

# Making Climate Change Visible To Farmers

Adam Wilke, Jamie Benning, Chad Ingels, Daryl Herzmann, Lois Wright Morton

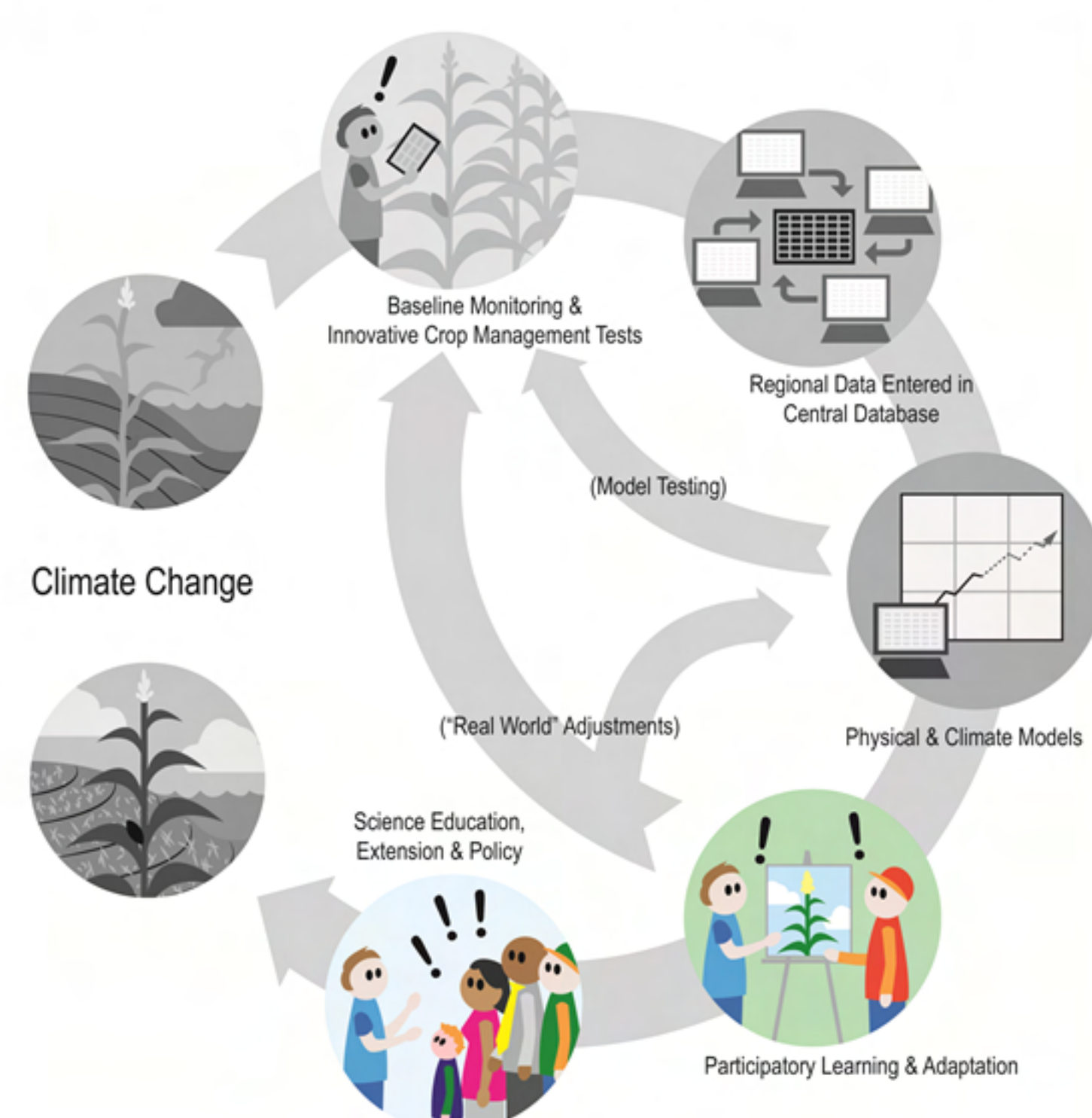
## INTRODUCTION

As a part of Objectives 4 and 5 of the Climate and Corn-Based Cropping Systems Project, climate fact sheets are being developed. They include state and within state regional historical weather data over the past 60 years. These publications of regional climate data will be directed to an audience of farmers and will be valuable for use by extension specialists and staff working in the field.



## PURPOSE

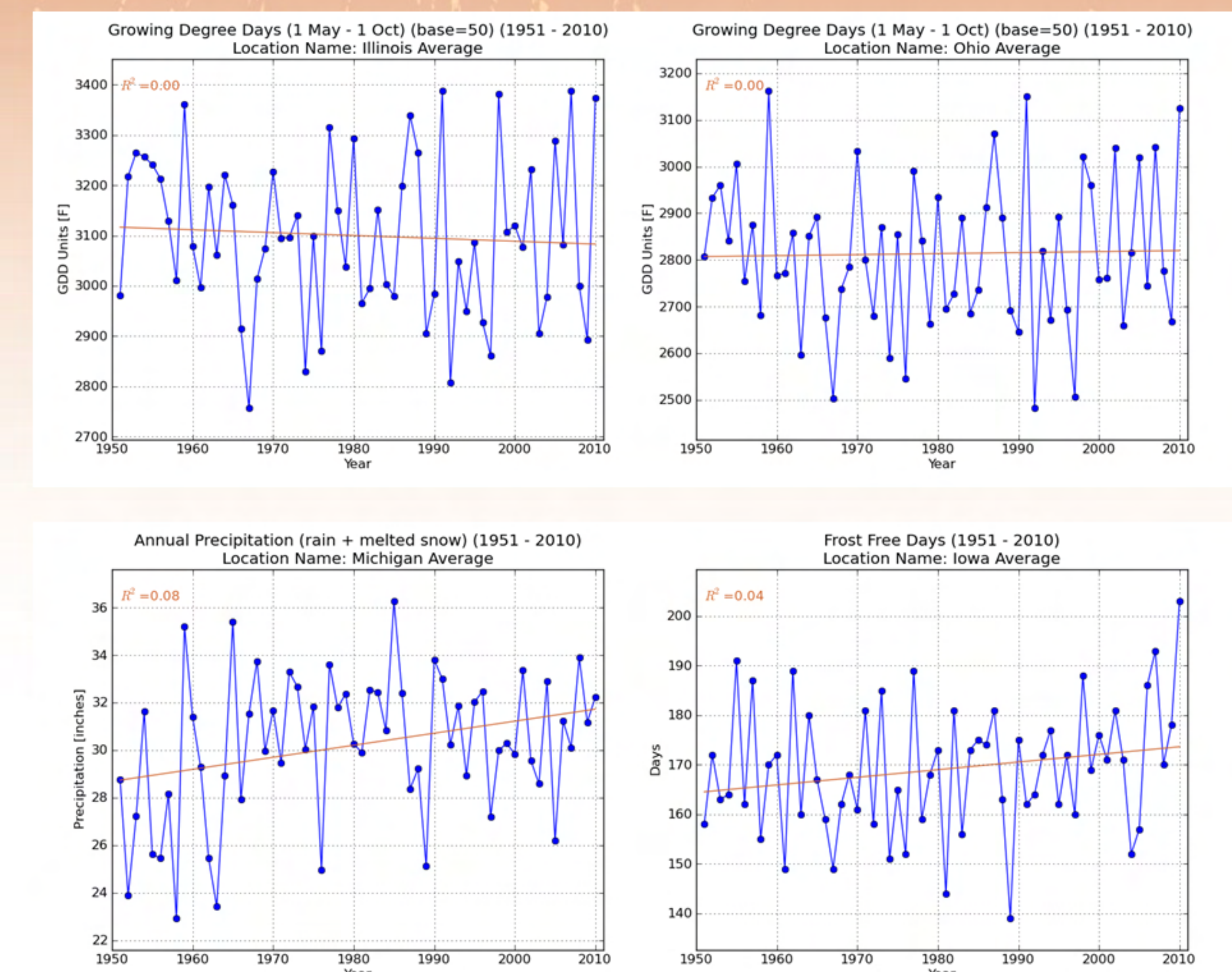
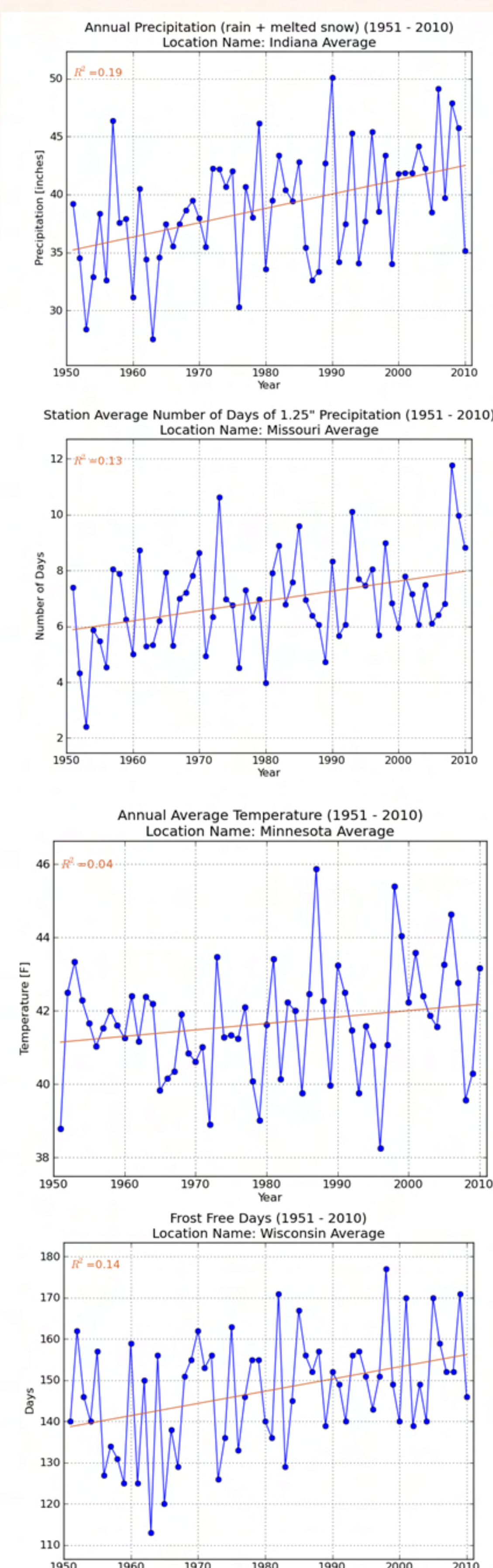
Climate publications will provide an important contribution in the effort to translate long-term scientific weather information to the community of Midwestern farmers across the Corn Belt. Extension educators will find these publications useful while working with farmers as they develop agricultural management portfolios in response to the future weather risks associated with climate change. These publications will also provide a valuable contribution towards achieving the social, educational, and extension objectives of the project.



## OVERVIEW

These publications are being developed for each of the nine states in the CSCAP, as well as for each climate region within each state, which correlates to federal crop reporting districts. Data will be presented in graph format for the past 60 years on precipitation, temperature, growing degree days, frost free days, frequency of extreme precipitation (+1.25"), and seasonal temperature patterns.

STATE	1950s	2000s	DECADE
PRECIPITATION			SLOPE
Indiana	35.91	42.62	1.24
Missouri	33.45	39.12	0.95
Iowa	29.62	34.65	0.91
Ohio	34.7	38.47	0.74
Illinois	34.41	38.71	0.69
Michigan	28.02	30.92	0.51
South Dakota	16.87	18.81	0.49
Wisconsin	29.06	31.05	0.41
Minnesota	24.5	26.6	0.38
NUMBER DAYS +1.25"			
Missouri	5.72	7.84	0.35
Indiana	4.96	6.72	0.34
Ohio	3.24	4.57	0.27
Iowa	4.15	5.58	0.25
Illinois	4.7	6.16	0.23
South Dakota	1.63	2.36	0.15
Minnesota	2.93	3.6	0.14
Wisconsin	3.53	3.83	0.12
Michigan	2.54	2.79	0.1
TEMPERATURE			
Minnesota	41.6	42.3	0.18
Michigan	44.3	44.8	0.12
Wisconsin	43.8	44.3	0.12
South Dakota	46	46.7	0.12
Indiana	53.1	53.3	0.08
Ohio	52.1	52	0.04
Illinois	53.4	53.2	-0.01
Iowa	49.4	49.1	-0.03
Missouri	55.3	54.7	-0.1
FROST FREE DAYS			
Minnesota	135.2	151.9	3.28
Wisconsin	142.1	154.8	2.96
Ohio	174.5	185.6	2.59
Michigan	144.5	160.9	2.57
Iowa	169.4	176.2	1.54
Indiana	186.4	188.4	1.33
Missouri	191.9	194.6	0.95
South Dakota	143.8	147.8	0.71
Illinois	189.1	186.4	-0.49



## EXPECTED OUTCOMES

The goal of these extension publications is to translate scientific climate information to farmers. As farmers are exposed to known risks associated with climate change, they will begin to gather data to inform their management decisions in response to these previously uncertain risks. The information presented in the fact sheets will assist farmers in identifying their personal risk profile and developing a portfolio of risk management strategies.

It will be important to understand how farmers perceive risks associated with climate change in the development of agriculture management portfolios.



This research is part of a regional collaborative project supported by the USDA-NIFA, Award No. 2011-68002-30190 "Cropping Systems Coordinated Agricultural Project (CAP): Climate Change, Mitigation, and Adaptation in Corn-based Cropping Systems" November 2011 | [www.sustainablecorn.org](http://www.sustainablecorn.org)