



United States
Department of
Agriculture

National Institute
of Food
and Agriculture

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PROJECT DESCRIPTIONS

USDA AWARDS 21 GRANTS TO ADDRESS WATER AVAILABILITY AND QUALITY IN AGRICULTURE COMMUNITIES

THE U.S. DEPARTMENT OF AGRICULTURE'S (USDA) NATIONAL INSTITUTE OF FOOD AND AGRICULTURE (NIFA) announced April 7, 2015 that 21 grants totaling more than \$10 million have been awarded to universities to support critical water problems in rural and agricultural watersheds across the United States. The awards were made through NIFA's Agriculture and Food Research Initiative (AFRI) Water for Agriculture challenge area and the National Integrated Water Quality Program.

WATER FOR AGRICULTURE CHALLENGE AREA GRANTS

University of California, Riverside, CA
\$149,990 | Develop a decision-support model to facilitate decision making pertaining to technology choices regarding to agricultural drainage water (ADW) and treated wastewater (TWW), as well as increase understanding of technology use implications.

Georgia College and State University, Milledgeville, GA

\$56,943 | Improve water quality by evaluating the presence of pathogenic bacteria in fecal samples from feral pigs on cattle farms in relation to best management practices and transport to surface waters, and further develop metagenomics analysis of fecal-bacteria population of feral pigs.

Purdue University, West Lafayette, IN

\$999,438 | Transform the process of designing and implementing agricultural drainage to include storage of water within the landscape for increased resilience of crop production on drained soil.

Michigan State University, East Lansing, MI

\$900,000 | Develop and improve management strategies for water-, nutrient-, and climate-smart agriculture through the creation and dissemination of decision-support tools for farmers and the evaluation of economic impact from these smart agriculture technologies and practices.

University of Missouri, Kansas City, MO
\$148,995 | Develop a soil-hydrophobicity analytics system with rapid, cost-effective hyperspectral imaging and computing capabilities, which ultimately aid practitioners.

University of Nevada, Reno, NV

\$500,000 | Coordinated Agricultural Project (CAP) aims to increase research and participatory engagement with American Indians to assess the impacts of climate change on future water supplies, evaluate and prioritize actions to enhance the climate resiliency of tribal agriculture, and identify barriers and solutions to changing practices.

State University of New York College of Environmental Science and Forestry, Syracuse, NY

\$128,511 | Address issues and formulate a proposal for a Coordinated Agricultural Project (CAP) that will research whether there is an excess agricultural production capacity in Eastern regions of the U.S. that could replace decreased production due to water limitations.

The Ohio State University, Columbus, OH

\$49,968 | Launch a symposium series dedicated to whole systems management practices for agricultural lands that impact the nation's water, particularly the Great Lakes Region and Mississippi River Basin.

Clemson University, Clemson, SC

\$150,000 | Integrating remote sensing products, in-situ sensor observations, and weather forecast information for farmers and growers to address the best products, increase agricultural drought indices, and develop an agricultural drought forecasting model to provide near real-time feedback.

University of Tennessee, Knoxville, TN

\$900,000 | Increase the resilience of agricultural production in Tennessee and Cumberland River Basins (TCB) by promoting production adaptation to realized and anticipated climate-related changes in water availability and growing conditions.

West Texas A&M University, Canyon, TX

\$149,777 | Analyze water quality and quantity to ensure agricultural water security is sufficient for diverse and conflicting needs, with a particular focus on water quality in a small basin-sized study area, the Tierra Blanca reach of the Red River Basin.

University of Texas, El Paso, TX

\$900,000 | Coordinated Agricultural Project (CAP) aims to provide and train stakeholders and water resource professionals with dynamic systems models that illustrate climate scenarios and their impacts.

continued next page >>

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WATER FOR AGRICULTURE CHALLENGE AREA GRANTS

Utah State University, Logan, UT

\$49,534 | Facilitate interaction and decrease knowledge gaps between water researchers, agency representatives, and other stakeholder groups and disseminate information about the tools necessary for water managers to address these challenges.

University of Wisconsin, Madison, WI

\$900,000 | Expand on work from a current youth water education grant to develop new educational materials and technologies that address and embed the universal and elemental patterns of how youth think into existing water programming.

NATIONAL INTEGRATED WATER QUALITY PROGRAM GRANTS

Colorado State University, Ft. Collins, CO

\$659,954 | Identify and rank conservation practices, with extensive advisory stakeholder and student participation in model building and application processes, for sustaining the agriculture sector in Colorado's Lower Arkansas River Basin by reducing salinity and selenium, increasing the productivity and economic viability of the land and its rural communities, and maintaining access to irrigation water.

University of Connecticut, Storrs, CN

\$750,000 | Determine lessons learned, critical findings, and outcomes of the NIFA Water Portfolio between 2000-2013 to create a comprehensive synthesis, an atlas of investments, a template for future synthesis on water and non-water portfolios, and develop recommendations for future directions of water resource programs.

University of Florida, Gainesville, FL

\$659,676 | Research the economic value of water in agricultural and in-stream (recreational) uses by examining the feasibility of a market-based payment program for ecosystem service provisions, focusing on the Lower Suwannee and Santa Fe River Basin (LSSFRB) in northern Florida.

Indiana University, Bloomington, IN

\$659,839 | Assess the buffering effect of no-till farming on crop yield, nutrient use, and leaching potential; determine the impact of drought severity on crop yields for fields using different tillage practices; analyze the profitability distribution of benefits associated with different tillage practices; identify incentives and barriers to no-till adoption; and evaluate general awareness among producers about climate issues.

Iowa State University, Ames, IA

\$660,000 | Develop a spatially-explicit, integrated hydrologic-economic model that estimates the economic value of water across various uses and to engage students, stakeholders, and the general public on the importance of the economic value of water.

South Dakota State University,

Brookings, SD

\$227,135 | Identify drought triggers, develop mitigation plans, investigate socio-economic factors associated with new technology adoption, and educate different age groups of students about drought issues.

University of Tennessee, Knoxville, TN

\$659,926 | Assist agricultural producers, policymakers, and communities throughout the southeastern United States how to adapt to a new reality of water scarcity by more efficiently allocating water and adopting water-conservation practices and technologies.