

WATER EDUCATION *Series*



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Water Conservation & Sharing

WATER EDUCATION *Series*



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LARIMER
COUNTY

COVERING WATER
ISSUES & INITIATIVES
IN LARIMER COUNTY

WATER SUPPLY
& RISKS

6-8 PM

AUG
21

WATERSHED
HEALTH &
INSTREAM FLOWS

6-8 PM

OCT
18

For additional information,
visit <https://col.st/KTuu3>

WATER
CONSERVATION
& SHARING

6-8 PM

SEPT
20

WHAT'S NEXT
FOR LARIMER
COUNTY WATER

6-8 PM

NOV
16

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Session 2: Water Conservation & Sharing

September 20th, 6-8pm

Karen
Schlatter,
Colorado
Water
Center

**Introduction
& Water 101**

Brett Bovee,
WestWater
Research

**Water Sharing
Between Agriculture
and Municipalities**

Greg
Peterson,
Colorado Ag
Water
Alliance

**Overview of Agriculture
and Water Use**

Katie
Collins, Fort
Collins
Utilities

**Urban Water Use
and Conservation**

Joel
Schneekloth,
Colorado
Water Center

**Agricultural Water
Efficiencies and
Conservation**

Q&A

**Open
Discussion**



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Colorado Water 101: Conservation & Sharing

September 20, 2023

Karen Schlatter, Colorado Water Center Associate Director



**ENGAGEMENT
AND EXTENSION**
COLORADO STATE UNIVERSITY



Topics

- Why save water in Colorado?
- Water conservation & efficiency – what do we mean?
- Conservation & efficiency in practice
- Context of water law & administration

Consumptive Water Use by Sector in Colorado

- 90% Agriculture
- 7% Municipalities
- 3% Large Industry

Source: 2023 Colorado Water Plan

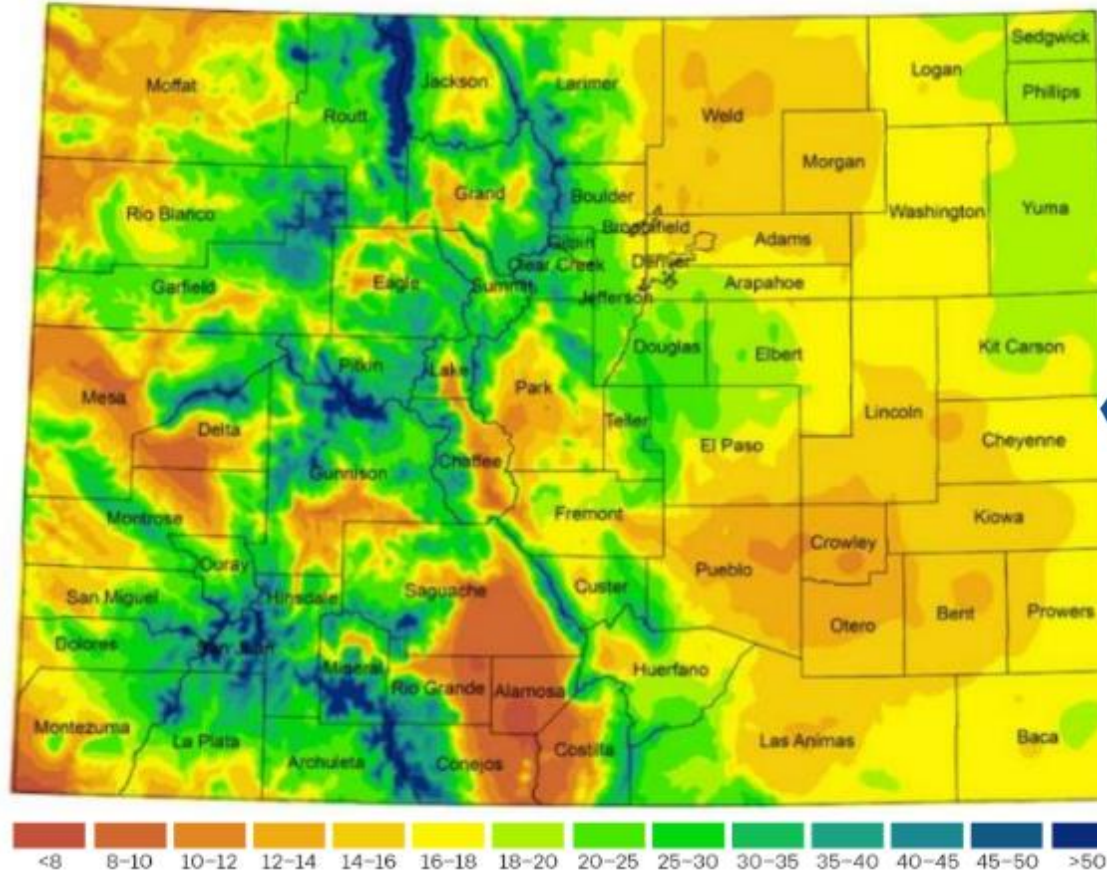


Why save water?

Average Annual Precipitation, 1981–2010

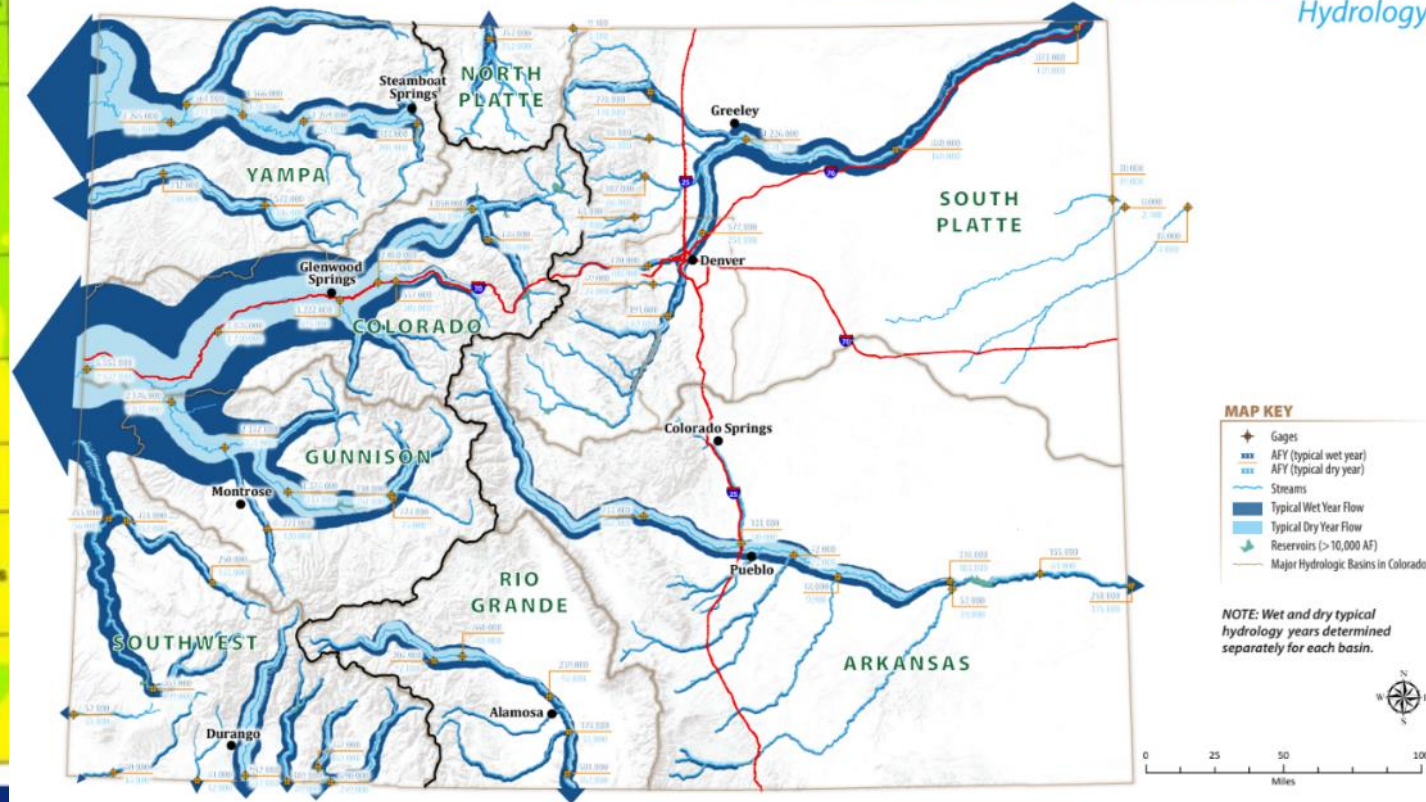
The average annual precipitation in Colorado varies with the state's topography, with some regions receiving less than 8 inches of precipitation and others receiving more than 50 inches each year.

This map is based on data from 1981–2010.



STATEWIDE

Summary of Observed Wet-and-Dry Surface Water Hydrology



MAP KEY

- Gages
- AFY (typical wet year)
- AFY (typical dry year)
- Streams
- Typical Wet Year Flow
- Typical Dry Year Flow
- Reservoirs (>10,000 AF)
- Major Hydrologic Basins in Colorado

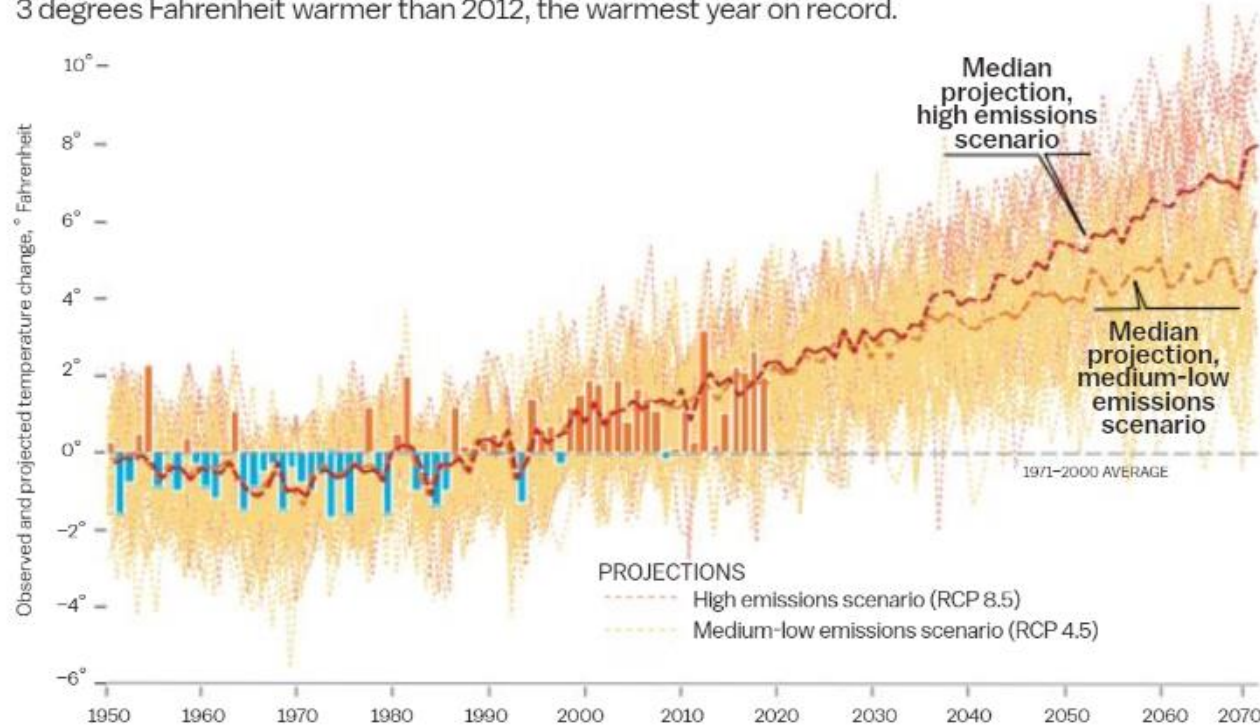
NOTE: Wet and dry typical hydrology years determined separately for each basin.

Source: 2023 Colorado Water Plan

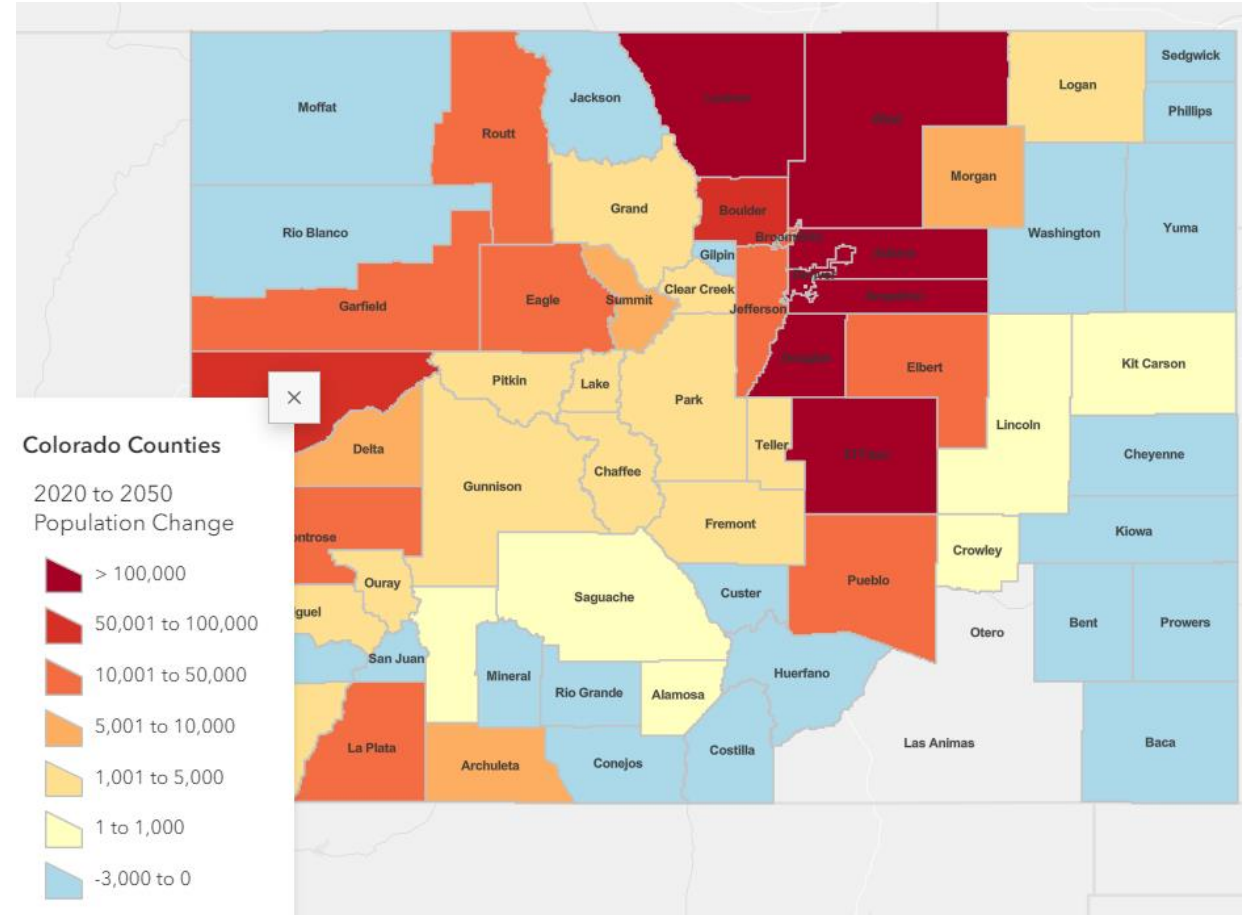
Why save water?

Observed and Projected Colorado Average Annual Temperatures, 1950–2070

Observed temperatures through 2018 (bars) reveal that Colorado’s climate has warmed about 2 degrees Fahrenheit over the past 30 years. Projected temperatures through 2070 from 36 global climate models under a medium-low emissions scenario and a high emissions scenario all show further substantial warming. By 2050, a “normal” year in Colorado is expected to be up to 3 degrees Fahrenheit warmer than 2012, the warmest year on record.



Source: Adapted and updated from Lukas et al., Climate Change in Colorado, 2014 Observed data: NOAA NCEI; <http://www.ncdc.noaa.gov/cag/>; Model data: <https://gdo-rdp.ucifrl.org>



Left Source: 2023 Colorado Water Plan
Right Source: Colorado Dept of Local Affairs

Water Conservation

- “The beneficial reduction in water loss, waste or use.”
- Policies, programs and practices designed to help people change their behaviors and use less water.
- Use only the water needed.



Source: Water Conservation by Amy Vickers; watercalculator.org

Water Efficiency

- “Minimization of the amount of water used to accomplish a function, task or result.”
- Doing more with less water; often relies on higher tech products and fixtures like reduced water use dishwashers, or low-flow toilets and showerheads.



Source: Water Conservation by Amy Vickers; watercalculator.org



Water Conservation & Efficiency in Agriculture

- Conservation: field scale reduction of crop water consumptive use (e.g. yield reduction, fallowing, alternative crops)
- Efficiency: decreasing water loss at field or farm scale while maintaining or increasing yield (sprinkler or drip irrigation system instead of flood, soil moisture monitoring)



Conservation & Efficiency in the Context of Water Law & Administration

- Prior appropriations doctrine – misconception of “use it or lose it”
- 1991 – Colorado Water Conservation Act & subsequent legislature
- 2015 – first state Colorado Water Plan adopted
- 2016 – rainwater harvesting made legal in CO (2-barrel limit)

Questions?

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Recommended Reading:

Water Education Colorado's Citizen's Guide to Colorado

Water Conservation: watereducationcolorado.org