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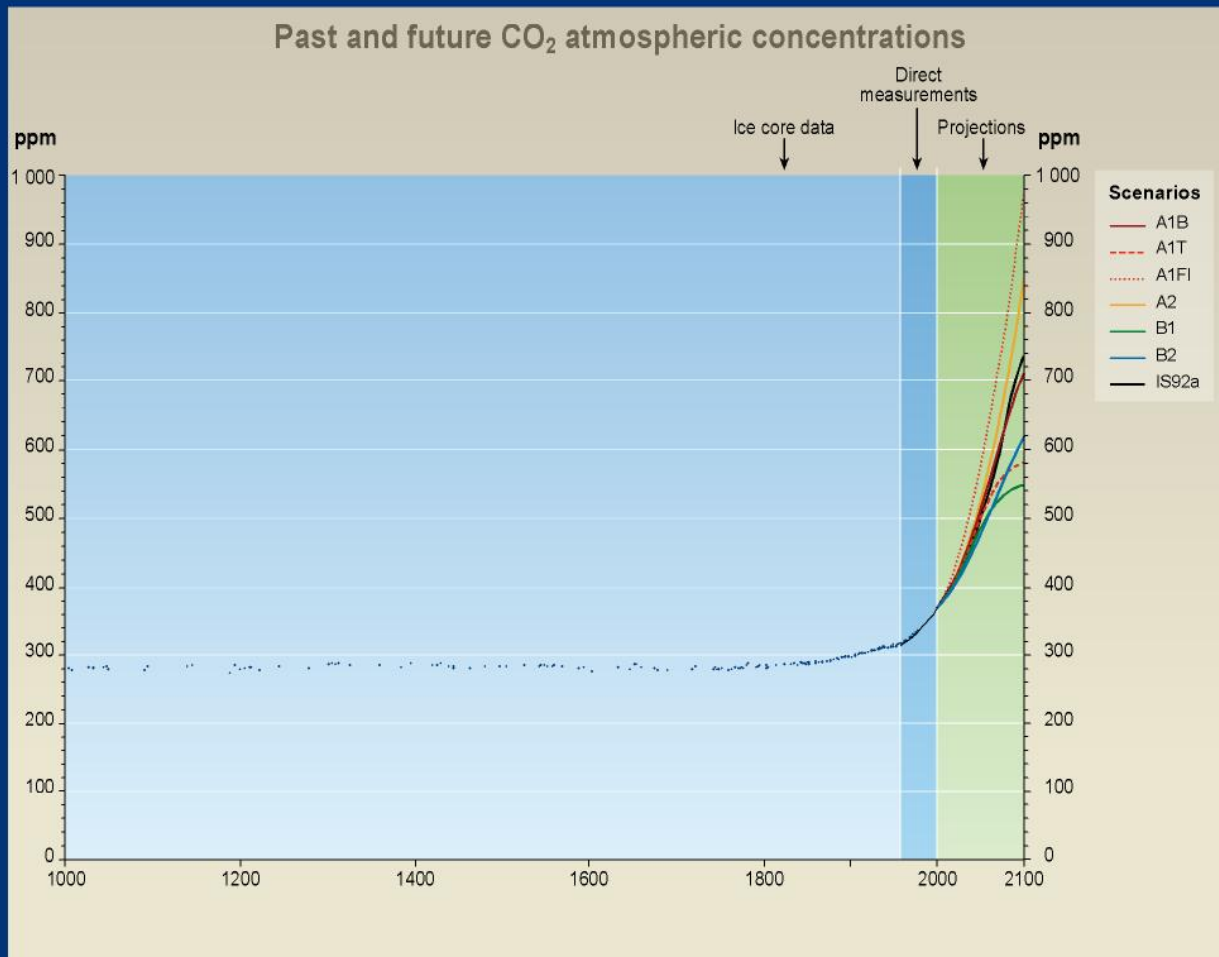
STS.011 American Science: Ethical Conflicts and Political Choices  
Fall 2007

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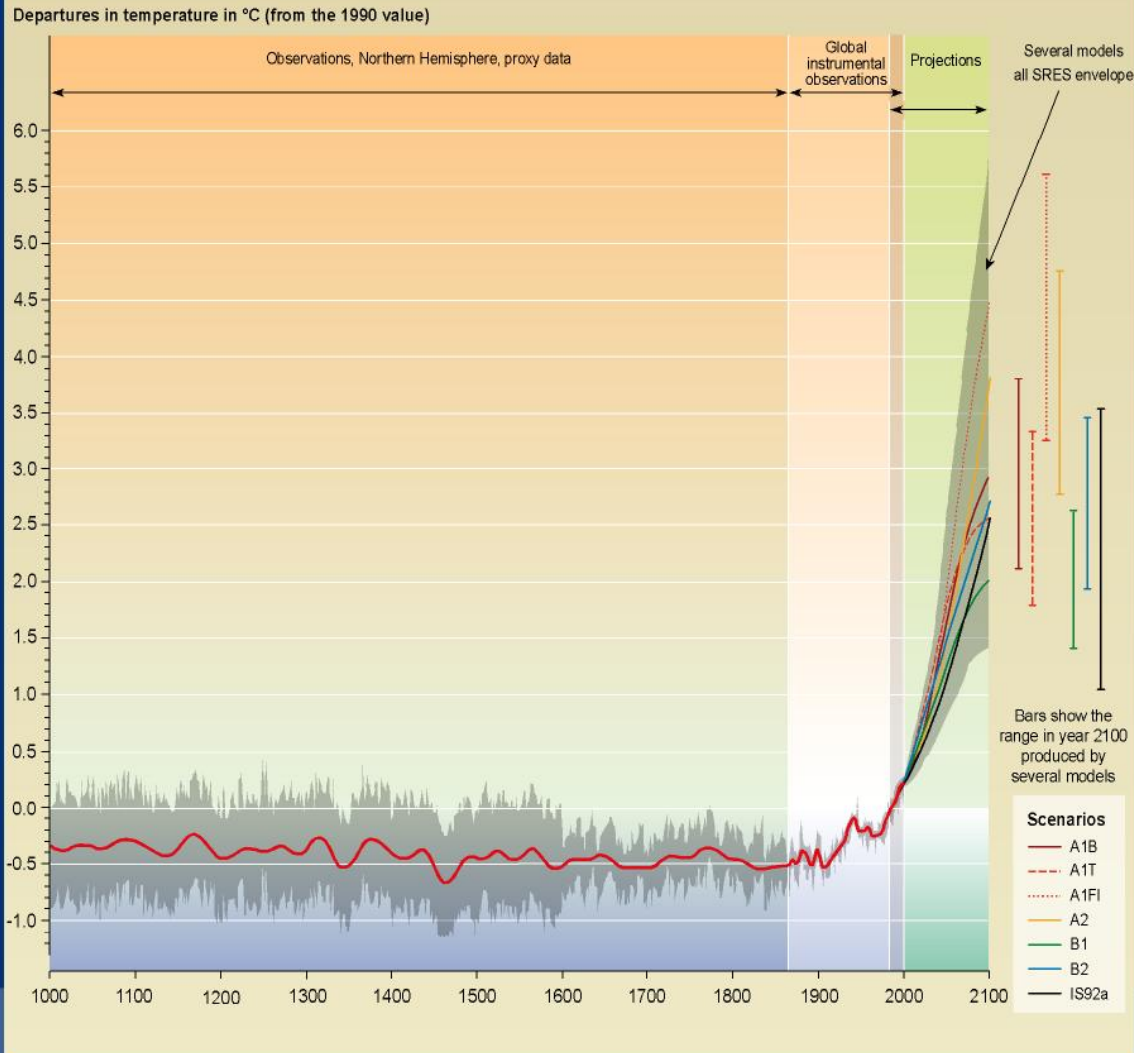
# **Media Contacts – Good, Bad, and Some Really Bad**

Dr. William Curry  
Woods Hole Oceanographic Institution



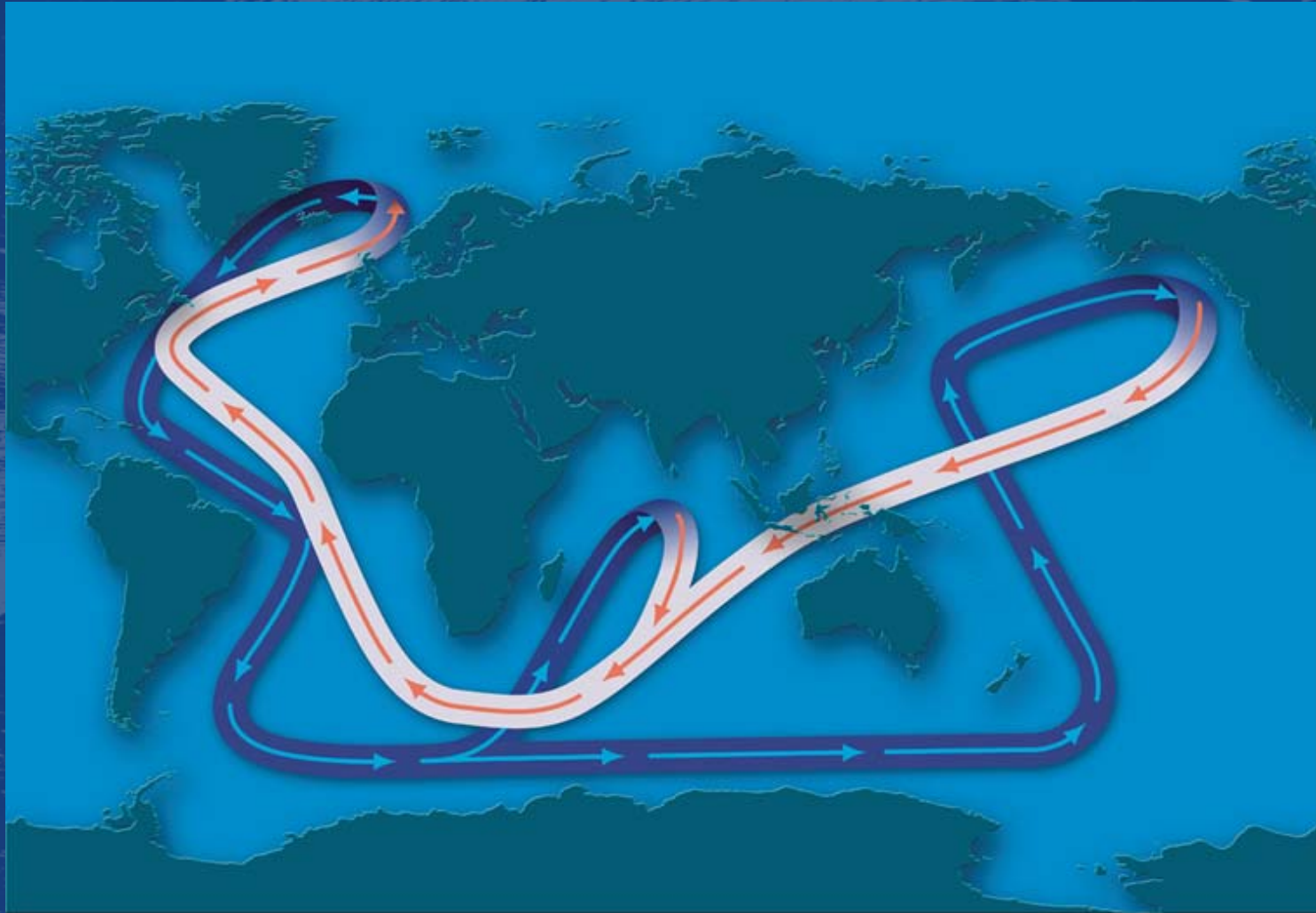
SYR - FIGURE 9-1a

# Variations of the Earth's surface temperature: year 1000 to year 2100



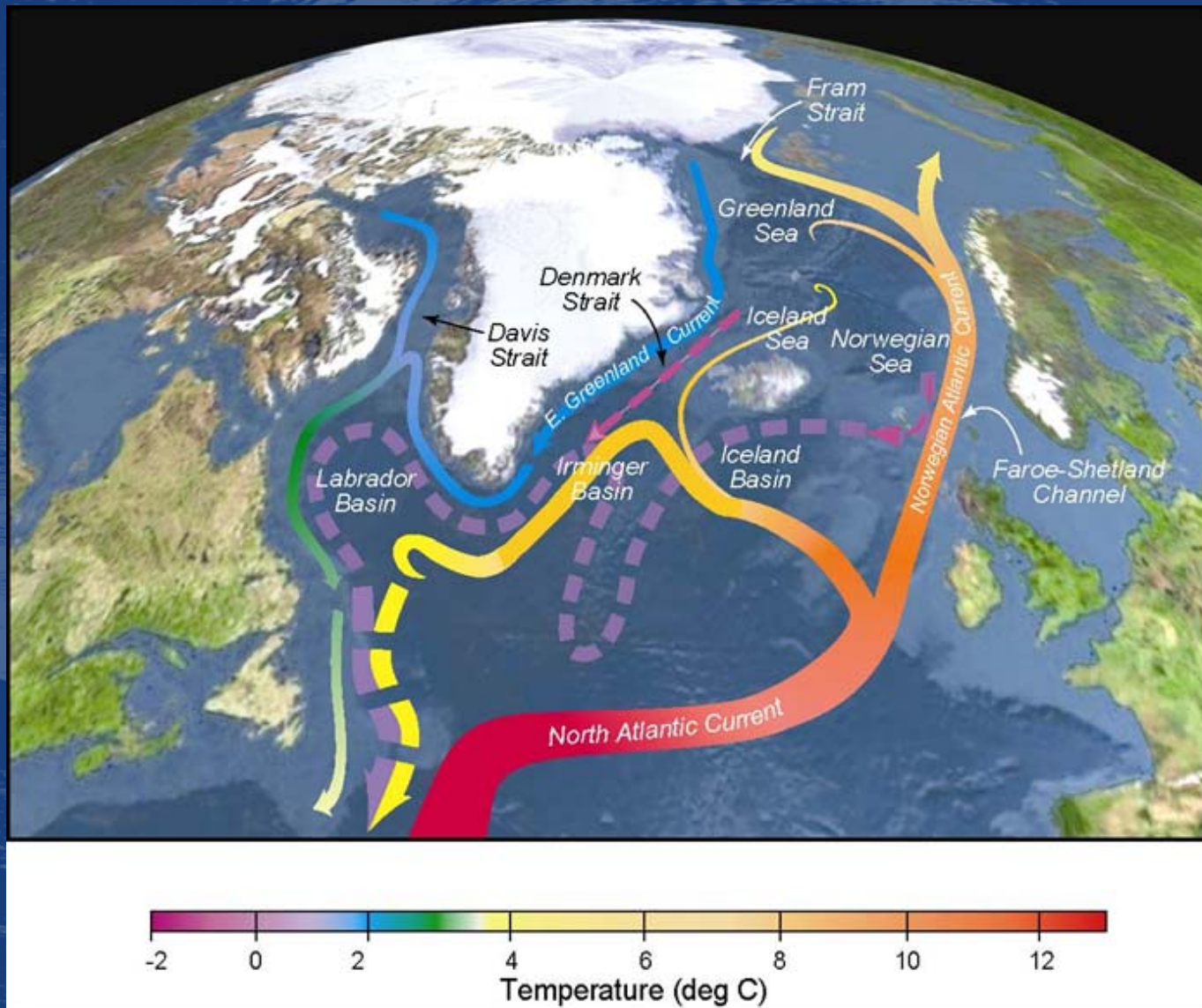
SYR - FIGURE 9-1b

# Large Scale Ocean Circulation



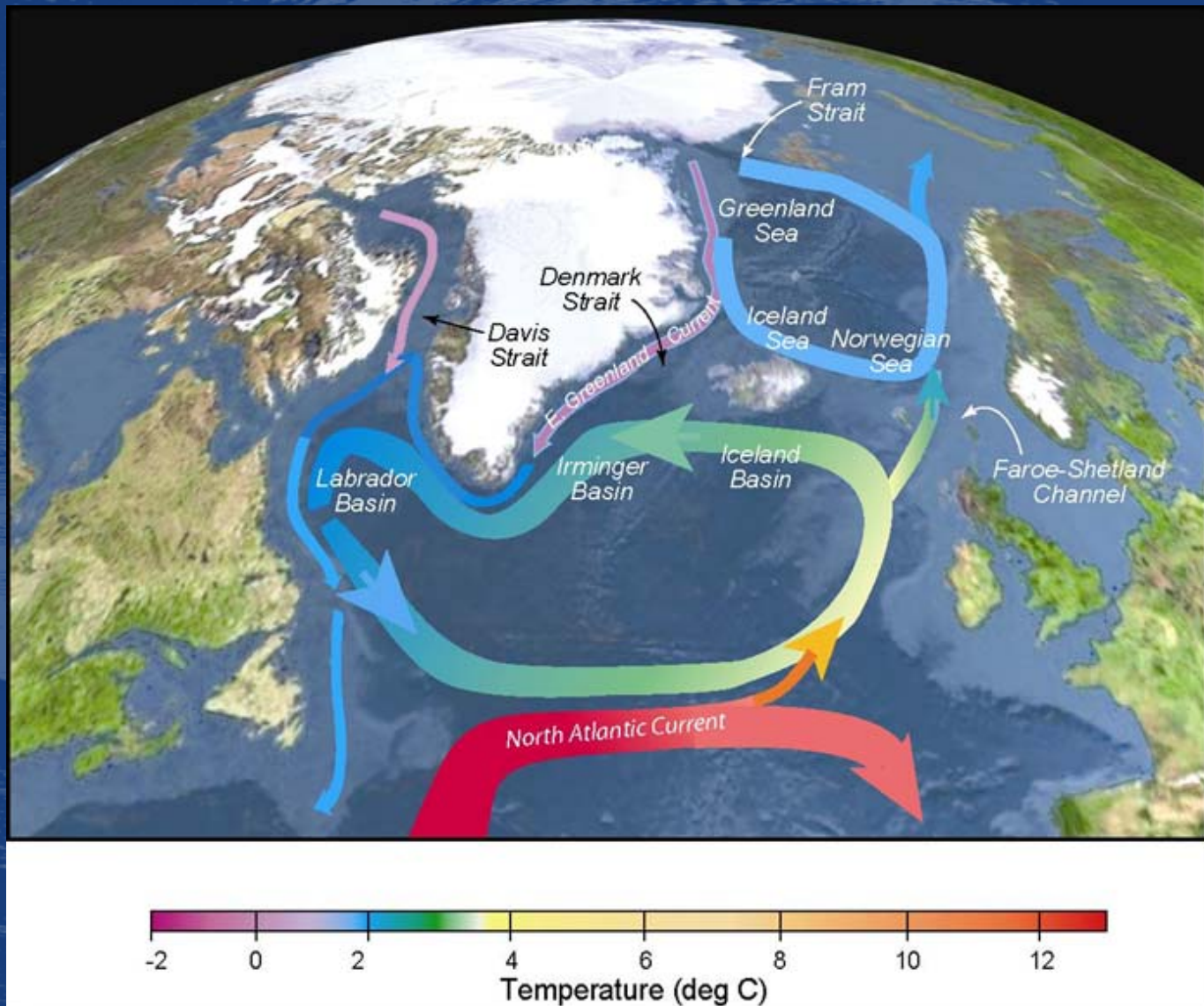
Courtesy of Woods Hole Oceanographic Institution. Used with permission.

# Conveyor ON



Courtesy of Woods Hole Oceanographic Institution. Used with permission.

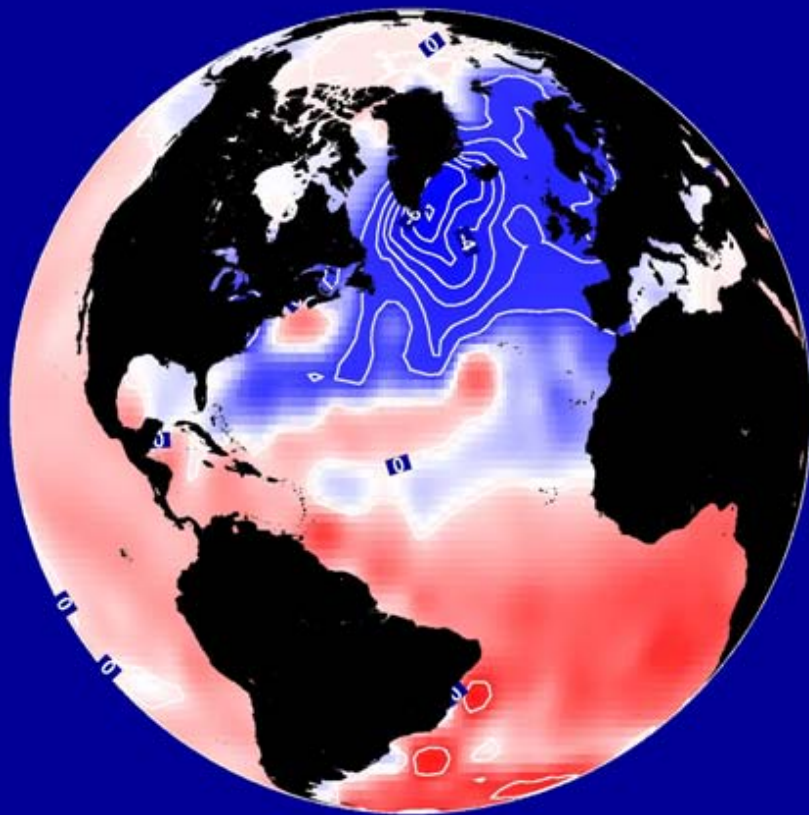
# Conveyor OFF



Courtesy of Woods Hole Oceanographic Institution. Used with permission.

# Temperature Response

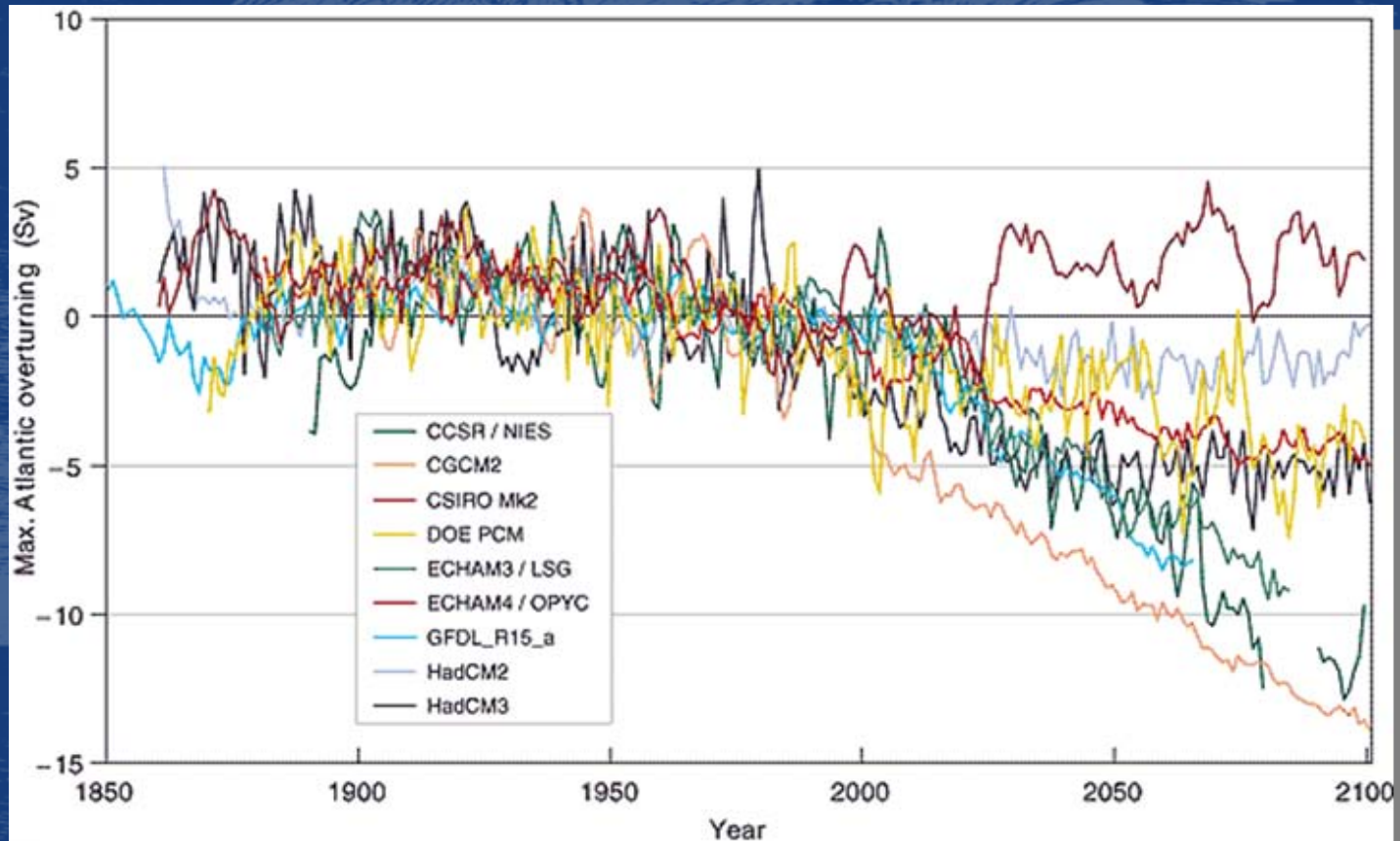
- Strong cooling in North Atlantic
- Warming everywhere else
- No net global change



*Data from Manabe and Stouffer, 1997*

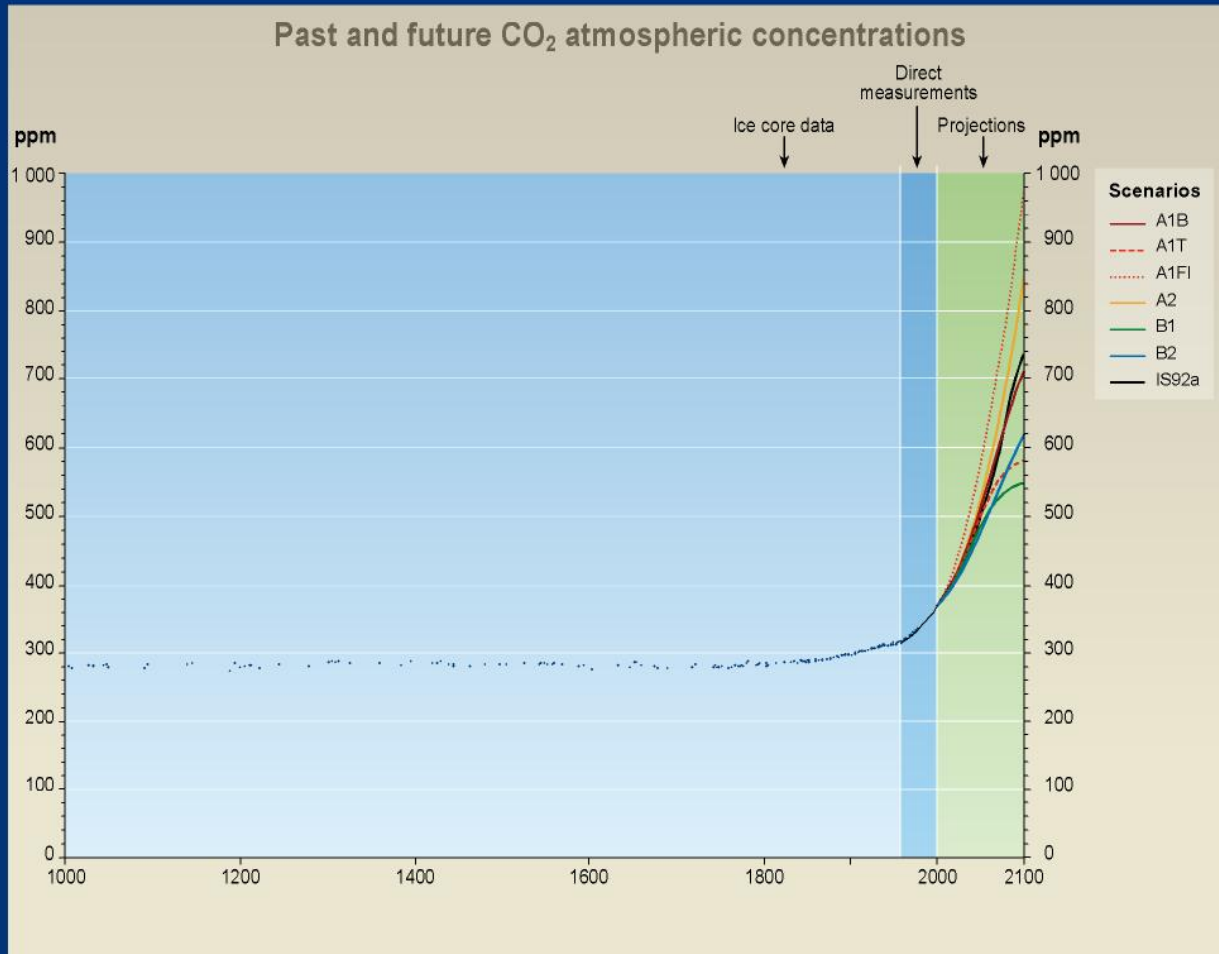


# Greenhouse models predict a slowdown in the deep water circulation



Courtesy of the Intergovernmental Panel on Climate Change. Used with permission.

Source: Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Figure 9.21. Cambridge University Press.



SYR - FIGURE 9-1a

# Letters to *Nature* – November 2003

Curry, Ruth, Bob Dickson, and Igor Yshayaev. “A change in the freshwater balance of the Atlantic Ocean over the past four decades.” *Nature* 426 (18 December 2003): 826-829.

## Abstract

The oceans are a global reservoir and redistribution agent for several important constituents of the Earth's climate system, among them heat, fresh water and carbon dioxide. Whereas these constituents are actively exchanged with the atmosphere, salt is a component that is approximately conserved in the ocean. The distribution of salinity in the ocean is widely measured, and can therefore be used to diagnose rates of surface freshwater fluxes<sup>1</sup>, freshwater transport<sup>2</sup> and local ocean mixing<sup>3</sup>—important components of climate dynamics. Here we present a comparison of salinities on a long transect (50° S to 60° N) through the western basins of the Atlantic Ocean between the 1950s and the 1990s. We find systematic freshening at both poleward ends contrasted with large increases of salinity pervading the upper water column at low latitudes. Our results extend a growing body of evidence indicating that shifts in the oceanic distribution of fresh and saline waters are occurring worldwide in ways that suggest links to global warming and possible changes in the hydrologic cycle of the Earth.

# Science - January 2004

**Image removed due to copyright restrictions.**

**Excerpt from Kerr, R. A. "Sea Change in the Atlantic." *Science* 303 no. 5654 (2 January 2004): 35. doi: [10.1126/science.303.5654.35](https://doi.org/10.1126/science.303.5654.35)**

# The beginning of the bad press.....

Image removed due to copyright restrictions.

**Excerpt from Lean, Geoffrey. “Global Warming Will Plunge Britain Into New Ice Age Within Decades.” The Independent, January 25, 2004.**

<http://www.independent.co.uk/environment/global-warming-will-plunge-britain-into-new-ice-age-within-decades-574354.html>

# The Pentagon Report on Abrupt Climate Change

**An Abrupt Climate Change Scenario and Its Implications for United  
States National Security**  
October 2003

By Peter Schwartz and Doug Randall

## **Imagining the Unthinkable**

*The purpose of this report is to imagine the unthinkable – to push the boundaries of current research on climate change so we may better understand the potential implications on United States national security.*

# The Pentagon “leaks” the report.....

**Image removed due to copyright restrictions.**

**Excerpt from Stipp, David. “Climate Collapse.” *Fortune*, January 26, 2004.**

# Other “experts” chime in.....

Image removed due to copyright restrictions.

**Excerpt from Epstein, Paul R. “Global Chilling.” *The New York Times*,  
January 28, 2004.**

<http://query.nytimes.com/gst/fullpage.html?res=9B07E5D81538F93BA15752C0A9629C8B63>



# A radio talk show host?

**Image removed due to copyright restrictions.**

**Excerpt from Hartmann, Thom. “How Global Warming May Cause the Next Ice Age...” Published on January 30, 2004 by CommonDreams.org.**

<http://www.commondreams.org/views04/0130-11.htm>

**Image removed due to copyright restrictions.**

**Excerpt from Revkin, Andrew C. “The Sky is Falling! Say Hollywood and, Yes, the Pentagon.” *The New York Times*, February 29, 2004.**

<http://query.nytimes.com/gst/fullpage.html?res=9B05E1D71F3CF93AA15751C0A9629C8B63>

Next comes the movie:

Image removed due to copyright restrictions.

Movie poster for “The Day After Tomorrow.”

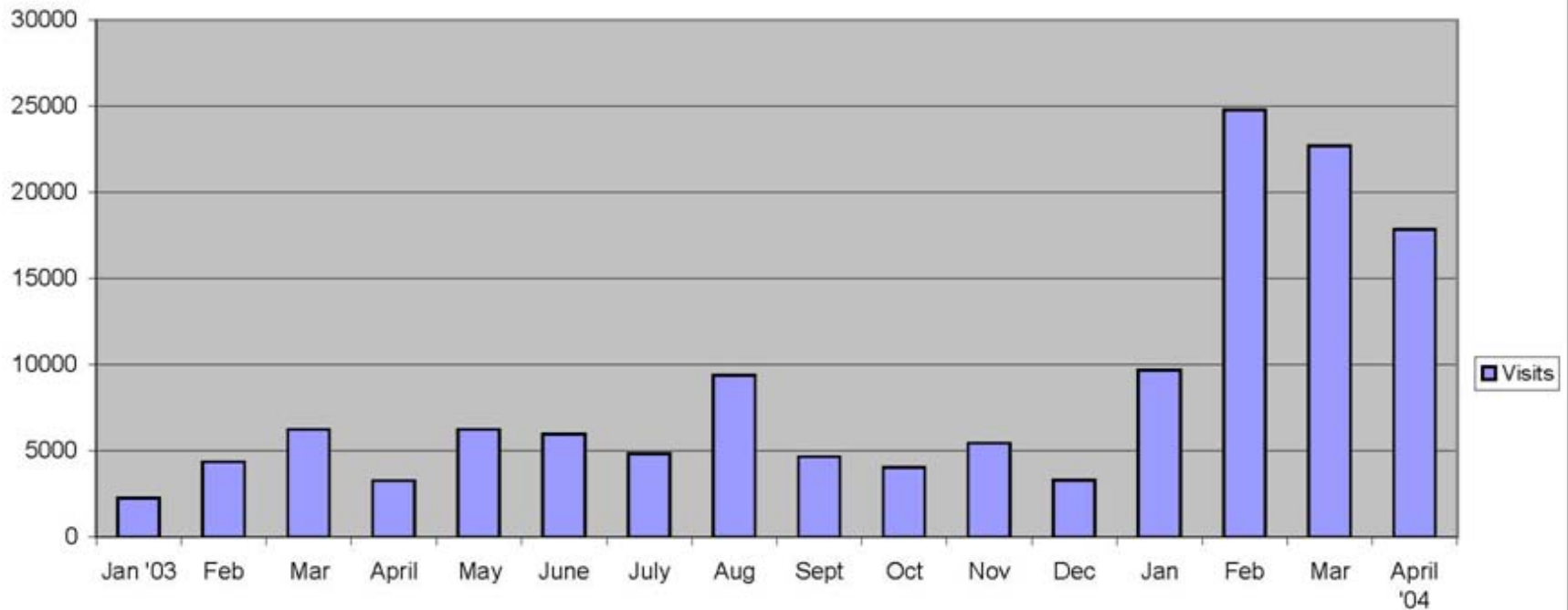
<http://www.imdb.com/title/tt0319262/posters>

*“The Day After Tomorrow”*

May 28, 2004

# Web Visits Since January 2003

OCCI: January 2003 to April 2004 Visits



Courtesy of Woods Hole Oceanographic Institution. Used with permission.

# The Need to Respond

*What's After the Day After Tomorrow?*

A science perspective on the science fiction movie

<http://www.whoi.edu/page.do?pid=12073&tid=282&cid=9948>

*Common Misconceptions about Abrupt Climate Change*

<http://www.whoi.edu/page.do?pid=12073&tid=282&cid=10149>