

Article

Ecosystem Services: A Systematic Literature Review and Future Dimension in Freshwater Ecosystems

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Abstract: Ecosystem services are part and parcel of human lives. It is of paramount importance to understand the interaction between these ecosystem services, as they are directly related to human life. In the modern era, quantification of ecosystem services (ES) is playing an important role in the proper understanding and efficient management of social–ecological systems. Even though a significant amount of literature is available to present on the topic, there is a need to build an adequate amount of knowledge repository. Hence, a systematic literature review method is used, in which research question and searching stages are defined. This review study is conducted on ecosystem services and remote-sensing-related keywords in the Scopus database. After a systematic analysis of the papers retrieved from the Elsevier, Scopus database, MDPI, and open source, a total of 140 primary articles were categorized according to their relationship with other ecosystem services, land use, land cover, and planning management. Major issue findings and important aspects have been analyzed and reported in each category. With this analysis and developments in the existing literature, we have potential areas for future research. Findings pointed out that regional or local-level ecosystem services-related work is immensely important, and a hotspot of current research aiming to understand the variability and spatiotemporal dynamics in terrestrial and aquatic ecosystems.

Keywords: ecosystem services; provisioning ecosystem services; regulating ecosystem services; cultural ecosystem services; supporting ecosystem services



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1. Introduction

The biophysical state of the ecosystem is affected by multiple elements and, simultaneously, by humans' ability to enjoy its services [1]. Furthermore, Anthropogenic and non-anthropogenic interventions can change the biochemical cycles and earth's energy equilibrium, in turn causing global warming, and future climate changes [2]. On the other hand, rapid urbanization degrades ecosystem services [1,3]. Gretchen, in his work, points out that the lifestyle of the people may be hampering the prosperity of ecological biodiversity at the expense of their descendants [4,5]. Talking about ecological biodiversity, the term ecosystem services is described by many authors as the process that helps to sustain human life, with the help of interaction between the natural ecosystem and the species [4,6]. Globally, human systems are supported by nature's contribution, i.e., ecosystem services, and [7,8] state that land use and land cover changes (LULC) induced by humans have increased over the last three decades, leading to changes from a natural setting to human-conquered land. Furthermore, according to Gómez-Baggethun & Barton [9] more than 50% of the world's inhabitants reside in urban areas and potentially receive benefits from the ecosystem services; the future projection of people living in urban areas is calculated to reach 66% by 2050. The main motive for this research is to find a way to conserve the existing ecosystem, with a background of arising global environmental issues.

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