The implications of climate and land cover change for river water quality: model development and scenario assessment.

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This studentship, jointly funded by SCENARIO and the James Hutton Institute aims to quantify the response of multiple pollutants in river-systems to projected changes in climate, land cover and policy instruments. This understanding is needed to improve UK water quality within the context of climate change, demographics and agricultural intensification. Specifically, the project will develop a cutting-edge multi-pollutant water quality model, based on existing approaches and using the most detailed observations of water chemistry available in the UK.

Water quality models are useful tools to understand how drivers of change, including policy instruments, will affect the chemical constituents in the water environment. A new model will be built for the River Kennet (shown above - left) and Tarland Burn (right) to begin, important exemplars of UK water quality issues.

Training opportunities:
The training will be split between the University of Reading and James Hutton Institute. Training will be given in environmental data analysis, Geographical Information Systems and statistical and process-based environmental modelling including programming. There will be opportunities to visit the field study sites and the student will be part of a large community of environmental scientists at Reading and James Hutton Institute.

Student profile:
This project is suitable for those curious about the natural world and interested in mathematical modelling with a background in environmental science, mathematics, physics, civil engineering or other numerate discipline. Flexibility to work between Aberdeen and Reading is expected and the details will be worked out together with the student. [http://www.reading.ac.uk/nerdtp](http://www.reading.ac.uk/nerdtp)