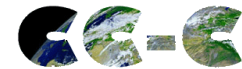


How to review IPCC reports

webinars and guidance for climate experts

Tuesday 22 October 2019 2.30 pm -3.45 pm CEST / 12.30 pm -1.45 pm GMT



ClimateContact
Consultancy

Webinar 2: How to conduct an IPCC review

Moderator:
Karen Morris, SSN



Presenter:
Arthur Petersen, UCL



Presenter:
Leo Meyer, CC-C





After following the full course, you will be able to:



- Describe the structure of the IPCC, its assessment process and its review process
- Phrase effective review comments on content of texts and figures in IPCC draft reports, based on one's own expertise
- Introduce additional knowledge from local and regional scientific literature in IPCC assessment reports



This course for climate experts from developing countries is the responsibility of Future Climate for Africa (FCFA) and the presenters. It is not a product of the IPCC, which cannot be held responsible or liable for the content of this course.

The Writing and Review Process

- Panel decisions on the outline; selection of author team
- (writing Zero-Order Draft: internal for authors only)
- Writing First Order Draft: Expert Review, 8 weeks.
- Writing Second Order Draft and First Draft of SPM: simultaneous Government and Expert Review, 8 weeks.
- Writing Final Draft: Government Review of the final draft SPM. This review is for governments only.
- Panel line-by-line approval session of the SPM and acceptance of the underlying report
- Publication of the report



- **Expert Reviewers** volunteer to review parts of draft IPCC reports (First and Second Order Drafts). They can be nominated by NGOs, academia, IPCC observer organisations, as well as by governments, but can simply register without any nomination.
- **Governments** do not review the First Order Draft, but they will review the Second Order Draft, which contains a first draft of the Summary for Policymakers (SPM) and the Final Draft SPM.
- **(Coordinating) Lead Authors** consider each review comment one by one, and justify the manner in which they respond to them. The response files will become available after publication of the report.
- **Review Editors:** senior scientists with IPCC experience ensure that all substantive review comments receive appropriate consideration and that genuine controversies are reflected adequately in the report. They have to report their approval to the Panel.

What do IPCC reviewers do

- Reviewers will comment on clarity, balance, objectiveness, consistency, comprehensiveness and quality of (parts of) a report and suggest improvements. More to follow.
- An Expert or Government Reviewer can select one or more chapters, a section or just a sub-paragraph – no obligation to review the whole report!
- Guidance for first –time reviewers is provided on the FCFA website
- There is no lower or upper limit to the amount of review comments.
- All comments and its author responses are made available after publication
- All IPCC Expert Reviewers are acknowledged with their names, affiliations and country in an Annex to the published IPCC report.

How to become an IPCC Expert Reviewer ⁷

Of the First Order Draft of the AR6 IPCC Working Group II Report on Climate Change Impacts, Adaptation and Vulnerability:

- Register as an Expert Reviewer at <https://apps.ipcc.ch/comments/ar6wg2/fod/register.php> (link also available at the FCFA website)
- You have to self-declare your expertise – if you have publications, you can mention them
- After acceptance of your registration IPCC will send credentials giving access to the draft chapters – you have to promise to keep these confidential
- You will find an Excel sheet with precise instructions how to note your review comments
- You will have to upload your review comments before 13 December midnight CET/SAST

IPCC Guidance for Reviewers (1)



- The purpose of the Expert Reviews is to ensure that the report is comprehensive, objective, and balanced.
- The IPCC procedures require that the review be carried out by experts. Prospective Expert Reviewers are requested to provide information on their relevant scientific and technical expertise when they register.
- This is not a public review and experts are required to sign and respect a confidentiality agreement.



- Review comments should focus on substantive issues and must be provided in English, using the Excel comments sheet provided by the review system.
- Constructive contributions are sought:
 - Considering the structure, comprehensiveness and balance in Chapters, including appropriate use of peer-reviewed literature;
 - Wherever possible, providing suggestions for revisions in terms of specific text and provide supporting evidence from the literature as appropriate;
 - Giving full citations for any suggested relevant papers;

IPCC Guidance for Reviewers (3)



- Considering ways of shortening the text without loss of relevant information;
- Considering ways of improving the presentation of material graphically or through tables;
- Recognizing that authors are required to work within page length constraints and must present a concise assessment of current knowledge, not a scientific review of how that knowledge was derived.

How to start a review of a report of >1000 pages – for first timers

- Study the chapter titles of the report and select one that raises your interest. Read the Executive Summary and the table of contents - pick and choose issues of interest to you.
- Dive into chapters and find the relevant sections; use the search function in pdf for finding catchwords.
- Most important: be critical. Authors may not know everything, your knowledge counts as well!
- Consider the texts, graphs, tables critically: understandable? No incomprehensible abbreviations? Clear messages? Policy relevant – not prescriptive? Information missing? Parts that are overlapping or repetitive?
- Focus on substantive comments only: not on spelling, layout of editorial issues- the TSUs will take care of that

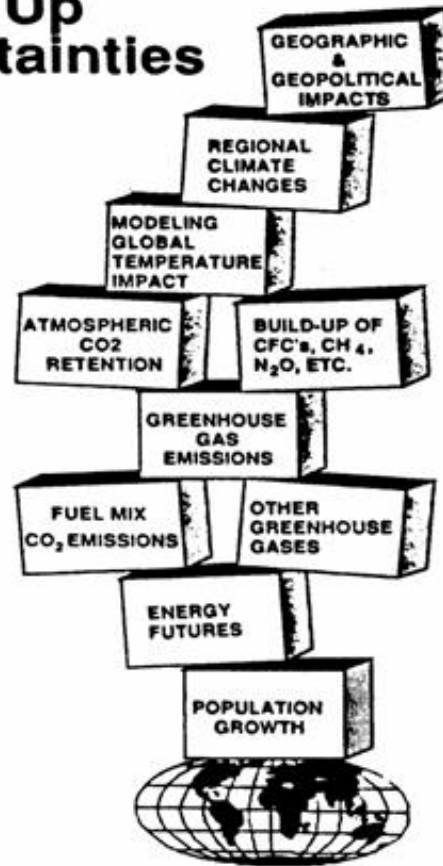
Language in the IPCC reports



- ‘Policy relevant but not policy prescriptive’
- Be cautious when you encounter verbs like ‘*must*’, ‘*should*’, ‘*have to*’ in case of statements describing policies or actions – unless phrased conditionally. Example:
 - “*To limit the warming with a probability higher than XX%, the carbon budget must not exceed XX GtC*” is OK.
 - But “*The carbon budget must not exceed XX GtC*” is not OK – it is policy prescriptive.
 - Uncertainty language is used by adding qualifiers in *italics*, such as ‘*likely*’ to relevant statements. These qualifiers should be reviewed as well.

GLOBAL CLIMATE CHANGE

Piling Up Uncertainties



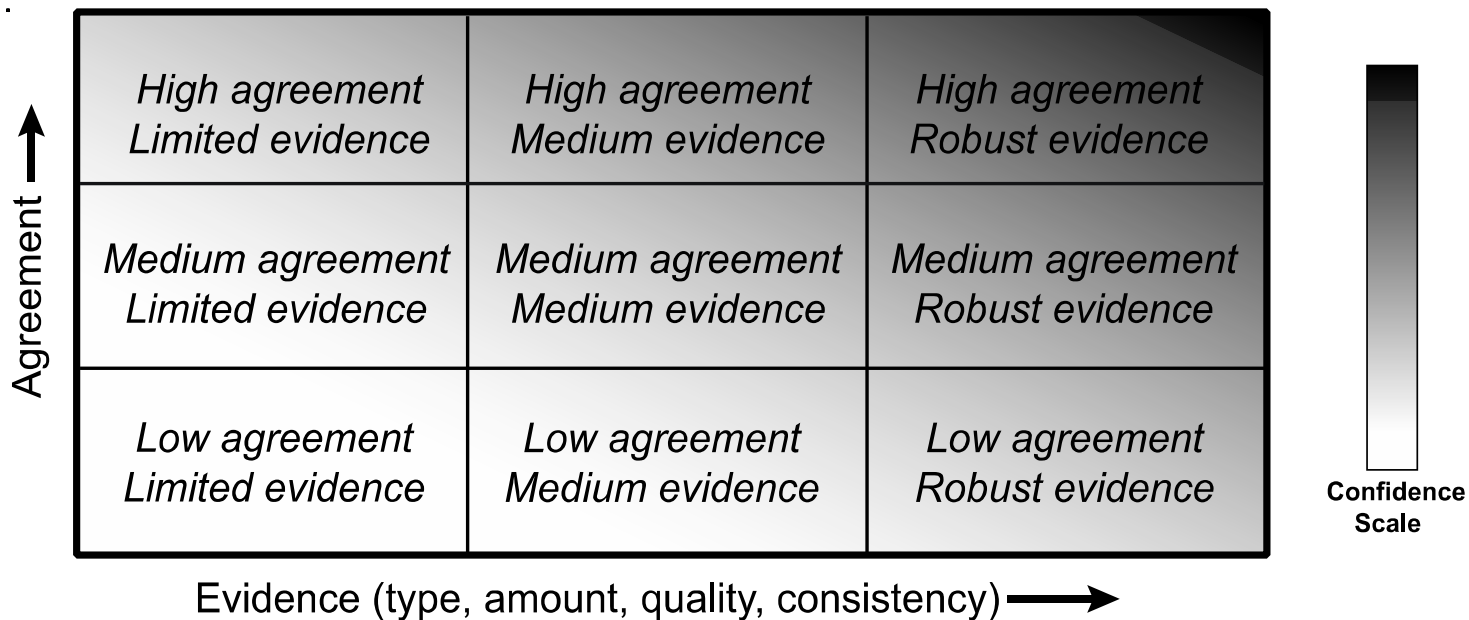


Figure 1: A depiction of evidence and agreement statements and their relationship to confidence. Confidence increases towards the top-right corner as suggested by the increasing strength of shading. Generally, evidence is most robust when there are multiple, consistent independent lines of high-quality evidence.

Examples of a Confidence Statement

Taken from Special Report on Oceans and Cryosphere,
Sept 2019

Global mean sea level (GMSL) is rising, with acceleration in recent decades due to increasing rates of ice loss from the Greenland and Antarctic ice sheets (*very high confidence*), as well as continued glacier mass loss and ocean thermal expansion. Increases in tropical cyclone winds and rainfall, and increases in extreme waves, combined with relative sea level rise, exacerbate extreme sea level events and coastal hazards (*high confidence*).

Likelihood

can only be assigned if confidence is high enough

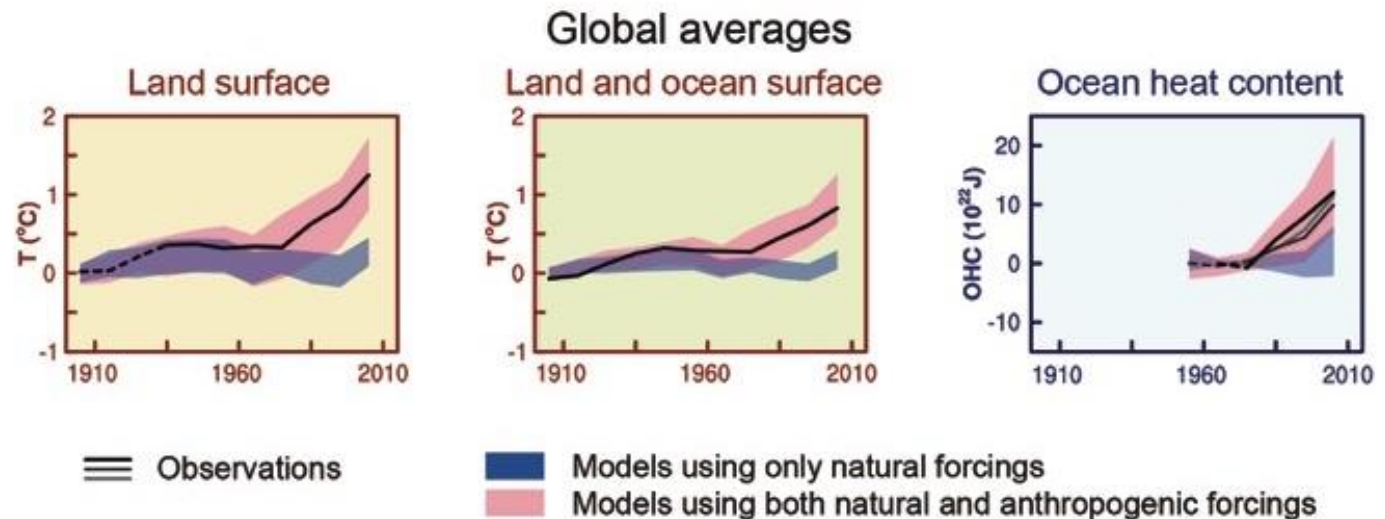
The following terms have been used to indicate the assessed likelihood, and typeset in italics:

Term*	Likelihood of the outcome
<i>Virtually certain</i>	99–100% probability
<i>Very likely</i>	90–100% probability
<i>Likely</i>	66–100% probability
<i>About as likely as not</i>	33–66% probability
<i>Unlikely</i>	0–33% probability
<i>Very unlikely</i>	0–10% probability
<i>Exceptionally unlikely</i>	0–1% probability

Examples of a Likelihood Statement

Taken from Working Group 5th Assessment Report, 2013

taking into account all uncertainties (including model uncertainty): the largest part of warming is **'extremely likely'** (95% chance) is due to anthropogenic causes



The MADE principle

Effective data visuals of scientific evidence are ones that are 'MADE'. That is, they consider the:

Message: Does the visual communicate a clear message?

Audience: Is the visual appropriate for the intended audience(s)?

Design: Does the visual use evidence-based design principles?

Evaluation: Has the visual been tested with the audience(s)?

From: <http://guidance.climatecognition.com/>

Example of a Complicated Graph

Taken from IPCC WG III AR5 report, 2014

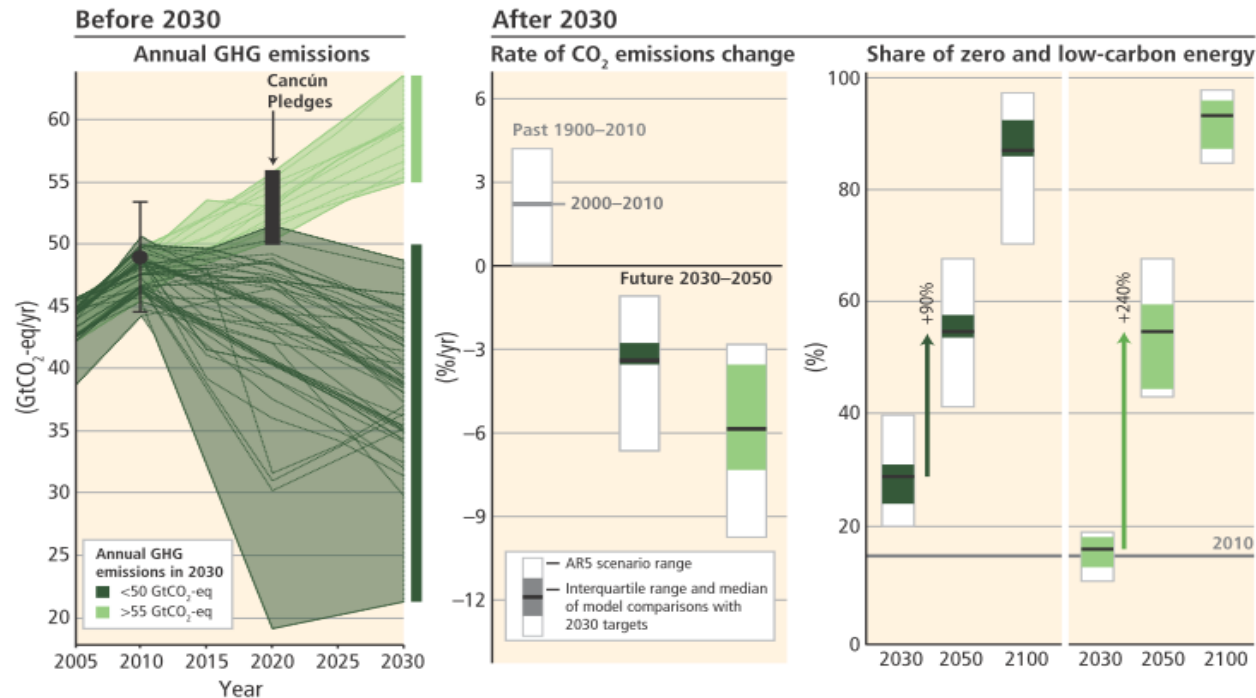


Figure SPM.12 | The implications of different 2030 greenhouse gas (GHG) emissions levels for the rate of carbon dioxide (CO₂) emissions reductions and low-carbon energy upscaling in mitigation scenarios that are at least *about as likely as not* to keep warming throughout the 21st century below 2°C relative to pre-industrial levels (2100 CO₂-equivalent concentrations of 430 to 530 ppm). The scenarios are grouped according to different emissions levels by 2030 (coloured in different shades of green). The left panel shows the pathways of GHG emissions (gigatonne of CO₂-equivalent per year, GtCO₂-eq/yr) leading to these 2030 levels. The black dot with whiskers gives historic GHG emission levels and associated uncertainties in 2010 as reported in Figure SPM.2. The black bar shows the estimated uncertainty range of GHG emissions implied by the Cancún Pledges. The middle panel denotes the average annual CO₂ emissions reduction rates for the period 2030–2050. It compares the median and interquartile range across scenarios from recent inter-model comparisons with explicit 2030 interim goals to the range of scenarios in the Scenario Database for WGIII AR5. Annual rates of historical emissions change (sustained over a period of 20 years) and the average annual CO₂ emission change between 2000 and 2010 are shown as well. The arrows in the right panel show the magnitude of zero and low-carbon energy supply upscaling from 2030 to 2050 subject to different 2030 GHG emissions levels. Zero- and low-carbon energy supply includes renewables, nuclear energy and fossil energy with carbon dioxide capture and storage (CCS) or bioenergy with CCS (BECCS). [Note: Only scenarios that apply the full, unconstrained mitigation technology portfolio of the underlying models (default technology assumption) are shown. Scenarios with large net negative global emissions (>20 GtCO₂-eq/yr), scenarios with exogenous carbon price assumptions and scenarios with 2010 emissions significantly outside the historical range are excluded.] (Figure 3.3)

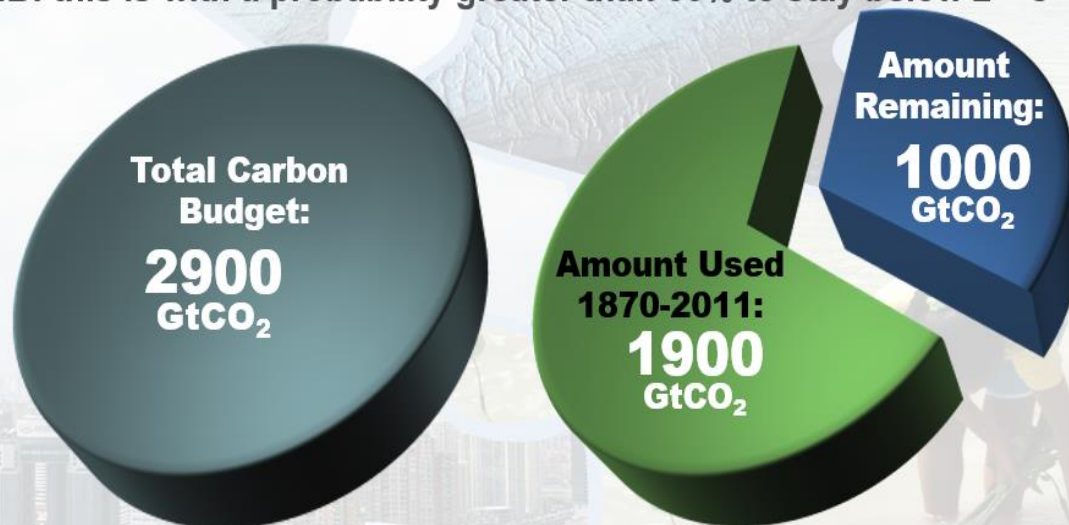
Example of a Clear Graph

Based on WG III IPCC AR5 report

20

The window for action is rapidly closing

65% of the carbon budget compatible with a 2° C goal is already used
NB: this is with a probability greater than 66% to stay below 2° C



NB: Emissions in 2011: 38 GtCO₂/yr

AR5 WGI SPM



When reviewing, pay attention to the literature references!

- Developing country reviewers can obtain peer-reviewed literature that is behind a paywall by sending a request to UNEP (UN Environment) through uneplib.helpdesk@unep.org with your full name and role in the report, relevant chapter(s).
- In your review comment you may provide relevant references to both peer-reviewed articles (preferred) but also to 'grey' literature from governments, industry, NGOs, and international organisations, scientific institutions. Quality should be judged by the relevant chapter team.
- References to non-English scientific literature is welcome but it should contain a summary in English. Quality should be judged by the relevant chapter team.
- Blogs, social network sites, broadcast media, posters, and personal communications are excluded as sources.



- Authors have to go through thousands of comments – help them to work efficiently and effectively!



- Make your comment as precise as possible:



- If possible provide concrete text proposals;
- If you want to add text, it would help if you also suggest what text to delete – authors have page length restrictions;
- If text could be shortened /combined, suggest concrete text;
- If you want to refer to literature sources, please provide the complete reference; in case of grey literature please provide a web link if available.

What do Authors do with the comments? 23



- Each comment must be considered (hundreds of comments for each chapter) by the author teams during (and after) a lead author meeting following a review period.
- Possible author responses: 'accepted', 'rejected' (+explanation why), 'combined with other comments', 'noted', 'thank you', 'rewritten'. Many variations...
- Difference between 'substantive' and 'editorial' sometimes difficult.
- Author responses on comments become publicly available after publication of the report.

Examples of review comments and author responses — taken from SR 1.5

- ❖ ‘*very likely*’ seems to contradict the use of “may” in the next line. Suggest reconsidering which uncertainty modifier to use
Text has been modified to remove the ambiguity
- ❖ What does “spatial variation in SS1” mean and why is it related to ENSO Modoki? Unclear
We have reworded sentence to make this clearer and also referred the reader to WG 1 Ch 14 for further information
- ❖ The impact of ocean acidification on Caribbean corals is not mentioned, yet there is quite a lot of research in this area
We have added “Coral ecosystems in the Caribbean Sea are at risk from ocean acidification (Albright and Langdon, 2011), although impacts are yet to be observed”

One-to-one feedback on draft review comments

We offer the option of personal feedback from the presenters on your draft review comments on the FOD of the WG 2 report. We can help you with the phrasing of the comments and answer your questions. You remain responsible for the content of your review comments. All individual correspondence will be kept confidential.

FCFA will send you an email with a link to registration for the one-to-one feedback part. Registration will be open until 8 November 2019. The number of participants for this part may be limited to 30 individuals. Priority will be given to first-time reviewers from developing countries on a first come-first serve basis.

Acknowledgements



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Canada

Thank you for your attention!



- *Now:* Q&As follow (15-20 minutes). You may submit your questions in English, French or Spanish.
- You may wish to send more questions to info@futureclimateafrica.org; these will be taken up by trainers
- Please consult the FCFA website for recordings, presentations, responses to questions, and useful links.
- We encourage you to register as an Expert Reviewer of the First Order Draft of the IPCC Working Group II report on Climate change impacts, adaptation and vulnerability – link also available at the FCFA website <https://apps.ipcc.ch/comments/ar6wg2/fod/register.php>.