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Critical Review

Quantifying and Mapping Ecosystem Services Supplies and Demands: A Review of Remote Sensing Applications

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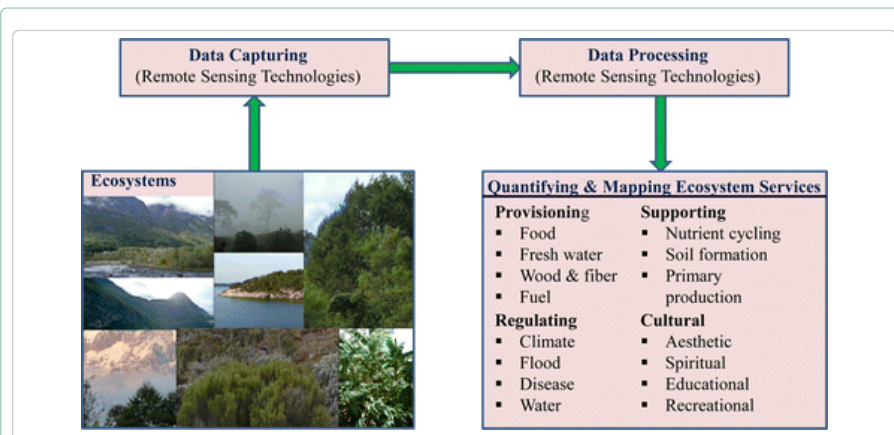


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Abstract



Ecosystems provide services necessary for the livelihoods and well-being of people. Quantifying and mapping supplies and demands of ecosystem services is essential for continuous monitoring of such services to support decision-making. Area-wide and spatially explicit mapping of ecosystem services based on extensive ground surveys is restricted to local scales and limited due to high costs. In contrast, remote sensing provides reliable area-

wide data for quantifying and mapping ecosystem services at comparatively low costs, and with the option of fast, frequent, and continuous observations for monitoring. In this paper, we review relevant remote sensing systems, sensor types, and methods applicable in quantifying selected provisioning and regulatory services. Furthermore, opportunities, challenges, and future prospects in using remote sensing for supporting ecosystem services' quantification and mapping are discussed.



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