Session title: Agenda 2030 and Sendai Framework Symbiosis and Geoinformatics Support

Session Organizer: **ICA Commission on Cartography for Early Warning and Crises Management; Nanjing Normal University; Masaryk University; Henan University**

Short Description

Many of the current activities are related to the 2030 Agenda (SDGs), but only a few are focused on the Sendai Framework for Disaster Reduction, which sets out goals and indicators to help measure disaster-related goals and targets in the Sustainable Development Goals of the 2030 Agenda. This session will explore the symbiotic relationship between Agenda 2030 and the Sendai Framework for Disaster Reduction, as well as their mutual data sharing and synergies. Support work and outcomes around important data such as the Global Map, the Global Spatial Data Infrastructure Initiative and Association (GSDI and GSDIA), the Global Integrated Earth Observing System (GEOSS), Digital Earth (DE), Copernicus and INSPIRE, as well as recent ground-breaking initiatives such as the United Nations Global Geospatial Information Management (UNGGIM) and the United Nations. The Digital "One Belt, One Road" will be discussed and exchanged towards the Sendai Framework and the medium-term implementation of sustainable development related goals.

Objectives

Explore symbiosis between Agenda 2030 and Sendai Framework. Enhance disaster-related goal measurement via mutual data sharing and geoinformatics support. Highlight key data sources (Global Map, GSDI, GEOSS, etc.). Discuss "One Belt, One Road" digital initiative's alignment with Sendai and sustainable development goals.

Expected results

Through this session's exchange and discussions, we aim to achieve the following expected outcomes:

1. A deeper understanding of the symbiosis between Sustainable Development Goals of the 2030 Agenda and the Sendai Framework.

2. Integrated Data Synergy: Strengthened alignment between Agenda 2030 and Sendai Framework through mutual data sharing and utilization, promoting effective disaster-related goal measurement.

3. Holistic Development based on geoinformatics support: Improved collaboration around key data sources (Global Map, GSDI, GEOSS, DE, Copernicus, INSPIRE), and incorporation of innovative initiatives (UNGGIM, "One Belt, One Road") to support Sendai Framework alignment and medium-term sustainable development goals implementation.

Agenda

Time 15:15-16:45, September 6th 2023 Room: 201 C

Moderators:

SHEN Jie

Professor

Nanjing Normal University, China, Chair of the ICA Commission on Cartography for Early Warning and Crises Management

Prof. Dr. SHEN Jie is a professor of school of geography at Nanjing Normal university, Nanjing, China. She is engaged in cartography for early warning and disaster management, indoor and outdoor navigation map design and cartographic generalization, regional ecological civilization mapping and services, cultural map and narrative map design and production. She has been teaching cartography and map design for over 25 years. In 2023, She won the title of famous teacher in Jiangsu Province.

In 2020-2023 she served as the vice-chair of ICA Commission on Cartography for Early Warning and Crises Management and from August 2023 she was elected to be the chairwoman of the Commission. She is a member of the ICA working Group on the Cartographic Body of Knowledge, and the Registered expert of ISO/TC 268/SC 1/WG 6(Smart community infrastructures- - "Disaster risk reduction".

In recent years, she has led 2 projects funded by the National Key Research and Development Program-Intergovernmental Science and Technology Cooperation Project of China, first titled-Dynamic mapping for risk and crisis management in big data era, cooperation with Masaryk University, Czech Republic, 2017.4-2019.12; latest ones titled- Urban disaster management and emergency response scenario cognition and construction method based on CIM and big data integration, cooperation with Asian Air Survey, Japan, 2021.10-2024.9. She also is the leader of 4 NSFC projects (the National Natural Science Foundation of China), as well as projects funded by the Natural Science Foundation of Jiangsu Province and the Jiangsu Provincial Department of Education. She has participated in projects under China's National High Technology Research and Development Program (863), and research funds from the Max Planck Foundation in Germany, the German Federal Agency for Cartography and Geodesy, and Sino-German international collaborative projects.

She has published over 90 papers in academic journals and important conferences. Currently, she holds 5 national invention patents and has obtained 15 computer software copyrights. She has conducted visiting research at the Technical University of Munich in Germany, Leibniz University Hanover in Germany, and the University of California, Santa Barbara in the United States.

Milan Konecny,

Professor

Masaryk University, Czech Republic, the Vice-President of International Society for Digital Earth, Vice Chair of the ICA Commission on Cartography for Early Warning and Crises Management

Prof. Dr. Milan Konecny is a professor of Cartography and Geoinformatics at Masaryk University, Brno, Czech Republic. He was/is a Guest Professor of The Chinese University in Hong Kong, The Henan University, Kaifeng, and the Shenzhen University, China, the Vienna University, Austria, Constantine the Philosopher University Nitra Slovakia, and a professor of the Nanjing Normal University, Nanjing, China. He got many international awards, the last one is a High Level Talent of the Henan Province Government, delivered on the basis of The Henan University in Kaifeng nomination.

In 2003-2007 he was a President of International Cartographic Association (ICA); he founded and served as a chairman of ICA Commission on Cartography for Early Warning and Crises Management and from July 2019 continues as its vice-chair; he was an Acting President and the Vice-President of International Society for Digital Earth and he is an Academician and Vice-President of International Eurasian Academy of Science. In all functions he enhanced the important of newest ICT technology and supported young talents.

He is an author (with co-author K. Rais) of the first textbook of GIS in the World (1985); he leaded/participated in domestic and international research projects, like Dynamic Geo visualization in Crises Management (Czech Ministry of Education and Youth); or EU- China Disaster Risk Management project of the highest level (European Commission and Chinese State Bureau) titled - Dynamic mapping for risk and crisis management in big data era, realized by Nanjing Normal University and Masaryk University (CZ), China-Czech Intergovernmental Science and Technology Cooperation Project 2017.4-2019.12；latest ones are HORIZON 2020 EU-China Sieu Soil project, SIEUSOIL - Sino-EU Soil Observatory for Intelligent Land use Management, Horizon 2020 EU-China, Call: H2020-SFS-2018-2020, (Sustainable Food Security).

He is an author/co-author of more than 120 research papers and 7 books and editor of approx. 20 Proceedings of international conferences of GIS, cartography, early warning and disaster risk management. Last items are Chapter 15 in Manual of Digital Earth titled: Digital Earth for Disaster Mitigation, 2020 and chapter Geospatial Intelligence in Dealing with COVID-19 Challenges in Czechia, pp. 393-398. In: Abbas Rajabifard Greg Foliente Daniel Paez, eds. COVID-19 Pandemic, Geospatial Information, and Community Resilience Global Applications and Lessons. Taylor & Francis Group, 2021.

Event 1 (15:15-15:30)

The impact of increased water vapor on extreme heavy precipitation on the background of global warming

ZHI Xiefei

Professor

College of Atmospheric Sciences, Nanjing University of Information Science and Technology (NUIST), China

Dr. ZHI Xiefei currently works as a professor in atmospheric sciences, at College of Atmospheric Sciences, Nanjing University of Information Science and Technology (NUIST), China. He received his Ph.D. from the Meteorological Institute, University of Bonn in 2000. His research focuses on climate change, numerical weather prediction, applications of machine learning in meteorology, as well as urban waterlogging monitoring, prediction and early warning. He has successively undertaken projects from the National Natural Science Foundation of China, National Program on Key Basic Research Project (973 Program), National Key Research and Development Program as well as international cooperation projects with Germany and Canada. He has published three books, more than 240 research papers in academic journals, such as Atmospheric Research, Journal of Climate, Monthly Weather Review, Journal of Geophysical Research-Atmosphere, Weather and Forecasting, and Remote Sensing etc. He obtained 46 Software Copyrights and holds 7 Invention Patents. He is Executive Editor-in-chief of Transactions of Atmospheric Sciences and Editor of Remote Sensing. He received the 2022 First Prize of the Innovation Award by China Invention Association, 2021 Second Prize of Meteorological Science and Technology Innovation Award by China Meteorological Service Association.

Applications.

Event 2 (15:30-15:45)

On statistics and visualization of large-scale characteristics of climate elements

Youmin Chen

Professor

College of Geography and Environment Sciences, Henan University, China

Dr. Youmin Chen currently works as a professor in College of Geography and Environment Sciences, Henan University, China. He received his Ph.D. from the Geophysics Department, Peking University in 1996. Afterwards, He joined the international research projects respectively in Germany (Max-Planck Institute for Bio-geochemistry, Sweden (University of Gothenburg), USA (University of Oklahoma), Austria (University of Graz), South Korea

(APEC Climate Center), Norway (Bjerknes Centre for Climate Research) as well as UK (University of Oxford) for total 17 years. His research focuses on climate modelling, numerical weather prediction, global carbon cycle, hydrological modelling as well as climate big data sciences.

Event 3 (15:45-16:00)

From Identification to susceptibility mapping of potential landslides on the entire Loess Plateau, China based on Sentinel-1 images and conditioning factors

Chaoying Zhao
Professor
School of Geological Engineering and Geomatics, Chang'an University, China

Dr. Chaoying Zhao currently works as a professor in geodesy and surveying engineering, at the School of Geological Engineering and Geomatics, Chang'an University, China. He received his Ph.D. from the Chang'an University in 2009. His research focuses on SAR interferometry (InSAR) techniques development and their applications on different geo-hazards identification, monitoring and explanation including land subsidence, ground fissure, and landslide. He has published more than 100 research papers in academic journals, including 46 papers with first author or corresponding author indexed by science citation index etc. He was/is the Guest editor of Special Issues 4 times in Remote Sensing and Reviewer over 60 journals.

Event 4 (16:15-16:30)

Automatic construction of indoor emergency road network for fire scenarios

Teng Zhong
Associate Professor
School of Geography, Nanjing Normal University, China

Dr. Teng Zhong currently works as an associate professor in geographical information sciences, at the School of Geography, Nanjing Normal University (NNU), China. He received his Ph.D. from the University of Hong Kong in 2017. His research focuses on the generation of pedestrian networks and geographic knowledge graph. He has published more than 20 research papers in academic journals, such as Nature Communications, Sustainable Cities and Society, Journal of Transport Geography, Transactions in GIS, and IEEE Transactions on Intelligent Transportation Systems etc. He is the awardee of the Gold Medal at the Geneva International Exhibition of Inventions.

Event 5 (16:30-16:45)

Cartography support on disaster management and ecological civilization in the era of big data

Jie Shen, Nanjing Normal University

Milan Konecny, Masaryk University, Czech Republic