USGS Water Budget Restructure

- Four new programs:
  - ✓ National Groundwater and Streamflow Information
  - ✓ National Water Quality
  - ✓ Water Availability and Use Science
  - ✓ Water Resources Research Act (WRRA)

- Consolidates all streamgaging under one activity.
- Consolidates all WaterSMART work under one activity.
- Maintains matching requirement from former Cooperative Water Program.
- Increased clarity of mission and efficiency of program management.

NOTE: Restructure aligns with the USGS Water Science Strategy, outlined in Circular 1383-G *Observing, Understanding, Predicting, and Delivering Water Science to the Nation*

USGS

Take-Away Messages

- *A changed organizational structure – but our science will not change* - Aligning programs with our science, with balanced focus on monitoring, research, and assessments and with continued diverse expertise needed to respond to evolving science needs

- *Better communication* - Building clarity and transparency about what we do and why it matters

- *Streamlined business practices* - Increasing efficiency through fewer and more logical groupings of budget sub activities

Note: No jobs will be eliminated and the Cooperative Water Program is not going away

USGS

Groundwater/Streamflow Information Program

TRUCKEE RIVER AT TAHOE CITY, CA (Site 10337500)

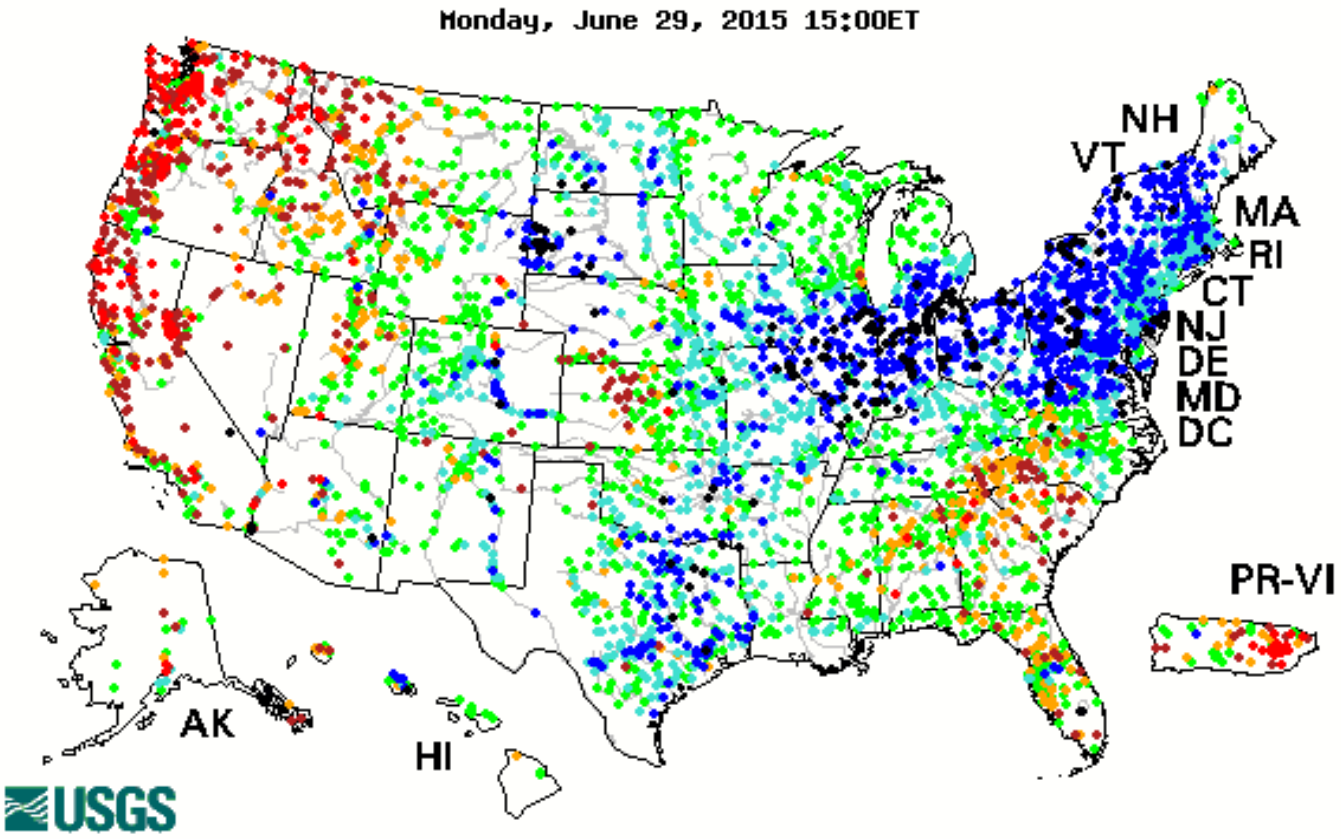
USGS

Vital components of the Groundwater and Streamflow Information Program:

- A unified national streamgaging network of about 8,130 real-time streamgages
- Stable groundwater level networks, including the collaborative National Groundwater Monitoring Network (NGWMN)
- A growing network of interdisciplinary “Super Gages”
- Development and application of hazard information and tools to minimize loss of life and property (flood inundation maps; time of travel; rapidly deployable gages)
- Research, development, and application of innovative techniques and technical oversight for cost-effective monitoring and record extension
- Management and development of instrumentation through the Hydrologic Instrumentation Facility
- Information management and delivery of hydrologic data

USGS

Streamflow Information National Network



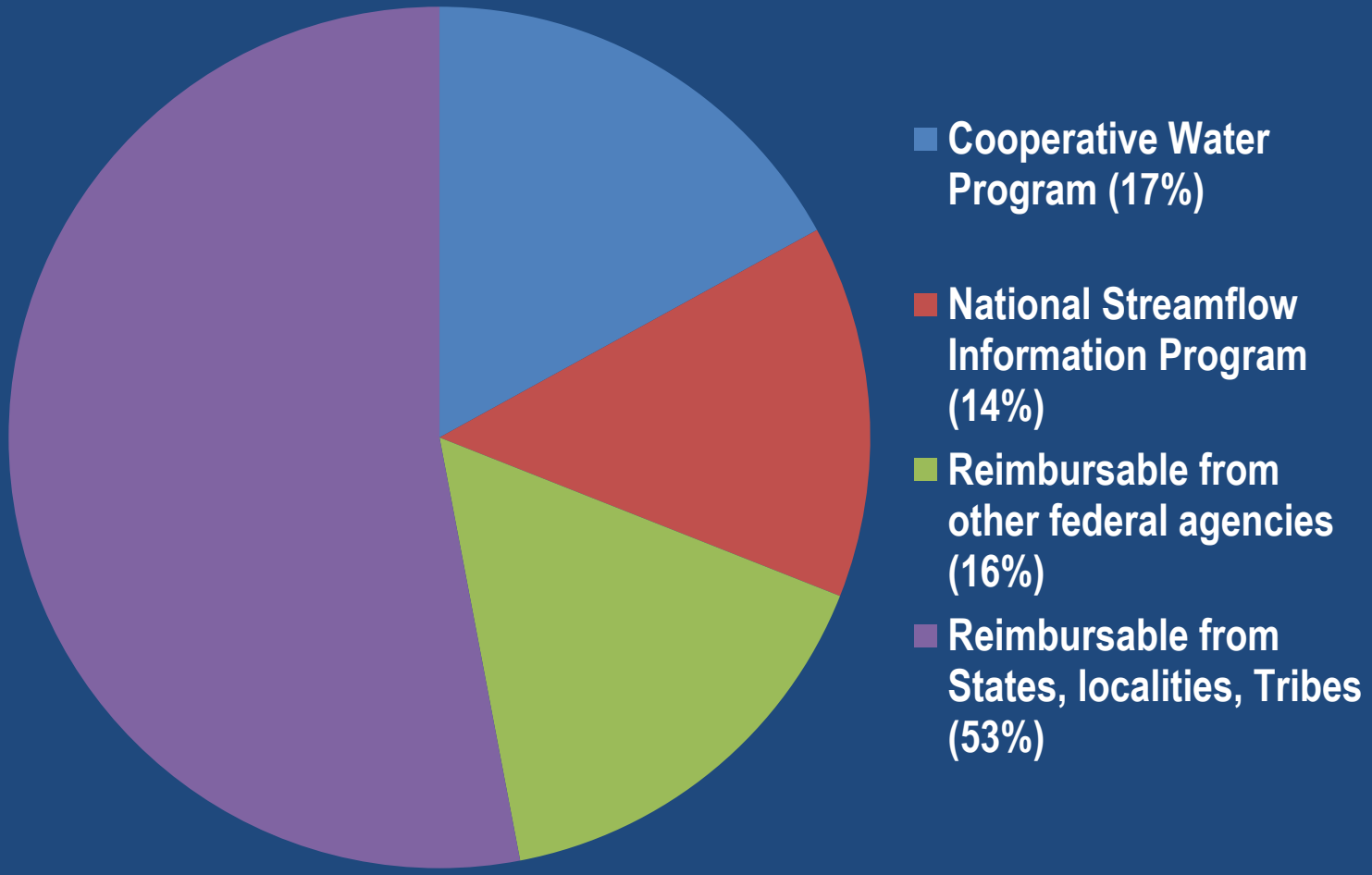
Choose a data retrieval option and select a location on the map

List of all stations in state, State map, or Nearest stations

Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS

National Streamflow Network Funding *– A collaborative effort with more than 850 partners*



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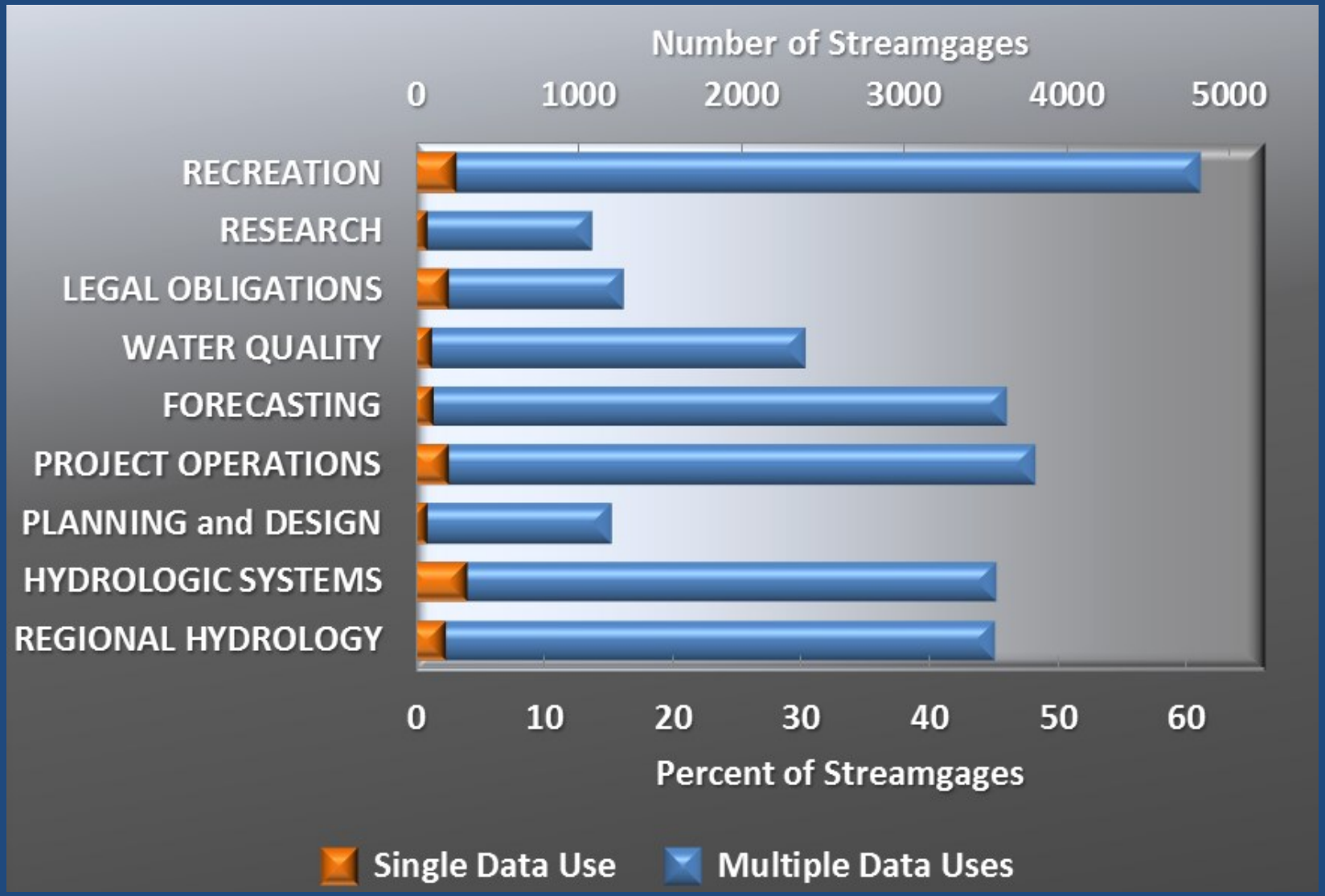
Operation, maintenance and expansion of the streamflow information network

Providing information for:

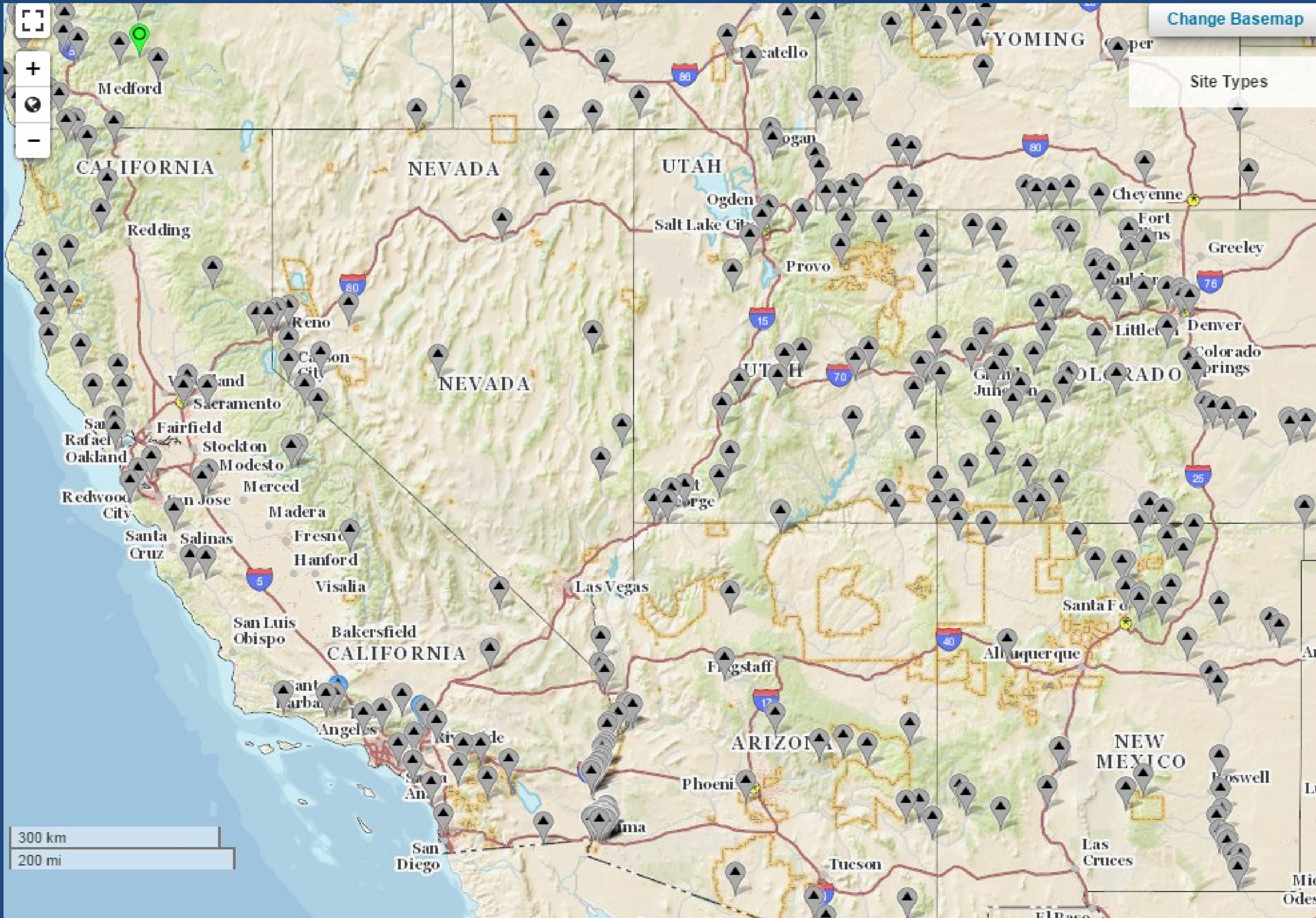
- Flood forecasts, response, warnings
- Droughts
- Water supply, allocations, and budgets
- Legal obligations, compacts, court decrees
- Day-to-day water-supply operations
- Infrastructure design (bridges, dams, highways, reservoirs)
- Discharge and water withdrawal permits
- Operating strategies to maintain ecological flows
- Water quality and coastal and estuarine management
- Recreation (rafting, fishing)

USGS

Operation, maintenance and expansion of network to meet myriad of stakeholder uses



USGS

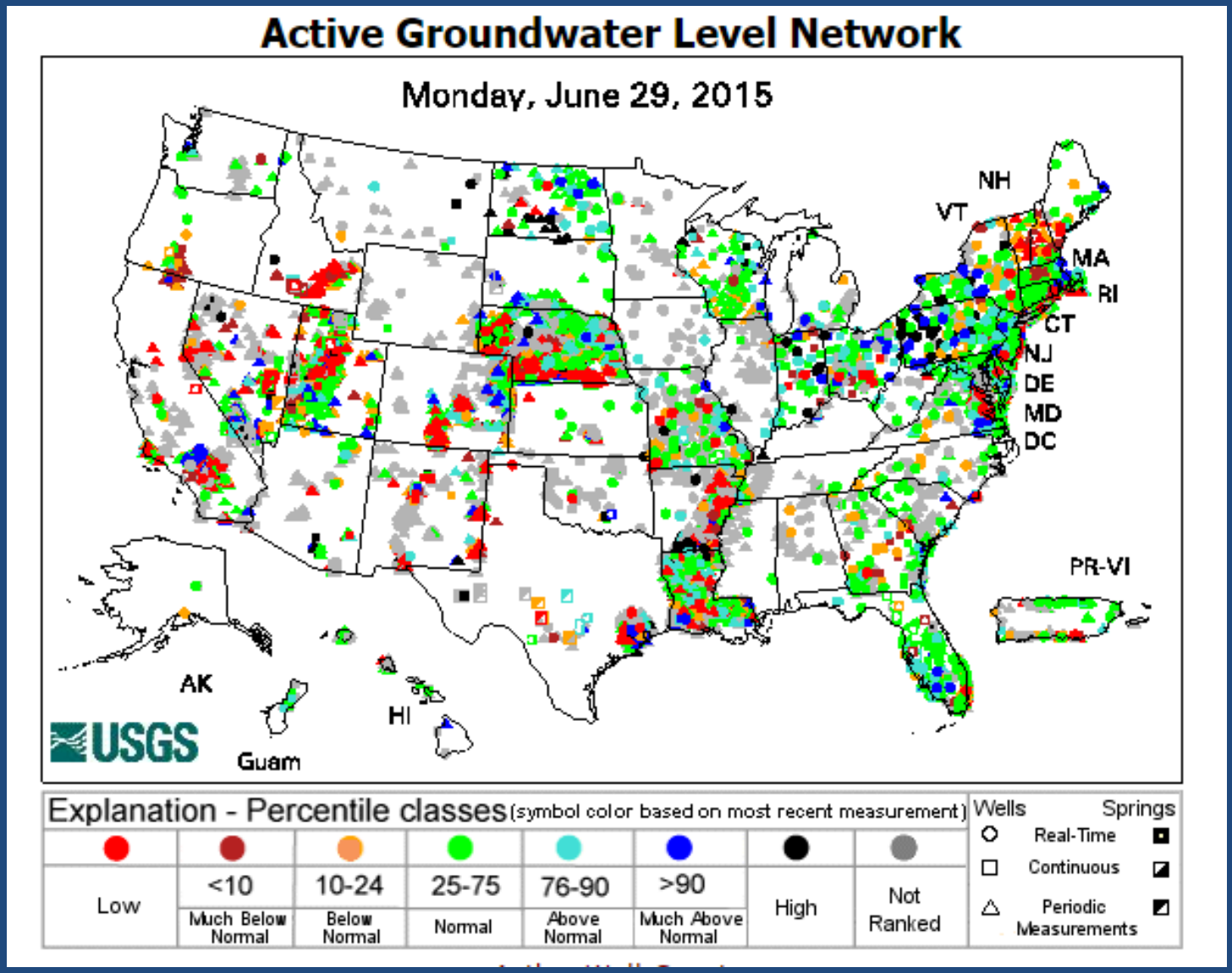

Change Basemap
Site Types
Medford
CALIFORNIA
NEVADA
UTAH
WYOMING
Ogden
Cheyenne
Greeley
Redding
Provo
Reno
Denver
Colorado Springs
Sacramento
Fairfield
Stockton
Modesto
Oakland
Merced
Madera
Santa Cruz
Salinas
Hanford
Visalia
Las Vegas
San Luis Obispo
Bakersfield
CALIFORNIA
Santa Fe
Albuquerque
ARIZONA
NEW MEXICO
Phoenix
Tucson
Las Cruces
El Paso
San Diego
300 km
200 mi

Streamflow Information Collaborative

- Comprised of federal, state, and local partners
- Come together to further the implementation of a national network of streamgages to meet the myriad of streamflow information needs
- Optimize the synergy of coordinated and innovative actions
- Create cohesive messaging about the value, uses, economic benefits, and critical gaps in our Nation's streamflow information network
- Develop effective mechanisms to "get the word out" (telling "our" story" (web portal, social media)
- Increase engagement

USGS

National Networks - Groundwater



Active (about 20,000 wells)

Real-time (1,443 wells)

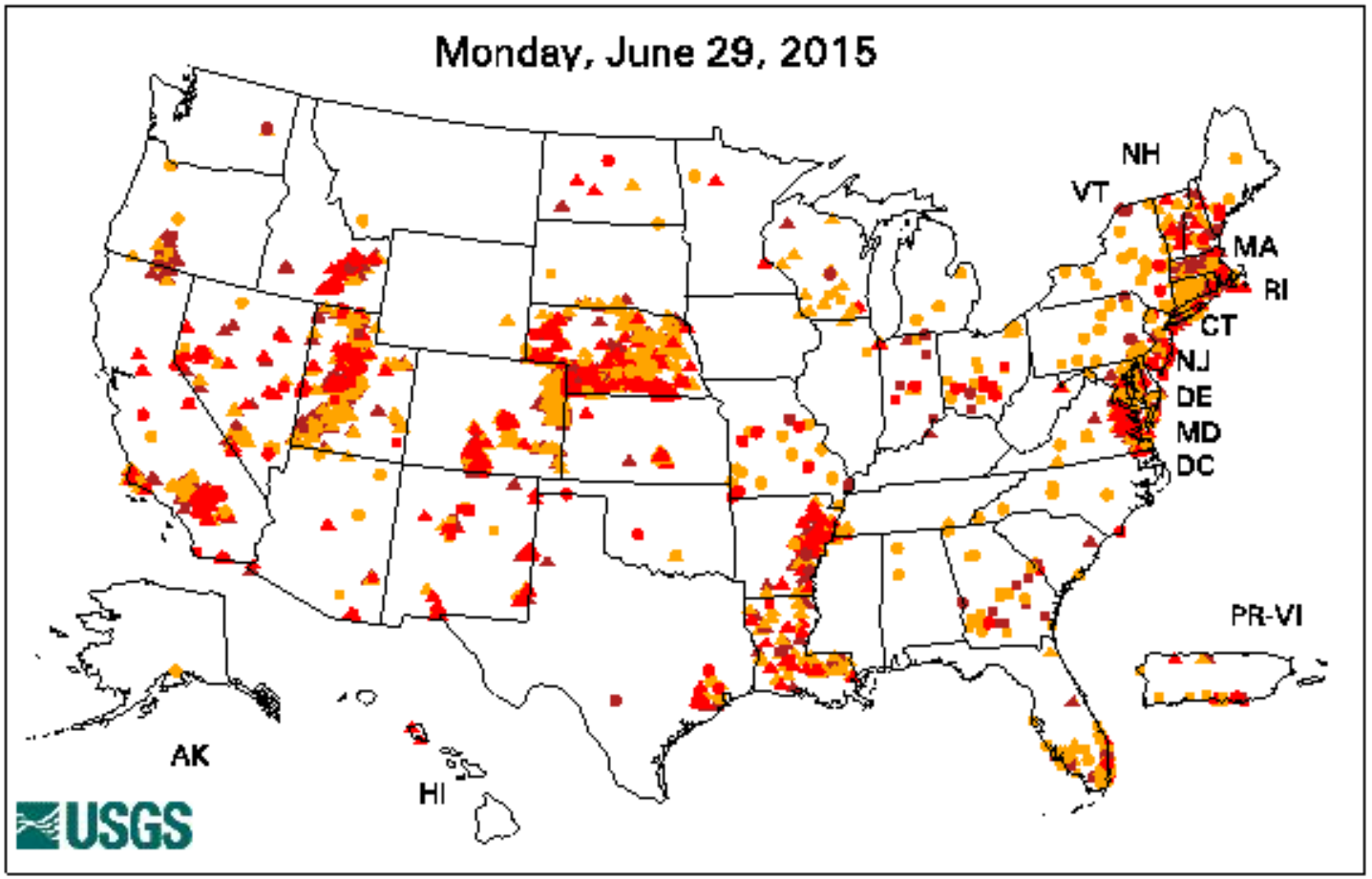
Long term (18,000 wells)

Climate Response (590 wells)

Principal Aquifers

USGS

Below Normal Groundwater Levels



Explanation - Percentile classes (symbol color based on most recent measurement)							
Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	High	Not Ranked

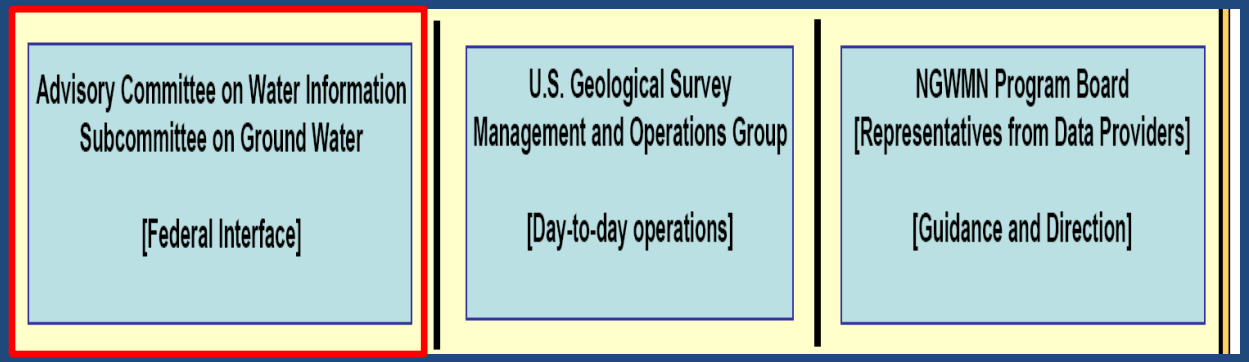
○ Real Time
□ Continuous
△ Periodic Measurements

Below Level (currently 4,448 wells)

USGS

National Ground-Water Monitoring Network

- Implementation - FY 2015
  - Initiate the "National Program Board"



  - Expand NGWMN portal capabilities
  - Initiate cooperative agreements to help support data providers
  - Cooperative funding
    - Complete work on existing Pilots/Pilot States
    - Ongoing support to data providers
    - New Data Providers (~10+)
  - Continue Pilot program for EPA lab services (UT, New England)
  - Network management - Finish adding USGS wells

USGS

serving water needs

Contact:

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pahamilt@usgs.gov

http://water.usgs.gov

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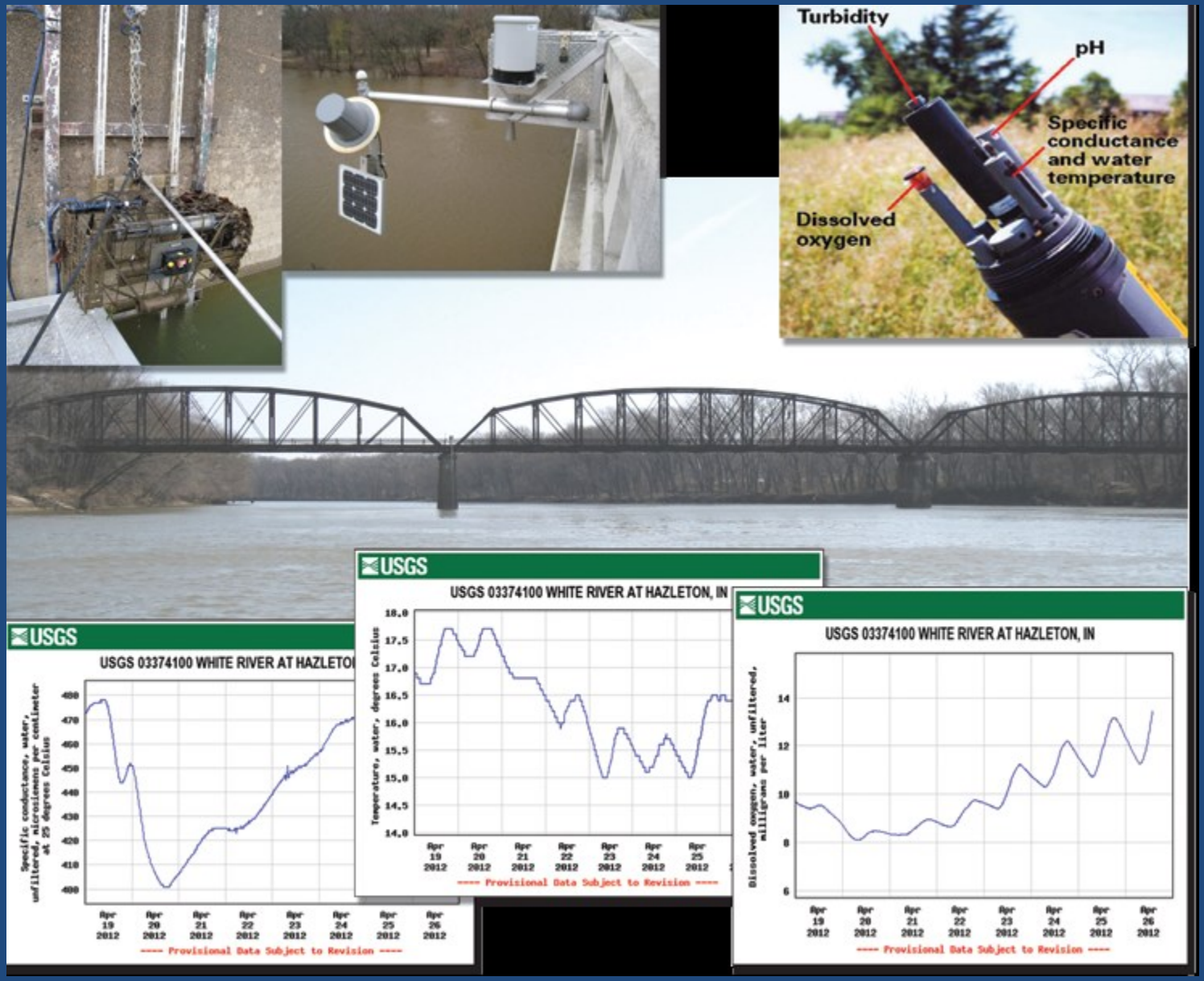
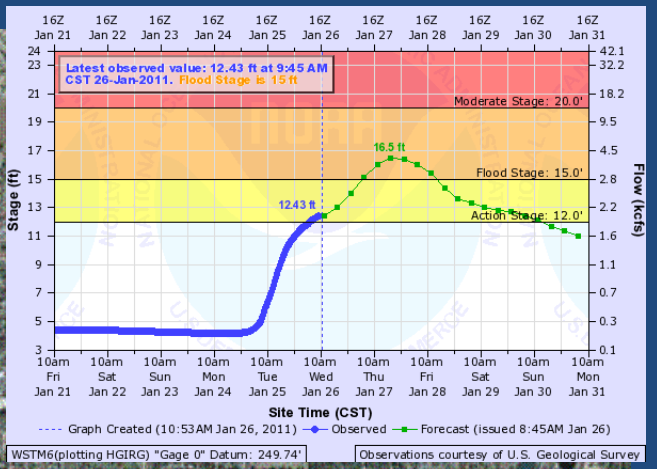
Super Gage, White River at Hazleton, Indiana (USGS site: 03374100)



Hazards - Flood Inundation Mapping and Analysis



Blanchard River near Findlay OH

Simulated flood for rise of 7.4 feet

http://water.usgs.gov/osw/flood inundation/

USGS

USGS WaterNow

On-demand, current conditions for water data directly to your mobile phone or email

02035000 13:00EDT
JAMES RIVER AT CARTERSVILLE, VA

99137 Nitrate, water, in situ, milligrams per liter as nitrogen = 0.11

00010 Temperature, water, degrees Celsius = 21.1

USGS

Uses of streamflow information

- *Flood forecast (warnings) and flood plain mapping (planning)*
- *Water supply/Allocations/Water use/Water budgeting*
- *Streamflow forecasting and extrapolation in ungaged watersheds*
- *Regional streamflow characterizations and hydrologic analysis*
- *Interstate agreements, compacts, and court decrees (legal obligations)*
- *Planning and design of water related infrastructure (such as reservoirs, bridges, roads, culverts, and treatment plants)*
- *Operation of reservoirs, power plants, and navigation locks and dams*
- *Assessment of long-term changes in streamflow related to land use, water use, and climate change*
- *Assessment of water quality sources, transport, and fate of contaminants and loads in major rivers and key estuaries*
- *Characterization of instream conditions (habitat assessment, instream flow requirements)*