



2020

MISSISSIPPI LIGHTNING REPORT



ABOUT THIS REPORT

The 2020 Lightning Report was prepared by Earth Networks using the Earth Networks Total Lightning Network (ENTLN). The following report includes in-cloud, cloud-to-ground, and total lightning data for this state and the surrounding water bodies (if any) throughout 2020. Counts, densities, rankings, Dangerous Thunderstorm Alerts (DTAs), and Thunder Days in this report are from January 1, 2020 to December 31, 2020.

THE EARTH NETWORKS TOTAL LIGHTNING NETWORK (ENTLN)

The lightning data in this report is derived from the Earth Networks Total Lightning Network (ENTLN), which monitors the combination of in-cloud and cloud-to-ground lightning strikes over 100 countries. With over 1,800 sensors, the ENTLN is the most extensive and technologically advanced total lightning network in the world. ENTLN has been specifically deployed to detect real-time lightning and provide advanced warning for severe weather events that could threaten public safety and operational efficiency.

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REPORT TERMINOLOGY

To help you better understand the insights from this lightning report, we've included definitions of our frequently used report terminology below.

Lightning Pulse: This report measures lightning pulses. A pulse is a surge of electric current in lightning usually accompanied by a burst of light. Pulses are classified as In-cloud (IC) or Cloud-to-Ground (CG).

Lightning Flash: A lightning flash is a collection of pulses close in space and time that approximates the continuous ionized channels of a complete bolt of lightning.

Cloud-to-Ground Lightning (CG): Lightning that happens between opposite charges in a cloud and on the ground.

In-Cloud Lightning (IC): Lightning that occurs between opposite charges within a thunderstorm cloud.

Total Lightning Detection: The combination of all in-cloud and cloud-to-ground lightning activity.

Pulse Density: The number of lightning pulses per square mile per year.

Dangerous Thunderstorm Alerts (DTAs): Earth Networks patented advanced severe weather warnings that notify users of incoming storms up to 45 minutes before storm arrival.

Thunder Days: Any given day where lightning was detected in a certain area.

TOTAL LIGHTNING

is the combination of cloud-to-ground (CG) and in-cloud (IC) lightning strikes



Cloud-to-Ground lightning:

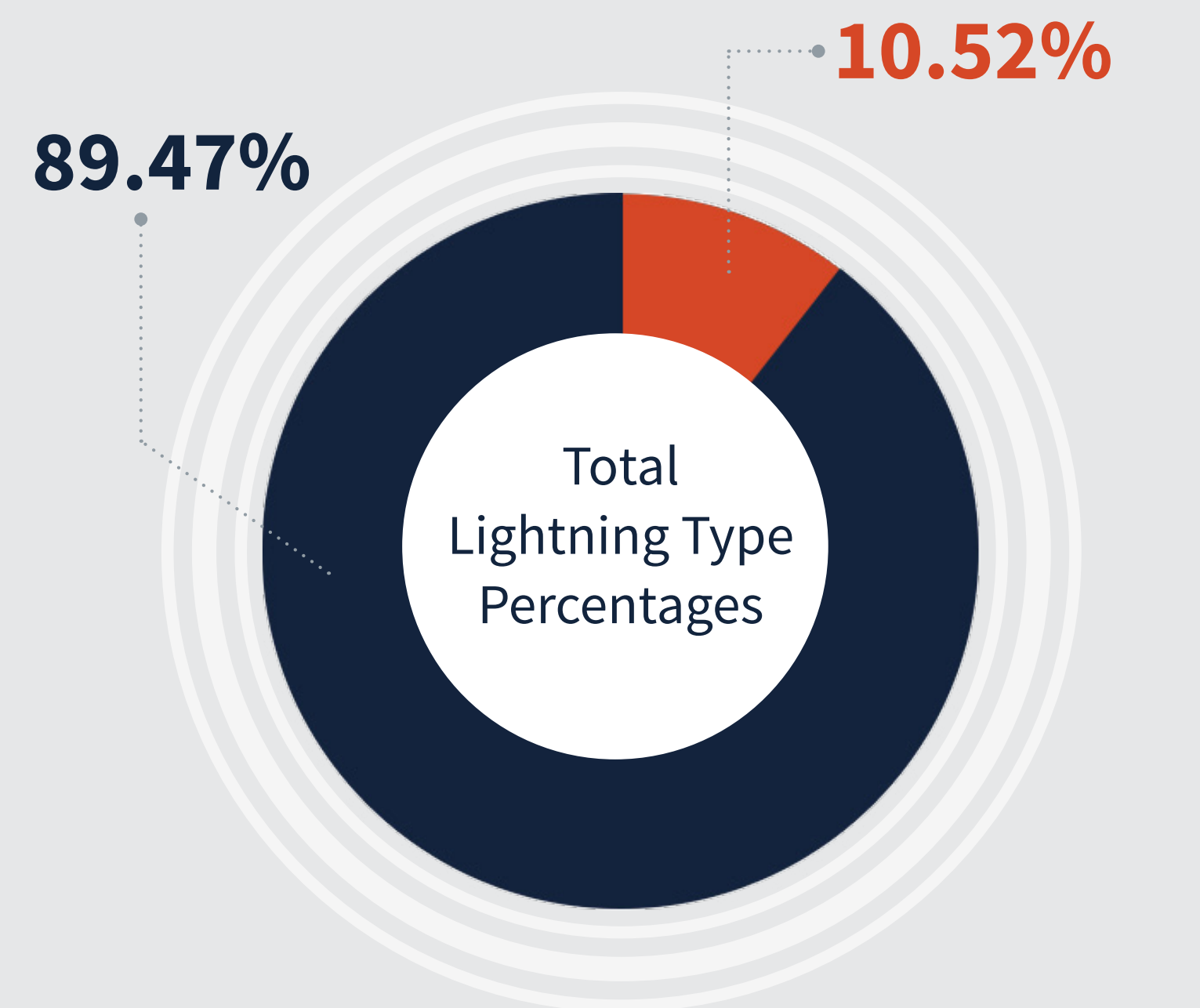
Lightning that happens between opposite charges in a cloud and on the ground

In-Cloud lightning:

Lightning that occurs between opposite charges within a thunderstorm cloud

MISSISSIPPI TOTAL LIGHTNING PULSES

9,236,279

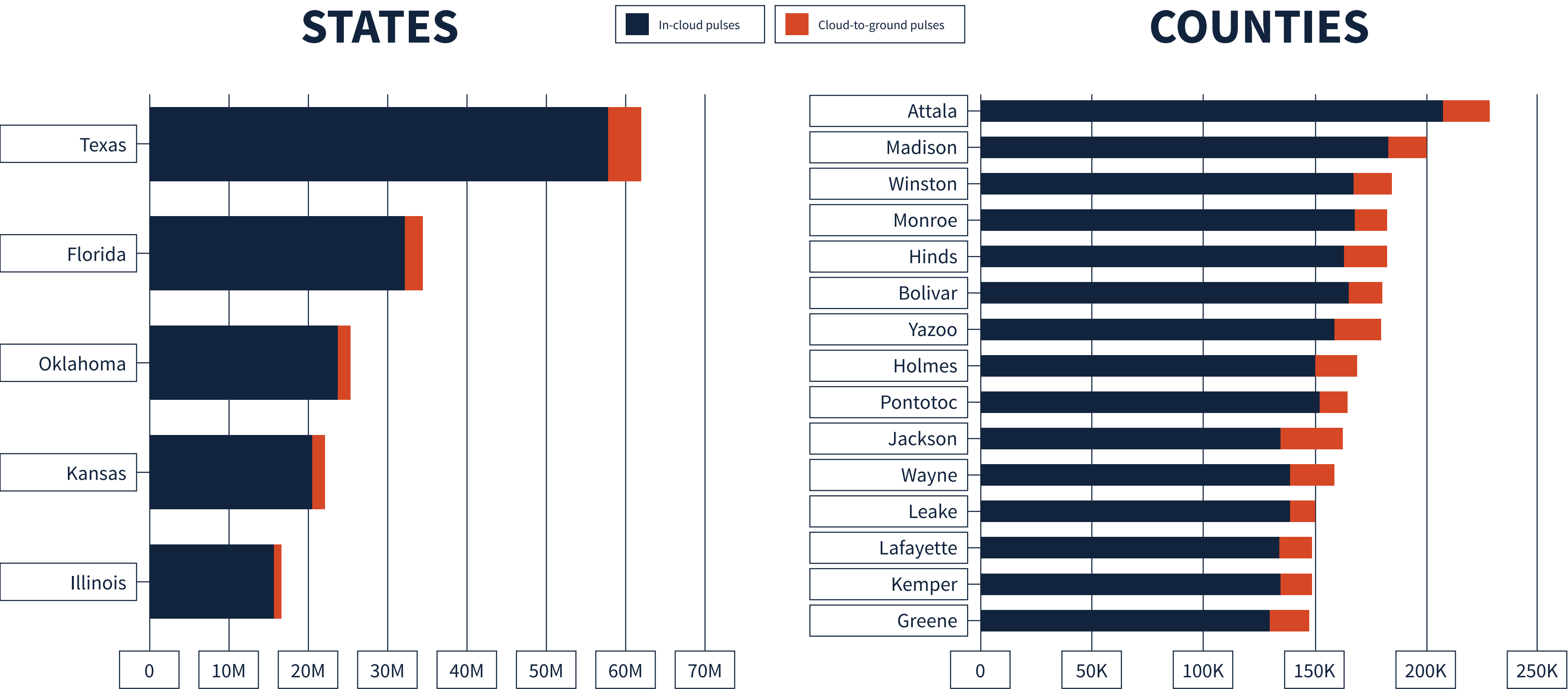


Cloud-to-ground
971,913



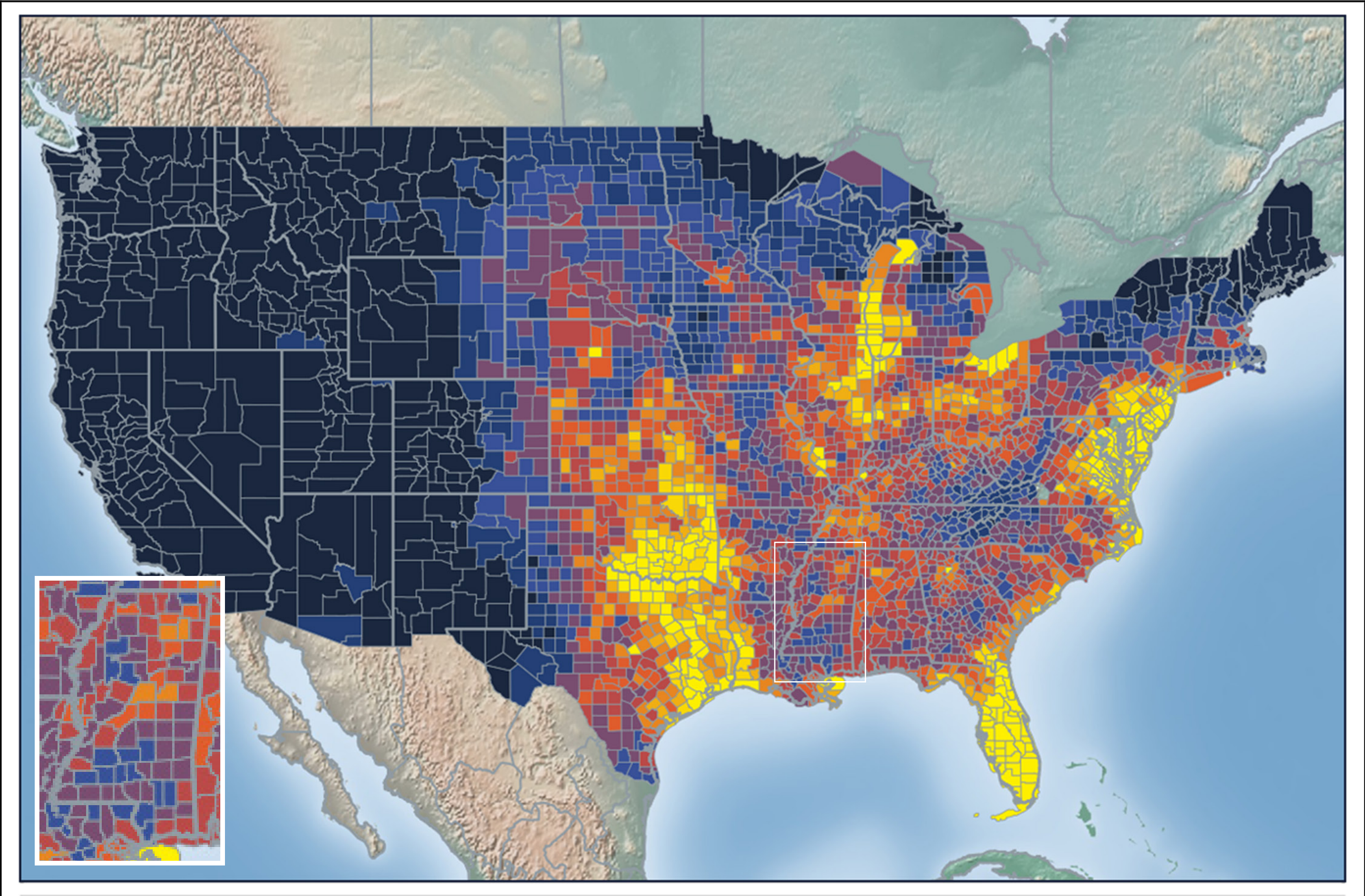
In-cloud
8,264,156

LIGHTNING COUNT RANKINGS

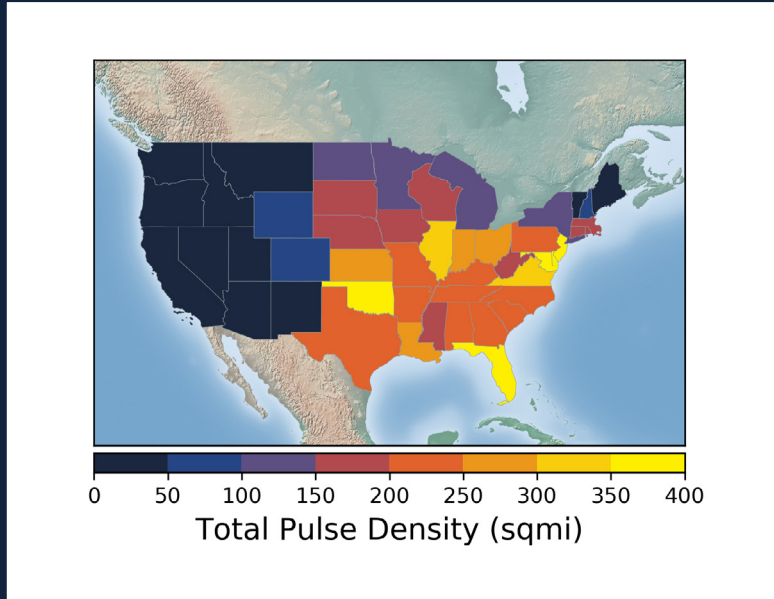


Mississippi ranked 17 in total lightning pulses for 2020.

TOTAL (CG+IC) PULSE DENSITY MAP



Total Pulse Density (lightning pulses per square mile per year)

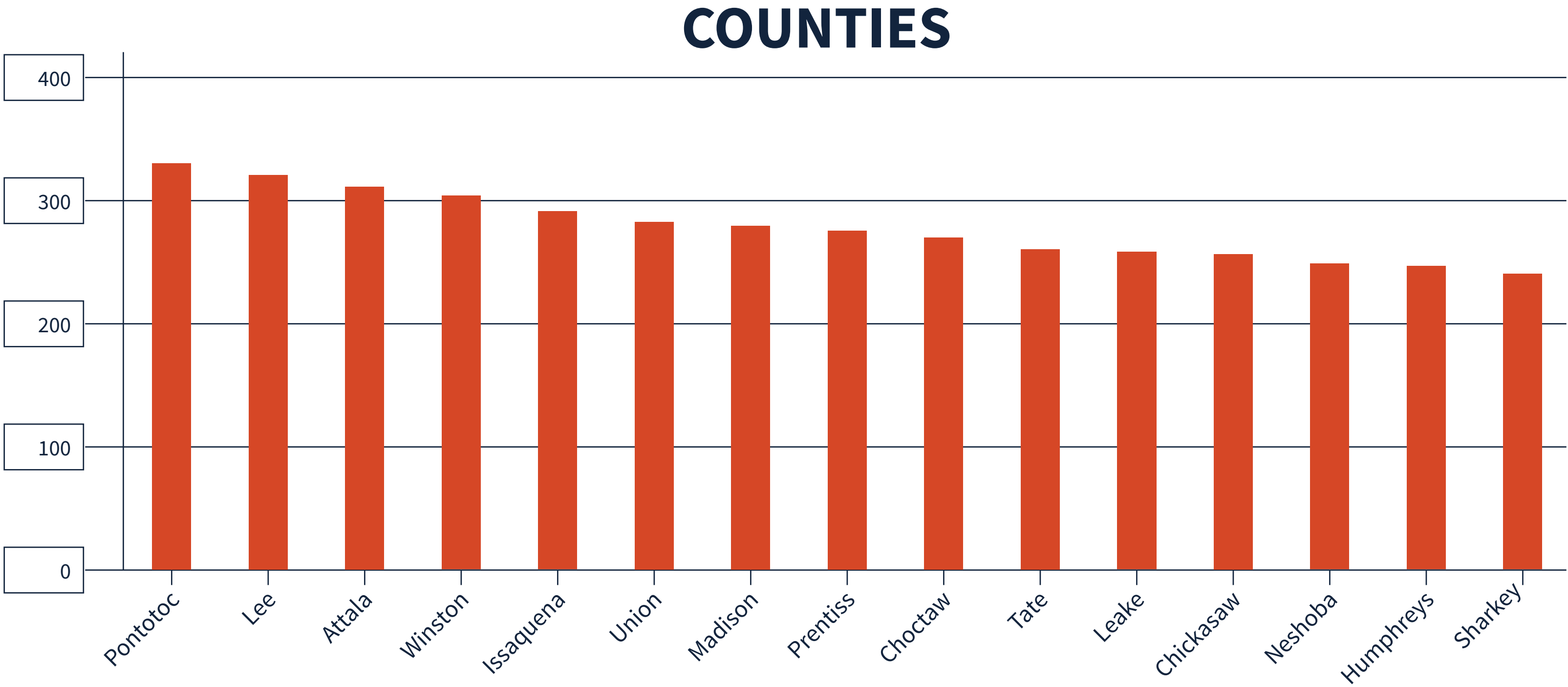


Pulse density is a better indicator of lightning activity than total lightning counts because it enables us to compare different sized areas (like states and counties) fairly.

We cluster pulses together into a flash. With every pulse we detect, we receive a more precise measure of lightning activity. At left, areas in bright yellow experienced the highest lightning pulse density per square mile in 2020.

TOTAL PULSE DENSITY RANKINGS

This chart shows the top 15 counties in the state ranked by total pulse density, which is the total lightning divided by the area of the county (in square miles).



DANGEROUS THUNDERSTORM ALERTS IN THE U.S.

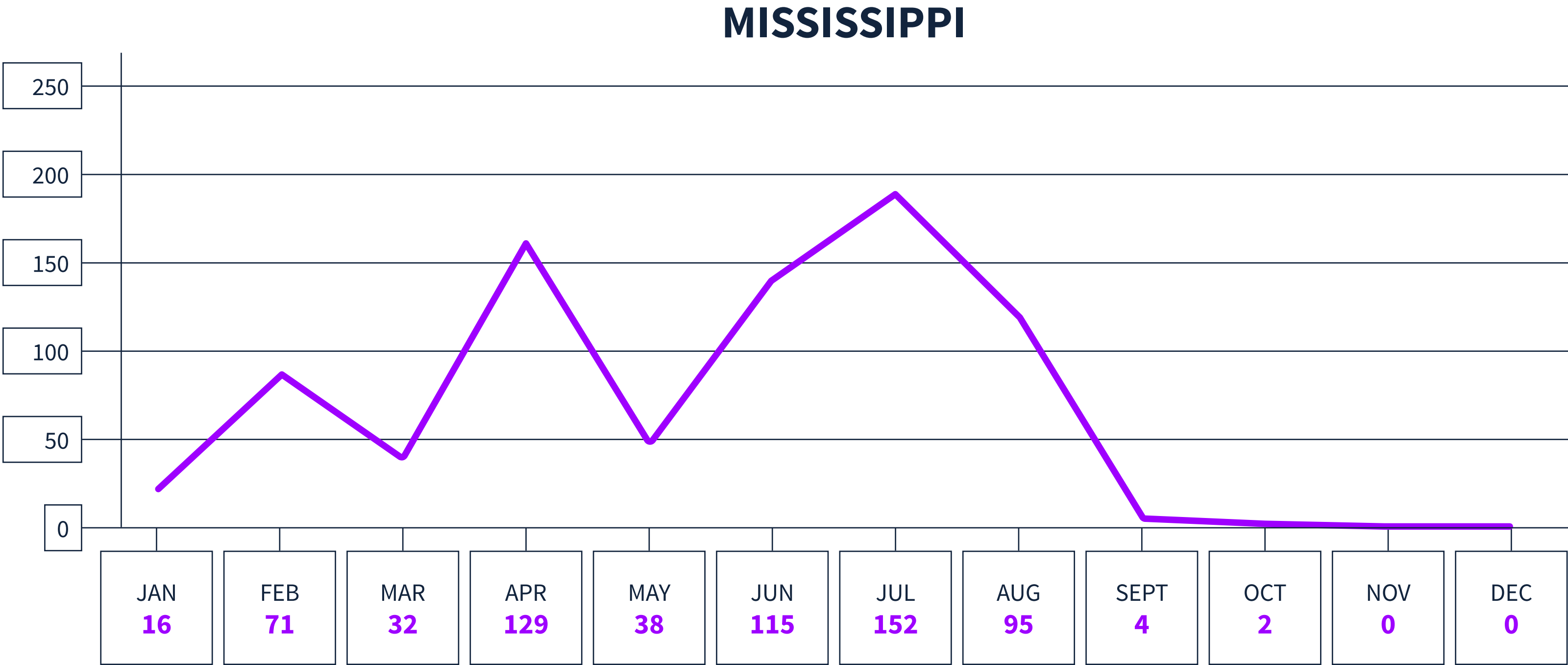


Earth Networks issued 29,401 Dangerous Thunderstorm Alerts (DTAs) in 2020. This year's map clearly shows the persistent drought conditions that have plagued the South and Southwest.

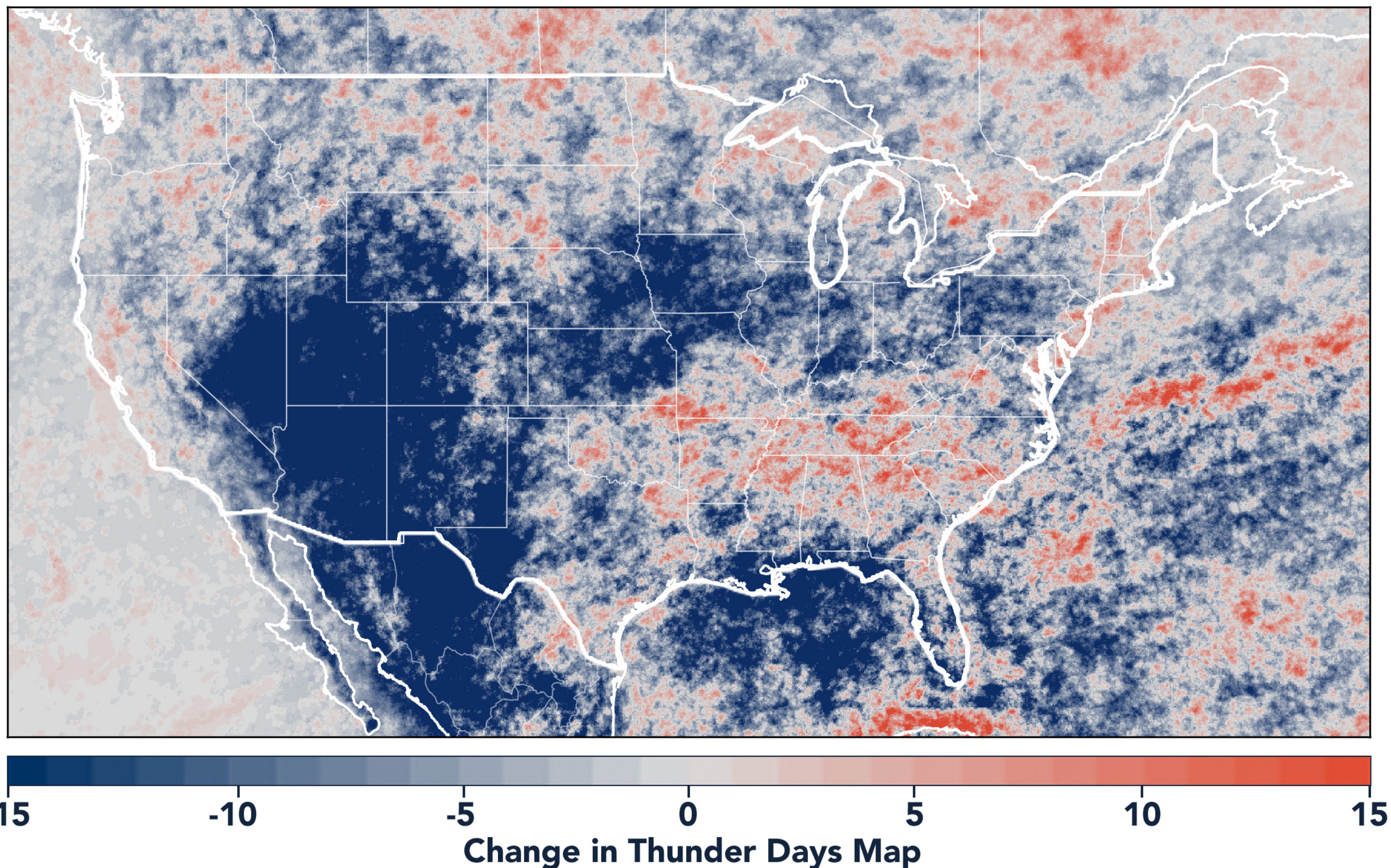
Dangerous Thunderstorm Alerts (DTAs), available exclusively to Earth Networks, provide **50% more lead time** to severe storms compared to publicly available alerts.

DANGEROUS THUNDERSTORM ALERTS BY MONTH

Earth Networks issued 465 Dangerous Thunderstorm Alerts for the state in 2020.



TOTAL STATE THUNDER DAYS: 210



Thunder Days are the days we detected lightning over a certain area. The map shows a deviation from our 7-year average and illustrates our overall finding that lightning decreased about 15% from 2019.

This year, the Southwest and Midwest experienced significantly less lightning than in previous years due to a persistent drought and weak monsoon. States in the Southeast experienced a substantial uptick in lightning activity this year, including Tennessee, North Carolina, South Carolina, Virginia, West Virginia, Georgia, Alabama, Mississippi, Florida, Louisiana, Arkansas, and Kentucky.



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THANK YOU

For additional insights or permission to use data or graphics from this report, please contact us at: info@earthnetworks.com or call 1 301.250.4000



APPENDIX

This table ranks all U.S. states by total lightning pulses, including in-cloud and cloud-to-ground from highest to lowest. Total number of thunder days in each state (the total number of days in the year when lightning was detected by ENTLN) are also included. The period covered is January 1, 2020 to December 31, 2020.

STATE	TOTAL LIGHTNING PULSES	TOTAL THUNDER DAYS
TX	63,683,799	278
FL	35,430,198	246
OK	26,159,420	205
KS	23,125,675	179
IL	16,785,149	166
NE	14,433,875	178
MO	14,081,658	184
VA	13,234,163	176
GA	13,016,803	217
OH	12,009,955	143
SD	11,940,870	156
LA	11,787,379	230
AL	11,448,621	202
AR	11,417,155	211
NC	10,666,834	203
PA	10,024,978	151
MS	9,236,279	210
IN	9,175,986	149
IA	9,121,097	140
WI	8,812,327	145
TN	8,458,373	186
MN	8,009,792	148
KY	7,974,926	166
MI	7,769,382	159
ND	7,634,287	131
SC	7,454,219	197
CO	7,360,769	185
MD	6,666,766	124
NM	5,819,550	196
MT	5,107,593	154
WY	4,951,397	166
NY	4,943,122	152
WV	4,684,226	150
AZ	3,532,759	151
NJ	3,465,297	96
UT	1,951,574	162
ID	1,518,171	172
MA	1,267,046	80
NV	1,237,862	146
DE	1,168,918	89
CA	956,187	151
OR	915,855	132
CT	802,252	70
NH	618,242	70
WA	402,333	117
ME	358,334	81
VT	354,695	75
RI	190,992	42
DC	44,204	47

APPENDIX

This table ranks all counties in the state by total lightning pulses, including in-cloud and cloud to-ground from highest to lowest. Total number of thunder days in each county (the total number of days in the year when lightning was detected by ENTLN) are also included. The period covered is January 1, 2020 to December 31, 2020.

COUNTY	TOTAL LIGHTNING PULSES	TOTAL THUNDER DAYS
Attala County	228,741	88
Madison County	200,196	93
Winston County	184,950	85
Monroe County	182,672	90
Hinds County	182,305	98
Bolivar County	180,354	90
Yazoo County	179,880	93
Holmes County	169,237	83
Pontotoc County	165,034	84
Jackson County	162,546	100
Wayne County	158,619	112
Leake County	150,494	87
Lafayette County	148,917	89
Kemper County	148,433	103
Greene County	147,691	111
Marshall County	145,125	92
Lee County	144,254	84
Neshoba County	142,272	82
Noxubee County	141,791	89
Rankin County	132,932	91
Lauderdale County	132,793	94
Amite County	131,095	99
Sunflower County	131,007	92
Clarke County	130,490	87
Panola County	129,926	87
Chickasaw County	129,172	89
Calhoun County	128,482	89
Jones County	128,382	98
Coahoma County	123,472	84
Harrison County	123,401	98
Jasper County	121,624	90
Itawamba County	120,707	87
Issaquena County	120,102	89
Pearl River County	118,008	112
Union County	117,812	74
Prentiss County	114,756	75
Washington County	113,010	74
Choctaw County	112,622	87
Jefferson County	110,152	101
Newton County	107,088	89
Wilkinson County	105,456	96
Tate County	105,162	77
Marion County	104,597	92
Humphreys County	103,368	76
Sharkey County	103,286	75
Tishomingo County	97,642	84
Tunica County	96,223	79

COUNTY	TOTAL LIGHTNING PULSES	TOTAL THUNDER DAYS
Scott County	95,866	87
Copiah County	94,674	101
Oktibbeha County	94,336	82
George County	92,334	96
Warren County	91,727	95
Perry County	89,924	115
Tallahatchie County	89,787	95
Tippah County	88,906	76
Smith County	88,529	89
Benton County	86,508	83
Webster County	86,323	93
DeSoto County	86,139	84
Adams County	86,121	98
Carroll County	85,747	84
Lowndes County	83,835	92
Claiborne County	83,669	96
Franklin County	81,638	103
Pike County	81,575	90
Yalobusha County	80,832	83
Lamar County	80,427	98
Clay County	79,425	83
Simpson County	78,492	88
Leflore County	77,805	89
Quitman County	74,768	84
Walthall County	73,650	85
Lincoln County	71,168	96
Stone County	67,300	102
Hancock County	66,923	97
Grenada County	64,059	93
Forrest County	63,997	101
Covington County	63,219	93
Montgomery County	61,294	85
Alcorn County	52,622	76
Jefferson Davis County	51,957	96
Lawrence County	50,135	91