

National Climate Assessment Proposed Topics

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The NCA is both an ongoing process of assessing the impacts of climate change in the context of broader, baseline conditions and a periodic report that evaluates, integrates, and interprets these impacts. For the next NCA synthesis report, due by June 2013, the following topics are proposed in the initial outline for the product:

I. Background and Context for the Process: This section of the report will contain information on the (1) Purpose (mission, objectives, and intended audience); (2) Background (legal requirements, explanation of previous rounds of assessment, and ways in which USGCRP is responding to advice from the National Research Council); (3) General scope for the NCA (global change and climate variability and change, limitations of the process, and challenges); and (4) Assessment process (timeline, methods and design, tools for assessing climate change and impacts, dealing with uncertainty, sources of material, and common lexicon / glossary of terms).

II. The Scientific Basis for Climate Change: This section of the report will contain information on (1) What climate change is and what it means for the U.S. (summarizing and interpreting the science, new maps and projections, regional climate drivers and impacts, and climate variability and change and climate extremes); (2) Current observations of global change and projections of future changes (detecting the impacts of climate change through a matrix for long-term assessment, models and scenarios, and vulnerability assessment); (3) Overview of research on human responses to climate change (adaptation and mitigation) (4) Interpreting the science (assessing the value of information and science and execution of decisions); and (5) Uncertainty (scales of time, space, and decisions and prioritizing which uncertainties are important to reduce).

III. Sectors: This section of the report will contain information on the impacts of and responses to climate change in sectors. In addition to introductory information (what a sector is and how sectors are delineated), individual sectoral chapters under consideration include: (1) Natural environment (ecosystems), (2) Biological diversity, (3) Agriculture and forestry, (4) Land resources, (5) Water resources, (6) Marine resources, (7) Air quality, (8) Energy production and use, (9) Transportation, (10) Human health and welfare, and (11) Human social systems (including impacts on cultures and cultural resources).

IV. Regions: This section of the report will contain information on the impacts of and responses to climate change in geographic regions. In addition to introductory information (what a region is, how regions are chosen), individual regional chapters under consideration include those used in the 2009 Global Climate Change Impacts Report (<http://globalchange.gov/what-wedo/assessment/nca-reports>): (1) Northeast, (2) Southeast, (3) Midwest, (4) Great Plains, (5) Southwest, (6) Northwest, (7) Alaska, (8) Islands, and (9) Coasts; and a new region: (10) Arctic.

V. Integrated, Cross-Sectoral Issues: This section of the report will contain information on climate change impacts in specific, integrated issue areas. In addition to introductory information (criteria for selecting integrated assessment topics and criteria for selecting level of assessment effort), this section will include both short case studies (distributed throughout the report) and individual chapters. Topics under consideration include: (1) Water supply, energy, and agriculture; (2) Biogeochemical cycles (e.g., carbon, nitrogen) (3) Land use change, land cover, and human settlements (e.g., urban environments, rural

environments, and/or traditional use rights); (4) Migratory species; (5) Tipping points, thresholds, and extreme events; (6) Ecosystem services and human and natural systems trade-offs; (7) Disaster, recovery, risk management, and perception; and (8) International context: U.S. / global systems interactions (e.g., trade, migration, economics, food security, disaster preparedness and response, water, and health).

VI. Human Responses to Climate Change: This section of the report will describe human responses to climate change and look broadly at how the nation is meeting the challenges of climate change impacts without evaluating individual actions. It will include case studies that explore (1) Adaptation; (2) Mitigation; and (3) Interactions and integration across adaptation and mitigation (e.g., management of forests to sequester carbon and increase resilience, management of heat island responses, and transportation impacts).

VII. Future Scientific and Societal Needs: This section of the report will contain information on (1) Science gap analysis for this round of assessment; (2) Priorities for climate science investments (including impacts and responses); and (3) Facilitating decisions related to climate impacts and responses.

VIII. Appendices: One or more appendices to the report will provide further information about tools, methodologies, guidelines, and assumptions for the NCA, including (1) long-term data sets; (2) models (3) scales and interactions; (4) scenarios; (5) risk; (6) impact assessment; (7) vulnerability assessment; (8) economic and alternative valuation techniques; (9) dealing with uncertainty; (10) detecting changes through monitoring and observations; (11) knowledge management strategies; (12) communications and engagement; (13) interactions with other types of assessments; and (14) building capacity within regions and sectors for conducting and using assessments in the future.

