

Incorporating climate change information in water utility planning: A collaborative, decision analytic approach

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Abstract. Drinking water utilities across the United States are beginning to seriously consider what climate change might mean for their ability to provide reliable, clean, safe, and inexpensive water to a growing customer base. Adopting a case-study approach, elements of a structured process will be described, which include 1) a problem definition phase, focused on identifying goals, information needs, utility vulnerabilities and possible adaptation options in the face of climate and hydrologic uncertainty; 2) developing and/or modifying system-specific Integrated Water Resource Management (IWRM) models and conducting sensitivity analysis to identify critical vulnerabilities; 3) developing probabilistic climate change scenarios— focused on exploring uncertainties identified as important in the sensitivity analysis in step 2; and 4) implementing the structured process to examine alternative investment and adaptation strategies in light of the likely range of future climate-related changes in local hydrologic conditions. An application for the Colorado Springs Utilities will be described.