



A Changing Climate in Northern Ireland

Title: Preparing for a changing climate in Northern Ireland

Project Code: UKCC13

Objectives of the project

This project aimed to examine the ways in which Northern Ireland must prepare to meet both the opportunities and threats presented by the impacts of a changing climate. It focuses specifically on the impacts on, and the need for adaptation by, the public sector in Northern Ireland.

Objectives were to:-

- Provide an analysis (updating the 2002 SNIFFER scoping report); based on the themes of Economic Infrastructure, Built Environment, Natural Environment and Social Wellbeing, of climate change impacts upon NI, using the UK Climate Impacts Programme 2002 (UKCIP02) scenarios and recent research in the field relevant to Northern Ireland.
- Produce a risk analysis of identified impacts with estimated likelihood of risk and resource implications.
- Produce an adaptation strategy for each impact, identifying the public sector bodies responsible for delivery.
- Provide an analysis of the effect on public services (building on the 2005 EHS guidance), specifically on the key outcomes related to the Government's three priority themes of Economic Competitiveness, Equality and Community Cohesion and Better Public Services.
- Produce a technical report of climate impacts for use by policy experts. In addition, a separate non-technical summary report has been produced.

Background

The climate of Northern Ireland is already changing. Air temperature is rising and the number of hot days is increasing; the proportion of rainfall falling in summer is decreasing, while winters are slightly wetter. These changes are expected to accelerate over the coming century. Average temperature may rise by 3°C or more; summer rainfall may fall by up to 50% while winters may be 25% wetter. Furthermore, relative sea level may begin to rise.

Although there are ongoing efforts to mitigate climate change, principally by reducing emissions, at least some climate change is now inevitable. Adaptation to climate change – reducing risks and realising opportunities – is therefore required. It is vital that the community and key stakeholders within it have a clear understanding of potential impacts and response strategies. In particular public bodies, with their policy-making, service provision and advisory roles, need to be at the forefront in risk management and the delivery of sustainable development.

This report examines the ways in which NI must prepare to meet both the opportunities and threats presented by the impacts of a changing climate.

Key Findings and Recommendations

An overview of expected climate changes for Northern Ireland can be found in the table below:

Climate Variable and Likely Changes
Temperature
<ul style="list-style-type: none">• Warmer (by between 1.0 and 3.5°C by the 2080s).• Summer and autumn will warm more than winter and spring.• Extremely warm days will become more frequent and heat waves will be more likely. The number of cold days will decline.• Sea surface temperatures will rise (by between 1.0 and 2.5°C by the 2080s)
Precipitation
<ul style="list-style-type: none">• Drier overall (up to 10% drier by the 2050s).• Wetter springs and particularly winters.• Drier autumns and particularly summers.• Summer will become more reliably dry; precipitation in other seasons will become more variable.• More intense rainfall in winter and spring.• Large decline in snowfall.
Cloud cover
<ul style="list-style-type: none">• Reduction, particularly in summer.
Relative humidity
<ul style="list-style-type: none">• Reduction, especially in summer.
Soil moisture content
<ul style="list-style-type: none">• Drier overall.• Marginal increase in winter and spring.• Significant reductions in summer and autumn.
Wind speed
<ul style="list-style-type: none">• Wind speeds over land are likely to be similar in winter and spring and may decline in summer and autumn.• Extreme wind speeds at sea will be similar to those experienced at present, although in summer they will be lower.• Changes in wind speed are only predicted with low confidence.
Sea level
<ul style="list-style-type: none">• Global mean sea level is expected to rise by between 9 and 69cm by the 2080s. Sea level rise in Northern Ireland will be less than this due to isostatic uplift (regional land movement due to the slow readjustment of land surface since the last ice age), but could be half a metre or more.• Changes in storm surge heights are uncertain, though not anticipated to increase much beyond the addition of mean relative sea level.

The project has made a number of adaptation recommendations for key sectors in the natural and built environments, economic infrastructure and social well-being areas. To find out more about these recommendations see the Further Information section.

Next Steps

The Department for Environment, Northern Ireland, is developing a partnership to respond to the impacts of climate change. Priority areas will be based upon the findings of this research.

Further Information

Copies of the project outputs are available for free at download at www.sniffer.org.uk/ - search on Project code UKCC13

Further information on the project is available from Vanessa Kind (contact info@sniffer.org.uk, 0131 524 0973)

Partners

Environment & Heritage Service, Department of the Environment Northern Ireland and the UK Climate Impacts Programme

Contractor

Atkins Limited

SNIFFER, First Floor, Greenside House, 25 Greenside Place, Edinburgh, EH1 3AA

Tel: +44(0) 131 557 2140 Fax: +44(0) 131 652 3670 Email: info@sniffer.org.uk www.sniffer.org.uk

Scottish Charity No SC02375,

Company No SC149513. Registered in Edinburgh. Registered Office: Edinburgh Quay, 133 Fountainbridge, Edinburgh, EH3 9AG