

Climate change

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WHY: IS DETECTING AND PREDICTING CLIMATE CHANGE IMPORTANT?

BECAUSE: THIS WILL IMPACT ON SOCIETY AND THE ENVIRONMENT; WE NEED TO BE PREPARED

Climate is changing – this will affect humans and all other life forms on Earth at local, national and global scales.

The climate system underpins future environmental and societal security – water, food, energy, health and our economy.

Without research to predict how the climate might change, along with associated impacts, we may find ourselves unprepared for potentially dangerous climatic states.



DELIVERING IMPACT

CEH delivers long-term monitoring programmes to detect and identify causes of change, including the Biological Records Centre, UK Countryside Survey, Environmental Change Network, Cumbrian Lakes Monitoring Programme, Isle of May Long-Term Study, UK Butterfly Monitoring Scheme and annually updated, Earth Observation-derived, circumpolar daily burnt area maps of the boreal forests.

CEH led the most comprehensive study of the seasonal timing of biological events across marine, freshwater and terrestrial environments, demonstrating that the recent trend towards earlier UK springs and summers is accelerating.

CEH is delivering an atlas of future river flows in the UK, and coordinates WATCH, an EU FP6 Project predicting future global water cycles.

CEH collaborated within the AVOID initiative, which provided scenarios to remain below two degrees of global warming, presented by DECC at the Copenhagen COP15, and subsequently calculated the implications of post-Copenhagen "year 2020 pledges".

CEH coordinates NitroEurope IP, an EU FP6 Integrated Project involving 62 partner institutions worldwide, studying the effect of reactive nitrogen on the European greenhouse gas balance.

CEH scientists contributed to and are cited extensively in the IPCC 4th assessment report that is providing the scientific basis for much UK climate change policy.

FUTURE CHALLENGES

To further improve climate projections at national and regional scales and enable appropriate policy decisions and management options for land, water and biota.

To quantify and qualify the full consequences of changing seasonal timing on ecosystem functioning.

To investigate how climate change interacts with other environmental pressures, such as land use change, ozone impacts and other pollutants.