

# Outline of the 2013 National Climate Assessment Report

(additional comments appear at the end of the outline)

## A. Introduction to the Report:

- Purpose, background, scope
- Integrated risk-based framing
- Approaches to scenarios
- International context

## B. Climate Change Science:

- Summary of what is known and not known, including uncertainties
- Historical trends and future projections, including changes in variability
- Focus on **what is new** since 2009 – e.g., extreme events, sea level, implications of the Coupled Model Intercomparison Project (CMIP) 5 and relationship to CMIP 3;

## C. Impacts on Sectors:

- Water resources
- Energy supply and use
- Transportation
- Agriculture
- Forestry
- Ecosystems and biodiversity (with links to ecosystem services)
- Human health

## D. Sectoral cross-cuts :

*Comment: This category of sectoral analyses is intended to showcase the integrated nature of climate impacts, risks, and opportunities and be more consistent with a decision-based view of climate issues. The following are fast track candidates, at least three of which will be included in the 2013 report:*

1. Water /energy/land use (including agriculture, forestry)
2. Urban/infrastructure/vulnerability (part of the REQUIRED human social systems topic)
3. Impacts of climate change on tribal/indigenous and native lands and resources (part of the REQUIRED human social systems topic)
4. Land use/land cover change (approached as an integrated topic, e.g. how land use decisions of all kinds increase or decrease adaptation and mitigation capacity) (REQUIRED land resources topic)
5. Rural communities, agriculture, and development (part of REQUIRED human social systems topic)
6. Impacts on biogeochemical cycles, with implications for ecosystems and biodiversity.

**E. Regions:**

*Comment: The NCADAC proposes eight regions (mostly the same regions as 2009 but boundaries based on states). As with sectors, start with 2009 report as the base, and update with new information. The proposed regions are:*

- Northeast
- Southeast and Caribbean
- Midwest
- Great Plains
- Southwest
- Northwest
- Alaska and Arctic
- Hawaii and Pacific Islands

**F. Biogeographical cross – cuts**

*Comment: This category of analyses is more focused on a biogeographically- or geophysically-based integrated investigations. Among the candidates are:*

- Oceans and marine resources (major new chapter) (includes ocean acidification)
- Coastal zone, development and ecosystems (case studies – SF Bay Delta, Chesapeake, Gulf Coast)
- Drainage Basins (case studies - Great Lakes, Colorado River, Columbia River (all include an international component). The Mississippi River and additional basins may be added as resources and interests are identified.

**G. Mitigation and Adaptation Chapter**

*Comment: The NCADAC has not yet identified the major focus of this chapter, but it is intended to include an assessment of the tradeoffs and interrelationships between adaptation and mitigation decisions. Potential topics to be included:*

- Mitigation – tracking efficacy (indicators), intended and unintended consequences, cost of alternative approaches, etc. Adaptation – appropriate scale, tracking efficacy, unintended consequences
- Links between mitigation and adaptation (case studies?)
- Develop inventories of activity and risk based approaches
- Linkages with disaster preparedness, including natural hazard mitigation)
- Initiate assessments of effectiveness, e.g. design alternative approaches to data gathering and analysis
- International linkages and priorities for the ongoing Assessment

## **H. An Agenda for Climate Change Science Chapter**

*Comment: this chapter would summarize all of the priority information needs (monitoring, observations, modeling, data management, vulnerability assessment, valuation, communications, education as well as climate impacts, climate drivers, etc.). These needs would be collected as an integral part of the engagement activities with regional and sectoral teams as a part of all aspects of the ongoing Assessment (e.g., within the regional, sectoral and cross-cutting evaluations; indicators; scenarios; modeling; observations, etc. gap analysis and priorities).*

## **I. The NCA Long-term Process – Vision and Future Deliverables Chapter**

*Comment: The intent of this chapter is to establish time frames and milestones and approaches that reinforce the continuing nature of the Assessment process, making it easier to anticipate resources needed and priorities for the future.*

## **J. On-line Appendices**

- Climate Change Science – a primer
- Frequently asked questions about climate change and variability
- Scenarios and scenario guidance
- Assessment methodologies

## Further Guidance for Developing Sections of the 2013 Report

**Sectoral Strategy:** Note that Global Change Research Act (GCRA) requires an analysis of the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; all of these topics are covered either in sectors listed above or in the cross-sectoral topics in the next section.

Sectoral reports should

- Start with the 2009 report and any relevant Synthesis and Assessment Products from the Climate Change Science Program as a base and focus on **new insights**;
- Identify where key sectoral vulnerabilities come from, **including some important inter-sectoral and underlying stresses**;
- Focus on issues of **policy relevance using a risk based framing**, expressed in terms of either likelihood or consequences or both;
- Consider international implications of climate for the sector
- Scope information that would be required for a serious future evaluation of adaptation and mitigation issues in the sector;
- To the extent feasible, the proposed sectoral approach should be vetted with relevant professional societies and interest groups; these groups should be engaged in activities that lead to long-term assessment capacity as a result of this initial 2013 report.

**Sectoral cross-cut strategy:** Historically, sectoral chapters were focused within a more traditional sector-by-sector analysis of impacts, so some of this work may be more difficult to complete by 2013. A final decision to move forward on these is dependent on a clear source of funding and ability to support the assessment work in the near term. This may mean that the report on some of these topics for 2013 will be more of a progress report towards a more comprehensive future outcome.

Cross cut (integrated) assessments strategy:

- Include system descriptions focused on climate-related components,
- Important risks and key policy issues, thresholds, case studies,
- Integrated solution pathways
- Information and research needs

**Regional Strategy:** The suggested approach would include: new historical climatologies and climate projections as developed by the Scenarios and Regional Climate Information Working Group; key issues/vulnerabilities in the region would be identified and prioritized through a risk-management lens wherein likelihood and consequences (i.e., vulnerabilities or other indicators) are noted; indicators of interest would be identified and analyzed in terms of utility, availability of relevant data, and at least qualitative assessment of likelihood at various points in time; outcomes of initial regional scenario planning activities would be discussed; initial documentation of adaptation and mitigation efforts expressed in terms of risk; important information needs; report on development of regional engagement networks, etc.

- Initially, focus on above questions for 2013 report based on regional workshops held during second half of 2011
- Initiate a scenario planning process that uses new scenarios (climate, sea level change, land use/land cover and socioeconomic) in the ongoing process
- Consider international climate-related issues for the region
- All regions must have some coverage in 2013 report; some regions will be ready to make extensive use of new scenario information while others will not. Clearly identify “fast start” regions for 2013 and have a schedule for more complete efforts in other regions.
- More detailed information can be deployed on web even if not included in official 2013 “report”