Meeting Briefing of the GOSC SDG-13 CS International Workshop

Global Open Science Cloud Initiative (GOSC) SDG-13 Case Study

GOSC International Programme Office

Asian Institute of Technology Belt and Road Research Center

May 30, 2023

CATALOGUE

1. Introduction

The [Global Open Science Cloud (GOSC) SDG-13 International Workshop](#) was held during 16-18 May 2023 in Bangkok, Thailand. Convened by Computer Network Information Center, CAS (particularly the [GOSC International Programme Office](#), GOSC IPO), this hybrid event received support from the Committee on Data of the International Science Council (CODATA), National Research Council of Thailand (NRCT), Chinese Academy of Sciences (CAS), as well as START Regional Center for East Asia, and CAS-TWAS Network for Sustainable Development. We received about ninety registrations, and around fifty international experts joined this hybrid workshop.

2. Objectives and the Workshop setting

The GOSC SDG-13 International Workshop aims to strengthen social engagement within the SDG-13 community and promote mutual-beneficial collaboration between stakeholders. To this end, this workshop provided insightful presentations, in-depth discussions, and an interactive onsite visit to generate inspiring ideas for current GOSC collaborations with potential user groups while facilitating seamless communication among participants.

Table 1 Workshop Structure

Day 1, May 16, 2023	Day 2, May 17, 2023	Day 3, May 18, 2023
Opening Ceremony	Close-door core team Meeting	Onsite Visits
Reports + Q&A Sessions	Reports & Q&A Sessions	Closing Ceremony
Panel Discussion		

On the first day of the workshop, eleven presentations were given by invited speakers, highlighting various aspects of SDG-13 data resources, technologies, and showcases, with a particular focus on the Southeast Asian regions. Below is the detailed report information.

Table 2 Report Information

	Report Title	Speaker	Organization
1	Introduction to the GOSC Initiative	Lili ZHANG	Computer Network Information Center (CNIC), CAS
2	Progress Reporting of GOSC SDG-13 Case Study	Gensuo JIA	Institute of Atmospheric Physics (IAP), CAS
3	SDG-13: Progress in Thailand	Nareerat Panmanee	Office of Natural Resources and Environmental Policy and Planning, Thailand
4	Southeast Asia Regional Climate Change Information System	Jerasorn Santisirisomboon	Ramkhamhaeng University
5	Subseasonal to Seasonal Climate Prediction System and Applications	Kece FEI	Institute of Atmospheric Physics (IAP), CAS
6	Monitoring Natural Disasters with Big Earth Platform over Southeast	Li WANG Wanjuan SONG	Aerospace Information Research Institute (AIR), CAS

	Asia		
7	Progress Reporting of GOSC SDG-13 Research	Bapon Fakhruddin	Water and Climate Lead, Green Climate Fund
8	Changes in Slow Onset Climate Event in Thailand	Atsamon Limsakol	Environmental Research and Training Center, Thailand
9	Combing Remote Sensing and In-situ Data for the SDGs	Jianhui LI	Computer Network Information Center (CNIC), CAS
10	An Open-science Platform for SDG-13 Research in Southeast Asia	Ying ZHANG	Computer Network Information Center (CNIC), CAS
11	Open Science Cloud Federation: Technical Framework and Demonstration	Haiming ZHANG Yuepeng LI	Computer Network Information Center (CNIC), CAS

The subsequent panel discussions mainly focused on addressing the potential challenges in SDG-13 research, applying Open Science and emerging new technologies in relevant research, and exploring potential collaboration between and among multiple stakeholders.

Table 3 Panel Information

	Panel Participants	Topics
1	Lili ZHANG (chair), Gensuo JIA, Jerasorn Santisirisomboon, Bapon Fakhruddin (online), Robert Dobias, Li WANG	• The major barriers to promoting SDG-13 research in your data platform/initiative/ research • The most desirable/potential collaboration (i.e., data infrastructure, data resources, data services, data alliance, data commons, data ecosystem, etc.) based on your research experience? • Under the umbrella of open science, any suggestions for future SDG-13 research from the institutional/ infrastructure/ initiative level?
2	Monthip Sriratana (Chair), Wenchao Xue, Francis P. Crawley (online), Jianhui LI, Xiyan Xu, Robert Dobias	• Application needs and data gaps • Collaboration potentials and funding opportunities • Others

Followed close-door core team meeting featured collaborations on upcoming GOSC events, including preparation and engagement planning on the International Symposium on Open Science Cloud (ISOSC) (September 4-6, Beijing, China), the 2023 International Training Workshop on Open Science and SDGs (August 28 - September 9, Beijing, China), and the 2023 International Data Week GOSC session. Facilitated by CNIC (GOSC IPO) and CODATA, consolidated alignment in Southeast Asia will be highlighted through all these forthcoming events. Work meeting discussions also include interoperable technical framework design for Southeast Asian SDG-13 research, potential funding opportunities, and in-depth collaboration between Initiatives and IPOs for enhanced GOSC implementation. Moreover, GOSC representatives also visited the Asian Institute of Technology (AIT), warmly welcomed by the Belt and Road Research Center (BRRC) to several AIT

labs for sustainable development research featuring global strategies and particularly the Belt and Road regions.

3. Key Messages from the Workshop

3.1 On the Challenges and Opportunities for SDG-13 Research and Collaboration

- The primary obstacle for researchers to leveraging local experiences and data resources is the limited processing capacity and tool accessibility. Thus, conducting more hands-on workshops can help train local scientists, especially young researchers, on better utilizing the newly developed SDGs assessment platforms, converting valuable climate datasets to fit their models, and transferring massive data into knowledge and wisdom.

- For system developers, developing an integrated SDG platform is encouraged to be built within the Open Science framework. However, the main challenge lies in simplifying its operation to make it more user-friendly for professionals and non-professionals. To achieve this goal, system developers are encouraged to work together to integrate advanced technologies into the platform, enabling users to access and utilize SDG data easily.

- Since climate change affects everyone daily, the importance of public involvement in SDG-13 research and collaboration cannot be overstated. While it is important to have valuable datasets and advanced digital platforms, promoting their existence is crucial. We should avoid the situation that only a limited number of people are aware of or have access to available climate datasets. Therefore, it is necessary to raise public awareness of these platforms and portals.

- Spatial datasets alone are insufficient for comprehensive research. Ground-based services and validation from diverse countries and regions are necessary to reduce data bias and ensure the reliability of collected data. Collaboration among stakeholders is crucial for an improved data system, so organizations, countries, and regions need to collaborate to share data and request input tests openly.

- In addition, the discussion also touched upon some common challenges, including language barriers, funding limitations, data sensitivity, governance and bias, application needs, data gaps, and privacy concerns. These challenges presented great opportunities for collaboration among global stakeholders and emphasized the importance of open communication and open science under the umbrella of the GOSC Initiative.

3.2 On the Importance of Data Policies in Climate Change Crises

- Data science plays an essential role in climate change crises. Therefore, it is necessary to organize and use data in a timely and meaningful manner to prepare for and respond to crises.

- In addition to data tools and systems, relevant data policies should be in place to facilitate disaster recovery.

- Funding opportunities should be designed and implemented in inclusive and future-ended ways to embrace open science and SDGs research, within which robust metrics and evaluation cannot be overstated.

- Open Science is important in understanding data policy and sharing data with others. The

UNESCO Recommendation on Open Science provides a high-level international framework that emphasizes the values and principles of Open Science. To make science more accessible and shareable, an open framework should be designed to respond to SDG-13 crises.

• There can be potential collaborations between CODATA's International Data Policy Committee (IDPC) community and GOSC's SDG-13 community to investigate data policy relating to SDG-13. The alignment could facilitate the development of common standards and frameworks for data collection, processing, and dissemination in crises that can benefit both communities.

3.3 On the crucial role of GOSC in achieving the _UN SDGs_

• The GOSC Initiative aims to foster innovative scientific discoveries to address the UN SDGs by connecting research e-infrastructures and stakeholders worldwide in a dynamic Open Science environment. GOSC is a long-term scheme, and it is still in its early stage of operation. Nevertheless, we promote a broader international network, improve policy and technical interoperability, and strengthen collaboration among global stakeholders.

• GOSC is a collaborative and inclusive environment that aims to benefit various research communities and institutions. Our target users include but are not limited to researchers, organizations, funding agencies, policymakers, governments, industry sectors, citizen scientists, the public, and international partners. It is a win-win paradigm for all involved parties.

• The priority for SDG-13 climate research and collaboration is to co-build a trustworthy ecosystem among scientists, policymakers, funding agencies, and other stakeholders. This ecosystem should be interconnected, interoperable, inclusive, and sustainable to ensure its effectiveness. Moreover, this aligns with the GOSC mission to facilitate accessibility, interconnectivity, interoperability, and inclusiveness of worldwide research e-infrastructures for Open Science and international research collaborations. Through practical technical validations and demonstrations, GOSC will promote substantial collaboration with worldwide stakeholders under the spirit of open communication and Open Science.

3.4 On Future Action Plans

• To meet the long-term goals of carbon neutrality and net-zero GHG emissions, the next steps for Southeast Asian and global climate change action include accelerating the enactment of a climate change act, integrating nature-based solutions in policy implementation, widening disaster prevention and mitigation actions at the provincial/district level, and increasing the budget regarding community-based disaster risk prevention.

• Capacity building plays a crucial role in fostering sustainable and enduring partnerships. During the workshop, we discussed plans to increase academic exchanges and funding opportunities to facilitate collaborations towards achieving the SDGs in Southeast Asia.

• During the workshop, a consensus was achieved that the GOSC SDG-13 community will enhance cross-border, cross-domain, and cross-discipline collaborations. An open data-sharing platform will be jointly established, including systems for seasonal and sub-seasonal climate prediction and forecasting extreme weather events and natural disasters.

• This workshop tightens the connection between GOSC IPO and the START Regional Center for

East Asia, CAS-TWAS Network for Sustainable Development, and the Belt &Road Research Center, Asian Institute of Technology. They will join together to support SDG-13 research in ASEAN countries, thus helping to expand GOSC's regional and global influence.

4. Acknowledgment

5. Photos

Post of the Workshop

Workshop Co-chairs
(From the left to the right are: Professor Jianhui LI from CNIC, CAS, Professor Gensuo JIA from IAP, CAS, Professor Monthip Sriratana Tabucanon and Dr. Robert Dobias from NRCT)

Group Photo

AIT visit

Meet AIT experts

6. Contact

GOSC IPO – CODATA, The Committee on Data for Science and Technology

IPO email: gosc_ipo@cstnet.cn

For more about the Global Open Science Cloud (GOSC) Initiative

Please stay tuned at: https://bit.ly/3jwZHNg

Sign up to join GOSC at: https://bit.ly/GOSC-Sign-Up