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# Ecosystem services supply trends in the Mediterranean Basin

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## Abstract

The combination of anthropogenic pressures and loss of biodiversity in the Mediterranean Basin has led to concerns about the ecosystem services supply in the region and its impact on future human well-being. This study uses expert-based knowledge and data on land cover changes to get some first estimates on changes in ecosystem services supply in the Mediterranean Basin (1990 – 2012).

Experts of Mediterranean ecosystems participated in a survey and provided estimates for actual supply of 31 ecosystem services to develop a capacity matrix. The qualitative estimates were combined with land cover data to obtain estimates for the recent trends in ecosystem services supply.

Results showed an overall reduction of non-irrigated arable land across the Mediterranean Basin. In European countries, irrigated arable land and transitional wood and shrub land are increased, which seem to suggest both agricultural intensification as well as land abandonment. Whereas in non-Mediterranean Europe, urban related land use increased the most, suggesting that urbanisation was a strong driver during this period.

Results additionally showed a general reduction of ecosystem services supply, with especially regulating services showing the most consistent reduction across all services included. What is even more alarming, is that provisioning services that are central to human well-being towards the future, namely Crop, Livestock and Fresh water provision, are also reducing across the whole Mediterranean Basin. Addressing these trends as is the objective in multiple international policy objectives within the Sustainable Development Goals or the Aichi Targets, will be incredibly challenging.

**Keywords:** ecosystem services, change, expert assessment, land, cover, capacity matrix, supply, trend, Mediterranean

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