SESSION DESCRIPTION

ID: T4b

Bridging the gap with hybrid approaches: Understanding amalgamation of recent digital advancements with conventional assessment methods of Ecosystem Services

Hosts:

	Name	Organisation	E-mail
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Abstract:
The accurate assessment of Ecosystem Services (ES) is fundamental for sustainable environmental management and policy-making. Conventional assessment methods, such as field surveys and stakeholder workshops, provide essential local context and social values but are often resource-intensive and limited in scale. The effective valuation and management of Ecosystem Services (ES) are frequently hindered by a critical disconnect between conventional, site-specific assessment methods and the capabilities of recent digital advancements. Conversely, recent digital advancements, including remote sensing, artificial intelligence (AI), and big data analytics, offer unprecedented capabilities for large-scale, dynamic monitoring of ES. However, these technologies can overlook the nuanced, socio-cultural dimensions of human-nature interactions that are critical for equitable outcomes. The necessity and efficacy of hybrid approaches is that, it strategically combines established ecological and socio-economic methodologies with cutting-edge digital tools. This session aims to bridge this gap by exploring innovative hybrid approaches that amalgamate the strengths of both worlds. The session will delve into methodologies that synergise participatory mapping with GIS, integrate local ecological knowledge with machine learning models, and use mobile applications for citizen science-based data collection. Discussing best practices of hybrid methodology will equip researchers, resource managers and policymakers with a comprehensive, and widely applicable toolset for sustainable natural resource governance and evidence-based decision-making. Such integrated frameworks can produce more robust, holistic, and policy-relevant ES assessments.

This session invites researchers, practitioners, and policymakers to discuss the challenges and opportunities in developing and implementing the hybrid methods. The session will enrich the perspective towards technological developments in the field of ES assessment.

Goals and objectives of the session:

1. To showcase innovative hybrid methodologies that successfully integrate digital technologies with conventional ES assessment techniques across various ecological and social contexts.
2. To foster a collaborative network of researchers and practitioners to co-create best practices and the advancement of integrated ES assessment approaches.

Planned output / Deliverables:

1. A synthesis paper for a special journal issue summarising the key challenges, opportunities, and promising case studies on hybrid assessment approaches of ES discussed during the session.
2. The establishment of an online working group targeting ECRs to facilitate continued dialogue, knowledge sharing, and collaboration on developing and applying hybrid assessment approaches.

Session format:

The session will be conducted in the format of an Impulse presentation followed by a discussion and potential collaborations.

1. Session introduction presentation (2 minutes)
2. The concise presentations by the selected presenters to stimulate thinking and introduce a new perspective with Q&A. (7 min talk + 2-3 min for Q&A)
3. Discussion on the information shared by all the presenters, for identification of strengths, gaps and the way forward. (20 minutes)

Voluntary contributions accepted:

Yes, I allow any abstract to be submitted to my session for review

Related to ESP Working Group:

TWG 4 – Mapping ES