



IPCC Climate Change 2013: The Physical Science Basis – Findings and Lessons Learned

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The newest comprehensive assessment Climate Change 2013: The Physical Science Basis, carried out by Working Group I of the Intergovernmental Panel on Climate Change, documents a rapidly and profoundly changing Earth System and provides the latest understanding of causes for these changes. Simulations using comprehensive coupled climate models form the basis for global and regional climate change projections spanning a range of possible climate futures largely depending on scenario choices. Key assessment findings are communicated in non-technical and quotable headline statements derived from, and firmly based on, the underlying scientific assessment. The concept of cumulative carbon emissions serves as new tool for policymakers to understand the physical requirements associated with specific climate targets. The assessment has also identified gaps and uncertainties in the scientific understanding of the Earth System and thus indicates further avenues of research.

The latest assessment, however, has also demonstrated the challenges and limitations of comprehensive assessments, resulting from the sheer amount of work load for the 259 authors, and over 600 contributing authors involved, with more than 9200 scientific papers assessed, 2 Million Gigabytes numerical data analyzed, and more than 54,000 review comments processed. Some personal thoughts on possible ways forward, ensuring the flow of rigorous and robust information from the scientific community to the policymakers, will be presented.