



TAIMA 2026

SPECIAL SESSION CALL FOR PAPERS

AI for Climate Change : Data, Models, and Applications

Climate change is driving an urgent need for reliable, data-driven tools to monitor environmental dynamics, anticipate extreme events, and support effective adaptation strategies. The convergence of geospatial technologies, artificial intelligence, and Earth system sciences is revolutionizing our ability to meet this challenge.

The proliferation of satellite, aerial, in-situ, and IoT data streams offers unprecedented opportunities for understanding our planet. However, effectively processing this massive, multi-modal, and multi-temporal data to extract robust, actionable insights requires the development of novel, intelligent algorithms. This session focuses on the fusion of geomatics, remote sensing, and AI to create advanced methodologies for analyzing climate and environmental data.

We invite contributions that push the boundaries of how we observe, model, and interact with our changing planet. We especially welcome work emphasizing robustness, uncertainty quantification, interpretability, and reproducibility, as these are essential for enabling trustworthy AI in high-stakes climate-related decision support. Application areas of interest include, but are not limited to, the modeling and prediction of droughts, floods, heatwaves, as well as applications in sustainable agriculture, water resource management, energy systems, and urban resilience.

TOPICS OF INTEREST

- **AI for Geospatial Analysis:** Deep learning for satellite and aerial image interpretation (segmentation, object detection, change detection), generative models for data augmentation and scenario simulation, and explainable AI (XAI) for geo-analytics.
- **Multi-Modal Data Fusion:** Intelligent integration of heterogeneous data (e.g., optical, radar, LiDAR, hyperspectral, social media, IoT) for improved land cover classification, environmental monitoring, and precision agriculture.
- **Time-Series Analysis and Change Detection:** Advanced deep learning methods for analyzing long-term geospatial time-series data (e.g., satellite image time-series). Focus on detecting subtle changes, modeling land-cover dynamics, forecasting environmental trends, and creating 4D (3D + time) models of dynamic Earth processes.
- **Remote Sensing for Sustainable Development:** Applications in precision agriculture (crop health, yield prediction), forestry (biomass estimation, deforestation monitoring), hydrology (water quality, flood mapping), urban heat island analysis, disaster management (earthquake, fire, flood response), and climate change impact assessment.

SUBMISSION TYPE

Up to 6 pages. All submissions will undergo a rigorous peer-review process by an international committee of experts. **An extended version of selected papers will be submitted for the International Journal of Geomatics.**

Poster (Abstract only for a demo session): Authors submit an extended abstract up to 3 pages.

IMPORTANT DATES

Sub. opening: 20 **Feb. 2026**

Sub. deadline: 31 **Mar. 2026**

Accept. notif.: **15 Apr. 2026**

Final version sub.: **25 Apr. 2026**

CHAIRS

Imed Riadh Farah, Prof. MSE

Ali Ben Abbes, MA MSE

Noel Richard, MC Univ. Poitiers

Mohamed Farah, MC ISAMM