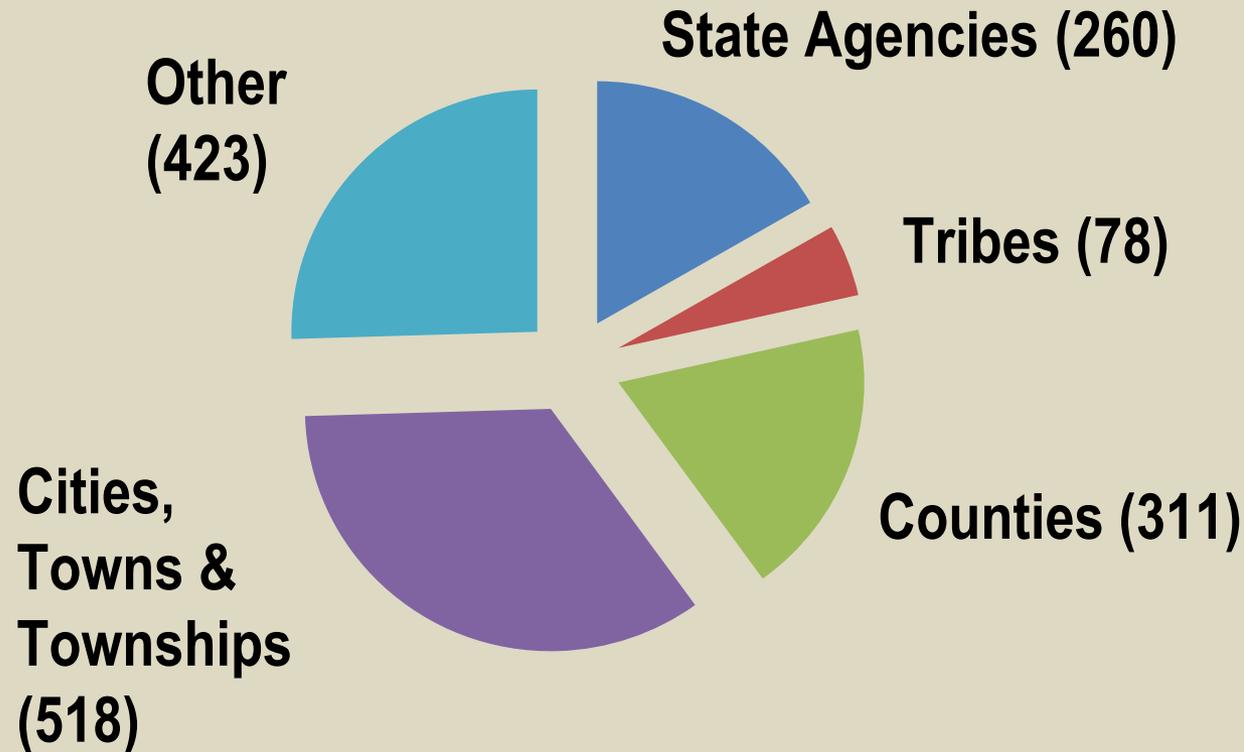


Cooperative Water Program



- Foundation for USGS hydrologic monitoring networks and data delivery systems
- Scientific response to “on-the-ground” emerging water issues, with raised visibility at regional and national scales
- Related science serves as the assessment and research foundation for Water Mission Area and Federal programs

Cooperators in FY12 – Totaling nearly 1,600



Note – “Other” includes organizations associated with local, State, and Tribal agencies, such as State Universities and conservation, irrigation, and natural resource districts.

Cooperative Water Program



Funding

- FY12 federal appropriation: \$ 64.1M
- FY12 reimbursable funding from localities, States, and Tribes: \$ 155.1M
- FY12 total program funds: \$ 219.2M

Hydrologic Networks

CWP and more than 850 cooperators help to support

- about 75 percent of streamgages (or 6,000) across the Nation, most of which are in real time
- groundwater levels at more than 9,000 wells, about 1,200 of which are in real time
- water quality at nearly 4,000 surface-water or groundwater sites



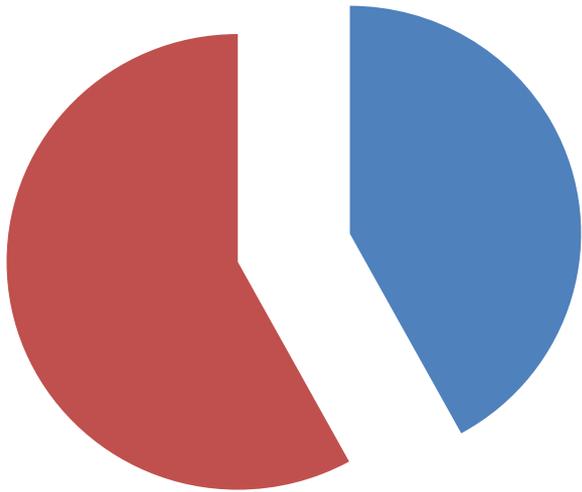
Cooperative Water Program



Assessments and Research

- Conducts more than 700 interpretative studies annually
- Produced 380 peer-reviewed products in FY12
- Informed a myriad of stakeholder decisions related to water availability, ecosystem health, water quality and drinking water, hazards, energy, and climate.

Data versus Interpretative Studies



National (on average, by WSC)

Data - 62 percent

Studies - 38 percent

Region	# WSCs	Average, by WSC
Alaska	1	70 to 30
Midwest	11	55 to 45
Northeast	10	70 to 30
Northwest	5	55 to 45
Southwest	7	61 to 39
Southeast	10	67 to 33
Pacific	3	55 to 45

Ten Top Science Topics in Ongoing Studies

- Groundwater /surface water relations
- Groundwater recharge and storage
- Water use
- Water budgets
- Streamstats and regionalization
- Environmental flows and impacts on ecosystems
- Flood inundation analysis and risk
- Sources, transport, fate of chemicals and algal toxins on streams, lakes, and reservoirs
- Effects of land-use change (urban and agriculture) on water and ecosystems
- Natural and manmade contaminants in groundwater used for drinking



“On the ground” driven issues supporting the national initiative, the Water Census

National Modeling Capabilities Applied “On the Ground”

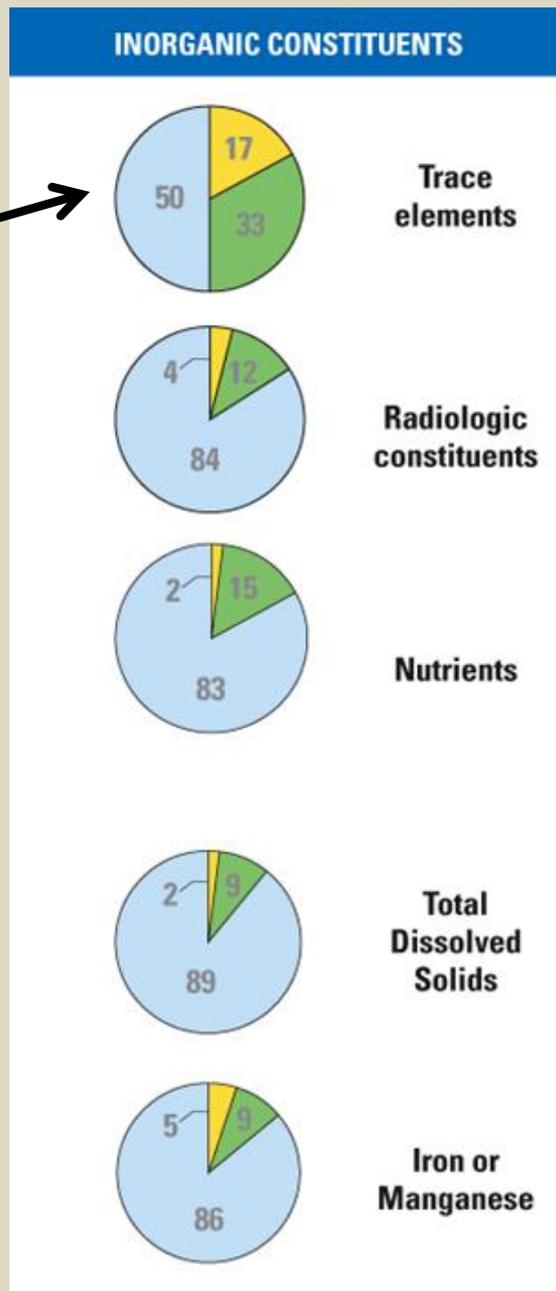


Innovative techniques – such as GSFLOW - applied in Sonoma County, California for conjunctive management of groundwater and surface water

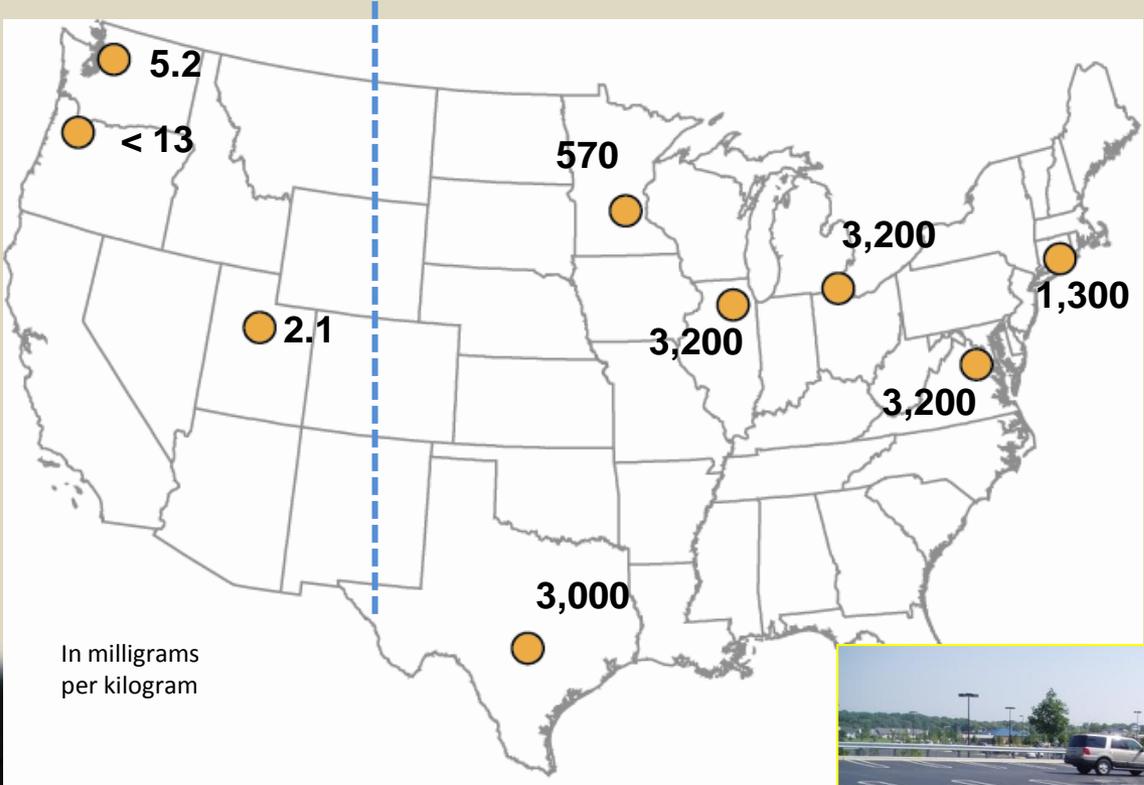


NAWQA national capabilities applied in California through the Cooperative Water Program

Surprising finding for State and local water managers – Naturally occurring trace elements in soils and rocks—such as arsenic and vanadium—are more ubiquitous at high concentrations (above health benchmarks) than other contaminants like nitrate (which generally receive more regulatory and management attention).



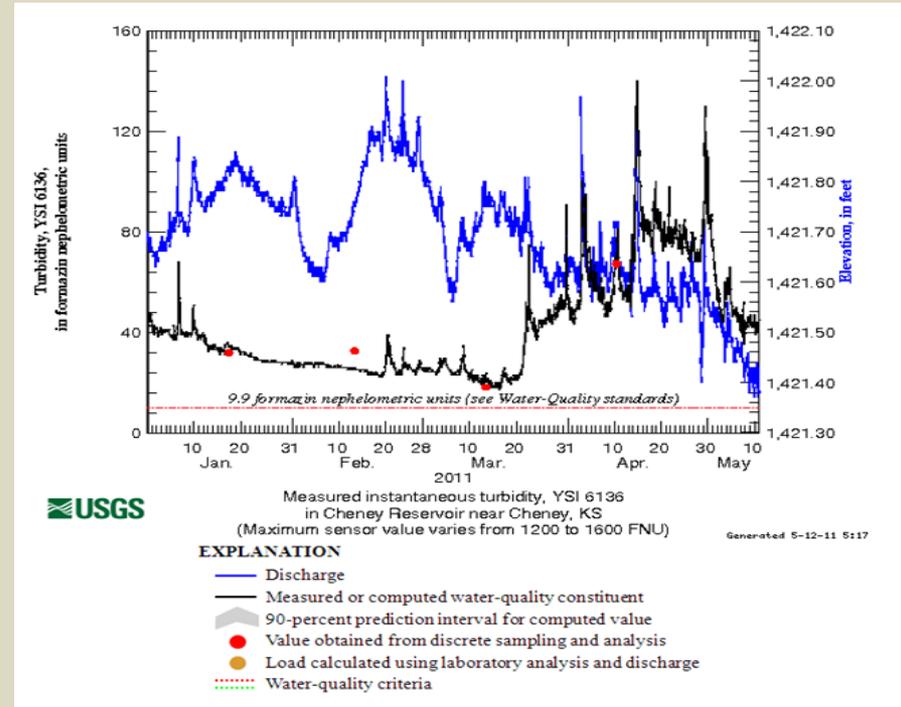
A CWP study on Polycyclic Aromatic Hydrocarbons (PAHs) in the City of Austin emerges as a national issue



Cooperative Water Program studies in Kansas help to build real-time capabilities and data delivery across the Nation



Cheney Reservoir was constructed to provide downstream flood control, wildlife habitat, recreational opportunities, and a reliable municipal water supply for the City of Wichita, Kansas.



Real-time turbidity is measured in Cheney Reservoir, Wichita, Kansas to help estimate sediment transport into the reservoir from the watershed.

In Conclusion



- Interplay among all programs to meet Water Mission Area goals – related to hazards and water availability (quantity and quality)
- Unique USGS niches and responsibilities as the “federal science arm”
- Interplay and critical role of monitoring, assessments, and research through USGS programs