



WOTUS Regional Concept Workshop Series Summary

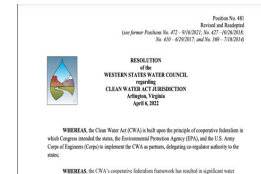
*August 4, 2022
Polson, MT*



WESTERN STATES
WATER COUNCIL

Western States Water Council WOTUS Position #481

- Need for a durable rule
- Clarity in rule and in process
- Principles of cooperative federalism
- Recognizes regional differences



.....**NOW, THEREFORE BE IT RESOLVED** that Congress and the Administration should ensure that any federal effort to clarify or define CWA jurisdiction and define Waters of the United States:

- Creates an enduring and broadly supported definition
- Provides for mapping of jurisdictional waters as a joint federal/state/tribal effort employing the best available data and tools, with appropriate provisions and processes for map maintenance.
- Recognizes the need to balance definitional clarity with flexibility in implementation to address the unique landscapes, flow regimes, and legal frameworks in various regions of the Nation and appropriately weighs all factors of science, law, and effective policy to draw jurisdictional conclusions that are appropriate, and that do not impinge on the rights of States.
- Considers a regional approach to the definitions of terms for foundational and any categorical waters in the rule including terms such as “relatively permanent” and “significant nexus” and defines regions building upon existing classification systems based on hydrology, geology, and climate.

10. Provides for mapping of jurisdictional waters as a joint federal/state/tribal effort employing the best available data and tools, with appropriate provisions and processes for map maintenance.

11. Includes an appropriate delay in the effective date of any new rule or otherwise allows for a transition enabling states to take such action as may be necessary to address any gaps in state law, regulation and provision, such as state reliance on the rule to be developed by state agencies, in consultation with states, after the final implementation of the new rule.

12. Recognizes the need to balance definitional clarity with flexibility in implementation to address the unique landscapes, flow regimes, and legal frameworks in various regions of the Nation and appropriately weighs all factors of science, law, and effective policy to draw jurisdictional conclusions that are appropriate, and that do not impinge on the rights of States.

13. Considers a regional approach to the definitions of terms for foundational and any categorical waters in the rule including terms such as “relatively permanent” and “significant nexus” and defines regions building upon existing classification systems based on hydrology, geology, and climate.

14. Provides for the rule development process, representative number of states, an open process, with diverse perspectives and regions to engage actively as an integral way with EPA and Corps and to provide state and tribal officials with the opportunity of a proposed rule which requires simple rule for development of new regulatory language.

WOTUS Regional Concept Workshop Series



WOTUS regional concept pre-workshop 1: Regional classification schemes

- *June 21, 2022, 10:30 am – 1:30 pm
Mountain Time, via Zoom*

WOTUS regional approach pre-workshop 2: Operationalizing regional concepts in western states

- *July 11, 2022, 10:30 am – 1:30 pm
Mountain Time, via Zoom*

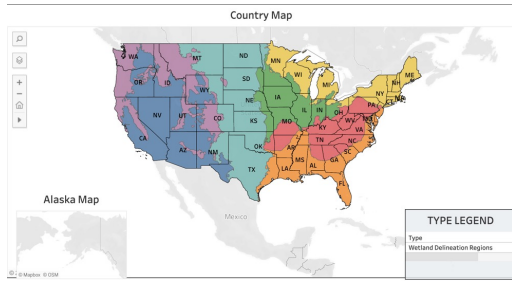
WOTUS regional concept policy workshop: Western States Water Council Summer Meeting

- *August 2, 2022, 8:30am – 5:00 pm
Mountain Time, Poulson, MT*

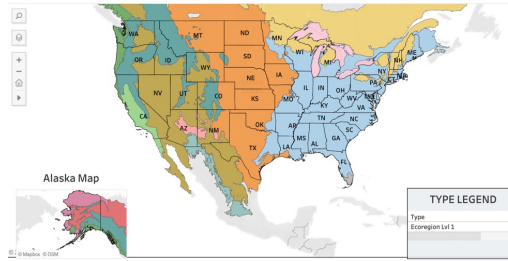
Workshop Series Goals



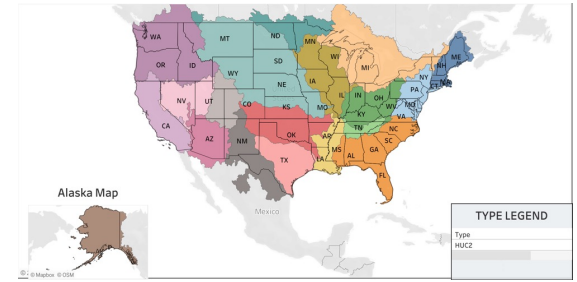
- Explore regional classification schemes that could be applied to WOTUS (Pre-workshop 1).
- Explore tools that could be used within a regional context to define WOTUS in western states (Pre-workshop 2).
- Provide states and federal partners an opportunity to learn from one another and explore regional concepts in more depth.
- Propose a collaborative process to incorporate regional approaches into the WOTUS rule and implementation.
- Prepare a technical white paper *Applicability of regional classification schemes and tools to WOTUS rule and implementation.*



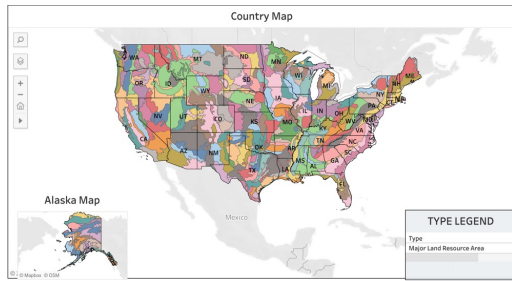
USACE Wetland Delineation Regions



EPA Ecoregions – Level I, II



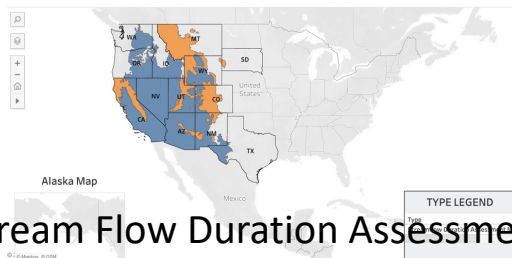
National Hydrography Dataset – Watershed Boundaries (HUC2)



NRCS Major Land Resource Areas

Regional Classification Schemes

Pre-workshop 1, June 21, 2022



Stream Flow Duration Assessment Method Regions.

***pending completion of other regions*

Comparison

	Agency	Total number of regions in US	Factors incorporated into regional delineations
National Hydrography Dataset (HUC 2)	USGS	HUC 2: 22 HUC 4: 227	Topography Hydrology Watershed Size
Ecoregions	EPA	Level I: 13 Level II: 26 Level III: 107	Geology, Landforms, Soils, Vegetation, Climate, Land use, Wildlife, Hydrology
USDA Major Land Resource Areas	NRCS	28 LRRs 255 MLRAs	Physiography, Geology, Climate, Water Resources, Soils, Biological Resources, Land Use
USACE wetland delineation regions	USACE	10	Aggregated MLRA
Stream Flow Duration Assessment Method Regions	EPA	6	Aggregated OHRM regions (similar to Wetland Delineation Regions)

Take aways

- *Wetlands Characteristics and Boundaries* (NRC 1995) provides useful lessons about regionalizing
- NHD (USGS), Ecoregions (EPA), and LRR (USDA) were developed in the 1960s – 70s and provide foundation for other schemes
- Ecoregions may address explanatory variables (why streams look different)
- LRR and ecoregions can be scaled up and down (opportunities for aggregation)
- Probably no more than ~10 regions for practical purposes:
 - Ecoregion Level I (12)
 - Wetland Delineation regions (10)
 - SDAM Regions (6)
- Federal agencies using same regional classification for WOTUS purposes could help with clarity

Analytical
Tools in Use
by States
and Federal
Agencies:
Second Pre-
Workshop
(July 11,
2022)

Stream Flow Duration Assessment Methods: Scientific underpinnings and western region applications (Tracie Nadeau, PhD, USEPA Region 10)

New Mexico's Hydrology Protocol for Surface Water Quality Management (Shelly Lemon, New Mexico Environment Department)

Arizona flow regimes (Erin Jordan, PhD, Arizona DEQ)

Oregon forest management stream typing (Josh Seeds, Oregon DEQ)

Wyoming flow duration curve criteria (Eric Hargett, Wyoming DEQ)

Summary

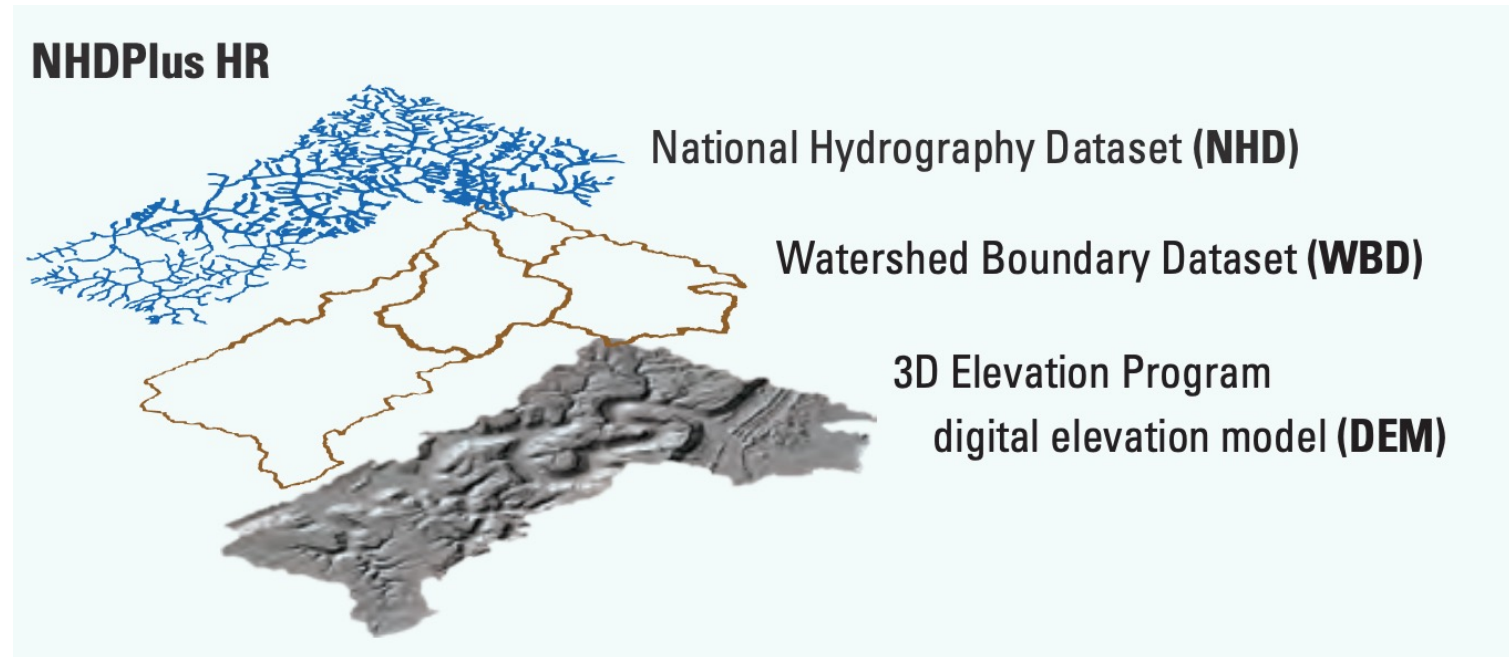
Analytical Tool	Hydrologic Classification Categories/Statistics	Indicators and factors used in method	Models and analytical methods
SDAM Pacific NW	Perennial, intermittent, ephemeral, and at least intermittent	Biological indicators Geomorphic indicators	Decision tree derived from random forest model
SDAM Arid West (beta)	Perennial, intermittent, ephemeral, at least intermittent, and need more information.	Biological indicators	Classification table derived from random forest model
SDAM Western Mountains	Perennial, intermittent, ephemeral, and at least intermittent	Biological indicators Geomorphic indicators Climatic indicators	Random forest model available through a web application.
New Mexico Hydrology Protocol	Ephemeral, intermittent, perennial	Hydrologic indicators Geomorphic indicators Biological indicators	Unitless score
Jurisdictional Evaluations in Arizona	Perennial, intermittent, ephemeral, Undetermined, Null	Hydrology Riparian vegetation Groundwater Snowpack	Weight of evidence algorithm; Supplemented by evaluations of riparian vegetation and groundwater.
Oregon Stream Typing	Type – SSBT; Type-F; Type-D ; Type-N	Aquatic life and domestic beneficial use classes. Stratified based on stream size (small <2cfs, medium, and large >10cfs).	Categorical stream types.
Wyoming Flow Duration Curve Approach	Perennial, intermittent, ephemeral	Hydrologic Geomorphic Climate Physiographic	Dimensionless empirical regression models derived using bayesian classification methods (random forest, regression trees)



Relevance of analytical tools to WOTUS

-
- *Connectivity of surface waters*
 - *Differentiation of perennial, intermittent, ephemeral flow regimes*
 - *Estimation of the degree of ephemerality or intermittency on a continuum*
 - *Evaluation of “significant” flow and pollutant transport to downstream TNWs*

Connectivity



- Hydrologic models would be needed to evaluate frequency of connectivity

Flow regime

- Most tools discussed result in categorical determinations of flow regime
 - Ephemeral, intermittent, and perennial
- Most tools are either regional or could be adapted to other regions
- Most relevant for the “relatively permanent” test
- Potential to tier using NHD and one of the flow regime tools



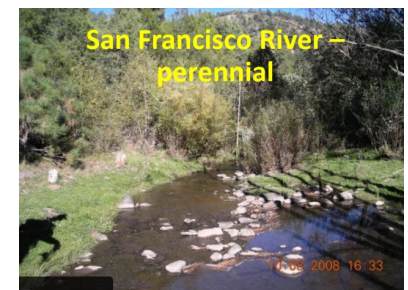
Arroyo Chamiso - ephemeral



Apache Creek –
ephemeral/intermittent

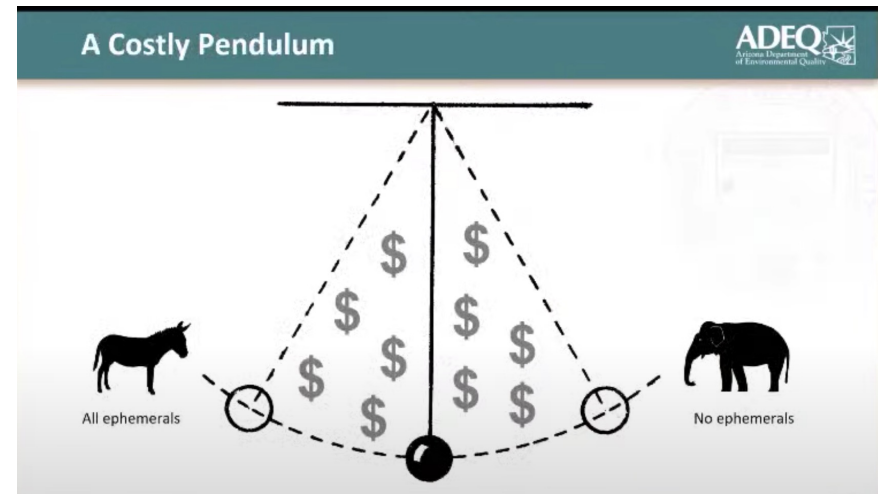
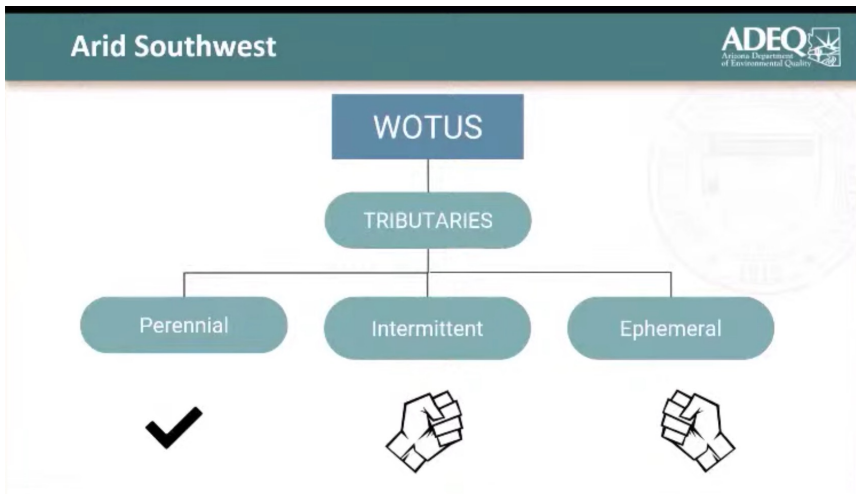


Gallinas Creek –
intermittent/perennial



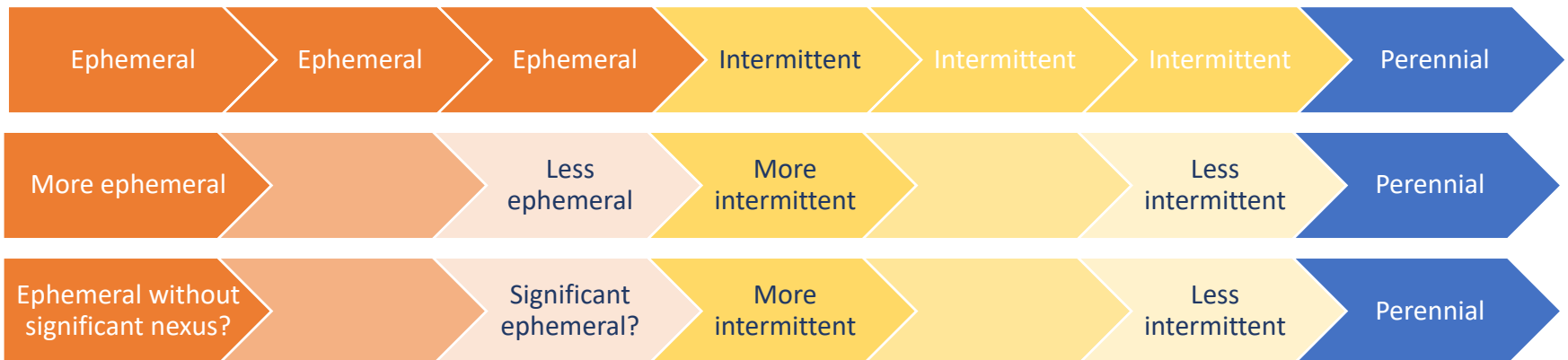
San Francisco River –
perennial

More than navigable waters, less than all waters



Significance

- Differentiation within the category of “ephemeral” waters
 - Some of the flow regime tools produce a continuous score (SDAM is only categorical)
- Need for hydrologic and pollutant transport models and clear thresholds for significance
 - Should these be evaluated in the white paper
 - Could these be regional?
- Importance of beneficial uses and associated standards (established primarily at state level)
- Watershed size or buffer from TNW



Draft Technical Whitepaper

Applicability of regional classification schemes and analytical tools to regional definitions of Waters of the United States (WOTUS)

Technical report following 2022 WOTUS workshop series



Policy considerations

Group 1: Structural issues

- Benefits and consequences of regional approaches
- Regionalized rule v. guidance
- Several approaches that would recognize regional differences
- Differences between 402 and 404 programs

Group 2: Implementation issues

- Bright line (rebuttable presumption) and clear process for case-by-case or regional revisions
- Regionally relevant exemptions and clear process and factors for states and EPA to consider
- Need for mapping to help understand the overlap and gaps between WOTUS and protected state waters

Group 3: Potential consequences

- Inconsistent implementation of regional guidance across EPA/USACE regions
- Success depends on trust between states and federal agencies
- Complexity and relationship to durability, clarity, and repeatability

Next steps

Finalize technical aspects of white-paper with very broad highlights on policy elements

Invite EPA and USACE to report out on regional roundtables at next Council meeting

Half-day workshop at fall meeting

Draft policy memo addendum to technical white-paper

Thank you!

- WestFAST
 - Heather Hofman, NRCS
 - Roger Gorke, EPA
- Speakers
 - Kim Jones, USGS
 - Brian Topping, EPA
 - Kyle Gordon, USACE
 - Drew Kinney, NRCS
 - Tracie Nadeau, PhD, EPA
 - Shelly Lemon, New Mexico Environment Department
 - Erin Jordan, PhD, Arizona DEQ
 - Josh Seeds, Oregon DEQ
 - Eric Hargett, Wyoming DEQ
- Western States Water Council Staff
 - Adel Abdullah and Ryan James – Development of Interactive Map
- All participants!
- Western States Water Council WOTUS workshop planning group
 - Anna Pakenham Stevenson, MT
 - Trevor Baggione, AZ
 - Lauren Discoll, WA
 - Jennifer Carr, NV
 - Jennifer Zygmunt, WY
 - Eric Hargett, WY
 - Shelly Lemon, NM
 - Jeff Cowley, WY
 - Jennifer Verleger, ND
 - Jennifer Wigal, OR
 - Jerry Rigby, ID
 - Tony Willardson, WSWC
 - Michelle Bushman, WSWC
 - Erica Gaddis, WSWC