**Project examples. Please note that these are only examples and if you are interested in doing research in our lab we have multiple projects available. Depending on your degree of interest (e.g. PhD, Masters by Research or honours) any of these projects can be expanded upon. For further information please contact Dr Mirela Tulbure (mirela.tulbure@unsw.edu.au) or Dr Mark Broich (mark.broich@unsw.edu.au).**

Example 1: Quantifying trends in reservoir dynamics
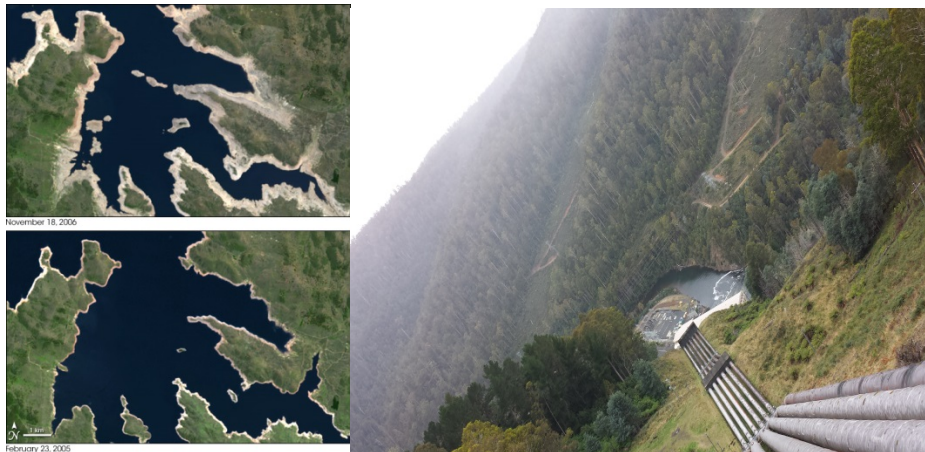
Understanding reservoir dynamics is paramount for water security. Reservoir dynamics is particularly important in semiarid regions where downstream water users may be totally reliant on upstream reservoir releases. It is thus critical that their management incorporates best available long time-series of systematic quantification of their dynamics. This project will quantify trends in reservoir storage change over three decades. Results will be important for water availability and security.

This research project will position you for a career in water and quantitative ecology: key national research priorities in Australia. The position would suit a recent graduate in ecology or hydrology but with spatial analysis knowledge and well developed quantitative skills. Experience with GIS, image processing, scripting or programming and willingness to improve these skills is beneficial. Good presentation and writing skills would be beneficial. A demonstrated enthusiasm for research is paramount. For further information please contact Dr Mirela Tulbure (mirela.tulbure@unsw.edu.au) or Dr Mark Broich (mark.broich@unsw.edu.au).

Example 2: Assessing the impact of multiple drivers on change in vegetation health.
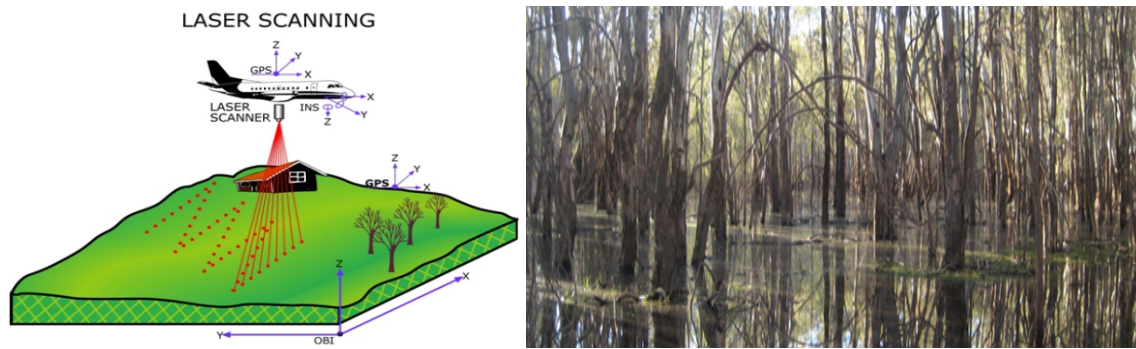
Multiple drivers of change (e.g. changes in flooding regime, recent Millenium drought) affect the health of Australia's iconic river red gum (*Eucalyptus camaldulensis*) forests. Using cutting edge technology based on light detection and ranging (lidar) and novel algorithms this project aims to quantify the impact of multiple drivers on change in river red gum health.

This research project will position you for a career in remote sensing/geospatial analysis, water and vegetation science: key national research priorities in Australia. The position would suit a recent graduate in geospatial science or ecology but with spatial analysis knowledge and well developed quantitative skills. Experience with image processing, scripting or programming and willingness to improve these skills is beneficial. Good presentation and writing skills would be beneficial. A demonstrated enthusiasm for research is paramount. For further information please contact Dr Mirela Tulbure (mirela.tulbure@unsw.edu.au) or Dr Mark Broich (mark.broich@unsw.edu.au).