

## 2 Attitudes Toward Adaptive and Mitigative Action

Attitudes are an assessment or subjective evaluation about a specific object, idea, or policy. Frequently, attitudes are intuitive or affect responses (positive, negative, or neutral) rather than analytical objective or factual analyses. The tables and maps in this section summarize Midwest farmers' attitudes toward a number of potential adaptive and mitigative actions. Adaptive actions are adjustments that farmers make as they react to or anticipate changing conditions that are of concern and may place the farm enterprise at risk. Adaptive actions can be technological, economic, social, managerial, and/or advocating institutional adjustments and are often motivated by intentions to reduce risk and vulnerability of the farm enterprise. Mitigation actions are those that reduce greenhouse gas emissions or sequester carbon. Mitigation actions can be individual responses but are most often viewed as collective activities and policies that benefit global conditions.

The survey included 15 adaptation and mitigation items to be rated on a five-point agreement scale from strongly disagree (1) to strongly agree (5). The question set was preceded by the text, "Organizations, agencies, and individuals can do a number of things to prepare for or address potential changes in climate. Please provide your opinions on the following statements."

**Table 1. Attitudes<sup>1</sup> toward various adaptive and mitigative actions to prepare for or address potential changes in climate, percent agree or strongly agree (n = 4,778)**

Watershed (HUC6)	Q20A <sup>a</sup>	Q20B <sup>b</sup>	Q20C <sup>c</sup>	Q20D <sup>d</sup>	Q20E <sup>e</sup>	Q20F <sup>f</sup>	Q20G <sup>g</sup>	Q20H <sup>h</sup>	Q20I <sup>i</sup>	Q20J <sup>j</sup>	Q20K <sup>k</sup>	Q20N <sup>n</sup>	Q20O <sup>o</sup>
Weighted Full Sample .....	65.4	58.0	84.4	62.4	42.9	51.7	49.5	38.4	63.0	22.6	22.8	47.4	17.2
Loup.....	62.0	46.5	78.2	57.8	38.7	43.7	51.4	39.7	58.9	18.4	22.7	17.7	31.4
Middle Platte.....	59.4	50.7	86.9	68.6	45.3	48.9	35.0	37.7	59.1	21.7	16.8	27.9	46.7
Elkhorn .....	64.7	51.0	81.9	64.0	41.3	44.7	50.0	42.8	68.2	18.4	20.3	24.3	29.8
Big Blue .....	59.8	50.6	82.2	63.6	38.5	43.7	45.7	42.7	62.4	17.8	21.4	19.8	29.6
Lower Platte.....	65.6	58.0	82.9	67.3	45.7	48.0	51.0	42.0	67.8	25.2	26.0	28.5	25.0
Big Sioux .....	70.3	60.0	81.7	58.3	42.3	45.1	45.1	33.1	65.7	20.0	18.9	45.1	14.9
Missouri-Little Sioux	65.2	56.9	81.5	65.7	44.6	55.2	52.6	40.7	63.0	23.8	25.2	41.9	14.9
Missouri-Nishnabotna .....	68.3	64.9	91.2	67.8	45.4	52.7	50.7	38.7	59.6	24.0	20.3	35.2	13.4
Minnesota.....	66.7	59.0	85.9	60.8	42.7	48.2	45.6	30.7	69.6	22.0	22.0	59.0	16.5
Des Moines.....	59.8	54.5	84.7	65.2	43.7	50.0	50.4	30.0	54.7	19.9	21.1	55.7	11.9
Iowa.....	66.8	54.3	83.8	64.7	46.0	54.5	51.1	38.9	58.1	23.8	22.1	48.9	13.3
Black Root .....	66.8	55.6	78.7	58.0	44.7	45.6	56.7	44.4	74.0	26.7	21.1	29.7	13.6
Skunk Wapsipinicon	62.7	62.3	88.4	60.9	45.4	52.8	50.5	34.4	58.1	21.8	23.6	54.0	10.3
Maquoketa Plum.....	67.2	52.7	83.8	58.9	44.4	51.7	51.1	42.7	68.5	27.4	19.0	38.4	8.6
Lower Illinois.....	61.2	56.6	82.4	58.9	42.1	56.1	46.9	38.8	54.6	24.6	28.4	51.3	16.1
Rock .....	66.1	58.7	85.5	58.9	35.6	47.8	47.2	40.5	64.6	30.1	25.6	39.3	19.1
Kaskaskia .....	75.8	70.3	82.5	60.6	39.4	56.2	51.6	38.3	66.1	24.5	23.1	52.4	15.2
Upper Illinois.....	67.6	61.2	86.7	63.7	40.9	61.3	48.9	40.0	65.3	20.6	25.3	58.4	15.3
Wabash .....	65.6	62.7	87.8	62.6	43.4	57.7	52.1	43.3	61.6	20.0	24.7	59.3	15.7
Patoka-White .....	73.4	68.1	85.9	66.7	47.9	57.3	45.6	38.0	66.5	17.7	18.0	62.0	18.5
Southeastern Lake Michigan .....	62.4	57.0	80.5	62.8	41.6	54.6	47.3	40.8	66.7	22.9	26.6	53.0	35.8
Western Lake Erie ...	65.6	59.2	83.7	61.9	40.2	49.2	54.8	42.9	68.3	21.8	22.7	67.6	18.1

<sup>1</sup>Attitudes were measured on a 5-point agreement scale: strongly disagree, disagree, uncertain, agree, strongly agree.

<sup>a</sup>Farmers should take additional steps to protect farmland from increased weather variability.

<sup>b</sup>I should take additional steps to protect the land I farm from increased weather variability.

<sup>c</sup>Seed companies should develop crop varieties adapted to increased weather variability.

<sup>d</sup>University Extension should help farmers to prepare for increased weather variability.

<sup>e</sup>State and federal agencies should help farmers to prepare for increased weather variability.

<sup>f</sup>Farm organizations (e.g., Farm Bureau, Corn Growers) should help farmers to prepare for increased weather variability.

<sup>g</sup>Profitable markets for biomass should be developed to encourage planting of perennial crops (grasses, trees) on vulnerable land.

<sup>h</sup>Profitable markets for carbon credits should be developed to encourage use of conservation tillage, cover crops, & other practices.

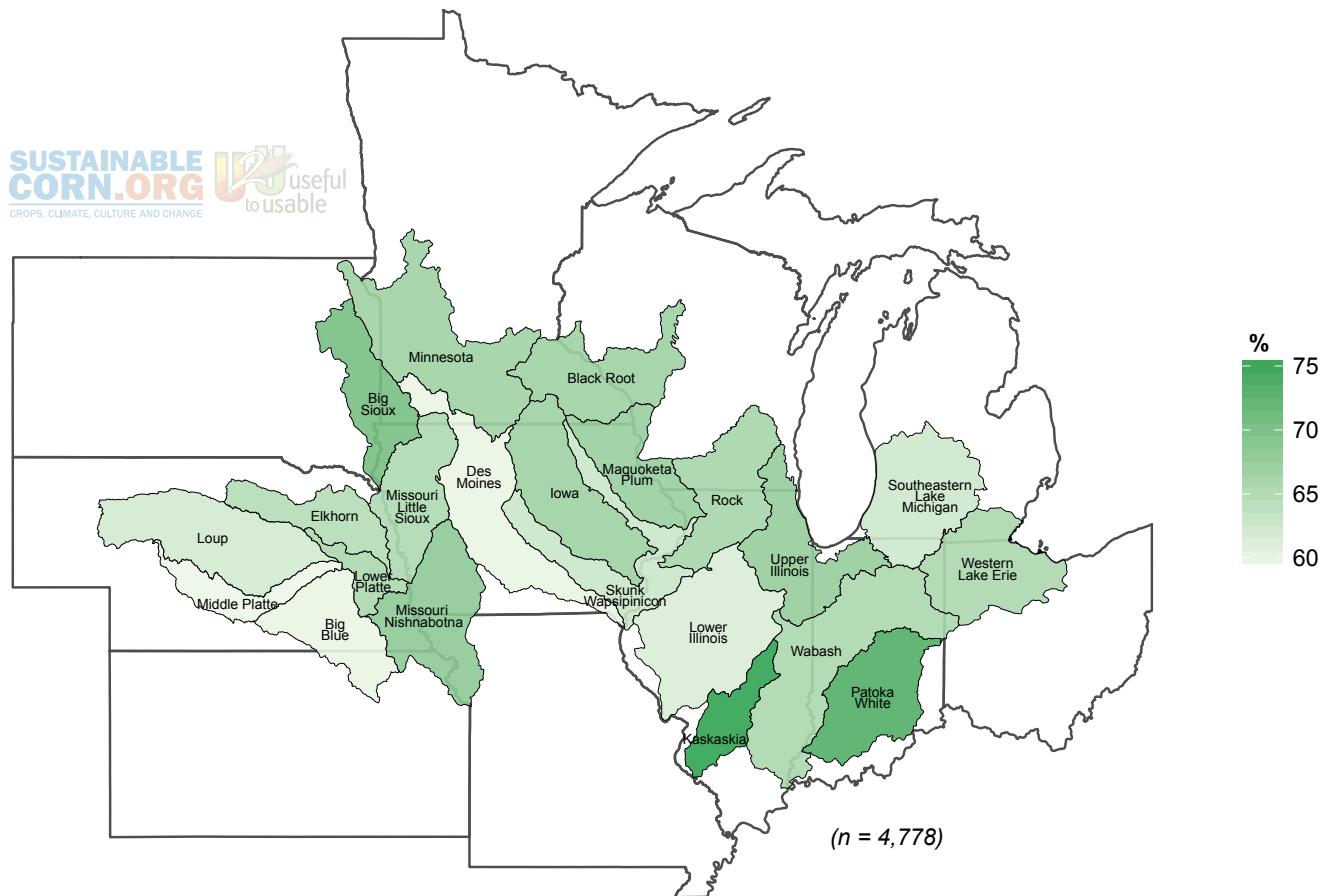
<sup>i</sup>Profitable markets for small grains and other alternative crops should be developed to encourage diversified crop rotations.

<sup>j</sup>Government should do more to reduce greenhouse gas emissions and other potential sources of climate change.

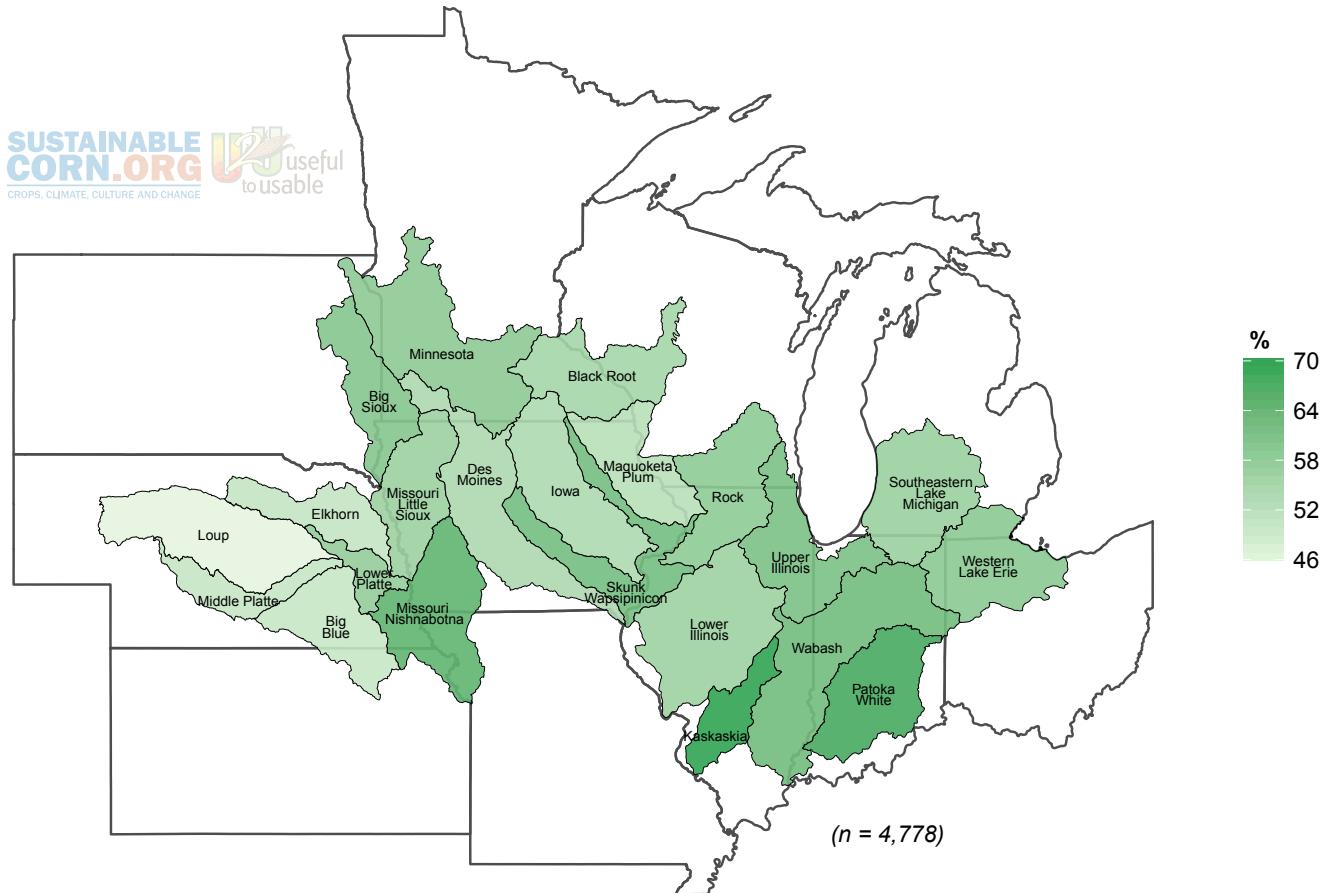
<sup>k</sup>I should reduce greenhouse gas emissions from my farm operation.

<sup>n</sup>Farmers should invest more in agricultural drainage systems to prepare for increased precipitation.

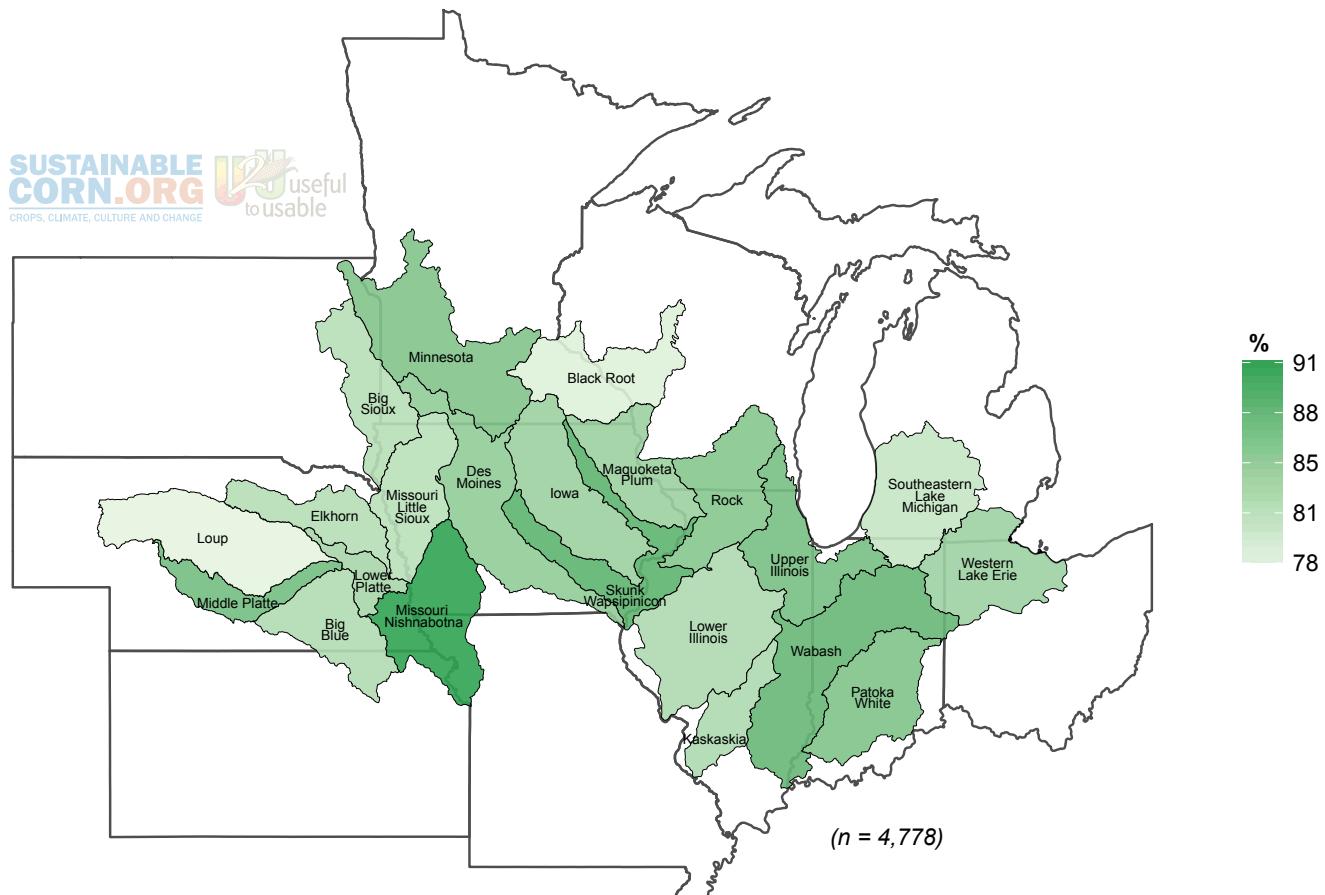
<sup>o</sup>Farmers should invest more in irrigation systems to prepare for more frequent drought.



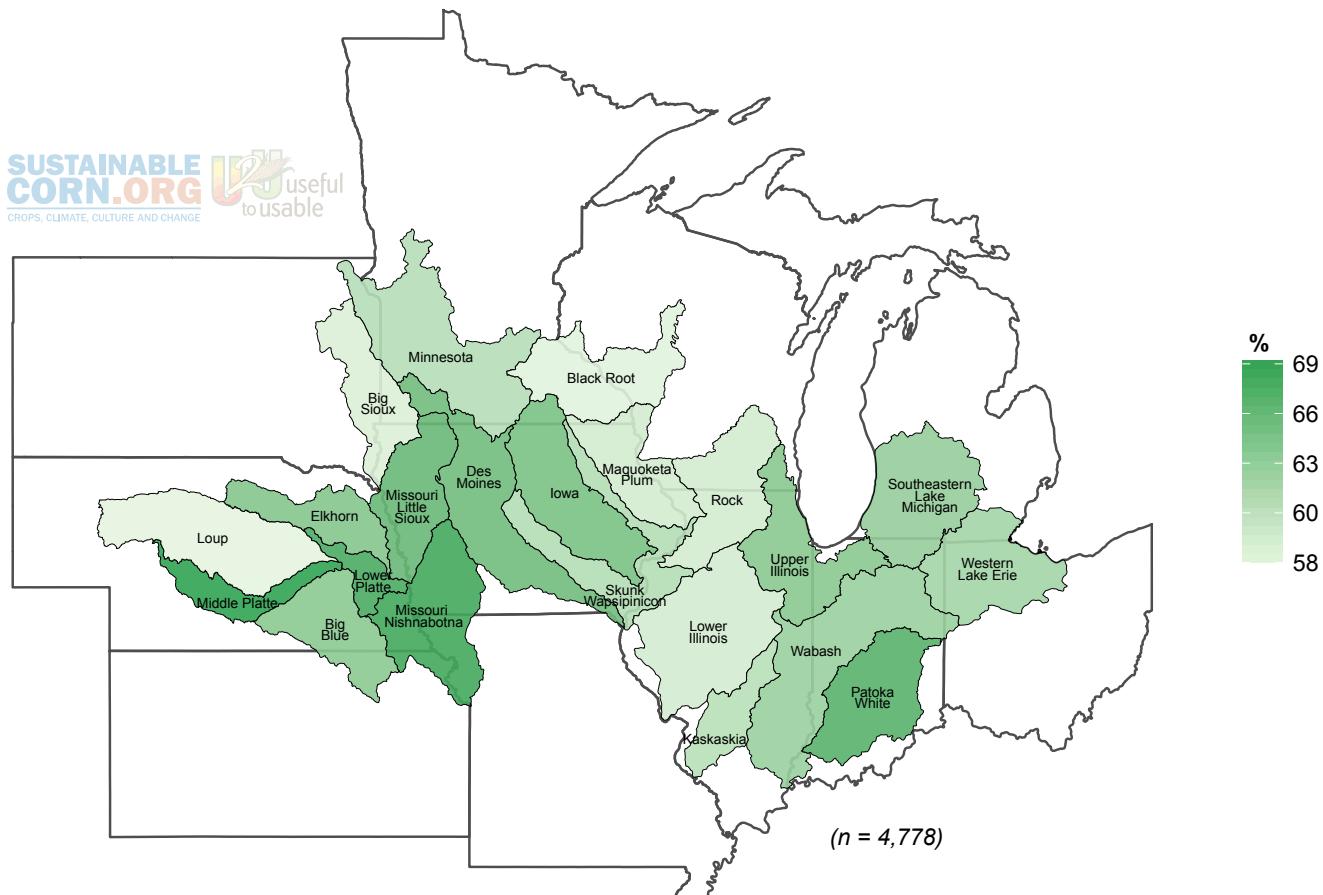
**Map 3. Farmers should take additional steps to protect land from increased weather variability (Q20A), percent agree or strongly agree.**



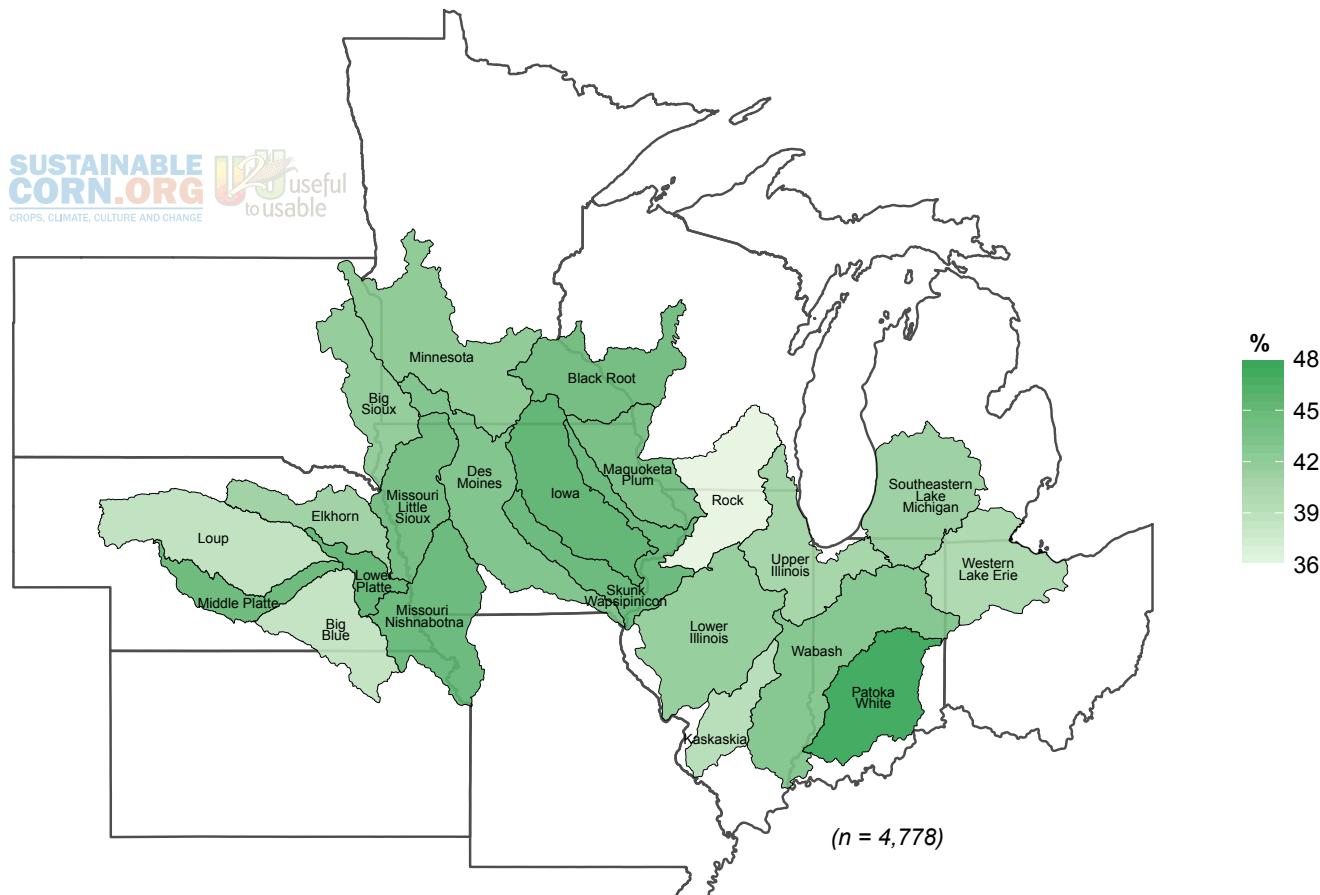
**Map 4. I should take additional steps to protect land from increased weather variability (Q20B), percent agree or strongly agree.**



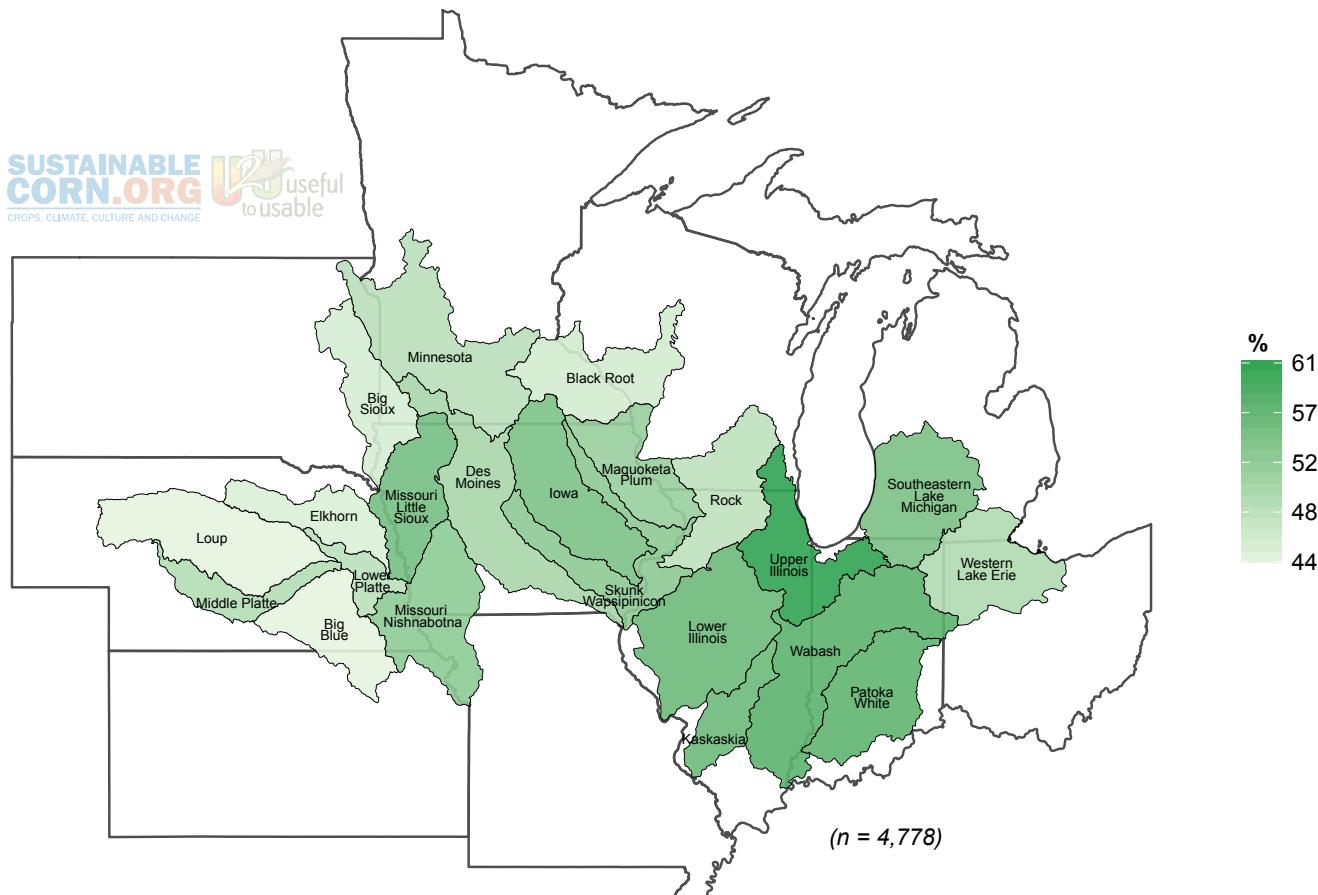
**Map 5. Seed companies should develop crop varieties adapted to increased weather variability (Q20C), percent agree or strongly agree.**



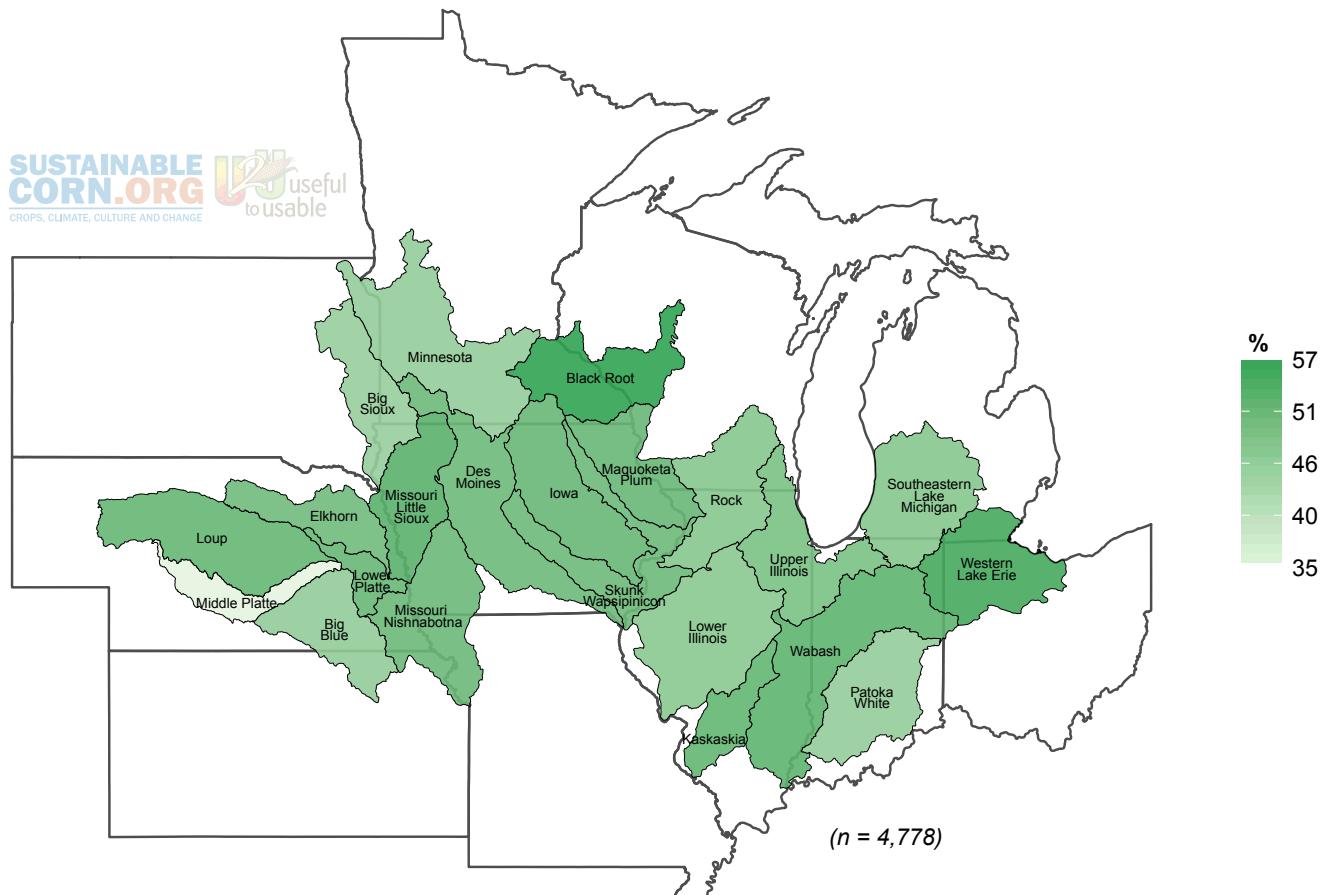
**Map 6. University Extension should help farmers to prepare for increased weather variability (Q20D), percent agree or strongly agree.**



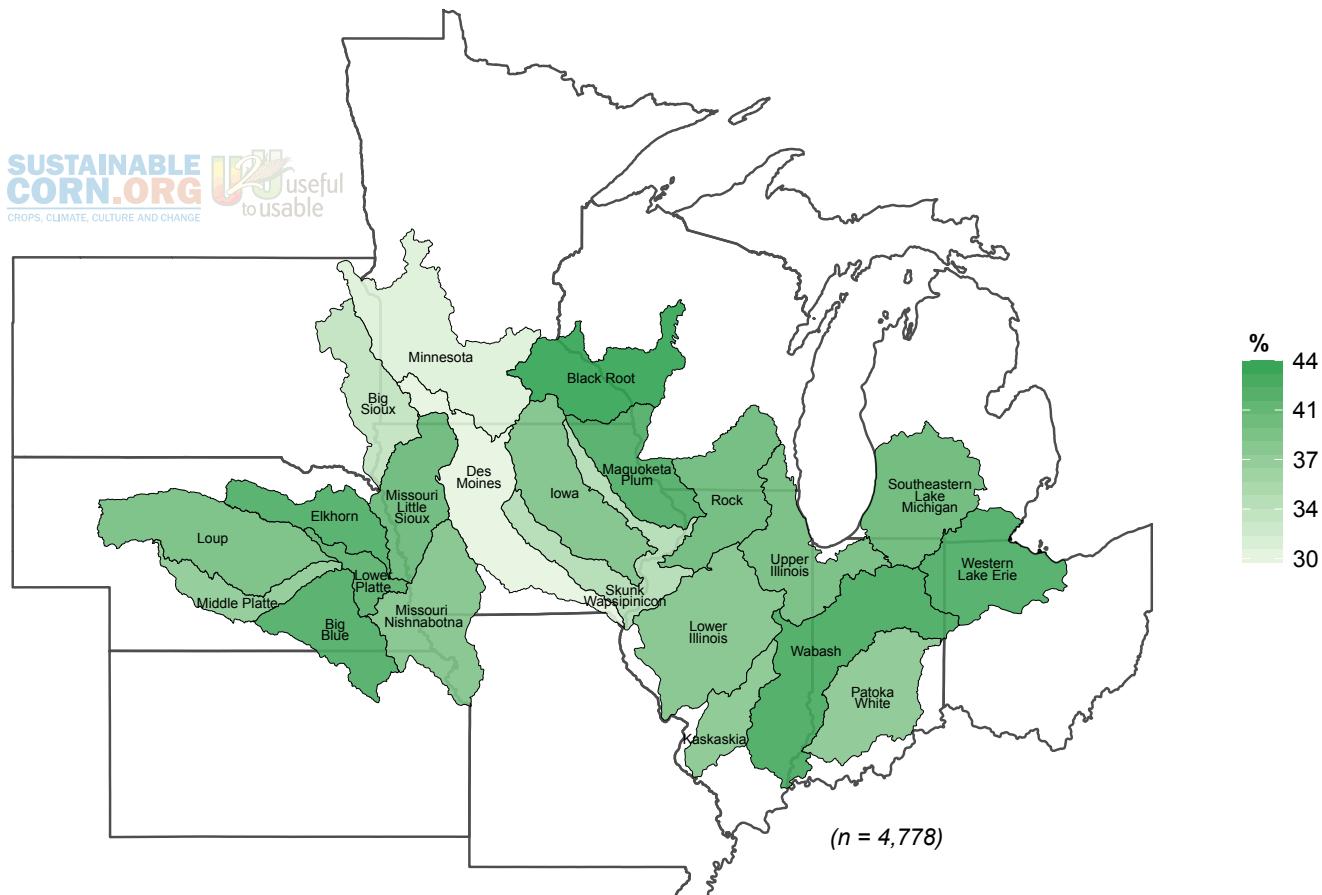
**Map 7. State and federal agencies should help farmers prepare for increased weather variability (Q20E), percent agree or strongly agree.**



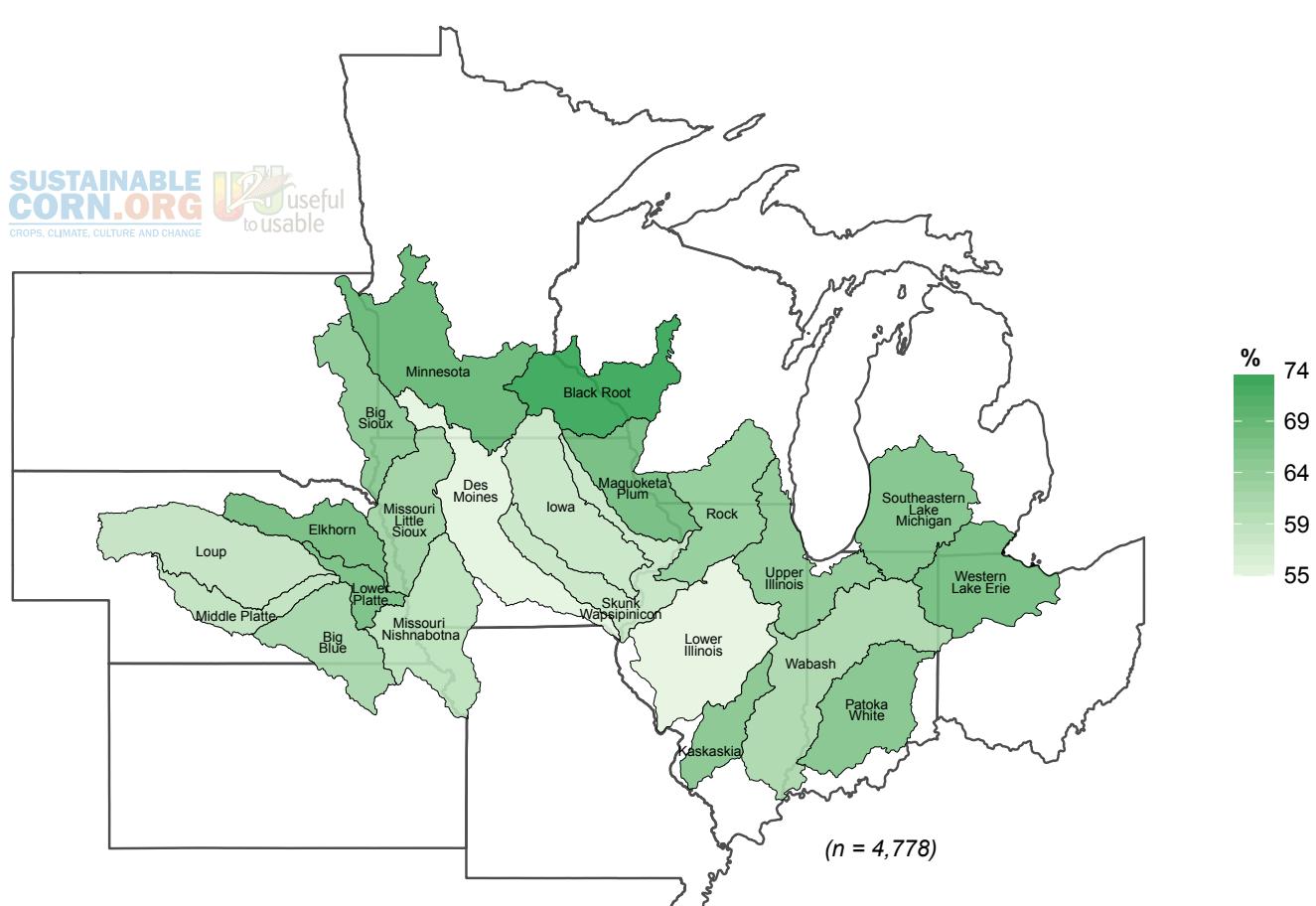
**Map 8. Farm organizations should help farmers to prepare for increased weather variability (Q20F), percent agree or strongly agree.**



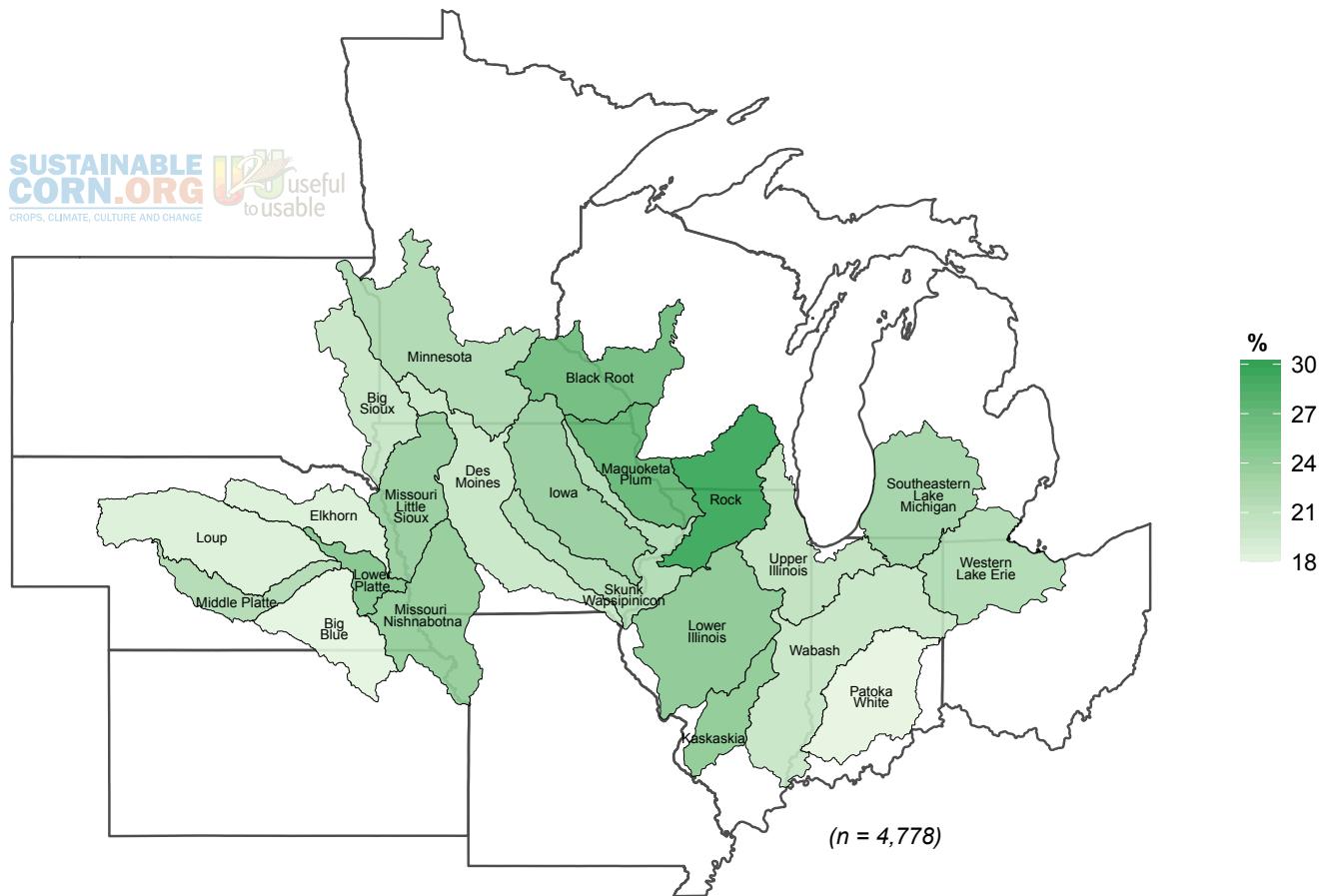
**Map 9. Profitable markets for biomass should be developed to encourage planting of perennial crops (grasses, trees) on vulnerable land (Q20G), percent agree or strongly agree.**



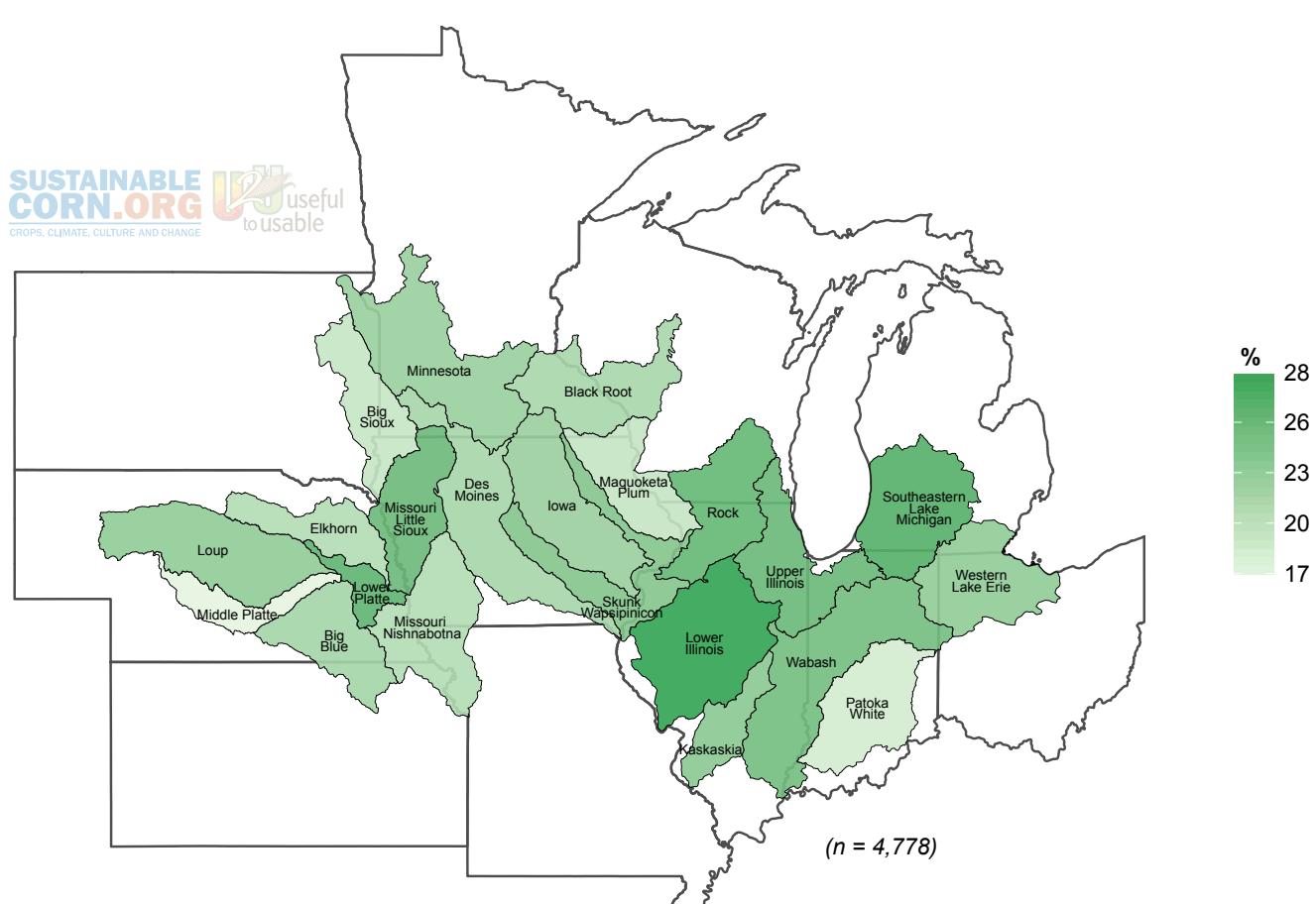
**Map 10. Profitable markets for carbon credits should be developed to encourage use of conservation tillage, cover crops, and other practices (Q20H), percent agree or strongly agree.**



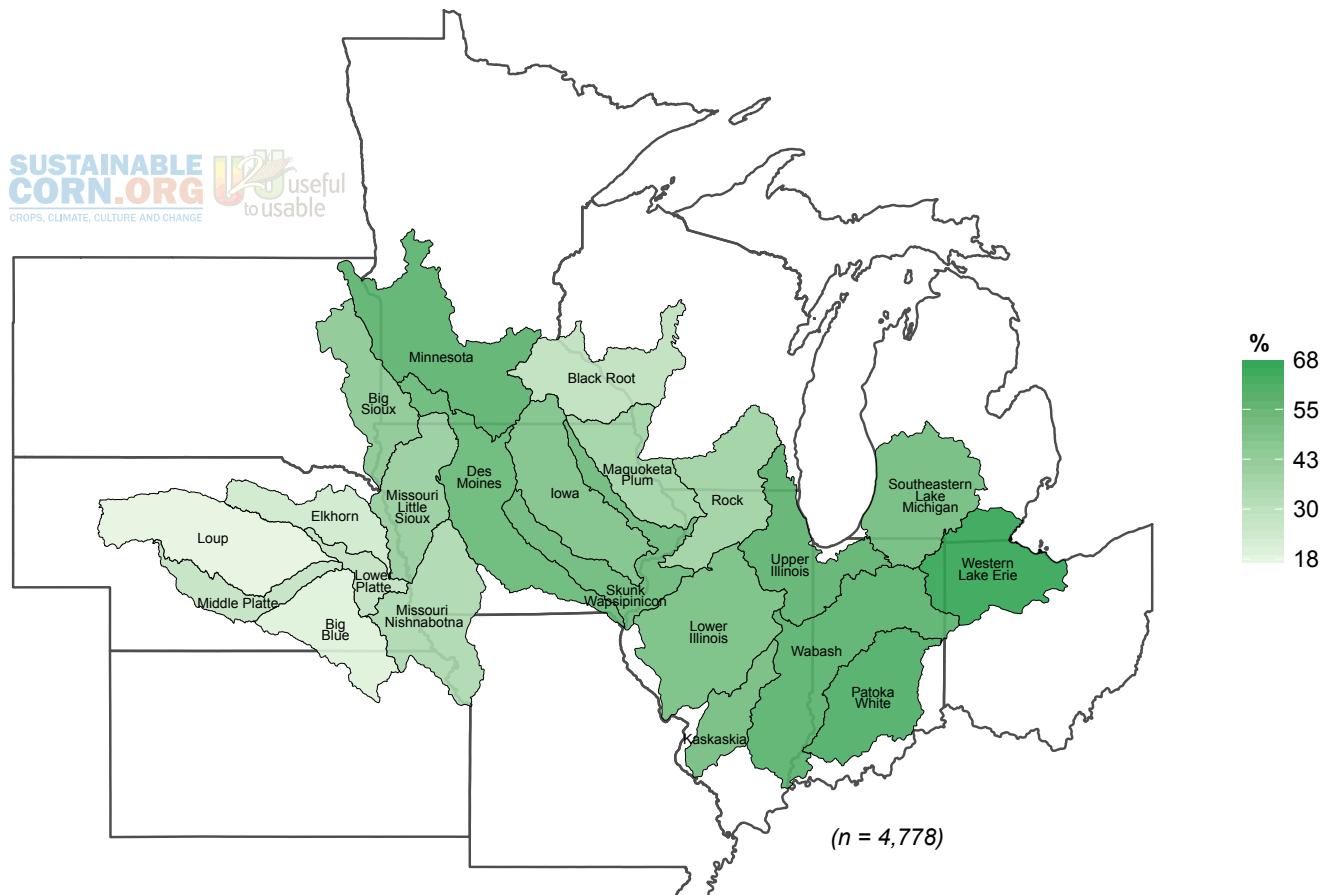
**Map 11. Profitable markets for small grains and other alternative crops should be developed to encourage diversified crop rotations (Q20I), percent agree or strongly agree.**



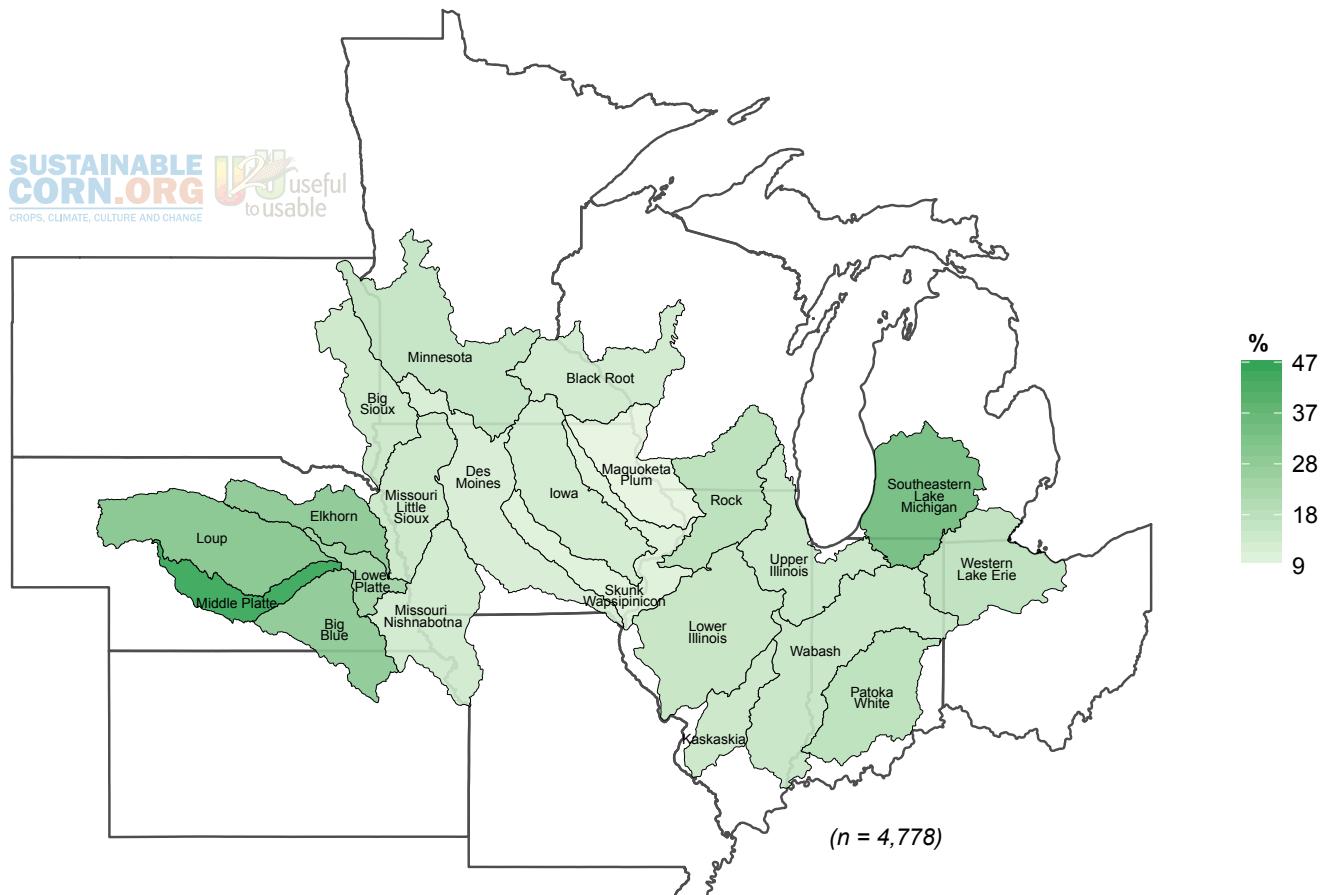
**Map 12. Government should do more to reduce greenhouse gas emissions and other potential sources of climate change (Q20J), percent agree or strongly agree.**



**Map 13. I should reduce greenhouse gas emissions from my farm operation (Q20J), percent agree or strongly agree.**



**Map 14. Farmers should invest more in agricultural drainage systems to prepare for increased precipitation (Q20N), percent agree or strongly agree.**



**Map 15. Farmers should invest more in irrigation systems to prepare for more frequent drought (Q20O), percent agree or strongly agree.**

