

Storm Data and Unusual Weather Phenomena - December 2022

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|---|--------------------|-------------------|---------------------|---------------------------------------|
| ALABAMA, Central | | | | |
| SUMTER COUNTY --- 4.2 S SILOAM [32.37, -88.27], 3.1 ESE SILOAM [32.41, -88.22] | | | | |
| | 12/14/22 15:17 CST | | 0 | Tornado (EF1, L: 4.40 mi , W: 225 yd) |
| | 12/14/22 15:24 CST | | 0 | Source: NWS Storm Survey |

National Weather Service meteorologists surveyed damage in southern Sumter County and determined that it was consistent with an EF 1 tornado, with maximum winds near 90 mph. The tornado touched down just west of the the intersection of County Road 9 and Jessie Powell Road. Several softwood trees were snapped along County Road 9 and there was damage to two homes. Each home sustained varying degrees of roof damage, mostly minor. One home had roof material peeled away and was lofted to the northwest, and the porch had been lifted. A couple of nearby farm structures had roof and minor structural damage with debris lofted to the north. The tornado then continued northeast crossing Gully Road where a few trees were damaged. The next observable damage point was at the intersection of Highway 17 and Wright Road, where additional tree damage was observed. The tornado lifted shortly after crossing Highway 17.

A warm sector with surface temperatures in the 70s and dewpoints in the 60s developed over southwest Alabama during the afternoon of December 14th. Low level shear and helicity values were also high during the afternoon, producing conditions favorable for tornadoes.

ALABAMA, North

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|--|--------------------|--|-----|-------------------------|
| (AL-Z001) LAUDERDALE, (AL-Z002) COLBERT, (AL-Z003) FRANKLIN, (AL-Z004) LAWRENCE, (AL-Z005) LIMESTONE, (AL-Z006) MADISON, (AL-Z007) MORGAN | | | | |
| | 12/22/22 20:00 CST | | 50K | Strong Wind (MAX 49 kt) |
| | 12/23/22 02:00 CST | | 0 | |

A highly anticipated strong Arctic Cold front arrived during the evening hours, which not only brought the onset of an intense bitterly cold wave for the next few days, but also produced a surge of strong and damaging wind gusts along the front. The wind gusts and damage were much like occurs along a warm season squall line. But in this case, a line of showers and a significant atmospheric pressure rise with the passage of the cold front contributed to the strong and gusty winds. In some cases, the winds exceeded 55 mph in northwest into north central Alabama. Wind gusts subsided into the 30 to 35 mph range as the front entered northeast Alabama. In Lauderdale and Colbert County in northwest Alabama alone, the winds knocked down dozens of trees and power lines, resulting in numerous power outages, including the Quad Cities metro area. Power outages were also reported elsewhere in north Alabama, including Madison County.

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|--|--------------------|--|---|-----------------|
| (AL-Z001) LAUDERDALE, (AL-Z002) COLBERT, (AL-Z003) FRANKLIN, (AL-Z004) LAWRENCE, (AL-Z005) LIMESTONE, (AL-Z006) MADISON, (AL-Z007) MORGAN, (AL-Z008) MARSHALL, (AL-Z009) JACKSON, (AL-Z010) DEKALB, (AL-Z016) CULLMAN | | | | |
| | 12/22/22 23:00 CST | | 0 | Cold/Wind Chill |
| | 12/24/22 10:00 CST | | 0 | |

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|---|--------------------|--|---|-------------------------|
| (AL-Z001) LAUDERDALE, (AL-Z002) COLBERT, (AL-Z003) FRANKLIN, (AL-Z004) LAWRENCE, (AL-Z005) LIMESTONE, (AL-Z007) MORGAN, (AL-Z008) MARSHALL, (AL-Z009) JACKSON, (AL-Z010) DEKALB, (AL-Z016) CULLMAN | | | | |
| | 12/23/22 01:00 CST | | 0 | Extreme Cold/Wind Chill |
| | 12/23/22 14:00 CST | | 0 | |

Bitterly cold temperatures and wind chills arrived behind a very strong Arctic cold front. Wind chill values stayed zero or below for around 36 hours straight. In some cases, wind chills dropped into the -15 to -19 degree range for some locations.

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| (AL-Z006) MADISON, (AL-Z007) MORGAN, (AL-Z008) MARSHALL, (AL-Z009) JACKSON | | | | |
| | 12/26/22 12:00 CST | | 0 | Winter Weather |
| | 12/26/22 19:00 CST | | 0 | |

Light snow developed during the early to mid afternoon hours of the 26th, and ended during the early evening hours. Snowfall amounts from a dusting to just under an inch were reported. The greatest snow amounts were in north central and northeast Alabama, including the Huntsville metro area. Due to very cold road surface temperatures, traffic on area roadways resulted in melting and immediate refreezing of moisture on roadways. Hundreds if not thousands of motorists were stranded for several hours in the Huntsville metro area, and most likely in other parts of north central and northeast Alabama, due to the icy and impassible road conditions that developed. Many roads were closed and deemed impassible, and this lasted throughout the night and into the morning hours of the 27th on untreated surfaces. Improvement occurred rapidly by late morning on the 27th as temperatures warmed well above the freezing mark.

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ALABAMA, Southeast

(AL-Z068) GENEVA, (AL-Z069) HOUSTON

| | | |
|--------------------|---|---------|
| 12/01/22 00:00 EST | 0 | Drought |
| 12/31/22 23:59 EST | 0 | |

D2 drought conditions continued through December and into January across portions of Houston and Geneva counties.

COFFEE COUNTY --- 0.6 E HOLLEY STORE [31.22, -86.08]

| | | |
|--------------------|---|------------------------------|
| 12/14/22 21:30 CST | 0 | Thunderstorm Wind (EG 50 kt) |
| 12/14/22 21:30 CST | 0 | Source: Emergency Manager |

A tree was blown down along County Road 474.

DALE COUNTY --- 0.6 W MIDLAND CITY [31.31, -85.50]

| | | |
|--------------------|---|------------------------------|
| 12/14/22 22:10 CST | 0 | Thunderstorm Wind (EG 50 kt) |
| 12/14/22 22:10 CST | 0 | Source: 911 Call Center |

Trees were reported down along Highway 231 near Midland City.

A strong cold front moved through the area during the Dec 14-15 time frame, bringing with it a round of beneficial rainfall. A few severe storms also occurred across the tri-state area, including a few tornadoes. However, most of the reports occurred across northwest Florida with only a couple of reports of trees down across southeast Alabama.

(AL-Z069) HOUSTON

| | | |
|--------------------|-----|-----------------|
| 12/24/22 00:00 EST | 50K | Cold/Wind Chill |
| 12/26/22 12:00 EST | 0 | |

The coldest temperatures in about 10 years descended into the tri-state region during the Dec 24-26 period. Low temperatures dipped well down into the teens with high temperatures remaining in the 30s, and even at or below freezing in southeast Alabama on Dec 24th. This extended period of below freezing temperatures with hard freeze conditions resulted in numerous reports of broken pipes, primarily in northwest Florida. However, a few reports of broken pipes were also received from Cottonwood in Houston county. In addition, two homeless men were found dead from hypothermia after sleeping outside. One was in Wakulla county, and the other was in Leon county. Monetary damage from the broken pipes was estimated.

ALABAMA, Southwest

WASHINGTON COUNTY --- 2.0 W SILVER CROSS [31.68, -88.21], 1.8 NW SILVER CROSS [31.70, -88.20]

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|--------------------|---|---------------------------------------|
| 12/14/22 17:40 CST | 0 | Tornado (EF0, L: 1.43 mi , W: 140 yd) |
| 12/14/22 17:44 CST | 0 | Source: NWS Storm Survey |

Our first sentinel satellite imagery pass was this afternoon and cleared up the details of how this tornado evolved. The first major change was to the intensity of the tornado. Complete deforestation of trees to the southwest of County Road 31 was noted on satellite imagery, indicating numerous if not all trees in the path were uprooted/snapped low at their base. Based on this, the intensity is bumped to 130mph making this a high-end EF2. The next major change is to end the tornado just northeast of County Road 31. Sentinel satellite imagery indicates the tornado occluded to the left rather abruptly, and reached its widest point of 140 yards as it once again produced EF2 damage with widespread deforestation during the occlusion process. The damage path ends abruptly once the tornado was moving due north on satellite imagery. It's possible it continued to travel to the north for a bit while weakening, however, based on the storm survey on Blue Dirt Road it never reached the road. This satellite imagery explains the discontinuity that was noted in the original storm survey downstream by Blue Dirt Road where a new tornado began.

CHOCTAW COUNTY --- 2.2 S BLADON SPGS [31.70, -88.20], 1.3 ESE BLADON SPGS [31.72, -88.18]

| | | |
|--------------------|---|---------------------------------------|
| 12/14/22 17:44 CST | 0 | Tornado (EF2, L: 1.93 mi , W: 140 yd) |
| 12/14/22 17:48 CST | 0 | Source: NWS Storm Survey |

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| <hr/> | | | | |
| CHOCTAW COUNTY --- 1.7 E BLADON SPGS [31.73, -88.17], 0.1 SSW SERVICE [31.75, -88.15] | | | | |
| | 12/14/22 17:49 CST | 0 | | Tornado (EF2, L: 1.79 mi , W: 120 yd) |
| | 12/14/22 17:52 CST | 0 | | Source: NWS Storm Survey |

After reviewing sentinel satellite imagery available on 12/18/22, the determination has been made that the segment of the original surveyed tornado track from Blue Dirt Road to Highway 84 was a separate EF2 tornado with peak winds of 115mph. The original tornado occluded a few minutes prior to the genesis of this tornado. A remarkable gradient at the point of genesis was noted by the survey team in a field of snapped/uprooted trees, where trees went from untouched to numerous snaps of softwood trees in as little as 5 to 10 feet. Based on sentinel satellite imagery, the tornado maintained intensity, perhaps slightly strengthening as it moved off to the northeast of Blue Dirt Road where significant deforestation was noted in an approximate 120 yard swath. At the tornadoes halfway point, it likely weakened to an EF0/EF1 as it passed by a field with no notable tree damage on satellite imagery. Once the tornado reached Highway 84, it was a very weak EF0 that uprooted a couple softwood trees, lifting at that location.

A very warm and moist airmass developed ahead of a strong cold front. Thunderstorms developed ahead of the front and produced damaging winds along with a 2-EF2 tornadoes in Choctaw County Alabama along with wind damage in Baldwin County.

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| MOBILE COUNTY --- 2.0 NNW SEMMES [30.81, -88.26] | | | | |
| | 12/30/22 11:15 CST | 0 | | Thunderstorm Wind (EG 52 kt) |
| | 12/30/22 11:17 CST | 0 | | Source: Broadcast Media |

High winds damaged a roof on an outbuilding at Loblolly farm.

Strong to severe storms moved across southwest Alabama and produced damaging winds.