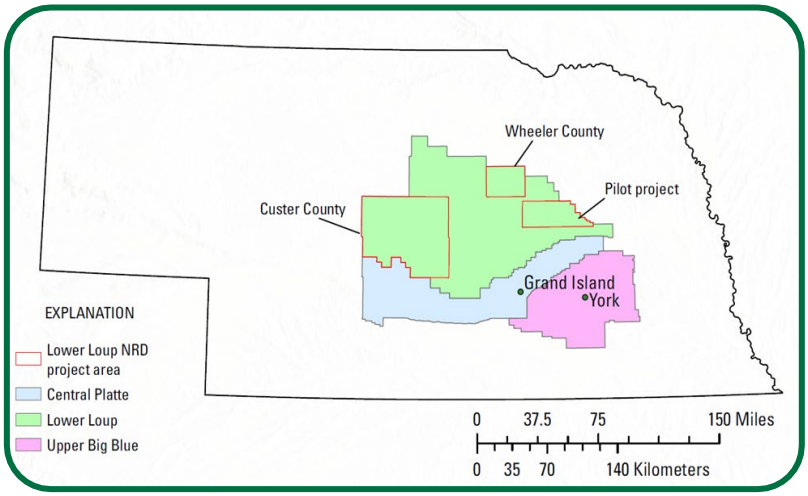
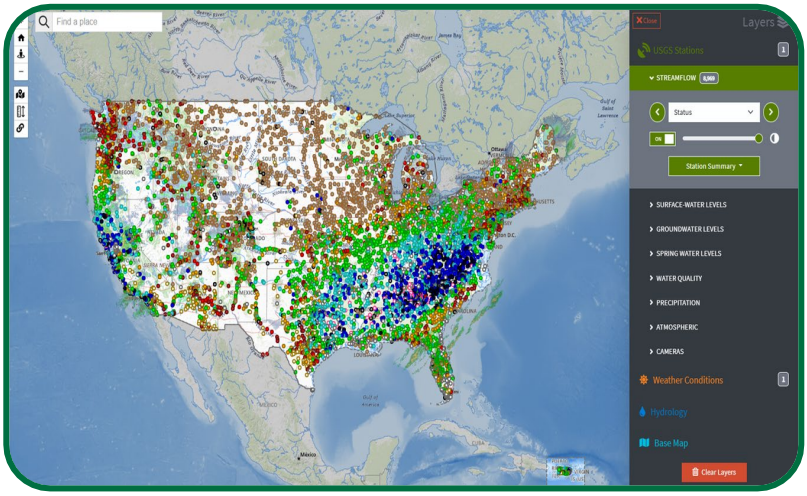
Central Plains Water Science Center Quarterly Newsletter

The USGS and three Nebraska Natural Resources Districts are preparing to launch a multi-year study that will evaluate how different fertilizer application practices influence nitrate leaching to groundwater. Beginning soon, field crews will collect soil-nitrate profiles, soil-moisture data, and conduct bromide tracer-tests on selected fields across the Central Platte, Lower Loup, and Upper Big Blue NRDs. The findings will help producers and water managers better understand nitrogen losses below the root zone and guide future efforts to protect groundwater quality.





The National Water Dashboard (NWD) is a mobile, interactive tool that provides real-time information on water levels, weather, and flood forecasts all in one place. Recently, there have been some updates to the Dashboard. Channel measurement metadata is now available to accompany streamflow field measurements! You can download channel measurement metadata from the MLP whenever there are field measurements of gage height or discharge on the graph. This modernizes the delivery of channel data that accompanied streamflow measurements in NWISWeb, and contains information such as measurement number, measurement type, velocity, channel width and channel morphology information. Read more at: https://waterdata.usgs.gov/blog/wdfn-field-measurements/ . You can also subscribe to the USGS Water Data Quarterly Newsletter to get updates on websites, data outages, and other important information. Users can unsubscribe at anytime. Find more information here: USGS Water Data for the Nation Newsletter | U.S. Geological Survey

Congratulations to Rachael Lane (shown right) for being selected as a USGS Research Grade (RGE) Scientist! Rachael is an analytical chemist in the CPWSC's Environmental Organic Chemistry unit within the OGRL. Her research focuses on understanding the occurrence, fate, and transport of emerging organic contaminants in the environment. Her current research focuses on tire derived compounds and their implications to both ecological and human health. Rachael serves as the research lead and principal investigator for one of the core laboratories within the USGS Environmental Health Program in the Ecosystem Mission Area. The RGE selection process involves a panel evaluation of the scientist's research, focusing on quality, independence, originality, and impact. Achieving RGE status is evidence to Rachael's scientific contributions that help shape practice and policy!

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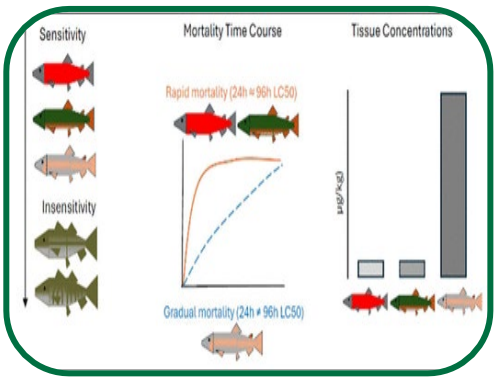
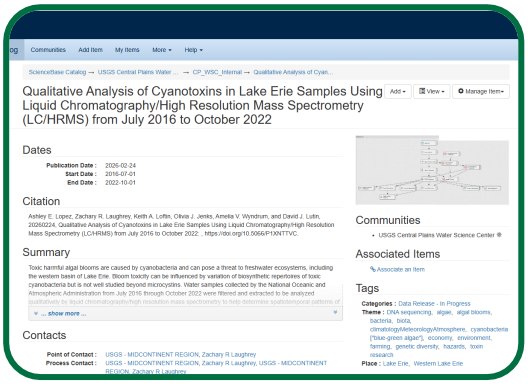
Science Spotlights



Time Course of Effects and Tissue Concentrations of 6PPDQ in Three Sensitive Salmonids with Additional Data for Two Centrarchid Species was recently published, investigating the toxicity of 6PPD-quinone (6PPDQ) on three resistant species of salmonid using standard flow through exposure methods to provide measured 6PPDQ concentrations in fish that died during exposure and those that survived. These efforts can be used to potential inform biomonitoring strategies for wild populations. Read more here: Time Course of Effects and Tissue Concentrations of 6PPDQ in Three Sensitive Salmonids with Additional Data for Two Centrarchid Species | Environmental Science & Technology

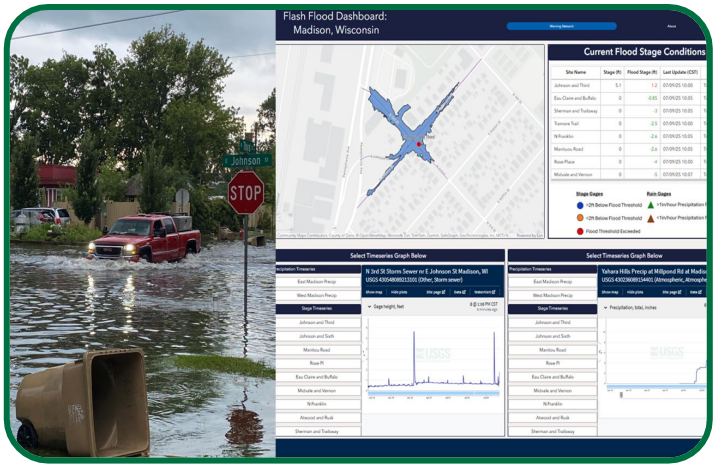


The data release *Qualitative Analysis of Cyanotoxins in Lake Erie Samples Using Liquid Chromatography/High Resolution Mass Spectrometry (LC/HRMS) from July 2016 to October 2022* was recently published to USGS ScienceBase. This data provides qualitative cyanotoxin results to help determine spaciotemporal patterns of cyanobacteria in freshwater over several years and provide data for developing models and inform future experimental research regarding the dynamics influencing harmful algal blooms (HABs) throughout the bloom season. Read more here: Qualitative Analysis of Cyanotoxins in Lake Erie Samples Using Liquid Chromatography/High Resolution Mass Spectrometry (LC/HRMS) from July 2016 to October 2022 - ScienceBase-Catalog

Jon (shown above) recently presented at the Kansas Natural Resources Conference in Manhattan, Kansas. Jon's presentation discussed the Soldier Creek project. This project involves monitoring soil moisture and water-quality trends in the Upper Soldier Creek watershed. The conference is held annually and highlights the importance of funding, priorities, and partnerships on conservation efforts.

Seminar Series

Please join us April 8th, 2026, at 12:00 PM CDT for our Science Seminar Series, *Enhancing Urban Flash Flood Preparedness and Response through Real-Time IoT Sensor Networks* with Bill Selbig and Sean Thiboldeaux of the Upper Midwest Water Science Center. Flash floods can develop quickly from extreme rainfall events, sometimes leaving just minutes to react. As communities experience increasing severe rainfall events, urban flash flood detection systems are becoming vital to provide advanced warning of impending floods in vulnerable locations. Integrating innovative technologies such as IoT coupled with Message Queuing Telemetry Transport (MQTT) into a cost-effective, scalable monitoring network that improves situational awareness of urban flash flooding in real time can help cities adapt to the increasing potential of pluvial flash floods.



Director: Casey Lee, cjlee@usgs.gov