

Jurisdictional Evaluations in Arizona

Western States Water Council Meeting
Erin Jordan, PhD
July 11, 2022



Purpose

- 305(b)
Biannual
Assessment
- 303(d)
Impaired
Waters
- 402
Permitting

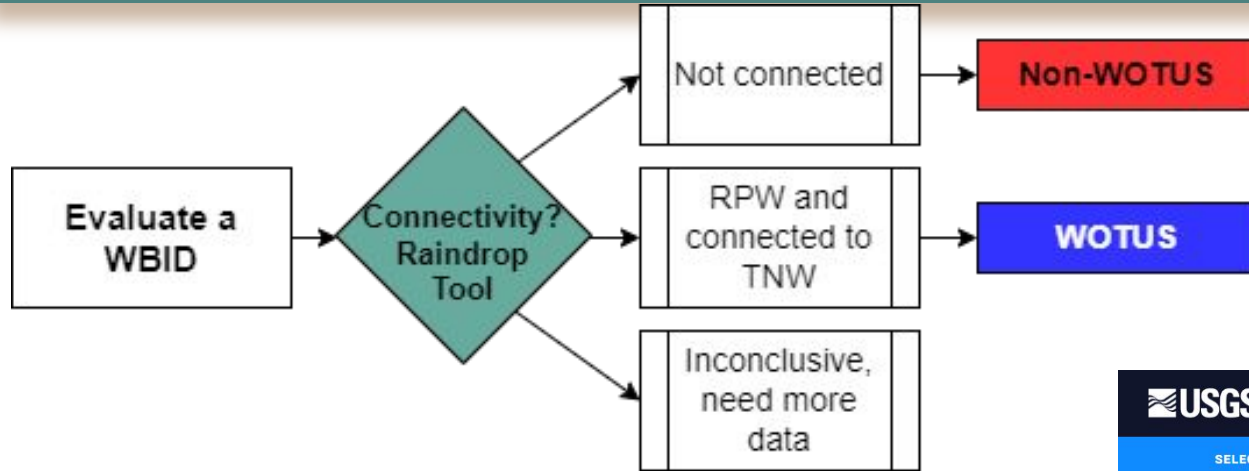


Evaluate Reaches of Water



- Reach = segment of water
- Assigned waterbody identification (WBID) number

Is there connectivity?



USGS Raindrop Tool

<https://streamstats.usgs.gov/ss/>

- USGS National Elevation Dataset
- FEMA 100-Year Flood Hazard Map

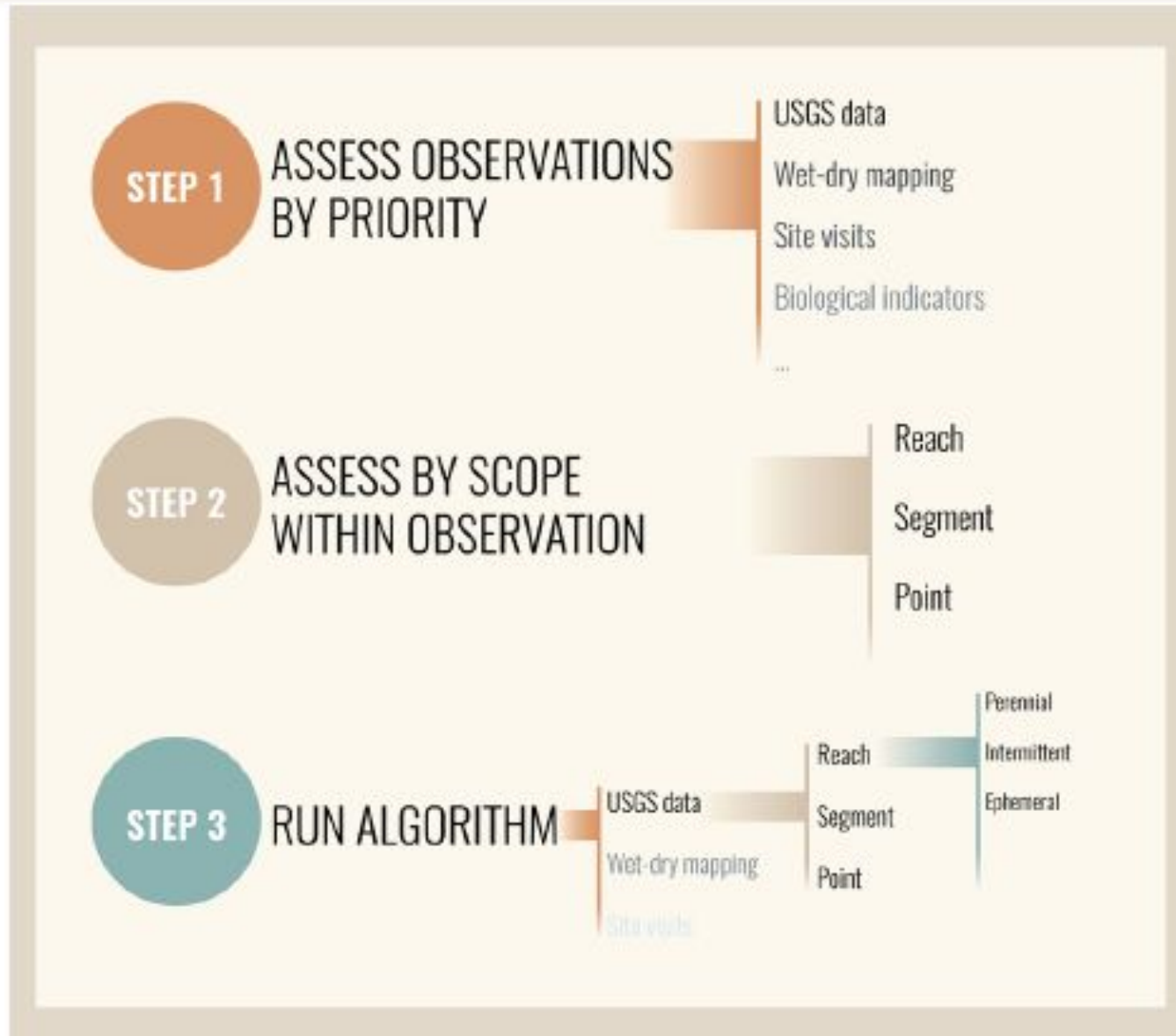
The screenshot shows the USGS StreamStats web application. The interface includes a search bar, a 'SELECT A STATE / REGION' dropdown, and a sidebar with 'Exploration Tools' such as 'Measure Tool', 'Elevation Profile Tool', 'Show Your Location', 'Flow (Raindrop) Path', 'Network Path', 'Network Trace', and 'PROSPER Tool'. The main map area displays a topographic map of the southwestern United States, with a red line indicating a stream path through the Colorado Plateau region. The map shows major cities like Las Vegas, Henderson, Phoenix, and Tucson, and geographical features like the Colorado River and various plateaus and deserts.

1561 Reaches

- 1266 WOTUS
- 92 Non-WOTUS
- 203 Inconclusive
 - Significant Nexus
 - Relatively Permanent Water



Flow Regime Algorithm



Reaches assigned:

- Perennial
- Intermittent
- Ephemeral
- Undetermined
- Null

Flow Thresholds

Ecoregion	Number of Rain Gauges	Average Number of Precipitation Events Producing Flow Per Year, as a Threshold for Intermittency	Percent of zero-flow days for ephemeral status
Arizona/New Mexico Mountains	26	26	92.9%
Madrean Archipelago	4	22	94.0%
Colorado Plateau	16	21	94.2%
Arizona/New Mexico Plateau	25	20	94.5%
Southern Deserts ²	29	19	94.8%
Sonoran Basin and Range	16	13	96.4%
Southern Basin and Range ³	14	10	97.3%

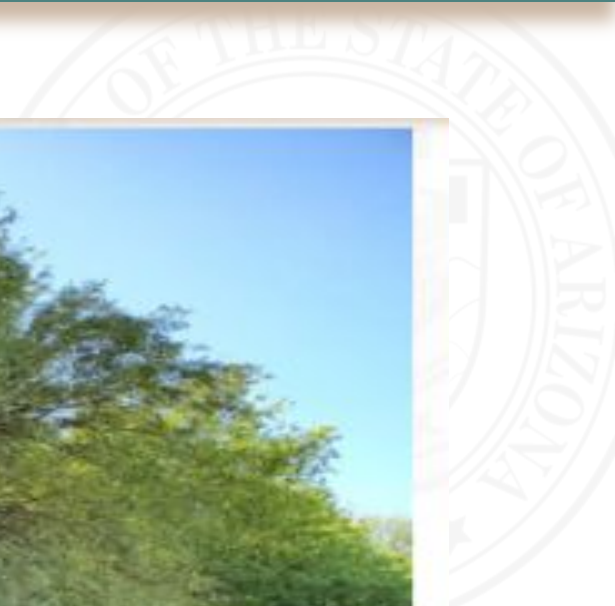


Award Winning Tools

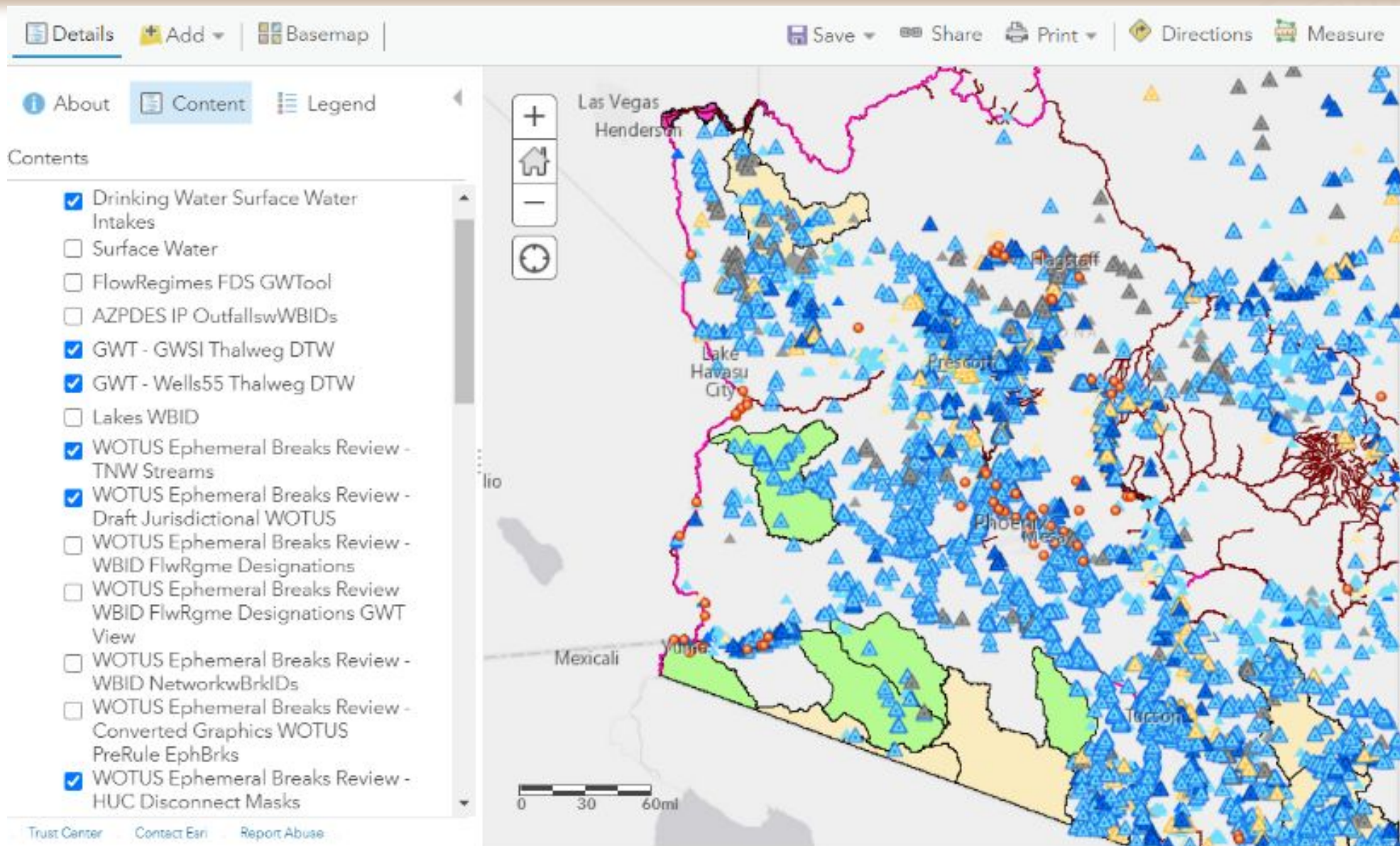
- Riparian Vegetation Tool
- Groundwater Tool
- Snowpack Tool



Riparian Vegetation Tool



Groundwater Tool



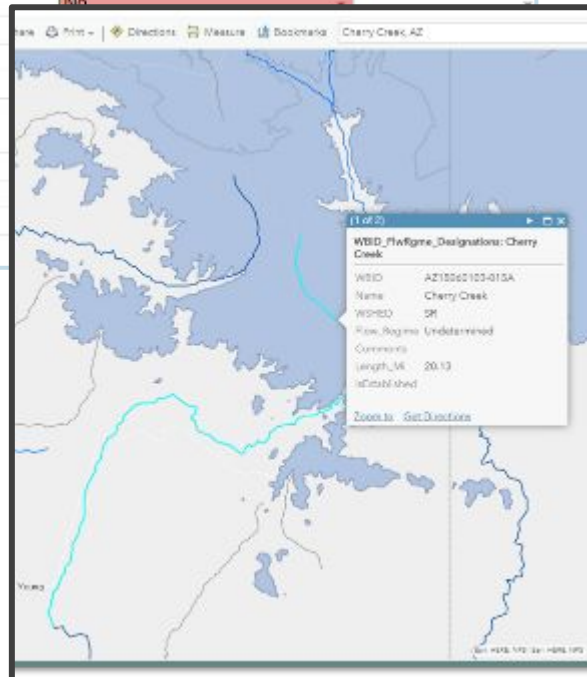
Snowpack Tool

WOTUS evaluations tracker WQI-VS - DRAFT

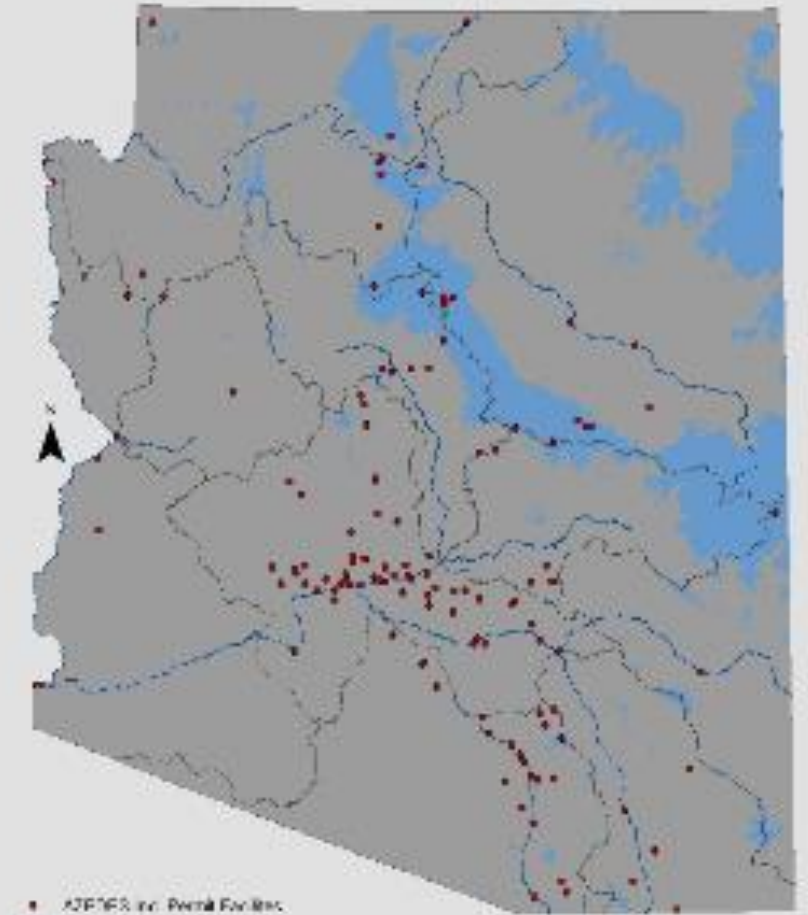
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WBID #	Waterbody Name	Is part of reach located at >6500'?	Estimated flow regime due to snowpack
14070006-001	COLORADO RIVER	No	
14070006-003	COLORADO RIVER	No	
14070006-011	COLORADO RIVER	No	
14070006-1130	LAKE POWELL	No	
14070007-123	PARIA RIVER	No	
15010001-001	COLORADO RIVER	No	
15010001-002	COLORADO RIVER	No	
15010001-003	COLORADO RIVER	No	
15010001-005	COLORADO RIVER	No	
15010001-006	COLORADO RIVER	No	
15010001-008	COLORADO RIVER	No	
15010001-010	COLORADO RIVER	No	
15010001-011	COLORADO RIVER	No	
15010001-012	COLORADO RIVER	No	
15010001-017A	NORTH CANYON CREEK	No	



Potential Intermittent Flow due to Snowpack



Elevation

- Below 5,000'
- 5,000'

The map is prepared for informational purposes only and is not intended for regulatory use. ADEQ regularly collects data on flow and is ongoing. More detailed information on flow data collection can be obtained by contacting the Arizona Department of Environmental Quality.

By Cody H. Hayward



Not Stopping There

- Arizona specific significant nexus guidance
- Seasonal test for intermittent reaches
- Arid West Streamflow Duration Assessment Methodology (SDAM)
- And more...



The End

Erin Jordan

Value Stream Manager

jordan.erin@azdeq.gov

azdeq.gov/flowregimes

