



Soil ecosystem services, sustainability, valuation and management. A review

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Soil provides a wide range of ecosystem services (ES) fundamental to life and sustains human activities. Soil ES depend directly or indirectly from other services such as water and clean air. The correct management and use of soil are important to reduce poverty and climate change mitigation. In this context, a sustainable use of soil is crucial for our future and is one of the fundamental challenges of our society. Soil ES depends on the environmental characteristics that determine soil properties and the type of services provided. These services have an important value, that can increase or decrease according to our management. Incorrect land uses that may trigger soil degradation (e.g. wildland fires, conventional tillage, urban sprawl), reduce importantly the ES provided soil value and produce a large number of disservices (e.g. erosion, sealing, pollution). Contrary, a sustainable management (e.g. prescribed fires, conservation tillage, green and blue infrastructures) maintain and improve soil ES. The quality and quantity of soil ES are extremely dependent on our long-term vision of how we manage soils.

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