

**NATIONAL CLIMATE ASSESSMENT (NCA) ENGAGEMENT STRATEGY  
DRAFT – MAY 13, 2011**

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## INTRODUCTION

The National Climate Assessment (NCA) will respond fully to the mandate of the Global Change Research Act of 1990 (GCRA), Section 106, by establishing a continuing, inclusive process that produces authoritative data and reports over time. The report that will be produced in 2013 will set the stage for more comprehensive assessments in the future. The NCA will evaluate climate impacts, including both variability and trends, in a global change context (considering social, economic and ecological implications). Climate related vulnerabilities and response strategies will be documented through ongoing efforts to assess how communities and the nation as a whole can create environmentally sound and sustainable development paths.

Like previous U.S. assessments, this Assessment will evaluate the current state of scientific knowledge relative to climate impacts and trends. However, the process will differ in multiple ways from previous U.S. climate assessment efforts. For example, it will be a continuing effort rather than a periodic report-writing activity; include an evaluation of the Nation's progress in adaptation and mitigation; involve long-term partnerships with non-governmental entities; build capacity for assessments in regions and sectors; include new methods for documenting climate related risks and opportunities; and provide web-based information that supports decision making processes within and among regions and sectors of the US.

### Goal

The overarching goal of the Assessment is to enhance the ability of the United States to anticipate, mitigate and adapt to changes in the global environment.

### Vision

To advance an inclusive, broad-based, and sustained process for assessing and communicating scientific knowledge of the impacts, risks and vulnerabilities associated with a changing global climate in support of decision-making across the United States.

An engagement strategy that leverages science and assessment capacity across the United States, while ensuring that the NCA process and products are accessible and useful to stakeholders and the general public, is critical to this vision.

For more information about the NCA process, including the overarching strategy and components of the NCA products and process, visit <http://assessment.globalchange.gov>.

## **1. Why engage stakeholders in the NCA?**

To achieve the vision described above, the NCA will need to develop and deploy an effective and efficient engagement strategy, including dedicated resources (e.g., staff and budget) to support implementation of sustainable participation, outreach, communications, and education processes that will help make the NCA process and products accessible and useful to stakeholders and the general public.

It is critical to the success of any individual assessment activity and for building sustained assessment capacity over time that the effort broadly engages stakeholders in communities, governments, sectors, and regions. The specific targets for engagement will depend on the focus of the assessment activity, but should broadly include those individuals and organizations whose activities, decisions, and policies are sensitive to or affected by climate. A successful strategy will help increase

awareness among the public about the NCA, leverage the diverse array of science capabilities and assessment competencies across the United States, and develop a consistent and routine assessment capacity *within and outside of* the federal government.

This document describes the overall rationale for engagement in the NCA and sets forth strategies for the two primary, closely-related but not identical vehicles of engagement, participation and communication. While these three terms are not mutually exclusive, for the purposes of this strategy, they are defined as follows:

- Engagement: an organized process that provides individuals and organizations with access to the design, assembly, content, and products of the NCA through participation and communication.
- Participation: methods of providing individuals and organizations with opportunities to directly learn about, actively contribute to, and influence portions of the assessment through written inputs and participation in assessment activities, including evaluating and improving the effectiveness of NCA participation processes.
- Communication: methods of providing individuals and organizations with opportunities to access information about the NCA process and products (including to elicit stakeholders' input to the Assessment); to learn about and increase their interest in and understanding of the NCA, climate change, and the implications of a changing climate for the US; and to evaluate and improve the effectiveness of NCA communications.

The goal of engaging a broad range of stakeholders in the NCA (as with similar environmental assessment and decision making processes at all levels of government) is to create a more effective and successful NCA – improving the processes and products of this effort so that they are credible, salient, and legitimate and build the capacity of participants to engage in the creation and use of these processes and products for decision making. Much work has already been devoted to framing the need for engagement as a key element in environmental decision making (e.g., NRC 2010, 2009a, and 2005), in assessments in general (e.g., Keller 2010, NRC 2008, Farrell and Jäger 2006), and in the NCA specifically (e.g., NRC 2009b, NRC 2007); this document lays out a plan to operationalize engagement through participation and communication.

The NCA process and products themselves can serve as a vehicle for civic engagement, providing space for conversations about the underlying science, expected impacts of, and responses to climate change in the US. The NCA can only do this, however, if it focuses on listening to and asking its stakeholders about their perspectives and ideas, builds partnerships with these stakeholders, and engages with people on the issues that are of greatest concern, connecting climate change with the things that people value in their communities.

## **2. Who are the stakeholders for the NCA?**

While the Global Change Research Act names only two specific recipients for NCA's quadrennial reports (Congress and the President), the universe of potential stakeholders who might benefit from the NCA is much broader. While it will not be possible to directly engage all potential stakeholders of the NCA, it is essential that the NCA be able to articulate who the targeted stakeholders are for each of its activities. The first step in this prioritization is dividing the universe of potential stakeholders into manageable categories. Drawing on a typology of stakeholders developed by the National Research Council as a part of the *America's Climate Choices* study (NRC 2010), stakeholders can be categorized by the scale at which they work (international to local) and by the type of organization they represent. Using these two axes, an initial categorization of NCA stakeholders might look like Table 1. Using Table 1 as a guide, specific networks, organizations, and individuals interested in climate change can be identified, as shown in Table 2.

While not all stakeholders will fall neatly into only one of the boxes within the typology, this tool provides a useful model for organizing and thinking about individuals and groups that may be engaged at various points in the NCA process. The next step is to develop criteria to prioritize which groups of stakeholders to engage with, either through invitations to participate in various NCA activities or provision of access via communications materials. These criteria should be related to the broad categories or specific activities of participation and communication being considered and are discussed in the following Participation Strategy and Communications Strategy.

Table 1. Typology of stakeholders of the NCA.

<b>Scale</b> <b>Type</b>	<b>International</b>	<b>National</b>	<b>Regional / State / Tribal</b>	<b>Local</b>
<b>Government</b>	Intergovernmental organizations and networks of governments	Federal government, National networks of governments	State and tribal governments, Regional offices of Federal agencies, Interstate networks of governments	County and city governments
<b>Private sector</b>	Multinational corporations, International business networks	Corporate headquarters, National business networks	Regional corporate offices, Companies and business associations	Local businesses, Chambers of commerce
<b>Non-profit, NGO, and community-based organizations</b>	International organizations, Networks of organizations	National-scale organizations	Regional offices of organizations	Local organizations
<b>Academia and professional associations</b>	International science unions, International professional societies	National networks of academic institutions, Professional societies	State-wide and regional networks of universities	Colleges and universities, Other schools
<b>Private citizens</b>	International citizens networks	Voters, citizen and consumer networks	Voters, citizen networks	Individuals as voters, consumers, and agents

Table 2. Example stakeholders of the NCA. The following are provided only as examples, and ultimately each of the boxes will likely contain many more names. This chart could be used as the basis for organizing region- or sector-specific lists of stakeholders.

<b>Scale Type</b>	<b>International</b>	<b>National</b>	<b>Regional / State / Tribal</b>	<b>Local</b>
<b>Government</b>	UNFCCC, IPCC	Federal agencies, National Governors Association, US Council of Mayors, Water Utility Climate Alliance	State and tribal governments, Regional Climate Centers (NOAA), Climate Science Centers (DOI), Western Governors Association	Chicago (Climate Change Task Force), New York (PlaNYC), City and county health departments
<b>Private sector</b>	World Business Council for Sustainable Development	Corporate headquarters, US Climate Action Partnership	Regional corporate offices, Companies and business associations	Local businesses, Utility companies, Chambers of commerce
<b>Non-profit, NGO, and community-based organizations</b>	WWF, Climate Action Network, ICLEI	National Wildlife Federation, Union of Concerned Scientists	Chesapeake Bay Foundation	Local organizations, Land trusts, Local environmental or social justice groups
<b>Academia and professional associations</b>	International Council for Science (ICSU), International Water Association	Ecological Society of America, American Bar Association, National Academies	RISAs (NOAA) (some crossover with other categories)	Colleges and universities, Other schools
<b>Private citizens</b>	International citizens networks	Voters, citizen and consumer networks	Voters, citizen networks	Individuals as voters, consumers, and agents

## **PARTICIPATION STRATEGY**

### **1. Why does the NCA need a participation strategy?**

The NCA seeks to engage existing and new users of its products as active participants in the process of creating the next generation of the NCA. Providing opportunities and channels for participation can ultimately lead to an NCA that better supports stakeholders' needs for information, builds capacity for future assessments, empowers stakeholders with ways to develop responses to climate change, and advances the national conversation about climate change.

There are many benefits of establishing a mechanism for broad participation in the NCA from the beginning of the process. Among these are:

- Identifying people who have the ability to act, have demonstrated interest in providing inputs and skills, and are willing to engage in the process
- Identifying additional audiences for the NCA over time and engaging with them to understand how to make the NCA more relevant
- Promoting the identification and development of high-quality climate-related information and data sources, including those that are not currently available within the federal government, and expanding "ground-truthing" of observations made through remote sensing and other monitoring techniques at large scales
- Prioritizing the development of information for areas that are of concern to decision makers, including data and analysis to support evaluation of adaptation, mitigation, and other risk-based approaches to responding to climate change
- Providing real-world examples of how stakeholders use climate science and information to assess impacts and develop adaptation options
- Fostering dialogue about the ability of science to provide information at suitable temporal and spatial scales and about associated levels of uncertainty
- Promoting equitable access to information
- Building capacity to do future assessments<sup>1</sup>
- Supporting the development of climate services
- Improving the NCA process for the future, by reflecting on and adapting the process based on inputs from participants

This participation strategy describes criteria for prioritizing which types of groups to engage with and when, explains how the NCA might build a network of networks (a way to reach large numbers of interested parties efficiently through existing organizations and professional societies whose interests are related to climate issues and impacts), and illustrates ways in which individuals and groups may participate. It also sets forth a strategy for monitoring and evaluating participation processes and the ways in which participation contributes to the overall NCA process and products.

This document is initially being developed as a guide for the core team responsible for the NCA (the National Climate Assessment Development and Advisory Committee [NCADAC], the Interagency National Climate Assessment [INCA] Task Force, the US Global Change Research Program [USGCRP]

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<sup>1</sup> "Capacity to do future assessments" includes both capacity to participate in assessments, as defined by the NRC (2008) as "participants...(1) becoming better informed and more skilled at effective participation; (2) becoming better able to engage the best available scientific knowledge and information about diverse values, interests, and concerns; and (3) developing a more widely shared understanding of the issues and decision challenges and a reservoir of communication and mediation skills and mutual trust" (p.2), and the capacity to conduct and use assessments, which includes building the intellectual, human, and financial resources necessary to sustain assessments in the long-term.

agencies, and the staff of the NCA office). It will also be a resource for the broader community of NCA stakeholders, especially for those who may wish to take a leadership role in developing community inputs to the NCA process and products. For those individuals and organizations who have already expressed interest in the NCA, this strategy articulates the ways that they might participate in planning and completing the assessment. It also lays out approaches to identifying and involving new participants in the NCA.

Ultimately, the NCA process will extend beyond the USGCRP and the federal agencies charged with producing the assessment. Building this distributed assessment capacity will empower stakeholders to be both users of and contributors to the NCA. Over time, this strategy will evolve to describe and accommodate changes in the NCA process, including developments such as establishing positions that might lead regional or sectoral assessments. Both now and into the future, it is essential to ensure that there is a commitment to participation throughout the collaborative network of public and private partners that will support a sustained assessment process. However, it should be noted that the ability to successfully implement this participation strategy is largely dependent on human capital and other resources for the Assessment that, at the moment, are in exceedingly short supply. It will be critical to prioritize the engagement, participation, and communication activities over time to maximize positive outcomes in light of limited resources. A critical aspect of successful implementation will be deliberate phasing of the participation strategy in order to ensure that all efforts that are initiated are properly supported.

## **2. Who might participate?**

The section “Who are the stakeholders for the NCA?” in the Introduction presented a typology that can be used to organize thinking about potential stakeholders of the NCA (Table 1, above). The second step in prioritizing which groups of stakeholders to target for participation in various steps of the NCA is to develop and apply criteria related to both the NCA’s and stakeholders’ interests in and abilities to participate. While the exact set of criteria used for a particular activity may vary, the basic criteria that might be used include:

- Specific topic within the NCA (region, sector, cross-cutting issue, etc.)
- Organization’s / individual’s level of interest, e.g.,
  - Stakeholder: organized groups that are or will be affected by / have a strong interest in outcome of decision
  - Directly-affected public: individuals and non-organized groups that will experience positive or negative effects from outcome
  - Issue public (actively engaged, interested): cultural elites and opinion leaders who may comment on the issue or influence public opinion
  - Media
  - General public: individuals not directly affected by outcome but who may be part of public opinion about it
- Organization’s / individual’s ability and skill to participate (both quantity of participation and quality of participation)
- Equity considerations, including
  - Prior access and participation
  - Balancing scales and types of stakeholders

These criteria can be applied and should be tracked both at the individual NCA activity level and across all of the activities of the NCA. Doing so can help to ensure broad overall participation (including reducing over- or under-representation and stakeholder fatigue) while also matching stakeholders with topics and opportunities to participate that complement their skills and abilities.

### **3. How can stakeholders participate?**

Because the NCA already is a topically and geographically distributed process, and will become even more so, there are a number of entry points through which stakeholders might become active participants in the NCA process. These include through activities convened by the core NCA team, those convened by self-organizing teams that are assembling specific technical inputs or assessment capabilities as contributions to the NCA, and through the work of external partners in a “network of networks.” The following sections describe these entry points and outline specific processes and products through which stakeholders might participate in the NCA.

#### **a. Through the core NCA team** (including NCADAC, INCA Task Force, USGCRP agencies, and staff of the NCA office)

While both of the previous NCA reports have been developed by federal advisory committees consisting of both federal and non-federal members, they were built largely around federal agency-led studies and technical reports, with some technical inputs from outside sources. Responsibility for the 2013 NCA report and development of the sustained assessment process will also be the responsibility of a federal advisory committee, the NCADAC.

Because the initial creation of the NCADAC has taken some time to complete, the INCA Task Force, USGCRP agencies, and NCA staff have already convened a number of process workshops designed to discuss many of the process-related issues identified in the draft strategic plan for the NCA. These workshops have been deliberately designed to incorporate a variety of federal and non-federal participants, both on the planning teams and as workshop attendees. Reports summarizing participants’ inputs from these workshops are posted on the NCA website as they become available.

With most of these process workshops now complete, USGCRP agencies (through their INCA Task Force members) have developed approaches to the Assessment focusing on regions, sectors, and cross-cutting topics, including those described under “Opportunities for participation.” Agencies are approaching these contributions in a variety of ways, ranging from development entirely within the agency to convening a group of outside experts that are charged with completing the contribution. In most cases, agencies are planning at least some activities that will solicit stakeholder inputs and participation in the design and assembly of their contributions. However, it is clear that significant resources exist outside of the federal government and it is the intent of the NCADAC to leverage external inputs for consideration in developing Assessment reports and web products.

As the NCADAC shapes the 2013 NCA report and provides advice on the development of the sustained assessment process, it too will invite stakeholders to participate in their activities. Opportunities for participation through the NCADAC will range from time for public comments at open meetings to solicitations for working group members to serve on writing and review teams for the NCA process and products.

#### **b. Through self-organizing teams**

Several self-organizing teams (groups of individuals or organizations that agree to work on a particular Assessment topic on a voluntary basis) have already expressed an interest in developing technical inputs to the NCA or helping with assessment activities such as sectoral workshops, such as those described below in “Opportunities for participation.” In many cases, these teams will be including specific steps that are designed to invite broader participation in the development and review of inputs. The NCA does not anticipate providing funding for these teams. However, it is important to create a mechanism to track potential inputs that may come in and connect them to

potential gaps in the information base. One mechanism of formalizing the call for such teams to provide inputs is through a “request for information” from teams of experts or individuals who would like to contribute technical inputs and / or assessment capacity to the NCA. The purpose of such a request is to ensure that inputs will be responsive to the needs of the NCA and that teams’ activities are complementary, rather than competitive, especially in areas where the same groups of experts or stakeholders might be called on to interact with multiple teams and thus might result in “stakeholder fatigue.” A separate document has been created that describes this activity. The request is not meant to constrain the efforts of teams, but rather to improve coverage, identify gaps, and reduce redundancies amongst all of the inputs.

### **c. Through an external “network of networks”**

Ultimately, much of the stakeholder engagement of the NCA can be accomplished through networks of partners that extend the NCA process and products to a broader audience. Partners in this “network of networks” will work with individuals and groups to develop technical inputs, develop and/or assess education and outreach activities related to the NCA process and products, carry out social network analysis, identify important data sources, and document resources (human and other) within their own networks that might contribute to the NCA. The NCA has already begun informal explorations of potential network partners and has talked with a number of representatives from these potential partners to gauge their interest in participating.

Expectations. Setting expectations for both the NCA and the partner networks is an essential first step. The “network of networks” must be employed in such a way as to encourage and facilitate two-way dialogue between the NCA and its stakeholders. Furthermore, roles of the NCA leadership and the network partners must be clearly defined at the beginning of this process. A draft set of expectations is provided below.

The NCA (NCA office, NCADAC, USGCRP agencies, etc.)

- Provide information about the NCA process, including establishing guidelines and processes related to the types of information that might be included in the NCA
- Integrate federal and non-federal information
- Build an integrated understanding of current and future change in regions and sectors
- Develop and decide on the overall assessment strategy
- Build the infrastructure to support ongoing engagement, dialogue and information exchange

Network partners

- Receive and disseminate NCA information through appropriate channels within their own networks
- Provide information from their networks to the NCA (as appropriate), using standardized procedures and meeting peer review criteria
- Help identify stakeholders and experts who can actively contribute to assessment activities

Criteria for selecting network partners. It will be important to build a “network of networks” that reaches a broad range of stakeholders but that is also of a manageable size so that it will be possible to efficiently push information out from and pull inputs into the NCA. Potential criteria for selecting network partners to participate in the “network of networks” include:

- Organization that is willing to support its own participation, generally with a long-term capacity to engage
  - Has own staff support
  - Ability to participate without funding from the USGCRP
- Expressed or potential interest (and experience) in climate (or related) issues

- Supports objectives of the NCA
- Ability to contribute knowledgeably and meaningfully
- Linked to / influential in key regions, sectors, or stakeholder groups
- Single influential and responsive point of contact
- Willing and able to meet deadlines and participate in a collaborative fashion

#### **d. Opportunities for participation**

There are a number of ways in which individuals, ad hoc teams, and organizations might participate in the NCA. The sections below provide an overview of technical inputs and assessment activities that have already been identified as important for the NCA report and process and which will require various levels of participation from stakeholders. The section on types of participation further elaborates the level of participation that might be expected in various activities and outlines additional opportunities to invite participants into the NCA process. The Appendix includes a list of suggested best practices that organizers of these inputs should adhere to.

##### Technical inputs

*1. Literature Reviews, Discussion Papers, and Other Review Papers.* Papers synthesizing recent work in relevant fields might, for example, review recent findings and advances in the field of interest, consider available assessment and synthesis methods, or highlight important questions that require additional research or analysis. One particularly useful approach would be synthesizing important recent advances in understanding of specific aspects of climate science, sectoral or regional impacts, cross-cutting topics, manager and decision maker information needs related to climate and global change, or adaptation and mitigation options.

*2. Case Studies.* Case studies might illustrate the particular set of climate change-related issues and opportunities faced by a specific community (e.g., ecological system, watershed, or human community). Case studies may also describe the specific climate and global change information decision makers and resource managers need and how they are preparing for and responding to climate change challenges through adaptation, mitigation, and other activities. These could be viewed as topical assessments that might be “nested” within a larger regional, sectoral, or cross-cutting topic.

*3. Modeling Results, Interpretation of Data, and Topical Reports.* Modeling runs, data development, and corresponding topical reports are encouraged. However, it is strongly preferred that data inputs or modeling runs be analyzed and synthesized in an accompanying report. Where such analyses are undertaken, data submissions should include metadata based on existing standards, including documentation of who collected the data when, why, and for whom; how data were compiled and analyzed; and the methods used for quality assurance and quality control.

##### Assessment Capacities.

*1. Meetings and Workshops.* Meetings and workshops are viewed as an effective means for bringing diverse and broad-ranging scientific and technical capabilities to bear on topics and to begin synthesis across disciplinary boundaries. Reports from meetings and workshops can serve as a primary vehicle for documenting inputs from participants, and should address specific topics in the draft NCA outline and process as much as possible. In-person or virtual meetings and workshops might discuss topics such as:

- Proposed assessment products and outlines for product content
- Team building, networking, and roles and responsibilities for ongoing assessment efforts

- Risk and vulnerability assessments; assessments of adaptation capacity related to specific regions and sectors
- Prioritizing questions and issues for the region, sector, or cross-cutting topic (see draft Outline for topics)
- Identification of data sets already in use, data gaps, and suggested ways to address gaps
- Identification of existing impact assessment tools and further needs
- Identification of reports and activities already completed or in process that might contribute to the NCA
- Development of proposed indicators to be used in tracking the impacts of climate change within regions or sectors, documentation of changes in underlying vulnerabilities, and changes in climate drivers
- Building regional or sectoral scenarios for climate change
- Evaluation of possible “climate futures” for the region
- Effectiveness of existing institutional structures in responding to climate and global change challenges and capacity building needs and plans

A number of the above topics build on process workshops convened under the auspices of the INCA Task Force in 2010-2011, and teams are encouraged to use the outputs of these workshops as a basis for discussion (for more information on these workshops, please visit <http://www.globalchange.gov/what-we-do/assessment/nca-activities/supporting-documents>). In addition, it may be possible and desirable to include assessment activities in future professional meetings and workshops, by proposing special sessions that address particular NCA topics. Such approaches are welcome and pose opportunities to reduce the costs associated with convening separate events.

*2. Supporting Indicator Systems.* It is anticipated that physical, ecological, and societal indicators will be selected as a part of the ongoing NCA process to increase understanding of rates of change, thresholds, etc., in support of decision making. Specific foci within this topic include:

- Helping to integrate data systems and analytical tools to support NCA indicator systems
- Developing plans for maintaining indicator networks for use by NCA, including monitoring and reporting protocols

*3. Stakeholder Network Inputs.* Much of the stakeholder engagement of the NCA can be accomplished through networks of partners that extend the NCA process and products to a broader audience. Partners in this “network of networks” could work with individuals and groups to develop technical inputs, study the dissemination of climate information within populations, do social network analysis, or identify important data sources, and document resources (human and other) within professional associations and other networks that might be useful to the writing teams within the NCADAC. Network partners may also propose education and outreach activities related to the NCA process, with associated documentation of effectiveness of alternative strategies.

Types of participation. Participation can be accomplished in a variety of ways, including face-to-face; targeted, but not face-to-face; and broadcast. Each of these can further be defined by the general type of forum and the specific format of that forum. Table 3 outlines different types of participation that can contribute to the NCA. As the NCA core team, self-organizing teams, and external “network of networks” partners begin to plan activities they are carrying out for the NCA, they might consider how these types of participation can be leveraged as a part of their activities.

Table 3. Types of participation.

Type of Participation	Forum	Specific Format
Face-to-Face	Public meetings	Town Halls Public comment period in workshops and meetings Information sessions Listening sessions Attend related events Presentations at other organization/society events (connect through issues they already care about)
	Individual meetings	Individual (in-person and virtual) interviews with various stakeholders
	Focus groups	Workshops with broad representation from regions and sectors
	Web-conference	Engage with multiple stakeholders virtually
	Teleconference	Communicate with multiple stakeholders
Targeted (but not face-to-face)	Telephone calls	Follow-ups with network partners
	Email	Create listserv/google group
	Postal mailings	Quarterly communication updates with network partners
	Online surveys	Short answer questions targeted to various sectors and regions Google forms; survey monkey
	Networked	Through partners Social network mapping (starting with person/group in contact)
Broadcast	Web sites	Update USGCRP website Postings on network partners' websites
	Radio/TV	Regional and national news outlets
	Printed Materials	Two-page NCA information summary
	Social Media	Facebook, Twitter, LinkedIn
	Webcasts/videos	Youtube
	Federal Register Notices	Posted through USGCRP

#### 4. Monitoring and evaluating participation

As discussed in the Introduction, effective assessments balance salience, credibility, and legitimacy within their process while also building capacity for stakeholders to use assessment products in decision making. Table 4 provides a short overview of how these terms are defined.

Table 4. Criteria for effective assessments.

<b>Criterion</b>	<b>Definition</b>	<b>Exemplary Source(s)</b>
Salience (or Relevance)	The perceived relevance of information: Does the assessment address questions relevant to decision makers and provide information in a useful form?	Keller 2010, National Research Council 2009a, National Research Council 2007a, Jager and Farrell 2006
Credibility	The perceived technical quality of information: Is the information provided perceived as valid, accurate, or tested?	Keller 2010, National Research Council 2009a, National Research Council 2007a, Jager and Farrell 2006
Legitimacy	The perceived fairness of the process: Were various stakeholder interests taken into account fairly during the assessment process?	National Research Council 2009a, National Research Council 2008, National Research Council 2007a, Jager and Farrell 2006
Quality (combines elements of salience and credibility)	Assessments or decisions that (1) identify the values, interests, and concerns of all who are interested in or might be affected by the environmental process or decision; (2) identify the range of actions that might be taken; (3) identify and systematically consider the effects that might follow and uncertainties about them; (4) use the best available knowledge and methods relevant to the above tasks, particularly (3); and (5) incorporate new information, methods, and concerns that arise over time	NRC 2008
Capacity	Participants, including agency officials and scientists, (1) becoming better informed and more skilled at effective participation; (2) becoming better able to engage the best available scientific knowledge and information about diverse values, interests, and concerns; and (3) developing a more widely shared understanding of the issues and decision challenges and a reservoir of communication and mediation skills and mutual trust	NRC 2008

While the NCA overall seeks to satisfy these criteria, the full evaluation strategy for the NCA process and products is still under development and will be undertaken in an iterative and adaptive fashion. Ultimately, however, the overall effectiveness of the NCA will be judged by its contributors and users, including scientists, government officials, decision makers, and stakeholders in regions and sectors. Opening the process to participation and appropriately managing the information to maximize objectivity can contribute to the salience, credibility, and legitimacy of the NCA and build capacity within its stakeholder communities. For the purposes of the participation strategy, then, the criteria for evaluating the success of the strategy will in part consist of assessing how the various participation processes have contributed to salience, credibility, legitimacy, and capacity-building.

Other criteria for evaluating participation in the NCA include assessing the breadth of participation in various activities, the relationships developed among the individuals and organizations that

participate in NCA activities, and success in achieving the objectives and outcomes outlined in the NCA strategic plan.

Given these various sets of criteria, the questions used to evaluate participation in the NCA might be:

- Effectiveness
  - Salience – How did the process elicit questions and issues of concern to participants? How did the process help to shape NCA products to be more useful?
  - Credibility – How did the process help users understand the quality of information?
  - Legitimacy – How did the process help bring forward and balance the interests of stakeholder groups?
  - Capacity building – How did the process help participants become better at participating in NCA activities? How did the process help participants become better users of information from the NCA? How did the process help participants develop a shared understanding of the issues surrounding climate change?
- Representation
  - Which types of stakeholders participated? Which scales do these stakeholders work at?
  - Which regions were represented?
  - Which sectors were represented?
  - Which traditionally underrepresented stakeholder groups were participants drawn from? (this might encompass a range of equity considerations, including gender, ethnicity, tribal or community affiliations, career stage, etc.)
  - Were any groups overrepresented? Underrepresented?
  - Were any groups invited but didn't participate?
- Relationships
  - What sustained relationships developed among various stakeholder groups (including between network partners and the broader community)?
  - What sustained relationships developed between NCA and network partners?
  - Does the assessment properly characterize and manage a multitude of information sources so that private sector, public sector and NGO interests can provide credible information and access data that they find useful?

The answers to these questions will come through a variety of channels, some formal and some informal. In addition, evaluating the success of the participation process should be done internally, by NCA core team members, and externally, by the National Research Council or another independent evaluator.<sup>2</sup>

Evaluation of participation will take place throughout the NCA process. Each activity that includes participation should include the opportunity for participants to provide feedback on their experience, minimally through a written evaluation (see Appendix), but perhaps also through pre- and post-activity surveys of knowledge and capacity, more focused written or oral evaluations, and follow-up discussions with organizers. Additional materials necessary for evaluation will include invitation letters and lists of invitees, lists of participants who were at activities, and follow-up materials such as feedback on documents drafted as a part of the activity.

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<sup>2</sup> At this point, it is unclear how extensive the internal and external evaluations will be, for while there is a commitment to building a process that is able to learn from and evolve based on evaluation, the resources available for conducting these evaluations are not yet committed. At least a portion of the internal evaluation will be included as a part of Emily Cloyd's doctoral dissertation, which is aimed at evaluating engagement in the NCA.

Evaluation should follow a logical process that tracks participation from the time that an activity is initiated through the ultimate outputs, outcomes, and impacts of the participation as a part of the NCA process and products. Each of the outputs, outcomes, and impacts described below serve as a source of metrics within the participation criteria described above. For example:

**Input:** Team of experts expresses interest in conducting a workshop on topic X

**Activity:** Team organizes and conducts the workshop on topic X

**Outputs:** Inputs from participants are documented in the workshop report

**Outcomes:**

**Short-term:** Synthesis of inputs on topic X across disciplinary / organizational boundaries

**Intermediate-term:** Synthesis shared with NCA core team

**Long-term:** Information made available as a part of NCA online database and integrated into 2013 NCA report

**Impacts:** Stakeholders build relationships with each other; NCA process and products incorporate broader viewpoints; Interdisciplinary scientific synthesis

Some of this evaluation will be conducted by the teams themselves, with guidance or assistance from the NCA core team or outside evaluators as needed. Some of the higher-level and longer-term evaluation will require more advanced knowledge of evaluation techniques and will thus be conducted as a part of the internal and external evaluations described above.

Ultimately, the results of evaluation should be used to adjust the NCA participation processes based on what we learn from the evaluation. In the short-term, adjustments might include changing the timing or location of activities, inviting different groups of stakeholders to participate, or changing the number or balance of forums for participation (e.g., more public comment sessions, less calls for written inputs, etc.). Longer-term adjustments might include changing strategies for how network partners are recruited and retained, creating or changing nomination processes for advisory committees and writing teams, or even more radical shifts in the way that the NCA process invites participation.

## 5. Milestones and outcomes

### Implementation of the participation strategy

- To date (and continuing): Ad hoc conversations with potential network partners, listening sessions at professional society meetings, process workshops
- Through July 2011: Regional and sectoral teams form under auspices of NCADAC
- Spring 2011-Winter 2012: Regional and sectoral workshops and listening sessions
- Winter-Spring 2012: Targeted engagement in advance of draft report
- Summer 2012-Spring 2013: Draft report review process and engagement in advance of 2013 NCA report roll-out
- June 2013 and beyond: Roll-out of 2013 NCA report, sustained engagement in NCA process

### Workshops

#### *Process workshops*

- Development of the Outline and Work plan for the National Assessment Product due in 2013 (June 2010)
- National Climate Assessment - International Context Scoping Meeting (August 2010)
- Knowledge Management for the Assessment (September 2010)
- Communications and Engagement Strategy for the Assessment (initial scoping meeting August, federal employees only, August 2010; full workshop planned spring 2011)

- Regional and Sectoral Assessments (November 2010)
- Scenarios for Assessing Our Climate Future: Issues and Methodological Perspectives for the U.S. National Climate Assessment (December 2010)
- Climate Change Modeling and Scaling: Issues and Methodological Perspectives for the U.S. National Climate Assessment (December 2010)
- Special Session on Downscaling of Climate Models (anticipated in Spring 2011 as a follow up to the Modeling and Scaling workshop)
- Economic and Alternative Valuation Techniques and Metrics for Climate Change Impacts, Adaptation and Mitigation Options: Methodological Perspectives for the NCA (January 2011)
- Vulnerability Assessment Techniques for the Assessment (January 2011)
- Monitoring Climate Change and its Impacts: Developing NCA Indicators and Sources for Detection, and Attribution. This will most likely be covered through a series of three workshops:
  - Ecosystems and land-use components (November 2010)
  - Physical indicators (March 2011)
  - Societal indicators (April 2011)

*Regional, Sectoral, and Cross-Cutting Topics Workshops.* Regional and sectoral networks will be mobilized to support the initial distributed “ground-truthing” of regional climate impacts and vulnerabilities, evaluation of adaptation and mitigation options and science gaps, establishment of priority indicators, narratives about climate futures, identification of data sources, research needs, etc. This process will include a series of workshops and listening sessions, many of which have not yet been scheduled. Those that have been scheduled include sessions at the following meetings:

- Association of American Geographers (April 2011)
- American Water Resources Association (April 2011)
- American Meteorological Society Washington Forum (April 2011)
- Society of American Foresters National Workshop on Climate and Forests (May 2011)
- North American Benthological Society (May 2011)
- International Symposium on Society and Resource Management (June 2011)
- US Conference of Mayors (June 2011)
- Soil and Water Conservation Society (July 2011)
- Ecological Society of America (August 2011)

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## 7. Appendices

### a. Suggested Best Practices

The following guidance is provided to describe ways in which teams might participate, and suggests a set of “best practices” meant to ensure that inputs are produced using open, transparent processes and meet standards for quality assurance and quality control.

*1. Leadership and Roles.* Teams should be clear about who will be responsible for the processes and products that are proposed, as well as their qualifications to conduct this work. Although federal agencies will be leading technical reports for various topics, this does not preclude either some of these same individuals or other federal participants from contributing to other teams. Implicitly, members of technical input teams may be either federal or non-federal (or both). Where possible and appropriate, teams should engage stakeholders as an integral component of their efforts. A single team leader or a small number of co-leaders may serve as the liaisons to the NCA staff.

*2. Timing.* A full draft of the NCA report is anticipated by mid-2012, so that the National Research Council, scientific and subject-matter experts, and the broader public will have sufficient time to review the draft and provide comments to the NCADAC on its content. A full year is planned to review and revise the report, with a planned release in mid-2013. Technical inputs should be provided well in advance of these deadlines, with target dates for activities and inputs as follows:

- Now – Summer 2011: Expressions of interest; Initial work plans
- Now – Fall 2011: Teams conduct activities (workshops, literature reviews, modeling runs, etc.)
- December 2011 – February 1, 2012: Initial inputs, including draft reports
- March 1, 2012: Final inputs, including full reports
- After March 1, 2012: Continued development and delivery of ongoing assessment capacity

Teams are encouraged to provide their inputs as quickly as possible (i.e., ahead of these target dates), to facilitate review by the NCADAC. Work plans should include a timeline for production of technical inputs to be submitted to the NCADAC; these timelines can be further refined after conversations with NCA staff. Failure to provide inputs in a timely way means that the information may not be included in the 2013 report, though it could still be used in subsequent assessment products or be made available online as an NCA resource if documentation requirements have been met.

*3. Work Plan.* Once teams have indicated their interest in contributing to the NCA, they are encouraged to produce and share with NCA staff a more formal work plan that discusses specific roles, responsibilities, and timelines for producing inputs (particularly for larger efforts). The work plan should be shared in a timely manner (preferably within a month of submitting an expression of interest to the NCA) and might discuss the following:

- Type of input(s) the team plans to produce
- Time line (with milestones) for developing input(s)
- Responsibilities of team members in producing input(s)
- Specific activities involved in producing inputs (e.g., workshops, data collection and analysis, draft documents with open or expert review, etc.)
- Proposed methods of engaging broader stakeholder communities in design, development, and review of input(s)
- Strategies for building and sustaining capacity to provide inputs to the NCA
- Plans to ensure information quality and transparency in process

*4. Engagement and Communication.* The strategic plan for the NCA includes a commitment to working with stakeholders to understand their perspectives and ideas, share data, build partnerships, and collaboratively design, assemble, and deliver assessment information. Teams are encouraged to engage with relevant stakeholder communities as they prepare their inputs. An additional important contribution of teams would be to create stakeholder networks that can support the 2013 NCA report and the sustained NCA process. Suggested best practices related to engagement and communication include:

- Engage critical stakeholder groups starting with credible and trusted intermediaries who can help design the engagement effort, suggest existing pathways and organizations to connect to, and find areas of mutual interest. Capitalize on existing networks and relationships, but also design ways to engage others with established and relevant expertise, as well as entrain new qualified participants to encourage capacity building.
- Workshops and meetings should be held in locations that are, to the extent possible, convenient for the targeted stakeholder or science groups. In some cases, this may mean joining the agenda of an existing meeting or activity rather than holding a stand-alone event. Some activities may have to be virtual due to funding constraints or held in conjunction with already scheduled activities (e.g., professional society meetings).
- If significant public or stakeholder engagement activities are anticipated, an engagement and communication plan should describe the ways in which the team will provide information about their process and products to a variety of stakeholder groups. Ideas for consideration include web-based shared workspaces, websites, email listservs, press releases, newsletters, minutes of meetings that are circulated to participants, development of bibliographies and inventories of resources, pre- and post-workshop reports and summaries, tailored educational materials for specific audiences, and other targeted communications.
- Teams should maintain a list of contact information for all people who participate in workshops and development of work products. For participants who have made significant contributions (e.g., as a member of the planning team, a speaker, an author of reports, etc.) this list should also include a brief biography (including their education, profession, and areas of expertise) and their role(s) in development of the product and process for the NCA.

*5. Coordination.* Efforts should be coordinated among teams working on similar sectoral and cross-cutting topics and within or in neighboring regions to avoid duplication of effort and stakeholder fatigue. The teams and the NCA staff will work together to maintain open communications on a regular and sustained basis and to ensure that the NCADAC is aware of progress relative to the work plan for the NCA as a whole.

*6. Support.* On a time-available basis, NCA staff will provide guidance, documents, contact information, documentation on previous workshops and foundational literature, protocol and support documents (e.g., facilitators' guide) to help with coordination and maximize efficiency of these efforts. Staff will also assist in obtaining access to online tools to facilitate file sharing for the effort and will provide NCADAC-approved guidance on the topics, indicators, and information quality and knowledge management requirements for the NCA report and online database. Teams are also encouraged to take initiative in following NCADAC activities through attendance at public meetings and regularly reviewing updates on the NCA website.

*7. Information Quality, Documentation, and Transparency.* Transparency and credibility of data and sources are of highest importance because all inputs used by the NCADAC will need to satisfy federal information quality requirements (see <http://www.whitehouse.gov/sites/default/files/omb/fedreg/reproducible2.pdf>). Further guidance on information quality and data management standards will be provided by the NCADAC, including additional protocols for gauging whether inputs meet standards for information quality and scientific

rigor and for inclusion as a part of the NCA web portal. The NCA staff will communicate these guidelines and make them available on the NCA website to ensure that these goals are achieved and that federal information quality standards are met. Ultimately, the NCADAC is under no obligation to use, and will likely disregard, all or part of such reports that do not conform to these standards. As appropriate, information that does not meet these standards may be removed from the NCA database of inputs.

In general, teams should expect to document a full “chain of custody” for data used to reach conclusions will need to be documented (who, what, when, where, why), as well as documentation of analytical techniques used, in any case where information comes from sources that have not already been formally peer reviewed. Teams should maintain a complete set of materials related to the production of inputs, including:

- Scoping documents (including statements of task, initial outlines, work plans, etc.) associated with the design of technical inputs
- Workshop or meeting read-ahead materials, agendas, other hand outs, presentations, post-workshop communications, and attendee lists
- Drafts of papers or reports at important milestones (e.g., review draft, final draft)
- Reviewer comments (for papers and reports)
- Evaluations (from workshop or meeting participants)

The goal of information quality, documentation, and transparency best practices is not to discourage but rather to encourage diverse viewpoints based on sound science and scientific documentation; the review process for expressions of interest and submitted inputs will support this goal.

#### **b. Sample questions for participant evaluations**

1. Why did you participate in this workshop?
2. How effective do you think the workshop was in generating ideas and discussion of issues related to [fill in specific workshop topic] for the National Climate Assessment? Why?
3. What aspects of the workshop were most valuable to you? Why?
4. What aspects of the workshop were least valuable to you? Why?
5. Other comments on the workshop organization and execution?
6. Suggestions for future workshops?

## COMMUNICATIONS STRATEGY

### 1. Why does the NCA need a communications strategy?

The NCA intends to create long-term capacity for continuous climate assessment, and the approach to communication should complement and help realize this goal. The NCA will have a set of practices and processes in place that will be used to communicate *about* the assessment process and products, to communicate *as part of* (i.e., to conduct) the assessment, and to evaluate the effectiveness of those communications.

Importantly, the NCA must not only communicate about the findings of the Assessment, but also engage the public in a long-term conversation about the implications of a variable and changing climate for the places, people, and economic activities society cares about. All NCA communications serve this purpose, and thus need to be credible and transparent, and must establish the findings of the NCA as a leading authority on climate change information in the United States. The NCA will be an opportunity for national engagement on climate change, and the communications process will be integral to supporting and furthering effective use of that opportunity.

NCA communications will foster understanding about, and stimulate and create iterative two-way conversations on, climate issues in the broader global change context. Generally speaking, the stakeholders of the assessment are the groups and individuals that NCA communications will try to reach, inform, and engage in this climate dialogue. The NCA will be seen as a credible source of information on the climate, and it will establish this credibility by being scientifically rigorous and open to two-way dialogue with the American public and key climate-sensitive stakeholders on climate issues.

Carrying out an effective communications function within and for the Assessment will require sustained effort, dedicated staff, and explicitly budgeted appropriate levels of resources. While communication partnerships are essential and desirable, creating and implementing an effective communications strategy cannot be left to Assessment partners alone. Experience with past assessments has shown that without such dedicated resources within the Assessment coordination office it is not only impossible to achieve the goals and objectives set out below, but it can in fact be harmful to the Assessment process as a whole. A communications effort begun but only partially carried out or disbanded midway due to lack of resources first raises, then disappoints expectations, undermines rapport and trust-building that is essential to the entire Assessment effort, and fundamentally undercuts the sustained capacity building goals of the Assessment.

### 2. What are the goals and objectives for communications?

The overarching communication goal is **to elicit input into the Assessment, and to build societal understanding of climate change, associated risks and vulnerabilities, and response options through the Assessment**. This must be achieved with sensitivity to and understanding of the concerns, values, and levels of understanding of different stakeholder groups (audiences).

As a principal function of the NCA, communication also aims to support and enable each of the specific goals of the National Climate Assessment, including to synthesize relevant science information, increase understanding of what is known and not known, identify needs for information related to preparing for climate variability and change and reducing climate impacts and vulnerability, evaluate progress of adaptation and mitigation activities, inform science priorities, build assessment capacity in regions and sectors, and build societal understanding and skilled use of Assessment findings.

In order to achieve these overarching goals, we have outlined more specific objectives on the NCA process and the near-term and longer-term NCA outputs and outcomes.

**a. Near-term objectives:**

- Ensure that communicating about the process of the Assessment and the development of the 2013 report supports the ongoing and sustained process of the Assessment.
- Establish rapport with the public to ensure that the Assessment is seen as a trusted, reliable, and transparent source of climate information.
- Create general awareness about climate change and its impacts and vulnerability within regions and sectors, and opportunities for adaptation and mitigation.
- Enhance existing and build new relationships among stakeholders at the local, regional, state, tribal and Federal level and especially within the private and civic sectors to promote sharing of climate science information, elicit input into the 2013 Assessment report, and support adaptation partnerships.
- Provide consistent background information and messaging to Federal agencies participating in the USGCRP and the INCA Task Force and help those agencies enhance participation and internal communications about the Assessment.
- Encourage stakeholders to participate in the NCA both as generators, reviewers and users of Assessment information.
- Encourage active participation of federal employees and agencies within and outside of the USGCRP.
- Facilitate efficient development of NCA reports, websites, and other products.

**b. Long-term objectives (the 2013 report and beyond):**

- Continually ensure that communications about the process and the findings of the 2013 Assessment report (and future assessment products) supports the ongoing and sustained process of the Assessment.
- Use the input that comes into the 2013 report to begin to plan for future iterations of the Assessment and to improve the assessment process over time.
- Provide timely communication about the NCA report to key audiences in Congress and the federal government, reflecting the mandatory reporting requirement of the USGCRA of 1990.
- Reach a broad set of stakeholders across the nation with the findings of the 2013 Assessment.
- Translate the findings of the Assessment (2013 report and future derivatives, web products and/or topical products) into a usable form for specific audiences.
- Establish the NCA as a trusted source of information on climate change for all stakeholders working on climate and global change issues.
- Improve the public understanding of climate change, associated risks and vulnerabilities, and potential and actual responses.

**3. Who are the stakeholders for NCA communications?**

Given the broad mission of the NCA described above, it is clear that there is a complex set of stakeholders at various levels for the communication efforts, requiring accurate, timely, and tailored information to best meet their needs. The categories of stakeholders described in the overarching engagement strategy provide a useful starting point for defining the potential stakeholders for the communications strategy. Stakeholder groups will include the following:

- Congress, the Administration and Federal agencies
  - Congress, including key committees in the House and Senate and individual members and staff

- The Administration (White House, OSTP, OMB, CEQ)
- Federal agencies already engaged in the NCA, as well as those that are not yet involved
- Other ongoing committees within the Federal government, including the subcommittees of NSTC
- Scientists and researchers in federal and other government research institutions and agencies
- Other governments
  - State, local, regional and tribal governments
  - Foreign governments and international or intergovernmental organizations (e.g., IPCC, UNFCCC, World Bank)
- Professionals in non-governmental and professional organizations and the private sector
  - Religious leaders, trusted social leaders, community activists, the entertainment industry
  - Environmental organizations, civic society
  - Civil engineering and construction, architecture, outdoor jobs of all kinds, health care, agriculture, transportation, defense, energy, etc.
  - Private industry and utilities
  - Science “translators” and consultants who provide climate-related decision support
  - Scientists and researchers in academia, including the climate science research community and the broader global change community (which includes social science as well as physical and natural science)
- Children, youth, their educators, and education program managers
  - Educators and education program directors in K-12 schools, colleges and universities and continuing education programs
  - Students of all ages
- The public and key intermediaries
  - National news media (print, radio, TV)
  - Regional and local news and science media, including broadcast meteorologists
  - Bloggers and social media commentators

#### **4. How will the communications strategy be implemented?**

The challenges ahead of the NCA are significant and include timing of the near-term report, the resource limitations for all aspects of the NCA process (including communication), and the distributed nature of the effort. Our effort is intended to establish long-term capacity to perform and communicate about continuous assessments throughout the regions and sectors of the nation. Because previous assessments have been one-time events, the largest communication challenge of the NCA will be to establish a set of communications processes that are ongoing and supportive of a permanent process at multiple scales, inside and outside of the federal government. The communication tools, tactics, and products of the NCA must be built quickly, and must be sustainable with this relatively limited set of resources.

Because of the broad set of stakeholders for, and multiple participants in, the Assessment, a number of different tools and tactics need to be used to reach stakeholders and ensure that the Assessment remains in the forefront of their climate concerns beyond the 2013 report. These tools are outlined below.

**a. Resources**

The implementation details outlined in this plan are aspirational in nature: the NCA currently has no full-time communications staff and must fulfill plans outlined herein through a team of part-time associates and dedicated volunteers. Communication efforts that are initiated without sufficient resources can undermine this communications strategy’s and the overall NCA goals. Thus, an effective strategy needs to be commensurate with available resources. Leveraging existing communication activities and initiating new efforts through members of the NCADAC and external partners will be critical to the success of this effort.

Different communication tools also vary in their staff and resource intensity. For example, the use of some social media tools may be highly time-consuming, while others allow for input and dialog without high levels of staff attention. Similarly, building effective relationships with the news media requires a consistent and well-considered approach.

The initiatives listed in the two tables below should be viewed as an options menu. With the very limited capacity at present, achieving even the highest priority goals shown in bold may be challenging.

**b. Internal communication initiatives and options**

<b>Initiative</b>	<b>Description</b>
<b>Branding</b>	Includes logo, standard layout and structure, font and color scheme for materials online
<b>Database software</b>	Managing NCA stakeholder and writing teams
<b>Collaborative workspaces</b>	NCA participants can use to share documents and information and communicate collaboratively
<b>Website for NCA participants</b>	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• <b>Assessment strategy documents</b></li> <li>• <b>Federal register notices and related materials</b></li> <li>• <b>NCA calendar and upcoming events</b></li> <li>• <b>Workshop reports and other documents</b></li> <li>• <b>RSS feed for news updates</b></li> <li>• <b>Toolkit for senior executives/managers that details how to talk about the NCA</b></li> <li>• <b>Key points of contact: leadership, implementation, communicators</b></li> <li>• <b>Link to collaborative workspace</b></li> <li>• <b>Roles and responsibilities of NCA staff document</b></li> <li>• <b>Factsheets on workshops and brochures on the NCA</b></li> <li>• <b>Key stakeholders database</b></li> <li>• <b>FAQs on the Assessment</b></li> <li>• <b>Feedback</b></li> </ul>
<b>Toolkit</b>	<p>For agency and Assessment leaders, includes:</p> <ul style="list-style-type: none"> <li>• Key talking points on the NCA</li> <li>• Templates for PowerPoint presentations</li> <li>• FAQ’s</li> <li>• Roles and responsibilities of agency representatives in</li> </ul>

	<p>relation to the NCA</p> <ul style="list-style-type: none"> <li>• Factsheets, brochures, and other leave behind materials on the Assessment process as well as specific workshops</li> </ul>
<b>Workshops/Briefings</b>	<b>Planning workshops to develop Assessment methodologies</b>
<b>Newsletter</b>	<b>Contains updates on the Assessment process, archived on website</b>
<b>Federal Advisory Committee</b>	<b>Communications on/for the FAC (including password-protected work site as described above)</b>
<b>Intra- and interagency communications</b>	<b>Each agency needs plans for talking about the NCA within their agencies, must be shared at the interagency level</b>

**c. External communication initiatives and options**

<b>Initiative</b>	<b>Description</b>
<b>Media</b>	<p>News release templates and quotes                      Develop media lists (national environmental writers, trade press, journals)                      Audiovisuals that can be incorporated into stories                      Op-Ed Boards                      Guest articles in journals, trade association publications  <b>Pre- and post-release briefing for the media on the Assessment. Engage UCS, Society of Environmental Journalists, COMPASS, and others.</b></p>
<b>Social Media</b>	<p>Facebook, engage with citizens; opportunity for citizen science; document what they are seeing/experiencing and tell the story of climate                      YouTube, Flickr – videos and photos to help shape the story. Have citizens be able to submit their photos                      Polls/wikis to collect citizen and stakeholder input                      Link with other org’s with social media presences (i.e. @whitehouseostp), request followers                      Podcasts with those participating in the synthesis about results/trends and what it means</p>
<b>Congressional Engagement</b>	<p><b>Congressional briefing series with key scientists and stakeholders providing the briefing, including:</b></p> <ul style="list-style-type: none"> <li>• <b>One-on-one briefings for key Congressional members and staff</b></li> <li>• <b>Handouts</b></li> <li>• <b>Schedule of anticipated key decisions when input would be most useful</b></li> <li>• <b>Links with AGU, AAAS, NAS, and others with established briefing series</b></li> </ul>
<b>Website for the public</b>	<p><b>Contains:</b></p> <ul style="list-style-type: none"> <li>• <b>General information about the NCA</b></li> </ul>

<p><b>Speakers Bureau</b></p>	<ul style="list-style-type: none"> <li>• <b>General information about climate change</b></li> <li>• <b>Links to participating Federal agencies</b></li> <li>• <b>Success stories/quotes</b></li> <li>• <b>Data portal / assessment data architecture</b></li> <li>• <b>Web version of 2009 <i>Global Climate Change Impacts</i> report</b></li> </ul> <p>Provide presentation templates for FAC members and other interested/informed communicators to take information about the Assessment to broader audiences</p> <p>Provide communication guidelines and tips for effective presentations and how to stimulate public dialog about the content</p>
<p><b>Seminar Series</b></p>	<p>Both USGCRP sponsored and already existing seminar series to present results of NCA</p>
<p><b>Conferences and Tradeshows</b></p>	<p>Identify conferences and tradeshows where there will be interest in NCA, develop materials and purchase booth for advertising NCA, develop listening sessions or other activities linked to those described in Participation Strategy (e.g., network of networks, workshops)</p>

## 5. Monitoring and evaluating communication

Evaluation of any process or program is ideally conducted by both internal and external evaluators. The insights and perspectives obtained differ and are both valuable for the ongoing learning and improvement of the delivery of the program. At present, there are no resources available for an independent, external evaluation. Without dedicated resources for such an independent evaluation, the NCA may miss important opportunities for adaptive improvement of the long-term assessment process.

In the meantime, the NCA will conduct ongoing internal evaluation of communications efforts (as part of the ongoing evaluation of the entire National Climate Assessment process) and assess how these efforts support both the NCA and the broader USGCRP goals (including the USGCRP communications strategy).

Baseline measures and indicators of success should be identified early, be related to the objectives of the Assessment itself, and be tracked closely in order to ensure that a consistent approach to evaluating the effectiveness of NCA communications is established and that it leads to adaptive changes in the program. In addition, activities and evaluation should be coordinated with ongoing USGCRP efforts, federal adaptation and mitigation activities, the Office of Science and Technology Policy, and other federal climate communications.

Specific activities related to implementing an evaluation strategy for NCA communications include:

- Include a chapter or appendix on engagement (including communications and education) in the Assessment that documents the current state of activities, tools, and research in these areas.
- Use the assessment process to partner with communications researchers and stimulate further research on climate change communications.
- Use the assessment process and products to encourage support for climate change communications research within the USGCRP annual budget.

- Provide information and support to private, academic, and NGO groups who are researching climate change communications, and develop channels of communication with these groups, such as regular conferences and meetings to share research findings with the USGCRP community.
- Encourage groups who are researching climate change communication and education to provide input into the Assessment process, by advising or writing a portion of the report, by playing a significant role in the review process, and by using the findings of the Assessment to help develop their own research questions.

The NCADAC should work with Assessment staff and federal agency representatives to establish metrics for success prior to September 30, 2011. Important considerations include:

- Will an increase in knowledge about the NCA process or an increase in knowledge about climate change impacts in the United States be the defining criterion of success?
- How will success be measured? A common methodology is to use surveys and focus groups pre- and post-release of the report; this must be done now before the assessment process is too far underway.
- Metrics should be established previous to the release of the report in order to establish a baseline from which to measure future successes.
- Operational statistics will play an important role in assessing success, i.e. how many hits on the website previous to and post report, number of informational briefings requested, quantity of informational materials requested, etc.

Examples of goals and corresponding evaluation questions include:

Goals	Evaluation Questions
Ensure that communicating about the process and findings of the Assessment supports the ongoing and sustained process	Did our efforts achieve broad participation, and is the level of participation increased over that in previous assessments?
Establish rapport with the public to ensure that the Assessment is seen as a trusted, reliable, and transparent source of climate information	Who was involved in the Assessment process and who did we miss? What qualitative feedback have we heard at NCA-related workshops about the process?
Create general awareness about climate change and its impacts and vulnerability within regions and sectors, and opportunities for adaptation and mitigation	Are publics more aware of climate change impacts in the US now than they were previous to publication of the NCA
Enhance existing and build new relationships among stakeholders at the local, state and Federal level and especially within the private sector to enhance the sharing of climate science information and support adaptation partnerships	What networks have we developed, and what methodologies have been successful for developing and sustaining these relationships?
Provide consistent messaging to Federal agencies participating in the USGCRP and help those agencies enhance participation and internal communications about the Assessment	What sort of information was used, and what was missing that was needed?
Engage stakeholders to participate in NCA both	What sectors of the public found the

<p>as generators and users of Assessment information, particularly in the context of decision support</p>	<p>information in the Assessment to be most useful?</p>
<p>Use the input that comes into the 2013 process to begin to plan for future iterations of the Assessment</p>	<p>What parts of this process and products were most useful and used (by whom and how), what parts could be eliminated?</p>
<p>Provide timely completion of the mandatory reporting requirement to Congress</p>	<p>Did Congress receive the report on time, and was their further action as a result of the delivery of this plan?</p>
<p>Reach a broad set of stakeholders with the findings of the Assessment and translate the findings of the Assessment efforts into a usable form for specific audiences</p>	<p>Is the assessment used as a basis for federal, state, local adaptation plans, mitigation activities, news articles, or education programs since the report was released?</p>
<p>Communicate key findings of the assessment and make information readily available for decision makers and those who are dealing with the effects of a changing climate</p>	<p>Do sectors of the public have a greater understanding of what the government is doing about climate change?</p>
<p>Establish the NCA as a trusted source of information on climate change for all stakeholders working on climate and global change issues</p>	<p>Do sectors of the public have a greater knowledge of the Assessment? Has the Assessment been successful communicating with the public? Do sectors of the public have greater knowledge about the climate of the US?</p>