

Discovering how river water is mixed into the sea can assist in mapping climate change

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A study of the freshwater that flows into Liverpool Bay from the region's two main rivers is to help scientists piece together another part of the climate change 'map'.

Scientists from the University of Wales, Bangor and Proudman Oceanographic Labs., Liverpool will be looking at how freshwater from the Mersey and Dee rivers mixes with the sea water in Liverpool Bay.

The research is funded by a £300K research grant by the Natural Environmental Research Council. The scientists will use data collected by state-of-the-art scientific instruments to test complex numerical models of the water circulation in Liverpool Bay.

Group leader Dr Tom Rippeth, University of Wales Bangor said:

“The boundary between estuaries and the sea provides an important interface across which river borne freshwater, pollutants and sediment must cross. The fate of, freshwater, nutrients and pollutants have important effects on the health of the coastal seas.

“We know these interfaces are particularly sensitive to the consequences of climate change such as increasing sea level height, changing rainfall patterns and increased storm activity. These will affect the processes responsible for mixing freshwater and seawater in areas like Liverpool Bay. The new project will improve our understanding of these processes enabling more accurate predictions of the consequences of climate

change.

The research will include monthly surveys of the area by the University of Wales, Bangor ship, the Prince Madog, and measurements of the surface current patterns made using the radar mast array at Llandulas near Colwyn Bay.

The measurements will be fed into a model which will give a more accurate picture of how things will change Liverpool Bay and in other similar coastal areas across the globe.

The work begins this October and will continue for three years.

Source: University of Wales Bangor

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