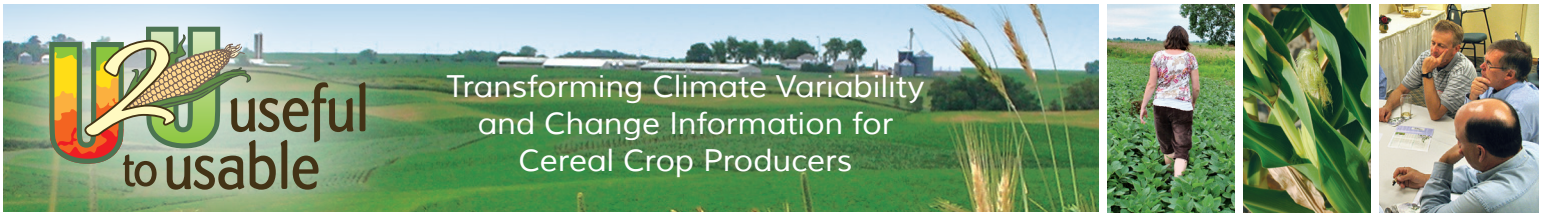

2015 PROJECT UPDATE

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.

The U2U project strives to **enhance the usability and up-take of climate information and bolster Extension capacity** to address agro-climate concerns. We are developing climate-based tools to assist Corn Belt farmers and ag advisors with decisions related to purchasing, marketing and activity planning throughout the growing cycle. Long term, we expect these efforts will lead to **more profitable** agricultural systems and **greater resilience** to a changing climate.

Top Project Accomplishments

1. Simulated the **impacts of historical and future climate** conditions on crop productivity across the U.S. Corn Belt using crop models of varying biophysical complexity and process scale representations.

2. Conducted three large-scale **surveys of Corn Belt farmers and ag advisors** about climate information needs, climate change beliefs and concerns, and trusted information sources.

3. Worked closely with stakeholders to develop four **web-based agro-climate decision support tools**.Two additional products will be released in 2015-2016.

4. **Presented project information** at 80+ conferences and 105+ outreach events. Published 55 book chapters, journal articles, and Extension publications featuring U2U research.

5. Received an **additional $600K in funding** among team members to expand and leverage U2U research, tools, and ideas.

Project Collaborators

An integrated team of university researchers, climatologists and social scientists from across the Corn Belt collaborate on the U2U project.

The U2U Project Team

Purdue University
Linda Stalker Prokopy*(lead), Larry Biehl, Sarah Church, Otto Doering*, Seong do Yun, Mike Dunn, Silvestre Garcia de Jalon, Ben Gramig*, Elin Karlsson, Anil Kumar, Xing Liu, Dev Niyogi*, Chris Panza, Paul Preckel, Carol Song*, Shanxia Sun, Molly van Dop, Melissa Widhalm, Lan Zhao

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Chad Hart*, Jean McGuire, Lois Wright Morton*, Eugene Takle*, Adam Wilke

Michigan State University
Gopal Alagarswamy, Jeff Andresen*

South Dakota State University
Dennis Todey*

University of Illinois
Jim Angel*, Beth Hall*, Steve Hilberg, Atul Jain*, Olivia Kellner, Yang Song

University of Michigan
Yun-Jia Lo, Maria Carmen Lemos*

University of Missouri
Pat Guinan*, Ray Massey*

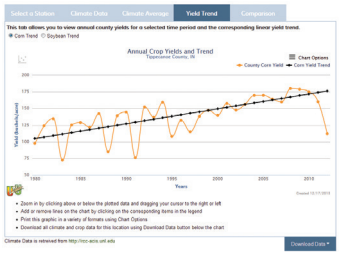
University of Nebraska-Lincoln
Juliana Dai, Roger Elmore*, Tonya Haigh, Cody Knutson*, Martha Shulski*

University of Wisconsin
Kim Kies, Jenna Klink, Vikram Koundinya, Rebecca Power*, Amber Schmechel

*Denotes co-project investigator

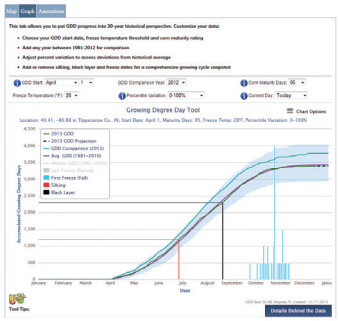
AVAILABLE NOW

AgClimate View DST



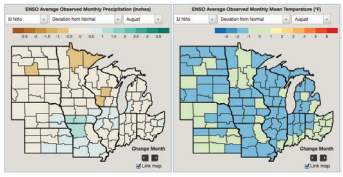
A convenient way to access customized historical climate and crop yield data for the U.S. Corn Belt. View and download graphs of monthly temperature and precipitation, plot corn and soybean yield trends, and compare climate and yields over the past 30 years. AgClimate View also provides insights on rainfall and temperature variability throughout the year and lets you compare current conditions to the historical average.

Corn GDD DST



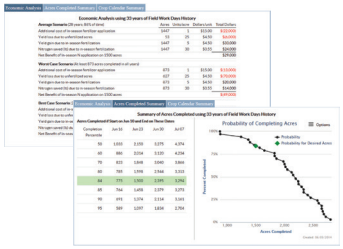
Track real-time and historical corn growing degree day accumulations, assess spring and fall frost risk, and guide decisions related to planting, harvest and seed selection. This innovative tool integrates corn development stages with weather and climate data for location-specific decision support, tailored specifically to agricultural production.

Climate Patterns Viewer DST



Discover how global climate patterns like the El Niño Southern Oscillation (ENSO) and Arctic Oscillation (AO) have historically affected local climate conditions across the U.S. Corn Belt. Climate Patterns Viewer provides simple maps and charts to determine when (by month) and where (by climate division) specific phases of ENSO or AO have influenced temperatures, precipitation and crop yields.

Corn Split N DST



This product can be used to determine the feasibility and profitability of using post-planting nitrogen application for corn production. The Corn Split N tool combines historical data on crop growth and fieldwork conditions with economic considerations to determine best/worst/most likely scenarios of successfully completing nitrogen applications within a user-specified time period.

COMING IN 2015

Irrigation Investment DST

This tool will use present-day conditions and future climate projections to offer guidance on irrigation investment decisions. This tool can be used to determine the potential costs and pay-off periods of irrigation by region.

Crop and Climate Model Dashboard

The dashboard will offer a simple, unique look at expected changes in key agronomic variables between current day and 2040. This will allow the ag community to quantify risk due to potential changes in crop yields, days suitable for fieldwork, soil moisture, ET and more.

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National Institute of Food and Agriculture

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