

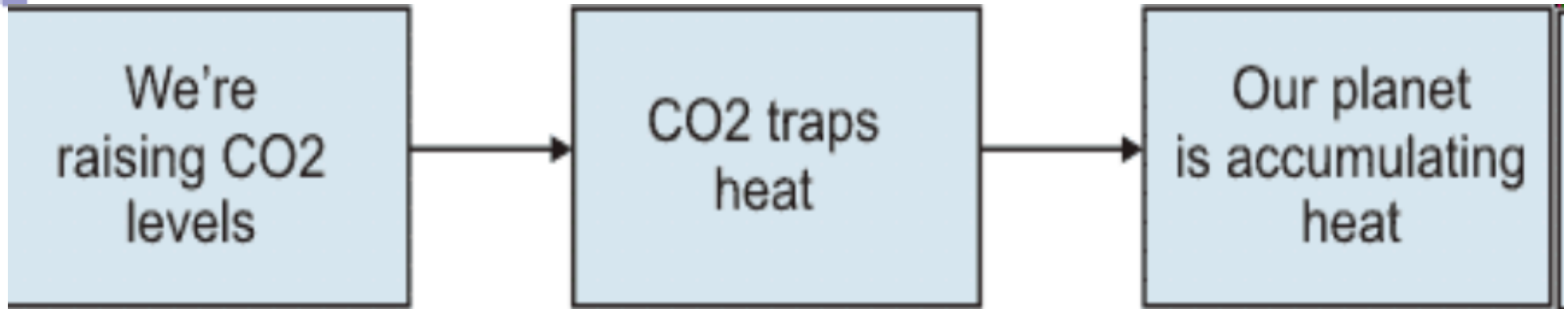


The Science of Climate Change

February 3, 2010

Joseph Romm, Ph.D.

Climateprogress.org



- 1979 expert National Research Council panel: “We estimate the most probable global warming for a doubling of CO₂ to be near 3°C .”
 - “A wait-and-see policy may mean waiting until it is too late”
- We waited & saw



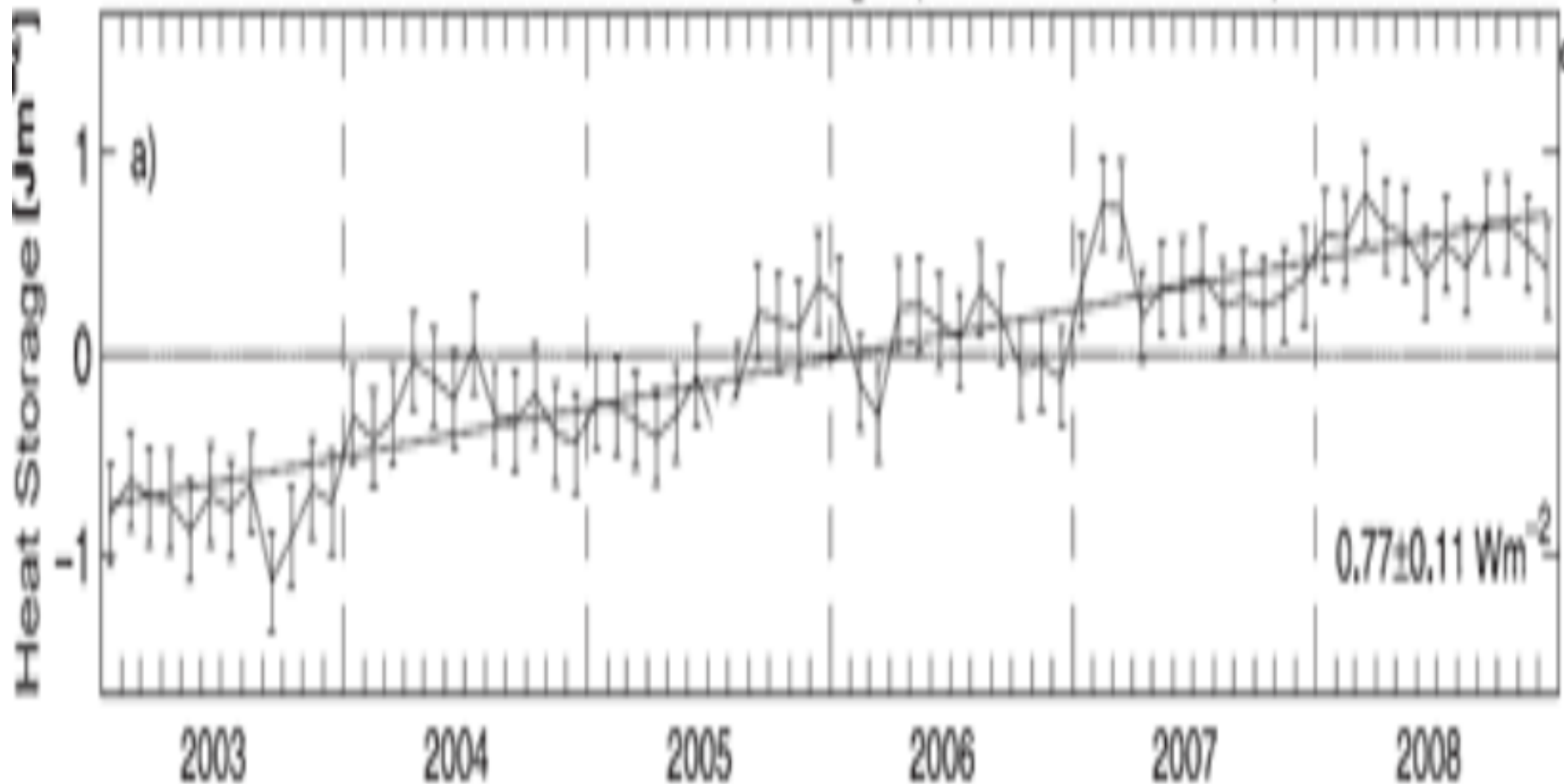
UK Royal Society, Met Office

11/09

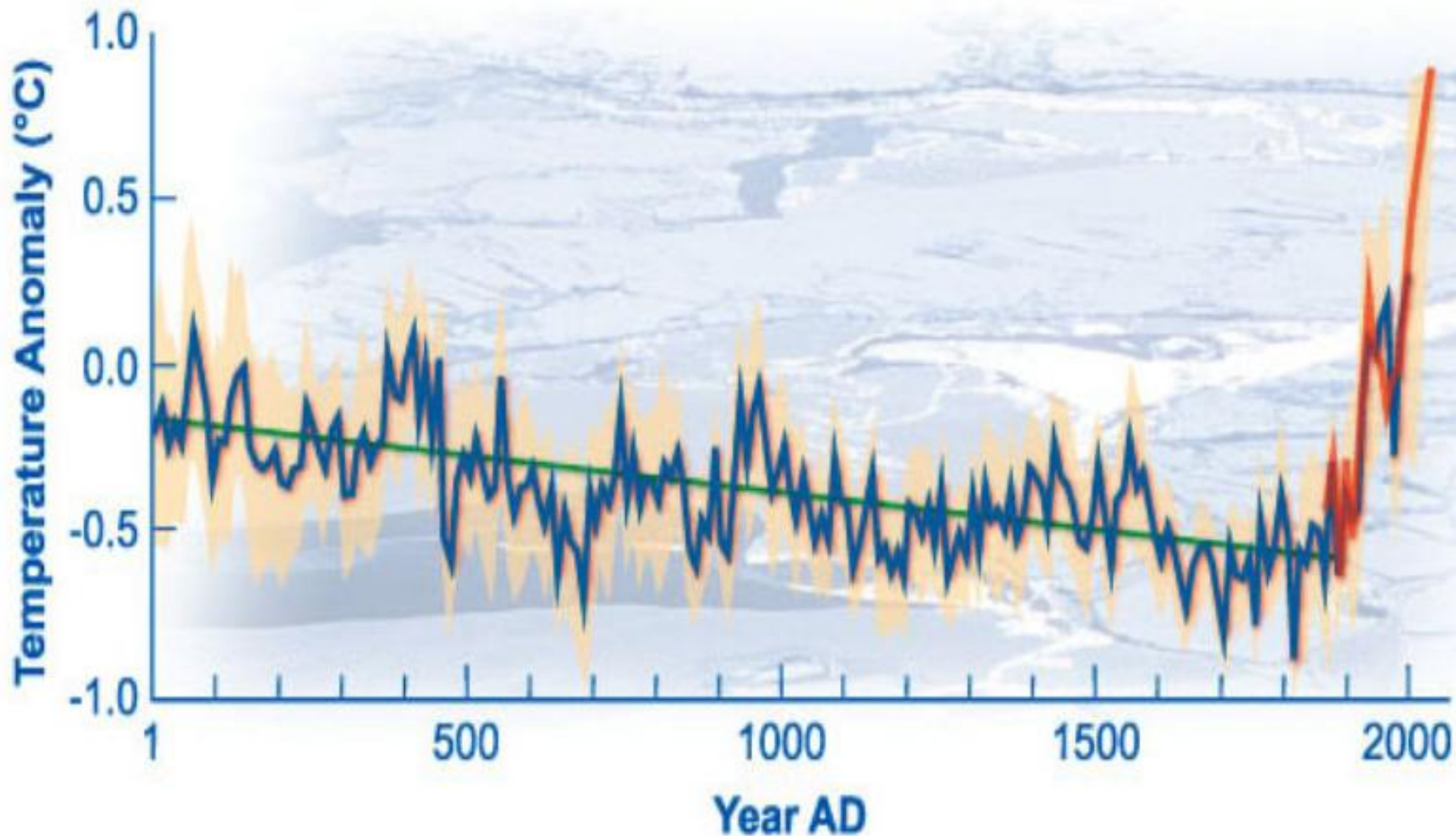
“The 2007 IPCC Assessment, the most comprehensive and respected analysis of climate change to date, states clearly that without substantial global reductions of greenhouse gas emissions we can likely expect a world of increasing droughts, floods and species loss, of rising seas and displaced human populations. However even since the 2007 IPCC Assessment the evidence for dangerous, long-term and potentially irreversible climate change has strengthened.”

2009 study of in situ ocean data

Global Ocean Heat Storage (0 to 2000 metres)



'Seminal' 2009 *Science* study of Arctic lake sediments, tree rings, glacial ice





Journal of Climate 2009

- MIT's Integrated Global System Model
- **“The median surface warming in 2091 to 2100 is 5.2°C compared to 2.4°C in the earlier study”** in 2003.
- Median warming in Arctic is **11°C = 20°F!**
- Not the worst-case scenario (or best), just business-as-usual emissions path



Our Speakers

- **Dr. Michael MacCracken**, Chief Scientist for Climate Change Programs, Climate Institute.
- **Dr. Christopher Field**, Director, Department of Global Ecology, Carnegie Institution of Washington