Uncovered ag losses reach billions

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The American Farm Bureau Federation's Market Intel is publishing a two-part series to highlight the agricultural losses that occurred in 2020 due to weather disasters. This Market Intel article, the first in the series, looks at the measurable production losses that occurred in 2020. The second article in the series will discuss the gaps and challenges in previous disaster-aid legislation that leave producers unsupported when disaster strikes.


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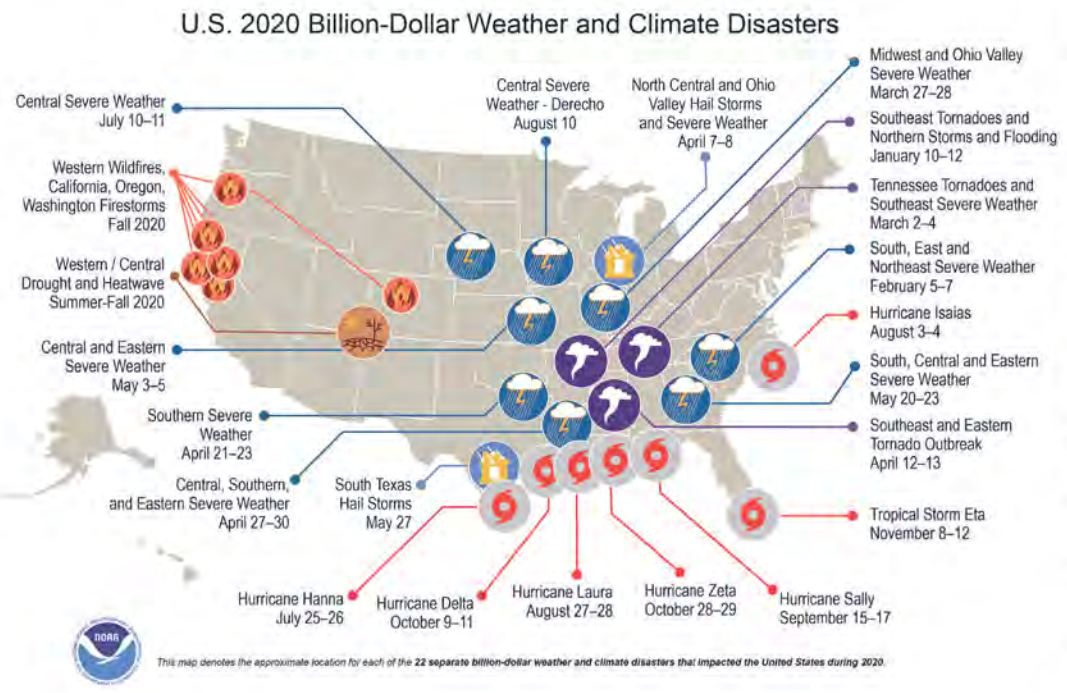
Hurricanes, wildfires, and droughts – oh my! Not only was 2020 defined by COVID-19-induced volatility, more than 22 weather and climate disasters – each with damages reaching more than a billion dollars – hit the United States coast to coast this past year. The National Oceanic and Atmospheric Administration reported 2020 shattered a previous annual record of 16 individual billion-dollar weather events, which occurred in both 2011 and 2017. With more than 262 lives lost and more than $96.4 billion in total economic damages, those disasters will haunt impacted communities for years to come.

President Donald Trump made more than 100 major-disaster declarations in 2020. According to the Federal Emergency Management Agency, the president may declare a major disaster for any natural event that the president determines has caused damage of such severity that it's beyond the combined capabilities of state and local governments to respond.

This past year that included hurricanes that drenched Southeastern and Gulf states, where farmers produce more than 70 percent of the country's peanuts, pecans and cotton by value. Wildfires and droughts blazed through Western states, home to 83 percent and 47 percent of our fruits and dairy production by value, respectively. And in the Midwest a derecho in Iowa left large swaths of corn and soybean fields destroyed.



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In 2018 and 2019, crop losses associated with qualifying weather disasters were partially mitigated by the Wildfire and Hurricane Indemnity Program Plus, a disaster-assistance program with origins in the 2017 Wildfire and Hurricane Indemnity Program, which provided financial assistance to producers with disaster-related production losses on both insured and non-insured crops. Wildfire and Hurricane Indemnity Program Plus was established under the Additional Supplemental Appropriations for Disaster Relief Act of 2019, with $3.005 billion in funds alongside On-Farm Storage Loss, Milk Loss and Tree Assistance programs. In its prior authorized form, Wildfire and Hurricane Indemnity Program Plus eligibility was linked to counties that received qualifying presidential emergency-disaster declarations or U.S. Department of Agriculture secretarial disaster designations due to severe qualifying events and their related conditions. Related conditions referred to damaging weather or adverse natural occurrences that happened as a direct result of a qualifying storm – such as extreme winds related to hurricanes and tornadoes, or heat and smoke related to wildfires.

This Market Intel illustrates recent crop- and rangeland-damage estimates crucial to future discussions regarding an extension of the Wildfire and Hurricane Indemnity Program Plus or other forms of disaster assistance for 2020 losses. The assessment puts total crop and rangeland losses from major 2020 disasters at more than $6.5 billion, or 6.7 percent of NOAA's total economic-impact figure. Of that figure more than $3.6 billion in losses were not covered by existing Risk Management Agency programs. Drought alone accounted for more than $790 million in unaccounted-for losses.

American Farm Bureau Federation crop-loss estimates do not include infrastructure damage, livestock losses, horticulture-crop losses or timber losses associated with the selected weather events. Unaccounted-for damage estimates should be viewed as a minimum baseline because data to estimate those other categories are not readily available.

Calculations – To begin Farm Bureau economists compiled a list of states impacted by weather events in 2020 that would have qualified for Wildfire and Hurricane Indemnity Program Plus. All D3 or D4 droughts, hurricanes, tornadoes and wildfires were included. Affected states were selected using the National Drought Mitigation Center's U.S. Drought Monitor and FEMA's presidential disaster list. States that had any form of D3 or D4 drought were automatically included in the analysis. States that suffered one or more of the weather events that qualify for Wildfire and Hurricane Indemnity Program Plus and had a presidential-declared disaster were also included in the analysis.

The analysis utilizes Risk Management Agency crop-insurance data to estimate losses if all crop acreage was insured with complete 100 percent protection. Methodologies mimic those used by the National Oceanic and Atmospheric Administration's National Climatic Data Center to estimate losses in its annual "Billion Dollar Climate and Weather Disasters" reports.

The Risk Management Agency reports on total indemnities – total insurance compensation – paid for each cause of loss – drought, hurricane, flooding, fire, excess moisture, hot wind, etc. – in a given month for each crop type by state. Each storm is defined with a set of cause-of-loss types based on the weather event and its related conditions covered by Wildfire and Hurricane Indemnity

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Program Plus. For instance for hurricanes, the following cause of loss filters were included – excess moisture or precipitation/rain, flooding, hurricane or tropical depression, and wind or excess wind. Data was also filtered by the month(s) the storm impacted each state. Once indemnity payments for crops were totaled, adjustments were made for losses outside insured acreage and coverage levels.

That's achieved by first calculating the percent of insured acres in each state – using 2020 data from the USDA's National Agricultural Statistics Service and the Risk Management Agency summary of business data. It's assumed all acreage of a given crop has been impacted by a particular disaster. Then Risk Management Agency coverage-level data is used to find the average coverage rate for each crop in each state. Based on those stats, a factor approach defined as "1/[(percent acres insured) (average coverage level percent)]" is utilized to calculate a multiplier to estimate 100 percent of losses. That was repeated for crops in each affected state and totaled.

In a real-life example, in Florida 56 percent of pepper acreage was insured in 2020. Of the covered pepper acreage in Florida, insurance covered an average of 62 percent of losses. Following the formula described, Florida pepper indemnities were multiplied by 1/(0.56*0.62), or 2.88, to estimate 100 percent of losses.

Additional related loss estimates were calculated using reported indemnities paid out under code 55, or the "ARPI/SCO/STAX/MP/HIP WI Crops Only" Risk Management Agency cause-of-loss category. The Risk Management Agency is unable to differentiate the cause of loss for indemnities paid out under code 55. Therefore it's assumed all losses to "all other crops" and "pasture, rangeland, forage" were due to a qualifying disaster in the months the disaster took place. Pasture-, rangeland- and forage-acreage coverage was calculated using a national USDA Natural Resources Conservation Service private-rangeland estimate.

It's important to note that Farm Bureau estimations include some losses that would not have traditionally qualified under the framework of the Wildfire and Hurricane Indemnity Program Plus. For instance Wildfire and Hurricane Indemnity Program Plus assistance was not eligible on crops intended for grazing or rangeland. Clearly with uncovered rangeland losses of more than $1.6 billion related to 2020 disasters, farmers and ranchers still face a major hurdle to recovery. Additionally the August derecho, a severe windstorm that took place in central Iowa, was included in this analysis. Derechos are not explicitly defined as a qualifying disaster under existing Wildfire and Hurricane Indemnity Program Plus handbooks. The second article in this series will discuss those challenges and many others.

2020 DISASTER CROP PRODUCTION LOSS ESTIMATES

Weather Event (Qualifying States)	Estimated Total Crop Losses (millions)	Paid Insurance (RMA Indemnities) (millions)	Unaccounted-for Losses (millions)
Wildfires (CA, CO, OR, WA)	$ 931.6	$ 337.5	$ 594.1
Severe Drought (AZ, CO, CT, KS, IA, ID, MA, ME, MO, MT, ND, NE, NH, NM, NV, OK, RI, SD, TX, UT, WA, WY)	$ 1,990.6	$ 1,200.5	$ 790.1
Hurricane Zeta (AL, MS)	$ 30.8	$ 20.3	$ 10.5
Hurricane Delta (LA)	$ 26.6	$ 11.3	$ 15.2
Hurricane Sally (AL, FL)	$ 100.0	$ 57.5	$ 42.5
Hurricane Laura (AR, LA, MS, TX)	$ 145.0	$ 80.5	$ 64.5
Derecho (IA)	$ 490.8	$ 343.3	$ 147.5
Hurricane Isaias (NC)	$ 91.8	$ 62.8	$ 29.0
Hurricane Hannah (TX)	$ 110.5	$ 66.1	$ 44.4
Severe Southern Storms & Tornadoes (AL, AR, MS, SC, TN)	$ 203.4	$ 144.5	$ 58.9
Sub Total	**$ 4,121.1**	**$ 2,324.3**	**$ 1,796.7**
Additional Related Losses			
All Other Crops (RMA)	$ 233.6	$ 115.2	$ 118.5
Pasture, Rangeland, Forage	$ 2,156.2	$ 459.6	$ 1,696.6
Grand Total	**$ 6,510.9**	**$ 2,899.1**	**$ 3,611.8**

Conclusion

Weather and climate disasters in 2020 pummeled farms and ranches across the United States, leaving more than $3.6 billion in uncovered crop and rangeland losses in their wake. The full extent of damages across the sector is likely far more when livestock, infrastructure, timber and other ag-related factors are considered. Already in 2021, farmers and ranchers have been hit with severe winter storms, extreme drought and record flooding. The stability of U.S. farms and ranches relies on their ability to be resilient under an array of climate and weather conditions. With disaster assistance top of mind for many lawmakers, of upmost importance is ensuring that future Wildfire and Hurricane Indemnity Program Plus and disaster-assistance extensions provide adequate support – not only for farm-level stability but for a safe and secure domestic food supply.

Daniel Munch is an associate economist with the American Farm Bureau Federation's Market Intel. Visit www.fb.org/market-intel for more information.