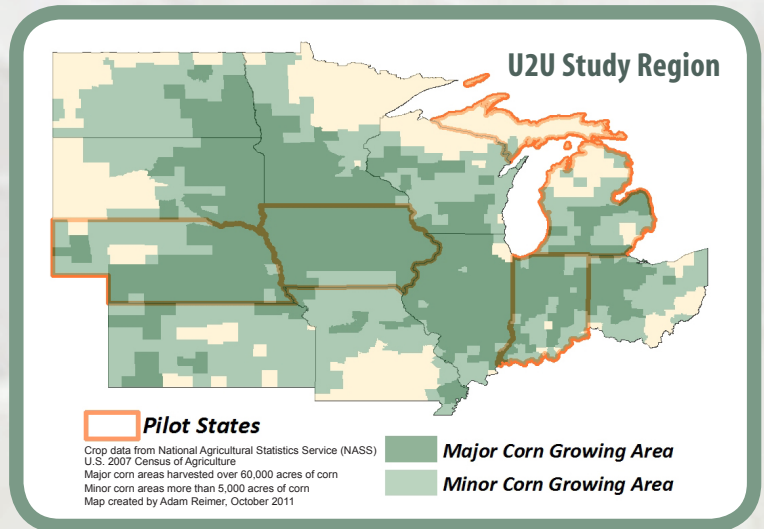




Transforming Climate Variability and Change Information for Cereal Crop Producers

Corn and soybean production contributes over \$100 billion annually to the U.S. economy, most of which comes from the intensively cultivated corn-belt region of the Midwest. Successful crop production is highly dependent on favorable temperatures and appropriate precipitation patterns, making this industry vulnerable to increasingly variable climate patterns. Though predictive models are constantly improving, there are gaps in our understanding of how different management practices can be used to help farmers adapt to climate change while maintaining economic viability. Furthermore, currently available tools and models are not meeting producers' needs, and little is known about the types of information they would like to access.



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We seek to improve the resilience and profitability of farms amid variable climate changes by providing stakeholders with enhanced decision support tools.

Project Objectives

Tasks associated with five broad objectives will be completed throughout the project that, together, will improve the usability of climate information for the agricultural community and lead to more sustainable farming operations:

Current Objectives (years 1 & 2, in progress)

Objective 1

- 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.
- Develop 4-km gridded crop simulation models across the 12-state region
- Use case studies to identify impacts of climate and management decisions on yields & farm profitability

Objective 2

- Understand the use and value of climate information for agricultural decision making, and determine effective methods for disseminating usable climate knowledge.
- Survey agricultural producers and advisors about climate information and tools, adaptation strategies, and climate change perceptions
- Determine the flow of knowledge and information throughout the agricultural community using social network analyses

Upcoming Objectives

- **Objective 3:** 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:** Evaluate the effectiveness of decision support tools, training methods, and implementation approaches in four pilot states (Indiana, Iowa, Nebraska, and Michigan).
- **Objective 5:** Broadly disseminate validated training materials, tools, and extension programs to ensure increased usefulness of climate information.



The U2U Project Team

A Foundation for Success

Ongoing **dissemination and feedback** activities are at the project's core and highly critical to its success. Key stakeholder groups involved include agricultural producers, advisors, and extension educators. They serve as both participants in human dimension research and as representatives on the U2U Advisory Committee.

Evaluation occurs at every step in the process to inform and improve performance. Process evaluation monitors the degree to which the project is carried out as intended. The program's output is monitored to describe its activities and products, participants, and degree of involvement. Outcomes are measured through learning gains, attitude change, and behavior change associated with intended program impacts.

HUBzero™ technology serves as the supporting middle-ware that integrates tasks across all objectives. It will facilitate the development and delivery of decision support tools, climate and adaptation information, and associated materials.

For more information about this project, please visit <http://www.AgClimate4U.org>

Project Collaborators

The U2U team is composed of a uniquely qualified group of climatologists, crop modelers, agronomists, economists, and social scientists from ten Midwestern universities:

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