serving water needs

From the Ground Up

USGS Cooperative Water Program

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National Coordinator
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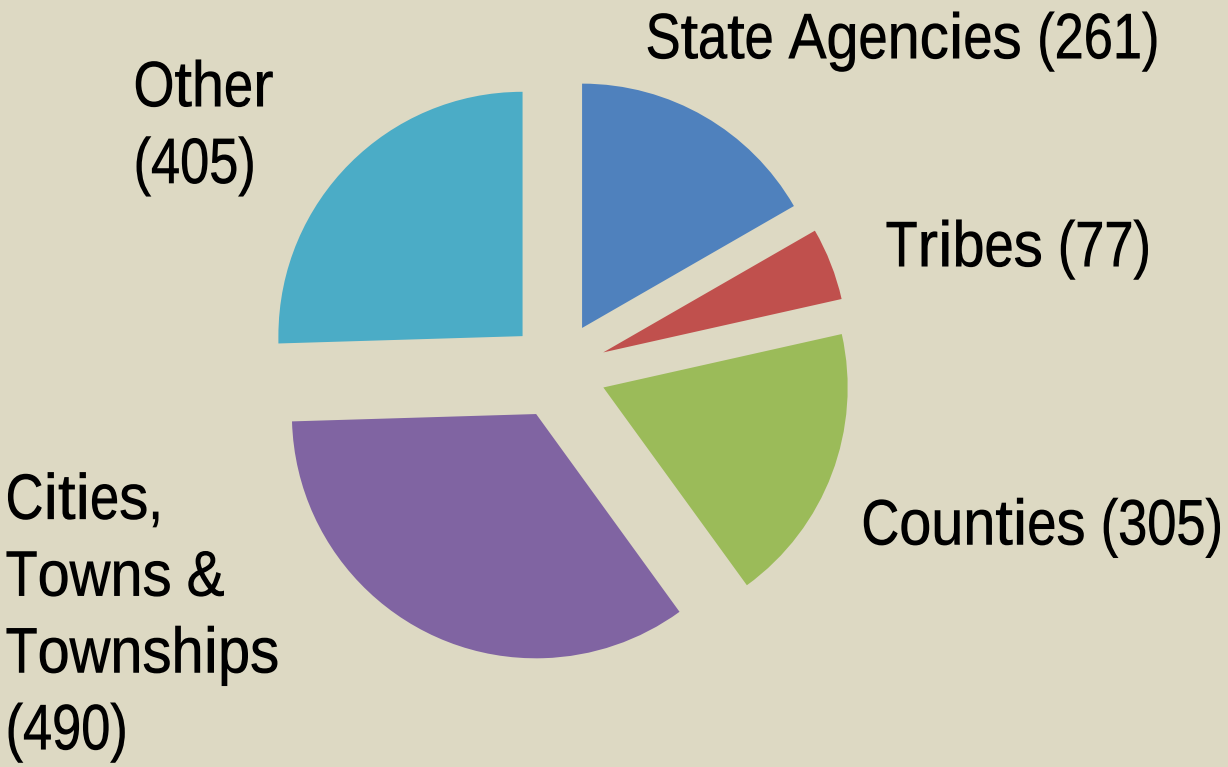
USGS

Cooperators in FY11 – Totaling nearly 1,550



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

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Hydrologic Networks – Streamgaging – FY11

CWP and 850 cooperators help to support more than 77 percent of streamgages across the Nation.

About 95 percent are in real time, critical during flooding and to support emergency decisions to protect life and property.

Other common uses include infrastructure design (roads, bridges), recreation, and water permitting.

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Hydrologic Networks – FY11 Groundwater and Water Quality

- CWP supports groundwater measurements at more than 8,000 sites.
- About 1,400 are in real time. Real-time groundwater levels, such as measured at this platform in North Carolina, are critical for managers during times of drought.

- CWP supports water-quality monitoring at nearly 4,000 stream sites and wells.
- Real-time water-quality sensors are used at selected sites to measure pH, water temperature, dissolved oxygen, specific conductance, and turbidity which can change quickly, particularly before, during, and after storms.
- Data are also critical in day-to-day operations of reservoirs, and management of drinking-water intakes and beach health.

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Assessments and Research

- Conducts more than 700 interpretative studies annually
- Produced about 325 information products in FY11
- Informed a myriad of stakeholder decisions related to water availability, ecosystem health, water quality and drinking water, hazards, energy, and climate.

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“On the Ground” Water Challenges

- Provide real-time information to minimize loss of life and property from water hazards.
- Ensure water availability amidst competing demands and climate change.
- Coordinate management of groundwater and surface water.
- Maintain environmental flows and healthy ecosystems.

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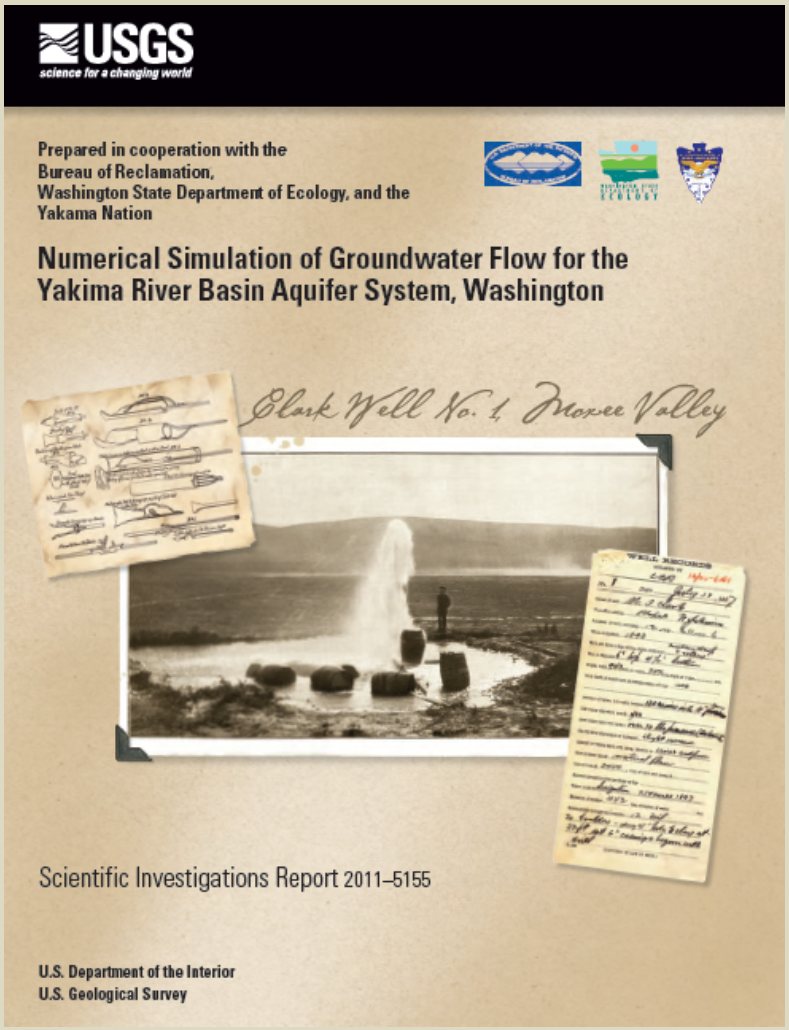
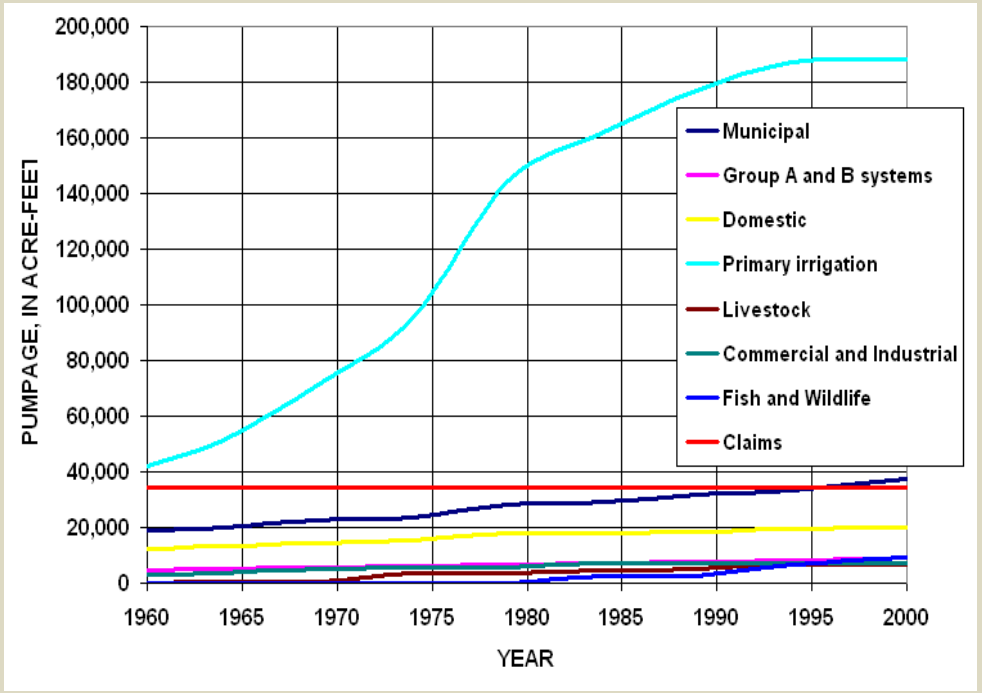
“On the Ground” Water Challenges

- Mitigate water-quality issues in groundwater and streams, and their effects on estuaries and critical bays.
- Manage sources, transport, fate of nutrients, chemicals, and algal toxins.
- Track natural and manmade (including emerging) contaminants in drinking water.
- Assess impacts of energy development, such as hydraulic fracturing on water quantity and quality.

USGS

Groundwater/Surface Water Assessment in the Yakima River Basin, Washington





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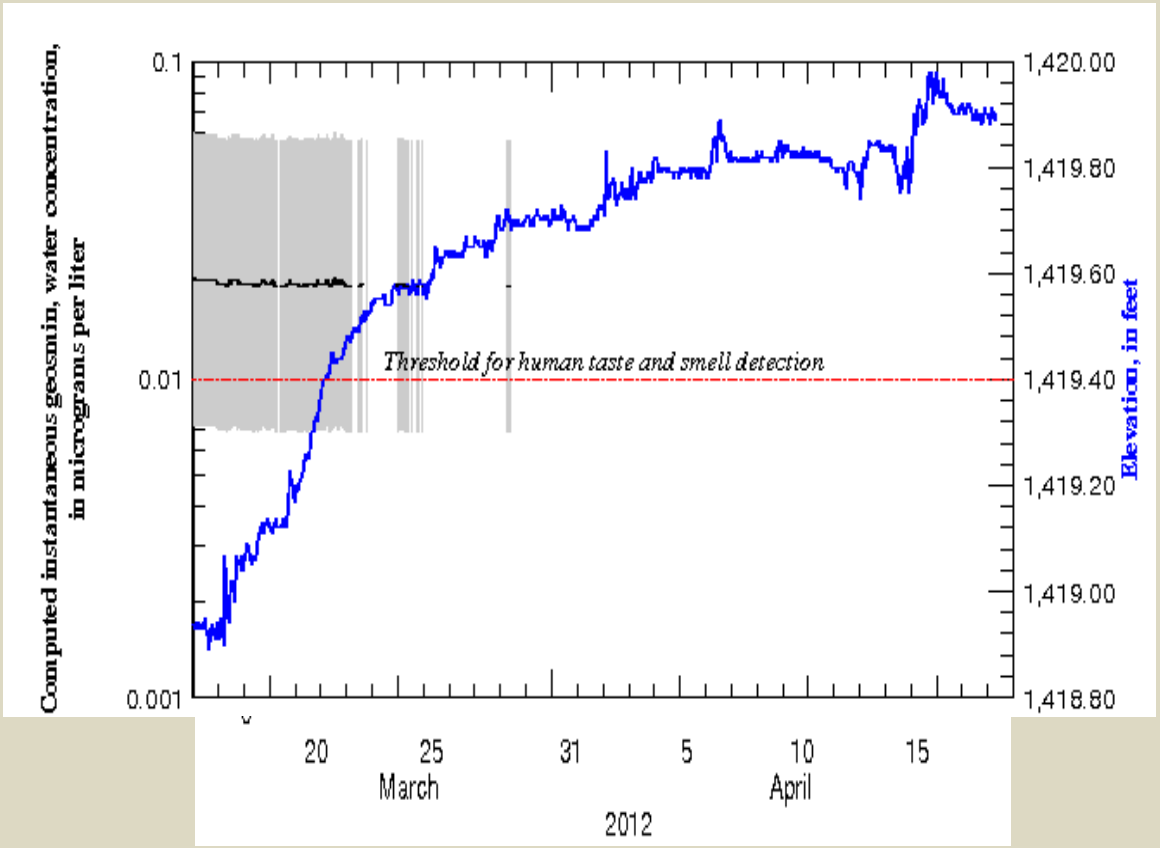
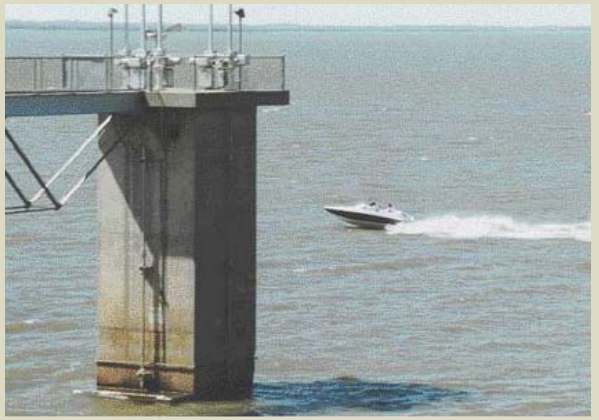
Studies in Kansas help to build real-time water-quality models to estimate geosmin



Geosmin is estimated in Cheney Reservoir, Wichita, Kansas with real-time models based on continuously monitored variables, such as light, temperature, conductivity, and turbidity.



Cyanobacteria in Cheney Reservoir, Wichita, Kansas. (Photo Courtesy of Kansas Department of Health and the Environment)

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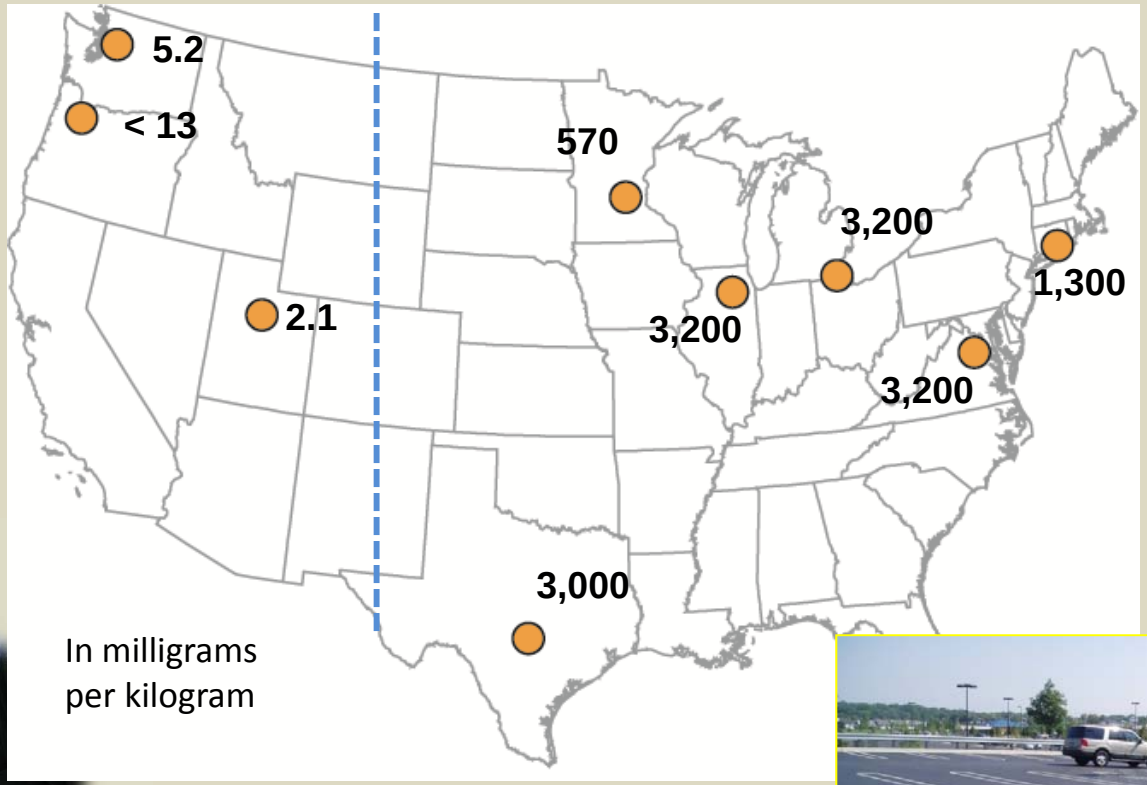
A study on Polycyclic Aromatic Hydrocarbons (PAHs) in the City of Austin emerges as a national issue



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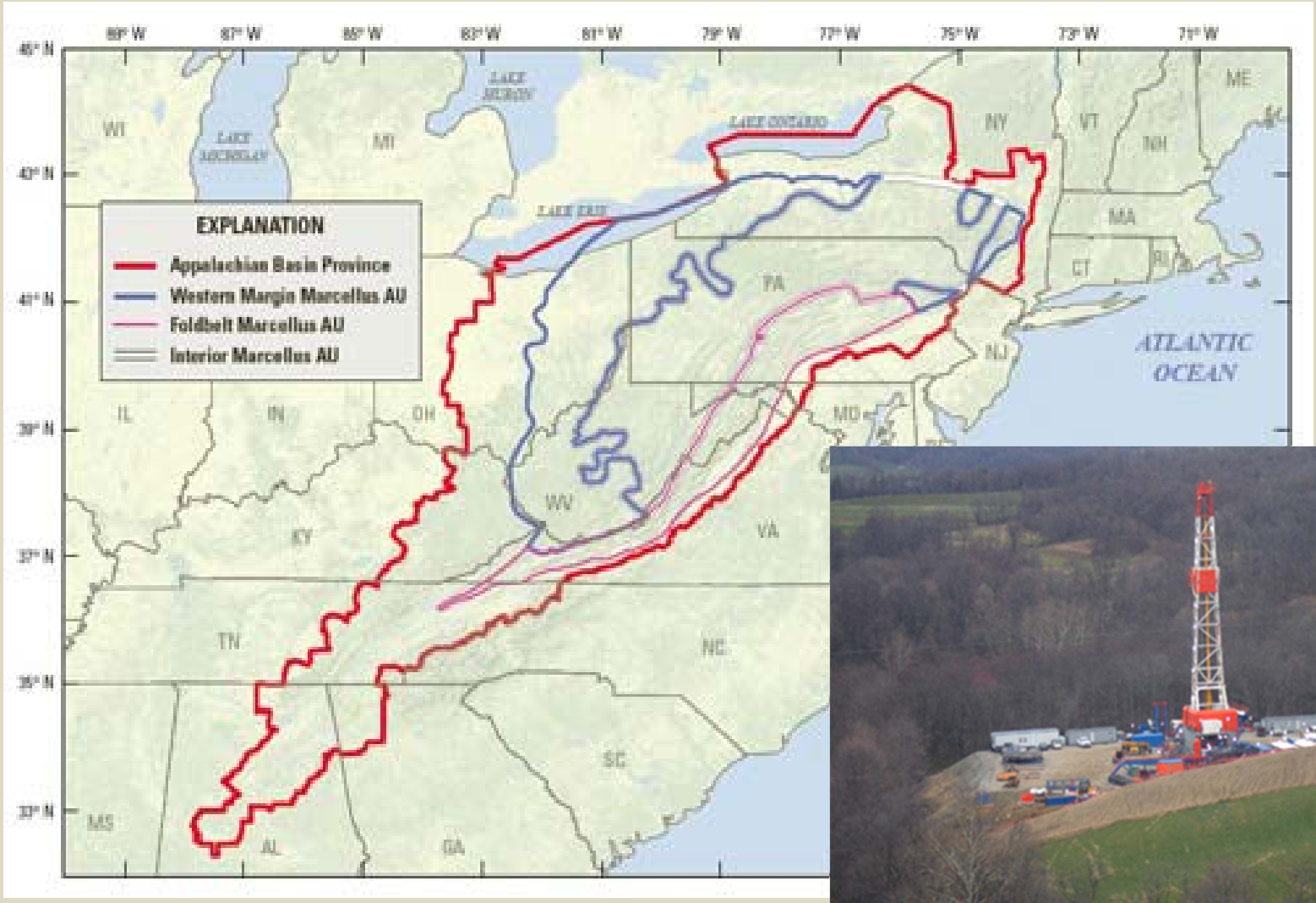
Unconventional Energy Development – Hydraulic Fracturing, such as in the Marcellus Shale



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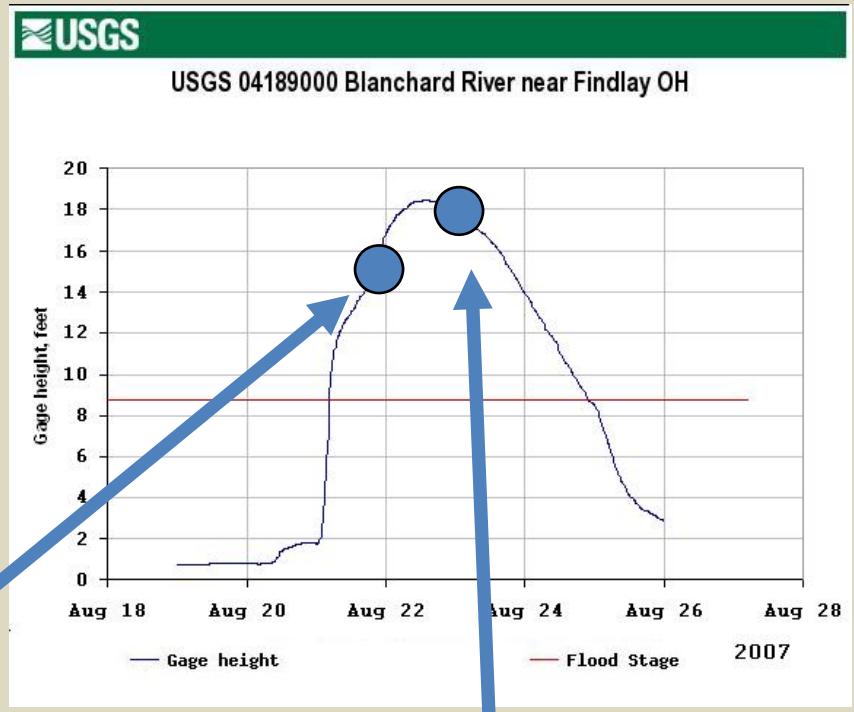
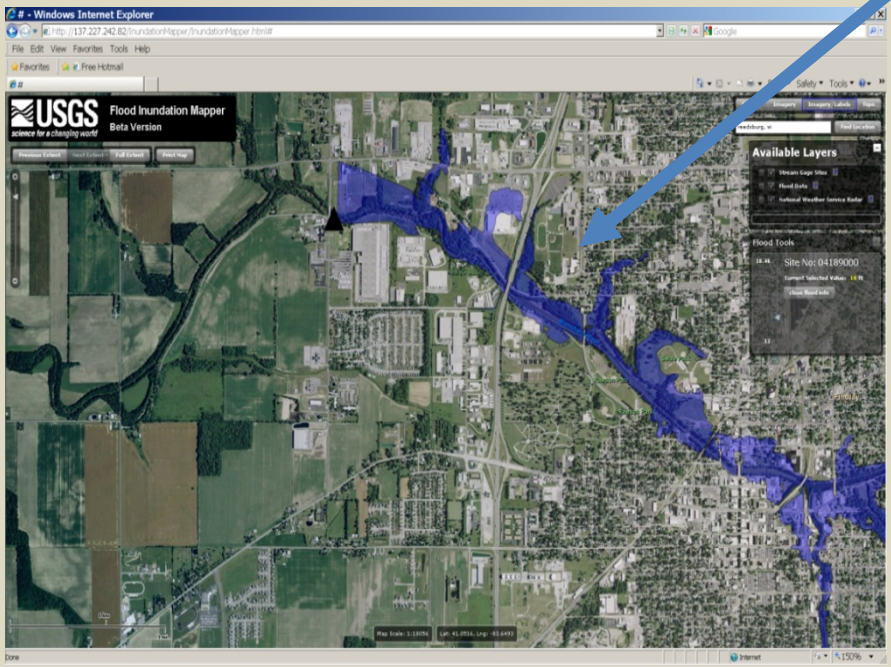
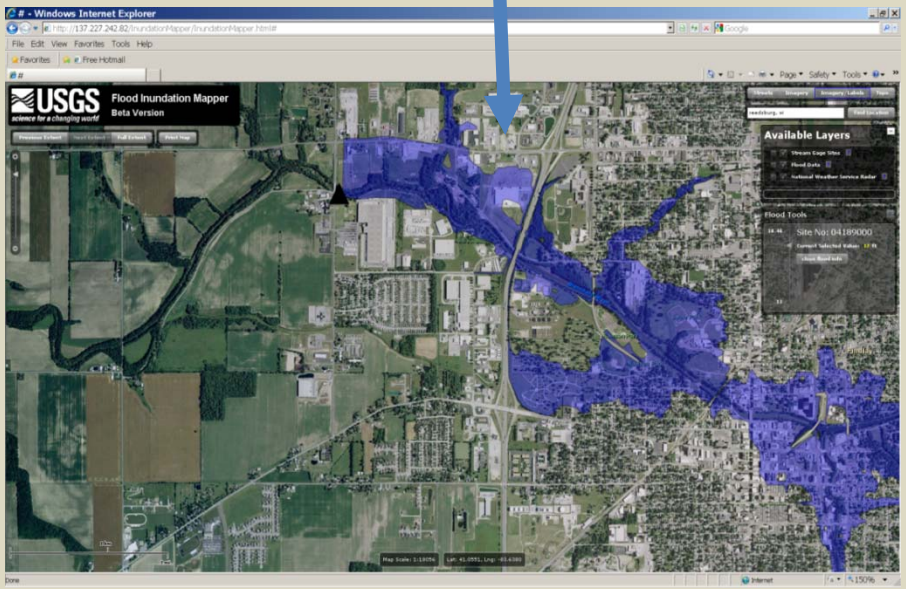
Flood Inundation Mapping

Moving from "flood data/graphs to dynamic flood inundation map forecasts and digital map views







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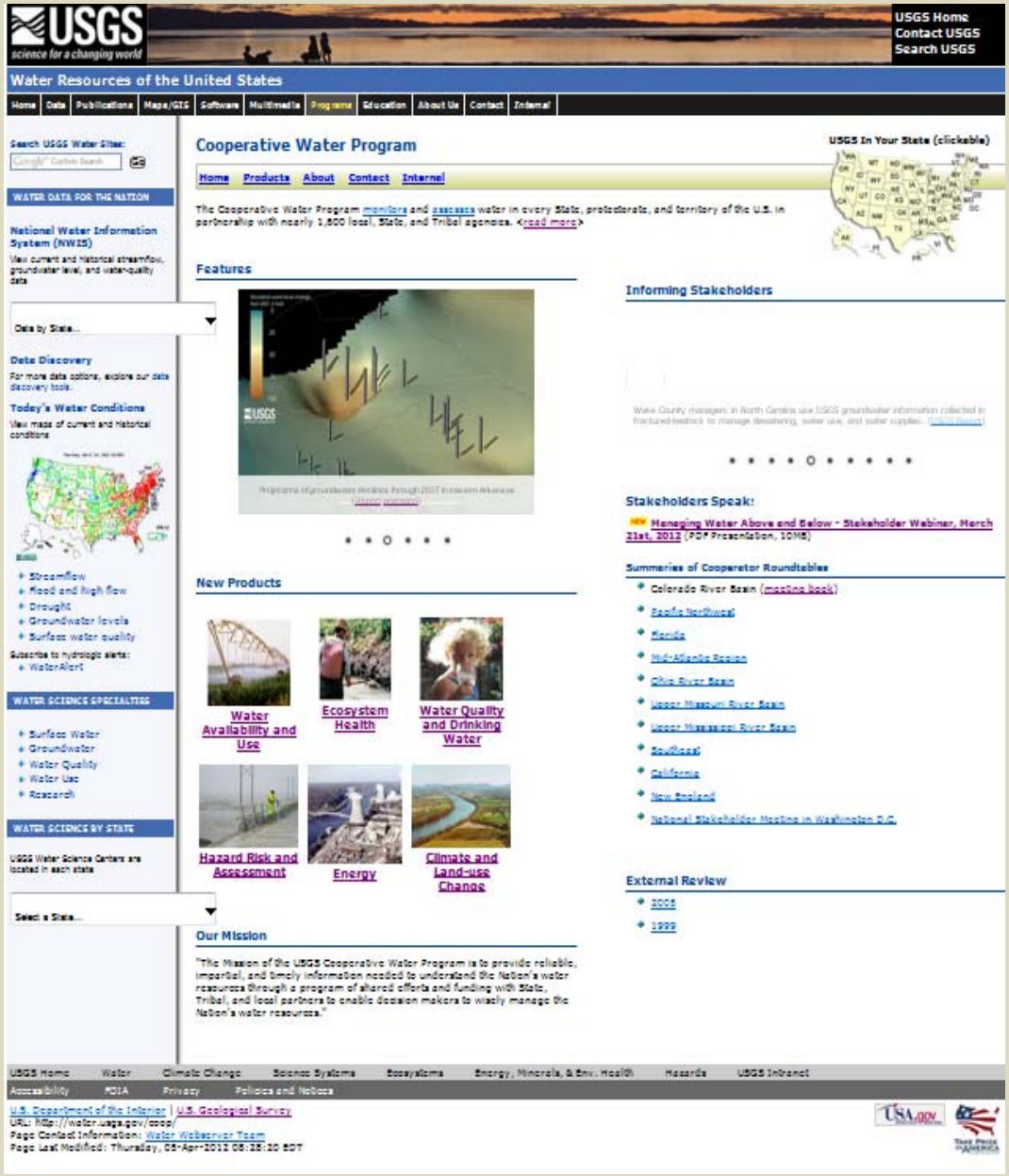
http://water.usgs.gov/osw/flood_inundation/



http://water.usgs.gov/coop/

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