

## MONITORING CHANGES BY TRAWLING THROUGH TIME

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Centre for Environment Fisheries & Aquaculture Science

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Cefas has existed as an agency for 20 years, but the history of marine research and monitoring goes back a lot further. Indeed, Cefas' history extends back to 1902, the date of the establishment of a fisheries laboratory in Lowestoft, and when significant data collection on the state of UK seas began.

In recent years, Cefas staff have been digitising datasets from our history – logbooks, charts and old paper records – which we have dubbed our 'Trawling Through Time' initiative. These datasets include fisheries surveys going back to 1902, and of the catches of the UK's fishing fleets since the late 19th century.

New analysis of the old data has revealed that many of the UK's fish stocks have shown substantial distribution shifts – in response to climate change, fishing pressure and the alteration of physical habitat. Other analyses have shown how climate change has led to changes in the timing of important biological events – some stocks now spawn earlier in the year than they did before. This new database of rich historical data allows many different types of analyses that were not possible at the time the data were collected. These help to increase our understanding of the dynamic nature of our marine ecosystems, including how fish populations might respond to future environmental change. This will cast light on the ways that society and our management of human impacts may need to adapt in the future.

Looking ahead, maintaining our time-series by continually improving data-management protocols and harnessing the power of 'Big Data' will be vital to forecasting and managing the marine environment.

For more information please visit: http://ow.ly/WKG730hiBXh

