SESSION DESCRIPTION

ID: T5a

Empirical evidence and models for ecosystem services research in urban environments

Hosts:

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Abstract:

Cities are at the forefront of the challenges and opportunities for achieving nature- and people-positive ecosystems. As cities continue to expand and densify, understanding and better integrating ecosystem services into planning and decision-making becomes essential for ensuring long-term human well-being, biodiversity resilience, and sustainable urban development. A broad array of research approaches is needed to support such understanding and integration, ranging from conceptual, to empirical, and modelling approaches and spanning quantitative and qualitative perspectives.

To support urban planning, the majority of ecosystem service studies rely on models. Yet, urban ecosystem service models that are both robust across contexts and broadly validated are lacking. This session, Empirical evidence and models for ecosystem services research in urban environments, will focus on advancing knowledge of data, methods, and empirical evidence for assessing ecosystem services in cities. We invite researchers with novel methods for gathering and using field, sensor or other empirical data(sets) to model and understand urban ecosystem services. In particular, we are interested in studies that suggest new avenues of sampling, modelling and thinking to support and validate urban ecosystem services modelling.

In general, the session aims to critically evaluate the current state of the art, from biophysical quantification to socio-cultural valuation, to identify persistent gaps limiting accurate modelling, and to explore how models can inform urban policy, planning, and governance processes and contribute to tangible decision-making. Gaps addressed may include I) optimization of existing ecosystem service models based on new data, II) development of models for underrepresented ecosystem services, III) extending and enhancing existing ecosystem service models, IV) novel methods to gather data used to model ecosystem services, V) the integration of heterogeneous datasets, collected at different times and locations, to assess multiple ecosystem services in a single framework, VI) quantification of uncertainty in ecosystem services, VII) strengthening generalizability and cross-model integration for ecosystem service assessments across different contexts and services, VIII) bridging the gap between models and practical implementation in policy and planning.

Goals and objectives of the session:

Key objectives include: examining innovative data sources (including remote sensing, citizen science, sensor networks, street view imagery) in relationship to urban ecosystem service assessment; exploring methodological advances for capturing trade-offs and synergies in ecosystem services and values; identifying barriers to accurate model ecosystem services in the urban environment and advancing the practical application of ecosystem service models in urban planning and policy.

Planned output / Deliverables:
The planned outcome for the session is a short paper indication the state-of-the-art data, methods and knowledge regarding urban ecosystem services, highlighting strengths and weaknesses in each of those aspects. Ideally, this would result in a paper that sets the research-agenda for the next 5-10 years based on the expertise in the room and beyond.

Session format:
Aim for a session format where we'll first have some presentations and then a brainstorm based on the presentation & the session goal, as a start for a paper.

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

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