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May 18, 2014

The U.S. National Academy of Sciences and The Royal Society “*Climate Change: Evidence & Causes,*” February 2014
<http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf>

Q&A

- 1 Is the climate warming?
- 2 How do scientists know that recent climate change is largely caused by human activities?
- 3 CO₂ is already in the atmosphere naturally, so why are emissions from human activity significant?
- 4 What role has the Sun played in climate change in recent decades?
- 5 What do changes in the vertical structure of atmospheric temperature—from the surface up to the stratosphere—tell us about the causes of recent climate change?
- 6 Climate is always changing. Why is climate change of concern now?
- 7 Is the current level of atmospheric CO₂ concentration unprecedented in Earth’s history?
- 8 Is there a point at which adding more CO₂ will not cause further warming?
- 9 Does the rate of warming vary from one decade to another?
- 10 Does the recent slowdown of warming mean that climate change is no longer happening?
- 11 If the world is warming, why are some winters and summers still very cold?
- 12 Why is Arctic sea ice decreasing while Antarctic sea ice is not?
- 13 How does climate change affect the strength and frequency of floods, hurricanes and tornadoes?
- 14 How fast is sea level rising?
- 15 What is ocean acidification and why does it matter?
- 16 How confident are scientists that Earth will warm further over the coming century?
- 17 Are climate changes of a few degrees a cause for concern?
- 18 What are scientists doing to address key uncertainties in our understanding of the climate system?
- 19 Are disaster scenarios about tipping points like ‘turning off the Gulf Stream’ and release of methane from the Arctic a cause for concern?
- 20 If emissions of greenhouse gases were stopped, would the climate return to the conditions of 200 years ago?

The Basics of Climate Change

Greenhouse gases affect Earth’s energy balance and climate

Human activities have added greenhouse gases to the atmosphere

Climate records show a warming trend

Many complex processes shape our climate

Human activities are changing the climate

How will climate change in the future?