

Climate Change's Impact on the Design of Water, Wastewater, and Stormwater Infrastructure

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Abstract. The climate is dynamic and constantly changing; it is projected to change more rapidly through the next 50 to 100 years. These predicted changes, while uncertain, are likely to increase failures of water, wastewater, and stormwater infrastructure due to extreme events if changes are not made during the planning and design of improvements and modifications required as systems reach the end of their useful lives. This study briefly outlines actual climatic changes that have occurred and recently published predicted changes. It looks at the impacts these changes will have on water, wastewater, and stormwater infrastructure and provides recommendations to assist engineers and owners who are working to address these impacts. In addition, cautions are provided relating to evaluating and using current climate data, models, and studies for planning and design purposes. While societal and socioeconomic factors also impact the design of water, wastewater, and stormwater infrastructure, this study only summarily covers those impacts associated with climate change.

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