Session title: Big Earth Data in Support of Land Degradation Neutrality

Session Organizer: International Research Center of Big Data for Sustainable Development Goals, Land Degradation Neutrality (GEO-LDN)

Short Description

Land degradation is a huge global challenge. 40% of the land has been degraded, directly affecting half of the global population, and about half of the global GDP (US$44 trillion) is threatened. Achieving "land degradation neutrality" by 2030 is one of the important SDG goals (SDG 15.3). It is of great value to make use of the advantages of earth observation and artificial intelligence to fill the gaps in large-scale data, methods and tools. The applicants of the conference have cooperated with UENP, GEO-LDN, PAGGW, and Mongolia in the early stage on SDG progress measuring, land degradation monitoring and decision-making support tool research and development.

Objectives

This session mainly focused on the theme of SDG progress measuring, land degradation neutrality and exchanged the application of big data in the monitoring and intervention. This session aims to demonstrate the usefulness of big earth data for SDG accountability, focusing on developing countries. The connections between technologies and the human sphere, considering socio-economic implications will be explored. By fostering discussions and sharing insights, this session will seek to identify concrete steps to mainstream big earth data into policy making, ensuring its effective integration into the decision-making process and implementation.

Expected Results

The expected result is a more stable and healthy Land Degradation Neutrality partner relation.

Agenda

Time 10:30-12:00, September 8th, 2023 Room: 307

Moderator:

LI Xiaosong

Professor

International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, CAS

LI Xiaosong, Ph.D., researcher of the International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, Chinese Academy of Sciences, member of Expert Group on UNEP Sustainable Development Goals progress measuring report, SDG 15 coordinator of "Big Earth Data Supporting the Sustainable Development Goals", member of the Working Group of the International Earth Observation Organization-Land Degradation Neutrality Initiative, and member of the Expert Group on China's voluntary LDN targets setting. He has been mainly engaged in research work in the direction of big earth data to promote the realization of sustainable development goals, remote sensing big data analysis and land degradation monitoring, and hosted over more than 20 major national science and technology projects. As an associate editor, he has published 4 books, published more than 70 research articles, and won 3 National and Ministerial and Provincial-Level Science and Technology Award.

Participants

Event 1 (10:30-10:45)

Measuring progress: water-related ecosystems and SDGs

Therese El Gemayel

Promamme Management Officer

United Nations Environment Programme (UNEP)

Therese El Gemayel is an environmentalist, passionate about improving the understanding and techniques related to environmental assessment and monitoring to address climate change, achieve sustainable development and advocate for circular economy.

Through leveraging her experience within the international community on sustainable development goals and environment, capacity building and statistics, she worked on several environmental projects. More closely, Therese is currently managing a project on circular economy at UNEP with the aim to build countries' capacities in measuring sustainable consumption and production, and waste indicators within the SDG framework. She is responsible for UNEP's Measuring Progress report series.

Therese holds an MSc in environmental sciences and an international business management diploma from McGill university. She is fluent in Arabic, English and French.

Event 2 (10:45-11:00)

Estimating carbon storage of desert ecosystems and the carbon sink potential by desertification control in China

WU Bo

Professor

Institute of Ecological Protection and Restoration, Chinese Academy of Forestry

WU Bo, researcher of the Institute of Ecological Protection and Restoration, Chinese Academy of Forestry, Executive Deputy Director of the Institute of Desertification, Director of the Key Laboratory of Desert Ecosystem and Global Change, National Forestry and Grassland Administration, Leader of the Innovation Team in Key Areas of the Ministry of Science and Technology, National Key Research and Development Program Chief Scientist of the project "Research and Demonstration of Key Technologies for Sandy Land Control in the Beijing-Tianjin-Hebei Sandstorm Source Area". Main research fields: desert ecosystem pattern and process, desert ecosystem response and adaptation to global change, desertification monitoring and evaluation, desertification prevention and control.

Event 3 (11:00-11:15)

Land degradation in Africa - an opportunity for research partnerships

Amos Tiereyangn Kabo-bah

Associate Professor, Co-Chair

Land Degradation Neutrality (GEO-LDN)

Amos Tiereyangn Kabo-bah is currently a Visiting Scientist under the CAS President's International Fellowship Initiative, PIFI. He is the Focal Person for the DBAR ICoE-Sunyani, Ghana. He is an Associate Professor for the Department of Civil and Environmental Engineering and the Dean for International Relations Office for the University of Energy and Natural Resources (UENR) in Ghana. He co-chairs the GEO Programme Board and the GEO Land Degradation Flagship. He has led to the hosting of a number of strategic conferences in Ghana such as: GEO Week 2022, Accra and UNOOSA Conference for Water Management Accra, 2022. He was Programme Committee Member for UNWDF 2023 in Hangzhou, China and Ocean Observations Conference 2019 in Hawaii, USA. He is also a steering committee member of the Global Climate Observing System (GCOS). He led to establishment of the Earth Observation Research and Innovation Centre in Ghana. He has a Doctoral Degree in Water Resources and Hydrology at Hohai University in Nanjing, China: Masters in Environmental Hydrology from University of Twente, the Netherlands, and BSc in Civil Engineering from the Kwame Nkrumah University of Science and Technology. He has 100+ publications in reputable international journals. He co-edited two books published with Elsevier - "Sustainable Hydropower in West Africa: Planning, Operation, and Challenges 2018" and "Pumped Hydro Energy Storage for Hybrid Systems 2022". His research interests spans between water-energy-food nexus, climate change, land degradation and restoration, varied satellite applications in support of the SDGs.

Event 4 (11:15-11:30)

Great Green Wall Initiative: an integrated response to the challenges of climate change, land degradation and biodiversity loss for resilient development of Sahelian landscapes

Marcelin Sanou

Chief of the planning, monitoring-evaluation and information management at the Pan-African Agency for the Great Green Wall

Mr Marcelin SANOU is Forest engineer. He also holds a :

- Advanced Diploma in Agronomic Sciences and Biological Engineering from Catholic University of Louvain, (Louvain La Neuve/Belgium,
- University Diploma on «Management of Protected Areas» from Senghor University of Alexandria

Mr. SANOU has participated in the implementation of development and environmental programs in his country, notably

- Environmental development program / Ecological monitoring and observatory network,
- Forest Development Project,
- Management forest and wildlife resources project Projet d'Aménagement des Ressources Forestières et Fauniques,
- National Action Plan for Wetland Management.

He was Program Manager "Database, S.I.G" at the National Direction of Water and Forests of Mali.

Since 2015, he has been Head of the Planning, Monitoring, Evaluation and Information Management Department at the Pan-African Agency of the Great Wall, responsible in particular for (i) strategic and operational planning, monitoring and evaluation of programs and projects, in conjunction with the National Structures of member countries of the Great Green Wall (ii) Implementing and operating the GIS/GGW Information System.

Event 5 (11:30-11:45)

Great Green Wall Experience within the Global Mechanism

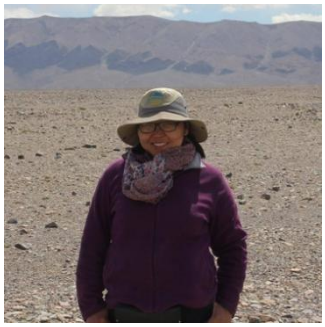
Gilles Amadou Ouédraogo

Programme Management Officer, Great Green Wall Accelerator, Global Mechanism, UNCCD

Gilles Amadou Ouedraogo is a Programme Management Officer within the Global Mechanism of UNCCD, more specifically within the Great Green Wall Accelerator. In this role, Gilles Amadou manages a project which supports the coordination and implementation of the Great Green Wall Initiative. He plays a key role in monitoring the progress of the world's largest Nature-Based solution towards land restoration, job creation and Greenhouse Gas sequestration in over eleven Sahel countries. In this role, Gilles Amadou streamlines regional support, project management, donor relations, partner engagement, strategic planning for the implementation of the GGW, as well as country support ranging from capacity building to benchmarking and impact measurement. He is keen on sharing his experience and learning from his peers during this Global Conference.

Event 6 (11:45-12:00)

State and dynamics of land degradation in Mongolia and LDN targets



Mandakh Nyamtseren
Senior researcher
Mongolian Academy of Sciences

Ms.Mandakh Nyamtseren is graduated from the Irkutsk State University, Russia in 2001 and since then worked at the Institute of Geography and Geoecology from research assistant to senior researcher. The major field of her research is desertification mapping and assessment, landscape ecology, land degradation and restoration, and land policy. In 2018 she defended her Ph.D. degree at the National University of Mongolia majoring in physical geography. During her research career, she published 8 books and more than 20 research papers, have participated in the implementation of the international and bilateral projects and programs. The major outcomes include the development of National Action Plan to Combat Desertification in Mongolia, National reports to UNCCD and UNFCCC, and various thematic maps supporting planning and implementation actions for biodiversity conservation, restoring land degradation and mitigating climate change targets. The latest accomplishment is related to developing National Target to Achieve Land Degradation Neutrality in Mongolia.

Event 7 (12:00-12:15)

Green belt in the Taklimakan Sand Sea

LEI Jiaqiang
Professor
Xinjiang Institute of Ecology and Geography, CAS

LEI Jiaqiang, male, born in July, 1961, is the Supervisor of PH.D student of Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences. Director of the Pan-African “Great Green Wall” Research Center, Xinjiang Institute of Ecology & Geography, Chinese Academy of Sciences. Director of the Base for International Science & Technology Cooperation of "Silk Road Economic Belt" Ecological Construction Technology Demonstration. Director of Alliance of International Science Organizations on Association for Combating Desertification (ANSO-ACD).

Lei's primary research focus lies in aeolian sand environments and sand prevention and control. He has been responsible for

overseeing the completion of more than 30 national, Chinese Academy of Sciences, and Xinjiang science and technology projects. He has been honored with 2 second-class National Science and Technology Progress Awards, 10 first and second-class provincial and ministerial science and technology progress awards, the National May Day Labor Medal, the National Model Worker in Sand Control, the National Excellent Scientific and Technological Worker award, the National Innovation Competition Award, the Chinese Academy of Sciences "Science Garden Famous Craftsman" title, the Xinjiang Science and Technology Progress Special Prize, and other honorary distinctions. He is also a recipient of the State Council's special government allowance.