



US Army Corps of Engineers

Institute for Water Resources

BUILDING STRONG®

Alliance for Global Water Adaptation (AGWA) (2013)

Status: **Project Manager:**

In Progress [Guillermo Mendoza](#)

Purpose: Engineers have long understood and developed guidance to address landuse changes and population growth as well as climate variability as stressors to our water resources systems. However, many standard hydrologic practices are based on assumptions of a stationary climate and do not accounts for climate change. Water management is the principal medium through which projected impacts of climate change will be felt and ameliorated and guidance is needed for engineers and planners that are required to make decision now about an uncertain future. This growing awareness of climate change has created a difficult transition phase for water resources management as engineers recognize the need for new methods to accommodate even greater uncertainties associated with a changing climate.

This project seeks to advance a practical approach to guide engineers and planners in decision making under uncertainty – not just limited to climate uncertainty. The proposed method uses a “bottom-up approach” based on the methods applied in the International Upper Great Lakes Study and implemented in the Response to Climate Change Coralville Reservoir pilot study. First, we analyze the system to identify its resilience or lack of resilience to changes in climate characteristics. Then, we look to the data – both observed and projected – to determine the plausibility of entering the identified critical climate states.

The goal is to promote a framework for decision making under uncertainty to engineers and planners for both international and domestic water resources management.

Objective: Promote and support implementation of a practical method for decision scaling in climate adaptation to support decision making under uncertainty.

Participate in meetings as part of international AGWA steering committee.
(www.alliance4water.org)

Provide technical leadership to the following AGWA working groups: (1) economic and finance, (2) hydro climate, and (3) engineering and ecology

Collaborate with the RCC program

Benefits:

In the near term, project will develop practical guidance to implement a form of a bottom-up approach to incorporate climate uncertainty into decision making. Throughout the process, we will provide three main products that will encourage review and feedback of the proposed methods.

An international proceedings document led by IWR on the principles of the approach.

A World Bank technical report on the final methodology.

Pending additional funding: Progress Reports on pilot studies.

Progress:

Products:

**Related
Links:**

Partners:

- Conservation International
- [Deltares](#)
- Department of State
- [Inter-American Development Bank](#)
- University of Massachusetts
- World Bank