



Climate Change Scenarios for UK Uplands (with some input from Goodess, 2008)

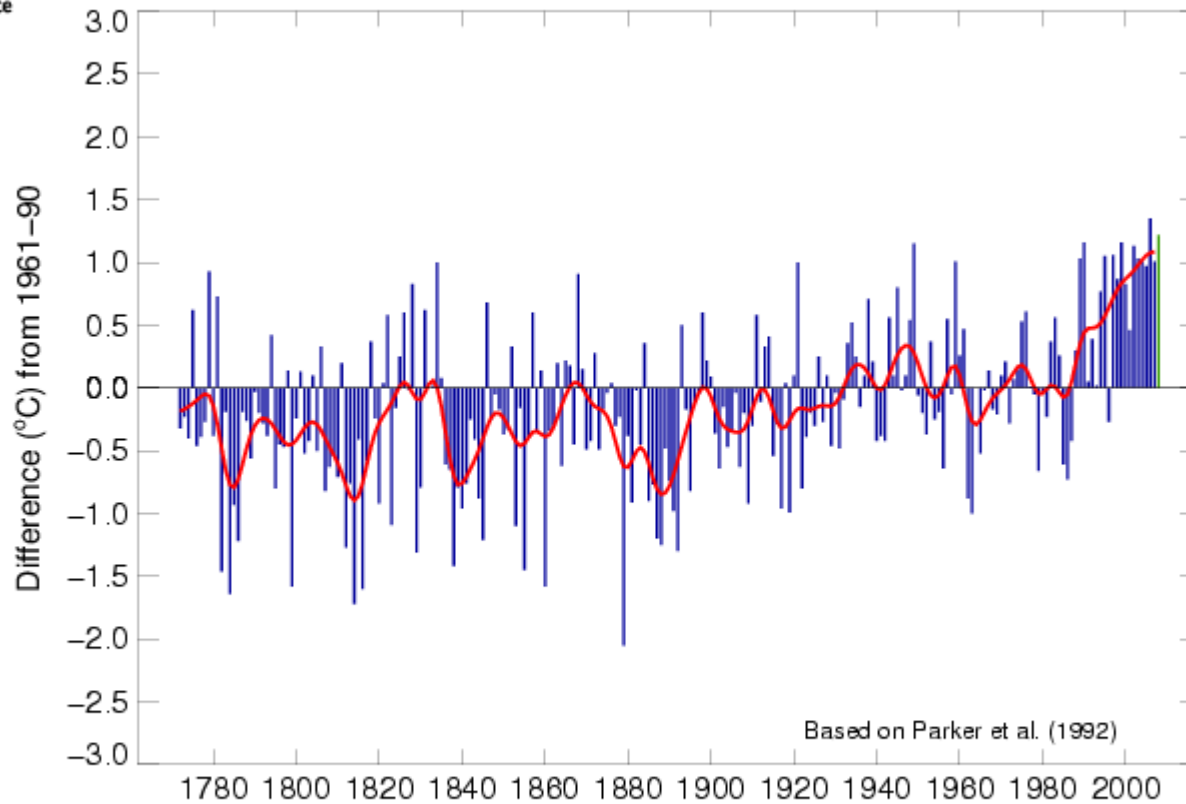
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WARMING IN CENTRAL ENGLAND

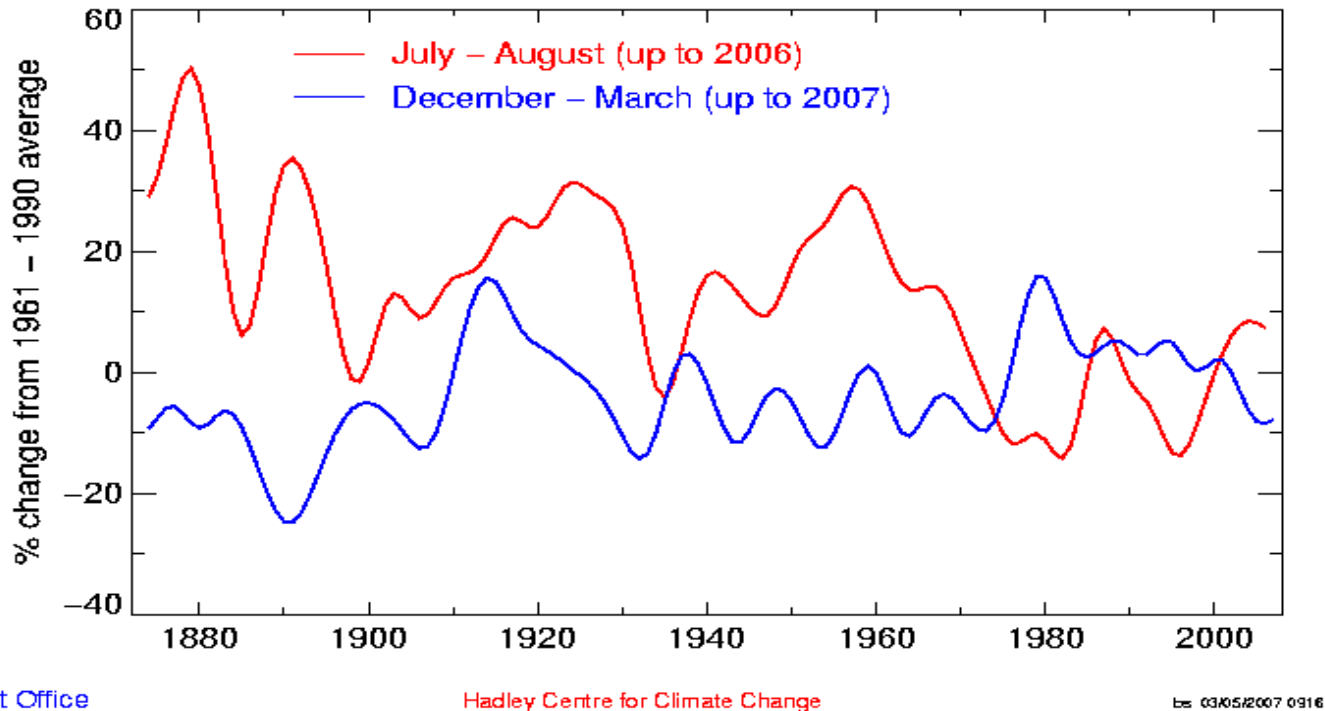


Mean Central England Temperature
Annual anomalies, 1772 to 22nd Jun 2008



Changes in rainfall over England & Wales

Seasonal England and Wales Precipitation
High Summer and Winter, 1873 – 2007

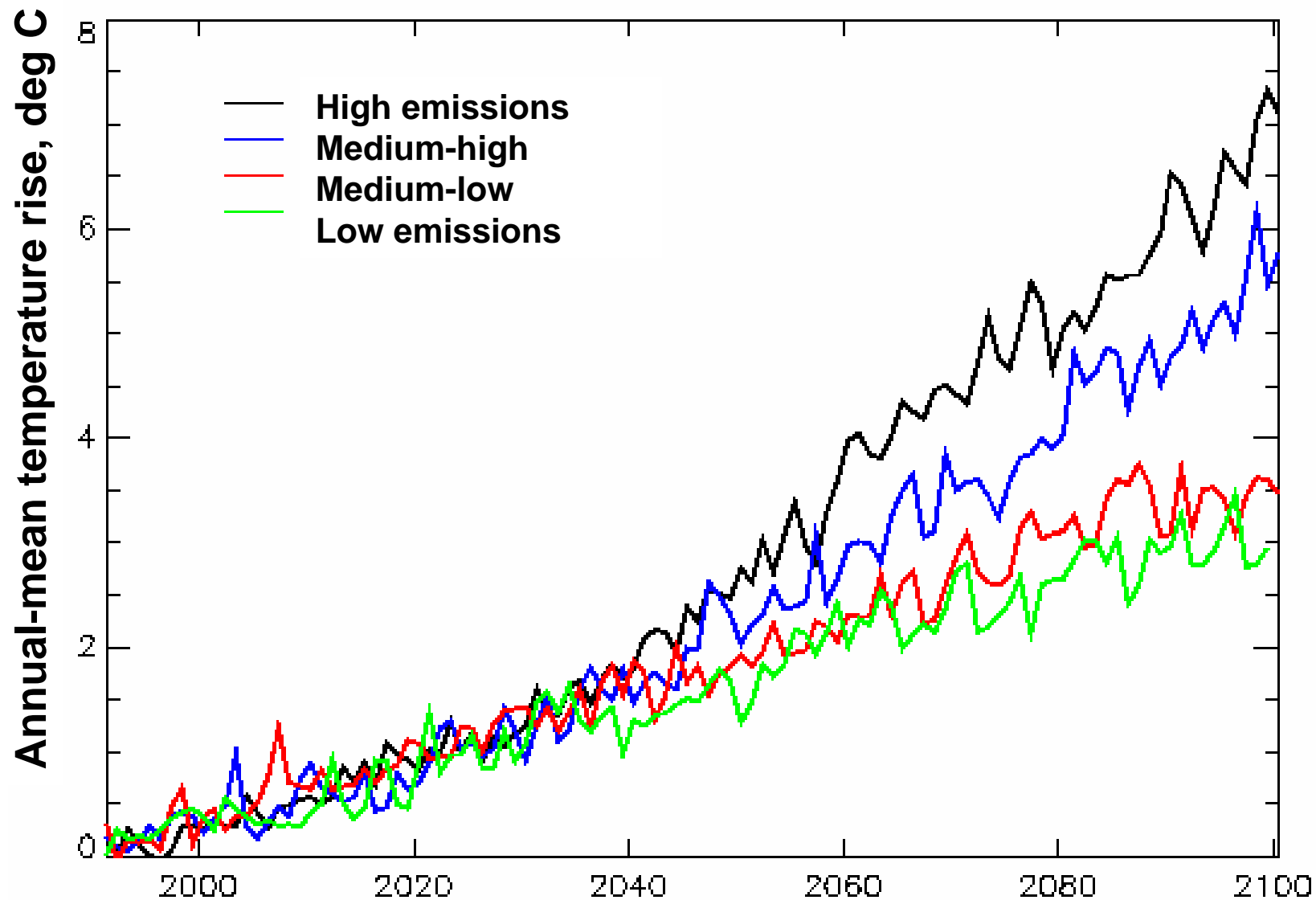


Recent drier summers

Recent wetter winters

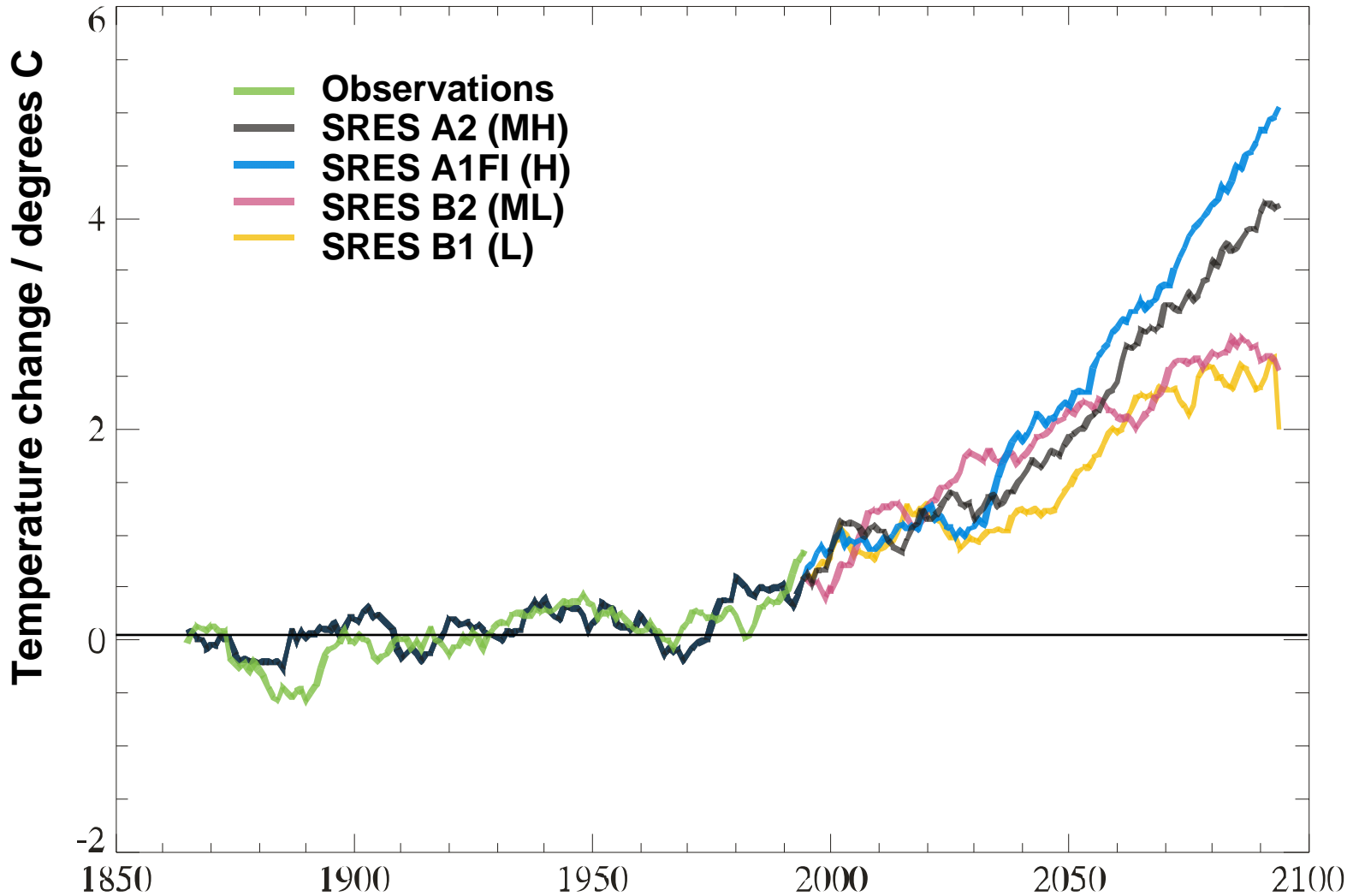
What changes can we expect in the future?

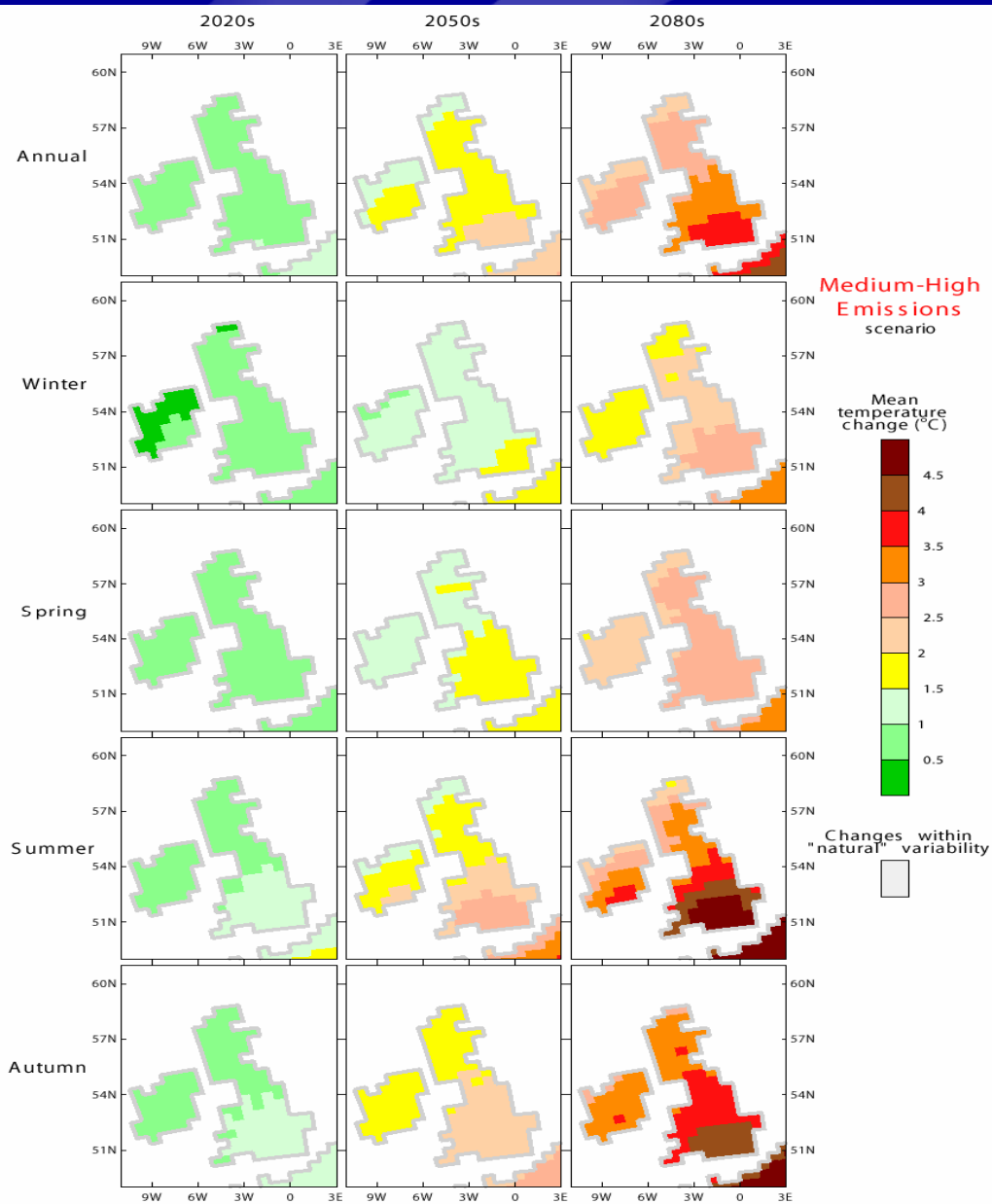
Projected global-mean land temperatures



CENTRAL ENGLAND TEMPERATURE

observed, simulated and predicted

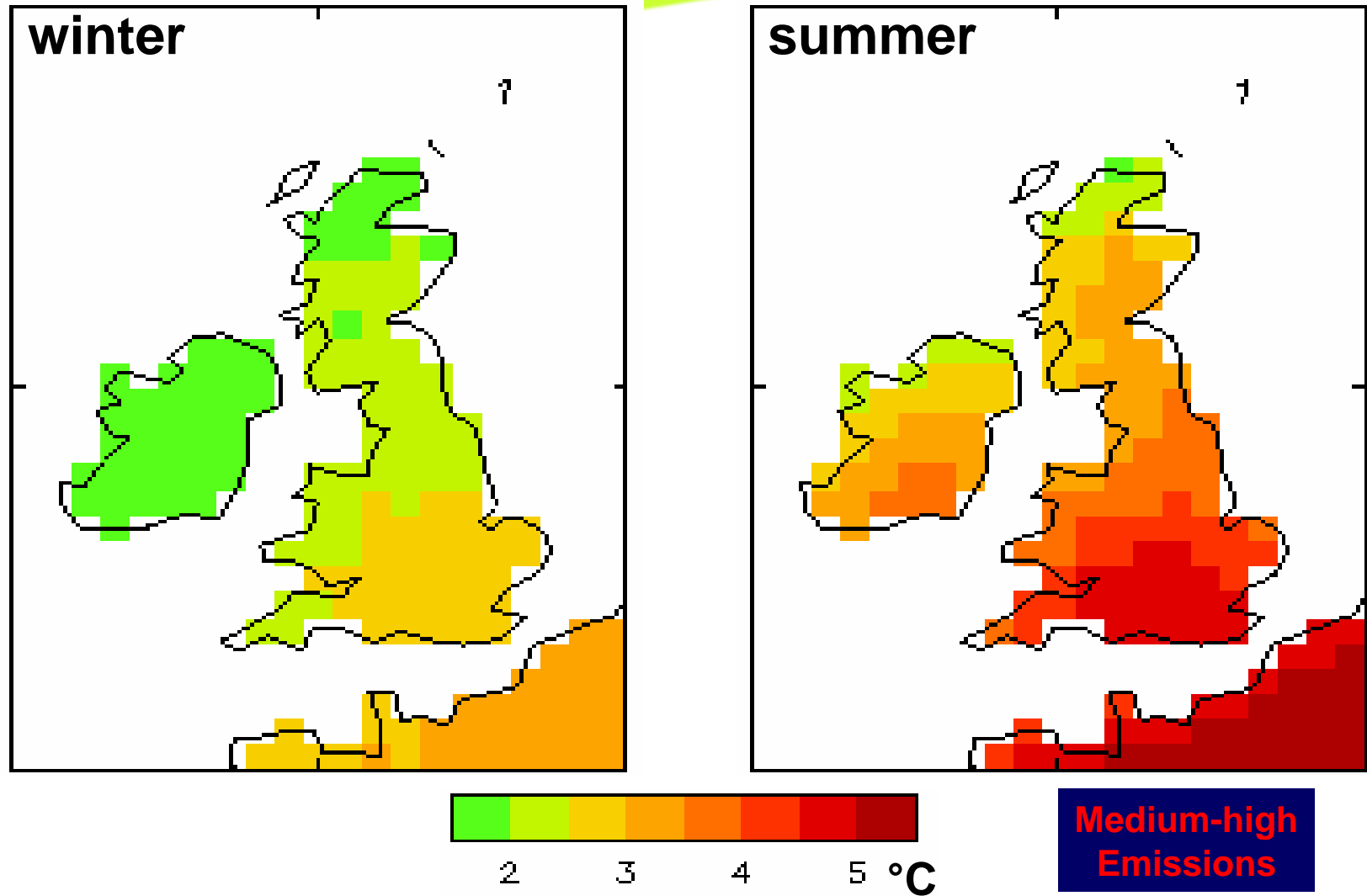




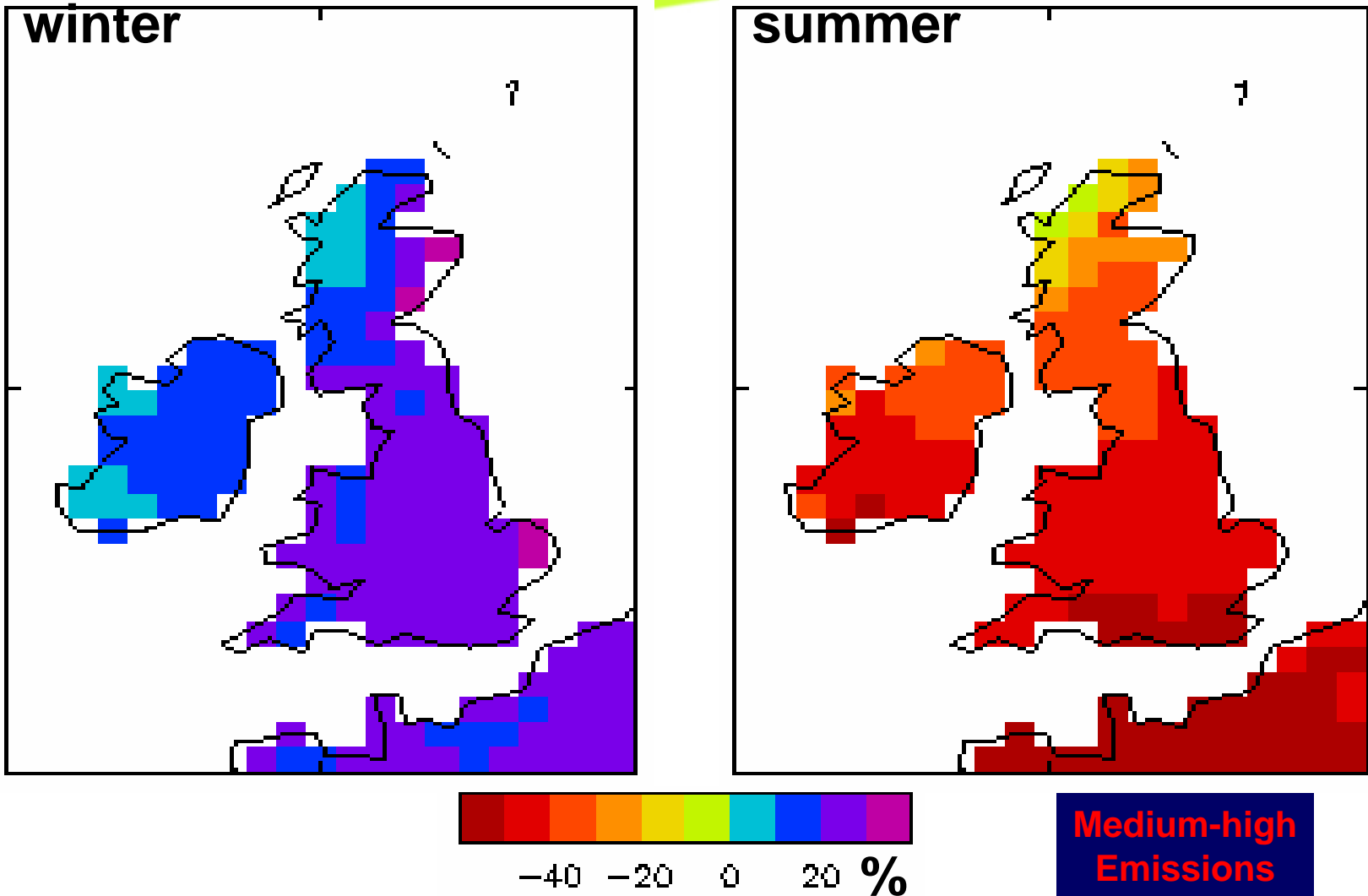
SEASONAL AND ANNUAL CHANGES IN TEMPERATURE 2020s, 2050s, and 2080s Medium-High Emissions

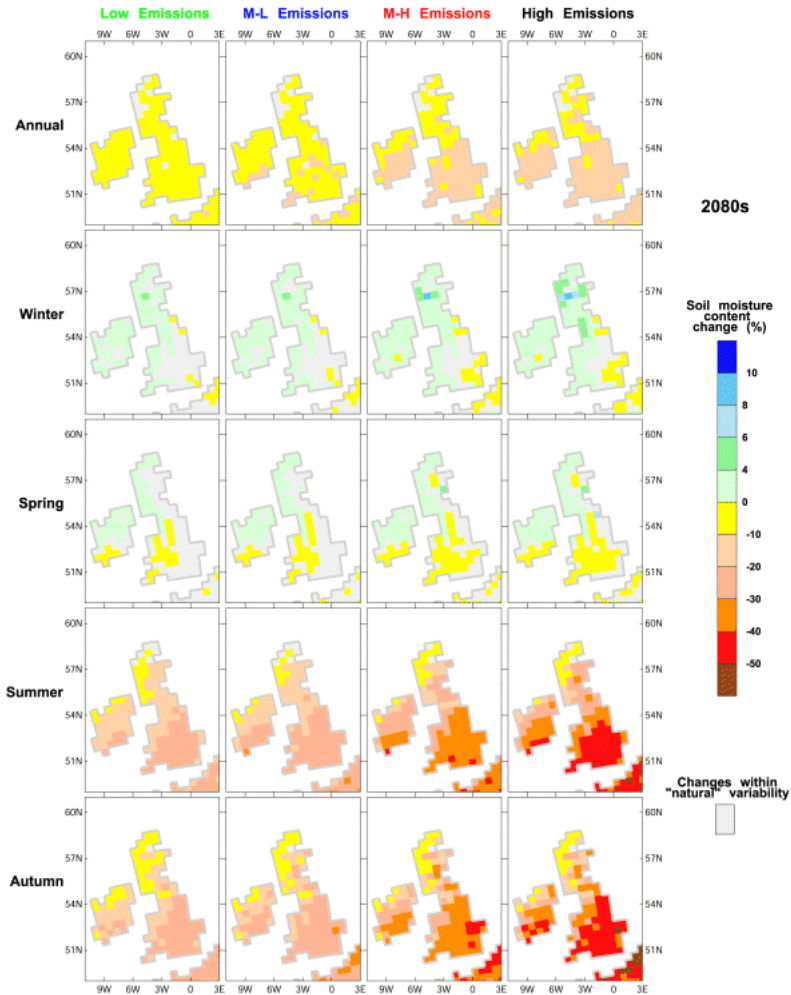
UKCIP/Met Office/Tyndall Centre

TEMPERATURE RISE by the 2080s



CHANGE IN PRECIPITATION by 2080s

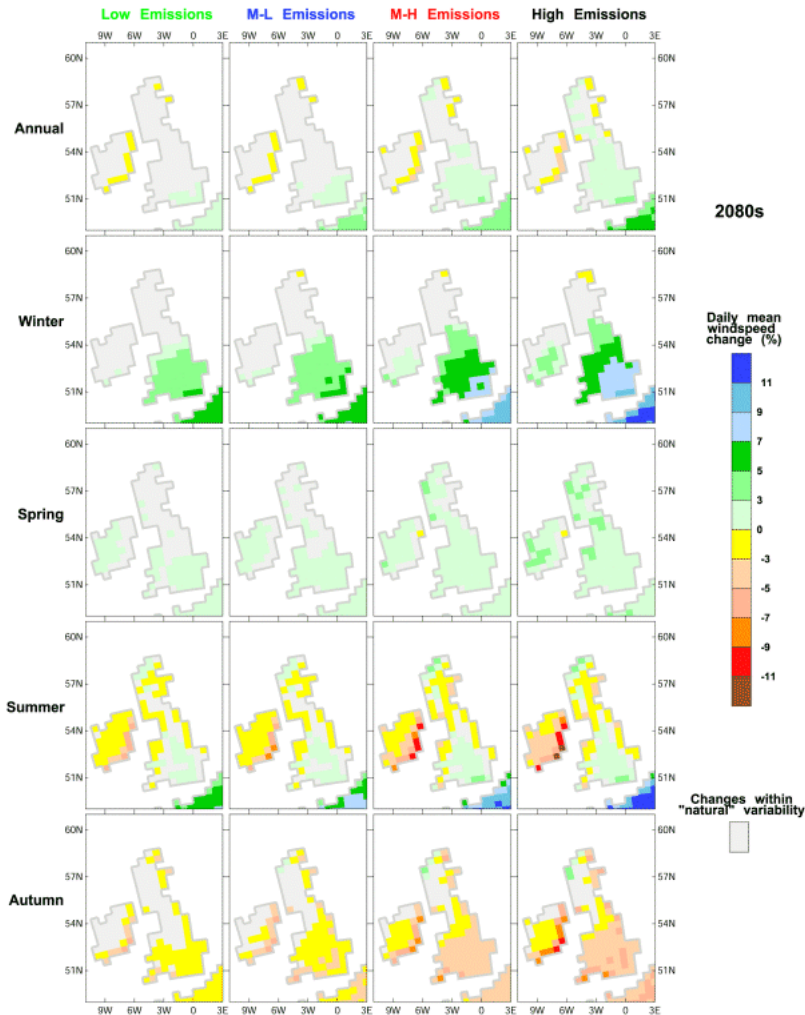




Source: UKCIP02 Climate Change Scenarios (funded by DEFRA, produced by Tyndall and Hadley Centres for UKCIP)

SEASONAL AND ANNUAL CHANGES IN SOIL MOISTURE CONTENT 2080s, four emissions scenarios

UKCIP/Met Office/Tyndall Centre



Source: UKCIP02 Climate Change Scenarios (funded by DEFRA, produced by Tyndall and Hadley Centres for UKCIP)

SEASONAL AND ANNUAL CHANGES IN DAILY MEAN WIND SPEED 2080s, four emissions scenarios

UKCIP/Met Office/Tyndall Centre



UKCIP02 grid (50km) vs. UKCIP08 grid (25km)

- Hotter and drier conditions: direct effect on wildfires, but also indirect: ecosystems (land use), human behaviour (holiday), fire fighting (water)
- Seasonal changes: higher winter rainfall could help to prevent drying out of peat bogs in summer
- Temperature and rainfall not the only relevant factors: wind not well simulated by climate models and great uncertainty in wind projections
- Consider extremes and persistence as well as average changes: need info at higher spatial and temporal resolutions. Possible changes in variability
- Uncertainty and scale: uncertainty in climate projections tends to increase with higher spatial and temporal resolution. Local topographic effects not fully incorporated in climate projections. Summer rainfall (convective) projections tend to be more uncertain than winter projections (frontal). Probabilistic projections (e.g. UKCIP08) will provide better representation of uncertainties than 'deterministic' scenarios such as UKCIP02: helps with risk-based decision making.