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Department of  
Agriculture

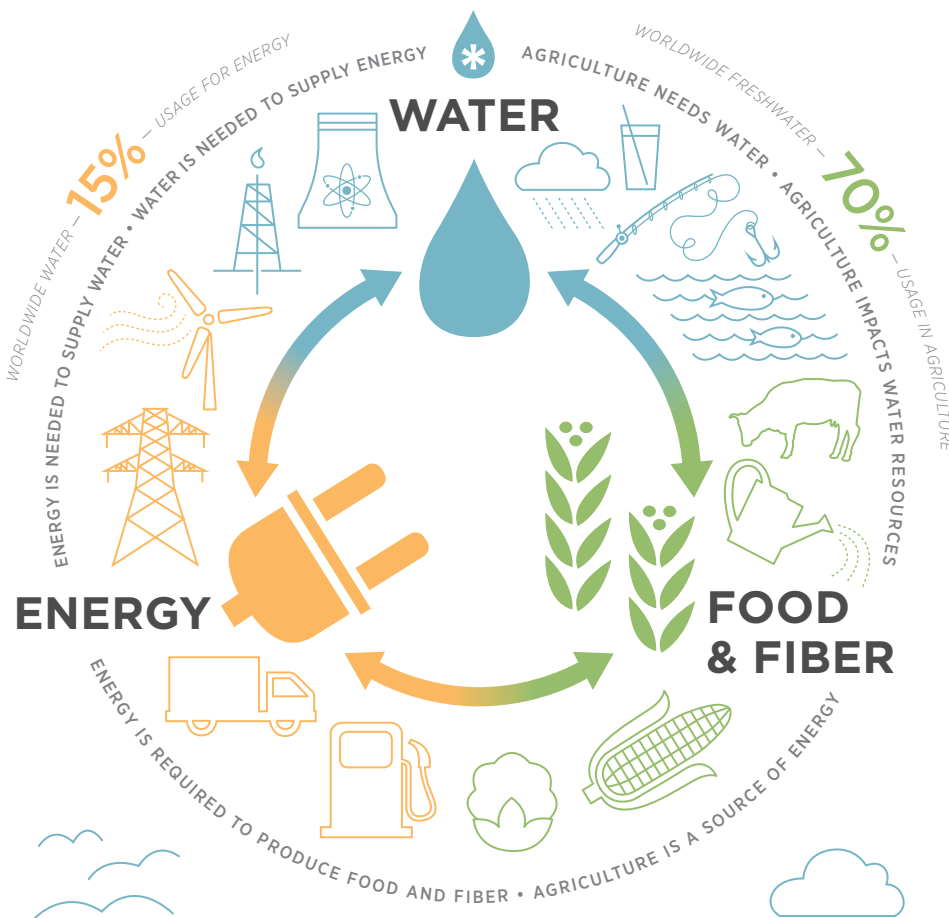
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# NIFA Research Addresses The Food-Energy-Water System

USDA's National Institute of Food and Agriculture (NIFA) invests in research, education, and extension that will guide how society can best meet the growing demand for water, food, and energy. NIFA will invest in systems science research that addresses all three elements at the same time because of their dynamic interaction within natural and human environments. NIFA's initial investment is through a collaboration with the National Science Foundation under a joint solicitation for proposals called Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS). A total of \$50 million will be awarded to successful applicants in 2016.



## A DYNAMIC INTERACTION AMONG HUMANS, AGRICULTURE, AND THE ENVIRONMENT

The **FOOD-ENERGY-WATER** system is the combined complexity of food production, energy requirements, and water availability. The system integrates **physical** (such as built infrastructure and new technologies), **natural** (such as biogeochemical and hydrological cycles), **biological** (such as agroecosystem structure and productivity), and **social and behavioral** entities (such as decision making and governance). Innovative approaches that study the intersection of these components will promote sustainability within the food-energy-water system.

## NIFA FUNDING AT WORK

The **University of Nebraska-Lincoln's** Nebraska Agriculture Water Management Network implements farmland water conservation strategies. Savings to date are more than \$50M in fuel and 1M acre-feet of water.

AFRI-funded research is supporting large-scale changes in the management of the Western Great Plains **Ogallala Aquifer Region** and informing aquifer management around the world.

EACH DAY, THE WORK OF NIFA-FUNDED RESEARCHERS TOUCHES THE LIVES OF ALL AMERICANS, FROM FARM TO TABLE, AND IMPACTS THE AIR WE BREATHE TO THE ENERGY THAT POWERS OUR COUNTRY. CUTTING EDGE USDA SCIENCE HELPS TO PROTECT, SECURE, AND IMPROVE OUR FOOD, AGRICULTURAL, AND NATURAL RESOURCE SYSTEMS.

