Feedback Report: XXV ISPRS Congress 2026

Šimon Opravil
Institute of Geography, Slovak Academy of Sciences, Slovak Republic

Attending the XXV ISPRS Congress in Toronto gave me the opportunity to follow current developments in Earth observation and geospatial science and to discuss the direction of the field with the international community. With my colleague, we presented the contribution “Loss of Agricultural Land in Slovakia: Evidence from LPIS and Sentinel-2 Data” in the thematic session Earth Observation for Crop Health and Resilient Food Systems. The session was closely connected to our research on agricultural landscapes and demonstrated how Earth observation can support crop classification, drought monitoring, plant health assessment, and analysis of land-use change.

The scientific programme also provided useful points of comparison for my ongoing work on grassland management. Particularly relevant contributions addressed the temporal localisation of mowing events from dense satellite time series, the prediction of plant diversity in grasslands from Sentinel-2 spatio-temporal information, the estimation of grassland biomass using UAV imagery, and the mapping of shrub and tree encroachment using Sentinel-1 and Sentinel-2. These topics helped me place my own methodological choices in a broader context and identified approaches that may be tested in future research, especially for long time-series analysis and the transfer of methods between regions.

One of the clearest impressions from the Congress was the strong and rapidly growing emphasis on foundation models and geospatial embeddings. This trend offers important possibilities for reusing large volumes of Earth observation data and transferring representations between tasks. At the same time, the discussions reinforced for me that progress should not be assessed only through model novelty. Rigorous validation, temporal and geographical transferability, interpretability, comparison with simpler task-specific methods, and a clearly defined benefit for end users remain essential. This perspective will influence how I design and communicate my future studies: new AI-based methods should be treated as tools to be critically evaluated rather than as goals in themselves.

The most valuable part of the program for me was Friday’s GEOGLAM-led Forum 5C, “From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience.” Its focus went beyond individual research results and addressed the difficult transition from scientific innovation to trusted, operational, decision-ready monitoring. The discussion connected crop and rangeland monitoring with drought, production risks, food security, coordination among institutions, and policy uptake at national, regional, and global scales. This was particularly useful because my work is increasingly moving from methodological development towards applications that must be interpretable and relevant to land managers and public institutions. The forum highlighted that a technically accurate product has limited impact unless responsibilities, continuity, user needs, and pathways to operational use are considered from the beginning.

Presenting in Toronto also gave me experience in explaining a Slovak case study to an international audience and receiving perspectives from researchers working in different agricultural systems. The exchange helped me sharpen the broader relevance of agricultural-land abandonment and improve the way I frame links between satellite observations, administrative parcel data, and land-management processes. These insights are directly relevant to completing my current doctoral research and to my next career stage, in which I will work on satellite remote sensing and land-use modelling of grassland management in an international research project.

Overall, the Congress was valuable because it offered a concentrated view of both the opportunities and the unresolved challenges in contemporary Earth observation. The combination of presenting my research, evaluating emerging methods, and participating in the applied agricultural forum strengthened my scientific judgement and helped define priorities for my future work. I am grateful to the ISPRS Foundation for the travel grant that made my participation possible and enabled me to represent the Slovak Academy of Sciences at this international event.