

Iowa State University
College of Agriculture and Life Sciences

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Contacts:

J. Arbuckle, Sociology, (515) 294-1497, arbuckle@iastate.edu

Lynn Laws, Sociology, (515) 294-7380, lynnlaws@iastate.edu

Corn Belt Farmer Perspectives on Climate and Agriculture Summarized in New Report

AMES, Iowa — A new report on farmer perspectives on climate and agriculture, gathered in a 2012 survey of nearly 5000 farmers from 11 Corn Belt states, presents survey results by watershed. “Farmer Perspectives on Agriculture and Weather Variability in the Corn Belt: A Statistical Atlas” is a new publication of the Climate and Corn-based Cropping Systems Coordinated Agricultural Project (CSCAP) and is available online at www.sustainablecorn.org. The “statistical atlas” includes maps and tables that make it easy for readers to gauge farmer perspectives within one or more of 22 HUC6 watersheds in the Corn Belt. Topics covered in the atlas include beliefs about climate change, attitudes toward actions in response to increased weather variability, risk perceptions, and farmer experiences with weather extremes.

“Many of the impacts of increased weather variability are hydrological. And biophysical science research is increasingly conducted using watershed boundaries, so we decided to use a watershed approach in our socioeconomic research design,” said J. Arbuckle, professor of sociology at Iowa State University and one of the principal investigators for the survey.

The watersheds that were surveyed account for more than half of all US corn and soybean production. Farmers selected for the survey were those who grew corn and who had more than \$100,000 in gross farm income in 2011; these larger-scale farmers cultivate approximately 80 percent of the farmland in the region.

The CSCAP, a USDA-funded project, seeks to increase resilience and adaptability of Midwest agriculture to more volatile weather patterns by identifying farmer practices and policies that increase sustainability while meeting crop demand. The survey was conducted in partnership with another USDA-funded project called Useful to Usable.

“In order to help farmers adapt their cropping systems to more variable weather, it is important to understand their perspectives,” said Arbuckle. “Are they concerned about potential increases in weather, pest, and disease impacts? Do they feel prepared? The survey focused on many such questions.”

The report contains tables that present the data and maps that show the geographical distribution of survey results across the Corn Belt. The CSCAP project intends the maps and tables to be resources that extension educators, agricultural advisors, and other agricultural stakeholders across the region can use to help them understand farmer perspectives in their local areas.

“We have a team of 18 extension educators across the Corn Belt who will be incorporating the maps and tables into their work with farmers and other stakeholders,” said Jamie Benning, Iowa State extension specialist and climate educator, who directs CSCAP extension activities. “Many extension educators and agricultural advisors will be talking about weather variability in workshops and meetings with farmers. They can easily incorporate maps from this atlas in their presentations.”

Weather maps are also included in the report and were developed using data from National Weather Service Cooperative Observer weather stations from across the region. The maps, developed by Jon Hobbs, a PhD student at Iowa State and CSCAP team member, show differences in extreme precipitation, drought, and heat stress by watershed.

“We hope extension, government agencies, and private sector agricultural stakeholders across the region will find this report to be useful,” said Lois Wright Morton, CSCAP Project Director and sociology professor at Iowa State. “A better understanding of what farmers are thinking about weather extremes and their related experiences and concerns, can help those of us who work with farmers do our jobs more effectively.”

The report is available for download from the CSCAP website, www.sustainablecorn.org.

CSCAP, also known as the Sustainable Corn Project, convenes teams from 10 land-grant universities and two USDA Agricultural Research Service laboratories across 9 states in the Midwest (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, South Dakota, and Wisconsin). The teams are comprised of 90 biophysical and social scientists including soil scientists and agronomists, sociologists, economists, agricultural engineers, modelers, and climatologists as well as educators and extension field specialists. One hundred and sixty five farmers within the region also participate on the project.

The project’s scientists are gathering and studying data from 35 field sites and thousands of Midwestern farmers, with the goal of creating a suite of practices for corn-based systems that: 1) retain and enhance soil organic matter and nutrient and carbon stocks, 2) reduce off-field nitrogen losses that contribute to greenhouse gas emissions and water pollution, 3) better withstand droughts and floods and 4) ensure productivity under different climatic conditions.

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