How water utilities can prepare and plan for climate change impacts

If you are responsible for a utility providing drinking-water supply, these are the risks that climate change poses to your operation, planning and the population you serve.

Climate change is altering weather patterns leading to extreme floods and droughts which will affect water resources and therefore drinking-water supply systems.

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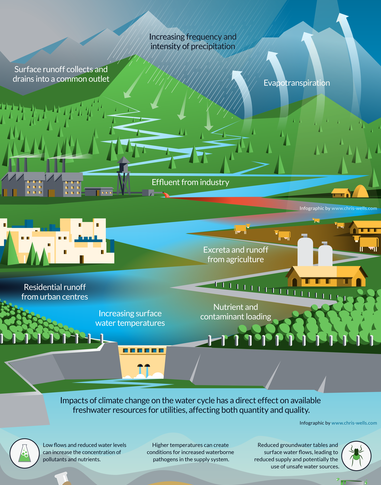

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Impacts of climate change on the water cycle has a direct effect on available freshwater resources for utilities, affecting both quantity and quality.

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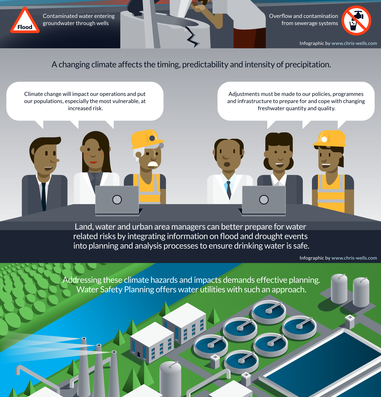
Low flows and reduced water levels can increase the concentration of pollutants and nutrients.

Higher temperatures can create conditions for increased waterborne pathogens in the supply system.

Reduced groundwater tables and surface water flows, leading to reduced supply and potentially the use of unsafe water sources.



Higher temperatures can increase cyanobacterial blooms, increasing risks of cyanotoxins and natural organic matter in water sources.

Lower water availability for washing, cooking and hygiene increasing exposure to waterborne contamination.

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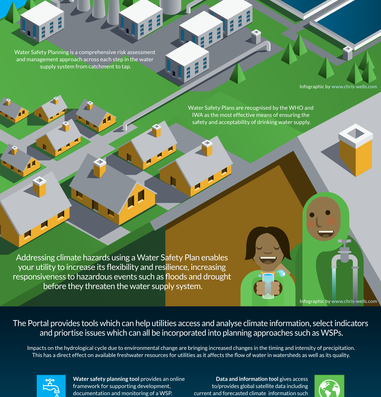
Damage to infrastructure with subsequent economic, health and environmental impacts.

High levels of rainfall & runoff can increase loading of pollutants, contaminants and sediments in surface water.



Flood

Contaminated water entering groundwater through wells

Overflow and contamination from sewerage systems

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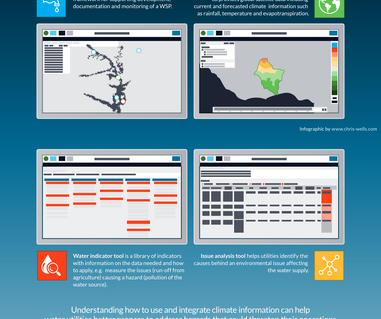
A changing climate affects the timing, predictability and intensity of precipitation.

Climate change will impact our operations and put our populations, especially the most vulnerable, at increased risk.

Adjustments must be made to our policies, programmes and infrastructure to prepare for and cope with changing freshwater quantity and quality.



Land, water and urban area managers can better prepare for water related risks by integrating information on flood and drought events into planning and analysis processes to ensure drinking water is safe.

Infographic by www.chris-wells.com

Addressing these climate hazards and impacts demands effective planning. Water Safety Planning offers water utilities with such an approach.

Water Safety Planning is a comprehensive risk assessment and management approach across each step in the water supply system from catchment to tap.

Infographic by www.chris-wells.com

Water Safety Plans are recognised by the WHO and IWA as the most effective means of ensuring the safety and acceptability of drinking water supply.

Addressing climate hazards using a Water Safety Plan enables your utility to increase its flexibility and resilience, increasing responsiveness to hazardous events such as floods and drought before they threaten the water supply system.

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The Portal provides tools which can help utilities access and analyse climate information, select indicators and prioritise issues which can all be incorporated into planning approaches such as WSPs.

Impacts on the hydrological cycle due to environmental change are bringing increased changes in the timing and intensity of precipitation. This has a direct effect on available freshwater resources for utilities as it affects the flow of water in watersheds as well as its quality.

Water safety planning tool provides an online framework for supporting development, documentation and monitoring of a WSP.

Data and information tool gives access to/provides global satellite data including current and forecasted climate information such as rainfall, temperature and evapotranspiration.

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Water indicator tool is a library of indicators with information on the data needed and how to apply, e.g. measure the issues (run-off from agriculture) causing a hazard (pollution of the water source).

Issue analysis tool helps utilities identify the causes behind an environmental issue affecting the water supply.

Understanding how to use and integrate climate information can help water utilities better prepare to address hazards that could threaten their operations.

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Implementing a robust Water Safety Plan will deliver more impactful interventions as water utilities become better prepared for climate hazards to ensure a safe and secure water supply. This leads to the achievement of the targets set in the UN Sustainable Development Goals 6 and 13.

6 CLEAN WATER AND SANITATION

13 CLIMATE ACTION

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To get started with the tools right now, register for free by visiting

www.flooddroughtmonitor.com

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UN environment

DHI

IWA The International Water Association

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