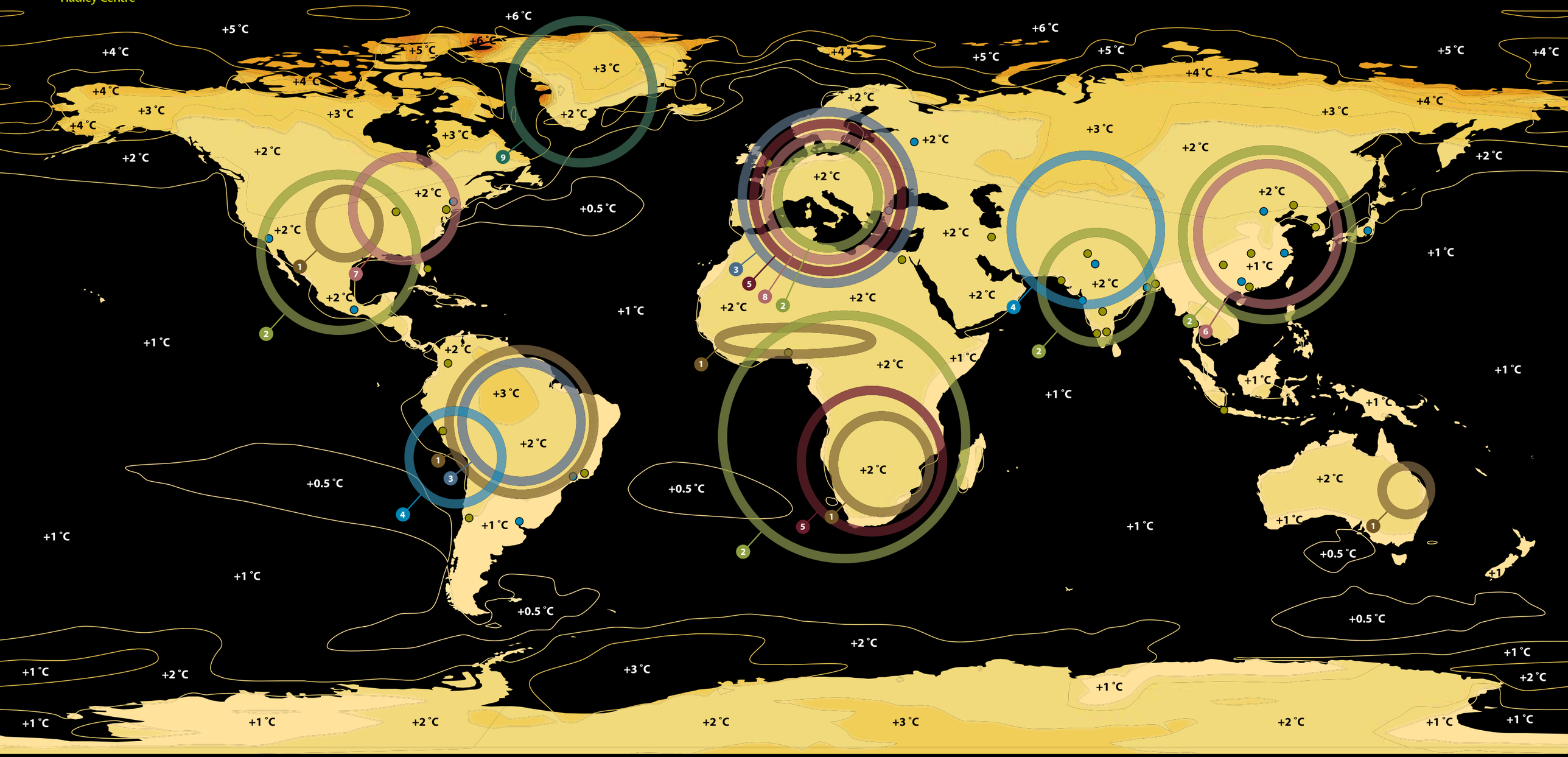
The impact of a global temperature rise of 2 °C

Met Office Hadley Centre



This poster highlights some of the impacts of a global average-temperature rise of 2 °C above the pre-industrial average climate. This compares with the equivalent impacts for a global average-temperature rise of 4 °C, which are far more severe and widespread.

1. High forest-fire danger is projected to become more widespread as temperatures rise. Regions moving into the high-danger category include some areas of South America, along with small areas of the US, southern and east Africa, the Sahel and eastern Australia.

2. Production of some cereal crops may increase at mid- to high-latitudes due to rising temperatures and longer growing seasons. However, in semi-arid and tropical regions the impacts of warming will frequently be more negative, especially in regions where farming is already marginal.

3. Rising temperatures will cause changes in rainfall patterns and increase evaporation. This will affect river flows and the availability of water, with some populations experiencing an increase in water resource and others experiencing a decrease.

4. Glacier melt is an important source of fresh water for many communities. Rising temperatures mean that glacier melt will continue and the extent of melting will be greater in some regions than others. Although in the short term this will increase water availability, in the longer term this threatens the sustainability of water supplies.

5. Drought events occur one-and-a-half times as frequently across southern Africa and the Mediterranean basin.

6. Hottest days of the year could be as much as 4 °C warmer in highly populated areas of eastern China. A global average-temperature rise of 4 °C would result in hottest days being 6 °C warmer for the same region.

7. Hottest days of the year could be as much as 8 °C warmer over eastern North America, affecting Toronto, Ottawa, New York and Washington DC. A global average-temperature rise of 4 °C would result in hottest days being 10-12 °C warmer for the same region.

8. Hottest days of the year across Europe could be as much as 6 °C warmer. A global average-temperature rise of 4 °C would result in hottest days being 8 °C warmer for the same region.

9. Global average sea-level rises by up to approximately 40 cm by the end of the century. The long-term contribution from melting ice sheets could be larger still.

+°Celsius	Change in temperature from pre-industrial climate									
0	1	2	3	4	5	6	7	8	9	
0	2	4	5	7	9	11	13	14	16	+°Fahrenheit

City populations
- 5 - 10 Million
- 10 - 20 Million

Source: UN Statistics Division Demographic Yearbook 2007

These impacts make no assumptions about adaptive capacity

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