

# Top scientists step up climate warning

The world has just 10 years to cut greenhouse gas emissions or risk runaway climate change that could make many parts of the planet uninhabitable. A new study projects more droughts, floods and rising sea levels by 2100, and warns that the effects of greenhouse gases in the atmosphere will last for centuries

## CHANGES IN TEMPERATURE (Degrees Celsius, 1990-2100)

Predicted to rise by 2 to 4.5 degrees by 2100 even if carbon dioxide levels are stabilised at 550 parts per million – roughly double current levels

Rise of around 3° thought most likely

2000 2020 2040 2060 2080 2100

## CHANGES IN SEA LEVEL (Centimetres, 1990-2100)

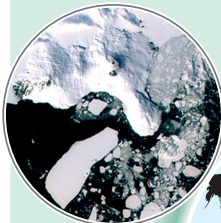
Even if CO<sub>2</sub> concentrations are stabilised, sea levels could rise by further 30-80cm by 2300

Projections of rise by 2100 range from 28cm to 43cm

2000 2020 2040 2060 2080 2100

## Arctic sea ice:

Could disappear in summer by latter part of 21st century



## PROJECTED IMPACTS

**Warming:** Expected to be greatest over land at high northern latitudes, and lowest over Southern Ocean and North Atlantic



**Gulf Stream:** Ocean current bringing warm waters to North Atlantic likely to slow by 2100 – but overall warming will more than offset any cooling effect.  
**Abrupt shutdown** thought “very unlikely”

**Antarctica:** Likely to stay too cold for wide surface melting, and expected to gain in mass due to more snow

**Weather extremes:** Heavy rains and heatwaves “very likely” to become more frequent

