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A Scenario Approach for Ecosystem-Service Changes

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Highlights

- The scenario approach been vital to reduce uncertainty for environmental policy decision-making
- Analyzed 106 papers that addressed global and regional drivers of change and ecosystem services
- Most used (46%) three scenarios to assess possible changes deriving from two to three ecosystem services (62%) the next 20-30 years (42%).
- The boundary in the scenario studies are offered at the basin (28%) and administrative unit (20%).
- Scenario studies were analyzed in four types of scenario building methodology: strategic, exploratory original, based on major report, normative.
- Methodological trends in scenario building related to environmental assessment are offered at the participatory, expert judgement, researcher.

Abstract

Future predictions are imperative for environmental planning decisions as ecosystem changes take time to have an effect. In this paper, on the basis of a scenario approach to expose common frameworks and legitimacy, we quantitatively and qualitatively reviewed scientific papers to assess the future condition of ecosystem services. Of the 464 recent papers on biodiversity and ecosystem service changes, we extracted 106 papers by excluding papers that only examined climate change and/or carbon dioxide. Of the 106 papers, most used three scenarios to assess changes in from two to four ecosystem services over the next 20 to 30 years. Overall, not all of the scenarios were used in a predictive capacity, and of the ecosystem services examined, regulating and provisioning services were analyzed more

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