



2020

FLORIDA 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:

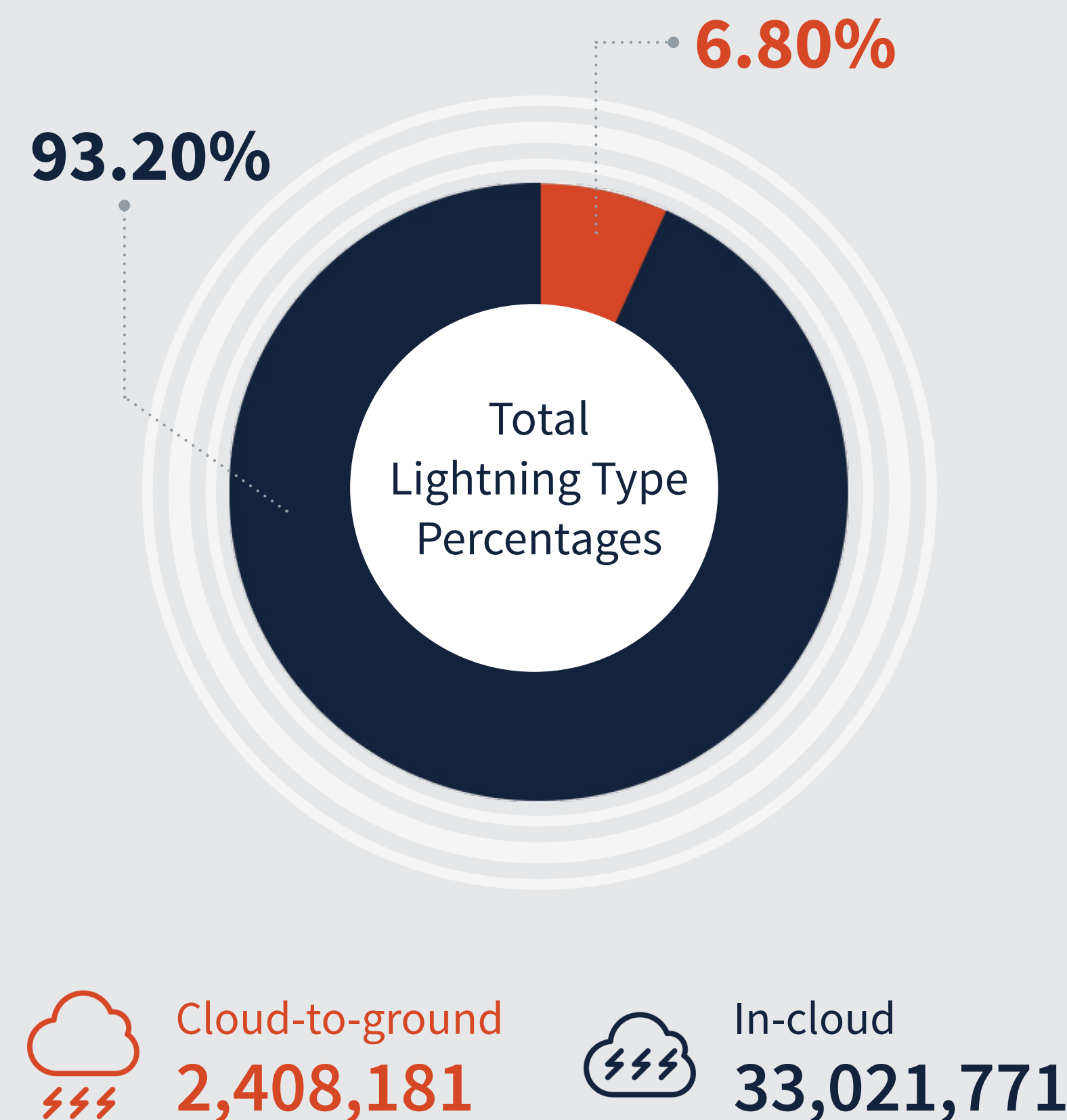
Lightning that happens between opposite charges in a cloud and on the ground

In-Cloud lightning:

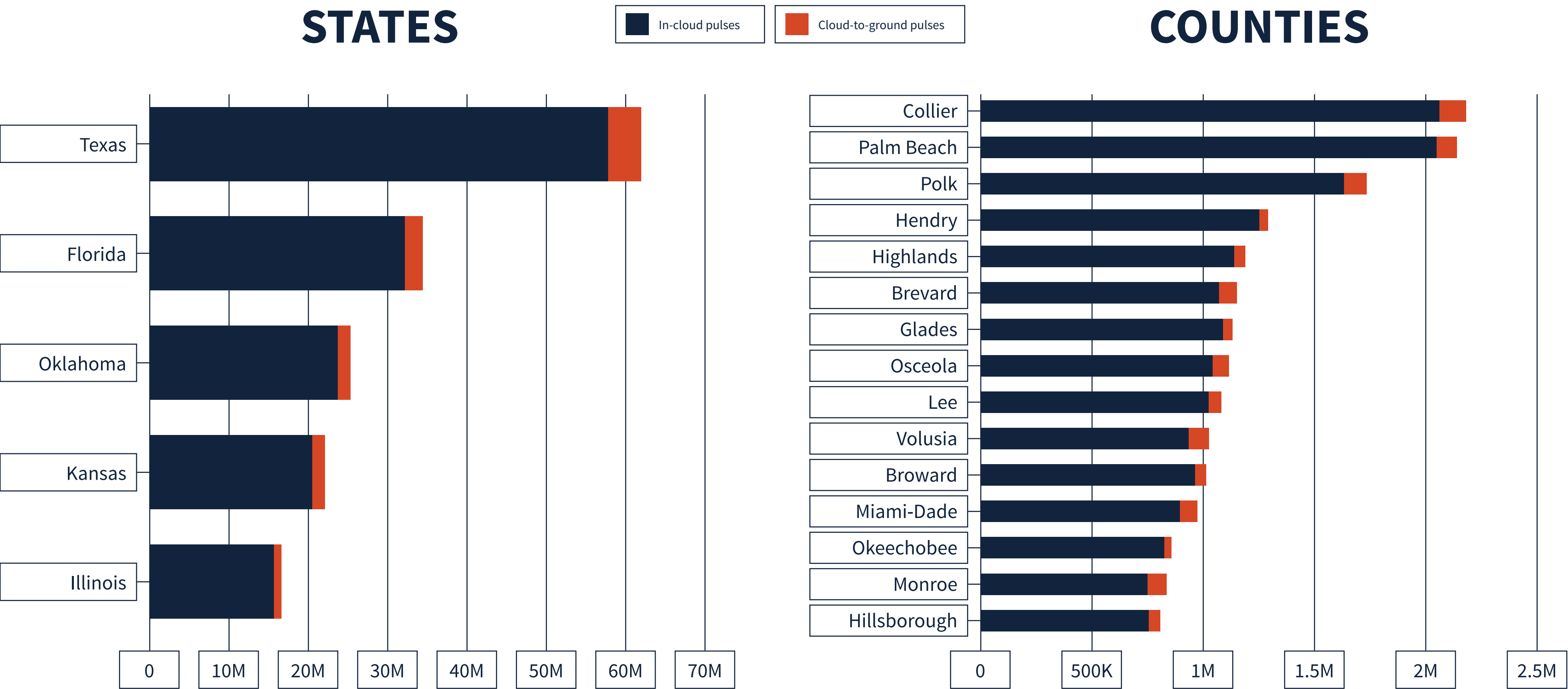
Lightning that occurs between opposite charges within a thunderstorm cloud

FLORIDA TOTAL LIGHTNING PULSES

35,430,198

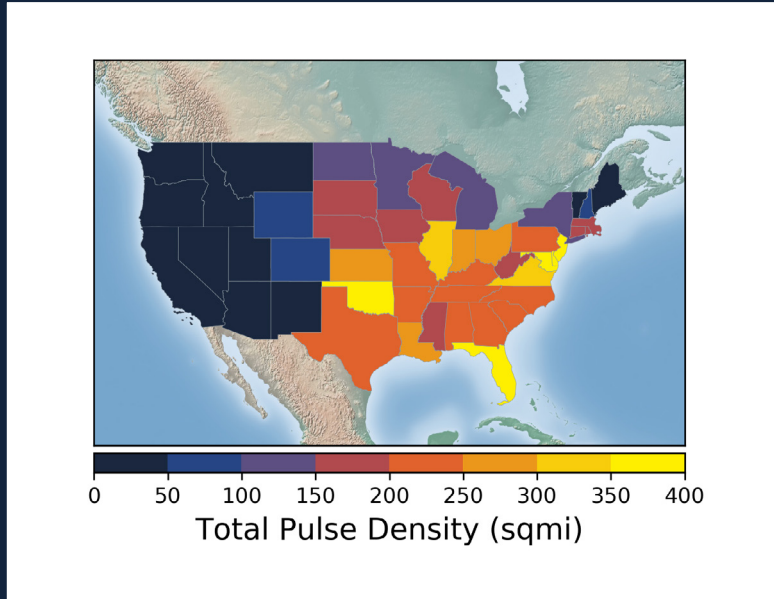
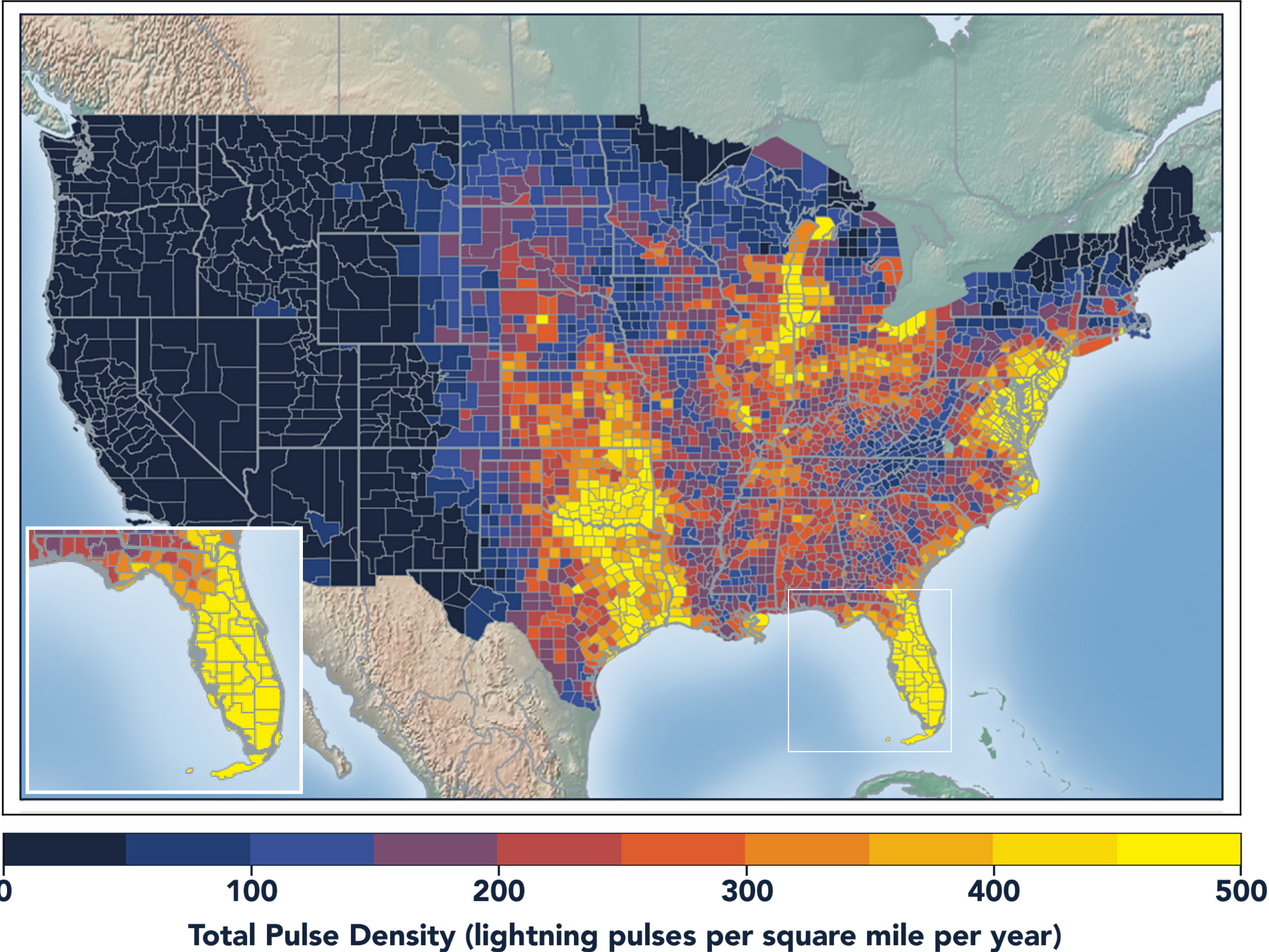


LIGHTNING COUNT RANKINGS



Florida ranked 2 in total lightning pulses for 2020.

TOTAL (CG+IC) PULSE DENSITY MAP

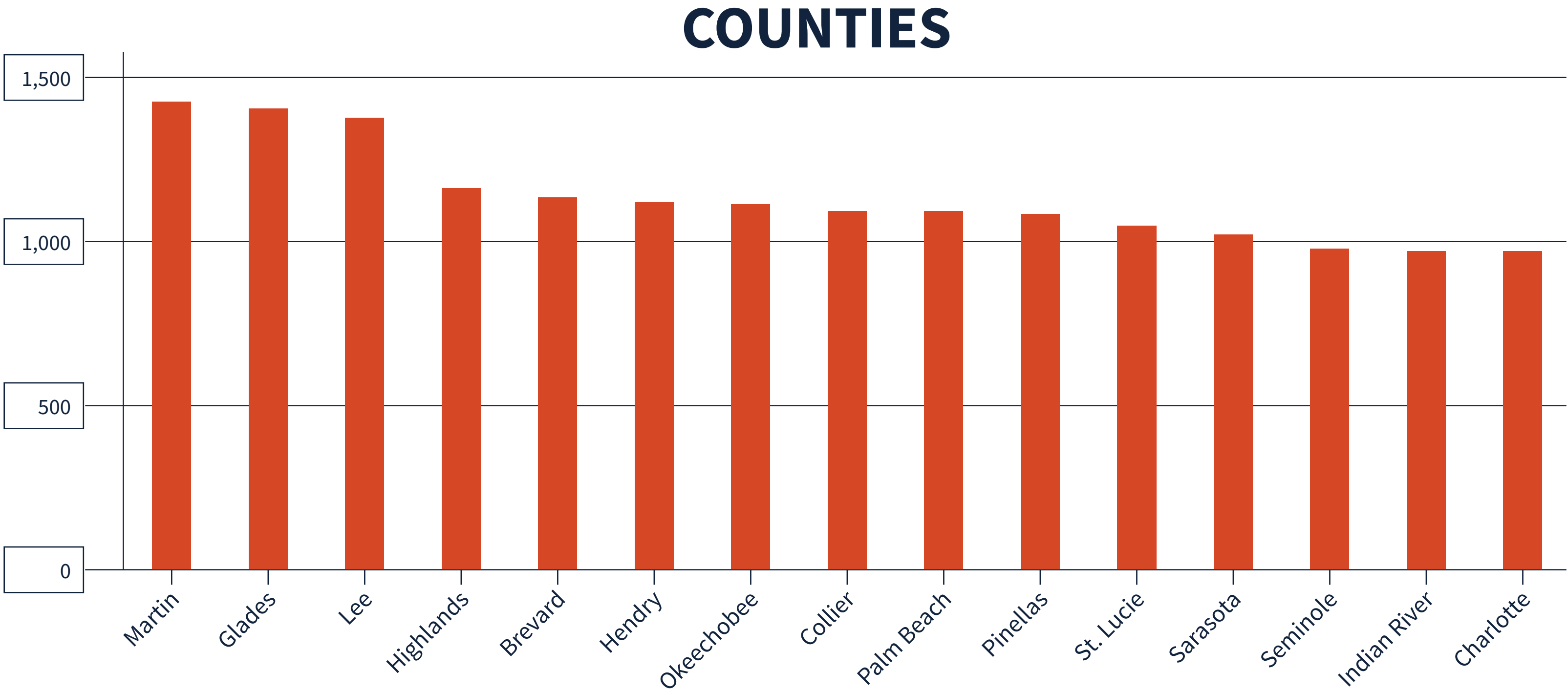


Pulse density is a better indicator of lightning activity than total lightning counts because it enables us to compare different sized areas (like states and counties) fairly.

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.



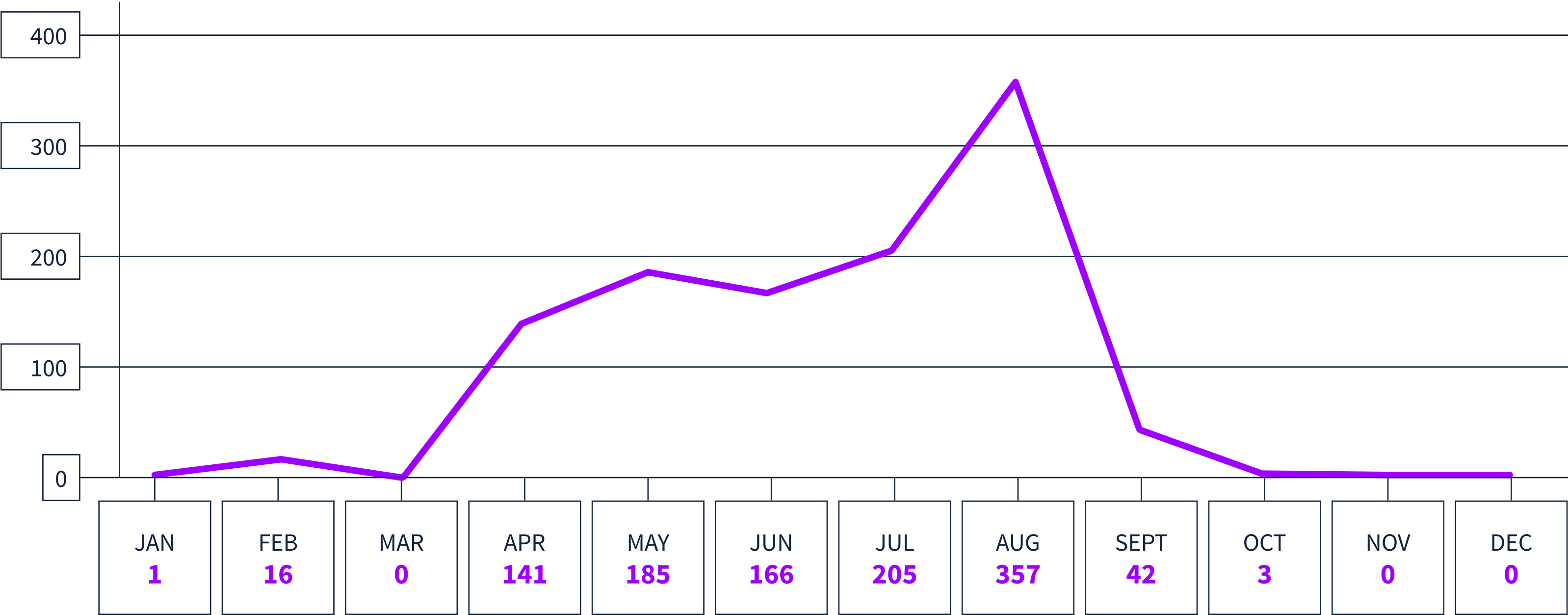
Earth Networks issued 29,401 Dangerous Thunderstorm Alerts (DTAs) in 2020. This year's map clearly shows the persistent drought conditions that have plagued the South and Southwest.

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

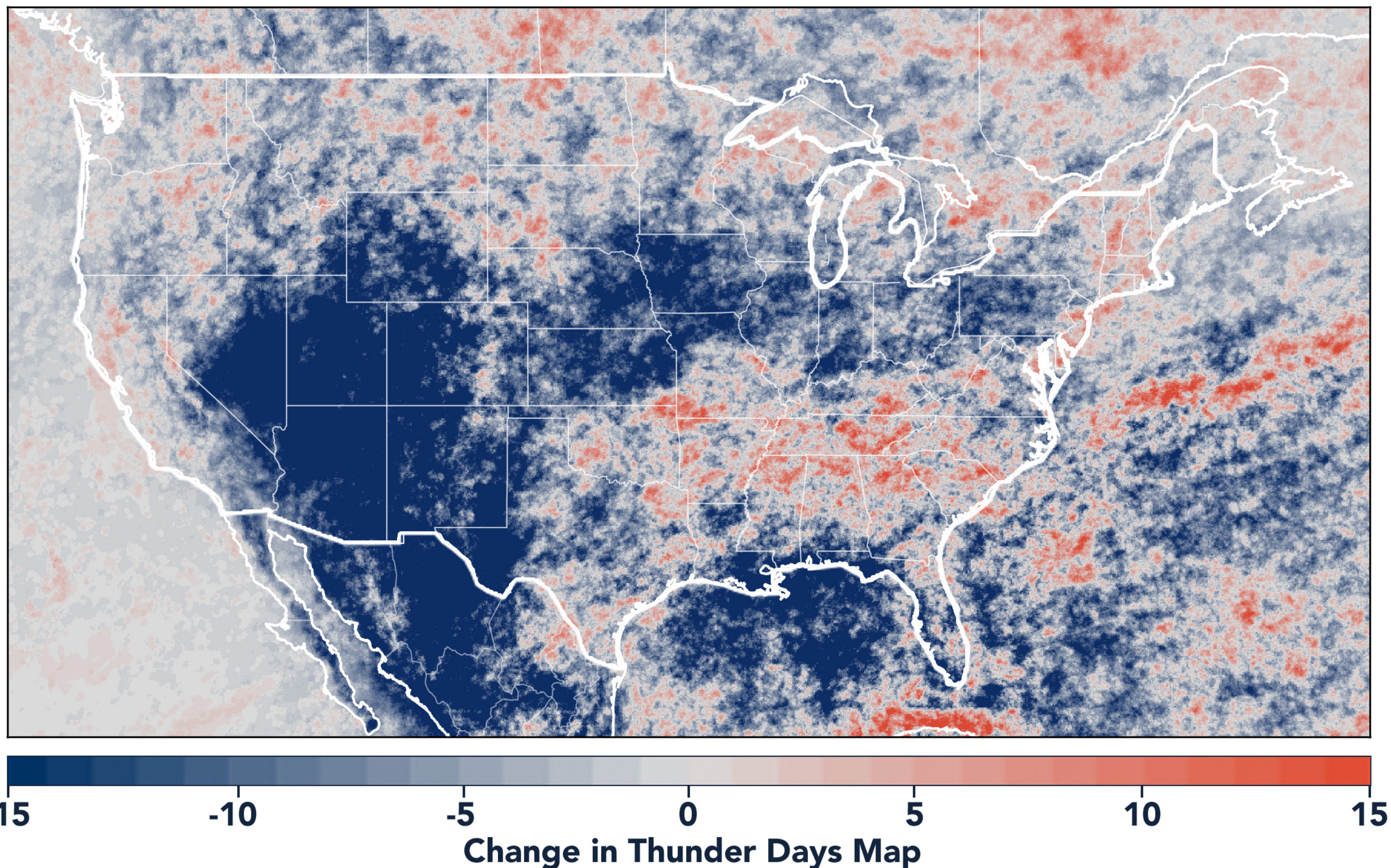
DANGEROUS THUNDERSTORM ALERTS BY MONTH

Earth Networks issued 1,116 Dangerous Thunderstorm Alerts for the state in 2020.

FLORIDA



TOTAL STATE THUNDER DAYS: 246



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

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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.

COUNTY	TOTAL LIGHTNING PULSES	TOTAL THUNDER DAYS
Collier County	2,178,694	153
Palm Beach County	2,139,534	170
Polk County	1,734,884	153
Hendry County	1,292,001	158
Highlands County	1,185,866	148
Brevard County	1,148,195	131
Glades County	1,134,569	148
Osceola County	1,115,022	142
Lee County	1,078,696	141
Volusia County	1,026,044	137
Broward County	1,014,773	158
Miami-Dade County	975,834	161
Okeechobee County	853,888	142
Monroe County	832,231	175
Hillsborough County	807,880	139
Marion County	794,335	140
Orange County	782,757	132
Martin County	777,224	143
Lake County	668,383	135
Charlotte County	659,745	141
Manatee County	628,547	129
St. Lucie County	598,187	132
Sarasota County	567,549	123
DeSoto County	537,835	128
Pasco County	514,168	127
Indian River County	488,958	125
Hardee County	477,199	134
Putnam County	449,968	126
Duval County	443,404	112
Levy County	438,735	126
Taylor County	399,388	106
St. Johns County	387,181	123
Flagler County	346,709	107
Alachua County	345,903	123
Nassau County	304,651	109
Seminole County	303,315	115
Pinellas County	296,943	110
Hernando County	292,071	113
Clay County	288,594	116
Sumter County	273,686	121
Citrus County	273,515	113
Liberty County	267,184	108
Dixie County	264,378	109
Columbia County	258,156	122
Baker County	253,597	115
Wakulla County	253,077	108
Walton County	250,278	120

COUNTY	TOTAL LIGHTNING PULSES	TOTAL THUNDER DAYS
Bay County	223,144	108
Franklin County	215,276	104
Okaloosa County	211,455	114
Santa Rosa County	199,642	114
Suwannee County	192,009	116
Leon County	184,953	111
Jefferson County	183,213	106
Lafayette County	174,054	104
Hamilton County	165,503	110
Madison County	154,885	109
Calhoun County	151,321	97
Jackson County	139,475	100
Escambia County	134,928	110
Gulf County	124,588	96
Gilchrist County	103,439	107
Gadsden County	100,706	95
Washington County	96,164	105
Bradford County	95,451	104
Holmes County	82,651	100
Union County	63,168	101