Ireland

Climate change impacts on water systems

Observed changes and trends	• Warming evident in two periods, from 1910 to the mid-1940s and from 1980 to 2004. In the latter period, warming occurred at a much greater rate than the global temperature rise. • Increases in annual and seasonal mean maximum and minimum temperatures. • Changes to precipitation patterns are more spatially and seasonally variable than temperature changes. • On the West Coast, significant annual increases in the number of days of extreme precipitation events (number of days where daily precipitation is greater than or equal to 10 mm).				
Projected impacts	• Increase in annual mean temperture of 1 °C to 3 °C by 2100, compared to the average of 1961-2000. • Wetter winters in the west, drier summers in the southeast. Decrease in summer rainfall of 5% to 25% in 2021 to 2060, as compared to 1961 to 2000. • Less snow and fewer days of snow. • Changing patterns of precipitation will clearly impact on water service provision and may increase risk of pollution and contamination.				
Primary concerns	Water quantity	Water quality	Water supply and sanitation	Extreme weather events	Ecosystems
			✓		
Key vulnerabilities					

Source: Department of the Environment, Heritage and Local Government (2010), *Ireland's Fifth National Communication under the UNFCCC*, *http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/4903.php* (accessed 22 June 2012).

Key policy documents

Document	Reference to water?	Type	Year	Responsible institution
National Climate Change Strategy	Y	National climate change strategy	2007-12	Department of the Environment, Community and Local Government (DECLG)
National Climate Change Adaptation Framework	Y	National adaptation framework	2012	DECLG
A Summary of the State of Knowledge on Climate Change Impacts for Ireland		National impact assessment	2009	Environmental Protection Agency (EPA)
National Adaptive Capacity Assessment	Y	National adaptive capacity assessment	2012	DECLG, EPA
Climate Change Strategy for Dublin City 2008-12	Y	Sub-national responses	2008-12	The Environment and Engineering Strategic Policy Committee in association with City of Dublin Energy Management Agency

Policy instruments

Areas \ Policy mix	Regulatory instruments	Economic instruments	Information and other instruments
Water quantity			• National Catchment-based Flood Risk Assessment and Management Programme: Involves consideration of potential future climate change scenarios, as well as maps of existing conditions. This programme is now well underway following completion of a set of pilot projects, *www.cfram.ie*. • Flood information websites: As part of the strategy to manage flood risk, the website aims to raise awareness of flood risk and promote preparedness, effective emergency response planning and better flood forecasting and warning, *www.flooding.ie*. • The National Climate Change Adaptation Framework provides a clear mandate for the preparation of an adaptation plan for the water sector.
Water quality			
Water supply and sanitation			
Extreme weather events	• SI No. 122 of 2010, European Communities (Assessment and Management of Flood Risks) Regulations 2010: Sets requirements in relation to climate change.		
Ecosystems			

Main research programmes

- Climate Change Research Programme of the Environmental Protection Agency: Aims to advance the understanding of and to support action to address climate change. To support adaptation and risk management. It aims to provide information on future climate impacts and vulnerability, *www.epa.ie/researchandeducation/research/ourresearchprogramme/climatechange/#d.en.33770*.
- Project on "Co-ordination, Communication and Adaptation for Climate Change in Ireland": Aims to identify an effective integrated approach to vulnerability assessment and adaptation in key sectors, including water.

Principal financing mechanisms and investment programmes