

Title: Download and Register the Climate Resilience Evaluation and Awareness Tool (CREAT)

Short Title (system keyword): CREAT

Software Version: 2.0

Software Description: Climate change impacts pose a daunting challenge to the Nation's drinking water and wastewater (water) sector service providers in fulfilling their public health and environmental mission of providing clean and safe water. Extreme weather events, sea level rise, shifting precipitation and runoff patterns, temperature changes, and resulting changes in water quality and availability all have potentially significant implications on the operations of water sector utilities.

To assist drinking water and wastewater utility owners and operators in understanding potential climate change threats and in assessing the related risks to their individual utilities, EPA has developed the PC-based Climate Resilience Evaluation and Awareness Tool (CREAT). Using the most current scientific understanding of climate change, CREAT increases drinking water and wastewater utility owners and operators' awareness and understanding of potential climate change impacts on utility operations and missions by assessing climate change threats, threshold levels for asset failures, and consequences.

Features

CREAT provides an approach for utilities to assess climate change adaptation options that can reduce identified risks and examine the feasibility of applying these options to support adaptation decisions.

CREAT:

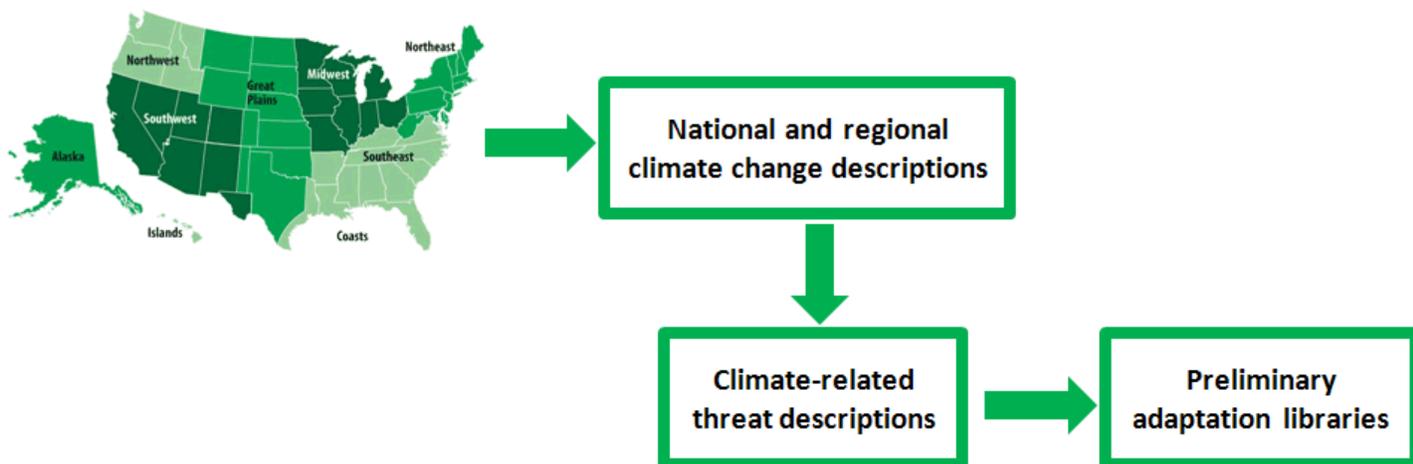
- Serves as a stand-alone risk assessment product that allows users to evaluate potential impacts of climate change on their utility and to evaluate adaptation options to address these impacts;
- Provides a structured approach for utilities to assess their risks and identify desired actions to adapt to climate change threats;
- Includes a library of drinking water and wastewater utility assets (e.g., water resources, treatment plants, reservoirs, distribution system components, pump stations) that could be impacted by climate change;
- Includes a list of climate change impacts (e.g., sea-level rise, precipitation changes, and reduced snow pack) that covers a broad range of changes in climate anticipated to affect water utilities and reflect regional differences in climate change projections;
- Includes adaptation suggestions that can be implemented to adapt to impacts of climate change and can be customized by the user;
- Provides a series of risk-reduction cost reports that will allow the user to evaluate various adaptation options;
- Includes climate change information to support assessment of the likelihood of threats and potential asset, environmental, community, and economic consequences; and

- Designed to evolve over time as new information and research results become available to enhance water sector utility climate change preparedness programs and resiliency capabilities, enabling the implementation of effective adaptation strategies in the future.

Process: Adaptation, Planning, and Use

Water sector utility owners and operators use known information about their utility to identify climate change threats, assess potential consequences, and evaluate adaptation options in CREAT. This approach allows utilities to assess climate change threats based on established thresholds where asset or mission failure would occur and to initiate adaptation planning despite the uncertainties. As planning progresses, users consider existing climate science data to evaluate the plausibility of climate-related threats and how soon associated impacts might occur at the utility level.

Individual utilities can analyze climate change as part of adaptation planning by using projections of future climate change data at a regional scale. The tool does not attempt to model or forecast climate change (e.g., temperature and precipitation changes), instead a framework for using available climate information as part of utility planning will be incorporated into CREAT. Projected climate change in U.S. regions is translated into potential climate-related threat scenarios and a preliminary set of adaptations that could be applied to reduce risk (see process below). For example, the threat of floods from high flow events would be influenced by any projected changes in winter hydrology, precipitation, and storm intensity and frequency. Based on utility awareness of how climate change translates to threats related to their assets, users are guided through a risk assessment process to determine risks with and without adaptation options over multiple time periods. Users can assess both the risk reduction attributed to different adaptation options and associated costs to support climate change decision-making responses.



There is a critical need to conduct planning and to make engineering and management decisions regardless of the considerable uncertainties about the timing, location, and scale of future climate impacts. For most utilities, there is not an option to “wait and see” or to “take no action.” Both the current stock of capital assets and any new investments will be affected by climate change even if the impacts cannot be precisely predicted. Thus, there is a need for an approach that can be used by water sector utility owners and operators to understand and evaluate potential

adaptation measures. This approach complements existing tools used to make projections or assessments regarding utility management (e.g., models of hydrology, urbanization, and demand).

CREAT also helps utilities organize and communicate climate-related activities to decision makers, stakeholders, and citizens. This builds confidence that the utility is being appropriately proactive, or alternately may serve to identify gaps or areas where additional funding may be needed.

Contact

For more information on CREAT, contact Curt Baranowski of EPA at baranowski.curt@epa.gov.

Patch Description: This is a patch for the CREAT software.

System requirements: To run CREAT, the following minimum system hardware and software requirements must be met:

- IBM PC compatible processor
- CD-ROM drive
- 1GB of RAM (2 GB recommended)
- 250MB of available Hard Disk Space
- Microsoft® Windows 2000, Microsoft® Windows XP SP3, or Microsoft® Windows 7
- 1024 x 768 pixels minimum screen resolution
- Microsoft® Word 2003 and Excel 2003 or later (necessary to generate reports)
- Microsoft® Internet Explorer 6.0 or later

Note: It is highly recommended that users go to the Microsoft website and download the most current updates for their operating system.

Email text Confirmation: This email is being provided to you in the event that your download session was unexpectedly interrupted. To begin downloading the software package again click on the link below or copy and paste the link into an already open browser window.

<http://yosemite.epa.gov/ow/SReg.nsf/Retry?OpenForm&Download=CREAT>

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Email text Update

Software File Location: Outside

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System Requirements URL

Patch File

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