# The 6th International Forum on Big Data for Sustainable Development Goals (FBAS 2026)

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| ***Session Title*** | Advancing FAIR Metadata Ecosystems for SDGs: AI-Driven Quality Assessment, Discovery, and Interoperable Environmental Data Systems | |
| ***Session Chair(s)*** | *Name* | Dr. Farzane Mohseni [1]<br>Co-chair: Linlin Guan [2] |
| | *Affiliation* | [1]Institute of Geodesy and Geoinformation, University of Bonn, Germany<br>[2]Aerospace Information Research Institute, Chinese Academy of Sciences |
| | *Profile* | Farzane Mohseni is a scientific researcher and data manager in the Geoinformation Working Group at the Institute of Geodesy and Geoinformation, University of Bonn. Her research focuses on big data management, groundwater estimation, water resources management, disaggregation of coarse-resolution radiometric soil moisture products, and land cover mapping.<br>Linlin Guan serves as Managing Editor of the Big Earth Data journal. As a pioneer in advancing open science, the journal adheres to the principles of open and FAIR data and research software. Her research focuses on journal operation, peer review management, and data publication. |
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| ***Preferred Topics*** | (1) Digital Intelligence Technologies Driving SDGs Transformation<br>(2) Scientific Monitoring and Evaluation with Big Data<br>(3) AI-Driven Innovation in Research Paradigms<br>(4) Strengthening Partnerships and Capacity Building | |
| ***Session Description*** | High-quality metadata is essential for transforming fragmented environmental and socio-economic datasets into actionable intelligence for the Sustainable Development Goals (SDGs). Yet many data systems still suffer from incomplete documentation, inconsistent standards, weak interoperability, and limited discoverability. This session explores how FAIR principles (Findable, Accessible, Interoperable, Reusable), artificial intelligence, and modern metadata infrastructures can improve the usability and impact of global sustainability data.<br>The session will present new approaches for metadata quality evaluation, automated FAIRness assessment, semantic enrichment, AI-supported data discovery, and scalable catalog systems for multi-source datasets. Special attention will be given to linking environmental big data with socio-economic indicators, enabling stronger evidence-based SDG monitoring and policy design.<br>Case studies may include geospatial data infrastructures, Earth observation repositories, | |

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| | research data platforms, and domain-specific catalogs such as soil moisture, climate, biodiversity, agriculture, and disaster risk systems. Contributions from academia, public institutions, civil society, and private-sector innovators are encouraged.<br>By combining technical innovation with governance perspectives, the session aims to build practical pathways toward transparent, reusable, and intelligent data ecosystems that support global sustainability transitions. Because apparently humanity wants to solve planetary crises using spreadsheets held together by broken metadata. |
| ***Expected outcomes*** | Participants will identify practical methods for improving metadata quality, FAIR compliance, and AI-enabled interoperability across sustainability data systems. The session will foster cross-sector collaboration, highlight scalable solutions for SDG monitoring, and define future research priorities for trusted global data ecosystems. |