The Iowa Watershed Approach

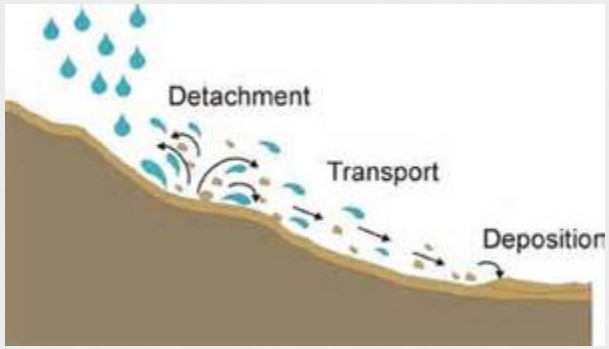
Iowa Water Center

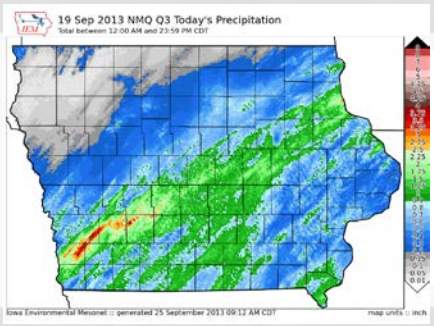
ISU Extension and Outreach

Iowa Nutrient Research Center

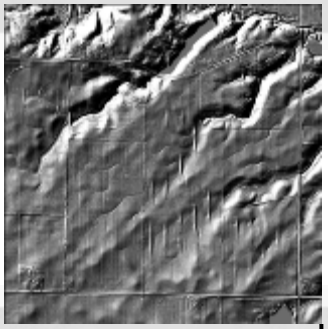
DAILY EROSION PROJECT

- Estimate daily mass of soil transported from hillslopes across Iowa and sections of other selected Midwestern states
- Report these soil erosion values daily and publicly at the HUC 12 spatial resolution.

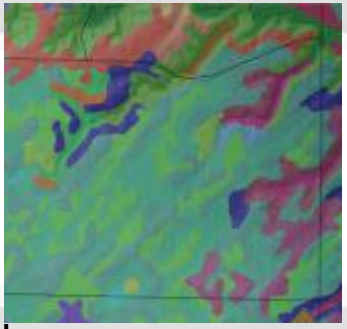




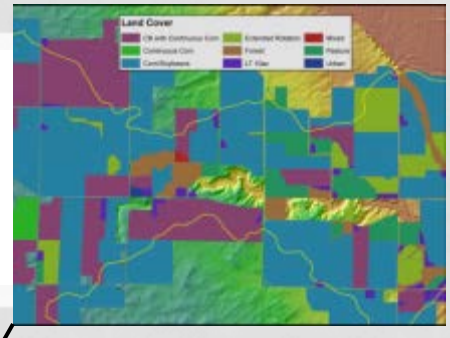
NEXRAD Precip



LiDAR Elevation

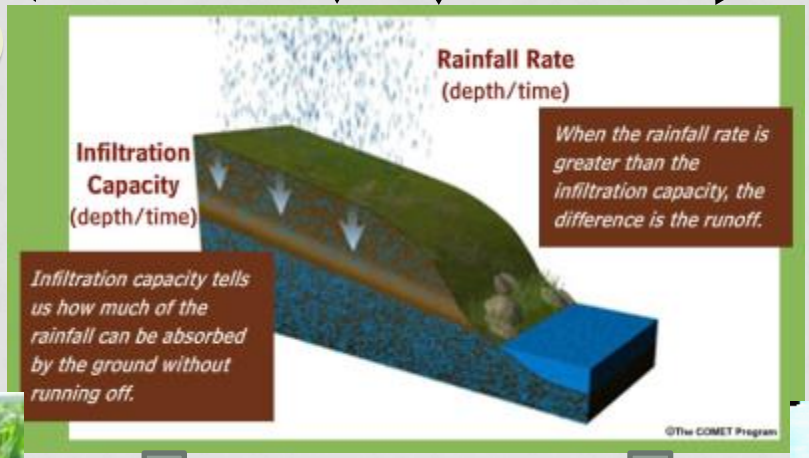


gSSURGO Soils



Field-scale Land-use & Management

WEPP



IOWA WATER CENTER

DEP Database

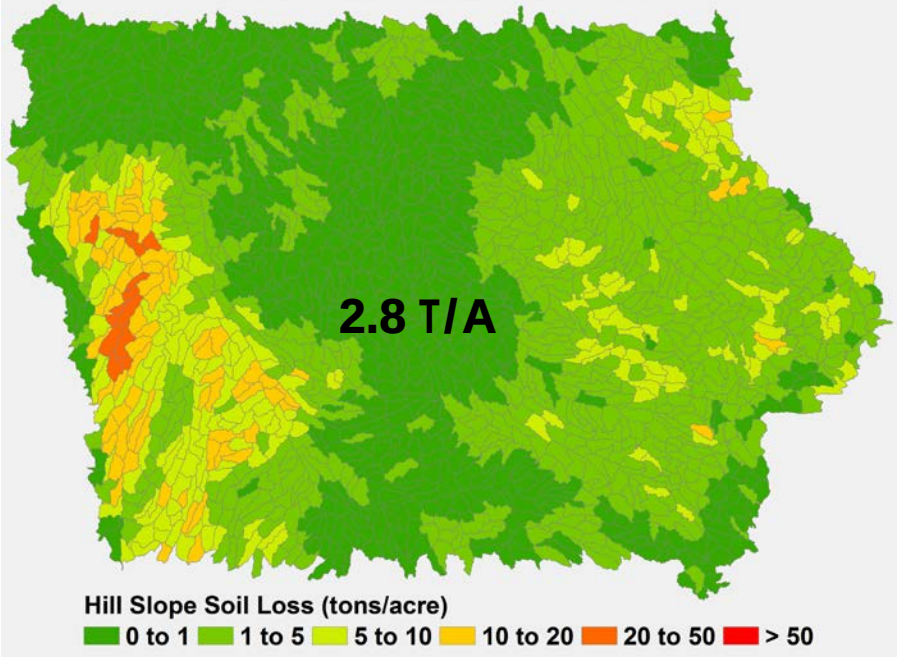
- 1,647 HUC12 watersheds
- 36,900,000+ Acres

Major Geo-Spatial Components by HUC12

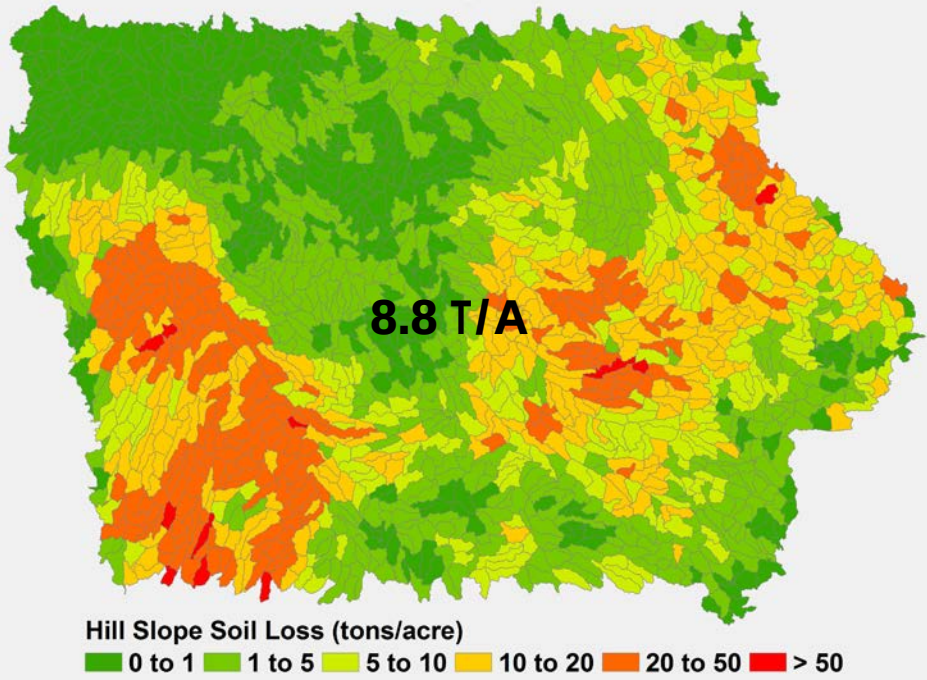
- Soils - gSSURGO – 10m raster
- Land Use - 2008-2013 NASS Crop Data Layer
- Elevation - LiDAR-based, 2m resolution
- 2009 crop-specific field boundaries

IOWA WATER CENTER

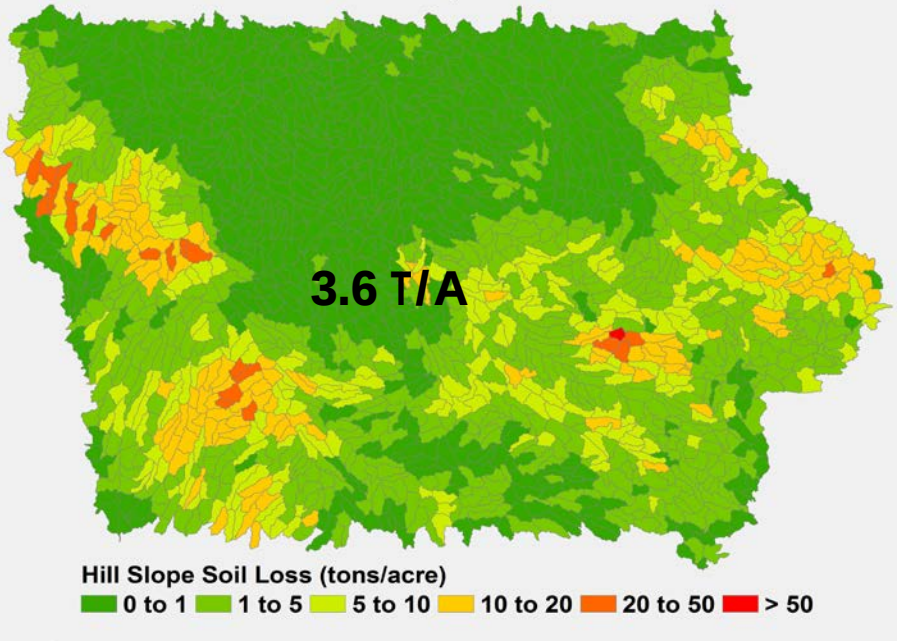
2007 Hill Slope Soil Loss



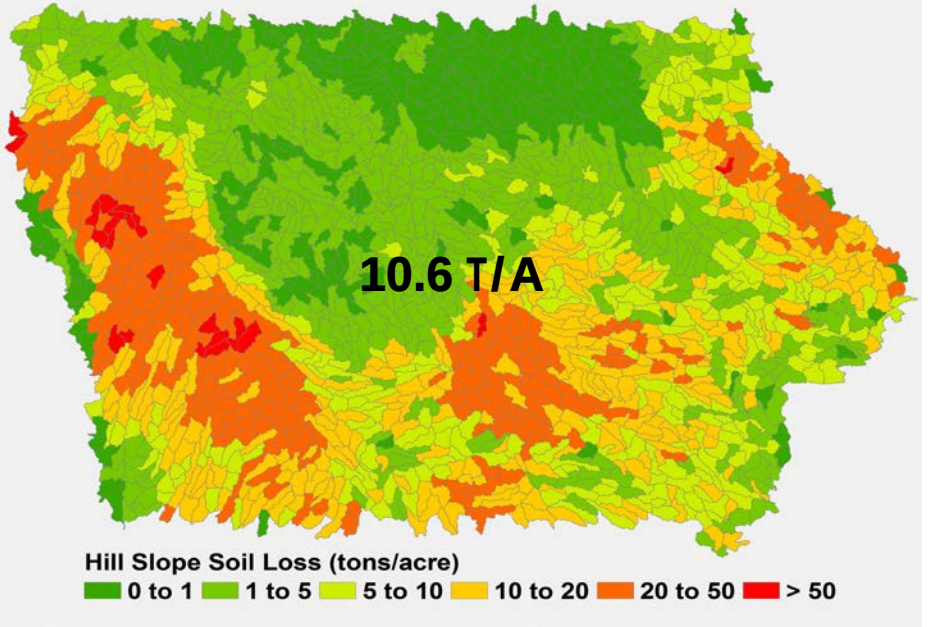
2008 Hill Slope Soil Loss



2009 Hill Slope Soil Loss



2010 Hill Slope Soil Loss



CLIMATE AND EROSION

- Increasing storm frequency and intensity when soils are most vulnerable
- Elevated soil erosion & **water runoff** rates unless we
  - Increase perennial vegetation
  - Build soil health

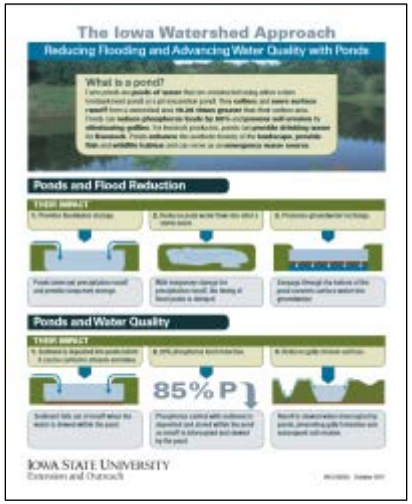
IOWA WATER CENTER

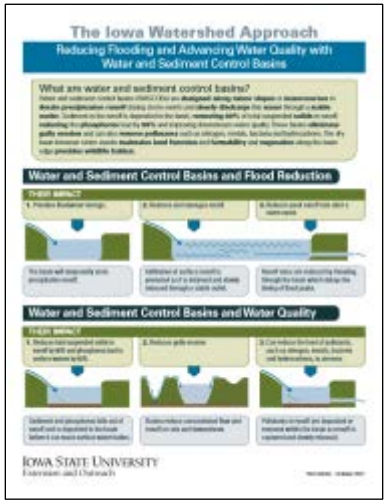
IWC ROLES (BESIDES DEP)

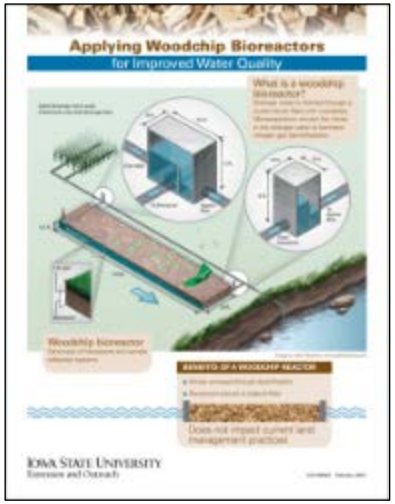
- Estimating historical loss of soil from HUC 12s and its impact on water retention in the uplands
- Information dissemination via Iowa Water Conference and other IWC channels
- WMAs of Iowa

Extension and Outreach

- For each watershed project watershed:
  - Develop education and outreach plans with integrated communication plans
  - Develop practice-specific outreach materials







Extension and Outreach

- Develop training opportunities for the IWA coordinators at the Iowa Watershed Academy
- Coordinate field days, workshops, and outreach events with project partners

Extension and Outreach

- Collaborate with ISU Research Farms and Extension Specialists to link IWA projects with new or existing on-farm demonstrations projects
- Establish data collection protocols for practice evaluation

Iowa Nutrient Research Center

- Incorporate research findings into project messaging strategies
- Collaborate with INRC project PIs to develop additional outreach materials

Iowa Nutrient Research Center IWA Projects

- Monetizing the Benefits of Conservation Practices Based on the Iowa Watershed Approach
- Scenario Development to Achieve Iowa Nutrient Reduction Strategy Goals
- Hydrometeorological Impacts on Water Quantity and Quality across Iowa's Streams
- The Impact of Climate Variability and Land Management Practices on Water Quality in Iowa at the Watershed Scale.

Project Assessments and Evaluation

- Create field day and event evaluations for all projects to utilize
- Conduct mid-project assessments with each watershed project
- Conduct an end of project evaluation