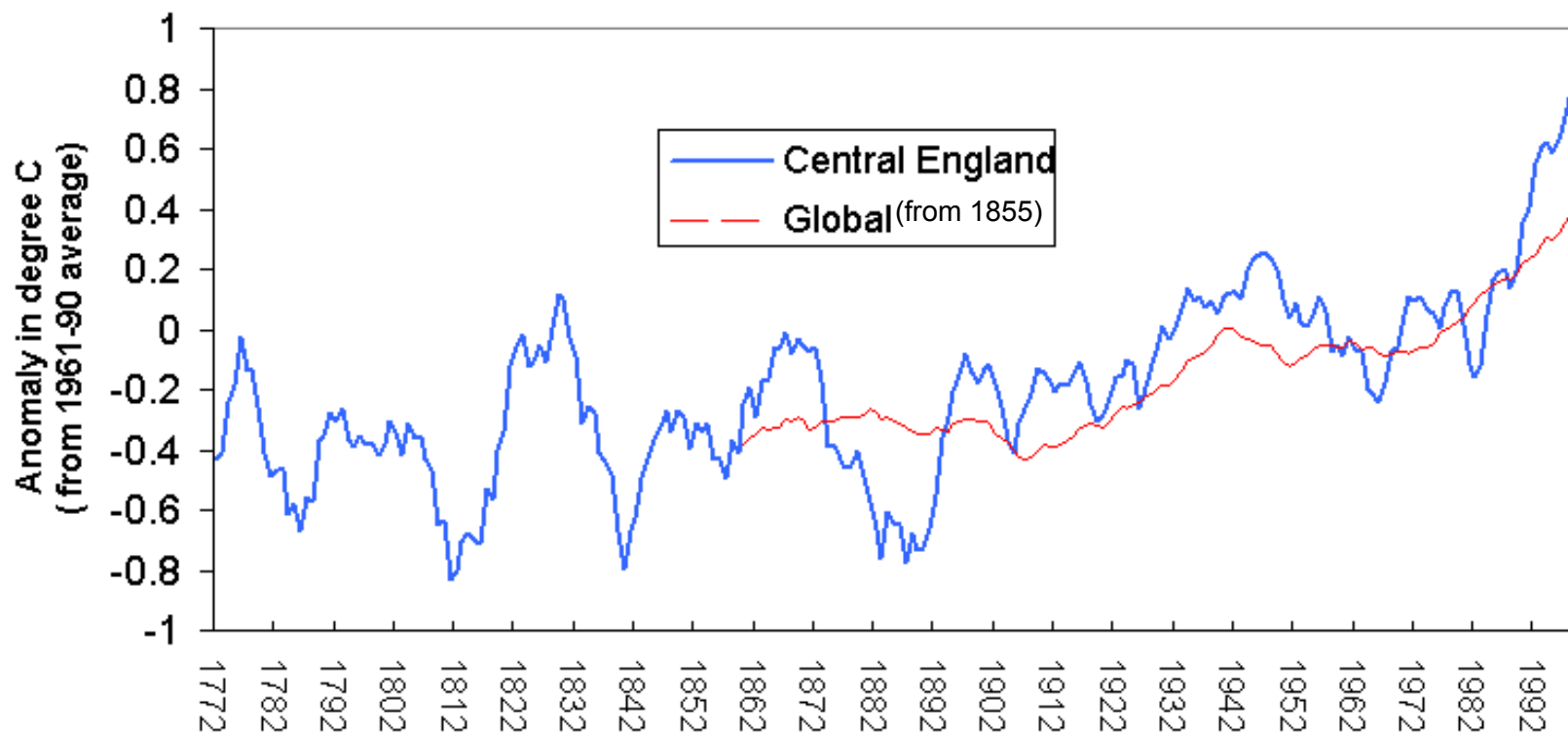


# CLIMATE CHANGE

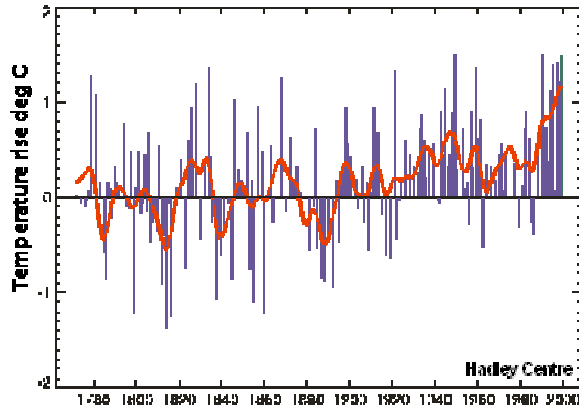
Global and Central England surface temperature anomalies:  
1772 - 2000



Figures based on 10 year moving averages

## Information Sheet

This graph illustrates why a moving average is used rather than the temperatures each year. The vertical blue lines show the individual variation in temperature and the red joined up line the moving average. A 10-year moving average always uses 10 years and averages out the temperature. E.g. take the first ten values, find the mean (placing this point at year 5.5) then take values 2 to 11, find the mean (placing at year 6.5) and continue to repeat this. This causes a smoother curve showing the overall trend.



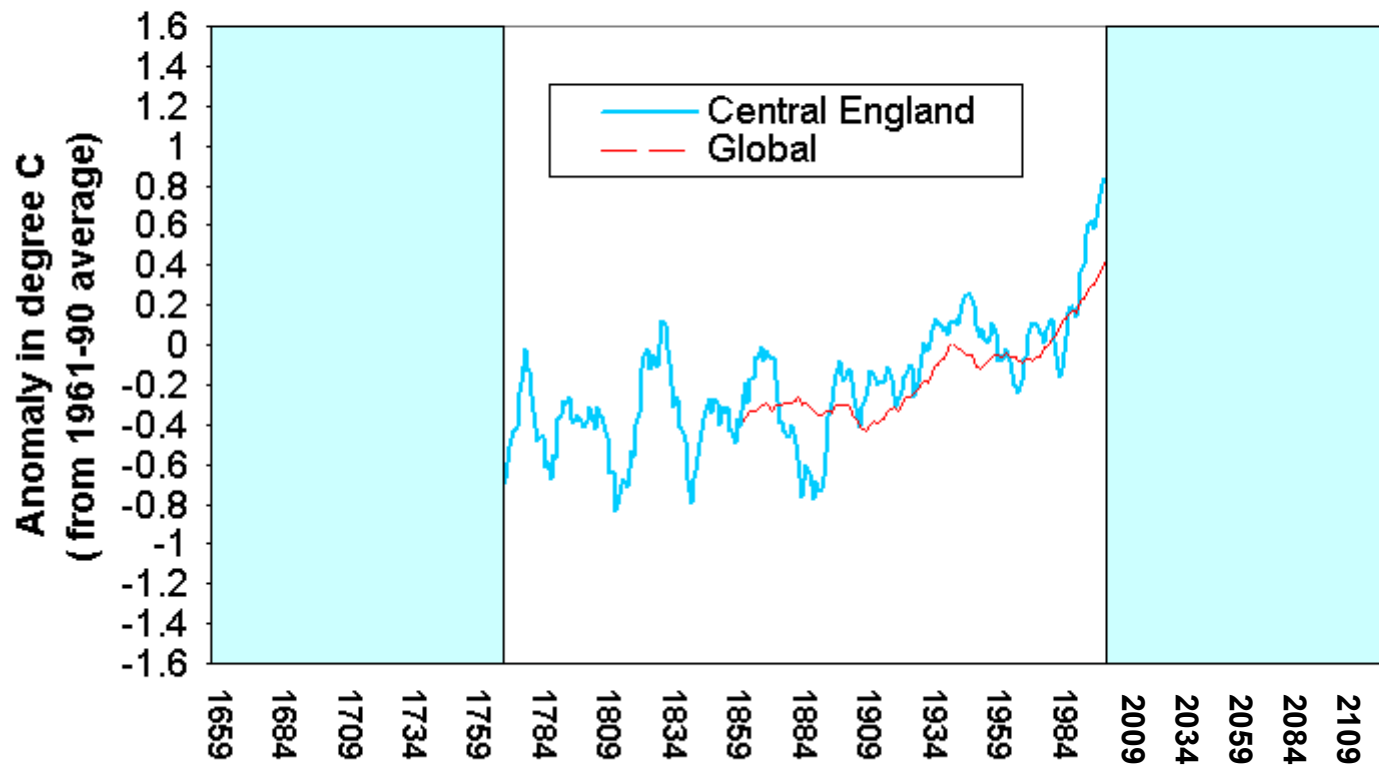
### Central England Temperature (CET)

This is representative of a roughly triangular area of the United Kingdom enclosed by Bristol, Manchester and London. The monthly records of mean temperature for CET began in 1659 and to date is the longest available record of temperature in the world. Since 1974 the data have been adjusted by 0.1° to 0.2 °C to allow for urban warming.

### Why are the temperatures expressed as anomalies from 1961-90?

Weather stations on land are at different elevations (heights from sea level), and some countries estimate average monthly temperatures using different methods and formulae. To avoid biases that could result from these problems, monthly average temperatures are changed to anomalies ( or difference) from the period with best coverage, which is 1961-90. This means the zero value on the temperature axis represents the average (mean) value of all the readings between 1961 and 1990. This value is actually 9.47degrees C. e.g a value of  $-0.8$  for the year 1812 means that in 1812 the yearly average temperature was 0.8 degrees below the 1961 to 1990 average value and in 1964 the average yearly temperature was 0.2 degrees above the 1961 to 1990 average value.

## Central England & Global surface temperature anomalies 1663 to 2100



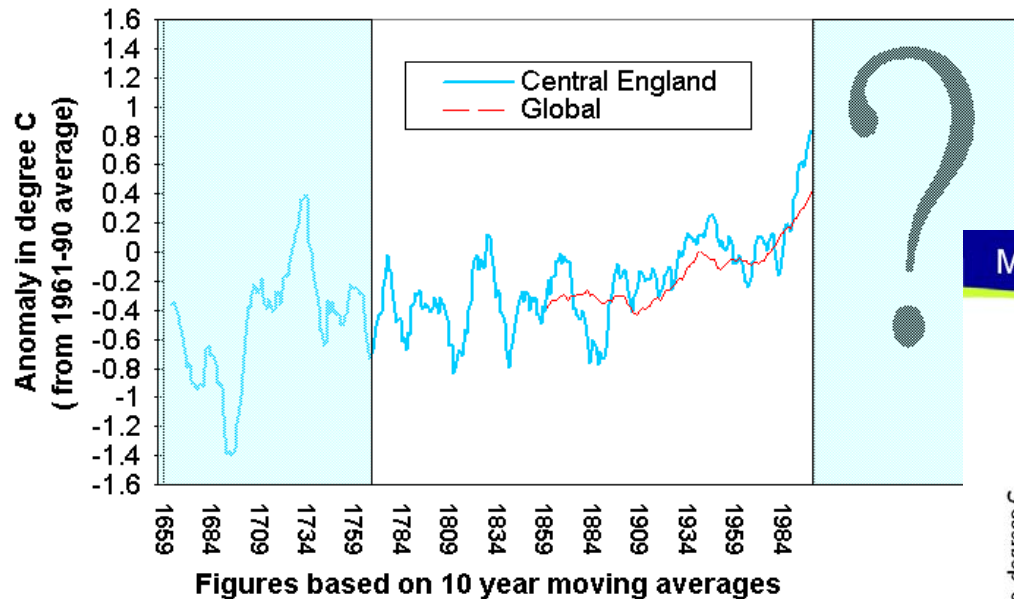
Figures based on 10 year moving averages

Graphs showing:

- 1) Actual 10 year moving averages for Central England from 1663 to 2004
- 2) Predictions for the next 100 years from the Met Office, looking at 4 possible different situations from low (the bottom (green) line) to high ( the top black line) emissions of greenhouse gases.

**NB** note the change in the temperature scale now starting at 0 and going up to 5.

Graph 1)



Graph 2)

