

Water Conservation

Summary

- 1. Conservation context**
- 2. Current water conservation targets (2009)**
- 3. Current water usage (2023-2024)**
- 4. Future trends**
- 5. Potential resolutions**
- 6. Other recommendations**

CCB working group

Betsy Adams

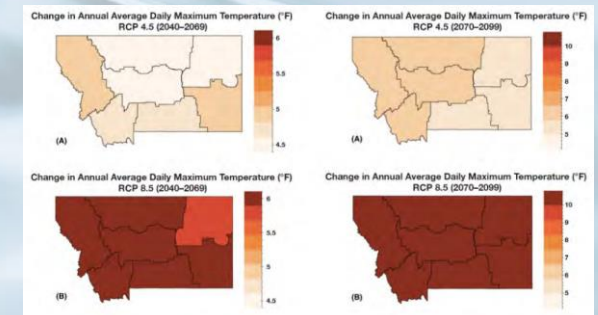
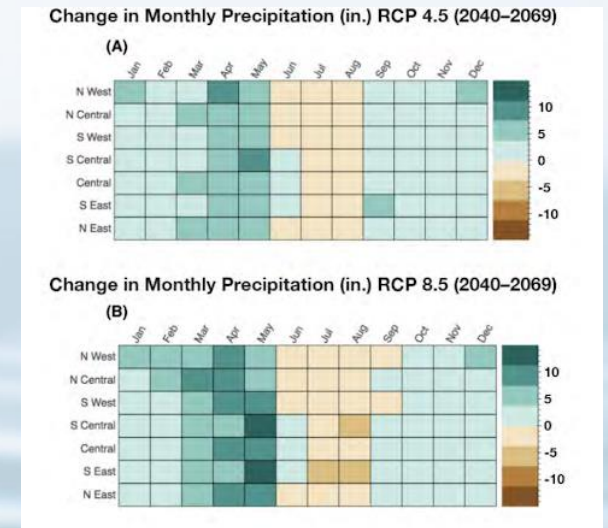
Bob Jones

Jason Selong



Climate change and water conservation conditions ^{1,2}

- Overall temperature expected to increase.
- Snowpack expected to decline while overall precipitation may increase.
- Summer precipitation expected to significantly decrease.
- Increased temperature, decreased summer precipitation, and reduced snowpack storage means significantly less summer water available from surface sources.
- Groundwater supply is relatively fixed; may decline?
- Traditional City of Helena water usage ~2-3x greater May-Sep. than rest of year.



¹ Montana Climate Assessment [[Water | MCA \(montanaclimate.org\)](https://montanaclimate.org)]

² Water Wise Helena 2021 [[Drinking Water - City of Helena, MT \(helenamt.gov\)](https://helenamt.gov)]

Summary 2009 Climate Action Plan Targets

Action Plan Target	Result
Adopt water conservation rates	2017 tiered water rate program initiated
Adopt 'Lush & Lean' landscaping	City parks converted to well water; Bill Roberts using methane capture wells; communication with sprinkler companies on irrigation timing.
Develop 'multifaceted' water conservation outreach program	Water usage inserts in utility bills; Published water-wise booklet
Research and adopt targeted water use program	Difficult to enforce; not feasible
Research and develop community (residential/commercial) water conservation incentives to reduce per capita from 175-100 gpd/person	Addressed by tiered rate; not feasible
Protect water supply watershed	Not administered by city; not feasible

Current Conditions

City of Helena Per Capita Water Usage 2023-2024

Month ¹	Average MGD		Average GPD Per Capita ²	
	2023	2024	2023	2024
Av. January-April	3.55	3.68	101	105
May	5.66	5.64	161	160
June	6.7	8.97	190	255
July	10.67	11.26	303	320
August	10.71	-	304	-
September	7.33	-	208	-
Av. October-December	3.54	-	101	-

¹October-December use similar to January-April as residential irrigation winterized Sept.-Oct.

²35,204 estimated City of Helena 2024 population [<https://worldpopulationreview.com/us-cities/montana>]

- Near goal of 100 gallons per capita for 2/3 of year
- Remain 2-3x higher May-Sep. likely largely driven by irrigation

Future Considerations

- Summer surface water supply remains same or more likely declines.
- City of Helena population likely increases.
- Cost to supply residential water will increase as more Missouri R. water required. Thus water rates will increase.
- Cost increases will have disproportionate effect on less affluent residents.
- Focus water conservation efforts on summer irrigation.

Resolutions

- Potential city resolution –funding for new climate action plan
- Potential city resolution –Any new or renovated city property includes plans for water-wise Xeriscaping alternative to traditional turfgrass.
- Potential city resolution –water rate break for commercial users installing water-wise Xeriscape on new or renovated property.

Other recommendations

- Update research and determine best practices for residential irrigation and publish informational brochure. [maybe the city needs to read?]
- Promote installation of cisterns and gray water capture in new building.
- Monitoring of groundwater supply –current? Future trends?
- Other western city solutions to water conservation/drought.
 - Cisterns, gray water capture, new wells, remove lawns.
- Grant funds for water conservation projects (e.g. cisterns, etc.)?
- Fund/promote workshop/class [w/partner] to support water conservation & alternative landscape.