

**Global Change Scenarios: Their Development and Use
Synthesis and Assessment Product 2.1b, US CCSP**

Responses to comments from Michael MacCracken, Climate Institute, August 14, 2006

November 1, 2006

II. General Comments

First General Comment: This is a very impressive and comprehensive overview of the issues concerning scenarios. Compliments to the authors.

No response required.

Second General Comment: The essential absence from this report of any discussion of advances or uses of scenarios as a result of efforts sponsored by the Climate Change Science Program is a rather telling indictment of the program's imbalance these past several years. Finally, after 6 years, the CCSP is at least getting some very nice input about what it should have been doing for the last 6 years, and should be doing much more extensively in the future.

No response required.

III. General Comments

Page 4, lines 37-39: The US National Assessment was also sued by a group that asserted that because the two climate change scenarios it used were different, one had to be wrong, and this violated the Federal Data Quality Act; of course, most experts would agree that all scenarios are wrong—they are only plausible futures. In that the FDQA really is intended to apply to data, meaning something that was observed or happened in the past, the lawsuit was not successful and was withdrawn, it is important to make clear that having a broad range of scenarios is the most appropriate thing to do.

Response: We agree, and the report stresses that scenarios are not confident projections of any particular future chain of events, and that one of their primary contributions is to characterize major uncertainties to facilitate exploration of their implications.

Page 5, lines 6-8: In reality, the US National Assessment was also planned to be an ongoing activity and not a single event; indeed, the Global Change Research Act calling for assessments envisions the assessment process completing major reports every four years, so it would have to be an ongoing process. That it was a single event was a decision of the incoming CCSP Administration, and the misleading statement here should be corrected. I would also note that I did not see mention that it was a single even in the supporting sections, so I am not sure why this point is made here.

Response: The revised report notes the importance of building and sustaining capacity repeatedly in the main text, but this point is not leveled as a criticism that applies uniquely to the National Assessment.

Page 11, line 9: I would suggest that it is important to note, however, that there needs to be time-resolution of something like a decade or so, not just the change over a century.

Response: We agree. The prior draft's ambiguity about the recommended time resolution has been corrected.

Page 19, line 9: Not meaning to be provincial, but one possible reference for this section might be MacCracken, M. C., 2002: Do the uncertainty ranges in the IPCC and US National Assessments adequately account for possibly overlooked climatic influences? *Climatic Change* 52, 13-23 where an attempt was made to make some distinctions.

Response: The article provides a careful discussion of the distinction between predictions and projections, but does not consider the relationship of scenarios to either of these. Consequently, we do not think it sufficiently relevant to cite in this passage.

Page 34, lines 7-9: Just to note here (and the comment may be more appropriate for some other location), but what really matters (or should matter in the calculations) are not just the total SO₂ emissions, but also the height distribution of the emissions, and a time history of this is needed as well. So, again, it is fine to have emissions scenarios, but for representing climate effects, more information is needed.

Response: We agree, and the report notes climate modelers' interest in this level of detail in emissions scenarios.

Page 55, line 13: Actually, several products of the US National Assessment were completed in 1999, and a couple took until 2003.

Response: This has been corrected.

Page 63, lines 28-38: Not mentioned in the write-up on the USNA is that there was also an attempt made under the auspices of Oak Ridge to do a technology assessment—what might evolve technologically in the country and how might that affect the situation. Efforts on this were also quite limited and not very successful, but it is an area that needs attention for the future.

Response: We did not judge this effort to be closely enough related to the use of scenarios in the Assessment to merit inclusion in the limited space available.

Page 124, line 6: It seems to me that an important conclusion to make somewhere, perhaps in this subsection, is that one does not need to wait until one has certain results before constructing scenarios and making productive use of them. This report earlier made this point, but it needs to be explicitly made in the conclusions. Instead, scenarios are a way of dealing with uncertainties—not something one does after the science is certain.

Response: The point has been added explicitly to the discussion of conclusions concerned with scenarios and decision-making.

Page 131, line 25: The spelling should be “MacCracken”. Thank you in advance for proper capitalization.

Response: This has been corrected.

Page 133, lines 28-31: I was surprised to see that apparently only one chapter in the NAST Foundation report was cited. Should it not be cited in its entirety as well, and should not some of the other chapters be cited?

Response: The revised report cites the complete report under author “National Assessment Synthesis Team”, plus the two chapters that address climate scenarios and socio-economic scenarios.