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Modelling hydrological ecosystem services for decision support tools on land use change

Beccy Wilebore (1,2), Kathy Willis (1), Peter Long (1), David Benz (1), Gillian Petrokofsky (1), Alistair Yeomans (1), Claire Massey (1), and Alex Teytelboym (1)

(2) Royal Botanic Gardens at Kew, (1) University of Oxford

Ecosystem services are now a well-recognised framework for valuing nature beyond protected areas, and natural flood management (NFM) has seen increasing interest as a cost-effective method of reducing flood risk in the UK. However, decision support tools that would allow the targeted conservation or enhancement of land cover to maximise these services are either restricted to small case studies, or are available at a spatial resolution that is unhelpful for individual landowners. We assess runoff production across Great Britain at a high spatial resolution, using a distributed hydrologic model in the regional land-surface model JULES (Joint UK Land Environment Simulator), and present the results in a web-based interface to facilitate the trading of ecosystem services. This work, as part of the larger EU funded 'NaturEtrade', will create a novel suite of easy-to-use tools and mechanisms to allow EU landowners to quickly map and assess the value of their land in providing key ecosystem services.