

RECLAMATION

Managing Water in the West

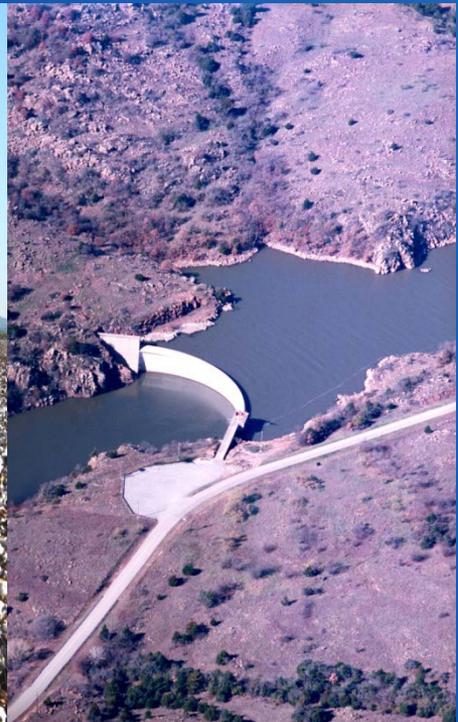
Current Reclamation Activities in Oklahoma



U.S. Department of the Interior
Bureau of Reclamation

Reclamation Background

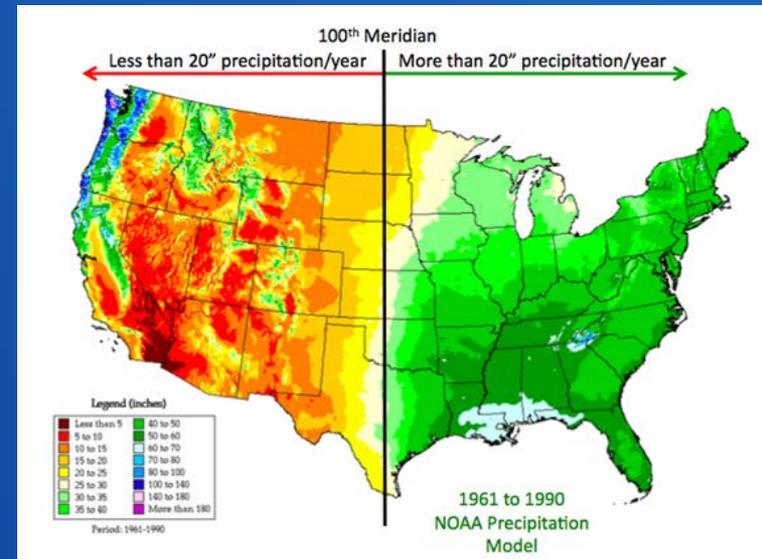
The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.



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Reclamation Background

- Constructed more than 600 dams & reservoirs
- Deliver 11 million acre-feet of M&I water to 31 million people annually
- Irrigate 10 million acres per year (one out of 5 Western farmers)
 - 60% U.S. vegetables
 - 25% U.S. fruits/nuts
- Recreation
 - 90 million visitor days per year
- Reclamation and power
 - The 2nd largest hydro producer
 - 58 hydropower facilities
 - 41 billion kilowatt hours



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Current Reclamation Activities in Oklahoma and Texas

- Reservoir Operations
- Upper Washita & Upper Red River Basin Studies
- Drought Management and Response
- Research & Technology Development
- Native American Technical Assistance Projects
- WaterSMART Water & Energy Efficiency Grants
- Recreational / Fish & Wildlife Enhancement Projects

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Kansas

Cheney

Oklahoma

Sanford

Foss

Oklahoma City

Altus

Mt. Park

Ft. Cobb

Norman

Arbuckle

McGee-Cree

Texas

TwinButtes

Austin

Choke Canyon



Oklahoma-Texas Area Operations

Ownership/oversight responsibility for 11 reservoirs with a total capacity of 4.2 million acre-feet.

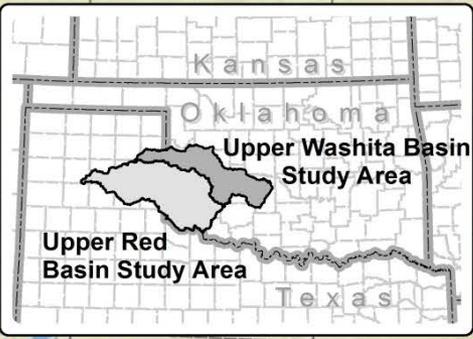
Total water rights from projects:

- **M&I - 571,000 acre-ft/yr to about 2.7 million customers.**
- **Irrigation - 110,600 acre-ft/yr for about 63,000 acres.**

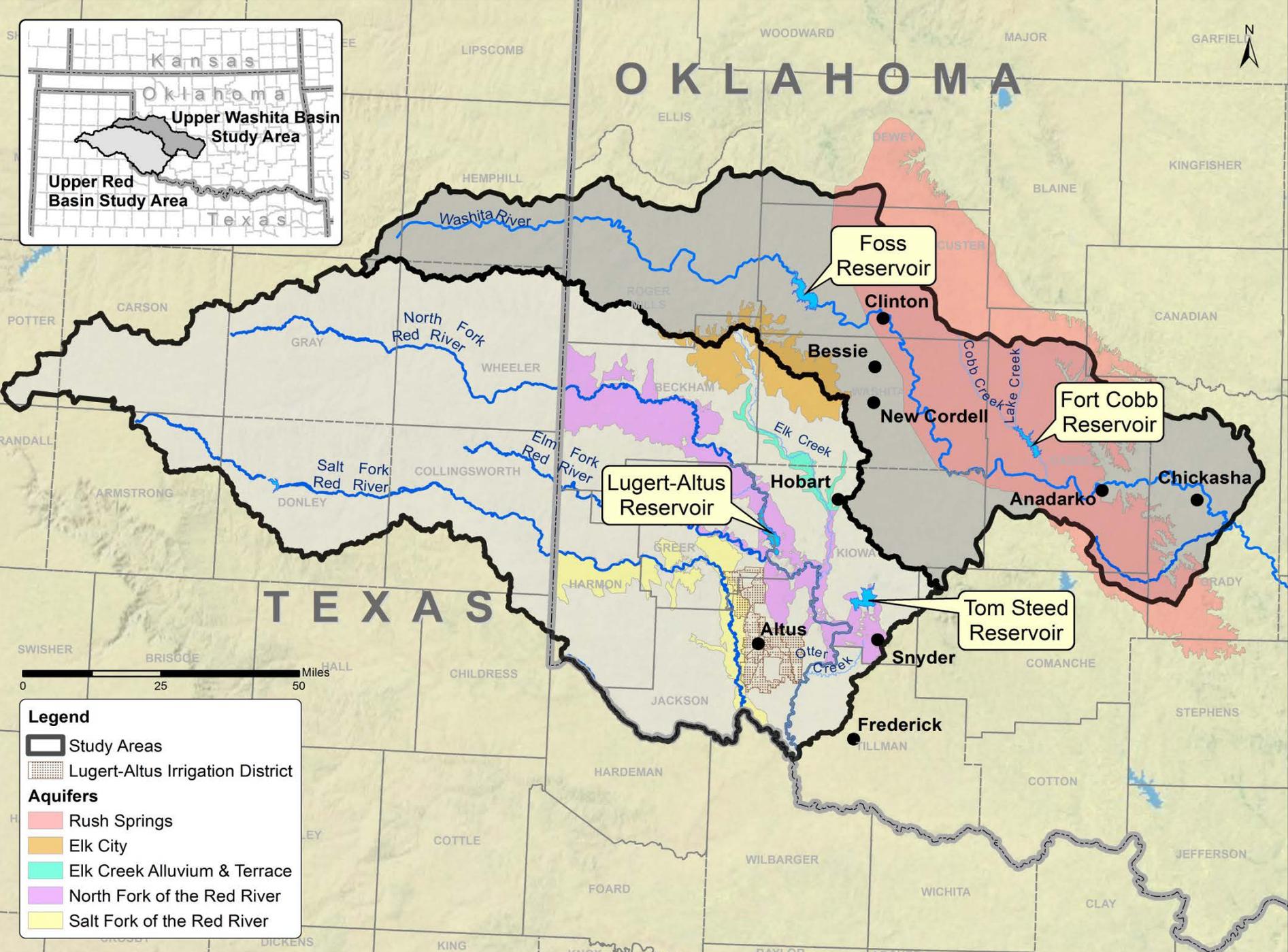
Annual recreation use of over 4 million visitor-days each year.

Ownership/oversight responsibility for 190,000 acres of Federal land

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OKLAHOMA



Legend

- Study Areas
- Lugert-Altus Irrigation District

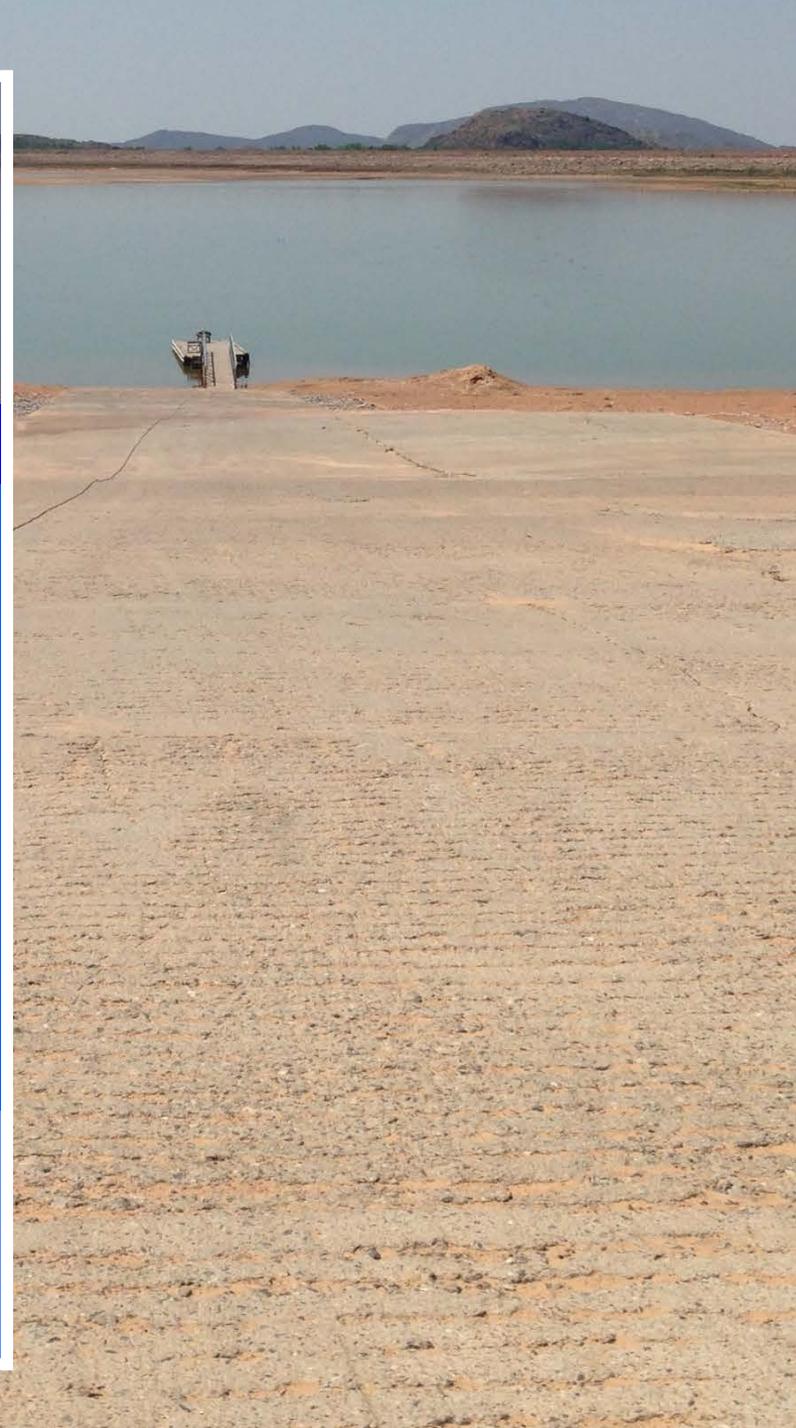
Aquifers

- Rush Springs
- Elk City
- Elk Creek Alluvium & Terrace
- North Fork of the Red River
- Salt Fork of the Red River

0 25 50 Miles

Drought Management

Reservoir	Conservation Storage (% Full)
Cheney Reservoir, KS	94%
McGee Creek Reservoir, OK	91%
Lake Thunderbird, OK	90%
Lake of the Arbuckles, OK	76%
Fort Cobb Reservoir, OK	67%
Foss Reservoir, OK	40%
Tom Steed Reservoir, OK	25%
Lake Altus, OK	10%
Choke Canyon Reservoir, TX	27%
Lake Meredith, TX	8%
Twin Buttes Reservoir, TX	6%



Drought Management Program

Interactive Drought Tool



Tool for Planning Temporary Water Supply Response in Drought Emergencies

Developed through collaboration
between the U.S. Bureau of Reclamation
and Oklahoma Water Resources Board



Main Menu

- A** Preparation
- B** Water Capacity Requirements
- C** Alternative Sources
- D** Ancillary Equipment for New Sources
- E** Water Treatment
- F** Distribution and Storage
- G** Waste Management
- H** Regulatory Requirements
- I** Commercially Available Packaged Treatment Systems
- J** Federal Sources for Treatment Systems
- K** Water Treatment Operator Requirements
- L** Potential Funding Sources
- M** Public Communications and Involvement
- N** Model Drought Management Plans
- O** Contacts for Assistance with this Tool



Visit: <http://www.owrb.ok.gov/drought/>

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Water Supply Reliability and Management Challenge

- Partnership between OWRB & Reclamation
- Emphasized benefits of collaboration between various interests when solving real-world water supply challenges.
- Encourage short-term and long-range planning to mitigate effects of drought.



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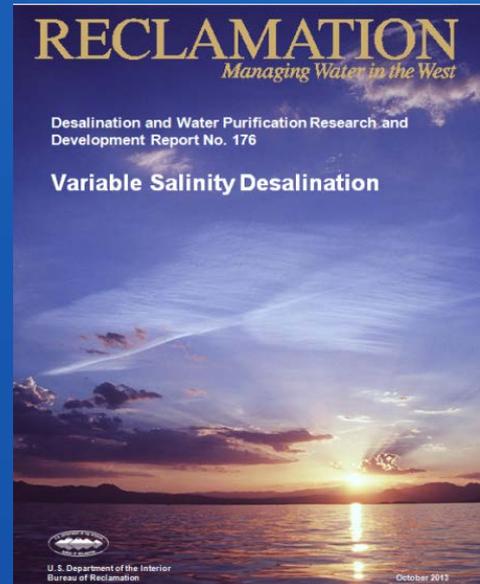
Research & Technology Development

Desalination

- Brackish ground and surface water
- Treatment system optimization
- Flexible desalination and smart controls
- Renewable energy use and recovery
- Brine minimization, recovery, and beneficial use

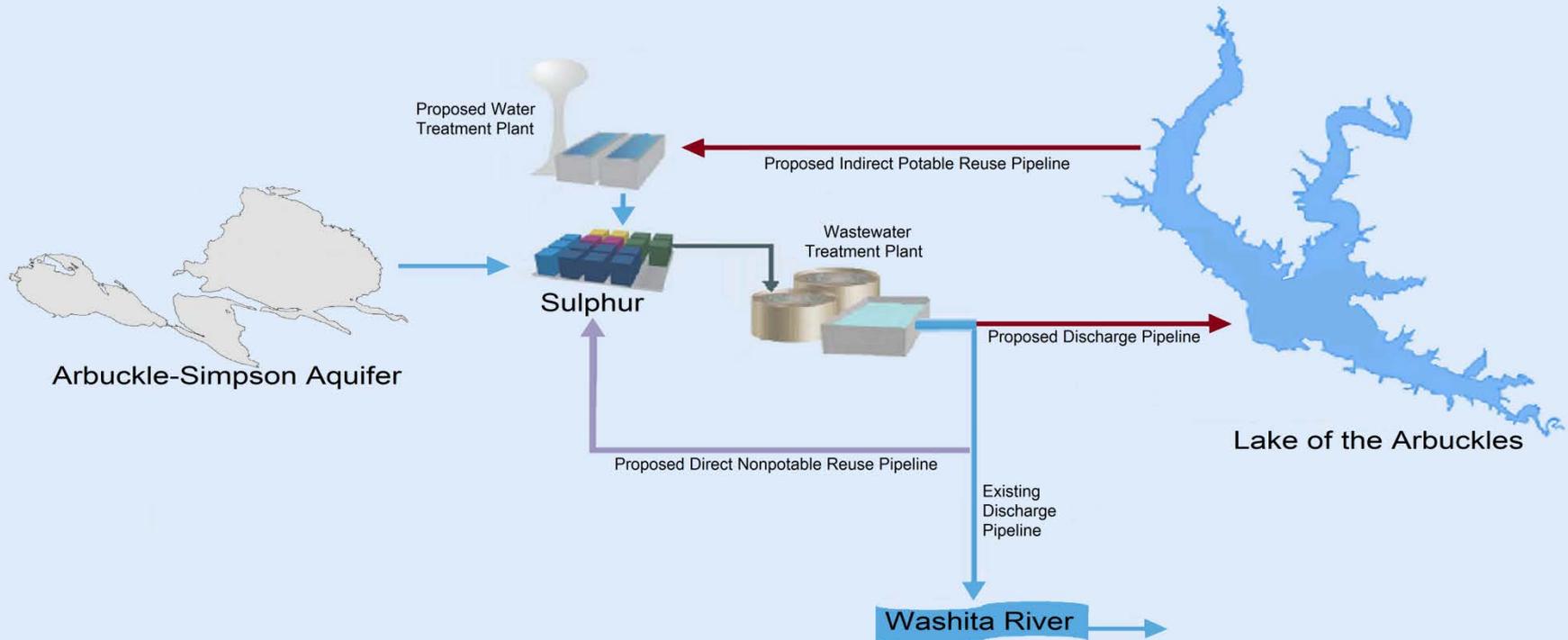
Water recycling and reuse

- Direct and indirect potable reuse
- Produced waters from oil and gas
- Environmental buffers
- Benefit/cost analyses



Native American Technical Assistance

Case Study: City of Sulphur and Chickasaw Nation



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WaterSMART Water & Energy Efficiency Grants









To Learn More.....

WaterSMART Competitive Grants

<http://www.usbr.gov/WaterSMART/>

Title XVI Program (Reuse & Desalination)

<http://www.usbr.gov/WaterSMART/title/>

Basin Studies Program

<http://www.usbr.gov/WaterSMART/bsp/index.html>

Desal & Water Purification Research

<http://www.usbr.gov/research/AWT/DWPR/>

Science & Technology Program

<http://www.usbr.gov/research/programs/science-technology/index.cfm>