



U.S. Army Corps of Engineers Institute for Water Resources

On the Web:
<http://www.iwr.usace.army.mil>

For More Information:
+1 (703) 428-9090

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Climate Change Pilots Support Mainstreaming Adaptation

ALEXANDRIA, VIRGINIA. The U.S. Army Corps of Engineers (USACE) is working toward mainstreaming climate change adaptation across activities. This will enhance the resilience of our nation's water resources infrastructure, which will in turn reduce our vulnerabilities to the effects of climate change. One way that USACE is improving our knowledge about climate change impacts and adaptation is by conducting targeted pilot studies. These studies test new ideas and advance knowledge needed to develop policy and guidance.

Each pilot study addresses a central question that can help guide USACE in this endeavor. For instance, questions such as these have been asked:

- How do we allow for shoreline retreat to preserve critical tidal and nearshore ecosystems in a long-term regional planning context?
- Is mountain snowpack and subsequent runoff changing due to changes in climate, and is the Missouri River Basin, therefore, more susceptible to droughts and floods?
- How will dredging cost requirements at Great Lakes harbors vary in the future as the climate potentially changes precipitation regimes and runoff characteristics?
- How do we facilitate well-designed and inclusive multi-stakeholder collaboration with the local decision makers for the purpose of identifying vulnerability to sea-level change impacts, acceptable levels of risk, and the most acceptable alternatives over the project lifecycle?

One of the most important lessons learned to date is that establishing a policy, no matter how broad, reduces the time and cost of adaptation. Another lesson is that adaptation requires actionable science, not just the best available science. USACE has also learned from these pilots that costs and benefits are dynamic. They will change over time, just as climate does.

Why does USACE need to understand and adapt to climate change and vulnerability? The USACE Civil Works Program and associated water resources infrastructure represent a tremendous Federal investment that supports public safety and local and national economies. The hydrologic and coastal processes underlying water resources management are very sensitive to changes in climate and weather.

USACE has posted a compilation of the Climate Change Adaptation Pilots that are currently underway on its Responses to Climate Change website. Through these pilots USACE is developing and testing alternative adaptation strategies. The compilation includes a location map for the pilot studies, summarizes connections to the work being done by the multi-agency Climate Change and Water Working Group, and presents a fact sheet about each study that includes background information, vulnerable Civil Works business areas, the central question addressed by the pilot, study approach, lessons learned, key results, and where to go for more information.

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