Environmental Stewardship

PHOTO: OSU, BOB ROST

Protecting our water

Water continues to be one of the most critical challenges facing agriculture and communities. Land-grant universities are working to discover new ways to increase water efficiency, reduce water use and protect water quality.

Here are a few examples of that work:

- Researchers in **Ohio** are working to improve soil health and water quality through best agricultural management practices to prevent non-point-source nutrient runoff in agricultural watersheds. Results of modeling were used to develop plans to increase adoption of these practices for watersheds in a 20-county region in Southwestern Ohio. *Central State University; Evans-Allen, Other USDA capacity (See full statement).*
- **Alabama** Cooperative Extension hosted drug take-back events that yielded 1,575 pounds of medication that was correctly disposed of and kept out of the water system. *Alabama A&M University; 1890 Extension Capacity Funding (See full statement).*
- More than 80% of **Kansas** is dealing with ongoing drought conditions. More than 90% of homeowners who participated in a university training program said they are implementing the water conservation practices learned. *Kansas State University; Smith-Lever (3b&c) (See full statement).*
- In a pilot study conducted at the request of alfalfa growers in water-depleted northern Lake County, **Oregon**, Extension found that low-elevation sprinkler systems increased yield by about 10% compared to mid-elevation sprinklers. A 10% increase at today's average supreme quality hay prices, which is $400 a ton, would increase cash input by $130 a ton. *Oregon State University; state appropriations (See full statement).*

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ABOUT LANDGRANTIMPACTS.ORG | This website documents the individual and collective impacts of the national Land-grant University System of joint research, education and Extension. Much of this work is supported by capacity and competitive funds through the USDA's National Institute of Food and Agriculture.

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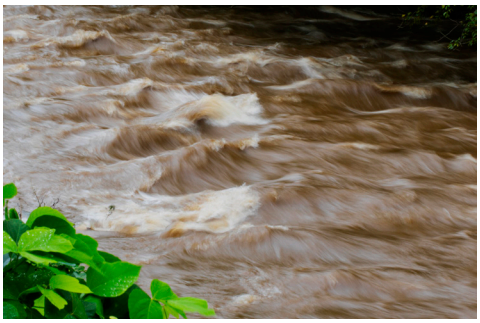
- Researchers in **Pennsylvania** developed a low-cost, easily implemented, internet-connected automatic irrigation-scheduling system that conserves water while also raising crop production. This simple and relatively inexpensive technology demonstrates how precision agriculture can help growers avoid plant water stress at critical growth stages based on site-specific conditions. *Pennsylvania State University; USDA Competitive, Hatch Multistate (See full statement).*
- Water quality in Long Island Sound impacts residents throughout the region. Researchers in **Connecticut** made existing data publicly available in an easy-to-use dashboard tool to help decision makers and improve nitrogen levels over time. *University of Connecticut; Hatch (See full statement).*
- Education efforts in **Minnesota** have reached 2,000 adults and 250 youths. Now, community leaders, public health leaders and rural family practice physicians are better able to build awareness and spur action to mitigate water quality issues for private well owners in rural communities. And people throughout southern Minnesota and members of the White Earth Nation in northwestern Minnesota are able to plan and conduct well water screening clinics. *University of Minnesota; Smith-Lever (3b&c) (See full statement).*

Critical moments impact water quality in Chesapeake Bay

The vast majority of nutrients and sediment washed into streams flowing into the Chesapeake Bay are picked up by deluges from severe storms that occur on relatively few days of the year. **Pennsylvania** *researchers found that a small percentage of locations and events contribute the most to total annual pollution loads and stressed the importance of concentrating agricultural pollution mitigation efforts on "hot moments" — not just hot spots" — across impaired watersheds. This critical shift in approach allows watershed planners and managers to develop low- and high-flow targets for nutrient and sediment loads specific to each watershed in the bay's basin. Pennsylvania State University; Hatch Multistate, Hatch Capacity Funding (See full statement).*



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