Freak weather is becoming the norm

JOHN GIBBONS

OPINION

Ireland as a whole is likely to warm by 3-4 degrees by the end of this century

FIRST, SOME good news: despite the atrocious weather of the last week or so, overall Ireland is in fact rated as one of the countries in the world least vulnerable in the medium term to the effects of climate change. That will probably be cold comfort for the motorists battling through flooded roads, farmers unable to harvest their crops or householders mopping out their ruined homes. Ireland has long enjoyed a Goldilocks climate – not too hot, not too cold. While poor summers are not unusual, we have largely been spared the weather extremes endured by many other countries.

Last Saturday's deluge, the most intense in nearly half a century, battered many parts of Dublin and Kildare.

What had been viewed as freak weather events are now rapidly becoming the new climate norms. Computer models for Ireland in the decades ahead show greater seasonal extremes, with autumns and winters becoming as much as 25 per cent wetter with drier, drought-prone summers. Where then do August deluges fit into this model? "Overall summer rainfall is declining; we're getting less rain, but it comes in severe bursts, and that seems to be consistent with what we're seeing here," says Peter Lynch, professor of meteorology at UCD.

These short, sharp episodes of intense rainfall are both difficult to predict and extremely destructive, as they quickly overwhelm drainage systems. "With so much recent building in flood plains, this is causing more instances of severe flooding," says Lynch. Adaptation through improvements in engineering and planning is now essential, he said.

Prof John Sweeney of NUI Maynooth (who also does work for the UN's Intergovernmental Panel on Climate Change) pointed out that much of the widescale house-building over the last decade had taken place in low-lying regions. Rivers' natural flood plains are being converted into housing estates and covered in concrete, leading to a loss of land into which flood waters can drain. However, the Department of the Environment has still not moved to prevent local authorities from allowing houses and infrastructure to be built on flood plains.

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The oceans act, in effect, like a giant sponge absorbing the bulk of the extra heating global warming has injected into our system. "The climate system has inertia," says Dr James Hansen of the Nasa Goddard Institute. "But that inertia is not our friend." The great bulk of this tightly coiled climatic spring now resides in elevated ocean temperatures.

It takes an immense amount of energy to warm an entire ocean. Surface temperatures of the Atlantic waters around Ireland are now increasing by around 0.4 degrees per decade, but the Irish Sea has undergone even more dramatic and unprecedented heating, of up to 0.7 degrees a decade.

As the water warms, its energy increases and the hydrological cycle intensifies. According to Prof Sweeney, ocean water temperatures in the region south of Newfoundland where our recent weather systems are forming have increased by an astonishing 5-6 degrees.

Wetter, wilder winters and summers of droughts and downpours are among the medium-term predictions for Ireland in a world of increasingly chaotic climate. Dublin city consumes 550 million litres of water a day. This is set to increase to 880 million litres by 2031 as the city continues to expand. At the same time, water levels in the river Liffey, which supplies 80 per cent of the capital's needs, could be halved by mid-century as a result of global warming.

The capital is facing a 20 per cent drop in its water supply within the next 12 years. The most likely solution will be to extract additional supplies from the Shannon at Lough Ree to make up the deficit.

Ireland as a whole is likely to warm by 3-4 degrees by the end of this century, with the most intense heating in the south and east. Extreme weather will be our constant companion in the decades ahead. Rising sea levels will exacerbate a process which may render many of Ireland's low-lying coastal areas uninhabitable this century. "Let's just say I wouldn't be buying a seafront property any time soon," Prof Lynch said to me.

In this unfolding century of ever-deepening climate disruption, Ireland, one of the world's most globalised societies, can hardly expect to stand as an island apart, somehow insulated from the unfolding chaos lapping ever more urgently against our own shores.

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