

第12回アジア・オセアニアGEOシンポジウム 開催結果



2019年11月29日

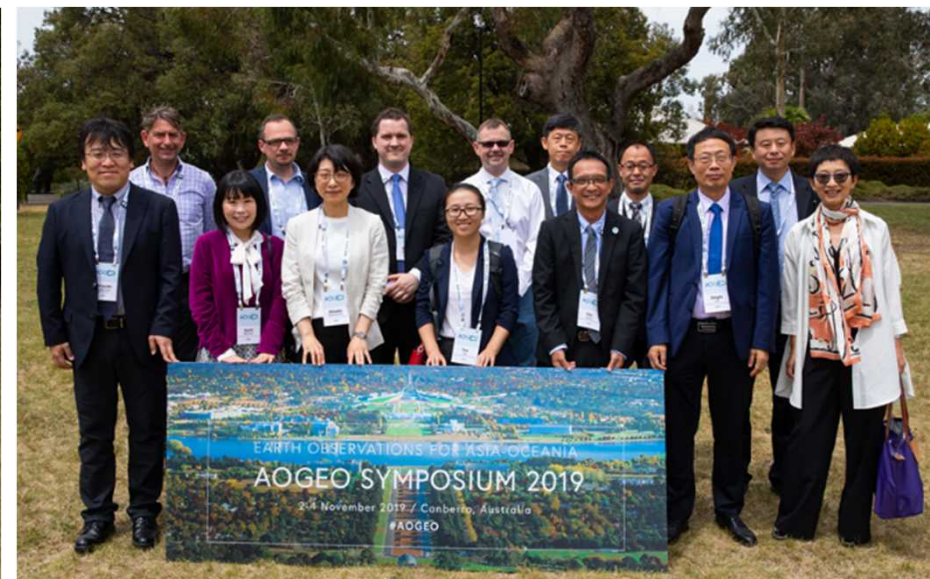
文部科学省 研究開発局 環境エネルギー課



文部科学省

MINISTRY OF EDUCATION,
CULTURE, SPORTS,
SCIENCE AND TECHNOLOGY-JAPAN

- (1) 期 間： 2019年11月2日(土)～4日(月)
- (2) 場 所： オーストラリア国立大学ユニバーシティ・ハウス（豪州）
- (3) 主 催： 豪州地球科学機構(GA)、GEO事務局、文部科学省
- (4) テ ー マ： 地球観測の活動の成果を全てのアジアオセアニア地域へ
 – 成果の共有とグローバルアジェンダへ取り組むための将来のデザイン
 (Scaling up successful Earth Observation activities for all of Asia-Oceania
 Share the results and design the future steps for global agendas)
- (5) 出席者： 35か国、約200名
 (日本、豪州、カンボジア、中国、インドネシア、韓国、ネパール、ニュージーランド、ミャンマー等)



1. 基調講演

豪州GEO政府代表のスチュアート・ミンチン氏(GA)より、基調講演が行われた。

- ◇ 豪州が推進する、デジタル・アース・オーストラリア及びデジタル・アース・アフリカの成果共有。
- ◇ 今後は、デジタル・アースを太平洋島嶼国でも推進していく。
- ◇ データ共有の促進と、前処理済データ（Analysis Ready Data）の更なる整備が望まれる。



2. 特別セッション 1 : どのようにグローバルな課題を踏まえてローカルな意思決定を向上すべきか

分野横断的に取り組むケーススタディであるIntegrated Priority Studies (IPS)と、その小規模パイロットスタディーについて、紹介と協力の呼びかけが行われた。

- ◇ IPS : メコン川流域、小島嶼国、ヒマラヤ山脈
- ◇ IPSパイロットスタディー : メコン川デルタ、サモア、カンチエンジュンガ山域



3. 特別セッション 2 : クロスカッティングなデータとプラットフォーム

データ共有とプラットフォーム活用について、意見交換が行われた。

- ◇ AOGEOにおける著作権の考え方として、クリエイティブ・コモンズを検討。
- ◇ AOGEOにおける地球観測データを扱える人材育成活動の紹介。

4. 特別セッション 3 : どのようにGEOとAOGEOの相乗効果を創出するか

GEOとAOGEOがより相乗効果を創出するための道筋について、意見交換が行われた。

- ◇ GEOGLAMとAsiaRiCE、GEOBONとAP-BONの成功事例の紹介。
- ◇ 欧州のHorizon 2020の研究開発助成プロジェクト「e-Sharpプロジェクト」の紹介。
- ◇ EuroGEO、AmeriGEO、AfriGEOとの対話も強化していくことが有効との意見等。



5. 分科会

以下の各分科会が開催され、TG1～TG5は我が国の研究者が共同議長を務め、議論を牽引した。また、TG2・3、TG1・5・6、TG6・7、TG6・9は、それぞれ合同セッションも開催した。

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|-----------------------------------|----------------------|
| ◇ TG1 : GEOSSアジア水循環イニシアティブ (AWCI) | ◇ TG6 : 干ばつモニタリングと評価 |
| ◇ TG2 : 生物多様性観測網ネットワーク (AP-BON) | ◇ TG7 : 環境モニタリングと保護 |
| ◇ TG3 : GEO炭素・GHGイニシアティブ | ◇ TG8 : 災害強靱性 |
| ◇ TG4 : 海洋・沿岸・島嶼 (OCI) | ◇ TG9 : ヒマラヤGEOSS |
| ◇ TG5 : 農業と食料安全保障 (Asia-RICE) | |



6. 「キャンベラ宣言2019」の採択 別紙

AOGEO全体として、この1年の成果を総括し、今後取るべき活動を示す「キャンベラ宣言2019」が採択された。

- ◇ 持続可能な開発 (SDGs) への貢献
- ◇ 気候変動 (国連気候変動枠組条約) への貢献
- ◇ 防災 (仙台防災枠組) への貢献
- ◇ Integrated Priority Studies (IPS)を通じた活動拡大
- ◇ データ共有とプラットフォーム
- ◇ ユーザー連携と能力開発



7. AOGEOフェロー

小池俊雄氏 (ICHARM) に、初のAOGEOフェローが授与された。

8. 次回シンポジウム

第13回AOGEOシンポジウムは、2020年9月に東京にて開催予定。



2019 AOGEO Statement

Canberra, Australia

November 4th, 2019

Overview:

1. In 2019, AOGEO transitioned from establishment to delivery, achieving tangible impact on our core goal and tagline, “Earth Observations for Asia Oceania”:
 - 1.1. We brought together over 325 people from 35 countries in two flagship forums and 4 training courses across our region
 - 1.2. We continued to grow GEO focusing on the connection with end users by recruiting two new countries into AOGEO (Indonesia and New Zealand), establishing a new Disaster Resilience task and launching three Integrated Priority Studies led by end users in pilots for Samoa, the Mekong River delta and the Kanchenjunga Landscape
 - 1.3. We welcome the recent move by the agencies who conduct Earth observations in the Asia-Oceania region, particularly space agencies, who release new data, information and knowledge to benefit policy and actions
2. This Statement is adopted to recognize the ongoing efforts of and the future plans for the Asia-Oceania Group on Earth Observations (AOGEO). Our forums in 2018/19 have included the:
 - 2.1. 12th AOGEO Symposium (2-4 November Canberra, Australia) including the sectorial meetings of nine Task Groups (TG, see Background) with over 200 participants from 35 countries
 - 2.2. 2nd AOGEO Workshop (10-11 April, Jakarta Indonesia, 54 participants from 10 countries)
 - 2.3. Four AOGEO capacity building activities (Nepal, Laos, Sri Lanka and Indonesia with over 75 participants from 12 countries)
3. The year 2018-2019 was marked by the series of events and reports which further demonstrated the vulnerability of Asia Oceania and the increasing threats to our environment. Earth observation was fundamental to the conclusions drawn in a number of reports including: the series of IPCC Special Reports, the IPBES Global and Regional Assessment Report on Biodiversity and Ecosystem Services and the Hindu Kush Himalaya Assessment report by ICIMOD all reported the rapid and unprecedented changes in the climate, biodiversity and the possible consequences; G20 Osaka Summit included in its Declaration the Osaka Blue Ocean Vision, which commits to reducing additional marine plastic waste to zero by 2050; the several extreme weather events caused damage around the world. The world must take responsible actions addressing climate change urgently.

Contributes to 2030 Agenda for Sustainable Development:

4. AWCI launched full-scale efforts to activate Platforms on Water Resilience and Disasters by promoting dialogues, reinforcing partnership, sharing data, information, models, tools, experiences and ideas, and expanding sustainable practices. APBON emphasized the need to promote the harmonization of activities that contribute to achieving SDGs (13, 14, 15) by identifying the synergies and trade-offs of ecosystem services and societal requirements. OCI promoted better access to marine data through: interoperability and standardisation of data and validation of satellite based marine and coastal products. For the Mekong and Pacific Island IPS, OCI addresses IUU (Illegal Unreported Unregulated) fishing (SDG14. 4 and 6) and coastal pollution including marine plastics (SDG14.1). AsiaRiCE particularly addresses the issues of SDGs 1, 2, 13, 15 and 17 through better agri-food policy implementation by improving the outlook of crop production, precision agriculture, development of decision-support systems and early warning systems in cooperation with the ASEAN Food Security Information System (AFSIS). The Drought Monitoring task make drought indicator data and algorithms available to improve the understanding, monitoring and forecasting of drought, and to increase the capability for mitigation of drought impacts, linked to SDGs 1, 2, 6, 8, 11, 13, 15, 16 and

17. EMP directly addresses the issues of SDG 3, 6, 7, 11, 13, 14, 15 and 17 that monitor the terrestrial ecological and atmospheric environmental conditions with multi-source EO data, and provide annual reports for sustainable ecosystems, clean air, clean water, clean energy, sustainable cities and communities to support evidence-based decision making for environmental protection.

Contributes to Paris climate agreement within the UNFCCC:

5. AWCI has developed user-friendly analysis tools and engaged all stakeholders in climate change adaptation planning and implementation at the national scale, and filled the gap between adaptation and mitigation by choosing options which are beneficial to mitigation. GEO-C has harmonizing the increasing number of platforms (e.g. remote sensing, in-situ observations, and inventories) for monitoring GHGs in Asia-Oceania. We seek to reduce uncertainties in their sources and sinks to support the ultimate goal of reaching zero net emission as required by the Paris Agreement. Relevant institutions and agencies for GHG observations and analyses will cooperate to support reporting regional GHGs budgets, tracking sources and removals as contributing to the Global Stocktake Process. AsiaRiCE reduced methane emissions without reducing the productivity of rice production in the AO region. Data and algorithm in the Drought Monitoring task will contribute to all targets in the Paris Agreement. As vegetated ecosystems are an important carbon sink, EMP developed products related to ecosystem status and atmosphere conditions, and to evaluate the environmental responses and feedback to climate change. Himalayan GEOSS is an important instrument for promoting generation and sharing of information on glacier melt, disaster risk reduction and biodiversity to support the call for climate actions by HKH Assessment Report.

Contributes to Sendai Framework for Disaster Risk Reduction:

6. AWCI archived disaster damage data and maintains statistics for encouraging investment for water-related disaster risk reduction. For risk managers of water-related disasters, it is important to understand the impact of drought and flood on agriculture using EO data in the activities of AsiaRiCE and Drought Monitoring.

7. The Disaster Resilience task was established. It is developing a 3-year work programme that will focus on disaster risk reduction. This aims to support our Integrated Priority Studies and will link to other related activities within GEO and organisations such as CEOS and the United Nations.

AOGEO promotes concerted actions among stakeholders on resilience, sustainability, inclusive growth, and adaptation to climate change through coordination towards achievement of the three global agendas.

Scaling up through our Integrated Priority Studies:

8. The IPS exemplify the potential benefits that cross-cutting efforts bring as well as inter-disciplinary study, co-design and co-production. Achievements towards Aichi Target 11 in the ASEAN region demonstrate gains and gaps in each of the target deliverables and provided some recommendations towards a post 2020 target on protected areas. These initiatives enable APBON's objective on data sharing and contributions to regional assessments intended as the basis of future policy and action. For the Mekong, space based rice crop growth information by using the Vietnam Data cube was reported in the CEOS 2019 plenary in Hanoi, Vietnam and it is a good example to show the necessity to coordinate in-situ observation and validation / comparison activities among related countries. We shall report on the IPS findings in a special issue of the Journal Remote Sensing on Earth Observations in Asia-Oceania in late 2020

Cross cutting topics: Data sharing and platform:

9. AOGEO recognises that open Earth observations are a continuum and we support the efforts made by all members of our region towards the most accessible, highest quality and trusted open Analysis Ready Data (ARD) as well as the integration approaches of in-situ data, so that we can all benefit.

10. Through the establishment of the IPS Pilots we have demonstrated the benefit of a data sharing platform and

infrastructure and we have continued discussions towards the roll out of an enduring AOGEO Data Hub for open ARD in our region. The roll out of Open Data Cubes within Asia Oceania continues to grow with over ten AO countries now operating or planning deployments. Finally, Japan's DIAS continues to grow and China is ramping up its development of the Spectrum Earth platform.

11. In addition to the accumulated and integrated efforts to publicize in-situ Earth observation data through suitable international and intergovernmental frameworks, the space agencies of China, Republic of Korea and Japan will release satellite Earth observation data in 2019-2020:
 - 11.1. Japan has been publishing data from 10 Earth observation satellites, such as GCOM-W, GCOM-C, and GPM and also the dataset such as the Global Mosaic dataset by Japanese L-band SAR satellite data from JERS-1/ALOS/ALOS-2 continuously. In addition, Japan is planning to distribute L-band SAR satellite data. This data is key particularly in the tropics where cloud cover hinder optical sensors; thus Radar satellites assure key data to historical time series for various decision-making.
 - 11.2. Republic of Korea provides high resolution KOMPSAT data for the IPS with the initial focus on: the Mekong River Basin, Pacific Island and Himalayan Mountains. The KOMPSAT data consists of high resolution optical and SAR measurements. It is useful for applications such as environmental change detection and disaster monitoring. KOMPSAT data is also important to measure the SDGs on a household level such as for Samoa.
 - 11.3. China has fully opened the Wide Field Camera archives and future acquisitions of its GF 1 and 6 satellites for the IPS. These 800km swath 16m data, in conjunction with existing open data, will significantly increase the temporal revisit of traditional agricultural scale time series applications.
12. Linking in-situ and satellite observation data on physical, chemical and biological observations enables us to tackle environmental issues of different scales from local, national to regional. Accessibility and interoperability of various in-situ observation data from different themes on our environment, and establishing platforms for integration, are critical to achieving GEO's aims.

Connecting with users and capacity building:

13. Regional efforts deliver tangible results in promoting and accelerating better use of Earth Observation: geographical and cultural proximity, opportunities for co-design and co-production, access to regional funding mechanism to name a few. AOGEO will promote further communication with GEO and with the other regional GEOs.
14. To effectively link our effort to GEO's global efforts and to connect the entire GEO community to end users within Asia Oceania we have directly connected 9 of our 12 tasks to existing global programs and have begun holding co-design workshops with end user communities such as the EO for Pacific Workshop held in Brisbane October 2018.
15. AOGEO shall enhance user engagement in the process of scaling-up IPS projects by identifying and reviewing the user needs in our region. Capacity development will be key for the task groups in the 2020-2022 GEO Work Programme and contribute to accelerate the transformation from data to knowledge by conveying expertise, datasets and information services.
16. The 3rd AOGEO Workshop will be held in Changzhou, China in April/May and the 13th AOGEO Symposium in Tokyo, Japan in September 2020.

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. Earth Observation 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 Earth observation 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 Earth observations 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.

Mapping AOGEO TG Activities with GEO Priorities

GEO Priorities		Cross-Cutting Areas	TG1	TG2	TG3	TG4	TG5	TG6	TG7	TG8	TG9	TG10	TG11	TG12
SDGs	1.NO POVERTY		3	2	0	0	3	2	0	2	0	1	1	1
	2.ZERO HUNGER		3	3	0	0	3	2	0	1	1	1	1	2
	3.GOOD HEALTH AND WELL-BEING		1	3	1	1	1	1	3	1	0	1	1	1
	4.QUALITY EDUCATION		2	2	2	2	1	0	1	0	0	0	0	1
	5.GENDER EQUALITY		2	2	0	1	1	1	1	0	0	1	1	2
	6.CLEAN WATER AND SANITATION		3	3	2	1	1	2	2	1	0	2	2	3
	7.AFFORDABLE AND CLEAN ENERGY		1	2	2	0	1	1	3	0	0	1	1	1
	8.DECENT WORK AND ECONOMIC GROWTH		1	1	1	1	2	2	1	0	0	1	1	1
	9.INDUSTRY, INNOVATION AND INFRASTRUCTURE		2	1	1	2	2	0	1	2	0	1	1	1
	10.REDUCED INEQUALITIES		1	2	0	2	2	1	0	0	0	1	1	1
	11.SUSTAINABLE CITIES AND COMMUNITIES		3	2	2	2	1	2	3	2	0	1	1	3
	12.RESPONSIBLE CONSUMPTION AND PRODUCTION		1	2	0	1	0	1	1	0	0	1	1	1
	13.CLIMATE ACTION		3	3	3	3	3	2	3	2	1	1	1	3
	14.LIFE BELOW WATER		1	3	2	3	0	1	1	1	0	1	1	1
	15.LIFE ON LAND		3	3	2	1	3	3	3	2	2	1	1	2
	16.PEACE, JUSTICE AND STRONG INSTITUTIONS		2	2	0	2	0	2	0	0	0	0	0	1
	17.PARTNERSHIP FOR THE GOALS		3	3	2	3	3	3	3	2	0	1	1	3
Paris Agreement	Adaptation		3	3	2	1	3	3	1	1	0	1	1	2
	Loss & Damage		3	3	1	1	0	3	3	3	0	1	1	2
	Capacity Development/Technology Transfer		3	3	2	2	0	3	2	2	2	2	2	3
	National Reporting/Global Stocktake		1	3	3	1	0	2	3	1	0	2	2	1
	Mitigation		2	2	3	1	0	3	1	0	0	1	1	1
Sendai Framework	Understanding disaster risk		3	3	3	1	1	3	2	3	1	2	2	2
	Strengthening disaster risk governance to manage disaster risk		3	3	0	1	1	3	1	2	0	1	1	2
	Investing in disaster risk reduction for resilience		3	2	0	1	1	3	1	1	0	2	2	2
	Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction		3	2	0	0	0	3	1	2	1	2	2	2
	Data Sharing Infrastructure		3	3	3	3	3	3	3	2	2	3	3	3
	User Engagement and Communication		3	3	2	3	3	2	3	3	2	3	3	3
Total:			65	69	39	40	39	57	47	36	12	36	36	51

*Scoring: 0=Do nothing, 1=less active, 2=active ,3=very active

Mapping AOGEOS Initiative TG Activities with GEO Priorities
Task Group 2: AP BON(at 11th AP BON meeting)

GEO Priorities	Terrestrial		Freshwater		Marine	
	Score	Keywords	Score	Keywords	Score	Keywords
1.NO POVERTY	1	eco-tourism, local indigeneous people, job opporotunity, community forestry	2	aquatic resources, eco-tourism, hydropower	2	Food provision, job opportunity, eco-tourism,
2.ZERO HUNGER	1	pollinating service, local indigeneous people, job opporotunity, community forestry	3	aquatic resources, drinking water	2	Food provision, job opportunity, Sustainable use of natural resources
3. GOOD HEALTH AND WELL-BEING	2	alergy, avian flu, nipah virus, phenology, traditional medicine, clean air, clean water, cooling temperature	3	drinking water, daily life water	2	higher Food quality, happier life due to cultural ecosystem services,
4.QUALITY EDUCATION	2	capacity building, citizen science, zoo and botanical garden, biosphere reserve, long-term data and knowledge for good education and researchers	1	environmental education	1	Outreach and awarness of surrounding nature
5.GENDER EQUALITY	1	opportunity to produce goods from natural resources	0	N/A	2	Equal job opportunities and in nature related activities
6.CLEAN WATER AND SANITATION	2	water purification, water regulation	3	drinking water, daily life water	1	Regulating Ecosystem Service/Functions
7.AFFORDABLE AND CLEAN ENERGY	1	clean energy, hydropower, bio fuels -- assessment environmental impacts	2	hydropower, micro-hydropower	1	Biofuels (algae)
8.DECENT WORK AND ECONOMIC GROWTH	1	sustainable growth - green growth - decoupling economic growth and environmental degradation, environmental accounting	1	sustainable economic growth	1	Community-based management, Strengthening EIA processes; Eco-tourism
9.INDUSTRY, INNOVATION AND INFRASTRUCTURE	1	bio-cosmetic, drug development, bio prospecting, green infrastructure, e-DNA, agro-forestry, biodiversity monitoring using cutting-edge technologies	0	N/A	0	Bio-prospecting; Mainstreaming biodiversity
10.REDUCED INEQUALITIES	2	Nagoya protocol ABS, capacity building	1	Nagoya protocol (ABS)	1	Gender equality in research (e.g., women, children assessment on gleaning activities), Focus on marginalized sectors, broad-scale analysis (wider geographic researches)
11.SUSTAINABLE CITIES AND COMMUNITIES	2	parks - education, gathering people, protection of biodiversity, MAB project, smart city, green city	1	protection of biodiversity	2	Biodiversity conservation, Recycling programs, Adaptive management options, Sustainable development
12.RESPONSIBLE CONSUMPTION AND PRODUCTION	2	biodiversity trade and footprint, fair-trade certificate, reducing plastics	2	biodiversity trade and footprint, fair-trade certificate	1	Reduce wastage, Green energy, green solutions, effective production process, sustainable food systems
13.CLIMATE ACTION	3	restoration, carbon sequestration, cooling temperature, monitoring biodiversity	2	reduce CO2 by hydro/microhydro-power	2	Adaptation, Mitigation, Climate smart agriculture
14.LIFE BELOW WATER	3	long-term monitoring of species loss, environmental change, species trends, ecosystem fragmentation, phenology, reducing plastics	3	freshwater/inland-water ecosystem	3	Biodiversity, Ecosystem services, Ecosystem functions, Conservation, Food provisioning
15.LIFE ON LAND	3	long-term monitoring of species loss, environmental change, species trends, ecosystem fragmentation, phenology	2	freshwater/inland-water ecosystem	1	Disaster Risk Reduction, Ridge to Reef / Hilltops to Oceans, Water quality, Coastal Integrity Vulnerability assessment
16.PEACE, JUSTICE AND STRONG INSTITUTIONS	1	trans-boundary governance of natural resources, adaptive management	2	transboundary governance of natural resources, especially transboundary rivers	1	United Nations Convention on the Law of the Sea; Responsible coastal governance, Equitable use of resources
17.PARTNERSHIP FOR THE GOALS	3	networking science, society and policy	2	networking science, society and policy	3	Regional collaboration multilateral transboundary arrangements
Adaptation	3	Ecosystem-based adaption, protected area, eco-DRR	2	Ecosystem-based adaption, protected area, eco-DRR	2	co-management; risk management
Loss & Damage	3	in-situ long-term monitoring of biodiversity and services, prediction of the changes	2	in-situ long-term monitoring of biodiversity and services, prediction of the changes	2	vulnerable countries; recovery planning
Capacity Development/Technology Transfer	3	networking research collaboations and deliver the knowledge & information	2	networking research collaboations and deliver the knowledge & information	2	South-south cooperation; training needs assessment
National Reporting/Global Stocktake	2	Carbon accounting -- biomass, soil carbon, blue carbon	1	Carbon accounting	2	Biodiversity trends; Drivers of biodiversity loss; Species distribution
Mitigation	3	REDD+, restoration, ex-situ conservation but limited, preference for in-situ conservation	2	reduce CO2 by hydro/microhydro-power, restoration, ex-situ conservation	1	Blue Carbon Accounting/Offsets; Restoration of Ecological Habitats;Coastal restoration and conservation
Understanding disaster risk	3	phenology monitoring for early warning of wild fire and drought	3	Floods/drought and their measures, Eco-DRR, Green infrastructure	2	Tsunami, Early warning system, capacity building
Strengthening disaster risk governance to manage disaster risk	2	MAB, adaptive governance restoration after the disaster, social capital, social memory			2	Early warning system, capacity building
Investing in disaster risk reduction for resilience	1	eco-DRR			2	Early warning system, capacity building, outreach and education
Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction	1	green infrastructure			2	Early warning system, capacity building, outreach and education
Cross-Cutting Areas	Score	Keywords	Score	Keywords	Score	Keywords
Data Sharing (Infrastructure)	3	GBIF, ABCDnet, Data papers and Data repository, ILTER-DEIMS, Data-ONE, Asian CHM, Phenological Eyes Network, Mybis, GEOS Portal, Biodiversity Center's portal site	3	GBIF, Data papers and Data repository	3	
User Engagement and Communication	3	GEO BON, Regional BONs, National BONs, ILTER	2	GEO BON, Regional BONs, National BONs	3	
Total:	58		47		49	

*Scoring: 0=Do nothing, 1=less active, 2=active ,3=very active

Mapping AOGEOSS Initiative TG Activities with GEO Priorities

GEO Priorities		Cross-Cutting Areas	TG1	TG2	TG3	TG4	TG5	TG6	TG7	TG10	TG11	TG12
SDGs	1.NO POVERTY		3	3	0	0	3	1	0	1	1	1
	2.ZERO HUNGER		3	3	0	0	3	1	0	1	1	2
	3.GOOD HEALTH AND WELL-BEING		1	3	1	1	2	1	0	1	1	1
	4.QUALITY EDUCATION		1	2	2	2	0	1	0	0	0	1
	5.GENDER EQUALITY		2	1	0	0	0	1	0	1	1	2
	6.CLEAN WATER AND SANITATION		3	3	2	1	2	1	1	2	2	3
	7.AFFORDABLE AND CLEAN ENERGY		2	3	2	0	1	1	1	1	1	1
	8.DECENT WORK AND ECONOMIC GROWTH		1	2	1	1	3	1	0	1	1	1
	9.INDUSTRY, INNOVATION AND INFRASTRUCTURE		2	1	1	0	2	1	0	1	1	1
	10.REDUCED INEQUALITIES		1	2	0	0	2	1	0	1	1	1
	11.SUSTAINABLE CITIES AND COMMUNITIES		3	3	2	1	0	1	1	1	1	3
	12.RESPONSIBLE CONSUMPTION AND PRODUCTION		1	3	0	1	0	1	0	1	1	1
	13.CLIMATE ACTION		3	3	3	3	3	1	2	1	1	3
	14.LIFE BELOW WATER		2	3	2	3	0	1	0	1	1	1
	15.LIFE ON LAND		3	3	2	1	3	1	3	1	1	2
	16.PEACE, JUSTICE AND STRONG INSTITUTIONS		1	1	0	0	0	1	0	0	0	1
	17.PARTNERSHIP FOR THE GOALS		3	3	2	2	3	1	2	1	1	3
Paris Agreement	Adaptation		3	3	2	1	3	1	0	1	1	2
	Loss & Damage		3	3	1	1	0	1	0	1	1	2
	Capacity Development/Technology Transfer		3	3	2	2	0	2	2	2	2	3
	National Reporting/Global Stocktake		0	2	3	2	0	1	1	2	2	1
	Mitigation		2	3	3	1	0	1	0	1	1	1
Sendai Framework	Understanding disaster risk		3	3	3	1	0	2	0	2	2	2
	Strengthening disaster risk governance to manage disaster risk		3	3	0	1	0	2	0	1	1	2
	Investing in disaster risk reduction for resilience		3	3	0	1	0	1	0	2	2	2
	Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction		3	3	0	0	0	1	0	2	2	2
	Data Sharing Infrastructure		3	3	3	3	3	2	2	3	3	3
	User Engagement and Communication		3	3	2	3	3	2	2	3	3	3
Total:			64	74	39	32	36	33	17	36	36	51

*Scoring: 0=Do nothing, 1=less active, 2=active ,3=very active