

ESP 11 World Conference

“From global to local ecosystem services: pathways to Nature-based Solutions inspired from Down Under”

23-27 June 2025 | Darwin, Australia

SESSION DESCRIPTION

ID: T5a

Modeling ecosystem services flows and implications for nature-based solutions

Hosts:

| | Name | Organisation | E-mail |
|--------------------|------------------|---|-------------------------------|
| Host: | Kremena Burkhard | Ludwig Franzius Institute of Hydraulic, Estuarine and Coastal Engineering, Leibniz University Hannover, Germany | burkhard@lufi.uni-hannover.de |
| Co-host(s): | Stoyan Nedkov | National Institute of Geophysics Geodesy and Geography, Bulgarian Academy of Sciences, Sofia, Bulgaria | snedkov@abv.bg |
| | Thomas Elliot | Aalborg University, Department of Sustainability and Planning, Denmark | thomaselliot@plan.aau.dk |
| | Rahul Yadav | Forest Ecology and Climate Change Division, Forest Research Institute, Dehradun, India | yadav.9394rahul@gmail.com |
| | Fatima Ali | Center for Development Research , University of Bonn , Germany | fatti-avectoi@hotmail.com |

Abstract:

Ecosystem service flows are complex and dependent on multiple environmental and anthropogenic factors. Models are often focused on the stock/capacity side of ecosystem services provision and their relation to the ecosystems' structures and functions. Measuring and modeling ecosystem services flows is much more related to the location and characteristics of the beneficiaries. Telecoupling, which represents the ES flows over greater distances, is often underrepresented in the sustainability agenda. This might have significant implications for incentivising and advocating nature-based solutions (NbS), by providing a better understanding on the complexity and diversity of benefits that specific NbS can provide. In this session we want to explore the different approaches for modeling ecosystem services flows with focus on the interactions between service-providing and service-benefiting areas, important characteristics of ecosystem services flows that need to and could be addressed through modeling, telecoupling, relations to beneficiaries, and implications to NbS.

Goals and objectives of the session:

- Share existing tools and methods for modeling ecosystem services flows and telecoupling;
- Exchange know-how and experience from case studies from around the world on related tools and practices;
- Identify key perspectives of relevance for incentivising NbS, possible approaches to address them through ecosystem services flow modeling and implications;

- Identify gaps, obstacles and steps needed to advance the modeling of ES flows for advocating NbS.

Planned output / Deliverables:

Short report on initiatives and tools for modeling ES flows and implementations for NbS.

Session format:

Oral presentations - 10-12 min talks + 2-3 min Q&A.

30 min round table discussion - identification of strengths, gaps and important steps forward.

Voluntary contributions accepted:

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

Related to ESP Working Group:

[TWG 5 - Modeling ES](#)