UNIVERSITY OF NEBRASKA-LINCOLN COLLEGE OF ENGINEERING

2019 NEBRASKA FLOODING CASE STUDY
VIRTUAL SEMINAR SERIES

Thursday, June 25, 2020 • 10 a.m. - Noon

https://unl.zoom.us/j/95898390962

This seminar is part of a series for a pop-up course being offered this summer - ENGR 391: Exploring Environmental Engineering.

Nebraska Department of Transportation Perspective and Response

10 - 11 a.m.

Presenter: **Mark Traynowicz**
State Bridge Engineer, Nebraska Department of Transportation

In mid-March 2019, Nebraska experienced extreme weather resulting in historic flooding that essentially closed all highways in eastern Nebraska. This presentation will show the devastation, how NDOT reacted to it, and what they are doing as they move forward.

Great Plains Water Quality Observations and Research

11 a.m. – Noon

Presenter: **Dr. Daniel D. Snow**
Nebraska Water Center

Water quality is defined by physical, chemical and biological components affecting intended use. Our ability to measure substances has evolved as is the demand for freshwater has steadily increased over the past several decades. Freshwater suitable for multiple uses is unevenly distributed and depends on annual precipitation and aquifers, such as the High Plains Aquifer system providing abundant groundwater which supports an agriculture-based economy. Agricultural activities have both depended on these freshwater sources and also led to widespread contamination both in surface and groundwater. Shallow groundwater underlying intensively irrigated regions is particularly vulnerable to increasing concentrations of dissolved solids, nitrate and pesticide residues. Overapplication of nitrogen fertilizers, together with inefficient irrigation practices likely has led to an accumulation of nitrate and other contaminants in groundwater across the Great Plains. Ongoing research is leading to a better understanding of what is needed to control agrichemical leaching and minimize impacts to water quality.

Mark Traynowicz is the State Bridge Engineer for the Nebraska Department of Transportation. Mark received his Civil Engineering degree from the University of Nebraska. His career with the Department includes experience in bridge design, geotechnical engineering, research program, and construction management. He has been in his current position for 11 years.

Daniel Snow is a Research Professor, and Director of the Water Sciences Laboratory, a part of the Nebraska Water Center and Robert B. Daugherty Water for Food Institute at the University of Nebraska. He holds degrees in geology and geochemistry, including a PhD from the University of Nebraska (1996), a M.S. from Louisiana State University (1988), and a B.S. degree from Missouri State (1982). Over the past 30 years, his research interests and experience has focused on the studying the environmental fate of emerging contaminants and agrichemicals in ground and surface water. The results of this research have been published in over 200 journal articles, book chapters and conference proceedings. He holds an academic appointment in the University of Nebraska School of Natural Resources.

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