global Agricultural Monitoring
- GEOGLOWS - GEO Global Water Sustainability
- GEO-LDN - GEO Land Degradation Neutrality
- GEOARC - Global Ecosystems and Environment Observation Analysis Research Cooperation
- GFOI - Global Forest Observation Initiative
- GEO-MOUNTAINS - Global Network for Observations and Information in Mountain Environments
- MUSYQ - Multi-source Synergized Quantitative Remote Sensing Products and Services
- BLUE-PLANET - Oceans and Society: Blue Planet

For each GWP Initiatives checked, please describe the focus of these interactions (for example, topics, projects, localities, etc.)

AWCI

- DIAS is offering the functions as an Online Synthesis System for Sustainability and Resilience (OSS-SR) and e-Learning for fostering facilitators.
- GEOGLOWS provides opportunities to share regional activities all over the world regularly.

APBON

- APBON collaborates with GEO BON by providing regional knowledge on biodiversity, sharing ideas on cooperative observation of biodiversity and ecosystems

EMP

- Land degradation has strong linkage with drought, both in short term and long terms perspectives. We are seeking for specific research topics to work on.

Please describe the key challenges the Regional GEO has experienced in working with GEO Work Programme activities?

AWCI

- DIAS is not an operational system but a scientific and technological incubator. It is a big challenge to shift from scientific demonstration to operational use.
- AWCI focuses on the local applicability while GEOGLOWS takes systematic and common approaches.

Please identify the key benefits that have been realized for the Region through working with GEO Initiatives.

AWCI

- DIAS has already built flood early warning systems in the Philippines, Sri Lanka and Myanmar and supported about 30 participants to develop facilitator capacity.

DME

- On-going activities include participating the training program of Postgraduate Studies in LAND DEGRADATION NEUTRALITY (led by GEO-LDN and university in Ghana). On the one hand, we hope to contribute to capacity building in Africa on land degradation study. On the other hand, we expect to develop long-term cooperation with GEO-LDN and AfriGEO.

Are there GEO Initiatives or other GEO groups (Working Groups, Foundational Tasks, etc.) that the Regional GEO would like to engage with more?

Yes

Please identify these Initiatives or other GEO bodies.

- GEO Global Agricultural Monitoring
- GEO Global Water Sustainability
- Global Drought Information System
- Global Forest Observation Initiative

Please describe the primary aims of this engagement.

- Pacific Region: The Pacific Island Advisory Group (PIAG) to GEO's Executive Committee has made many efforts to find useful connections between the priorities and interests of the Pacific Islands with that of AO GEO. Notably, PIAG has encouraged the University of the South Pacific into GEO as a Participating Organisation, in recognition that the technical, geospatial, R&D focus of AO GEO may be of interest to the university and the Pacific GIS and Remote Sensing Council (of which the university is a member). USP's GEO PO membership application will be considered at the March 2022 meeting of ExCOM.
- Sharing of data and knowledge on frameworks, methods and approaches, expansion of network and collaboration on capacity development.
- There are common issues between DME and the GWP's ,DME wishes to interact more closely with these GPWs.

Does the Regional GEO see opportunities for other collaborations within GEO other than within the GEO Work Programme?

No

Lessons from the 2020-2022 Period

Please describe the key objectives of the Regional GEO for the 2020-2022 period.

- Identify regional needs for Earth observation applications and relate these to global GEO activities;
- Facilitate regionally coordinated Earth observation activities and utilize available infrastructure, resources and capacity to develop integrated and sustained observations in the AO region;
- Provide a platform for regional countries to advance data sharing and services;
- Promote dialogue, communications and cooperation among the AOGEO Members and other participants, as well as with other Regional GEOs; and
- Support sound decision-making at local, national and regional scales by making maximum use of Earth observation data and information
- How to truly realize data and product sharing services. We can try to take Southeast Asia and Pacific island countries as examples, collect real needs information of users through training, and solve practical problems in the region in a targeted manner.
- Promote regional users' capacity-building and train young scientists in the field of earth observations for developing countries by organizing a series of training workshops.
- Launch the Regional Centre for Capacity Development (RCCD) , and collaborate with other task groups of AOGEO and GEO Initiatives to build synergies in capacity building.
- Work with partners in the Integrated Priority Studies (IPS) to integrate satellite remote sensing and ground observation data, and build a data product and system platform for SDGs, climate change and disaster prevention and mitigation with the help of AI, big data, cloud computing technologies
- Encourage the use of facilitators as trusted human resources by making effective use of e-Learning.
- Share the conclusion that each Platform should develop an OSS-SR as its knowledge base.

To what extent have these key objectives been achieved or are expected to be achieved?

- Some objectives are expected to be achieved but others will not

Please indicate which objectives are not expected to be completed and the reasons for this.

One of the pilot projects of IPS in Himalayan GEOSS named Remote sensing assessment and capacity building for sustainable development in Hindu Kush Himalayan region was launched in 2022 to give further research support.

How has this affected plans for 2023-2025?

The objectives involved in the project of Remote sensing assessment and capacity building for sustainable development in Hindu Kush Himalayan region will include data sharing, SDGs progress monitoring and assessment, and training on a newly designed and developed web-based platform.

What were the key challenges faced by the Initiative in the 2020-2022 period?

- The establishment of close cooperation with countries in the region involved in IPS, and the application of earth observation data, technologies and products.
- Affected by COVID-19, on-site training activities are very difficult. A new training organization mode of "on-site + online" has gradually developed.
- DR is a new formed Working Team. Working priorities and main focusing areas were identified. But inner initiative was not yet formed to a close and smooth mechanism.

What changes are proposed for the next planning period?

- Strengthen the internal mechanism construction. Through the internal mechanism/initiative/project to support local, member countries or region for disaster risk monitoring and disaster emergency response using EO technology.
- 'Online training' mode has become a major trend. In the next planning stage, in order to improve the training effect and summarize the training results, excellent online training software platform, classic courses, outstanding trainers, training management and effect evaluation system are extremely necessary.
- Combine the localized data, technologies and platform systems with in-depth participation of local partners, aiming to help earth observation technology truly serve local economic and social development, climate change response and ecological environment protection.

Capacity Development

Does the Regional GEO have a documented strategy for capacity development?

No

At which levels of capacity development does the Regional GEO develop specific actions?

- Individual (training, workshops, etc.)
- Organizational (provision of tools, services or information to enable better decision making within organizations)

Please provide some examples of activities organized by the Regional GEO since 2019 to develop individual capacity.

- Training workshop to promote EO applications capacity for regional countries at AOGEO workshop.
- An e-learning & workshop for candidates of "Facilitators" was held in Davao City, Philippines, for about a month from April 19 to May 17, 2021, in cooperation with the Department of Science and Technology Region 11 (DOST XI). The workshop took place as one of the activities organized by the platform on water resilience

and disasters with the aim of fostering local Facilitators by utilizing the OSS-SR developed on DIAS. The OSS-SR for Davao City is designed to integrate knowledge and information on real-time flood forecasting and climate change impact assessment and allow local stakeholders to learn about them through e-learning.

Please provide some examples of activities organized by the Regional GEO since 2019 to develop organizational capacity.

- A series of e-learning and workshops on “Strengthening Water-related Disaster Resilience and Achieving Sustainable Development under Climate Change by ALL” was held from October 5 to November 5, 2021, in cooperation among the governmental organizations for Indonesia and Japan.
Indonesia: the Ministry of Public Works and Housing (PUPR), the National Disaster Management Authority (BNPB), the Agency for Meteorology, Climatology, and Geophysics (BMKG), the Ministry of Environment and Forestry (KLHK), and the Ministry of Agriculture (KP) and the National Institute of Aeronautics and Space (LAPAN).
Japan: the Secretariat of the Water Cycle Policy Headquarters of the Cabinet Secretariat, the Ministry of Land, Infrastructure, Transports and Tourism (MLIT), the Japan Meteorological Agency (JMA), the Japan Water Agency (JWA), the Japan Aerospace Exploration Agency (JAXA), Tohoku University, and International Centre for Water Hazard and Risk Management (ICHARM).
- Focus on regional hot issues under the three frameworks of '2030 Agenda for Sustainable Development', 'Paris Climate Agreement' and 'Sendai Framework' to explore the needs of earth observation services for regional sustainable development goals.
- Himalayan GEOSS launched Regional Centre for Capacity Development in collaboration with ICIMOD, AIRCAS and NRSCC.
- Series of Trainings supported by China in Hyderabad, Antananarivo, Deqing, Kathmandu, Vientiane, Colombo, Beijing and online training were held since 2017. More than 500 young scientists were trained. Trainee representatives, from Nepal, Egypt, Nigeria, Pakistan and Ethiopia, attended the opening ceremony on-site in Beijing of China. More than 500 young scientists were trained, more than 240 trainees from 24 countries registered and attended the online training course, including Pakistan (22.8%), Nepal (17.8%), Afghanistan (6.5%), Bangladesh (7.7%), Sri Lanka, Nigeria, Rwanda, Ethiopia, and Iran etc. Statistics show that 38% of trainees are female and young participants under the age of 35 account for 81%.

Are there any lessons learned from its experience with capacity development that the Regional GEO would like to share?

Yes

Please describe these lessons learned or upload one or more relevant documents.

ICHARM Newsletter

<https://www.pwri.go.jp/icharm/publication/index.html>

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No.63 (January 2022) Volume 16 No.4

- [icharm_newsletter_issue61.pdf](#) ([link](#))
- [icharm_newsletter_issue63.pdf](#) ([link](#))

Governance

Please describe the governance structure of the Regional GEO, including the relationship with the Regional Caucus and the mandates of steering/advisory/management committees, if applicable.

- no answer given -

- [aogeo_governance_structure.png](#) ([link](#))

How frequently does the Regional GEO steering committee (that is, the primary governance body of the Regional GEO other than the GEO Caucus) meet, including virtually

- Monthly

What is the level of engagement of the Regional GEO steering committee?

- Very engaged

Please provide more detail on why you selected the above answer.

- no answer given -

How frequently does the Regional GEO send communications to all GEO Principals in the Region?

- At least once per year

What methods are most frequently used for communications with GEO Principals in the Region?

- Website/blog

How frequently does the Regional GEO send communications other stakeholders in the Region?

- At least twice per year

What methods are most frequently used for communications with other stakeholders in the Region?

- Website/blog

Is there a Secretariat or similar body that supports the Regional GEO?

Yes

Please describe this body and its roles/functions, and upload related documents.

- no answer given -

- no supporting documents provided -

Participants

Please list the active individual participants in the Initiative

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Data and Knowledge Sharing

Does the Regional GEO have its own policy regarding data sharing or data management (that is, other than the GEO Data Sharing Principles and Data Management Principles), or has it developed practices regarding data sharing or data management to adapt the GEO Principles to Regional needs or circumstances?

Yes

Please describe these policies or practices.

AOGEO recognizes that the societal benefits arising from Earth observations can only be fully achieved through the sharing of data, information, knowledge, product and services. AOGEO implement the GEOSS Data Sharing Principles and promote the implementation of the GEOSS Data Management Principles and Open knowledge statement. Noting the complexity of these tasks, AOGEO prioritizes access to and recommends the creation of Analysis Ready Data, such as those described in the CEOS Analysis Ready Data for Land or CARD4L standard. AOGEO also recommends the usage of a standardized license to enact the GEO data sharing, such as the Creative Commons Attribution International 4.0 or CC-BY license. AOGEO also ensures that all activities and data it discovers can be accessed via the global GEOSS in addition to regional mechanisms.

Data sharing infrastructures (to be continued)

? Data Integration and Analysis System (DIAS): <https://diasjp.net/en/>

? G-Portal: <https://gportal.jaxa.jp/gpr/?lang=en>

? Argo JAMSTEC

? China GEOSS DSNNet: <http://www.chinageoss.cn/en/index.html>

? Open Data Cube

? CNSA-GEO Platform (16 meter Gaofen Data Sharing System from CNSA) www.cnsageo.com

Has the Regional GEO undertaken any assessments of the extent to which Regional

GEO Members adhere to the GEO Data Sharing Principles and Data Management Principles?

No

Are any key datasets are managed by the Regional GEO?

No

Have any data/information/knowledge infrastructures been developed to support the Regional GEO and/or its Members?

Yes

Please identify the relevant infrastructure(s) and describe its purpose and scope, and upload relevant documents.

DIAS (<https://diasjp.net/en/>)

The Data Integration and Analysis System (DIAS) is an advanced, GEOSS-compliant e-infrastructure that addresses the challenges of a large increase in the volume of Earth observation data by developing a core system for data integration and analysis.

China GEOSS DSNet (<http://www.chinageoss.cn/en/index.html>)

ChinaGEO has developed ChinaGEOSS Data Sharing Network (DSNetwork), which is the main portal of ChinaGEOSS. 12 satellites centers around China have been connection as sub-center of ChinaGEOSS DSNetwork. There are more than 50 millions of Chinese satellite images can searched in this on-stop portal, and more than 900 value-added datasets can be discovered from it. DSNetwork played as the ChinaGEO node in GEODAB system, and has contributed more than 3 millions images to GEO Portal. It also played as the main Chinese data faclitie to serve for AOGEO. There are nine datasets have been provided to AOGEO DataHub for IPS study.

CNSA-GEO is another ChinaGEO data portal contribued by China National Space Agency. Millions WFV imagery from GF-1/6 can be accessed through it.

EMP Constantly Released Annual reports and Datasets on Global Terrestrial Ecosystems, Typical Lakes, Eurasian Grassland and Food Security to support Sustainable Development Goals
(https://www.earthobservations.org/geo_blog_obs.php?id=540)

Download: <http://www.chinageoss.cn/geoarc/en/>

- no supporting documents provided -

List of co-editors for this initiative

- no answer given -

Please describe how this infrastructure relates to the GEOSS Platform and/or other GEO infrastructural components, and upload relevant documents.

- no answer given -

- no supporting documents provided -