



WATER EDUCATION



PRESCOTT'S Urban Water Cycle

February 2018

Welcome! This is a **WaterSmart “Drop by Drop”** factsheet; the new water education program sponsored by the City of Prescott. Each month learn more about Prescott’s water resources. From history to infrastructure, together we’ll discuss Prescott water one drop at a time!

WaterSmart Factsheet Summary:

- The natural water cycle is manipulated by humans
- Water is reused in the City of Prescott via an "urban water cycle"
- The City accomplishes groundwater recharge using reclaimed and surface water

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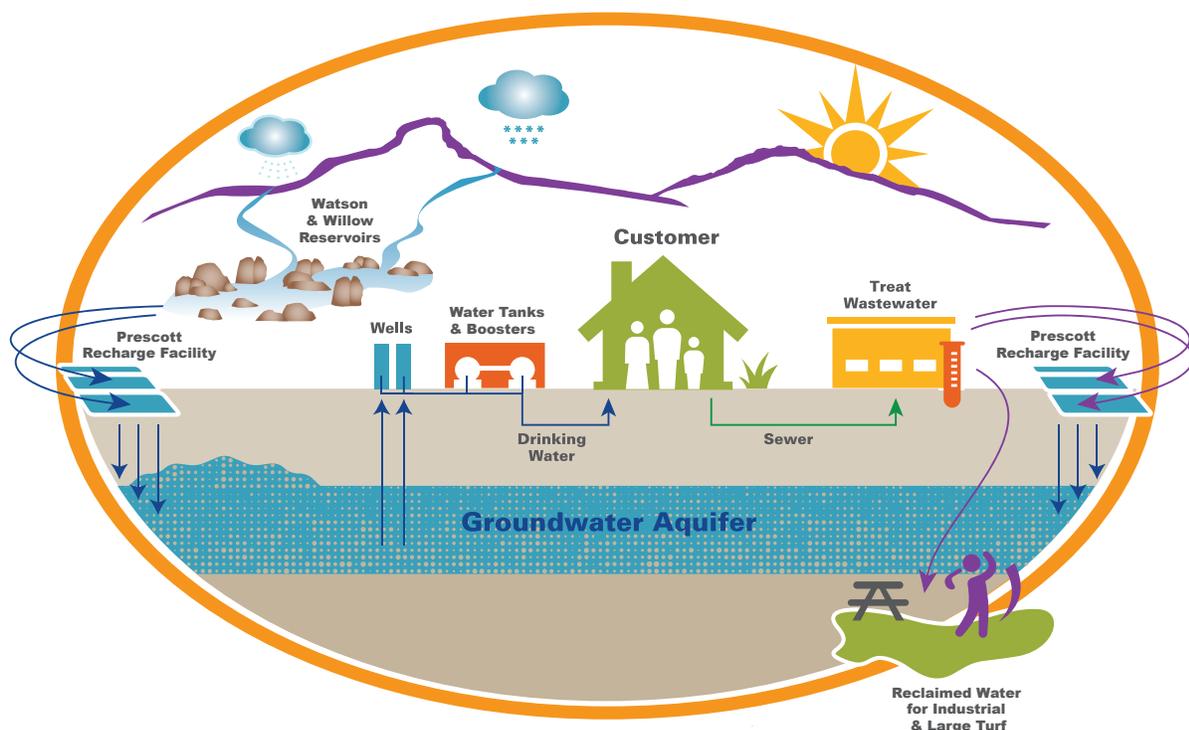
City of Prescott (Official)

Join us at noon on the 3rd Wednesday every month at the Prescott Public Library.



Remember when you were in grade school and learned about the natural water cycle? The processes of condensation, precipitation, transpiration, and evaporation operate on a global scale, continuously moving water around the planet. On a local scale, the natural water cycle is altered by man-made systems designed to provide water to homes and businesses, prevent flooding, and store water for later use. Similar to how water circulates continuously in the natural water cycle, water used in Prescott also circulates via an “urban water cycle.”

URBAN WATER CYCLE



Special thanks to Tucson Water for their diagram (above), revised to depict the City of Prescott Urban Water Cycle

Sources

Prescott has three water sources: groundwater, reclaimed water, and surface water from Watson and Willow reservoirs.

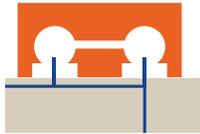
Water Production and Treatment (Wells)

The majority of City water is pumped from five (5) production wells in Chino Valley. Two (2) additional production wells near the airport have been added to the system in recent years. The City's water quality is excellent, requires very little treatment, and is monitored daily to ensure consistency. The water is pumped into two five (5) million gallon tanks at the Chino Production Facility and then pumped to Prescott via high-pressure water mains. Infrastructure, including 26 water storage tanks, and 36 booster stations are maintained to provide water to 80 pressure zones in the City. Tanks contain 37 million gallons of storage.



Water Distribution (Water Tanks and Boosters)

After treatment, water is distributed to customers through a pressurized system of 500 miles of pipes, pumps, valves, and storage tanks. The Public Works Utilities Division also maintains fire hydrants, valves, meters, and manages a cross-connection (contamination prevention) program.



Use (Customer)

Water customers use water for various purposes, including industry, business, and residential. Practicing a low water-use lifestyle, such as promptly repairing leaks and installing native vegetation, is a way everyone can help ensure a long-term, sufficient water supply.

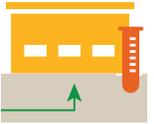


Wastewater Collection (Sewer)

Wastewater Collections is responsible for the operation and maintenance of the City's sewer system. The opposite of distribution, wastewater collection systems (sewers) collect used water and convey it by gravity or lifting to a wastewater treatment facility. This occurs through a network of 400 miles of sewer pipes, 8,200 manholes and 63 lift (pump) stations.

Wastewater Treatment

Wastewater collected by the City sewer system flows to one of the wastewater treatment facilities, located at the Airport and Sundog Ranch Road, where it undergoes treatment.



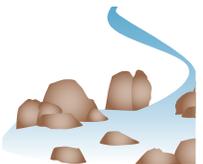
Direct Uses of Reclaimed Water

Users of reclaimed water include golf courses for irrigation, and industry, to reduce potable water demand.



Recharge of Reclaimed Water

Reclaimed water not used directly is sent to the City's recharge facility at the airport, where it percolates into the groundwater: the process is known as recharge. The City also sends water from Watson and Willow Lakes Reservoirs to the recharge facility to augment the groundwater recharge for water supply purposes.



Once water is recharged to the aquifer, Prescott's Urban Water Cycle begins anew!

Be WaterSmart!

Only three percent (3%) of all water on the earth is fresh water, the rest of earth's water is saline water located in oceans. Two percent (2%) of fresh water is contained in glaciers and icecaps, and located beneath the surface as groundwater. About one percent (1%) of all other fresh water is surface water found in streams, rivers, lakes, wetlands, and swamps. (Source: Conservation Regional Handbook, page 2)

