

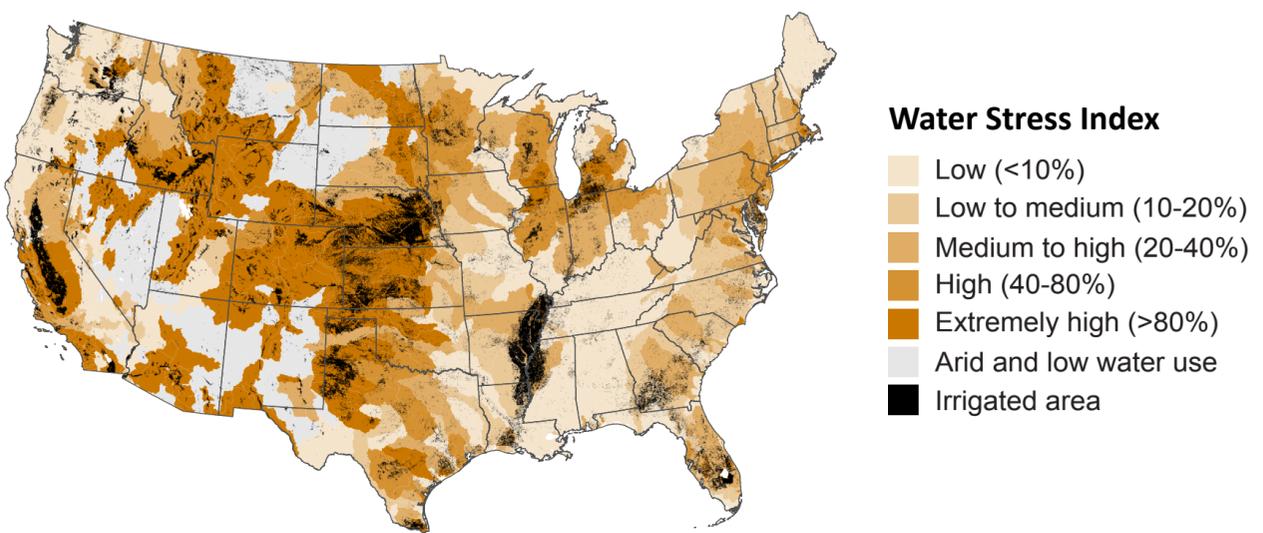
Irrigated Agriculture

Technologies, Practices, and Implications for Water Scarcity

GAO-20-128SP

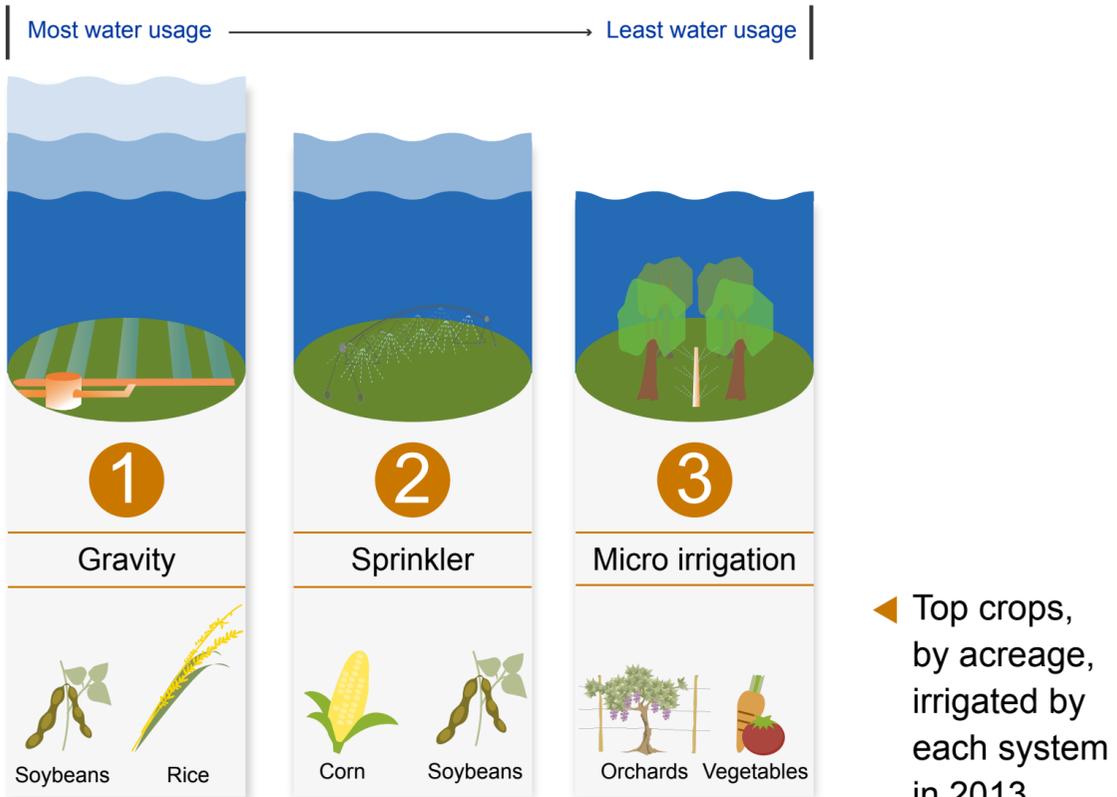
Nationwide, 20-30 trillion gallons of water/year are consumed by irrigation.

In this map of the Water Stress Index, darker orange indicates more water consumed relative to water available. Black indicates irrigated areas.



Source: GAO analysis of data from World Resources Institute Aqueduct, accessed on Feb. 21, 2018, and Moderate Resolution Imaging Spectroradiometer Irrigated Agriculture Dataset for the United States for 2012.

Three types of irrigation vary in efficiency.



Source: GAO.

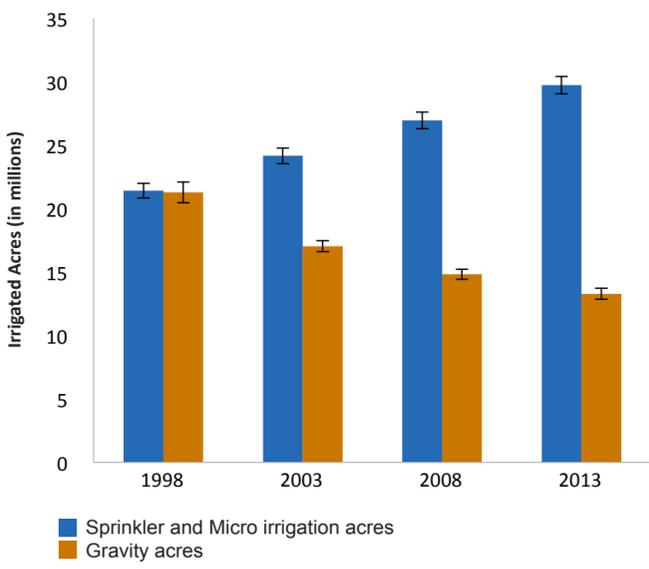
Will more efficient technology save water?

Maybe. We found that farms may use more efficient irrigation technology to:

- irrigate more land,
- increase yield, or
- switch to crops that need more water.

So, more efficient irrigation doesn't always reduce water use.

Acres irrigated under sprinkler and micro irrigation compared to gravity, for the 17 western states



Source: GAO analysis of USDA Farm and Ranch Irrigation Survey data.

Policy options for conserving water.

The full report describes two options for federal policymakers to consider. These would likely need to be used in conjunction with appropriate agreements to conserve water.

- 1 Promote the use of more efficient irrigation technology and practices.
- 2 Promote the use of precision agriculture, which uses data to match irrigation to crop water needs, and optimizes the use of more efficient irrigation technology and practices.