ARIES (ARtificial Intelligence for Ecosystem Services)

Created by: Ikerbasque Research and BC3
https://aries.integratedmodelling.org/
Language: English
Medium level of expertise required

ARIES (ARtificial Intelligence for Ecosystem Services) is a networked collaborative software technology designed for rapid ecosystem service assessment and valuation. It gives equal emphasis to ecosystem service supply, demand, and flow in order to quantify actual service provision and use by society (as opposed to quantifying potential service benefits). It aims to provide a suite of models that support science-based decision-making.

Challenges addressed

Green space management.

Type of tool

- Model
- Data
- Map visualization

Outcomes

Maps and quantitative data on ecosystem services.

Uses

Provides scientific evidence of ecosystem services for policy making and nature management.

Examples of application

Cost-effective restoration and conservation planning in Green and Blue Infrastructure designs. A case study on the Intercontinental Biosphere Reserve of the Mediterranean: Andalusia (Spain) – Morocco

The study proposed a novel approach for systematically selecting cost-effective areas for restoration based on biodiversity, ecosystem services, and ecosystem condition. The result was an optimal spatial design of Green and Blue Infrastructure, in a setting encompassing the Intercontinental Biosphere Reserve of the Mediterranean in Andalusia and Morocco.

Scale

- Global
- National
- Subnational
- Local

Location

Worldwide.

Scope

Urban and rural.

Advantages

Compared to other existing models, it requires less data and expertise (accessible to policy makers and other non-technical users). The spatial scale depends on data availability; the typical cell size for areas with detailed data is 30 m.

Constrains

The artificial intelligence framework is not intuitive and the complexity of the code may limit the accessibility.