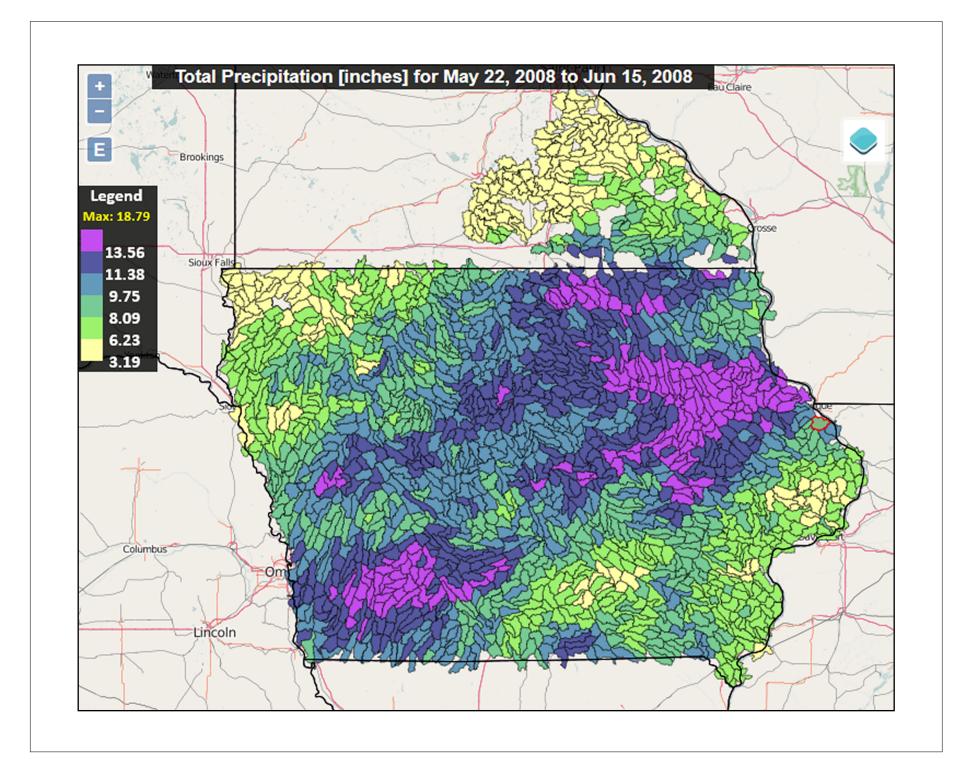
# IOWA STATE UNIVERSITY **Agricultural and Biosystems Engineering**

## Claudette M.J. Sandoval-Green, Rick Cruse, Brian Gelder, Daryl Herzmann, David James, Mario Perez-Bidegain, and Tim Sklenar

# The Daily Erosion Project: Engaging Farmers, Scientists, and Other Stakeholders in Soil & Water Conservation and Beyond ...



**PRECIPITATION** is the average amount of rainfall and melted snow received on the hillslopes.

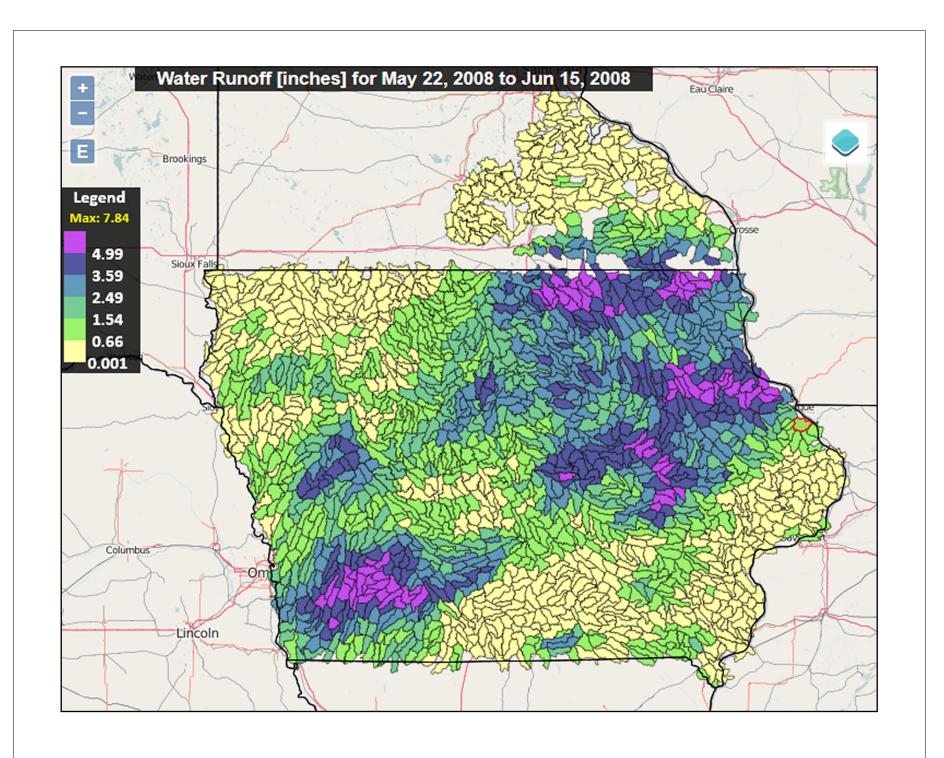
#### INTRODUCTION

Topsoil erosion resulting from rainfall, flooding events, and cultural land use practices is a significant environmental and economic issue for farmers, local and



statewide flooding prevention agencies and policy makers, homeland security, as well as other stakeholders.

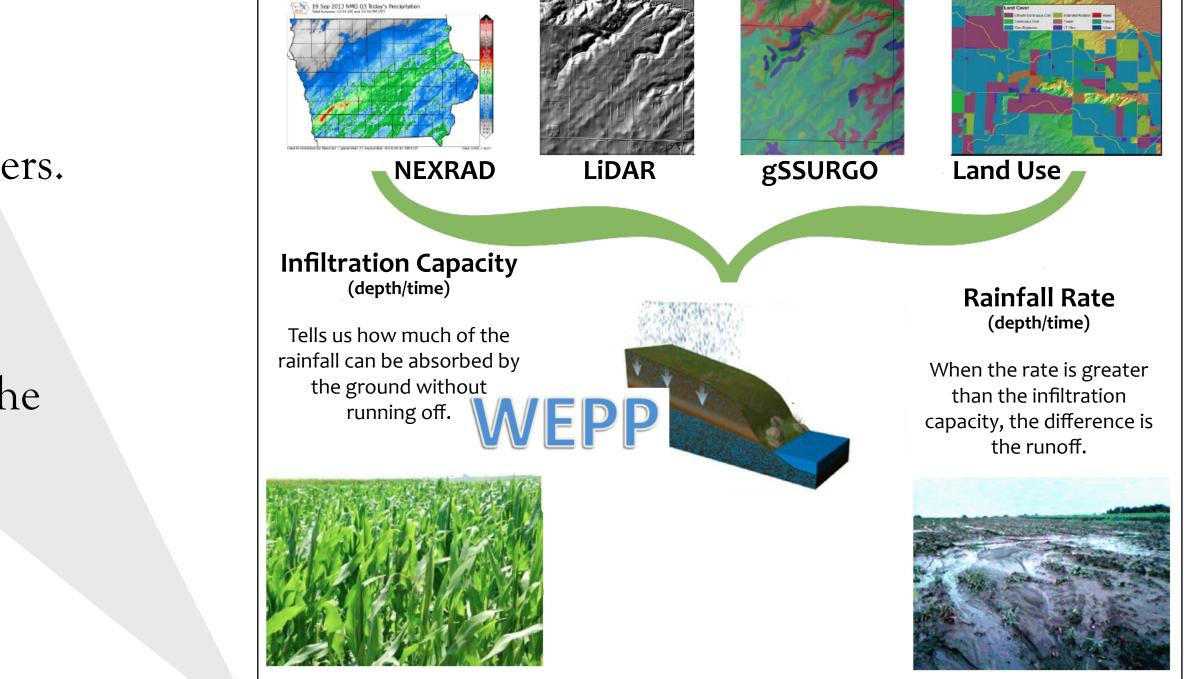
The Daily Erosion Project (DEP) is an online web mapping tool produced in partnership by Iowa State University, the National Soil Erosion Research Lab, the National Laboratory for Agriculture and the Environment, and the University of Iowa.

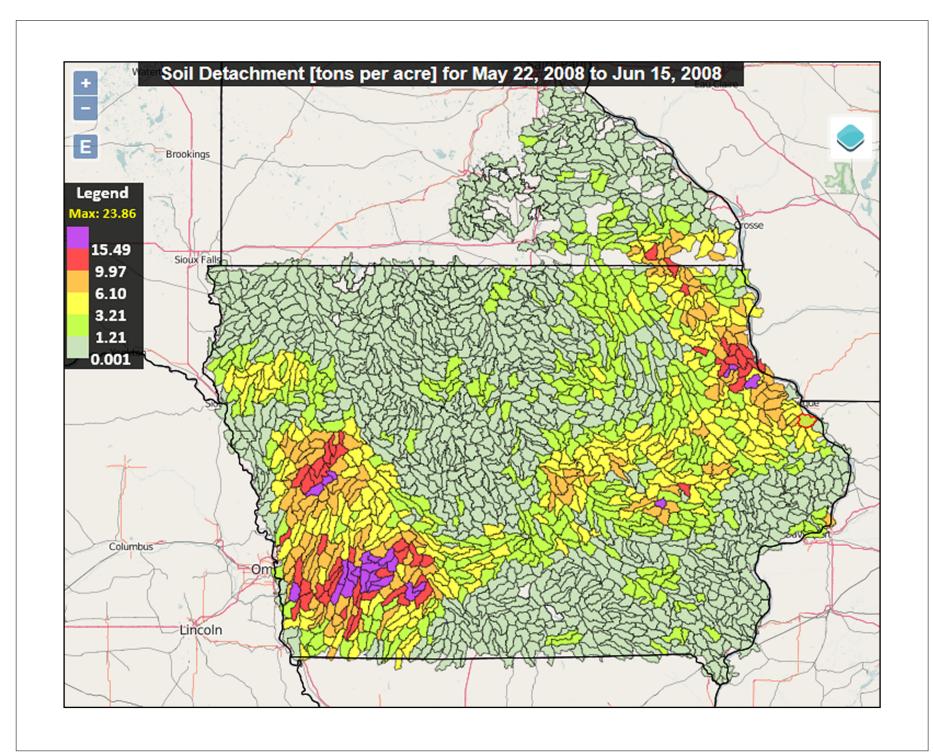


**RUNOFF** is the average amount of water that left the hillslopes through above ground transport.

#### DATA

The DEP utilizes current high-resolution geospatial data, local soils data, LiDAR elevation, and information on local land use practices to better identify areas daily and over time, with the greatest potential and need for soil and water conservation practices.





**SOIL DETACHMENT** is the average amount of soil disturbed on the modelled hillslopes.

#### TRY IT!

Take it for a test drive by visiting the online Daily Erosion Project (top QR code) to plug-in historical weather event dates for Iowa (printed for you below).

Then visit our sister project where the DEP derives much of its database from the Agricultural Conservation Planning Framework (ACPF) located at the North Central Region Water Network (bottom QR code).



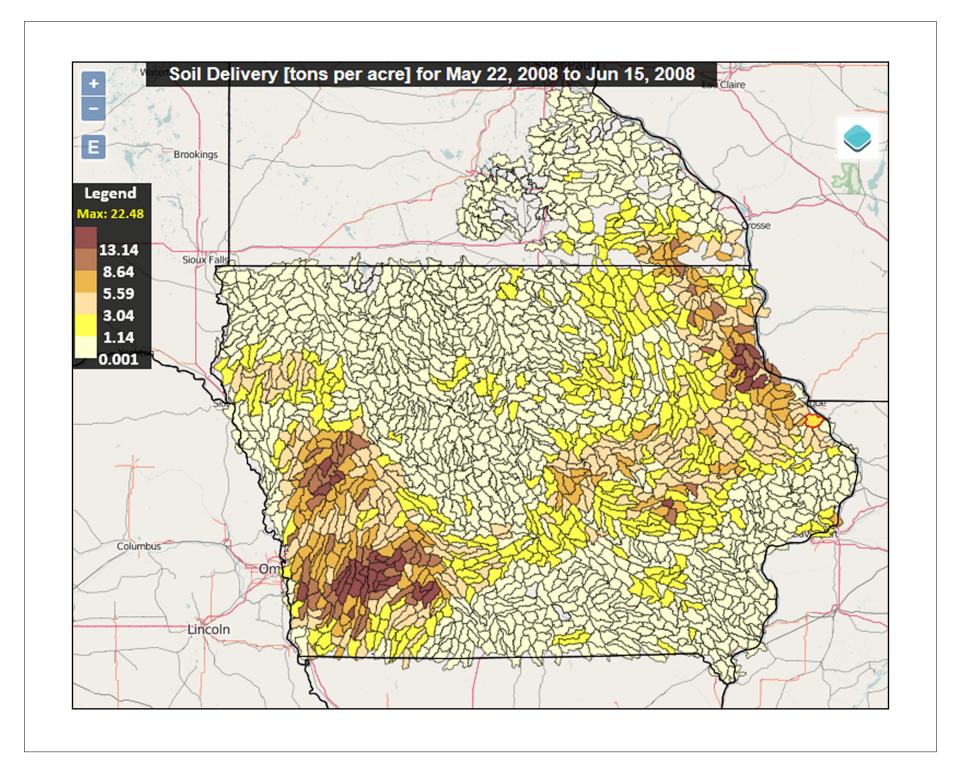


#### **Historical Weather Events in Iowa**

2008 Flooding in Central & Eastern Iowa May 22 to June 15

2010 Central Iowa Floods August 9 to 11

> 2012 Iowa Drought June 1 to August 31





### Esri User Conference JUNE 27- JULY 1, 2016 San Diego, California



**DELIVERY** is the average amount of soil transported to the bottom of the modelled hillslopes.

### **BEYOND SOIL &** WATER CONSERVATION ...

The Daily Erosion Project has the potential to be utilized in research in other scientific disciplines and applications such as environmental economics, environmental engineering, ecosystem restoration, physical geography, and perhaps even areas like archeology. Can you think of other applications? We would like to hear your feedback.

Are we coming to your state? Daily Erosion Project expansion is in MN, WI, KS, MO, NE, IL, MI, OH, IN, SD, and ND