

# Climates of the Past

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### Required Reading (everyone):

- Understanding the Forecast, Ch. 11, pp. 135–145.
- Handout: Jonathan Gilligan, “Handout on Isotopes,”.

### Reading Notes:

- The last hundred years: Focus on two things in particular:
  1. What is the evidence that the planet has warmed significantly in the last century?
  2. What is the evidence that human emissions of greenhouse gases are responsible?
- The last thousand years: This gets into some very tricky and controversial material that was central to the infamous “climategate” scandal in 2009. I will not spend a huge amount of time on this, but I will attempt to explain in class what the controversy was about and why it isn’t nearly as big a deal as the media have made it out to be.

Some things to understand about the past millennium are:

- What is a **proxy** for ancient temperatures? What are examples of commonly used proxies?
- What problems do scientists face trying to get past temperatures from proxies?
- What were the **Medieval Warm Period** and the **Little Ice Age**? Roughly when did they happen? What are the big questions scientists have about them?