Mean Central England Temperature
Annual anomalies, 1772 to 22\textsuperscript{nd} Jun 2008

Based on Parker et al. (1992)
Recent drier summers

Recent wetter winters
What changes can we expect in the future?
Projected global-mean land temperatures

Annual-mean temperature rise, deg C

- High emissions
- Medium-high
- Medium-low
- Low emissions
CENTRAL ENGLAND TEMPERATURE
observed, simulated and predicted

Temperature change / degrees C

- Observations
- SRES A2 (MH)
- SRES A1FI (H)
- SRES B2 (ML)
- SRES B1 (L)

1850 1900 1950 2000 2050 2100
SEASONAL AND ANNUAL CHANGES IN TEMPERATURE
2020s, 2050s, and 2080s
Medium-High Emissions

UKCIP/Met Office/Tyndall Centre
TEMPERATURE RISE by the 2080s

winter

summer

Medium-high Emissions

°C
CHANGE IN PRECIPITATION by 2080s

winter

summer

Medium-high Emissions
SEASONAL AND ANNUAL CHANGES IN SOIL MOISTURE CONTENT
2080s, four emissions scenarios

UKCIP/Met Office/Tyndall Centre
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)
Effects of climate change on wildfires

- 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.