



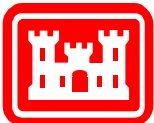
U.S. Agencies Responding to Climate Change

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Administration**

E2S2 Denver CO. May 7th, 2009



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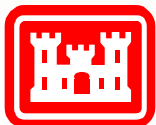
Engineer Research and Development Center

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Outline

- **Purpose**
- **Unique Circumstances**
- **Agency Context and Complexities**
- **Unique Response**
- **Federal Agency Roles**
- **Other Drivers**

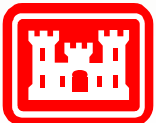




Purpose



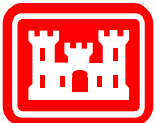
- **To provide a context for where U.S. federal agencies stand with regard to climate change**
- **Identify potential challenges federal agencies will face in the future**
- **Briefing will also discuss some of the ongoing efforts by state, local and international agencies**





Unique Circumstances of Global Climate Change (CC)

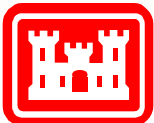
- Phenomena without boundaries
- Occurring over lengthened timeframe – greatest effects in the future (hard for annual budget planners to address)
- Governments and agencies to experience impacts at all levels (local, regional, national, international)
- Significant debate due to delayed cause/impact, time needed to gather convincing observations, uncertainty regarding effective courses of action and costs





Context for Federal Agencies

- **Growing evidence has gained attention at all levels of government**
- **Gaps exists that needs to be addressed**
 - How to apply limited global data to local situation
 - What management actions to take, identify stakeholders
 - How to measure, monitor and reduce GHG
- **Federal agencies have made science investments, but delayed responses relating to mitigation and adaptation**
 - Since 2006, agencies in catch-up mode
- **Climate change impacts all agencies and organizations**
 - Legislation in the works, EOs already impacting agencies
 - All federal organizations are (or will be) required to reduce their GHG footprint, characterize impacts, develop adaptation plans

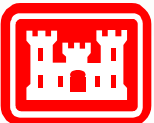




Complexity of Impacts

Beyond any agency or jurisdictional responsibility

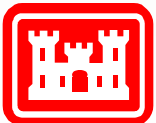
- **Increases in weather extremes (drought, flooding) requiring —resilient” management techniques**
- **Salt water intrusion into freshwater supplies**
- **Climatic conditions changing during life cycle of facilities & infrastructure**
- **Social/financial costs of “retreats” from coastal areas**
- **Grid reliability during extended peak temperature periods**
- **Species range shifts, causing disconnects between diurnal light exposure versus temperature sensitive species, increasing exposure to disease vectors**
- **Stress on food supplies due to extreme conditions (droughts, flooding) and temperature**





Cost of Actions vs. Inactions

- **Complexity of impacts makes analysis difficult**
- **Consistent analysis approach needed to compare investment pathways – but seldom are the costs born by one agency, and there are great complexities in terms of jurisdictional and agency responsibilities.**
- **Delayed impacts puts greatest costs into the future – —length of analysis” and inflation adjustments critical**
- **Climate cost accounting is key area for international and national leadership, as well as private foundations, to advance.**

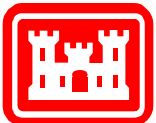




Climate Challenges: Unique Institutional Responses

- **International**
 - **IPCC**
- **U.S.**
 - **U.S. Climate Change Science and Technology Programs**
 - **Industry Organizations**
 - **Inter Agency Initiatives**
- **State and Local Government Partnerships**

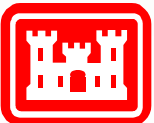
Climate Change has inspired new institutions across every level of government and industry





Inter-governmental Panel on Climate Change (IPCC)

- **Established by the World Meteorological Organization (WMO) and by the United Nations Environment Programme (UNEP) in 1988**
- **The IPCC is open to all member countries of WMO and UNEP**
- **Scientists from all over the world contribute to the work of the IPCC as authors, contributors and reviewers.**
- **Upcoming 31st Plenary Session, Bali, Indonesia, 26-28 October 2009**
- **5th Assessment Report (AR5) due in 2014, 4th Assessment Report (AR4) released in 2007.**

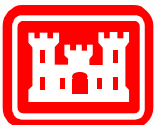




U.S. Climate Change Science Program (CCSP)



- Integrates federal research on climate and global change, as sponsored by thirteen federal agencies and overseen by the Office of Science and Technology Policy, the Council on Environmental Quality, the National Economic Council and the Office of Management and Budget.
- During the past thirteen years the United States, through the U.S. Global Change Research Program (USGCRP), has made the world's largest scientific investment in the areas of climate change and global change research -- a total investment of almost \$20 billion.



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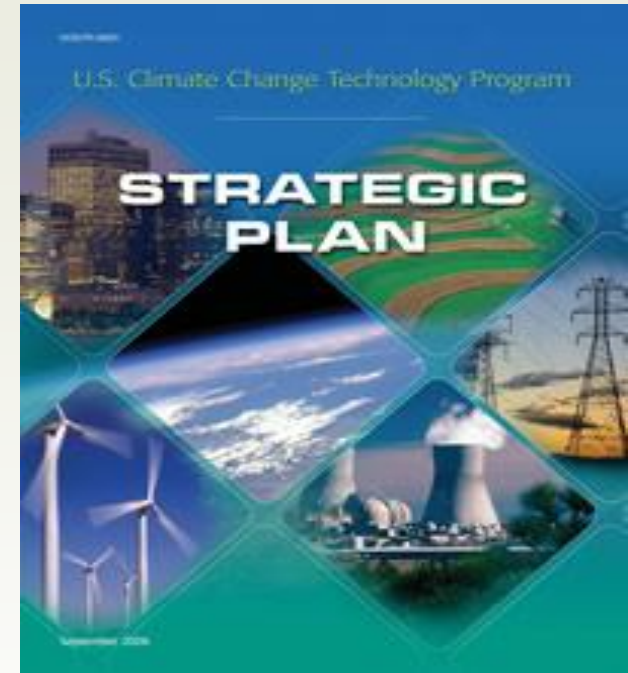


Research and Development Center

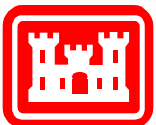


U.S. Climate Change Technology Program

- **U.S. Climate Change Technology Program, 1000 Independence Avenue, SW, Washington, DC 20585. Tel: +1 202 586 0070.**
- **Email:**
CCTPinfo@climatetechnology.gov.
- **Web:** www.climatetechnology.gov.



U.S. Climate Change Technology Program Strategic Plan. See also press release. (posted 20 Sep 2006).



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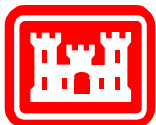
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The Climate Registry

North America's Leaders Solving Climate Change Together

THE CLIMATE REGISTRY is a nonprofit collaboration among North American states, provinces, territories and Native Sovereign Nations that sets consistent and transparent standards to calculate, verify and publicly report greenhouse gas emissions into a single registry.



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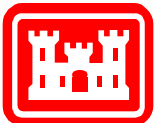
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Local Governments for Sustainability - ICLEI



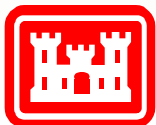
- **An international association of local governments dedicated to climate protection and sustainable development.**
- **Originally established by the United Nations in 1990, the official name is now ICLEI- International Council of Local Governments for Sustainability. (Local Environmental Initiatives)**
- **ICLEI USA was launched in 1995 and now has more than 500 cities, towns and counties.**
- **ICLEI USA is a domestic leader on climate protection and adaptation, and sustainable development at the local government level.**





Agencies In Respect to CC

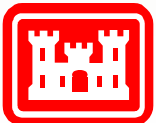
- **Agencies who stand watch (observation, modeling, assessments)**
 - **USGS, NOAA, NASA, EPA**
- **Agencies with potential new missions/challenges emerging**
 - **International and Homeland Security (DHS, DoD, State, Interior, Coast Guard)**
 - **Emergency Response (DHS, DoD, etc)**
 - **Food Security (USDA, DHS, State)**
 - **Water Resources (NOAA, USACE, Bureau of Reclamation, USGS)**
 - **Adaptation Assistance (NOAA, USAID)**
- **Agencies with potential regulatory adjustments**
 - **All regulators (EPA, USFWS, USACE, USDA, FAA, etc)**

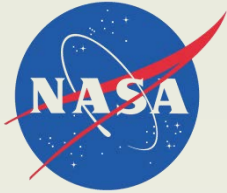




Current Requirements

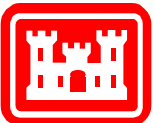
- **Executive Order 13432— —Cooperation Among Agencies in Protecting the Environment With Respect to Greenhouse Gas Emissions From Motor Vehicles, Nonroad Vehicles, and Nonroad Engines”**
- **2008 Defense Authorization Act**

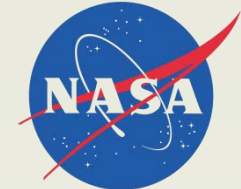




Defense CC Impact Legislation

- **Defense 2008 Authorization Bill (Subtitle F, Section 951. DoD Considerations of Effects of Climate Change on Facilities, Capabilities and Missions.**
 - Assess risks
 - Update Defense plans
 - Develop capabilities needed to reduce future impacts
- **Include assessment and plans update in next quadrennial defense review**
- **Use mid-range projections from 4th assessment report of the IPCC**
- **Ensure that climate change does not have a negative impact on national security of the US**



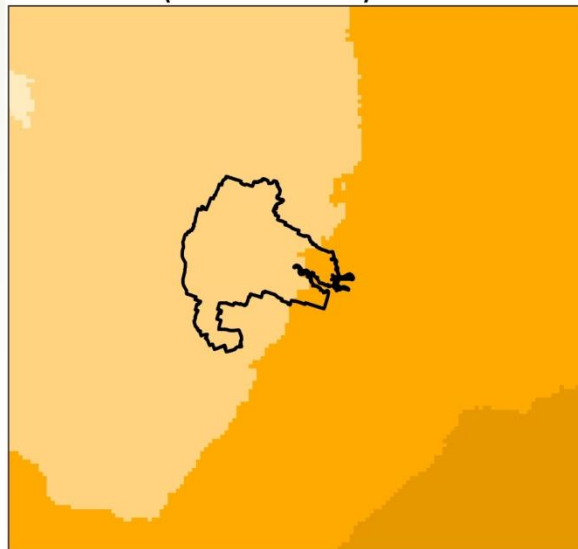


Climate-Change Projection

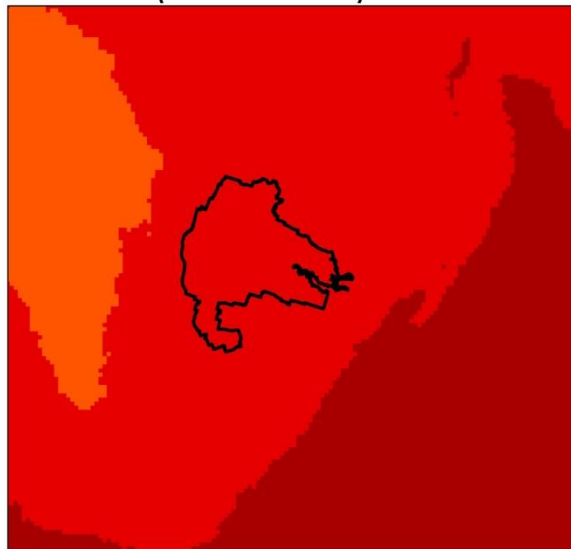
(Joshua Lawler, University of Washington for Strategic Environmental Research and Development Program)

April Temperatures Ft. Hood

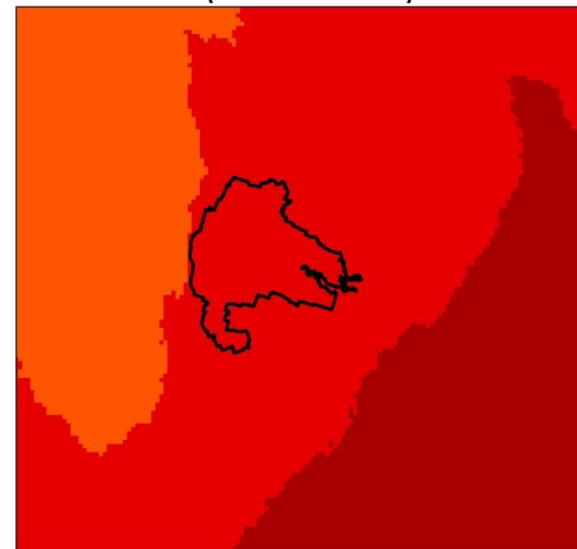
Current (1961-1990)



CGCM (2071-2100)



HADCM3 (2071-2100)



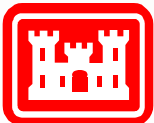


Legislative Landscape on CC



Selected Legislative Proposals

- **America's Climate Security Act S.2191**
- **Clean Air/Climate Change Act of 2007 S.1168**
- **Climate MATTERS Act of 2008 H.R. 6316**
- **Climate Stewardship and Innovation Act of 2007 S. 280 / H.R.620**
- **Global Change Research Improvement Act of 2007 S. 2307**
- **Investing in Climate Action and Protection Act H.R. 6186**
- **Lieberman-Warner Climate Security Act of 2008 S. 3036**
- **Low Carbon Economy Act S.1766**
- **Safe Climate Act of 2007 H.R.1590**

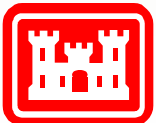




Emerging Adaptation Focus

**(Managing the unavoidable
while avoiding the unmanageable)**

- **Heinz Center Study on adaptation at all levels of government and industry conducted during 2008-9**
- **GAO Study on Adaptation (all levels of government) to be completed 9/09**
- **CNA Study on Adaptation efforts by federal agencies**
- **Understanding Climate Change Adaptation Forum (sponsored by Inter-Agency Forum on Climate Change Impacts and Adaptations) held 4/09**
- **Adaptation Working Group of U.S. CCSP Office**
- **Markey-Waxman legislative initiative**



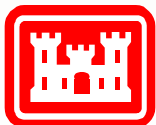


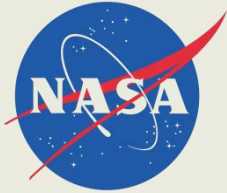
GAO's 2009 CC Adaptation Study

GAO is studying climate change adaptation at the request of Chairman Markey of the House Select Committee on Energy Independence and Global Warming.

Objectives:

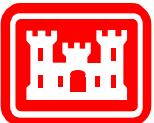
- **What actions, if any, are federal, state, local, and international authorities taking to help the public adapt to a changing climate?**
- **What challenges, if any, do federal, state, and local officials face in their efforts to adapt?**
- **What actions could the Congress and federal agencies take to help address these challenges?**





Inter-Agency Forum on CC Impacts and Adaptations

- Meets in Washington D.C. area every 6-8 weeks – Federal Agency focus
- Informal forum - no formal agency endorsement or engagement
- Valuable outlet for relevant GAO studies, highlights of agency activities and from the U.S. CCSP Office
- FedCenter working group website at www.fedcenter.gov (login needed to access – contact Stephanie Yousef at : stephanie.yousef@us.army.mil to request login)



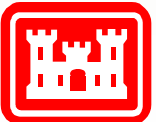


Proposed National CC Adaptation Program



in Markey-Waxman draft legislation (March 09)

- **National Climate Change Adaptation Council**
 - Comprised of over 16 federal agency representatives
Chaired by NOAA representative
 - **Coordinates federal adaptation policies and interagency consultation**
- **National Climate Change Adaptation Program**
 - **Will be established in NOAA to increase the effectiveness of federal climate change adaptation efforts**
 - Will publish and deliver national vulnerability assessments to the President every four years, starting in 2012.
 - Will provide technical and scientific information to federal, state, and local stakeholders





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