At a Glance

The Robert S. Kerr Environmental Research Center (RSKERC) in Ada, OK, is a major federal research facility operated by the Office of Research and Development (ORD). ORD scientists in Ada conduct research on groundwater, subsurface contaminant remediation, and ecosystem restoration. ORD activities have significant impacts on the Ada region, including advancing science, positively impacting the economy, and contributing to the regional community.

Science: ORD is a world-class research organization, and the research conducted by scientists in Ada has broad impacts, including supporting decision making at local, regional, and national levels. Among many different areas of study, Ada has several unique research capabilities, including laboratories, field equipment, and test wells to perform specialized subsurface investigations on groundwater contaminant transport, and develop and assess technologies for remediating groundwater contamination.

***Community Engagement*:** EPA is a key contributor to the Ada community. Employees work with local students through a mentoring program at East Central University (ECU) and Water Fest, an annual interactive educational event for local 5th graders. EPA scientists work with ECU, the City of Ada, and the Chickasaw Nation in a water policy and management center – the Oka' Institute (Oka' is the Chickasaw and Choctaw word for water).

Economic Impacts: The Ada lab creates $3.4 million in disposable income from federal jobs and spends and additional $3.7 million on contracts, grants, and supplies and equipment. These dollars are injected into the local economy annually as workers buy goods and services in the community, supporting additional jobs and spending and increasing overall economic output for the community.

Did you know?

- In addition to federal scientists, the lab provides 48 on-site jobs to post-doctoral researchers, student contractors, and facility staff.
- The Ada lab is a leader in sustainability. It is EPA's first carbon-neutral lab, and uses geothermal heat pumps, energy efficient heating and air conditioning, and water efficient plumbing to reduce energy and water use and reduce GHG emissions.
- The lab includes a 110-acre field site comprised of woodlands, open fields and ponds for ecosystem and groundwater research studies.

Ada Laboratory Impacts by the Numbers

Ada (Pontotoc County), OK		
91 Total jobs at the laboratory	**$7.1 million** Annual payroll, on-site contracts, and grant dollars supported by lab	**48** Federal jobs on-site
16 Post-doctoral, student, and visiting researchers on-site	**8/1/2016** 50th Anniversary of the Lab and signing of an MOU between ORD and the Chickasaw Nation	**65.1%** Reduction in water use since 2007
$4 million Energy and maintenance savings		**12.1%** Reduction in energy use since 2003

Turn over for more science!

The Robert S. Kerr Environmental Research Center (RSKERC) is an 87,119 square feet EPA research facility in the National Risk Management Research Laboratory located in Ada, OK. Working closely with states, tribes, and EPA program and regional offices, the Center's scientists conduct and apply research to real-world problems. The national mission of the RSKERC includes a continuing focus on the Southern Plains region and the unique environmental problems facing state and tribal governments in the region. Examples of where the Center's science is applied to protect public health and natural resources in Oklahoma and in other parts of the country are summarized below:

Aquifer Protection

EPA has a responsibility to protect underground sources of drinking water (aquifers) from contamination by permitted activities such as underground injection. Ada scientists are conducting research on aquifer exemption decision-making for in-situ uranium recovery. Through this research, they will develop enhanced methods to monitor, assess, and model drinking water contaminants in aquifers. The results of this research will be protocols for regional offices and states to determine if aquifer exemptions should be granted. Scientists are also working with the State of Oklahoma and the City of Ada to determine best management practices for the Arbuckle Simpson Aquifer, a drinking water source for 150,000 people in south central Oklahoma. This ongoing research supports the activities of the Oklahoma Water Resources Board and Chickasaw Nation. This research also supports state efforts to understand the effects of groundwater withdrawals and enhanced aquifer recharge on water quality and hydrology.

Innovative Remediation Technologies for Contaminated Sites

Ada scientists have developed and applied innovative techniques to clean up contamination in soil, subsoil, and groundwater. Techniques such as permeable reactive barriers, in-situ chemical oxidation and reduction, and monitored natural attenation have been applied as pilot studies at sites in all 10 EPA regions. Researchers are also developing methods for estimating the potential for contamination of drinking water wells by subsurface plumes of pollutants using the state of Oklahoma as a test bed. Additionally, researchers are addressing vapors from underlying contaminated groundwater or soil that can migrate into buildings and pose a potential risk to the public. They have developed models that integrate data from the building interiors into a screening tool for petroleum vapor intrusion. These research efforts directly support state regulators through the Association of State and Territorial Solid Waste Management Officials, including the Leaking Underground Storage Tanks program in each state and territory.

Technical support for communities

Headquartered in Ada, the Ground Water Technical Support Center (GWTSC) provides technical support and assistance to EPA decision-makers, and State and local governments on remediation of groundwater and subsurface contamination on CERCLA and RCRA sites. These activities focus on assessing and cleaning up groundwater, aquifer materials, and soils. Field scientists and technicians travel nationwide to drill and install monitoring wells, gather core samples, and sample groundwater. The GWTSC's experts assess state-of-the-art information and channel it to users for direct (site-specific) and general (manuals) applications. An example is the support provided to the Oklahoma Department of Environmental Quality and EPA Region 6 for the Oklahoma Refining Co. Superfund site in Cyril, OK. They evaluated the impacts of groundwater/surface water interactions on contaminant migration downstream into the local watershed.