

Federal climate policy and your leverage on it

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Society's options

- Take no action
 - no wasted effort (*pro*)
 - maximum suffering (*con*)
- Mitigate (i.e., reduce emissions)
 - reduce climate damages (*pro*)
 - some impacts can't be avoided (*con*)
- Build adaptive capacity (i.e., increase our ability to cope)
 - better capacity to deal with other hazards (*pro*)
 - can't adapt to severe climate changes (*con*)
- Geoengineer (i.e., deploy counteracting global changes)
 - might be cheap, fast, & get us out of a nasty situation (*pro*)
 - potential for serious unintended consequences (*con*)

Sample climate bills

- Waxman's Safe Climate Act (H.R. 1590)
 - One of ~10 bills that will mitigate by putting a price on greenhouse gas emissions
- The Climate Pollution Reduction Act (a mock bill)
- Thoughts on bill that could build adaptive capacity & responsibly explore geo-engineering
- Visit <http://thomas.gov> for submitted bills & analysis

The Safe Climate Act (H.R. 1590)

- Economy-wide cap on GHG emissions with a tradable permit system to allow emitters to reach that cap at the least cost
- Cap declines by 2% per yr until 2020 and then by 5% per yr
 - By 2020 US emissions would roughly equal 1990 levels
 - By 2050 US emissions would be 80% below 1990
- Permits may be auctioned or given away in any combination
 - Free allocation may not result in a windfall profit for polluters
- Revenue generated goes to a Climate Reinvestment Fund (CRF)
 - Promote economic growth, ease distributional consequences, help displaced workers, fund RD&D, reward early action, or help the states
- NAS review
 - NAS may recommend further emissions reductions. The EPA administrator must either implement these recommendations or explain to Congress the reasons for declining to act

The Climate Pollution Reduction Act

- Charges a fee to emit GHGs beginning in 2010 at \$10 per ton (CO₂e)
- *PHASE 1 (2010 and 2020):* fee increases by \$1.00 each year
 - If less than 55% (40%) of global emissions are covered, the fee increases by \$0.75 (\$0.50)
 - If more than 70% (85%) of global emissions are covered, the fee increases by \$1.25 (\$1.50)
- *PHASE 2 (2021 and 2050):* fee increases by \$2.00 each year
 - If less than 55% (40%) of global emissions are covered, the fee increases by \$1.50 (\$1.00)
 - If more than 70% (85%) of global emissions are covered, the fee increases by \$2.50 (\$3.00)
- Includes a trade penalty for non-cooperation
 - All exports from countries that fail to charge a pollution fee will face border tax adjustments that equal the amount of pollution released during manufacture and shipment of that product
- Revenue recycling
 - 25% of all collected pollution fees will be used to offset disaffected parties such as displaced workers, low-income members of society, and heavy energy consumers
 - 75% will be available to
 - reduce taxes on income or investment
 - reduce the budget deficit
 - fund low-emission technology development and deployment

How about bills to enhance coping & avoiding the worst impacts?

- Adaptation
 - Create an climate adaptation council within the office of the President (similar to the National Security council) that would assess current and future climate vulnerabilities and recommend strategies for improving our ability to cope
- *Geo-engineering*
 - Establish a geo-engineering research program along with protective mechanisms to prevent and discourage the hasty deployment of geo-engineering solutions (e.g., criminal penalties and trade sanctions)

Strategies for engaging Congress

- Find the right staffers (usually the Legislative Assistant for energy and environment)
 - www.governmentguide.com
 - firstname_lastname@senatorslastname.senate.gov
 - firstname.lastname@mail.house.gov
- Send a short message asking to talk/meet with them
 - Why you want to talk
 - Why they want to talk to you
 - You're a constituent
 - You work on an important aspect of the issue
 - You work at an important institution in their district
- Ways you may increase your effectiveness when meeting with staffers
 - Be clear about what you want the member to do
 - Be relevant (tie what you're asking to larger issues that affect constituents)
 - Be aware that policy choices go beyond scientific understanding
- Consider inviting the member (or the LA) to tour your research facility
 - Check with the Legislative Affairs Office for constraints or help

Opportunities for civic engagement

- Outreach to the public
 - Op-eds, letters to the editor, contributions to blogs/web commentary
 - Speak to local groups (Lions clubs, Rotarians, etc.)
- Outreach to Congress
- AAAS Mass Media Fellowship
 - <http://www.aaas.org/programs/education/MassMedia/index.shtml>
- Summer Policy Colloquium & leadership development program
 - http://www.ametsoc.org/atmospolicy/colloquium_summer.html
- AAAS Science & Technology Policy Fellowships (sponsored by AAAS, AMS, AGU, GSA, AGI, and others)
 - <http://fellowships.aaas.org>
 - <http://www.ametsoc.org/csf>



End

Obstacle #2: differences between losers & winners of climate policy

- Losers
 - Know they'll be hurt
 - Care about few issues
 - Politically Organized
 - Powerful
- Winners
 - Don't know they'll gain
 - Care about more issues
 - Disorganized
 - Politically weak

Solution: Compensate the losers and build a constituency with permits or revenues

Obstacle #3: International cooperation

- Problem:
 - Genuine need for a global effort
 - Political rhetoric against unilateral action (e.g., the Byrd-Hagel resolution)
- Solution:
 - A conditional unilateral response
 - Border tax adjustments to deal with those who subsidize pollution

Multiple independent lines of evidence

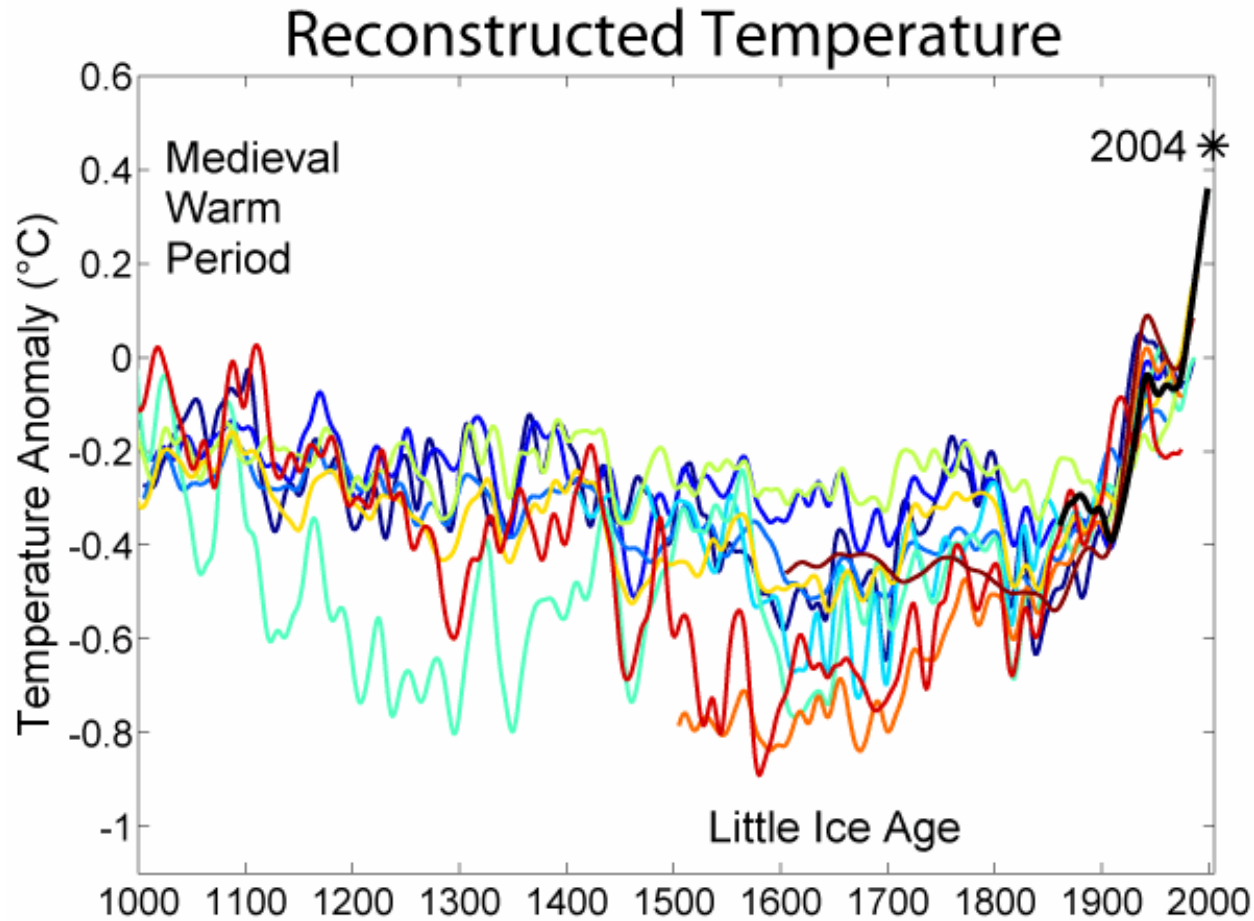
- Warming temperatures (land and ocean)
- Rising sea levels
- Melting ice and snow
- Changing biological systems
- Widespread changes in precipitation
- More intense hurricanes in the North Atlantic since 1970 (data quality prior to 1970 limits detection of long-term trends)

Obstacle #1: Persistent gap in understanding between research & policy communities

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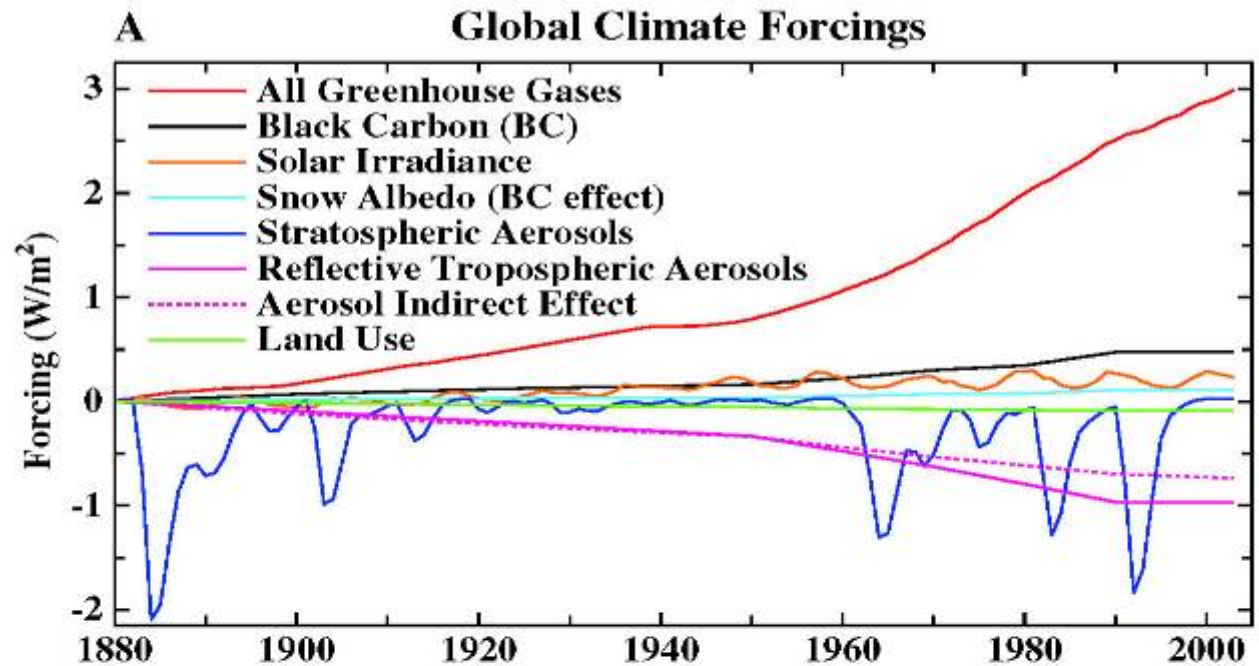
The last 50 yrs were “very likely” warmer than any 50 year period in 500 yrs & “likely” the warmest in at least the past 1300 yr



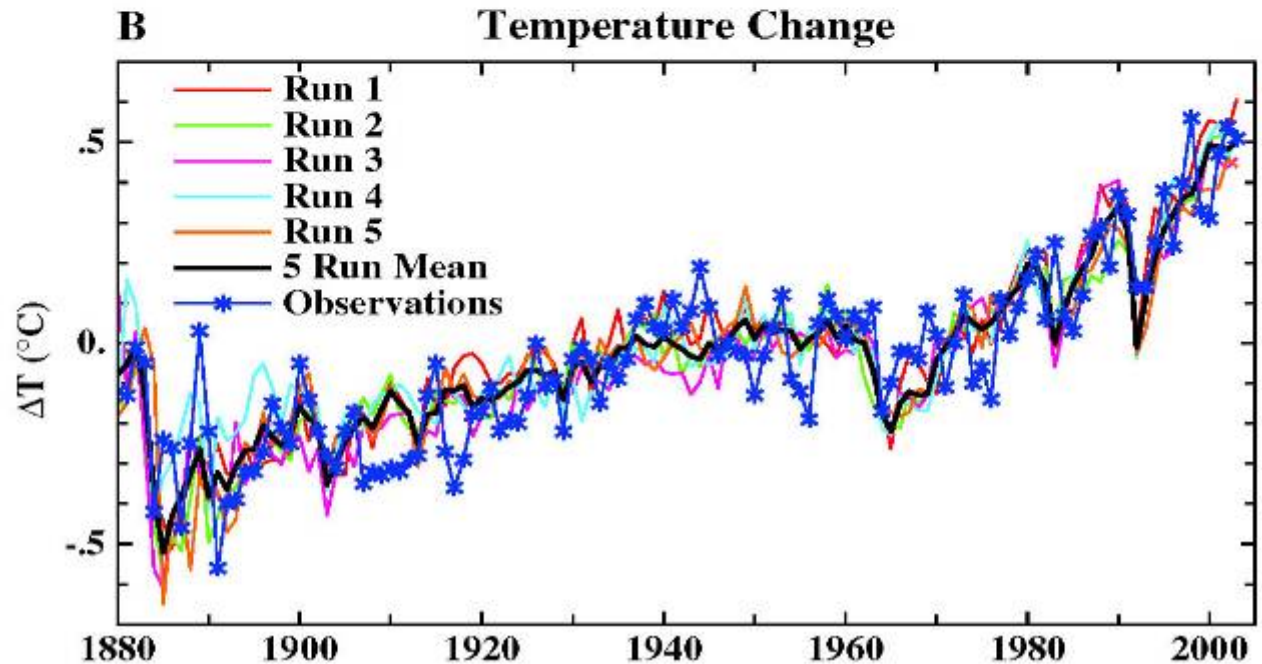
(Image created by Robert Rohde)

“Likely” means 66-90% certainty
“Very likely” means 90-95% certainty

Our best estimates of natural & human influences on climate (A)



Can reproduce very well observed temperatures in climate models (B)



Other “fingerprints” also match (e.g., cooling in the upper stratosphere)

Source: Hansen et al.,
Science 308, 1431, 2005.

“Most of the observed increase in globally averaged temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations.”

“*very likely*” = 90-95% certainty

What impacts do we face?

- Some possible positive outcomes
 - Reduced cold stress
 - Improved agricultural productivity in high latitudes
 - Better shipping lanes
- But there are substantial risks of negative impacts
 - Human health (*more heat stress, worse smog, changes to water quality/supply, impacts from severe storms, changes in vector borne diseases*)
 - More intense storms
 - Rising sea levels
 - More floods and droughts
 - Ocean acidification (i.e., coral and the fish that depend on them)
 - Stress to other biological systems that we depend on

Will global warming be good?

- It's possible:
 - We could get lucky
 - Feedbacks mostly negative
 - Impacts mostly small or beneficial
 - Human ingenuity could help us cope & find new opportunities
- But it's unlikely, in my view
 - We might get unlucky
 - Feedbacks mostly positive
 - Impacts mostly large and harmful
 - Human society, and the systems that we depend on, are highly adapted to current climate conditions
 - Unlimited downside risk but only minor upside potential