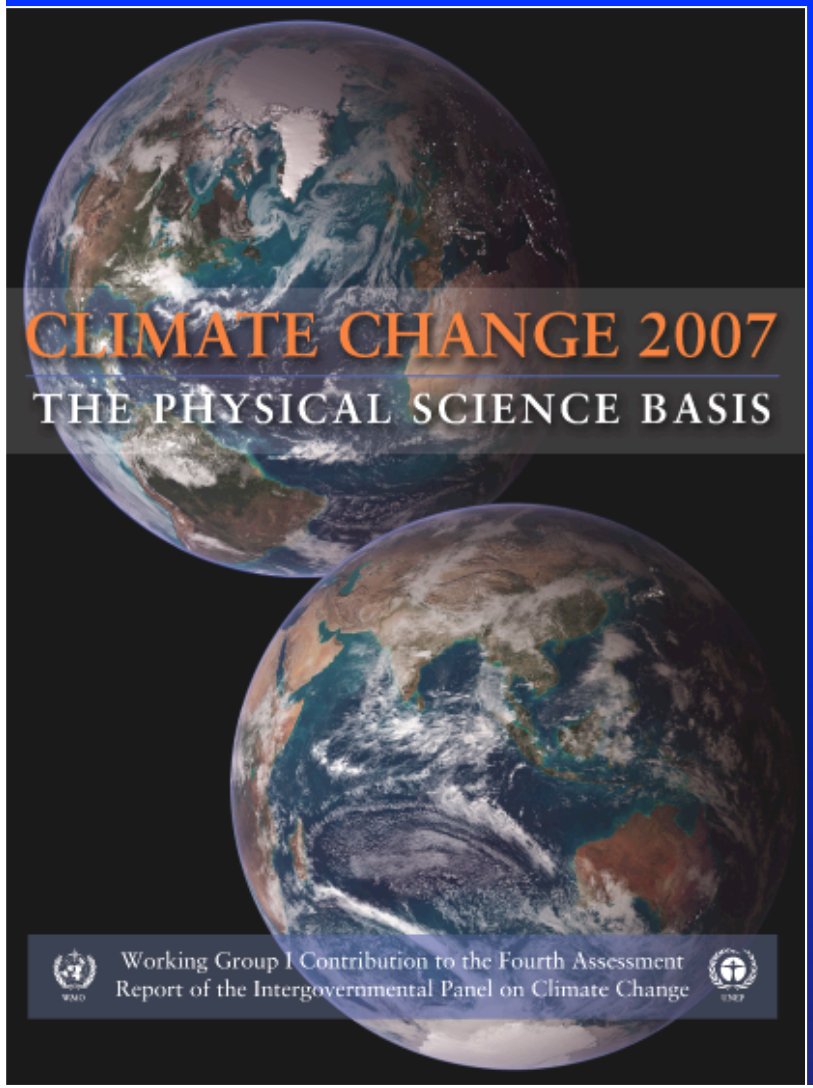
Climate change and the IPCC



Kevin Trenberth

NCAR

AR4: WG I
996 pp

NCAR

A view of AR

Every five years a conc

Climate scientists ga

Increased gre es a

No obvious ion can be fou

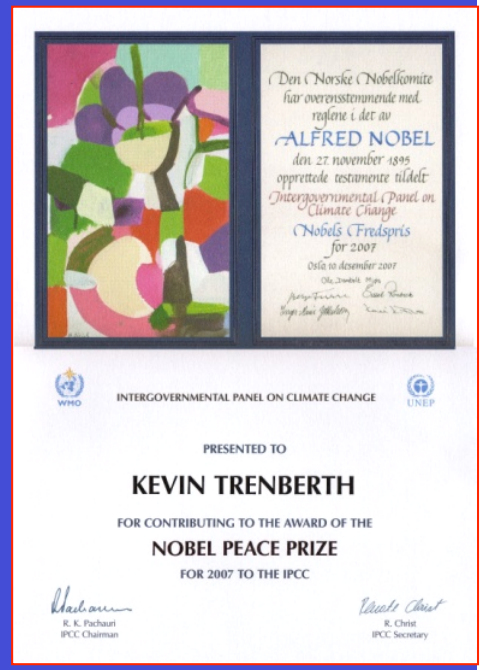
The IPCC eport is clear

Global Warming, year after yea

Puff of white cloud

K. Trenberth; Beijing meeting, May 2005

IPCC AR4 C3



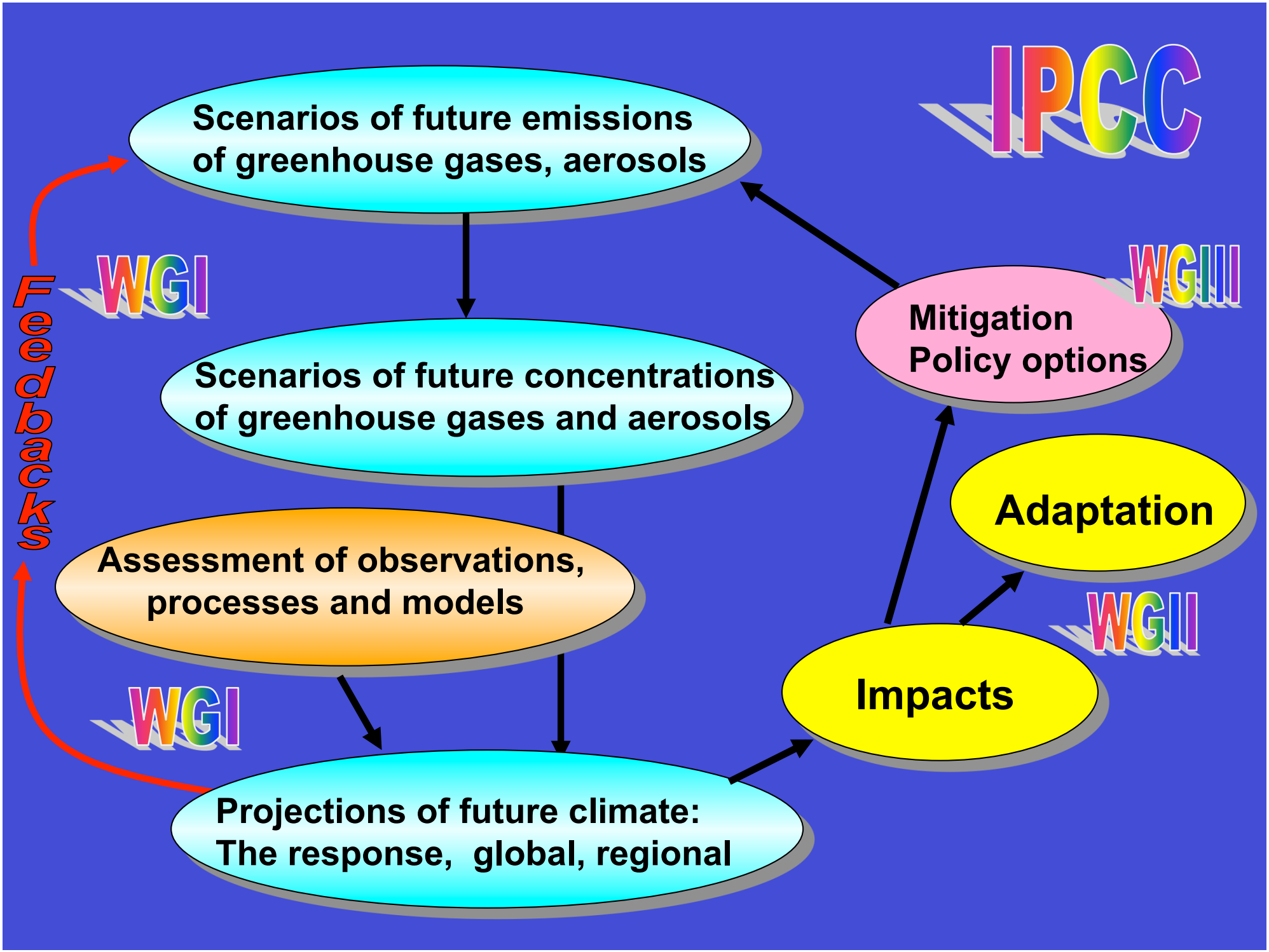
- IPCC
  - 1990 contributing author
  - 1995 CLA Ch 1: introduction and overview
  - 2001 LA Ch 7: processes
  - 2007 CLA Ch 3: observations
  - SPMs in all of last 3
  - 2013 Review Editor Ch 14

1988 - The establishment of the IPCC

Role of the IPCC:

The role of the IPCC is to **assess** on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation.

Review by experts and governments is an essential part of the IPCC process.


IPCC
Scenarios of future emissions of greenhouse gases, aerosols
WGI
Feedbacks
Scenarios of future concentrations of greenhouse gases and aerosols
Assessment of observations, processes and models
WGI
Projections of future climate: The response, global, regional
WGIII
Mitigation Policy options
Adaptation
WGII
Impacts

1988 - The establishment of the IPCC
WMO, UNEP

1990 - First IPCC Assessment Report

1992 - IPCC Supplementary Reports

1992- Adoption of the UNFCCC
1994- Entry into force of the UNFCCC
Ratified by 189 countries

1994 - IPCC Special Report

1995 - Second IPCC Assessment Report

1996 - COP-2, 1997 - COP-3

1997- Adoption of Kyoto Protocol at COP-3
2005 Feb 16- Kyoto Protocol ratified by 164 countries
(But not by USA, only much later by Australia)

2001 - Third IPCC Assessment Report

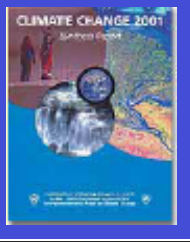
2002 - COP-8, 2003 - COP-9

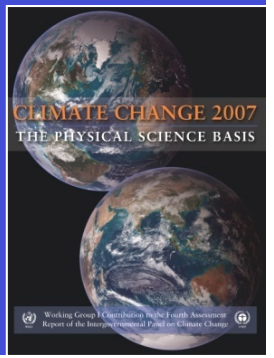
2007 - Fourth IPCC Assessment Report

2007 - Nobel Peace Prize

2009/12 - COP-15 Copenhagen ; 2011 COP-17 Durban

2013 - AR5





2013 – AR5

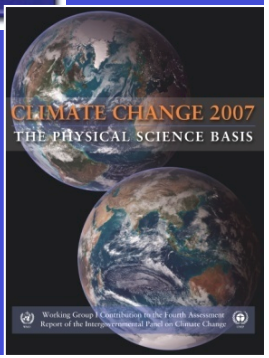
13 May Final Draft Due to TSU

7 Jun - 2 Aug **WG I** - AR5 Final Government Distribution; Final Government Review of SPM

23 Sep - 26 Sep **12th Session of WG I IPCC (approval and acceptance of WGI AR5)** *Stockholm, Sweden*)

28 Oct - 20 Dec **WG II** - AR5 Final Government Distribution; Final Government Review of SPM

13 Dec - 10 Feb **WGIII** - AR5 Final Government Distribution; Final Government Review of SPM



First Order Draft Review		WG I	Second Order Draft Review	
21'400	Comments		31'422	Comments
659	Experts		800	Experts
			26	Governments

WG I, Hobart, Tasmania, January 2013.

IPCC reports are useful

NCAR

The role of the IPCC

is to provide **policy relevant** but not **policy prescriptive** scientific advice to policy makers and the general public.

IPCC scientists with all kinds of value systems, ethnic backgrounds, and from different countries, gather together to produce the best **consensus** science possible, and with appropriate statements about confidence and uncertainty.

Scientists have become accustomed to this role and many find it hard to become **advocates** for particular courses of action, and have often been criticized as a result.

A major strength of the IPCC process has been the **intergovernmental** process, through reviews and then approval of the **Summary for Policy Makers** on a word-by-word basis. This provides ownership.

But it has also been subject to criticism as it is much more political. In principle, this process is designed to provide a report in which the content is **determined by the science** while **how it is stated** is determined jointly with the governments. Hence it aids communication between scientists and politicians.

NOTE: **In terms of impact of the report, the process is as important as the report itself.**

Copenhagen December 2010

Representatives of 192 nations gathered in Copenhagen to seek a consensus on an international strategy for fighting global warming, in a series of meetings between Dec. 7 and Dec. 18, 2009.
Leaders concluded a climate change deal which fell short of even the modest expectations for the summit.
The **accord** dropped what had been the expected goal of concluding a binding international treaty by the end of 2010, which left the implementation of its provisions uncertain.

IPCC

In late 2009 (coinciding with Copenhagen) to 2010, malicious attacks have occurred on many who participated in the IPCC report, and the IPCC did not handle them well by defending its processes.

The report itself has been scrutinized along with all of the comments and responses to the comments.

Two minor errors have been found: both in WG II, none in WG I.
-Himalayan glaciers melt (correct in WG I)
-Area of Netherlands below sea level

None of all the attacks have in any way changed the science or the conclusions with regard to the climate change threats.

AR5 IPCC: some observations

- More lead authors per chapter
- More CLAs per chapter (often 3 vs 2)
- Responsibility more diffuse
- More LAs just do their bit, and may not take responsibility for whole chapter, let alone the whole volume.

AR5 IPCC: Chapter 14

- Deals with modes, and phenomena: regional climate
- 8 of 15 LAs (+2 CLAs) monsoon experts
- None had an overview of all monsoons (global monsoon): each wanted to write about their bit
- Ends up being a review, not an assessment
- Far too long, 46 pages of references
- Contradictory, internally inconsistent

CMIP6?

- CMIP 3 and 5 have been linked to AR4 and AR5 but this has created issues
- Recommended to separate these as activities?

- i.e. CMIP6 should not be linked to the timetable of IPCC

Commentary for discussion

- IPCC comes out every 6 or so years: far too long for "events"
- Demand is increasingly for ongoing assessments and commentary
- There is the annual BAMS issue on events and some attribution; some modeling
- Modeling development "forced": many papers on CMIP5 will not be included in AR5
- Need is for a "climate information system" as part of a climate service. Cf GCFS

Recommendations
Discussion points

- WCRP should take positions on how IPCC develops
- Suggest we recommend that we abolish the periodic updates and instead put in place a series of targeted reports (cf NRC reports)
- Need to retain the comprehensive review and procedures that give the IPCC reports integrity
- Potentially would include a stronger and more visible role for WCRP if a particular science topic is targeted, since we already do this with task teams etc.
- But must connect to funding.