# National Climate Change Preparedness Initiative

Initial prospectus and call to action, for review and comment

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(please submit comments to nccpi.mail@gmail.com)

In facing the threat of global climatic disruption, the nation needs a way to deal with climate change intelligence, risk assessment, risk management, and preparedness that is much more effective than what we have right now. National preparedness will entail a systematic, federally supported effort to bring leading scientists, technologists, engineers, economists, social scientists, and other experts together in an ongoing interaction with a wide range of policymakers and managers at all levels, to diagnose the potential implications of climate disruption for the United States and develop measures necessary to adapt to the impacts and to implement reductions in emissions of greenhouse gases (GHG).

No matter what is negotiated on the international diplomatic front beyond the Kyoto Protocol, and no matter what national emissions cap and trade legislation might be enacted, there will be a host of practical implementation issues, from the national to the local level. How do we implement mitigation alternatives to reduce the rate and magnitude of climate change and attempt to avoid impacts that can't be managed effectively? How do we deal with adaptation to the unavoidable impacts of climate disruption on society and the environment?

The federal government must develop the institutional capability to support such an effort. The federal climate and global change research program must be re-tooled to serve as an essential component of that effort.

**We propose that the next President and Congress undertake a National Climate Change Preparedness process, to deal with the full range of climate change intelligence, risk, and preparedness questions.** This initiative should be a vehicle for linking scientists and other experts with decisionmakers and for linking the federal government with the rest of society, to put in place an ongoing US capability to deal with the climate change problem in the 21st century.

Reaching the goal of optimum US climate change preparedness will require surmounting enormous challenges in our current decisionmaking systems at the local, state, and federal levels of government, and in the private sector as well. Climate Science Watch (CSW) is building upon its investigative, communication, and reform advocacy capabilities to develop and advance a framework for connecting experts in science and technology with the rest of society to support more informed, effective, and scientifically sound decisions related to climate change. We are calling this project the National Climate Change Preparedness Initiative (NCCPI).

A wide range of valuable activities is currently underway around the country aimed at responding to the challenge of climate change. CSW will work collaboratively in this context to develop the overall framework for the NCCPI project, act as a catalyst in building support for it, guide its implementation, and serve as a watchdog of the integrity of the process.

Based on our own experience and consultations with a variety of experts, an initial focus of the NCCPI project is to formulate and advocate for reforms in the current federal climate and global change scientific research and technology programs, to assist decisionmakers at all levels of government and society in addressing climate change. As part of this effort, we are participating in a collaborative process to develop recommendations for the next Administration and Congress about the US Global Change Research Program (renamed the Climate Change Science Program under the Bush Administration). Assessing climate change impacts and effective response strategies with the involvement of the stakeholder community needs to be an essential component of the federal climate and global change research program.

Also, proposed reforms in the way we research, develop, demonstrate, and bring to market technologies and strategies for reducing GHG emissions and adapting to climate change impacts is a critical component of the NCCPI. Linking federal climate research and technology development efforts with state and local governments and other stakeholders is a central theme. The project will foster a two-way dialogue between the producers and users of research and information so that it is accessible, timely, and useful.

## Background and Rationale for the NCCPI

Significant advances in scientific research and observations are enabling a better understanding of the potential consequences of climate change. The comprehensive and authoritative Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report released in 2007 identified a wide range of threats and opportunities that must be dealt with in a U.S. preparedness context.

The IPCC's findings are verified and bolstered by a steady stream of reports of observed disruption in the climate system. This, coupled with reports of continued advances in our scientific understanding of the local, regional, and global societal and environmental consequences of climate change, has raised awareness and enhanced overall public consciousness of the immediate, near-term, and long-term threats that this problem poses. Concern among policymakers has increased; discussion and debate has intensified and taken on greater urgency in town hall meetings, city and county councils, state legislatures, Congress, federal agencies and departments, and in the judicial system, where we have seen several high-profile lawsuits directly relevant to climate change considered and decided in federal district courts as well as the Supreme Court.

A range of impacts is already beginning to adversely affect the United States, and our best scientists and models say they are projected to intensify. Each week there are reports of new climate-related challenges, existing and potential: drought-stricken regions in the southeastern and southwestern US that threaten water supplies for agriculture, energy, and urban areas; early snowpack melt causing spring flooding and summer water shortages; melting permafrost and eroding coastlines in Alaska threatening the way of life of indigenous peoples in the Arctic region; infestations of insects that act as deadly pests to forested ecosystems such as the pine bark beetle in the Pacific Northwest; western wildfires; loss of agricultural crops; rapidly shifting climatic zones and associated ecosystem stresses for plants and animals; increased disease vectors in human and animal populations; the threat of more frequent and intense hurricanes and storms like Katrina; and potential storm surges that could devastate low-lying coastal communities from the Gulf Coast to New York City subway tunnels.

Managing the human-induced changes to climate that cannot be avoided, while seeking to reduce the rate and magnitude of change so as avoid changes that would be impossible to manage, is the essence of *adaptation* and *mitigation*. Often they are interrelated. They must involve all of society. Our success or failure at both of them will determine our degree of future suffering.

So far, we are managing poorly. Evidence of a lack of preparedness is present in many instances: badly botched emergency response measures after extreme weather events such as Hurricane Katrina; outdated flood protection maps; inadequate contingency plans and alternate water storage facilities for dealing with water shortages; even the heavy social and economic burden associated with moving just one village in Alaska to escape the devastating impact of a warming climate.

When we consider that these challenges are occurring and will continue to occur within the context of many systems that are already overtaxed in our country – decaying infrastructure (*e.g.* roads, bridges, water and wastewater systems); shortages of firefighters because so many have been deployed to Iraq; an overtaxed energy production and distribution system barely able to keep up with burgeoning population centers and increased energy demand; and an increasingly fragile economy, to name just a few – we realize that we are unprepared for future disruptions. We can avoid much suffering, and even possible collapses of major parts of our society, if we take positive steps to become better prepared, better fortified to meet the challenges that lie ahead. If we are properly informed, resourceful, collaborative, determined, even perhaps lucky, we will adapt.

In parallel with adaptation measures, a National Climate Change Preparedness process must include sustainable energy strategies and other measures to reduce the rate of global warming by reducing GHG emissions and potentially by capturing and storing carbon dioxide.

Moreover, any measure taken must be assessed for its potential to limit adverse, unintended environmental, economic, and social consequences. The nation's recent rush to increase our reliance on corn-based ethanol (an agenda driven by corporate and political interests without sufficient use of meaningful communication between scientists and policymakers) is a case that argues for more strategic planning and execution of GHG emissions-reduction measures. Geoengineering proposals, such as seeding the oceans with chemical elements to increase $CO_2$-uptake, or purposely loading the atmosphere with particulate matter to cause artificial cooling, provide another example of the need for objective and authoritative assessment of options and potential consequences.

Congress is grappling with emissions cap-and-trade proposals that are mired in controversy. Even if passed, under the current political circumstances cap-and-trade legislation may not mandate sufficient emissions reductions at a rapid enough rate to avoid a dangerous level of GHG concentrations in the atmosphere. The Bush administration's Climate Change Technology Program – purportedly an effort to develop solutions to climate change – offers a woefully inadequate roadmap for shifting to a less carbon-intensive energy economy in the near-term. There has never been a systematic nationwide assessment process to determine: (a) which policies are most effective at causing an increase in the adoption rate of renewable energy and high-efficiency energy end-use technologies in the marketplace; and (b) which set of technologies and applications yields the highest potential to offset carbon dioxide emissions, over what time period, and at what cost. Developing this kind of assessment, through an orchestrated process of ongoing communication between technical experts and policymakers at all levels, will be essential for climate change risk management and preparedness.

**A Call to Action**

We are calling on the next President and Congress to undertake a National Climate Change Preparedness process that will:

- Serve as a support structure for reforming and strengthening communication and relationships among scientists, engineers, policymakers and other stakeholders, with the primary objective of enhancing the nation's level of preparedness for the consequences of global climate disruption, regardless of the magnitude and timing of greenhouse gas reductions we are able to achieve in the next few decades.

- Manifest both as a continuously operating clearinghouse for information and expertise, and as an integrated network for identifying, assessing, managing, adapting to, and mitigating the many challenges posed by climate disruption and its associated impacts.

- Establish an ongoing "decision-support" capability to enhance the nation's overall ability to rise to the challenges climate change is imposing.

- Serve as a "bottom-up/top-down" vehicle for joining citizens and grassroots efforts with national policymaking by mining the rich knowledge base to be gained from many existing local, state, and regional efforts, and raising this diverse wealth of information and intelligence up through the National Climate Change Preparedness process to inform decisionmakers formulating policies and programs at the top levels of the US government.

- Serve as a vehicle for bringing strong national leadership and funding support to bear at the grassroots level to provide guidance, direct support, and relief to individuals, groups, and communities that are disproportionately vulnerable to impacts, and are currently not being adequately served by their own government.

- Include response strategies focused on impacts, vulnerability, and adaptation as well as on mitigation through emissions reductions, and on the interplay and synergies that often occur between them.

- Move beyond the limitations of the method commonly used by scientists to inform stakeholders about complex scientific information, in which reports are developed with little or no user input, then handed off to potential end-users in the hope that they will be used and useful.

- Encourage, rather, a culture of two-way dialogue and information-sharing between scientists and stakeholders, in which there is mutual respect for different types of expertise (scientific and nonscientific, technical and non-technical), to help ensure a level of sophistication in addressing climate impacts that is evident in the successful application of optimum solutions to real problems.

- Leverage local, state, and private sector funding to supplement federal support and build resilience to budget swings and negative political interference, in order to maintain a continuous, ongoing presence.

- Identify, empower, enhance, and supplement rather than supplant existing efforts and programs, including those of local and state governments, educational institutions, businesses, public interest groups, and other relevant entities.

- Build on, learn from, and employ a regional and sectoral framework analogous to that used in the *National Assessment of the Potential Consequences of Climate Variability and Change* conducted mainly during 1997-2000, to better assess and take effective steps to mitigate and prepare for climate change impacts and related challenges.

- Identify and remove legislative, regulatory, and bureaucratic barriers to effective preparedness and response measures.

- Evaluate lessons learned from our experiences in preparing for and responding to climate-related challenges (such as hurricanes Katrina and Rita, multi-state water management in times of drought, dangerous wildfires, and so on), and from local, state, and international efforts to mitigate climate change, and apply these lessons to future preparedness and response measures.

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