A strategic look at natural water retention measures in Ireland

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We introduce a newly funded large-scale Environmental Protection Agency (Ireland) project (2019-2023): SLOWATERS: a Strategic LOok at natural WAter reTention mEasuReS. The research aims to assess the benefits of Natural Water Retention Measures (NWRM) for agricultural catchments in Ireland. We will use GIS-based mapping techniques, topographic indices, hydrological modelling, and full-scale field demonstrations to develop a portfolio of potential approaches and methodologies to reduce flood risk and generate co-benefits including sediment and nutrient attenuation and ecosystem enhancement. Demonstration sites will show how to design, build and instrument NWRM. Scaling up methodologies will use hydro-geomorphic patterns to investigate NWRM in other Irish catchments, at a range of spatial scales. The research will underpin policy by identifying across scale the measures that are most effective at targeting flood flows, providing beneficial ecosystem functions whilst having minimum effect of farm economics. The project outputs will specifically provide recommendations for the management of specific catchment types relevant to the Irish environment by quantifying the magnitude of NWRM required to reduce flood peaks.