

# Environmental change indicators



**Client: Defra, in partnership with CEH Wallingford**

**Duration: 2002 — 2003**

## Description

Many flood and coastal defence systems are designed, maintained and operated to manage risk from environmental loads such as river and tide levels and waves. It is important to monitor and understand changes in environmental loading, including those related to climate change, in order to manage flood risk, because it alters the level of risk and changes the standard of protection that is provided.

This project aimed to identify a wide range of possible Environmental Change Indicators (ECIs) for England and Wales, related to floods. The work involved locating data series over sufficiently long periods to make the ECI calculations valid; producing five pilot indicators and discussing their implications for future use and expansion.

The Met Office played an integral part in this project — identifying a range of environmental indicators that could be monitored, including days of > 25 mm rainfall; extreme high-intensity rainfall incidence; soil moisture deficit and catchment wetness; thunderstorm incidence and lightning tracking; sea-surface temperature and surface pressure anomalies, and sea surge and wave height. Many of these indices are already being recorded and archived by the Met Office.

The Met Office is able to identify and set up archiving facilities for a range of hydrometeorological environmental indicators, for any location in the world.