

Solar-powered catamaran monitors water quality

By measuring local water quality fluctuations, a new solar powered catamaran is helping better predict water treatment needs in Lake Wivenhoe, one of south-east Queensland's primary water supplies.



Credit: Matthew Dunbabin

The catamaran collects data from Australia's largest integrated intelligent wireless sensor network, which was developed by CSIRO and Seqwater. The network consists of 120 nodes and gathers data on temperature, turbidity, salt and oxygen levels. Forty-five of the nodes float, while another 70 land-based nodes collect data on stock movement – aimed at quantifying the effects of cattle grazing on water quality – and weather, to determine the effects local events have on water turbidity levels.

The catamaran, also developed by CSIRO, travels between the floating nodes collecting water quality information. It also measures greenhouse gases emitted by decomposing vegetation in the lake, and uses depth sounding to record how sediment build-up has changed the lake bottom's profile over time.

‘This is about real-time data collection from the storage to the shore with a level of speed and detail not seen before,’ says CSIRO senior research scientist, Dr Matthew Dunbabin. ‘It gives us the capacity to monitor events in real time, such as high rainfall, droughts or contaminants entering the waterway.’

‘This information will help water quality managers better predict water treatment needs in response to local events in the catchment,’ he says.

From **ECOS** online <http://www.ecosmagazine.com/?paper=EC10005>