Developing CornSoyWater: A Web-based Decision Aid for Corn and Soybeans in Nebraska

C Han, H Yang, K Hubbard, M Shulski, J Rees, G Kruger, G Zoubek, P Grassini, J Torrion, D Heeren, K Cassman, J Specht, and S Irmak
University of Nebraska, Lincoln, NE 68583, USA

Rationale
When making an irrigation decision, an irrigator has to know:
• What’s the soil moisture status in the rooting zone?
• What stage is the crop at?
• How is weather going to be for the coming days? And he/she has to drive to the field to get the info!

Objectives
• Develop an online corn irrigation decision aid that provides real-time and field-specific estimates on crop stage, crop water consumption, and available soil water, as well as predictions for the next 10 days.
• Integrate SoyWater online irrigation tool with corn tool into CornSoyWater.

Method
• Crop simulation modeling using real-time weather data in combination with 10-day weather forecast and long-term historical weather record.
• Web-based platform.

Weather Data
• Applied Climate Information System through UNL-HPRCC

SoyWater: Soybean Irrigation Web

Hybrid-Maize Model
- Corn development
- Corn water consumption
- Soil water balance

CornSoyWater (Corn Field Example)

Web Soil Data

Project Timeline
2013: Prototype development and small scale field testing
2014: Program refinement and expanded field testing
2015: Program release

User Input Data
• Field location
• Crop maturity
• Planting date
• Seeding rate
• Soil moisture at planting

Acknowledgements
For further info, contact:
Dr. Haishun Yang, hyang2@unl.edu

This project is funded by