

BOLD text is the USGCRP request for comment; text in *italics* is AMWA's response.

General Comments

(1) Ways to make the assessment information accessible and useful to multiple audiences; (2) the specific types of detailed information at regional scales that would be most useful; (3) suggestions for how to best describe risks and impacts, as well as potential opportunities to reduce those risks and impacts on sectors of the economy as well as natural and social systems; (4) suggestions for new approaches to topics addressed in previous assessments; and (5) suggestions regarding overarching themes that NCA4 should consider addressing.

In response to needs and gaps identified in the Third National Climate Assessment (NCA3), the following are likely to be such themes:

- **NCA4 will attempt to highlight advancements or improvements, since NCA3, in understanding of the science of human-induced climate change and the resulting implications for the United States.**
- **For risks and potential impacts, NCA4 will identify populations of concern.**
- **Major research needs, key uncertainties, and information gaps will be identified.**
- **Current and future risks associated with climate change will be characterized with quantifiable metrics wherever possible, and with the needs of multiple audiences in mind.**
- **Consistent treatment of different time frames of interest will be sought throughout NCA4, with emphasis on the near-term (i.e., over the next few decades) trends and projections to inform adaptation needs, the long-term (i.e., latter half of this century) projections that are more scenario-dependent, and in some cases time frames well past 2100 to indicate legacy effects of the human influence on the climate and oceans.**

Response:

- *The way the NCA3 was organized online made it accessible and useful to practitioners and to the public. For NCA4, USGCRP should continue the practice of highlighting key messages for each section and quantifying the statements by including supporting evidence and confidence levels.*
- *AMWA supports the approach indicated in the FR notice that NCA4 will “attempt to highlight advancements or improvements, since NCA3, in understanding of the science of human-induced climate change and the resulting implications for the United States.” For example, if there is additional supporting evidence or evidence to the contrary to support a finding, or if confidence levels have changed since NCA3, this should be highlighted in the NCA4 report.*
- *The identified response to the needs and gaps identified from NCA3 are appropriate and will build well on the foundation of NCA3. Having a consistent treatment of different time frames of interest throughout the report is a sound approach. In addition:*

- *If there are any ongoing research projects at federal agencies to address the gaps, it would be helpful to have these called out.*
- *One of the key uncertainties that should be described in NCA4 is how changes in precipitation patterns will manifest themselves along certain times and scales on a subregional level. While trends can be identified on a regional level, describing future changes in timing and amounts of rainfall on a finer scale resolution may be more difficult due to topographical or other features. On a regional or subregional level, quantifying what is known and unknown and any improvements in our knowledge of precipitation changes will be helpful for water resource managers.*

Introductory Comments

The introductory sections of the NCA4 will describe:

- **Context for the NCA4 as noted above, including the NCA's relation to complementary domestic and international assessment efforts.**
- **Advancements in science since NCA3 (2014), as well as any new approaches or differences in scope relative to NCA3. This information will include the special assessments completed or in-progress post-NCA3, in particular those under the auspices of USGCRP.**
- **Changing global and national conditions that influence (1) drivers of climate change, namely the activities that lead to emissions and thus the atmospheric buildup of greenhouse gas concentrations; and (2) resiliency and vulnerabilities, such as demographic change and economic development.**
- **The geographic scope and the temporal scope (e.g., recent historic to next 25 to 100 years) of NCA4. The lexicon used for the confidence and uncertainty levels associated with key statements and findings (and accompanying traceable accounts) may be similar to that used in the recent [climate change and human health assessment](#).**

Response:

AMWA supports the outline for the introductory sections of the NCA4. It is a sound approach to use the same lexicon for describing uncertainty as in the Climate Change and Human Health assessment.

Foundational Physical Science

No comments

Human Health and Welfare

Response

AMWA supports the inclusion of a cross-sector look to assess climate change implications across the include water-energy-land nexus. AMWA also recommends that NCA4 continue to

build on the section of Urban Systems, Infrastructure and Vulnerability. Other federal partners and federal advisory committees, such as the National Infrastructure Advisory Committee and the State, Local, Tribal Task Force on Climate Resilience, among others, have done much work in this area. AMWA recommends that the authors of NCA4 look to this body of work to continue to highlight trends and progress that has been made in the area of infrastructure/urban resilience.

Regional Analyses

AMWA agrees with the approach for part 3 and part 4, and supports a subregional discussion for this section. AMWA also supports showcasing case studies with local specificity, trends and risks. Regarding resilience planning, if information about what has worked and what has not and key implementation approaches (not just planning approaches) can be included, this would make for a stronger discussion. Hopefully by now many areas have moved beyond the planning stage and have taken steps to implement these plans.

Adaptation, Increased Resiliency and Risk Reduction

Response

- *This is an important section to include – as it is applied information to build on the assessment for the future. Identification of near-term adaptation needs will flow well from adaptation progress that will be detailed in sections 3 and 4 of NCA4. Linking to information already available in the Climate Toolkit is appropriate. Case studies from the Climate Toolkit might be more appropriate in sections 3 and 4.*
- *AMWA also recommends that this chapter include information for how to measure risk reduction across the country on regional and sectoral scales.*