

AdaptWater™

A climate change adaptation tool for the urban water industry

AdaptWater™ will allow Sydney Water to assess and quantify the impact of climate change and extreme events on its water supply and sewerage assets, and compare adaptation responses.

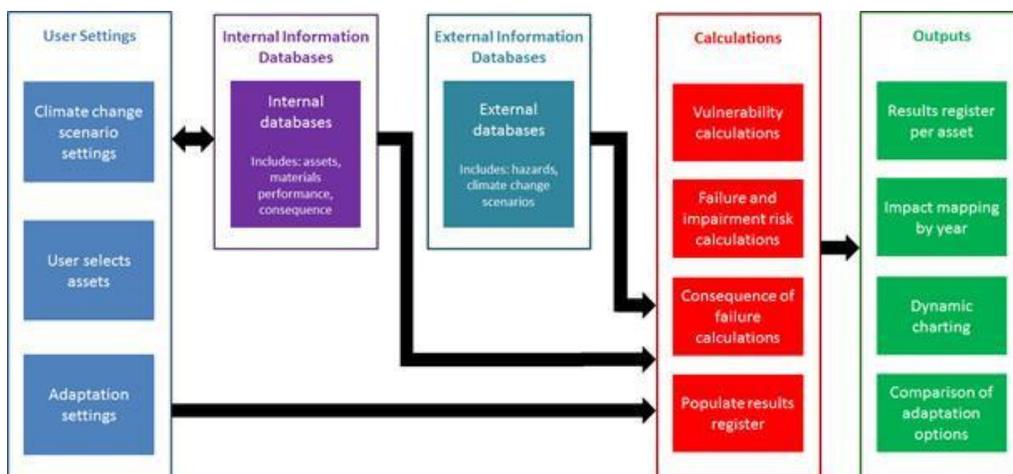
Overview of project

AdaptWater™ is an online climate change adaptation and asset-planning tool. It is designed to quantify the risk associated with climate change and extreme events and perform cost-benefit analyses of proposed adaptation options in order to inform planning and investment decisions.

A range of scenarios can be run against a utility's assets (existing or planned) to assess the impact of various climate change hazards on an individual asset or set of assets. The user can explore the impact of hazards such as sea level rise; precipitation; rises in temperature; and extreme wind. The tool is backed up by a robust set of data to give decision-makers the necessary information to determine the most cost effective solutions. AdaptWater™ allows the user to:

- measure the impact of climate change hazard/s on thousands of water supply and sewerage assets
- predict the probability of asset damage and failure from existing hazards and those made worse by climate change
- calculate the risk to the utility in both financial and non-financial terms
- compare adaptation measures to establish the costs and benefits of multiple adaptation options and allow prioritisation
- present outputs in a visual way to provide a compelling case to a range of stakeholders including managers, financial controllers, economic regulators and environmental authorities.

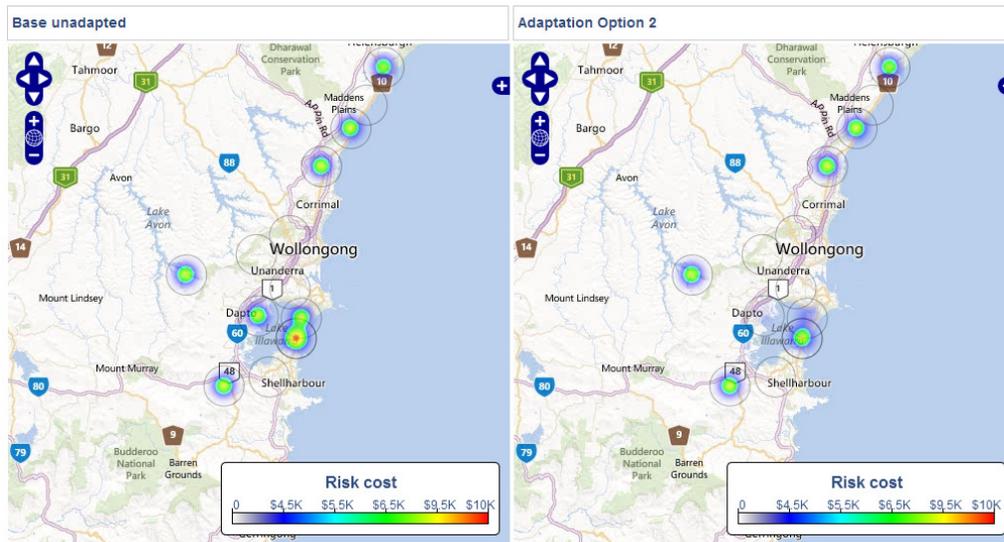
How it works



Outputs

AdaptWater™ can estimate the projected average annual risk (financial and non-financial) associated with the statistical probability of asset failures. Outputs can be in the form of graphs or spatial representations of risk. Outputs include:

- dynamic charts and satellite maps which show how impacts to assets progress with time
- expandable tables for each data set, including to an individual asset level
- charts showing comparison of adapted, business-as-usual and base assets
- net present values for each adaptation option
- exportable CSV files that allow data to be imported into other packages.



AdaptWater impact mapping output example showing risk cost of climate impacts on assets in 2080 for a base case and adaptation option

Benefits

AdaptWater™ will allow Sydney Water to:

- draw together the outcomes of our Climate Change Adaptation Program into one central hub including hazard mapping, identification of the impacts, quantification of costs and adaptation approaches
- assess and quantify impacts and adaptation responses to climate change
- be better prepared for future financial commitments for changes in infrastructure and operating regimes
- communicate the impacts and costs of climate change to a range of stakeholders; including managers, financial controllers, economic regulators and environmental authorities
- include climate change impacts in our existing decision making frameworks for resilience planning.

Contact

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