

Guidance notes for reading the IPCC Summary for Policymakers

Background

The **Intergovernmental Panel on Climate Change (IPCC)** was first established in 1988 by two United Nations organizations, the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) at the request of a number of nations. It is the accepted global authority on climate change and produces reports that are collectively agreed assessments of the scientific literature by leading researchers. So far, reports have been produced in 1990, 1995, 2001 and 2007. The Fifth Assessment Report (AR5) is being delivered over 2013–2014.

Scientists and experts undertake this work on a voluntary basis and are not paid for contributions such as writing and reviewing.

IPCC Reports are reviewed by representatives from all the governments and the Summary for Policymakers is subject to line-by-line approval by all participating governments.

What an IPCC report is

An IPCC report is an assessment that collects and summarises current knowledge in relation to climate change. This done using literature from peer reviewed and unreviewed (grey) sources. It is considered the leading review globally of climate change and is produced by a team of hundreds of scientists and specialists from a diverse range of disciplines.

Three key areas are examined in the AR5:

- The physical science - Working Group I (September 2013)
- Impacts vulnerabilities and adaptation - Working Group II (March 2014)
- Mitigation options scenarios - Working Group III (April 2014)

A final synthesis report is produced that provides an overview of all of these areas (October 2014).

What an IPCC report is not

The IPCC report is not original research – it is an assessment of current research by researchers and experts.

The IPCC assessment reports are not made to dictate policy and decision making but to assist it. These reports do not make policy recommendations but may assess aspects of policy on behalf of the country members of the IPCC.

What the key purpose of the report is

The key purpose of this report is to provide comprehensive scientific assessments of current scientific, technical and socio-economic information worldwide in relation to the causes, resulting impacts and possible solutions of climate change. Also to create greater understanding that enables effective decision and policy making globally and locally relating to this issue.

The language

Much of the report is written in scientific language that aims to deliver precise scientific information. Much of this language is dense, and at times highly technical, to ensure that precise meanings are

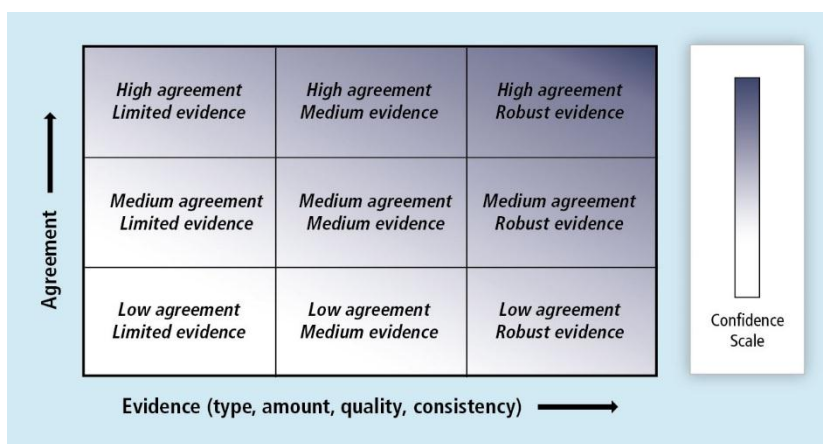
maintained. This is partly to try to minimise the misinterpretation and inappropriate use of key findings. This also means that readers of this report will need to have a level of scientific literacy to

be able to interpret the full reports effectively. The Summary for Policymakers and Technical Summaries are intended to be more accessible, but still require careful interpretation.

The context for uncertainty

Uncertainty in the context of these reports does not mean that the scientists are unsure of their findings. Uncertainty is a key part of how key scientific conclusions are reached and communicated. In the context of these reports scientific uncertainty is presented as a measure of confidence in the validity of a finding and/or the likelihood of that finding.

Confidence is expressed qualitatively, which is expressed as levels of agreement and evidence.



Levels of evidence and agreement contributing to a key finding (Source: IPCC)

Likelihood deals with how likely key findings are thought to be true and follow the scale below.

Likelihood Terminology	Likelihood of the occurrence/ outcome
Virtually certain	> 99% probability
Extremely likely	> 95% probability
Very likely	> 90% probability
Likely	> 66% probability
More likely than not	> 50% probability
About as likely as not	33 to 66% probability
Unlikely	< 33% probability
Very unlikely	< 10% probability
Extremely unlikely	< 5% probability
Exceptionally unlikely	< 1% probability

Likelihood terminology used in the AR5 (Source: The Conversation based on IPCC uncertainty guidance).

Scenarios, projection and prediction.

A **scenario** is a plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Scenarios are neither predictions nor forecasts, but are useful to provide a view of possible outcomes and their implications of developments and actions

A **scientific projection** is a potential future evolution of a quantity or set of quantities, often computed with the aid of a model. Projections involve judgements being formed using assumptions

around a set of qualities that may or may not occur in the way they are assumed to, for example, the rate of social or economic change in a region.

A climate **prediction** or climate **forecast** is the result of an attempt to produce (starting from a particular state of the climate system) an estimate of how the climate will appear in the future.

What is an RCP?

The Representative Concentration Pathways (RCPs) are four *projected* pathways of future changes in **radiative forcing** (changes of energy balance in the atmosphere that cause cooling or heating). They span a range of possibilities from low to high emissions that covers the range of published greenhouse emission scenarios.

The key purpose of the RCPs is to providing a consistent basis for comparing different model-based experiments using climate, impacts and integrated assessment models. They are the foundation for a new generation of scenarios where various emissions pathways can be combined with socio-economic storylines for testing different policy, technology, economic and societal assumptions.

Key considerations in reading this report

- Due to the nature of establishing a scientific consensus from a wide range of scientific opinion, the findings of these reports are considered conservative by many researchers.
- The climate system is dynamic and complex. As a result, conclusions drawn from reading IPCC reports that are not informed by sufficient expertise may not represent findings accurately. It is advised that when unsure, seek advice from a suitably qualified person.

Further information

Intergovernmental Panel on Climate Change

<http://www.ipcc.ch/>

CSIRO Understanding climate change

<http://www.csiro.au/en/Outcomes/Climate/Understanding.aspx>

The CSIRO Bureau of Meteorology State of the Climate 2012

<http://www.csiro.au/Outcomes/Climate/Understanding/State-of-the-Climate-2012.aspx>

Climate Commission

<http://climatecommission.gov.au/>

Bureau of Meteorology Climate and Past Weather

<http://www.bom.gov.au/climate/>

Climate Institute Explore Climate Change

<http://www.climateinstitute.org.au/explore-climate-change.html>

The Australian Academy of Science The Science of Climate Change: questions and answers

<http://science.org.au/policy/climatechange.html>

Climate Scientists Australia – a group of scientists who are happy to answer questions on the science

<http://climatescientistsaustralia.org.au/about/members.html>

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