SESSION DESCRIPTION

ID: T14a

Integrative digital systems for planning and managing ecosystem services: State of the art and future prospects

Hosts:

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Abstract:

With the advent of the digital transformation efforts to interconnect the physical and digital worlds are in full swing. Ecological and socio-economic investigations of the environment are moving to the “cyber-physical” world, promising to provide more integrative, faster and smarter ecosystem management. The digitalisation of ecosystems service research became practical due to access to low-cost, low-power sensor technologies, advanced digital connectivity, cloud computing platforms, machine learning analytics and conversational artificial intelligence etc.

Utilizing sensors, software and other technologies for the purpose of generating, connecting and exchanging data with other agents (devices, systems or users) on a communication network can improve knowledge processes on ecosystem services (locating, acquiring, using, sharing and disseminating as well as archiving) and support effective decision-making. However, the adoption and application of digital tools and services provided by the cyber-physical world in daily work routines of observations, measurements and responses to

environmental change is still limited to specific domains and ecosystem services, such as precision agriculture and food production.
The aim of this session is to explore integrative digital systems for assessing, planning, and managing with ecosystem services and discuss the requirements for establishing fit-for-purpose systems in practice.

We seek contributions that reflect on insights gained in applying digital tools for assessing, planning, and managing with ecosystem services in participatory spatial planning, landscape planning, and design processes. These include, for instance, dashboards, digital twins, point cloud, the Internet of Things, big data, urban analytics, Public Participation Geographic Information System (PPGIS), sensors/automated monitoring, real-time streaming, application programming interface (API), or other communication techniques. Contributions that focus on novel technologies for collecting empirical data on biodiversity and ecosystem services, as well as for engaging large and small citizen groups in the planning process are especially welcome. In addition, we are particularly interested in contributions that reflect on the potential and limitations of digital tools based on empirical evidence from real-life participatory spatial planning processes.

Goals and objectives of the session:

The aim of this session is to explore integrative digital systems for assessing, planning, and managing with ecosystem services and discuss the requirements for establishing fit-for-purpose systems in practice.

The session will foster collaboration in the ESP Thematic Working Group 14 on the “Application of ES in Planning & Management”. It is organized in cooperation with the IALE working group on Landscape Planning.

Planned output / Deliverables:

Paper in scientific journal

Session format:

Standard session (presentations)

Voluntary contributions accepted:

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

Related to ESP Working Group/National Network:

Thematic Working Groups: TWG 14 – Application of ES in Planning & Management