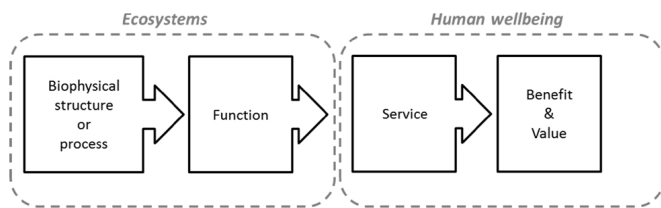


Global change, ecosystem services and human well being: An assessment for Europe

2 November 2016



A summary of the relationship between ecosystems and human well being. Credit: Haines-Young and Potschin 2010, Maes et al. 2013

Highly dependent on the different aspects of global change, variations in ecosystem services supply can also have direct impacts on human well being. A new article published in the open access journal *One Ecosystem* assesses the relationships between climate and land use change and ecosystem services supply in Europe, to pave the way on research connecting them to adaptation and human well being in a changing world.

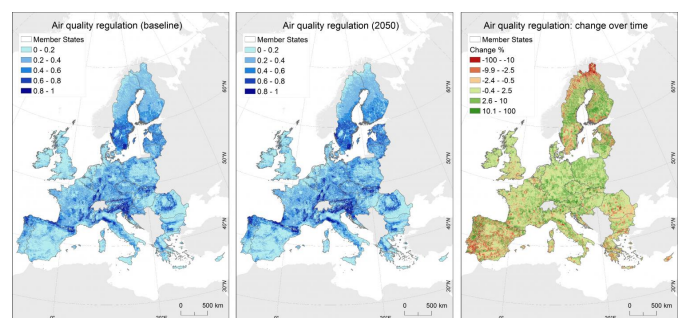
Ecosystem services arise when ecological structures or functions contribute toward meeting a human demand. With [global change](#) impacting biodiversity and ecosystems properties, ecosystem services supply are also likely to be affected, consequently impacting various aspects of human well being.

In this context, assessing the possible bio-physical impacts of the ongoing and future changes in climate and land use becomes highly relevant for designing mitigation and adaptation policies.

While undergoing a comprehensive climate and land use impact assessment continues to be a demanding research challenge due to the large knowledge gaps, in their new paper, the team of

scientists from the European Commission's Joint Research Centre, Ispra, Italy and the Institute for Environmental Studies at the VU University Amsterdam, the Netherlands, present a first of its kind spatially explicit preliminary assessment of the changes in ecosystem services supply as a function of these global change drivers.

Carried out for the mainland of the 28 Member States of the European Union, the focus of this analysis is on regulating ecosystem services, due to their direct dependency on the proper functioning of ecosystems. Focusing on three regulating services: air quality regulation, soil erosion control, and water flow regulation, the new research presents an assessment of changes related to global change and their projected impacts, positive or negative, on human well being in the different European regions.



An example for air quality regulation change predictions. Credit: Polce et al. 2016

"Considering both land use projections and [climate change scenarios](#) in our research, in principle, enabled us to capture the main pressures acting on ecosystems and their services, thus enhancing the suitability of this approach to generate policy-

relevant information," explains the authors. "Yet, this study is only preliminary and a stepping stone for further research, needed not only to expand the analysis to other ES, but also to incorporate processes and scaling properties of the systems considered as they become available, and to account for spatial dependencies."

More information: Chiara Polce et al. Global change impacts on ecosystem services: a spatially explicit assessment for Europe, *One Ecosystem* (2016). DOI: [10.3897/oneeco.1.e9990](https://doi.org/10.3897/oneeco.1.e9990)

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