



# US Army Corps of Engineers

Institute for Water Resources

BUILDING STRONG®

## Responses to Climate Change(5m) (2011)

**Status:** Completed

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**Purpose:** The purpose of this project is to develop and begin implementing practical, nationally consistent, and cost-effective approaches and policies to reduce potential vulnerabilities to the Nation's water and coastal infrastructure and natural environment resulting from climate change and variability.

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**Objective:** The objective of the Responses to Climate Change Program is to provide the necessary means to adapt USACE projects, systems, and programs to climate change.

The Responses to Climate Change Program recognizes that USACE and its partners have reached a "tipping point" where we now have a sufficient understanding of climate change processes to apply adaptation measures at a local to regional scale.

Building on existing science and knowledge, the RCC Program is developing methods, policies, and processes for effective adaptation of our projects, systems, and programs to climate change. We must also develop methods, policies, and processes to assess the effectiveness of climate change adaptation. We anticipate that assessment will include an evaluation of how well alternative adaptation measures improve system flexibility to perform well over a wide range of future scenarios.

The program will develop and conduct vulnerability stress-tests within the Civil Works (CW) Operations and Maintenance (O&M) portfolio of constructed and natural projects with a focus on highest priorities and the existing portfolio (i.e., will not address the portfolio of authorized but not yet constructed projects). This will include demonstrations of hydrologic frequency analysis under changing conditions and adaptation opportunities presented by more flexible water control and reservoir systems operations.

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**Benefits:** The operations and water management control activities associated with the existing capital stock of USACE water projects provides the largest challenge given future climate change and variability.

This effort will provide planning and engineering guidance, processes, methods, and tools to ensure future infrastructure is designed to be sustainable and robust to a range of potential changes.

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**Progress:**

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