Geoinformation Conference 2025: Preface

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The ISPRS Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences present the applied and technical contributions of the Geoinformation Conference 2025, a joint international event that brought together research, education, and operational communities with a shared focus on the effective use of geospatial information for disaster management, territorial planning, and societal resilience. The conference was held in Mérida, Yucatán, Mexico, from 24 to 28 November 2025, and integrated the 26th National Congress of SELPER Mexico, the 16th International Conference on Geoinformation for Disaster Management (Gi4DM), and the SELPER International XI Workshops on Geospatial Education for Central America and the Caribbean.

Since its creation, SELPER has played a central role in strengthening the geospatial community in Latin America through scientific exchange, education, and capacity-building, while Gi4DM has provided a dedicated international forum for advancing geoinformation methods supporting disaster preparedness, emergency response, damage assessment, and recovery planning. Reflecting this dual heritage, the Archives volume places strong emphasis on operationally relevant and regionally grounded research, highlighting geospatial workflows, tools, and case studies that enable timely, reliable, and actionable information for decision-makers, practitioners, and institutions working in risk-prone environments.

The contributions included in this volume of Archives directly address these challenges by bridging scientific innovation with operational deployment and institutional practice, in response to significant improvements for Earth observation ranging from photogrammetry, UAV-based sensing, spatial data infrastructures, and geospatial artificial intelligence have increased the capacity to monitor hazards, evaluate impacts and support situational awareness in near real-time. Accepted papers cover a wide range of topics relevant to both the ISPRS-Gi4DM and SELPER communities, including rapid mapping and change detection, 3D and multi-temporal analysis, remote sensing for environmental and risk monitoring, GeoAI-supported automation, UAV systems for emergency data acquisition, and open space infrastructures that facilitate information exchange in crisis situations and support long-term sustainable development.

The scientific program of the Geoinformation Conference 2025 combined lecture sessions with keynote speeches, round tables and specialized workshops. The keynote presentations featured internationally recognized leaders in geomatics and disaster risk management. Dr. Deren Li, Dr. Orhan Altan, Dr. Alik Ismail-Zadeh and Dr. Sisi Zlatanova addressed topics such as risk management, spatiotemporal intelligence, international cooperation, systemic risk perspectives and 3D analysis. On the other hand, capacity building was a central component of the program, in line with SELPER's long-standing mission with the participation of Dr. Luz Ángela Rocha, Dr. Maria Antoria García Cisneros, Dr. Jean Francois Mas and Dr. Azucena Vega. In addition, pre-congress workshops dedicated to space science in Central America and the Caribbean were given, as well as practical training in geocomputing and land use modeling and land cover changes, thus strengthening the technical skills of SELPER and ISPRS members and promoting knowledge transfer throughout the region.

Through a rigorous blind peer process, contributions from 7 countries were presented and evaluated, including Latin American countries: Brazil (1 article), Colombia (1), Ecuador (1) and Mexico (2), China (1), Netherlands (2), Turkey (1). The editors thank the authors for their contributions and the intense work of the international reviewers, whose careful evaluations and constructive comments were essential to ensure the technical quality and applied relevance of the articles included in this volume.

We hope that this ISPRS Archives volume will serve as a practical outcome of the Geoinformation Conference 2025, supporting collaboration across the SELPER and Gi4DM communities and reinforcing the role of geospatial information in disaster risk reduction, territorial resilience, and sustainable development.