

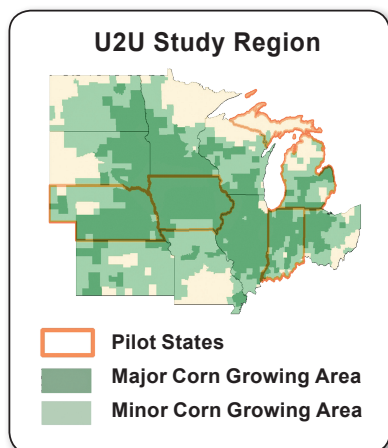
Transforming Climate Variability and Change Information for Cereal Crop Producers

EXECUTIVE SUMMARY

Weather and climate patterns are a driving force behind the success or failure of cropping systems. With U.S. corn and soybean production accounting for nearly one-third of global supplies and contributing over \$50 billion annually to the national economy, the ability to successfully produce crops under more variable climate conditions becomes critical for food security and rural livelihoods.

Therefore the U2U project strives to **enhance the usability and up-take of climate-based resources and bolster Extension capacity to address agro-climate concerns.**

Long-term, these efforts will lead to **more profitable** agricultural systems across the Corn Belt and **greater resilience** to a changing climate.



Map created by Adam Reimer

Objective 1 (2011-2014)

Use existing data to develop a knowledge base of potential biophysical and economic impacts related to climate changes, and consider the relative risks they pose.

Objective 2 (2011-2014)

Understand the use and value of climate information for agricultural decision making, and determine effective methods for disseminating usable climate knowledge.

Objective 3 (2012-2015)

Develop tools, training materials and implementation approaches that lead to more effective decision making and adoption of practices associated with farms resilient to climate variability.

Objective 4 (2013-2015)

Evaluate the effectiveness of decision support tools, training methods and implementation approaches in four pilot states (Indiana, Iowa, Nebraska and Michigan).

Objective 5 (2015-2016)

Broadly disseminate validated training materials, tools and Extension programs to ensure increased usefulness of climate information.



The U2U Project Team

The U2U project aims to improve the resilience and profitability of farms in the North Central region amid variable climate change through the development and dissemination of decision support tools, resource materials and training.

Accomplishment Highlights

(April 2011 – February 2013)

Team

- **Established a diverse team of nearly 50 faculty, staff, and students** from nine universities across the Midwest with expertise in climatology, agronomy, crop modeling, cyber-technology, economics, and social science.
- **Established partnerships with agro-climate research and Extension groups**, regionally and internationally, to enhance and expand U2U project discoveries.
- **Presented U2U-related findings and project information** to researchers and stakeholders at nearly 30 conferences and meetings.

Objective 1

- **Developed a cyber-infrastructure framework** for managing crop and climate model input and output datasets, model validation activities, data analysis and visualization, and decision tool design.
- **Collected representative climate, agronomic, and soils datasets** at various spatial and temporal scales to support crop modeling and economic analysis across the 12-state region.
- **Simulated regional crop productivity based on past climate conditions** using crop models of varying biophysical complexity and process scale representations.

Objective 2

- **Surveyed over 19,000 farmers** in 22 top corn-producing watersheds across the North Central region about climate information needs, climate change beliefs and concerns, and influential information sources (in conjunction with sustainablecorn.org).
- **Surveyed over 7,500 agricultural advisors** in four North Central states (IA, IN, MI, and NE) about their use of climate information, climate change beliefs and concerns, and influential information sources.
- **Conducted focus groups with farmers and agricultural advisors** in Indiana and Nebraska.

Objective 3

- **Launched a web portal** linking the public to relevant and trusted resources including agro-climate reports, decision support tools, customized weather/climate condition maps and drought information, national climate outlooks, and more.
- **Initiated development of several new decision support tools**, including an easy-access interface to region-wide climate and crop information and a Growing Degree Day (GDD) tool.

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For more information
about this project,
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