

Ireland in a Warmer World

The Environmental Protection
Agency
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Scientific Predictions of the Irish Climate in the Twenty-First Century

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Precipitation (Figures 4 and 5)

Autumn and winter are becoming wetter: 5-10% increase in mid century, increasing 15-25% towards the end of the century. Summers are drier: 5-10% decrease for 2021-2060; 10-18% decrease towards the end of the century. While Figures 4 and 5 show regional detail the spread in the ensemble of simulations is large, implying that the accuracy of the detail is questionable. For example, early simulations suggested the largest winter increases would occur in the NW; later simulations showed a bias in favour of the E/SE. Only the general assessment is robust.

Figure 4

Seasonal changes in precipitation: mean of 8 ensemble simulations showing the percentage change between periods 2021-2060 and 1961-2000 for winter, spring, summer and autumn (from left to right). Autumn and winter are wetter (5-10%), summer drier (5-10%); spring is also slightly drier (2-5%). Unlike the temperature signal there is no clear regional trend; the spread in the ensembles (not shown) is also large.

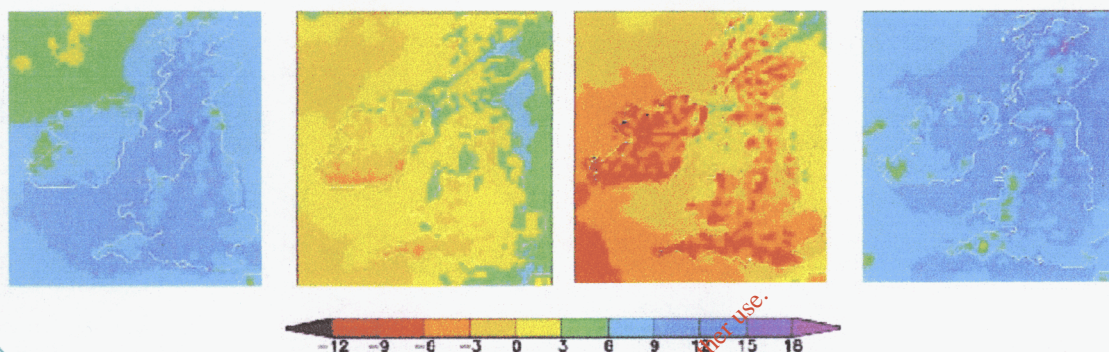
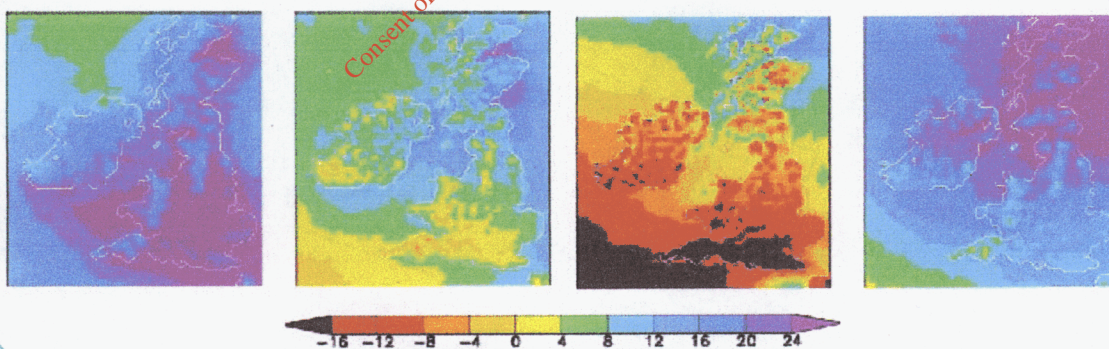


Figure 5

Percentage change in precipitation between the periods 2060-2099 and 1961-2000 for winter, spring, summer and autumn (from left to right). Autumn and winter are wetter: increases of 15-20% generally but 20-25% in the northern half of the country in autumn. Summer is drier (10-18%). Spring is least affected. There is no clear regional trend.



Wind speeds (Figures 6 and 7)

The ensemble set shows slight increases in winter wind speeds (1-2%) and decreases in summer (2-3%) for 2021-2060. However, towards the end of the century there is an overall decline in speeds, particularly in summer (4-5%). The latter is consistent with the predicted movement of storm tracks towards polar areas (IPCC, 2007); fewer storms may affect Ireland, although the influence of rising sea surface temperatures is likely to lead to more extreme storms. It should be noted that the Irish observational records indicate that average annual wind speeds decreased in the 1990s, with this trend continuing in the early years of the 21st century.