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State Engineer's Role and Authority

“The State Engineer shall be responsible for the general administrative supervision of the waters of the state and the measurement, appropriation, apportionment, and distribution of those waters” Utah Code §73-2-1(3)(a)

The State Engineer manages groundwater through:

1. Appropriation (Localized Groundwater Questions);
2. Distribution (Groundwater Management Plans); and
3. Recharge and Recovery permitting.



COOP Studies

- DWRi and USGS have cooperated on groundwater investigations since 1935
- Since 1964, USGS has published an annual Groundwater Conditions in Utah report. In 2019, the report was moved to an online web application.
- Work includes annual statewide groundwater level measurements and estimates of groundwater withdrawals

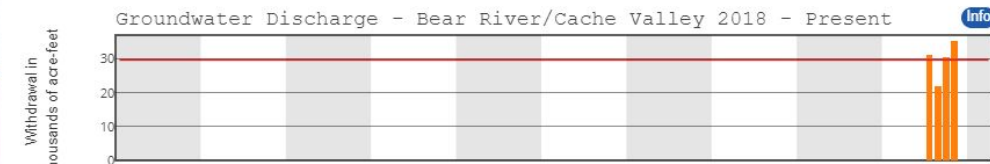
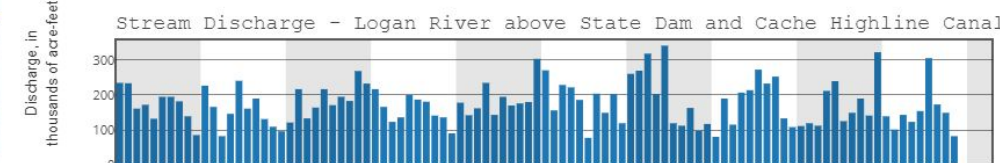
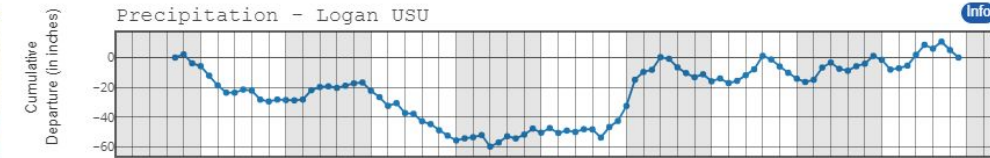
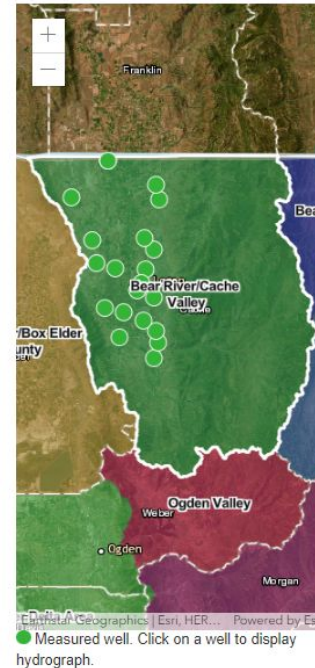


Groundwater Conditions in Utah

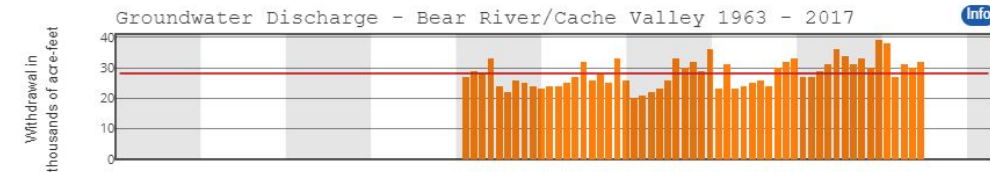
[Home](#) [Groundwater Areas](#) [Pumpage Data](#) [Previous Reports](#) [Methods](#) [Contacts](#)

Bear River/Cache Valley

Zoom Level: 9



Groundwater discharge after 2017 is not directly comparable to previous data. In 2018 changes were made to groundwater area boundaries as well as to data compilation methods. As a result of those changes, two charts are displayed.

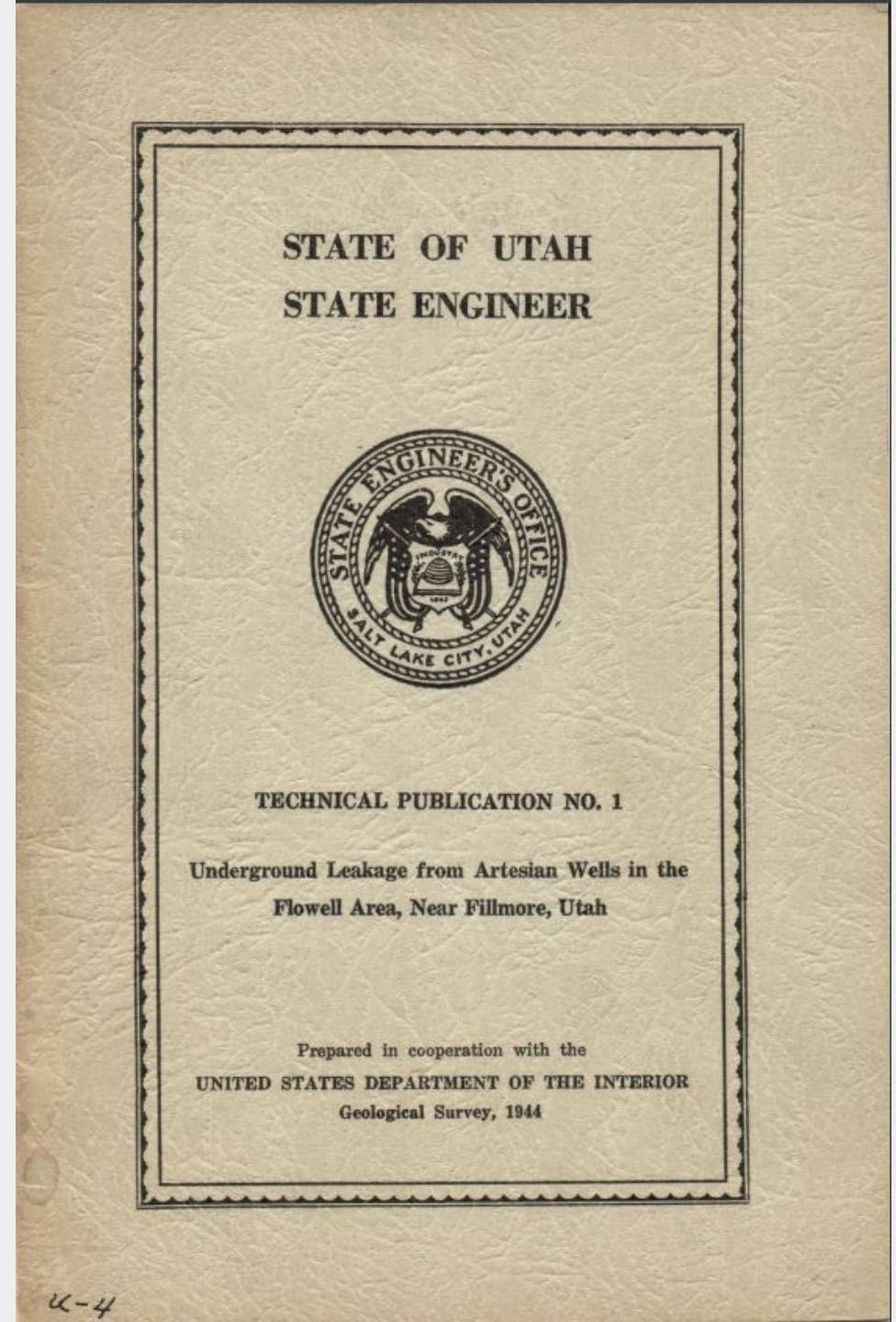


1922 1932 1942 1952 1962 1972 1982 1992 2002 2012 2022

COOP Studies

...continued

- USGS Technical Publication series, 1944-2003
- Series of 117 hydrologic reports, many groundwater related
- Numerous other USGS cooperative reports have followed, published under USGS Scientific Investigations Report series



COOP Studies

...continued

Current Studies of Interest

- Cache Valley groundwater study by USGS, Utah State, and University of Utah
- Groundwater modeling of GSL basin by USGS and UGS
- Improvements to groundwater withdrawal estimates in GSL basin by USGS for GSLBIP



Groundwater Project Priorities

GWM Plans in place

- Escalante Valley
(Beryl/Enterprise Area)
- Cedar City Valley

Being Adopted

- Parowan Valley

Currently being studied

- Sanpete Valley
- Milford Area

Studies recently completed

- Juab Valley
- Goshen Valley
- Emery/Johns Valley
- Pahvant Valley

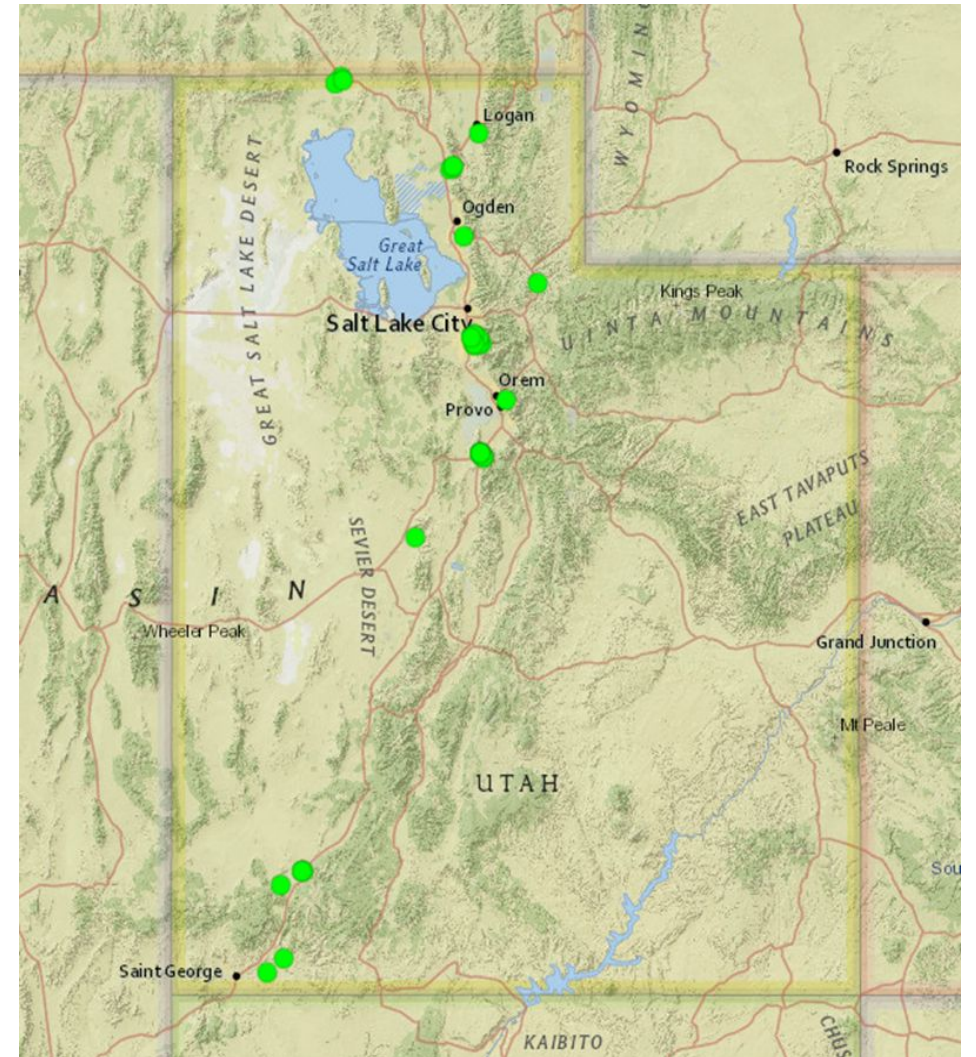
Groundwater management plan requested

- Sand Hollow



Groundwater Recharge & Recovery Projects in Utah

- Jordan Valley WCD
- Brigham City
- Washington County WCD
- Leamington Town
- Weber Basin WCD
- Santaquin City
- Summit Creek Irrigation & Canal Co.
- Central Iron County WCD
- Cedar City
- RFL Deep Creek, LLC
- Sandy City
- Provo City



UGS-DWRi Cooperative Studies (past 6 years)

- Hydrogeology, Groundwater Chemistry, and Water Budget of Juab Valley, Eastern Juab County, Utah
- Hydrogeology and Water Budget for Goshen Valley, Utah County, Utah
- Characterization of Groundwater in Johns and Emery Valleys, Garfield and Kane County, Utah (newly published)
- Groundwater of Pahvant Valley, Millard County, Utah (publish by 11/24)
- Milford Valley Hydrogeologic Study (in progress)

UTAH GROUNDWATER DATA HUB

<https://geology.utah.gov/apps/gw-data-hub/>

Utah Groundwater Data Hub
UGS Groundwater Studies
Water Level Trends
Great Salt Lake

UGS WATER LEVEL TRENDS
USGS WATER LEVEL TRENDS

About

The U.S. Geological Survey (USGS) National Water Information System (NWIS) provides access to groundwater-level measurements at various sites around the country. This dashboard uses exported USGS groundwater-level measurements from NWIS and displays trends from UGS analyses of that data. Groundwater level trends can be used to identify patterns in human use, climate, and changes to groundwater storage, which can inform water resource management decisions. The trends are calculated using spring season manual measurements from sites that have at least 30 years of data. Spring data were used because

Search site #

↓ Numerically

- 390826112220701: -2.84 ft/yr
- 370006111300401: -1.19 ft/yr
- 370050112274501: 0.04 ft/yr
- 370501111393801: 1.18 ft/yr
- 370517113310402: -0.07 ft/yr
- 370915112341301: -0.71 ft/yr
- 370954113420701: 0.16 ft/yr

Site 390826112220701: -2.84 ft/yr

Water Elevation (ft)

Reading Date

USGS Well Trends

30 yr Rate of Change (ft/yr)

- Stable or Increasing (0 - 1.8)
- Moderate Rate of Decline (-2 - 0)
- Large Rate of Decline (-4.8 - -2)

HUC8 Watershed	Latitude	Longitude	30 yr Rate of Change (ft/yr)	5 yr Rate of Change (ft/yr)
14070006	37.00	-111.50	-1.19	-2.91
15010003	37.01	-112.46	0.04	-0.26
14070006	37.08	-111.66	1.18	0.08



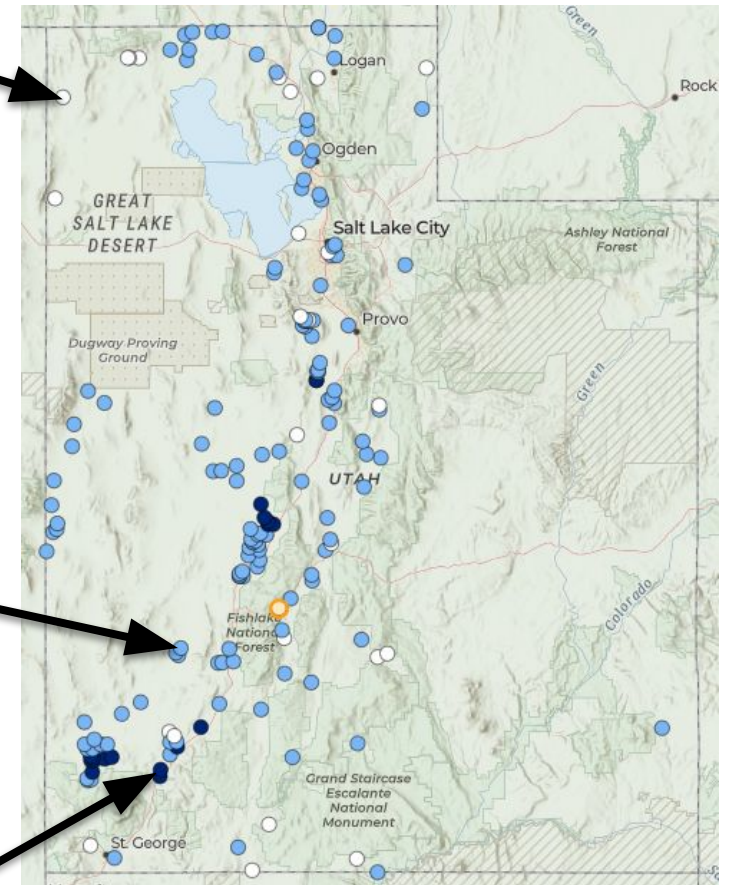
Site 414904113194501: 0.05 ft/yr



Site 382138113003303: -1.30 ft/yr



Site 373742113100801: -2.33 ft/yr



USGS Legend

USGS Well Trends

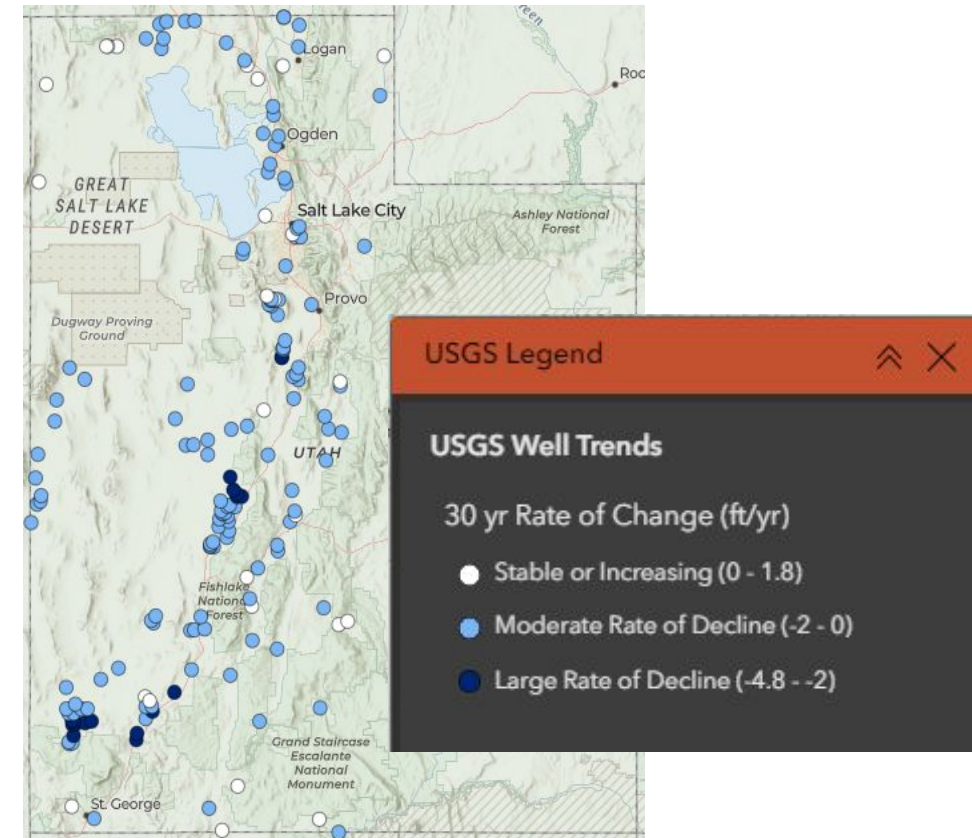
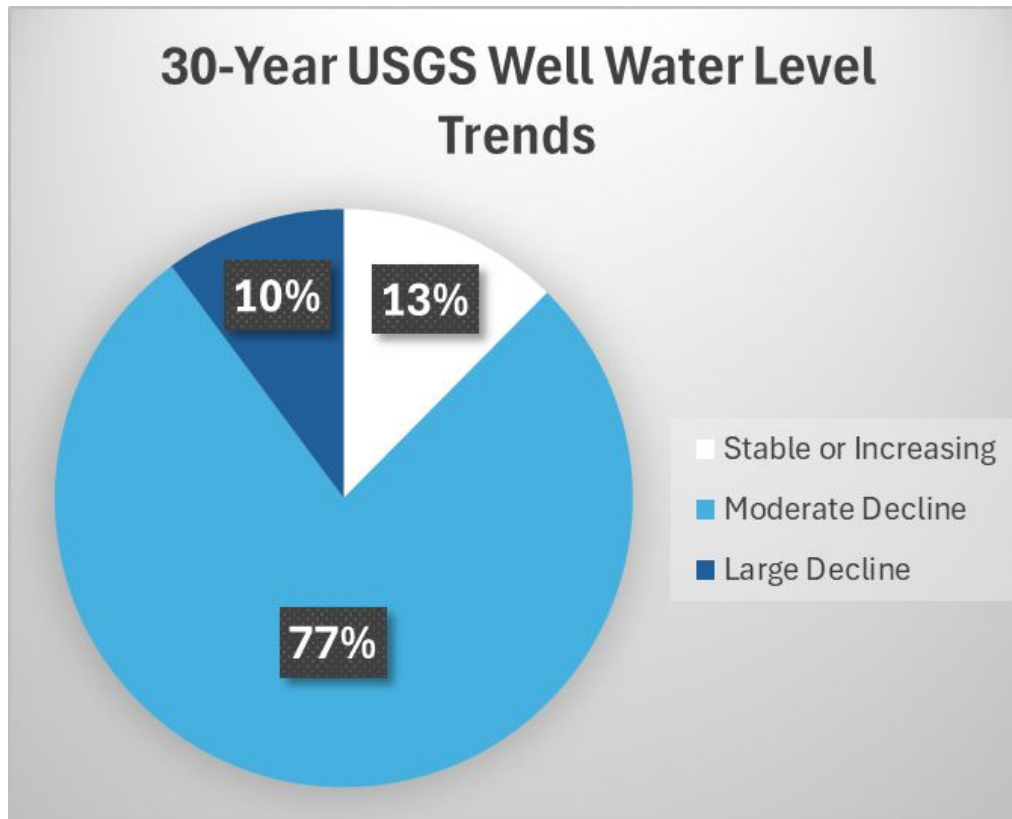
30 yr Rate of Change (ft/yr)

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GROUNDWATER LEVEL TRENDS

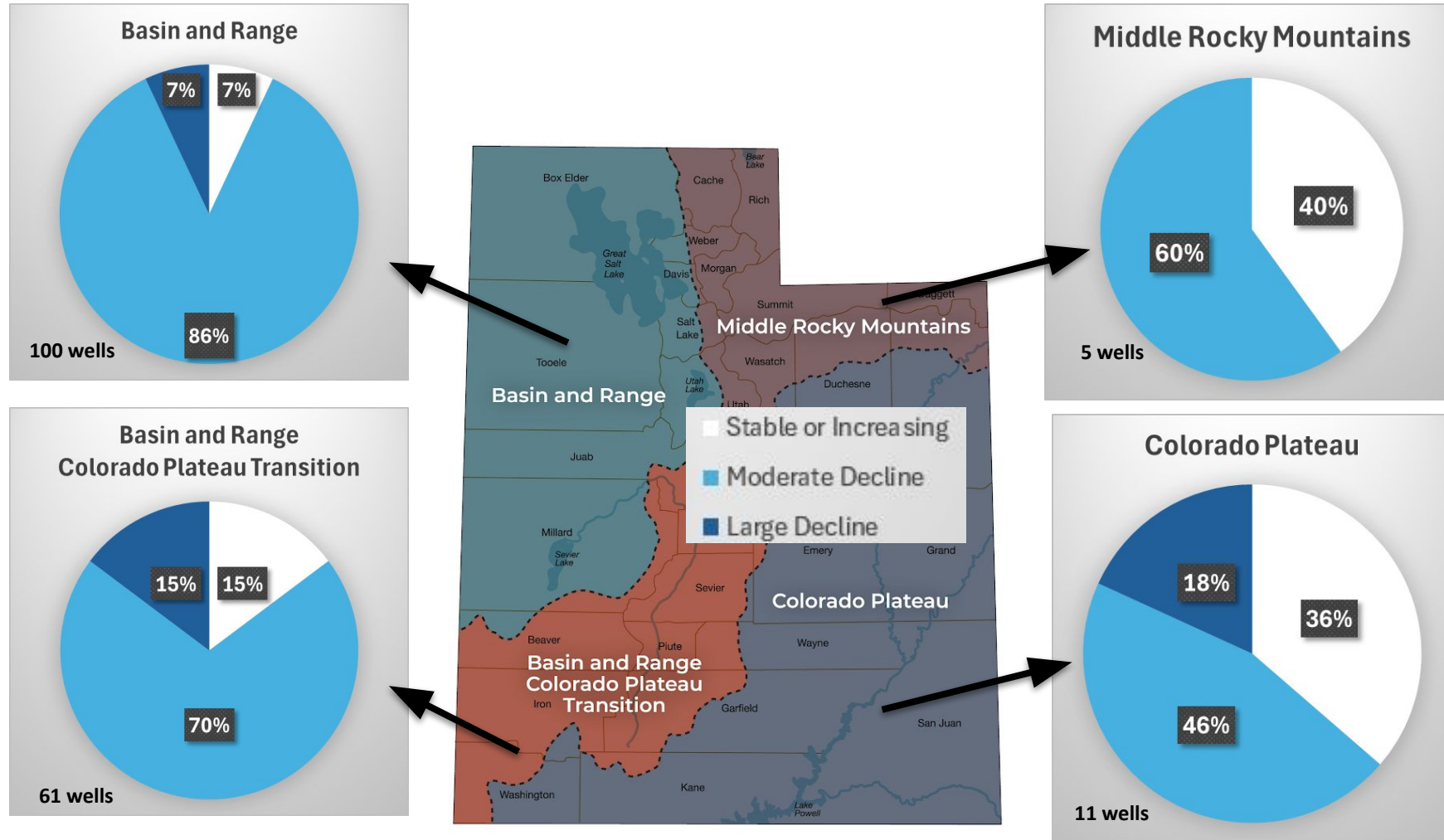
Statewide Summary

22 wells stable/increasing, 137 wells moderately declining, 18 wells severely declining



GROUNDWATER LEVEL TRENDS

30 Year Trends by Region



GROUNDWATER LEVEL TRENDS

Implications

- Long term, continuous declines throughout a groundwater basin suggest pumping above Safe Yield, indicating a closer look is needed.
- Land subsidence and ground cracking are additional possible consequences.
- New UGS study of statewide land subsidence rates underway.



Contacts

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DIVISIONS



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Thank you!

