Climate change effects on freshwater ecosystems

HYDRA
HYDROSCIENCES RESEARCH ASSOCIATION

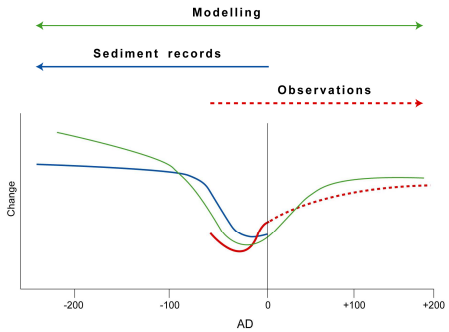
Euro-limpacs: EU Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems

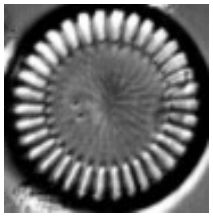
Key questions

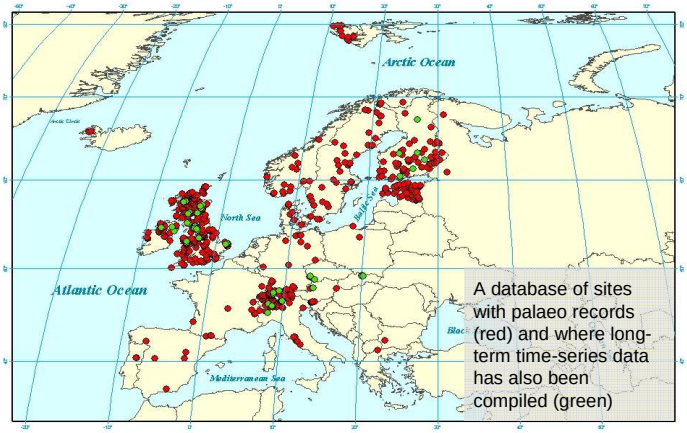
- Can long-term observational datasets and palaeolimnological records be combined to disentangle nutrient and climate effects in lakes
- Can the impacts of climate change, land use change & pollution be evaluated using a modelling approach?
- What effect will climate change driven alterations to discharge regimes and water temperature have on stream ecology?

Approaches to disentangling nutrient and climate effects in lakes

Palaeolimnological data can be combined with long-term observational data to examine eutrophication – climate interactions



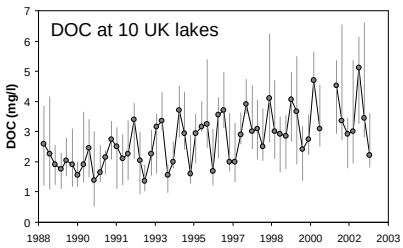


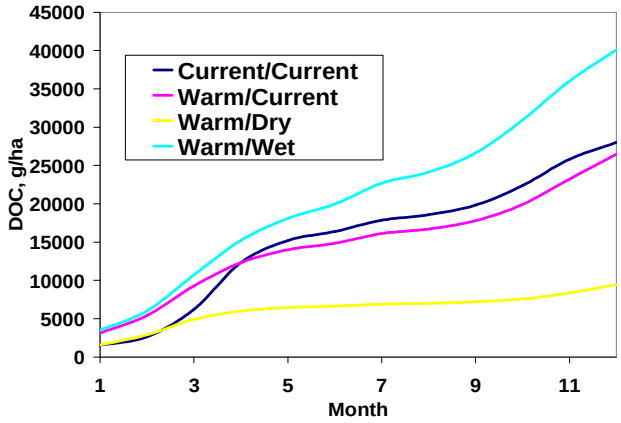


A database of sites with palaeo records (red) and where long-term time-series data has also been compiled (green)

Modelling the impacts of climate change, land use change and pollution

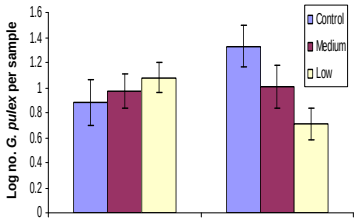
DOC trends (right) and INCA simulations of changed carbon fluxes from upland catchments given a range of climate change scenarios (below).





Climate change effects on stream ecology

Experimental flow-through channels used to examine response of invertebrate communities in the channels to three different levels of flow for the summer period.



Find out more.....

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