SESSION DESCRIPTION

ID: T19

New data, new tools, new challenges: next steps in advancing cultural ecosystem services research in the digital realm

Hosts:

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Abstract:
Cultural ecosystem services research is experiencing a digital transformation. New forms of digital data and computational methods have begun to reshape how human-nature relationships are studied. This evolution encompasses fundamental changes to both data collection and data processing, drawing on new sources—such as mobile technologies and social media networks—and on advances in modelling and artificial intelligence—allowing qualitative data analysis at scale. These technological innovations have opened unprecedented opportunities for quantitative and spatial assessments of cultural ecosystem services, especially at large geographical scales.

Significant challenges remain, however, that must be addressed before these approaches can become standard tools in sustainable environmental management. This includes the complex task of integrating insights from conventional cultural ecosystem services assessment techniques with big data approaches. Challenges that are well-documented in the literature—but still not satisfactorily addressed—include representativeness of sampled users, potential biases in content sampling, and critical issues surrounding data accessibility and privacy protection, particularly as continued availability of passive social media data remains uncertain.

This may call for a more participation-centered approach to data generation, in which users better understand what they share, for what purpose, and what value they receive in return. On the other hand, emerging challenges include, for instance, the use of artificial intelligence applications, particularly large language models, to data analysis, including algorithmic biases, the lack of agreed-upon standards for human supervision, and localized vs. universal understandings of cultural ecosystem services.

This session invites contributions that offer critical, forward-looking reflections on both the challenges and opportunities presented by new data sources and processing techniques in cultural ecosystem services research, including novel metrics, participatory mechanisms and integration with Earth observation tools.

Goals and objectives of the session:
This session aims to provide forward-looking reflections that can guide both established researchers and newcomers in navigating and shaping the future of cultural ecosystem services research, helping to

ensure that these innovative approaches are applied rigorously, responsibly, and effectively in our increasingly digital world.

Planned output / Deliverables:
Position paper or commentary, jointly drafted with the session attendants.

Session format:
Depending on the number of submitted abstracts, we plan for a series of 10-15 minutes presentations, followed by a half-hour roundtable discussion involving the session participants and attendants.

Voluntary contributions accepted:
Yes, I allow any abstract to be submitted to my session for review

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