

CHAPTER TWO

CLIMATE CHANGE PLANNING

The U.S. Global Change Research Program in its 2009 report “Global Climate Change Impacts in the United States” writes that climate variability in the Southwest is among the most rapidly-occurring in the nation, more than the global average in some areas. One anticipated result is less spring snowpack and snowmelt to augment the Colorado River, a critical water resource of the City of Tucson. Analysis of observed and projected hydroclimatic factors suggests that climate change within the Colorado River watershed could include, but may not be limited to:

- an increase in average surface temperature
- spatial changes in annual and seasonal precipitation both in magnitude and intensity
- more frequent earlier melting of spring snow packs
- increased evaporation
- reduced surface water flows in the Colorado River

The Central Arizona Project (CAP) is currently projecting that a shortage on the Colorado River may occur within the next five years. A shortage would mean lower priority CAP water users will be curtailed as needed. CAP also predicts that high-priority CAP allocations (M&I and Indian) may be reduced beginning in the mid-2020s. In subsequent years, the annual probability of an M&I shortage could increase.

Increased regulation of greenhouse gas emissions at fossil-fueled power plants and incentives to develop alternative energy sources are actively being debated by policy makers as a response to climate change. These policies, if implemented, will result in increased energy costs, resulting in higher water rates than they would be otherwise.

In response, Tucson Water established a project team to coordinate with climate scientists, other water providers, and federal, state and local government agencies to articulate the practical resource and supply implications associated with climate change. This project team is comprised of representatives from all pertinent areas of the Utility and includes members from local government and climate science researchers at the University of Arizona.

Tucson Water staff identified a range of potential impacts on Utility-related activities and has already taken a number of steps which will make the Utility more resilient to long-term drought and climate-related shortages on the Colorado River. These and future initiatives will provide the Utility with greater flexibility to respond to climate change and its associated uncertainties.