



Politics Posing as Science: A Preliminary Assessment of the IPCC's Latest Climate Change Report

By Steven F. Hayward, Kenneth P. Green, and Joel Schwartz

The Intergovernmental Panel on Climate Change's (IPCC) new Summary for Policymakers (SPM) of its Synthesis Report (SR) should be taken with several chunks of salt.¹ The summary itself is a political document that downplays assessments of uncertainty from the scientific reports written by the main body of the IPCC, which themselves are far more subjective than the IPCC would have one believe. Equally important, both the IPCC's summaries and main reports omit much contrary evidence. In several cases, the SR disagrees with the reports on which it is based, and it fails to take account of cautionary publications in the scientific literature that were available early enough to have been incorporated into the SR. Climate change and climate policy are key issues for future human welfare, but that concern should translate into sober analysis and actions that are likely to do more good than harm. The people of the world should not let themselves be steamrolled by a report that reflects the IPCC's interest in promoting climate change fears, rather than in conveying the weight of the scientific evidence.

Although it is itself a hefty document, the IPCC's SR is intended to summarize the three even lengthier volumes comprising the IPCC's Fourth Assessment Report (AR4) on climate change. The media received the SPM with its customary deference, relayed the IPCC's gloomy prognosis without critical review, and even sensationalized the IPCC's already sensational message to enhance its aura of panic and doom.²

"Today, the time for doubt has passed," United Nations (UN) Secretary-General Ban Ki-moon declared in Valencia, Spain. "The IPCC has unequivocally affirmed the warming of our climate system, and linked it directly to human activity. . . . These scenes are as frightening as a science fiction movie."³ The dramatic language surrounding the release of the SR naturally set off a fresh round of familiar headlines calling for urgent action to avert the climate crisis and prompted climate

campaigners to declare for the umpteenth time that meaningful debate over climate change is over and that the science is "settled."

News junkies can be forgiven for thinking they have heard this message before. Indeed, last week's headlines repeated themes that suffused the three IPCC working group reports released over a period of several months earlier this year. The SR is merely a condensation of the three previous reports—rather than a new set of findings—with extra emphasis on the alarming aspects of the subject. The IPCC just wants to make sure it is getting its message across in case someone living in a cave has missed the news that the climate has warmed.

But there is less here than meets the eye: in fact, the SR has not even been published yet—only the SR-SPM is actually available as of this writing—and the levels of confidence and alarm cited in the new SPM exceed not only that of underlying primary climate research, but even that of three working group reports upon which the SR is ostensibly based.

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Political Documents, Not Scientific Studies

One might wonder how one could summarize a document that has not yet been published, but the media managed: news accounts largely failed to report that the actual scientific material underpinning the breathless headlines had not yet been made public. Instead, the news reports and the grand pronouncements from the UN rostrum were all based on the twenty-three-page SPM.

The first thing to understand about both SR-SPM and the summaries that accompany the three working group reports is that they are written mainly by bureaucrats rather than scientists, and that the drafting includes considerable eleventh-hour wordsmithing before the final versions are released.⁴ They are, in fact, approved line-by-line by a group largely composed of government representatives, with a smattering of scientists representing the teams that did the actual underlying scientific assessment. Indeed, when the Working Group I (WG I) SPM was released in February 2007, news reports noted that the IPCC planned to adjust the main WG I report to conform to the SPM, rather than the other way around.⁵

In other words, the SPMs contain what the IPCC's political leadership wishes to emphasize about climate change, and this political leadership has never been shy about affirming that its ostensibly dispassionate scientific reviews are intended to serve the political goal of stimulating the world's governments to impose deep cuts in greenhouse gas emissions. Commenting on the then-upcoming release of the WG I SPM, IPCC chairman Rajendra Pachauri said, "I hope that [the IPCC's Fourth Assessment] will shock the governments so much that they take action."⁶ According to *Der Spiegel*, "When Renate Christ, the secretary of the IPCC, is asked about her opinion of reporting on climate change, she refers to articles that mention 'climate catastrophe' and calls them 'rather refreshing.'"⁷ The IPCC has also been partial to the Kyoto process, despite mounting reasons to conclude that the Kyoto approach is a dead end.⁸

Indeed, there is some evidence that the synthesis summary has been "sexed up" to compensate for the more sober language of the AR4 SPMs released earlier this year, which tended to undermine the alarmist case. A good example is projections of sea level rise in the twenty-first century. The 2001 IPCC assessment had a worst-case scenario of about three feet by the year 2100, but the latest assessment scaled back its worst-case to about twenty-three inches.⁹

This contrasts sharply with former vice president Al Gore's insinuation that sea level will rise twenty feet during the twenty-first century in his film and book *An Inconvenient Truth*. This was only one of a number of specific projections in the AR4 that represented a consistent retreat from the alarmism of earlier IPCC reports, and it prompted a number of climate campaigners to begin complaining that the IPCC's scientists were being "too conservative."¹⁰

It is worth noting the subtle change in language on this point between the WG I-SPM released in February 2007 and the language in the SR-SPM released on November 17. For sea level rise, the WG I-SPM with the more benign worst-case forecast of twenty-three inches reads: "Larger values [of sea level rise] cannot be excluded, but understanding of these effects is too limited to assess their likelihood or provide a best estimate or an upper bound for sea level rise."¹¹

The SR-SPM offers a noticeably different emphasis: "[The summary] shows model-based projections of global average sea level rise for 2090–2099. The projections do not include uncertainties in climate-carbon cycle feedbacks, nor the full effects of changes in ice sheet flow, therefore the upper values of the range are not to be considered upper bounds for sea level rise."¹² Translation: pay no attention to the lower sea level projections of our models—be worried, be very worried (as *Time* magazine put it¹³). The media dutifully reported this newly crafted IPCC storyline, even though it is based on the same information that went into the WG I report released last February. Evidently, the restraint and modesty of WG I scientific consensus did not provoke the desired level of public fear—hence the need for a more alarming portrayal of sea level in the latest summary for policymakers.

The key point is that the previous SPMs of the three working groups and the new summary of the SR have only a tenuous relationship to the three full IPCC working group reports. The three reports total more than 2,800 densely printed pages, representing—as they are supposed to—a detailed review and evaluation of a broad range of peer-reviewed scientific literature on all the important aspects of climate change. The AR4 SPMs and the SR-SPM do not—because they cannot—fully reflect the nuances and caveats of the complete reports, and any attempt at a brief summary will necessarily gloss over many details. Unfortunately, the media seldom inquires into the body of the main reports, and at best limit their reporting to the summaries alone, or,

worse yet, to what IPCC officials say at press conferences about the contents of the summaries. The media is uncurious about the details of the full IPCC working group reports.

The Underlying Reports

In general, the three working group reports do an admirable job of reviewing and evaluating an enormous body of scientific work and are well worth careful reading. A careful reading, however, will disabuse any fair-minded reader that many important aspects of climate science are “settled” and beyond argument.

It is nowadays considered at best an act of bad faith to inquire about “uncertainty” in our understanding of climate change and its potential impacts on human welfare, yet the terms “uncertain” and “uncertainties” appear *more than 1,300 times* in the 987-page full report of WG I (*The Physical Science Basis of Climate Change*). In other words, the term “uncertain” or its equivalent (such as “limited” or “incomplete understanding”) appears on average more than once per page. The seventy-four-page Technical Summary of WG I alone identifies fifty-four “key uncertainties” in our scientific knowledge of climate change. These acknowledged uncertainties often concern key points that bear directly on an assessment of the likely magnitude of future climate change and therefore have great relevance to policy-makers in terms of policy choices and implementation time scales.

In fact, the IPCC does not develop its certainty or uncertainty estimates in any scientifically rigorous way. Rather, the IPCC polls the very authors who write the reports and asks them to state their personal opinion about how confident they are that what they are saying is correct. The IPCC’s “Guidance Notes for Lead Authors” makes this explicit:

Be prepared to make expert judgments and explain those by providing a traceable account of the steps used to arrive at estimates of uncertainty or confidence for key findings—e.g. an agreed hierarchy of information, standards of evidence applied, approaches to combining or reconciling multiple lines of evidence, and explanation of critical factors.¹⁴

It should be no surprise that most people will assert that most of what they say is more likely correct than

not; it is the equivalent of asking an in-house pollster or consultant for a presidential campaign how confident they are that their candidate is going to win the election. And this is made explicit in footnote twelve of the SR-SPM, which explains that confidence levels about the impacts of climate change on ecosystems are “[i]dentified on the basis of *expert judgment* of the assessed literature and considering the magnitude, timing, and projected rate of climate change, sensitivity, and adaptive capacity” (emphasis added). But most of these ecosystem impacts are derived based on computer projections not only of how the climate will change, but also of how people will react—a project with many subjective elements.

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With regard to the overall SPM, the second footnote explains that statements of confidence and uncertainty are explained in the (not yet published) SR. However, here is how they are explained in footnotes six and seven of the WG I-SPM from which the SR is derived: “In this Summary for Policymakers, the following terms have been used to indicate the assessed likelihood, *using expert judgment*, of an outcome or a result” (emphasis added). Levels of confidence are likewise subjective: “In this Summary for Policymakers, the following levels of confidence have been used to express expert judgments on the correctness of the underlying science. . . .”

Finally, on what many consider the most critical question, whether observed warming is attributable to humanity’s greenhouse gas emissions, the underlying WG I report states: “The approaches used in detection and attribution research described above cannot fully account for all uncertainties, and thus ultimately expert judgement is required to give a calibrated assessment of whether a specific cause is responsible for a given climate change.”¹⁵

Turning a Blind Eye to Heterodox Findings

The evaluation of conflicting scientific conclusions also raises the question of how the IPCC review process decides to discount heterodox findings that have

nonetheless passed peer review. The IPCC reviewers are probably correct in many cases in discounting heterodox findings (some of which, on subsequent review, have been revealed to involve instrumentation faults or errors in statistical analysis, though this problem cuts both ways, such as with the now discredited “hockey stick” graph of world temperature trends). While the WG I report typically references contrarian findings and offers analysis for discounting these findings, in a number of cases WG I seems to have entirely omitted some contrary findings that appear to have a solid empirical basis. While the IPCC’s full working group reports deserve to be taken seriously, they can hardly be said to close the book on a number of high-profile controversies. Even a cursory survey of key issues would involve a lengthy and detailed critique, so we limit ourselves here to a few examples of issues that feature prominently in the SPM.

- The SR-SPM concludes that the rate of sea level rise has accelerated over the last three decades.¹⁶ While there is analysis supporting this conclusion, there is also research in the peer-reviewed literature that directly contradicts it. For example, the WG I report does not cite S. J. Holgate’s article, which was based on high-quality, century-long sea level records from around the world, and which reported that world sea level rise slowed from the early to the late twentieth century.¹⁷ Yet the WG I report cites many other studies published in 2007. After accounting for vertical land motion using GPS data, Wöppelmann et al. found that the rate of world sea level rise is 27 percent *lower* than the IPCC estimates.¹⁸ This study has been available online since February 2007, but does not appear to have been accounted for in the SR. (Neither study is acknowledged in the WG I, even though many other 2007 studies are included in its vast purview.) Also on the subject of sea level rise, recent research also suggests the major ice sheets in Greenland and Antarctica have survived higher temperatures than today’s and that they are stable and not in danger of sliding into the ocean.¹⁹
- The SR-SPM states: “Globally, the area affected by drought has *likely* increased since the 1970s.”²⁰ Yet nowhere in WG I or WG II is contrary evidence acknowledged. Narisma et al., for example, present data suggesting a decrease in the extent of drought during the twentieth century.²¹
- One of the lingering and underexplored hypotheses about climate change concerns the role of changes in solar radiation.²² The AR4 actually revised downward from its 2001 report the positive forcing effect of solar activity from small to minuscule.²³ In other words, according to the IPCC, changes in solar activity play barely any role at all in recently observed global warming. The subject receives the barest mention in the SR-SPM. The full WG I report, while providing substantial analysis for revising downward its estimate of solar forcing, also contains language suggesting the matter is far from adequately understood or “settled.” The WG I chapter on computer climate models (chapter 8) states: “Despite considerable effort since the [2001 IPCC report], uncertainties remain in the representation of solar radiation in climate models.”²⁴ Chapter 2, a wide-ranging survey of climate-forcing factors, notes that certain aspects of solar behavior are the subject of “ongoing debate” among scientists. Chapter 2 also notes that evidence supports the hypothesis that the level of solar activity today may match solar activity of the twelfth century, which corresponds to the “medieval warm period” when global temperatures were likely comparable to those of the present time. None of this is reflected or conveyed in the SPM. Most troublesome in this literature review, however, is the omission of peer-reviewed studies that attribute up to half of recent warming to changes in solar activity.²⁵

These omissions do not necessarily indicate deliberate bias on the part of the IPCC, but they do underscore the importance of greater transparency as well as the admission that our reach may exceed our grasp in terms of what is “settled.” These examples, and many more like them, also point out the risks of relying on a single organization—especially one with a self-acknowledged political axe to grind—to provide the single “authoritative” scientific input for world climate policies that would cost trillions of dollars if implemented to the extent called for by the IPCC or environmental groups.

It is possible that we may know *less* than we did ten years ago precisely because the intense focus on the most scientifically challenging parts of climate behavior is actually revealing more about what we do not know and more evidence that is inconsistent with or directly contradictory to the anthropogenic greenhouse warming

paradigm promoted by the IPCC and climate campaigners. Studies over the last few years have demonstrated that the climate models the IPCC relies on for predicting and attributing climate warming do a poor job of matching observations on key climate variables such as clouds.²⁶ Indeed, in many key areas, observational evidence suggests the real climate often behaves differently or even opposite to what climate models say we should expect to see under greenhouse warming.²⁷ A number of researchers have also fingered other human activities besides greenhouse gas (GHG) emissions as major or even the main causes of climate warming, but these non-GHG effects are either omitted from or inadequately accounted for in the IPCC's climate models.²⁸

The fact that the IPCC's reports omit so much recent evidence on key climate variables also suggests that the agency moves too slowly to provide up-to-date input into climate policy debates. The rapid pace of today's climate research has, to a great extent, left the lumbering IPCC in the dust.

While the deficiencies above are crucial, it is when the SR-SPM gets to the all-important subject of mitigation policy that the political imperatives do the greatest disservice to the actual analysis of the full IPCC working groups. In calling for greenhouse gas emissions curbs to stabilize GHG levels some decades from now, the SR-SPM concludes: "There is *high agreement* and *much evidence* that all stabilisation levels assessed can be achieved by deployment of a portfolio of technologies that are either currently available or expected to be commercialised in coming decades, assuming appropriate and effective incentives are in place for their development, acquisition, deployment and diffusion and addressing related barriers."²⁹ The "high agreement" referenced here can only refer to politicians and UN bureaucrats, for the complete report of WG III makes clear that there is intense controversy about our energy prospects.

Chapter 7 ("Industry") of WG III, for example, states that "Many studies have indicated that the technology required to reduce GHG emissions and eventually stabilize their atmospheric concentrations is *not currently available*."³⁰ And chapter 2 ("Framing Issues") also acknowledges what might be generously called the "lack of consensus" on this matter of technological where-withal: "While the importance of technology to climate change is widely understood, there are differing viewpoints on the feasibility of current technology to address climate change and the role of new technology."³¹ This more balanced discussion of the availability of energy

options is nowhere to be seen in media coverage. The editorial line of the *Houston Chronicle* is typical: "As the IPCC report points out, most of the technology required to rein in man-made emissions fueling climate change already exists."³²

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The difference seen here between the nuance of the complete working group reports and the breezy confidence of the SPMs suggests that we should look with skepticism on the SR-SPM's claims that GHG mitigation will be cheap (about 0.12 percent of global GDP) and easy. These figures will not survive even cursory scrutiny by climate economists outside the IPCC and are not likely to be embraced by many finance ministries anyway. If the cost were truly as modest as the IPCC claims, the controversy about emissions reductions would long ago have been dispatched and the world would be well on its way to achieving large reductions in GHG emissions. Instead, the debate has only grown more intense as the real costs of restricting energy use become more apparent to policymakers and the public.

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Notes

1. United Nations, Intergovernmental Panel on Climate Change (IPCC), *Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report (SR-SPM)* (draft copy, November 16, 2007), available at www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf (accessed November 26, 2007).

2. See Rafael Epstein, "Climate Change Report 'Terrifying,'" ABC News (Australia), November 18, 2007, available at www.abc.net.au/news/stories/2007/11/18/2093907.htm (accessed November 28, 2007); and Rob Edwards, "A Wake-up Call for the World," *Sunday Herald* (Scotland), November 18, 2007.

3. Marian Wilkinson and Stephanie Peatling, "Environment Shock," *Sydney Morning Herald*, November 19, 2007.

4. Working Group (WG) I focuses on the science of climate change; WG II surveys the impacts of climate change; and WG III focuses on mitigation of (that is, policy for addressing) climate change.

5. Kevin Mooney, "UN Climate Summary Designed to Dupe, Critics Say," CNSNews.com, February 2, 2007, available at www.cnsnews.com/ViewCulture.asp?Page=/Culture/archive/200702/CUL20070202a.html (accessed on November 28, 2007). This procedure is documented in "Procedures for the Preparation, Review, Acceptance, Adoption, Approval and Publication of IPCC Reports," Appendix A to the Principles Governing IPCC Work, available at <http://64.233.169.104/search?q=cache:ouVnT3OpMYEJ:www.ipcc.ch/about/app-a.pdf+IPCC+procedures&hl=en&ct=clnk&cd=1&gl=us> (accessed on November 27, 2007).

6. Nita Bhalla, "Interview—U.N. Climate Report Will Shock the World—Chairman," Reuters, January 25, 2007.

7. Uwe Buse, "Is the IPCC Doing Harm to Science?" *Der Spiegel*, May 3, 2007.

8. See Gwyn Prins and Steve Rayner, "The Wrong Trousers: Radically Rethinking Climate Policy," (discussion paper; James Martin Institute for Science and Civilization, University of Oxford and MacKinder Centre for the Study of Long-Wave Events, London School of Economics; Oxford and London; October 2007), available at www.martinstitute.ox.ac.uk/NR/rdonlyres/06C527B7-D0DA-4D57-A38C-EDD6C5863112/0/TheWrongTrousers.pdf (accessed November 26, 2007).

9. IPCC, *Climate Change 2001: Synthesis Report—Summary for Policymakers* (September 2001), 9, available at www.ipcc.ch/pdf/climate-changes-2001/synthesis-spm/synthesis-spm-en.pdf (accessed November 28, 2007); and IPCC, SR-SPM, 7.

10. "Climate Change Panel Is Esteemed, But Seen as Too Conservative," *International Herald Tribune*, November 13, 2007. See also Volker Mrasek, "'Frightening' UN Climate Report May Be Too Optimistic," *Der Spiegel*, November 19, 2007, available at www.spiegel.de/international/world/0,1518,518231,00.html (accessed November 28, 2007).

11. IPCC WG I, *Climate Change 2007: The Physical Science Basis* (Cambridge: Cambridge University Press, 2007), 14, available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_SPM.pdf (accessed November 28, 2007).

12. IPCC, SR-SPM, 8.

13. Brian Walsh, "A Last Warning on Global Warming," *Time*, November 17, 2007.

14. IPCC, "Guidance Notes for Lead Authors of the IPCC Fourth Assessment Report on Addressing Uncertainties," (July 2005), available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4_UncertaintyGuidanceNote.pdf (accessed November 17, 2007).

15. IPCC WG I, *Climate Change 2007: The Physical Science Basis*, 669, available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch09.pdf (accessed November 28, 2007).

16. IPCC, SR-SPM, 1.

17. See S. J. Holgate, "On the Decadal Rates of Sea Level Change during the Twentieth Century," *Geophysical Research Letters* 34 (2007). This study was accepted in November 2006 and published in January 2007. The WG I report was released in February 2007 and the SR-SPM was released in November 2007.

18. See G. Wöppelmann, B. Martin Miguez, M.-N. Bouin, and Z. Altamimi, "Geocentric Sea-Level Trend Estimates from GPS Analyses at Relevant Tide Gauges World-Wide," *Global and Planetary Change*, 57, no. 3–4 (June 2007): 396–406.

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20. IPCC, SR-SPM, 1.

21. See G. Narisma, J. Foley, R. Licker, and N. Ramankutty, "Abrupt Changes in Rainfall during the Twentieth Century," *Geophysical Research Letters* 34 (2007).

22. There are ten or more different solar dynamics that are hypothesized to have a potentially significant effect on earth's climate. A good recent summary of the issue is Richard Mackey, "Rhodes Fairbridge and the Idea That the Solar System Regulates the Earth's Climate," *Journal of Coastal Research*, special issue 50 (2007): 955–68.

23. IPCC, *Climate Change 2001: Synthesis Report—Summary for Policymakers*, 4; IPCC, SR-SPM, 5.

24. IPCC WG I, *Climate Change 2007: The Physical Science Basis*, 618, available at www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter8.pdf (accessed November 28, 2007).

25. See N. Scafetta and B. J. West, "Phenomenological Solar Contribution to the 1900–2000 Global Surface Warming," *Geophysical Research Letters* 33, no. 5 (2006): 1–4; and N. Scafetta and B. J. West, "Phenomenological Reconstructions of the Solar Signature in the Northern Hemisphere Surface Temperature Records since 1600," *Journal of Geophysical Research* 112 (2007).

26. See M. H. Zhang, W. Y. Lin, S. A. Klein, J. T. Bacmeister, S. Bony, R. T. Cederwall, A. D. D. Genio, J. J. Hack, N. G. Loeb, U. Lohmann, P. Minnis, I. Musat, R. Pincus, P. Stier, M. J. Suarez, M. J. Webb, J. B. Wu, S. C. Xie, M. S. Yao, and J. H. Zhang, "Comparing Clouds and Their Seasonal Variations in 10 Atmospheric General Circulation Models with Satellite Measurements," *Journal of Geophysical Research* 110, no. D15 (2005): 1–18.

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29. IPCC, SR-SPM, 22. Emphasis in original.

30. IPCC WG III, *Climate Change 2007: Mitigation of Climate Change* (Cambridge: Cambridge University Press, 2007), 485, available at www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter7.pdf (accessed November 28, 2007). Emphasis added.

31. Ibid., 148, available at www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter2.pdf (accessed November 28, 2007).

32. Editorial, "Call to Action," *Houston Chronicle*, November 19, 2007.