December 2021 | Issue 45

DIS Insights

A Monthly Newsletter Publication of
***D**ecision **I**nnovation **S**olution*

FEATURED ARTICLE

IMPACTS OF THE ONGOING DROUGHT SITUATION IN IOWA AND ACROSS THE U.S.

By Brittni Echols
Research Analyst

FEATURED BUSINESS SOLUTION

WHEN YOU NEED AN INDEPENDENT VIEW

By Merlin Siefken
Consulting Business Development Manager

RECENT ARTICLES

POPULATION CHANGE: AGRICULTURE AND RURAL AMERICA

By David Miller
Consulting Chief Economist

FEATURED ARTICLE

IMPACTS OF THE ONGOING DROUGHT SITUATION IN IOWA AND ACROSS THE U.S.

By Brittni Echols
Research Analyst

As a research analyst for Decision Innovation Solutions, Brittni helps develop, manage, and analyze data and solutions to assist clients in making informed and strategic business decisions.

Compared to recent years, U.S. rainfall data indicate 2021 as one of the driest. A ten-year high for exceptionally dry conditions was achieved in March, April, and May. Furthermore, as of October 26, 2021, 63% of the U.S. was experiencing conditions ranging from abnormally dry to exceptionally dry (See Figure 1). The west, northwest, and southwest regions of the U.S. have been experiencing the most severe drought conditions (See Figure 2). Fortunately, recent precipitation across the northwestern U.S. has led to some drought relief overall.

These drought conditions impact crop irrigation and livestock feed production, subsequently leading to challenges in accessing quality hay and contributing to higher feed costs. Approximately 69% of U.S. cattle are in regions currently experiencing drought (U.S. Drought Monitor; USDA ERS 2021). In the short run, a continued lack of precipitation in these states may result in lower profitability due to higher hay and feed costs on some cattle operations. However, drought impacts on cattle herd numbers generally have a lagged effect, often reflected two or more years later.

Drought conditions increase the potential for crop and pasture damage due to dryness from reduced precipitation, and if conditions persist, dryness further exaggerated by water restrictions and water shortages. As of late October, U.S. corn and soybean acres have also experienced drought with 24% of corn acres and 19% of soybean acres in drought areas (USDA OCE, WAOB).

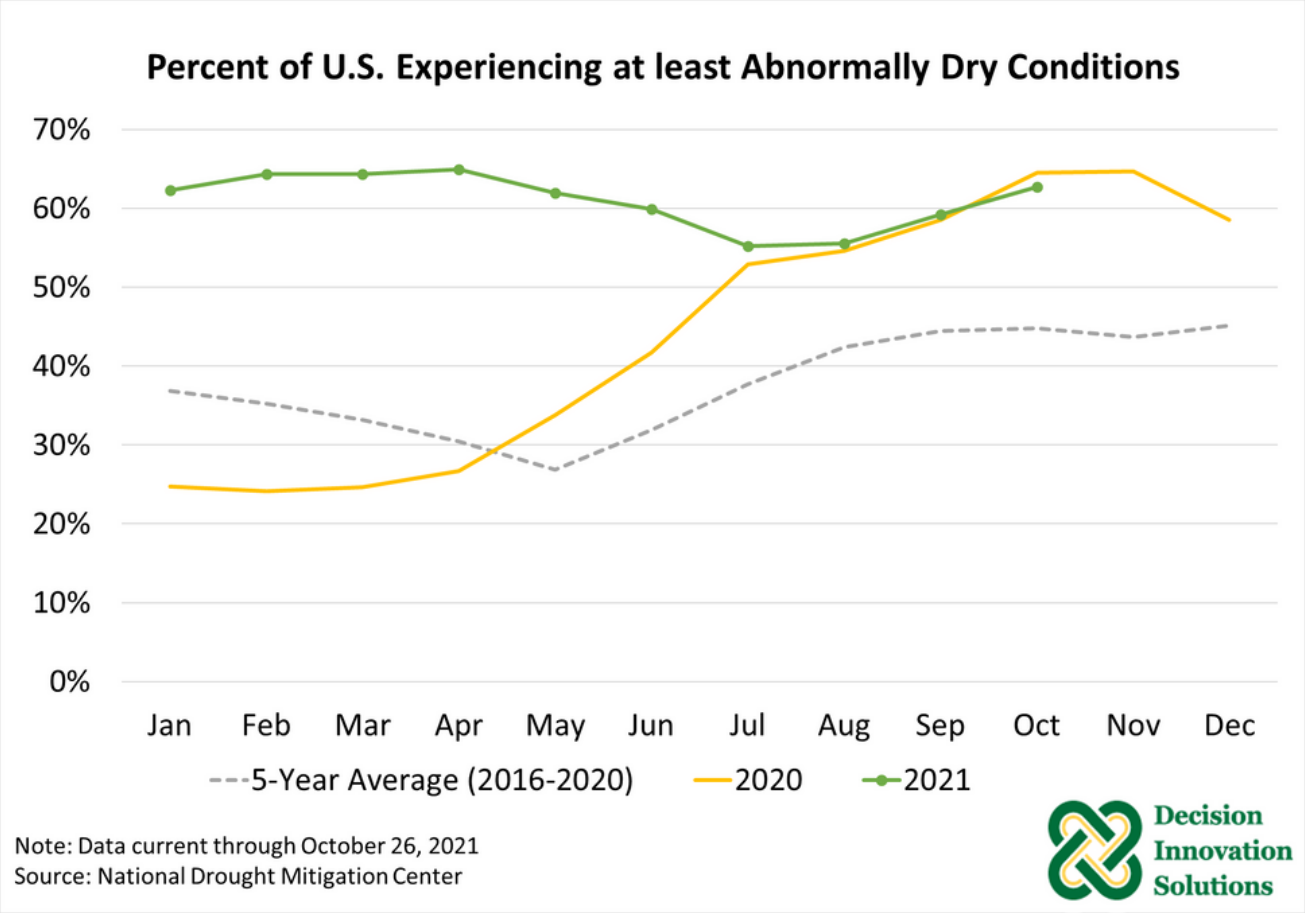


Figure 1: Percent of U.S. Experiencing at Least Abnormally Dry Conditions

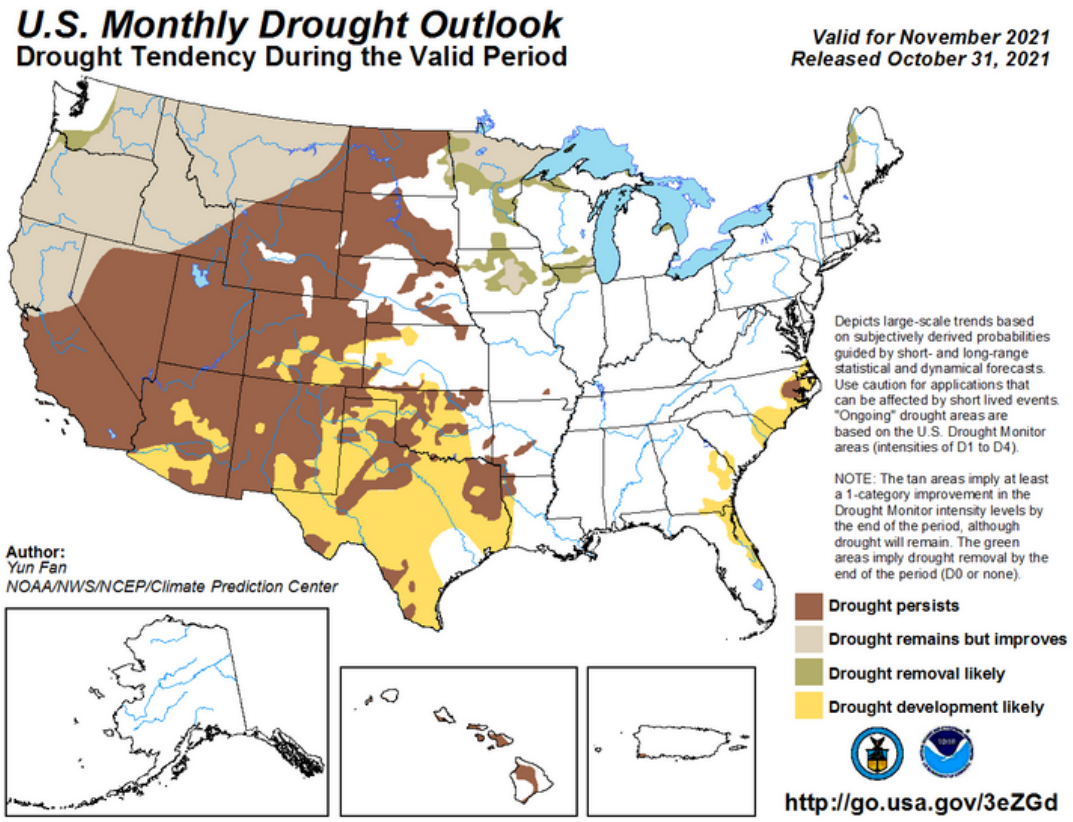


Figure 2: U.S. Monthly Drought Outlook

Source: National Integrated Drought Information System (click for high-resolution picture)

During the first half of 2021, drought levels in Iowa were above (worse than) the 2016-2020 5-year average; however, by summertime, drought conditions had eased slightly compared to the same time in 2020. Currently – as of October 26 – on average, 74% of Iowa is experiencing at least an abnormal level of drought (See Figure 3). Reports have also circulated regarding lower creek and pond levels in Iowa due to these dry conditions.

Recent rainfall has been beneficial for Iowa pasture conditions. In the latest Crop Progress report released by USDA NASS on November 1st, about 27% of pasture conditions in Iowa received a quality rating of poor or very poor – an improvement from 40% about this time last year.

Out of Iowa's 12.9 million corn acres, approximately 43% are experiencing moderate to severe drought, while 28% of Iowa's 10.1 million soybean acres are experiencing moderate drought (See Figures 4 & 5).

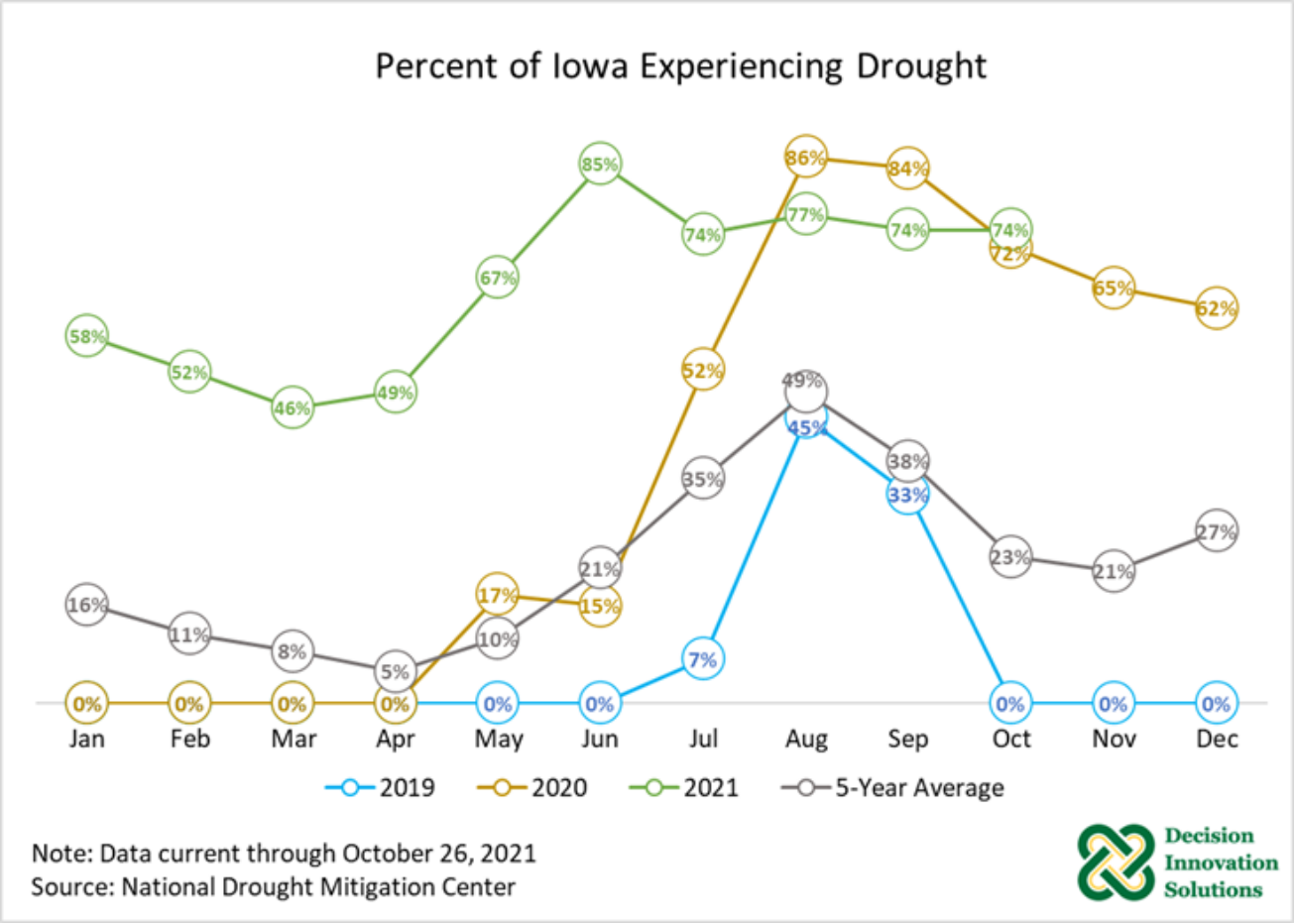


Figure 3: Percent of Iowa Experiencing Drought

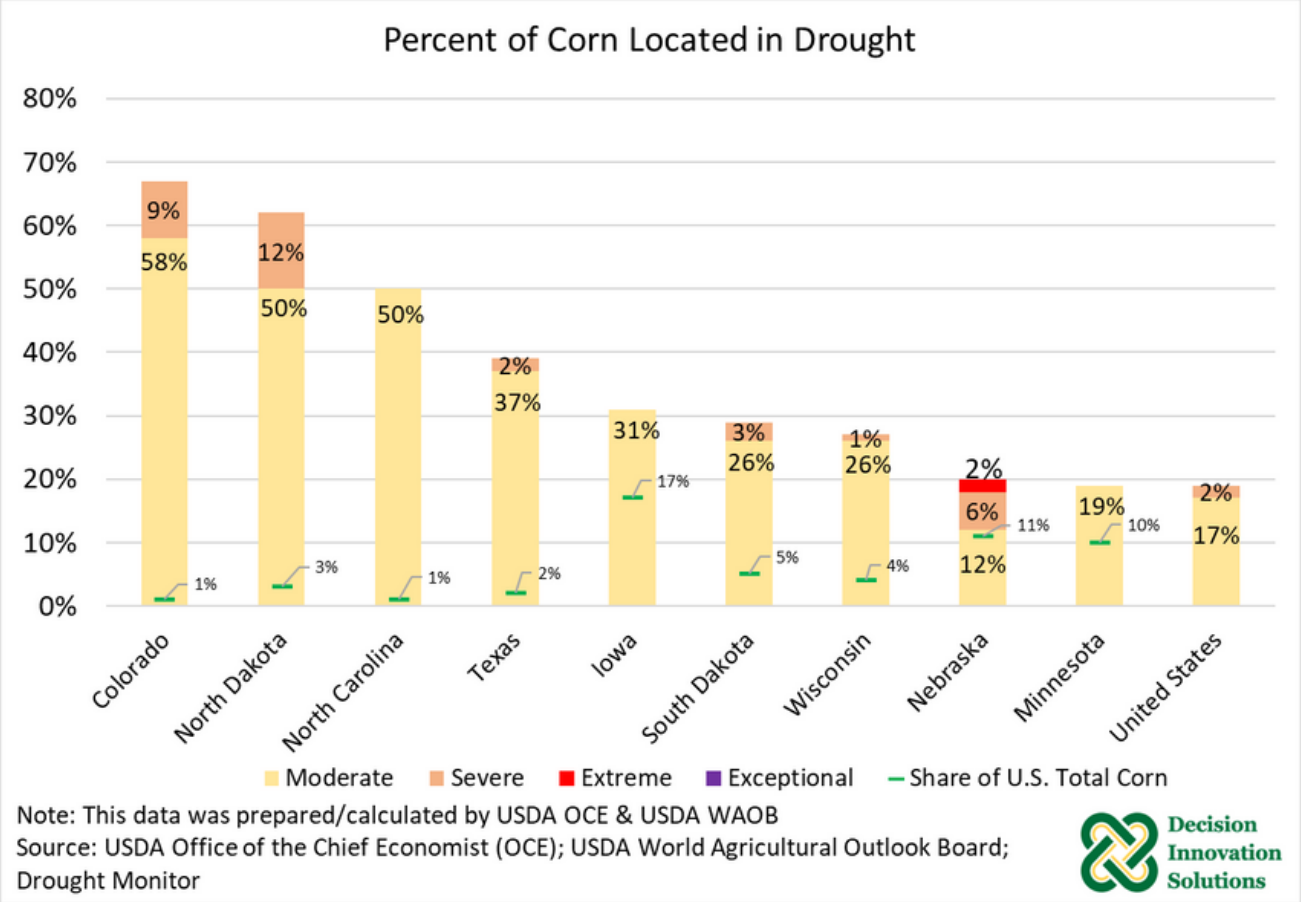


Figure 4: Percent of Corn Located in Drought

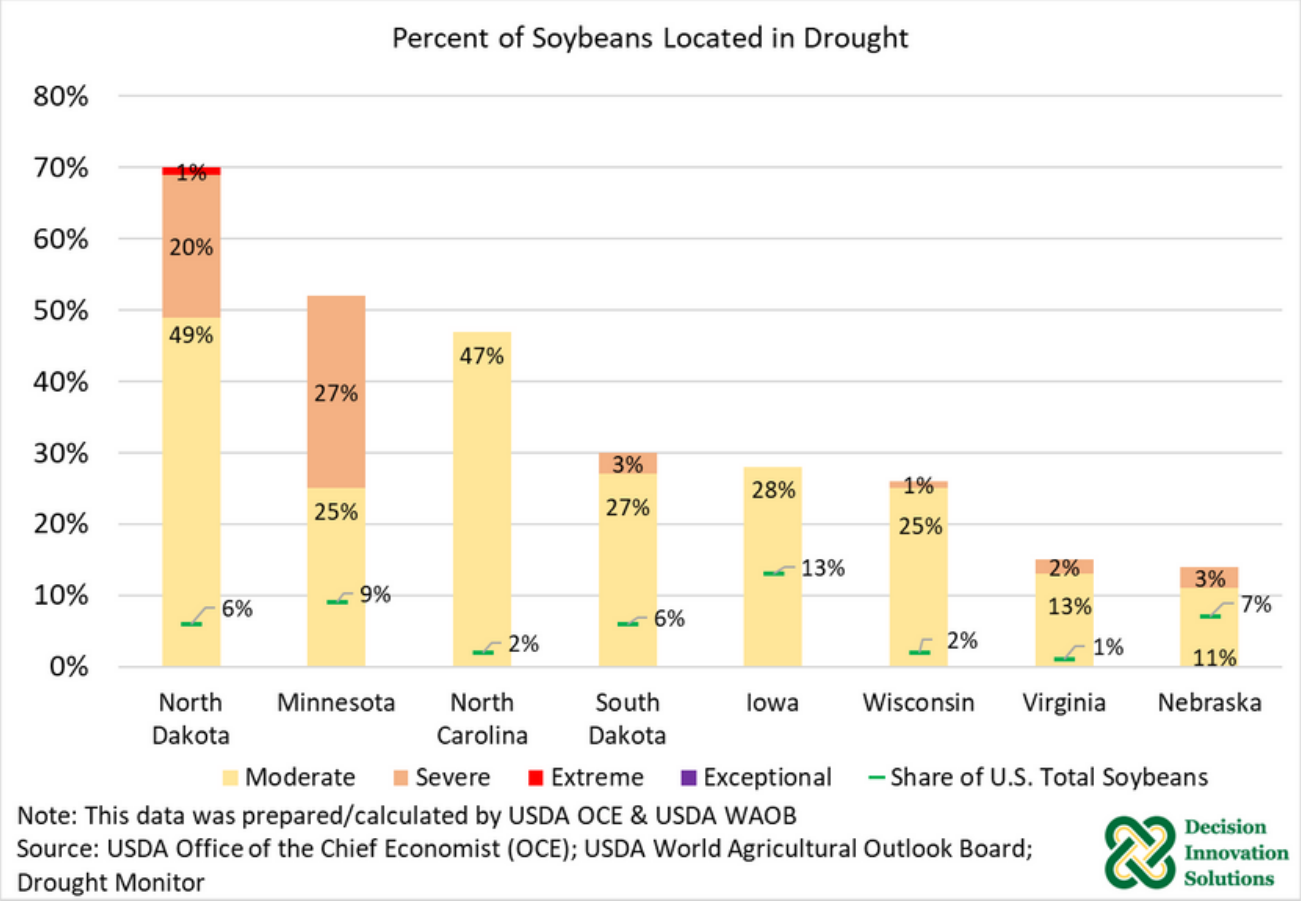


Figure 5: Percent of Soybeans Located in Drought

While drought has been affecting certain states more severely and for longer periods than others, adapting to drought is certainly a challenge faced by large portions of the U.S.

The impacts of this year's drought are likely to be observed in later USDA reports regarding agricultural production. For now, we will continue to hope for more precipitation across the United States.

Sources:

- U.S. Crop and Livestock in Drought Report, U.S. Department of Agriculture's Office of the Chief Economist; National Integrated Drought Information System, *released Thursday, November 4, 2021*
- National Drought Mitigation Center, U.S. Drought Monitor; University of Nebraska-Lincoln, *released Thursday, October 27, 2021*
- Ag in Drought Report; USDA Office of the Chief Economist (OCE), and World Agricultural Outlook Board (WAOB), *released Thursday, November 4, 2021*
- Iowa Crop Progress & condition; USDA NASS; *released November 8, 2021*

FEATURED BUSINESS SOLUTION

WHEN YOU NEED AN INDEPENDENT VIEW

By Merlin Siefken

Consulting Business Development Manager

Merlin Siefken contracts with DIS to provide Business Development services. He is responsible for maintaining and enhancing existing business relationships, conducting research of new product lines and service offerings, collaborating with the DIS team on project development and administration and identifying prospective customers.

Our Decision Innovation Solutions (DIS) team of professional economists and analysts are proud of the independent views and objectivity they bring to every assignment. Sometimes In some cases, our independent view is sought by clients who are in the process of applying for grants or other types of funding.

In 2014 – and again in 2015 –, I had the opportunity alongside Spence Parkinson – our President, CEO, and Founding Partner – of working with the City of Grinnell and several other community partners in preparing and submitting pre-applications to the Iowa Economic Development Authority (IEDA) for funding provided by the Iowa Reinvestment Act (IRA). The IRA encouraged cities and municipalities to create reinvestment districts for economic development focused on creating new hotel/motel and retail operations within the district. If approved, an IRA funding account would be established and a portion of the tax revenue from hotel/motel taxes and retail sales taxes would be deposited in the fund for use by the city or municipality in funding the developments within the district.

One of the requirements of the IRA application was a feasibility study for each project and an economic impact study for new district developments. These studies were to be completed by independent professionals. Spence met those qualifications for the economic impact studies and I had the necessary experience in conducting feasibility studies.

DIS had just started using the cloud-based SharePoint environment so we set up a collaboration site that permitted Spence and me to work with our Grinnell team members in producing the pre-application. In a nutshell, our team scored high on the first application but just missed the cutoff for funding. Our second attempt a year later was successful and the Grinnell team's pre-application was accepted. In the final step, we provided assistance in producing and submitting the final application.

The Grinnell team was very happy with our work and they have made significant progress in implementing the planned projects utilizing the necessary funds that are flowing into their IRA district fund account.

Fast forward to 2020. The state of Iowa announced additional funding for the IRA program and we were subsequently contacted by three cities who had seen the work we did for Grinnell and wanted us to help them with their pre-applications. We ended up working with the City of Newton and the City of Ames to prepare pre-applications and conduct the required feasibility studies and economic impact analyses.

Fortunately, both cities were approved and given the go-ahead to submit a final application. We are confident that our reputation at the IEDA was a factor in our client's receiving approval for IRA funding. Our DIS team will soon be working with participants from each city in updating and submitting their final applications.

The DIS team has developed a reputation for quickly developing an understanding of its our client's' needs and providing a thorough and objective analysis of issues or challenges they face. So, when you need an independent view, DIS is here to help.

For feasibility studies and/or economic impact studies to meet requirements for grant applications, contact Merlin Siefken.

RECENT ARTICLE

POPULATION CHANGE: AGRICULTURE AND RURAL AMERICA

By David Miller
Consulting Chief Economist

David Miller, contracts with DIS to provide economic analysis and business development services. He is responsible for building, maintaining and enhancing business relationships, developing new product lines and service offerings, and collaborating with the DIS team on project development and fulfillment, and identifying prospective clientele.

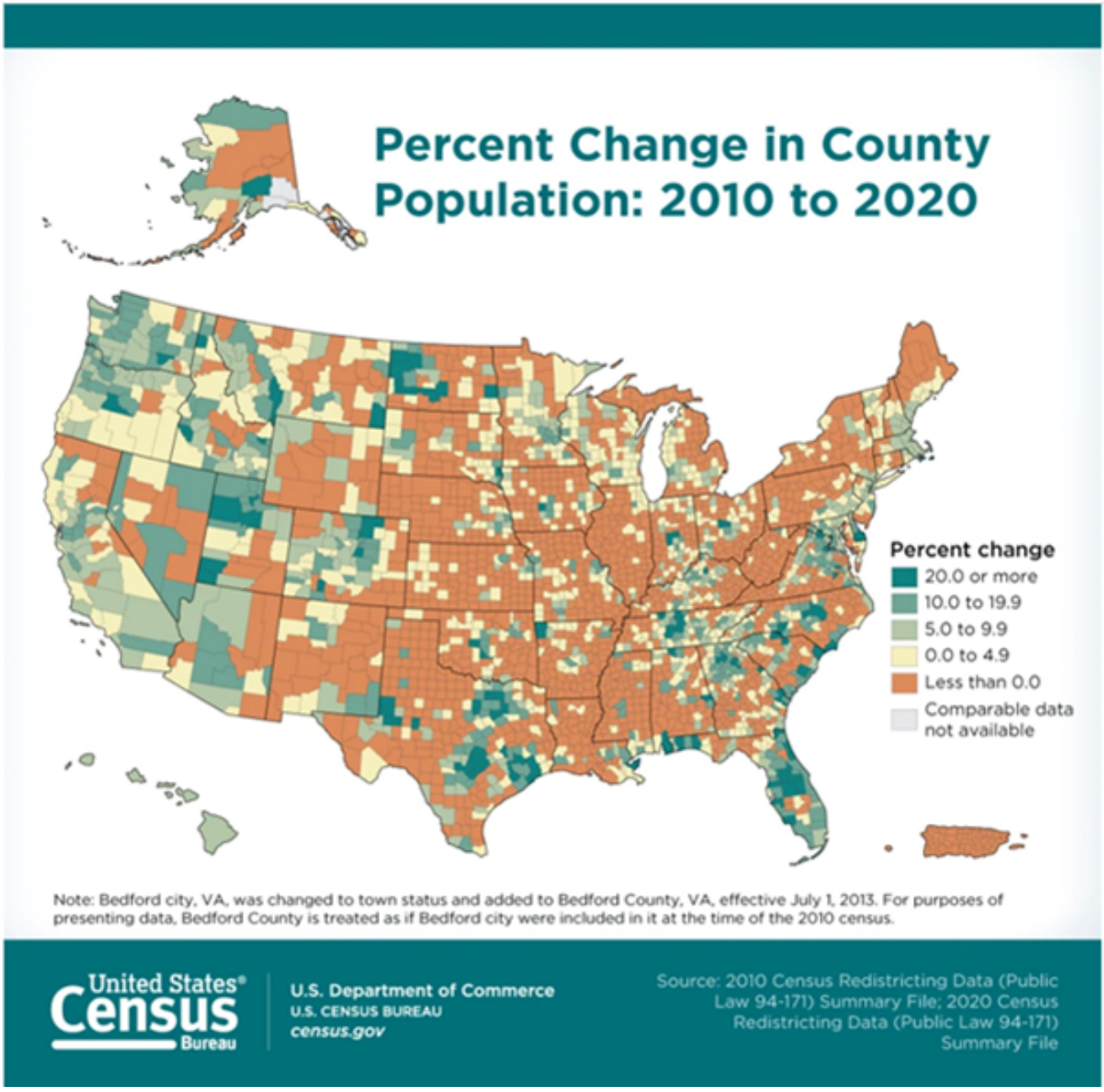
The U.S. Census has released the data from the 2020 census. As the map below shows, a significant number of rural areas between the Rocky Mountains and the Appalachian Mountains lost population during the past decade. Much of this population loss occurred even though many of those counties are in states that had net population gains – meaning the population concentrations in metropolitan areas continue to increase. In fact, only three states experienced population declines: Illinois, Mississippi, and West Virginia. But even within these states, there were metropolitan areas that had population gains. Across the U.S., the net population gain was 7.7% [1]; however, completely rural areas saw a 2% decline in population.

Some of the notable exceptions to rural population losses were in the areas with energy expansion (western North Dakota, parts of Texas and Oklahoma, and areas in Ohio), as well as areas that have emerged as new retirement and recreation areas such as Kentucky, Tennessee, and northern areas of Alabama and Georgia.Additionally, many rural areas west of the Rocky Mountains gained population.

What does this mean for agriculture? First, it means that employment in rural areas will continue to lag behind employment growth in metropolitan areas. Suburban areas are where more rapid employment opportunities continue to expand. This means that more of the food and agricultural supply chain that is beyond the farm is likely to shift from rural areas to suburban areas.

This includes much of the processing, packaging, and marketing activities that add value to agricultural production. Between 2010 and 2018, USDA-ERS reports that completely rural, nonadjacent counties experienced a decline in overall employment (-0,4%) whereas metro areas saw a 1.5% annual increase in employment.

Farms will get bigger and continue to mechanize and adopt automation technologies. While this is just a continuation of a trend that is more than 100 years old, it is also a response to the increasing challenge of hiring and retaining labor in agricultural production. Upward pressure on wages will also encourage more displacement of labor with automation and mechanization. Rural communities where farming is a significant source of employment and local revenue flows will continue to shrink as services in those areas resize to fit the shrinking number of farms serviced.



The farm-to-retail spread for agricultural commodities is likely to continue to expand as less and less production is consumed in rural areas. Consumption in urban areas is rapidly shifting to more ready-to-eat formats for foods consumed away from home and foods consumed at home.Packaging, processing, portion control, and other perceived value-adding activities and preparations will garner a greater share of the retail food dollar.

Financial support for local infrastructure in rural areas will increasingly be spread among a smaller number of farmers. Non-farmers are buying up farmland and renting that land back to the fewer farmers in business; therefore, even as the number of farmland owners and operation sizes grow, the number of farmers is declining. Furthermore, to the extent that property taxes are shiftable from landowners to farmers in the form of rents, the support for rural infrastructure maintenance and construction will – at the individual farm level – increase. Infrastructure support as a share of revenues will increase significantly faster for farmers than for metropolitan processors and other parts of the agricultural supply chain that is located near metropolitan areas.

The depopulation of rural areas also increases the cost of providing high-speed internet access as the option for hard-wired access becomes increasingly costly on a per-mile basis and with a declining population, hard-wiring rural areas becomes exponentially expensive on a per-user basis. Cellular technology and satellite technologies will, by default, become the avenues for access to advanced communications and internet connectivity, but the economic incentive for telecommunications companies to build out 5G and other advanced technologies in rural areas that are not on major transportation corridors is eroding.

Rural areas are also being “left behind” with regard to personal income growth. Per capita personal income was nearly $14,000 higher in metro areas than non-metro areas and completely rural areas lagged non-metro areas by several thousand dollars [2]. Over a lifetime, this disparity can add up to very significant differences in funds available for retirement and quality of life.

Endnotes:

[1] U.S. Census Bureau, 2020 Census
[2] USDA-ERS Rural America at a Glance, 2019 Edition

CONTACT US

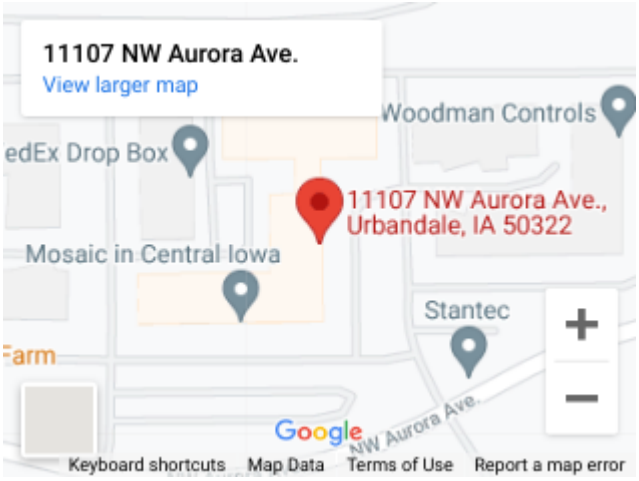
Decision Innovation Solutions is committed to bridging your information research needs. We hope you enjoy our newsletter and find it insightful. If you would like to learn more, ask us a question or schedule a visit? Please contact us today!

11107 Aurora Ave

Urbandale, IA 50322

515-639-2900

info@decision-innovation.com



To contact any of the authors, click on their photo and you will be redirected to their biography with more information along with their contact details.

WANT TO SUBSCRIBE?

If you enjoy our newsletter and want to continue receiving DIS Insights please subscribe!

SUBSCRIBE