







Facts About the WGI Contribution to IPCC AR5

- 209 Lead Authors and 50 Review Editors from 39 countries
- Over 600 Contributing Authors
- 1535 pages of assessment
- More than 2 million gigabytes of numerical data from climate models
- Over 9200 scientific publications cited
- 1089 expert reviewers from 55 countries and 38 governments
- 54,677 review comments
- Panel, consisting of 195 member countries, approved SPM and accepted report



Working Group I Fact Sheet

The Working Group I contribution to the IPCC Fifth Assessment Report (WGI AR5) provid physical science basis of climate change. The report was developed by an international te May 2010. It went through a multi-stage review process involving expert reviewers and IPCC member governments for approval and acceptance in September 2013.

ne Report

1 Scoping Meeting to outline 14 Chapters • Over 1000 nominations from 6 and 50 Review Editors from 39 countries • Over 600 Contributing Authmillion qiqabytes of numerical data from climate model simulations • Over 92

The First Order Draft Expert Review

Nearly 1500 individuals registered • 21,400 comments from 659 Expert

The Second Order Draft Expert and Government Review

Over 1500 individuals registered • 31,422 comments from 800 Expert
 26 Governments •

The Final Government Distribution

1855 comments from 32 Governments on the Final Draft Summary for Policy

Total Reviews

• 54,677 comments • 1089 Expert Reviewers from 55 countries • 38 Gov

The WGI Approval Session

 23-27 September 2013, Stockholm, Sweden • The Summary for Policymake accepted by the Panel, which has 195 member Governments •

Additional information is available from www.climatechange2013.org

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Would you be willing to serve again?

Yes

68%

Rate your overall experience

Good to Excellent

90%

Amount of work was a challenge

Agree to strongly agree

83%

Dedicated assistance should be standard

Agree to strongly agree 80%



What is unique about the IPCC?

- Intergovernmental Process
- International Collaboration
- Science Assessment...
- ...across Disciplines
- Science-Policy Interface



Intergovernmental Panel on Climate Change





IPCC Plenary

IPCC Bureau

IPCC Secretariat

Working Group I

The Physical Science Basis

TSU

Working Group II

Climate Change Impacts, Adaptation and Vulnerability

TSU

Working Group III

Mitigation of Climate Change

TSU

Task Force on National Greenhouse Gas Inventories

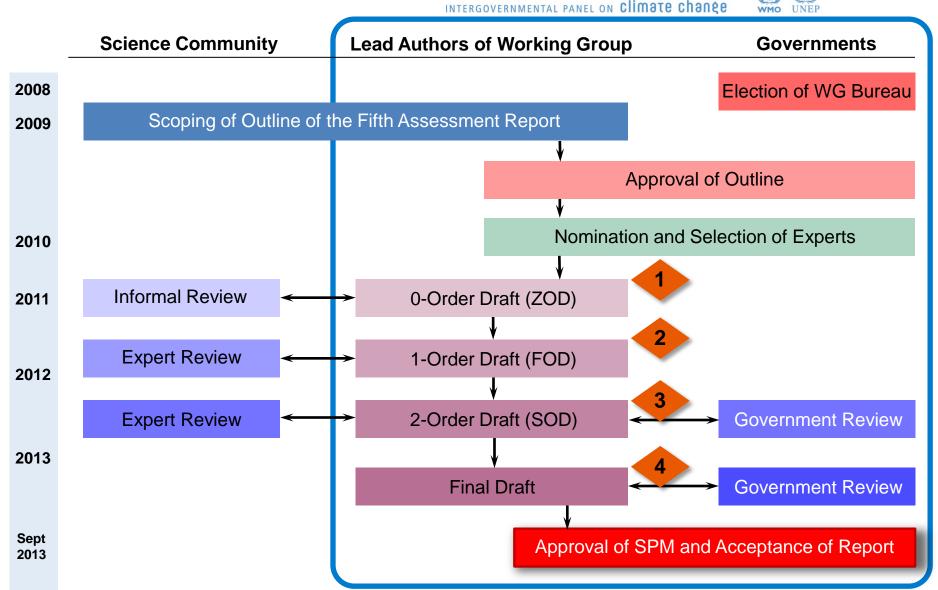
Authors, Contributors, Reviewers



IPCC Process (WGI):







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IPCC Working Group I Author Team



IPCC Working Group I Author Team



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"This is an Assessment, not a Review" (Sir John Houghton)

- Comprehensive but not exhaustive: Not every publication ever written on climate change needs to be cited
- Focus on progress since ca. 2006 (cutoff for AR4) but provide context where necessary
- Develop a consensus on important issues within a chapter, identify areas where consensus cannot be reached
- Determine robustness of the assessment, make use of the uncertainty language (e.g., very likely)
- Multiple lines of independent evidence produce the most robust statements



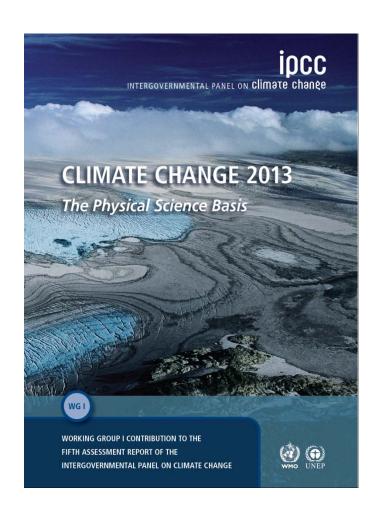
Report

14 Chapters, Annexes, Supplementary Material Regional Projections in Digital Form ~1,100,000 words, 1535 pages

Technical Summary

Summary for Policymakers

Synthesis Report





Report

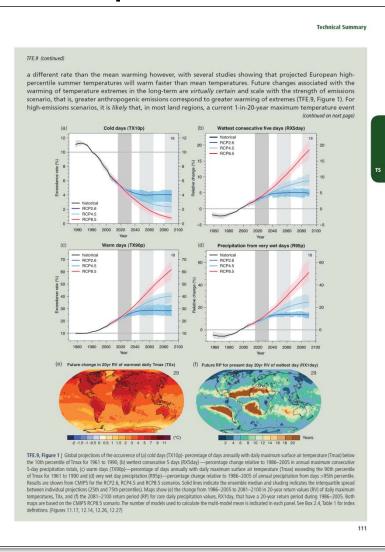
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Technical Summary

6 Sections, 9 Thematic Focus Elements 5,000 words, 81 pages

Summary for Policymakers

Synthesis Report



(IPCC 2013, Technical Summary)







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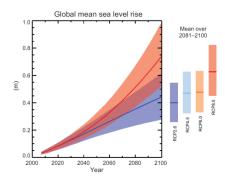


Figure SPM.9 | Projections of global mean sea level rise over the 21st century relative to 1986-2005 from the combination of the CMIP5 ensemble with process-based models, for RCP2.6 and RCP8.5. The assessed likely range is shown as a shaded band. The assessed likely ranges for the mean over the period 2081-2100 for all RCP scenarios are given as coloured vertical bars, with the corresponding median value given as a horizontal line. For further technical details see the Technical Summary Supplementary Material (Table 13.5, Figures 13.10 and 13.11; Figures TS.21 and TS.22)

- . The basis for higher projections of global mean sea level rise in the 21st century has been considered and it has been concluded that there is currently insufficient evidence to evaluate the probability of specific levels above the assessed likely range. Many semi-empirical model projections of global mean sea level rise are higher than process-based model projections (up to about twice as large), but there is no consensus in the scientific community about their reliability and there is thus low confidence in their projections. {13.5}
- . Sea level rise will not be uniform. By the end of the 21st century, it is very likely that sea level will rise in more than about 95% of the ocean area. About 70% of the coastlines worldwide are projected to experience sea level change within 20% of the global mean sea level change. {13.1, 13.6}

E.7 Carbon and Other Biogeochemical Cycles

Climate change will affect carbon cycle processes in a way that will exacerbate the increase of CO2 in the atmosphere (high confidence). Further uptake of carbon by the ocean will increase ocean acidification, (6.4)

- . Ocean uptake of anthropogenic CO2 will continue under all four RCPs through to 2100, with higher uptake for higher concentration pathways (very high confidence). The future evolution of the land carbon uptake is less certain, A majority of models projects a continued land carbon uptake under all RCPs, but some models simulate a land carbon loss due to the combined effect of climate change and land use change. {6.4}
- . Based on Earth System Models, there is high confidence that the feedback between climate and the carbon cycle is positive in the 21st century; that is, climate change will partially offset increases in land and ocean carbon sinks caused by rising atmospheric CO2. As a result more of the emitted anthropogenic CO2 will remain in the atmosphere. A positive feedback between climate and the carbon cycle on century to millennial time scales is supported by paleoclimate observations and modelling. {6.2, 6.4}

(IPCC 2013, Summary for Policymakers)









(Photo Credit: Johannes Frandsen, www.johannesfrands

Warming in the climate system is unequivocal, [...]

Human influence on the climate system is clear.

Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.

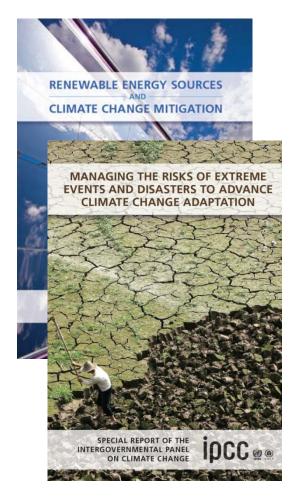


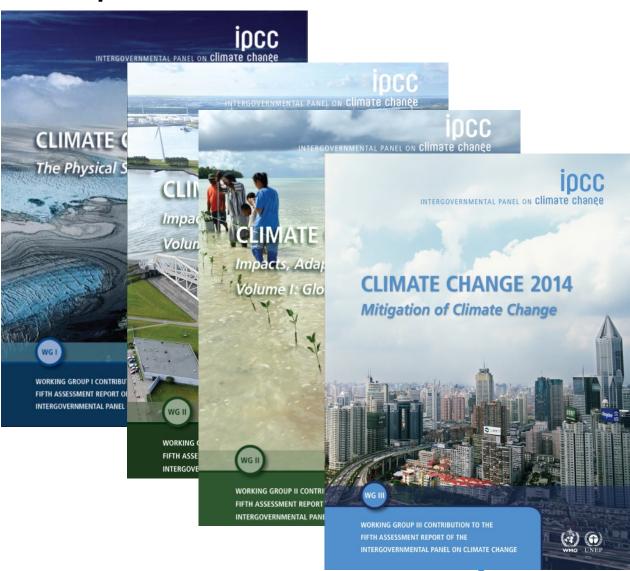
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The 5th IPCC Assessment Report 2008 - 2014





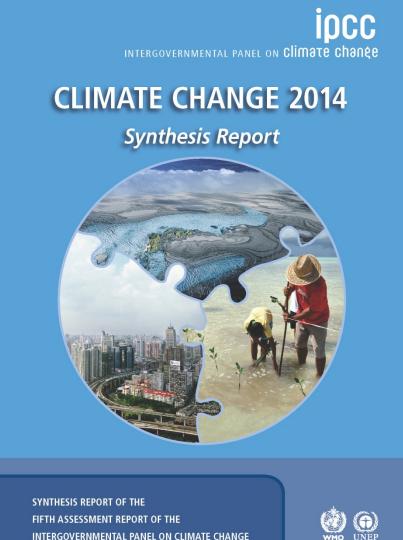


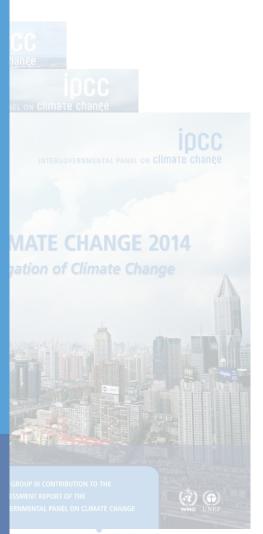




The 5th IPCC Assessment Report 2008 - 2014













Report

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Technical Summary

6 Sections, 9 Thematic Focus Elements 5,000 words, 81 pages

Summary for Policymakers

~14,000 words, 27 pages

Synthesis Report

all WGs contribute SPM 31 pages; Longer Report 77 pages

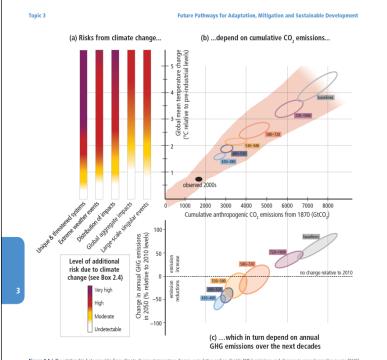


Figure 3.1 | The relationship between risks from climate change, temperature change, cumulative carbon dioxide (CO₂) emissions and changes in annual greenhouse gas (GHG) emissions by 2050. Limiting risks across Reasons For Concern (a) would imply a limit for cumulative emissions of CO2 (b), which would constrain annual emissions over the next few decades (c). Panel a reproduces the five Reasons For Concern (Box 2.4). Panel b links temperature changes to cumulative CO₂ emissions (in GtCO₃). from 1870. They are based on Coupled Model Intercomparison Project Phase 5 (CMIP5) simulations (pink plume) and on a simple climate model (median climate response in 2100) for the baselines and five mitigation scenario categories (six ellipses). Details are provided in Figure 2.3. Panel c shows the relationship between the cumulative CO₂ emissions (in GtCO₂) of the scenario categories and their associated change in annual GHG emissions by 2050, expressed in percentage change (in percent GtCO₂-eq per year) relative to 2010. The ellipses correspond to the same scenario categories as in Panel b, and are built with a similar method (see details in Figure 2.3).

Such a limit would require that global net emissions of CO2 eventually decrease to zero (Figure 3.1a,b) (high confidence). Reducing risks in GHG emissions over the next few decades (Figure 3.1c). But some risks from residual damages are unavoidable, even with mitigation and adaptation (very high confidence). A subset of relevant climate change risks has been estimated using aggregate economic indicators. Such economic estimates have important limitations and are therefore a useful but insufficient basis for decision-making on long-term mitigation targets (see Box 3.1). (WGII 19.7.1, WGIII SPM.3, Figure 3.1)

Mitigation involves some level of co-benefits and risks, but these risks do not involve the same possibility of severe, widespread of climate change through mitigation would involve substantial cuts and irreversible impacts as risks from climate change (high confidence). Scenarios that are likely to limit warming to below 2°C or even 3°C compared with pre-industrial temperatures involve large-scale changes in energy systems and potentially land use over the coming decades (3.4). Associated risks include those linked to large-scale deployment of technology options for producing low-carbon energy, the potential for high aggregate economic costs of mitigation and impacts on vulnerable countries and industries. Other risks and co-benefits are associated with human health, food security, energy security, poverty

(IPCC 2014, Synthesis Report)













Human influence on the climate system is clear.

Changes in climate have caused impacts in natural and human systems.

Continued GHG emissions will cause further warming and amplify existing risks.

Multiple pathways exist to *likely* limit warming to below 2°C.



What is unique about the IPCC?

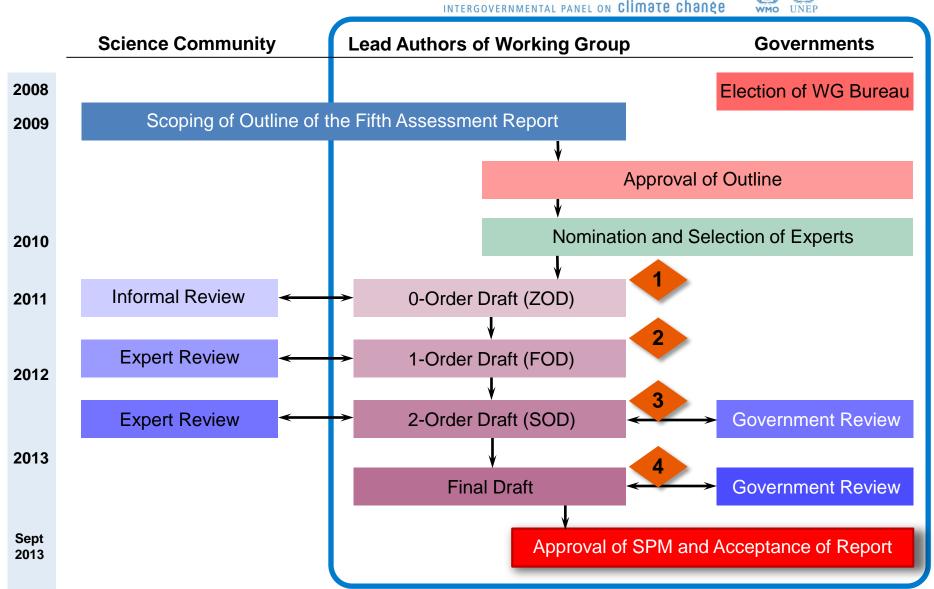
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IPCC Process (WGI):







(Photo Credit: Johannes Frandsen, www.johannesfrandsen.com)

WGI 12th Plenary, Opening Ceremony Stockholm 23.9.2013







WGI 12th Plenary:

Explaining the structure of the SPM





(Photo Credit: Johannes Frandsen, www.johannesfrandsen.com)

WGI 12th Plenary: Many questions, many good ideas ...





(Photo Credit: Johannes Frandsen, www.johannesfrandsen.com)

WGI 12th Plenary: Finally, a sentence approved









WGI 12th Plenary:
"I had my flag up!!"

WGI 12th Plenary:

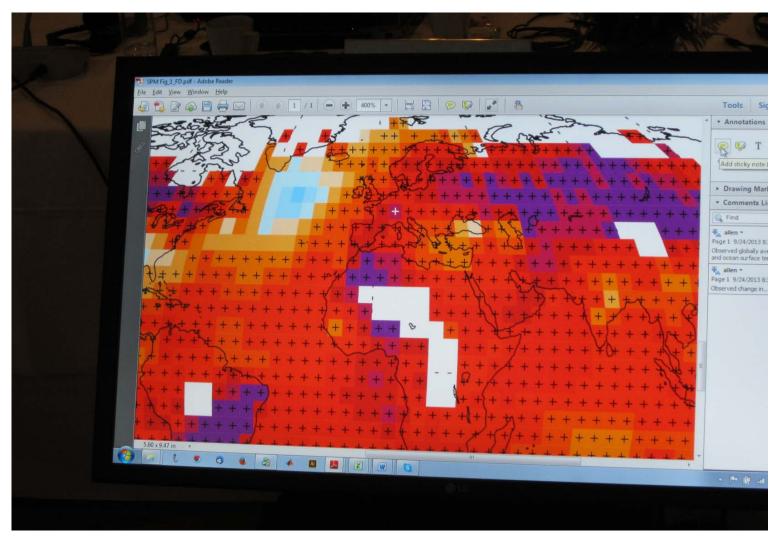
"The distinguished colleague is absolutely right! "





WGI 12th Plenary:

Some delegates have very sharp eyes ...





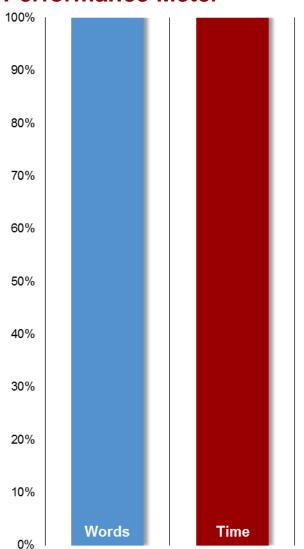






WGI 12th Plenary: Still not convinced ...

Performance Meter



Friday, 27 September 2013 04:58 CET



Friday – End of Twelfth Session of WGI





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Would you be willing to serve again?

Yes

68%

Rate your overall experience

Good to **Excellent**

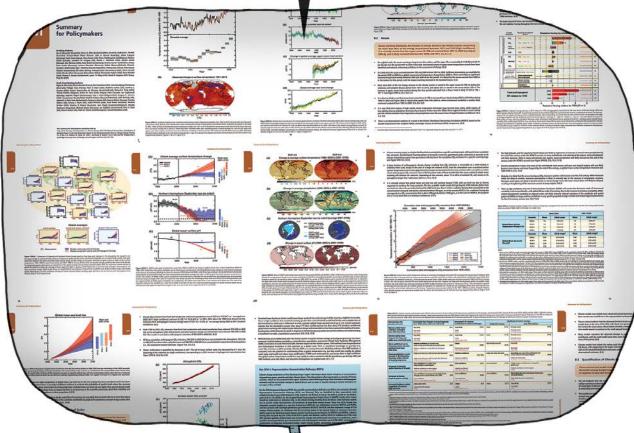
90%

Amount of work was

strongly agree 80%



THE ARGUMENT FOR TAKING IMMEDIATE ACTION ON CLIMATE CHANGE AND GLOBAL WARMING.









CHETMESTERISME SCHANTON, PA: CAGLECARIDONS, GAN

www.climatechange2013.org















