

Christmas Day Snow Event 2010

Many residents of the Tennessee Valley were treated to an additional present on Christmas Day as snowfall blanketed much of the region. A “White Christmas” is extremely rare across the Tennessee Valley. In fact, before Christmas 2010, snowfall had only been observed at the Huntsville International Airport (KHSV) once (0.3” in 1989) since official records started back in the late 1800s. According to official records, snowfall has never occurred on Christmas Day in Muscle Shoals (at KMSL).

In this particular event, a broad area of low pressure (Fig. 1) moved east across the northern Gulf of Mexico late on Christmas Eve and into Christmas Day. This, coupled with temperatures in the lower to middle 30s and a weak upper level disturbance approaching from the west, led to a light mixture of rain and snow developing just before sunrise. As the precipitation grew in intensity, a changeover to all snow occurred quickly in most areas. A proximity sounding (Fig. 2) from the Huntsville area that morning at 7:00 CST shows the deep moisture layer with the entire sounding below freezing.

As can be seen in the radar images from 3:00 AM CST to 3:00 PM CST (Figs. 3 through 7), a broad area of moderate to heavy snowfall moved slowly across the area. Visibilities were lowered below ¼ mile in many locations for several hours due to heavy snowfall with accumulation rates as high as an inch per hour. As the low pressure system continued to move eastward, the bulk of the snow ended from west to east by late afternoon. However, another upper level system swept across the region overnight dropping another ½ to 1 inch of snowfall by the morning of December 26th.

Here is a sample of the snowfall accumulations from the December 25-26, 2010 Snow Event:

City/Location	Source	Amount (Inches)
Huntsville-Monte Sano	Media	7.0
Meridianville	Spotter	4.5
Ider	COOP	4.0
Phil Campbell	Spotter	4.0
Valley Head	COOP	4.0
Athens	CoCoRaHs	3.8
Holly Tree	COOP	3.8
Boaz	COOP	3.5
Harvest	CoCoRaHs	3.5
Owens Crossroads	COOP	3.5
Paint Rock	CoCoRaHs	3.5
West Point	COOP	3.5
Moulton	COOP	3.1
Scottsboro	COOP	3.0
Huntsville (Airport)	FAA Observers	2.8
Huntsville (NWS Office)	NWS Staff	2.6

Anderson	COOP	2.5
Priceville	COOP	3.5
Rogersville	Media	2.0
Killen	Spotter	1.0
Skyline*	Spotter	5.5
Peeks Corner*	EMA	4.0
Vinemont*	Spotter	4.0
Moulton 6W*	Public	3.5
Madison*	NWS Staff	3.5
French Mill*	Spotter	3.0
Littleville*	Public	3.0
Red Bay*	Ham Radio	3.0
Stevenson*	Spotter	3.0
Hampton Cove*	CoCoRaHs	2.9
Fyffe*	Public	2.5
Hartselle*	Police	2.5
New Market 6SW*	NWS Staff	2.5
Holly Pond*	Public	2.0
Sewanee (TN)	Police	7.0
Winchester (TN)	COOP	4.2
Huntland (TN)	COOP	3.5
Lois (TN)	Police	3.0
Coldwater (TN)	COOP	2.1
Boonshill (TN)	Police	1.5
Cowan (TN)*	Police	6.5

Table 1. Accumulations from December 25-26, 2010 snow event. Reports with an asterisk (*) represent those received during the event and may not be representative of a final accumulation total.

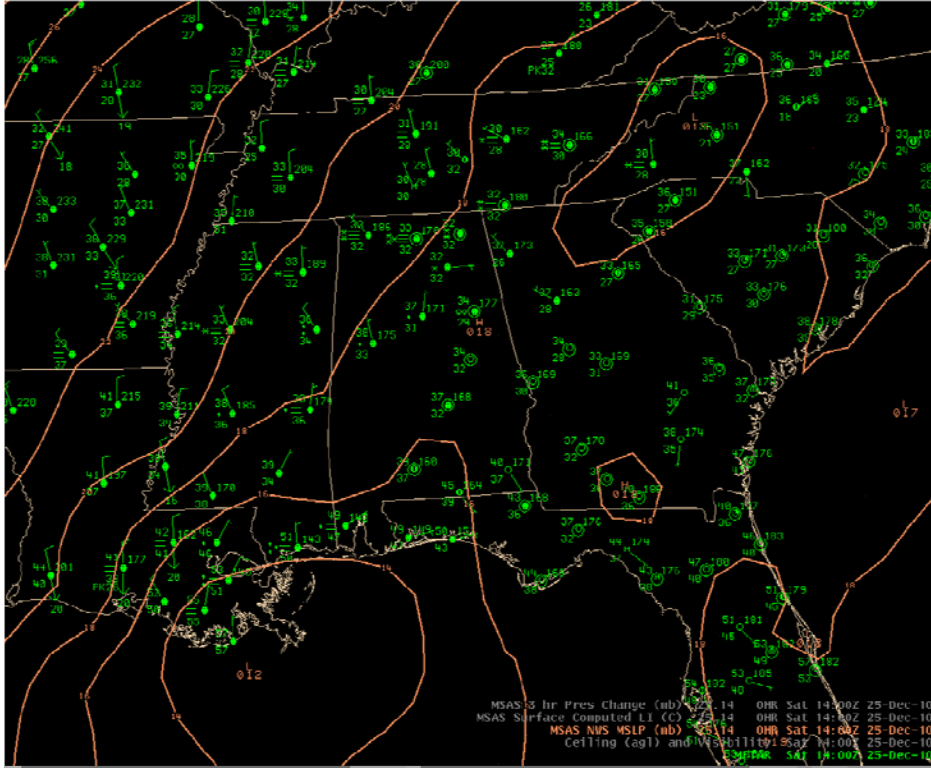


Figure 1: Surface analysis for 25 Dec 2010 at 8:00 AM CST (1400 UTC)

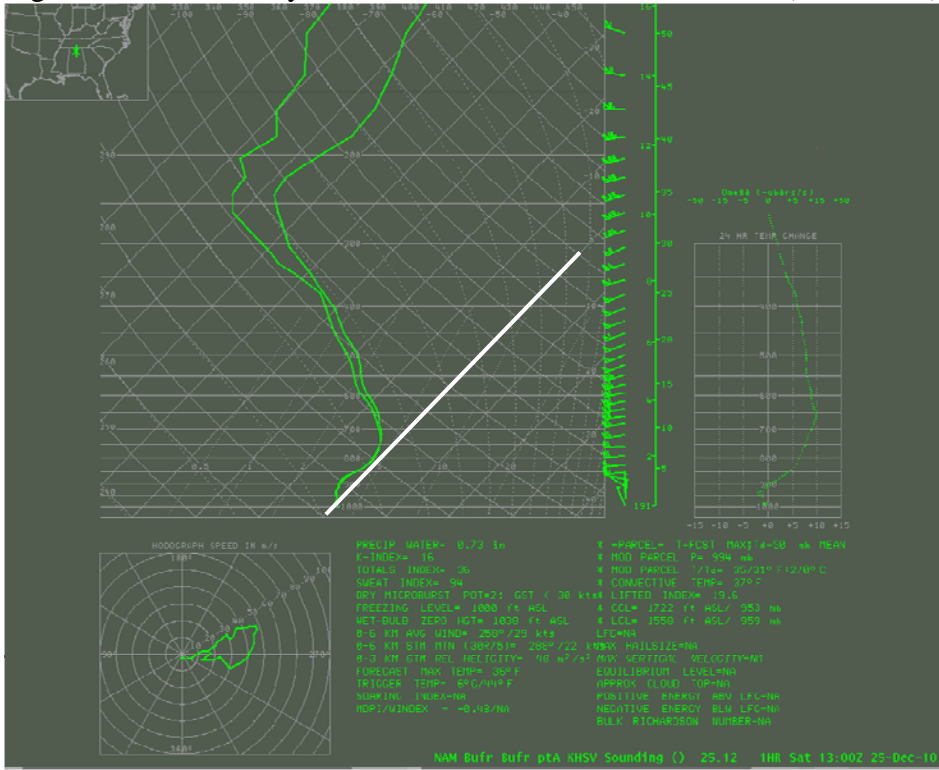


Figure 2: Huntsville Proximity Sounding for 25 Dec 2010 7:00 AM CST (1300 UTC). White line represents the freezing line (0°C).

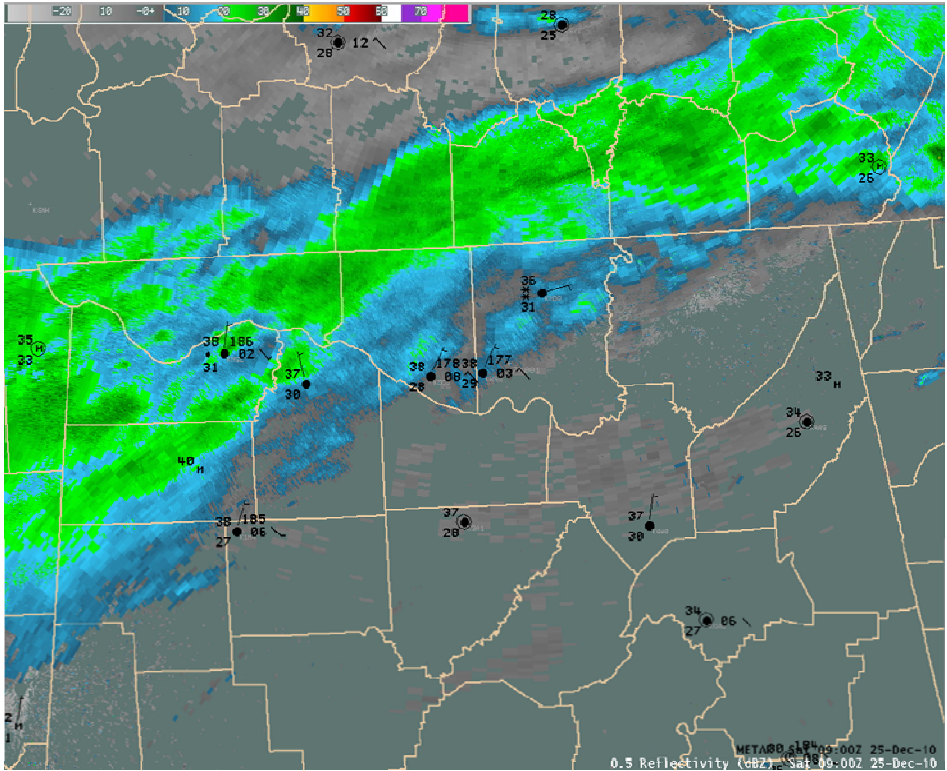


Figure 3: Radar mosaic and surface observations for 25 Dec 2010 3:00 AM CST

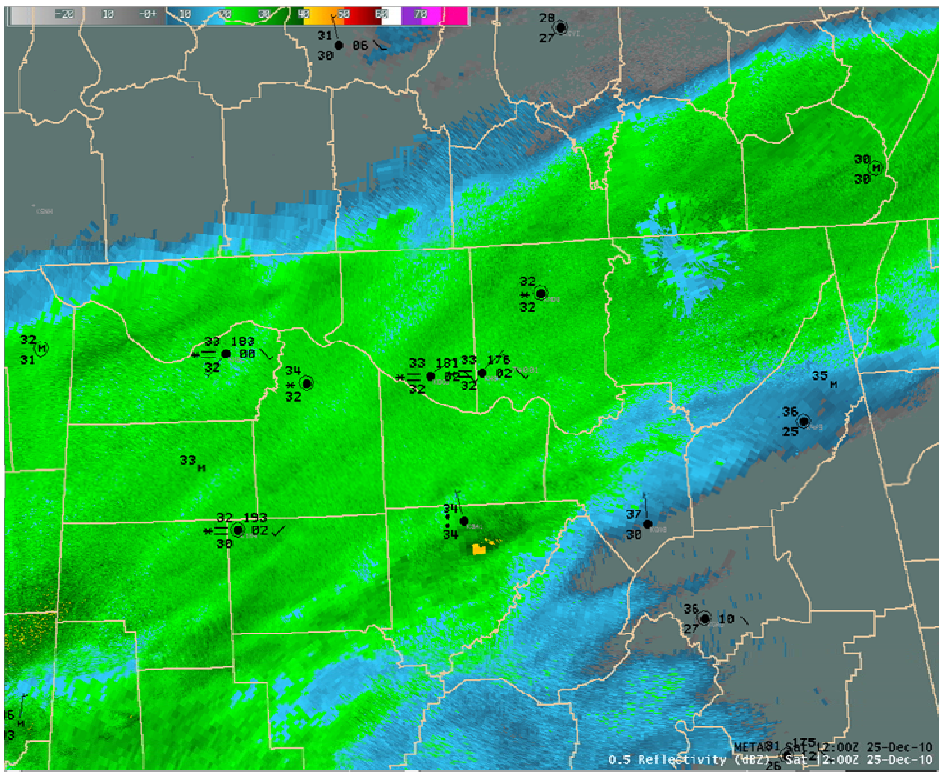


Figure 4: Radar mosaic and surface observations for 25 Dec 2010 6:00 AM CST

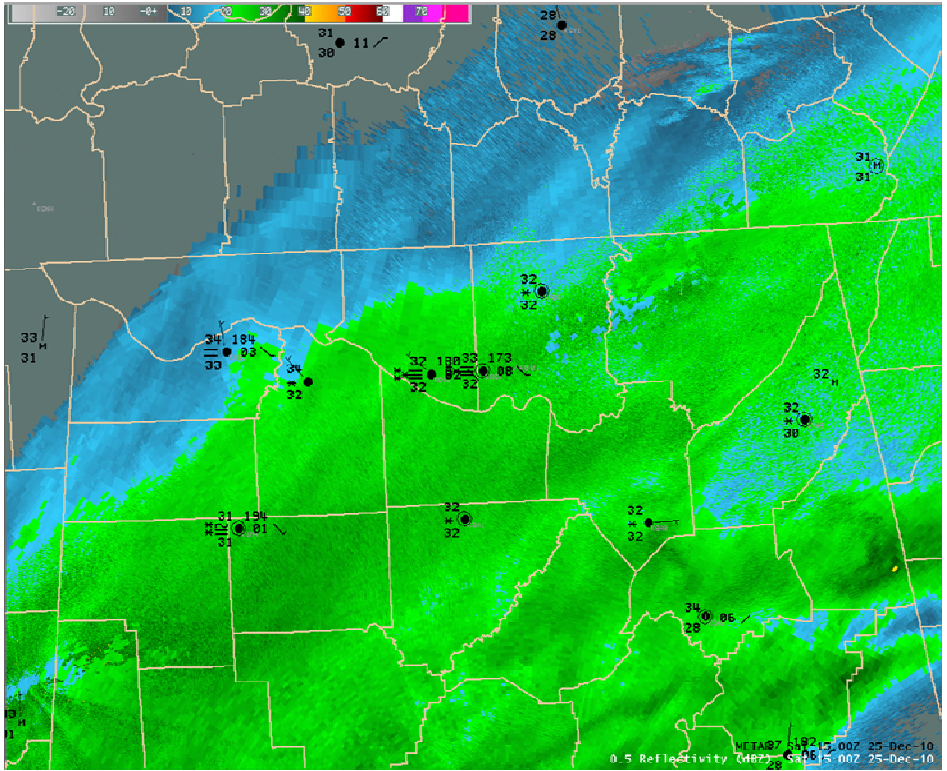


Figure 5: Radar mosaic and surface observations for 25 Dec 2010 9:00 AM CST

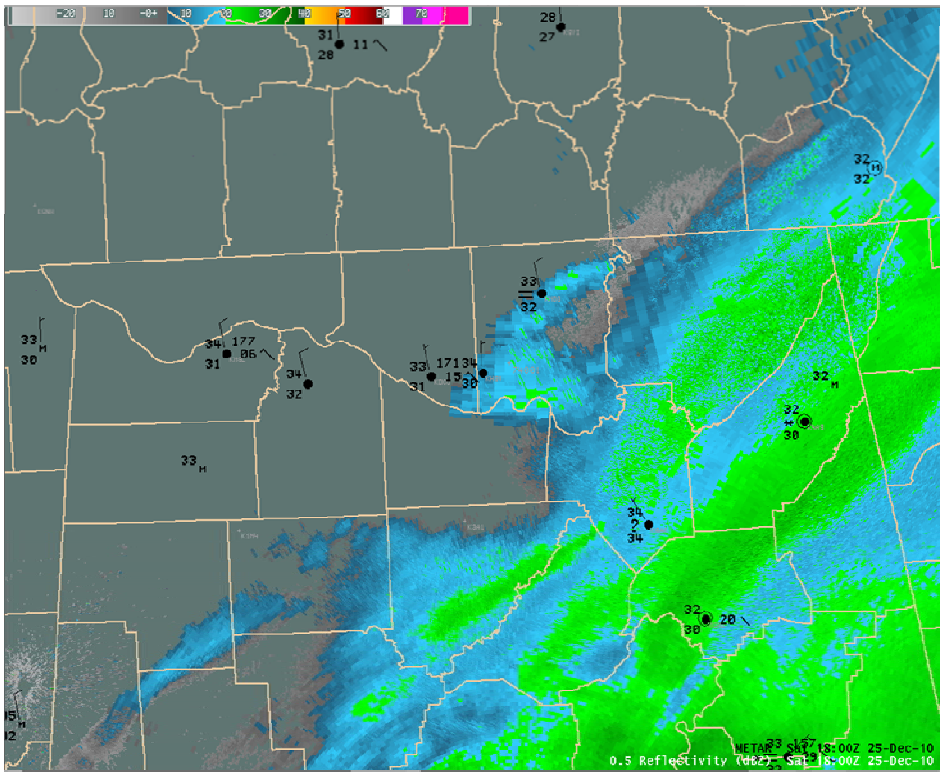


Figure 6: Radar mosaic and surface observations for 25 Dec 2010 Noon CST

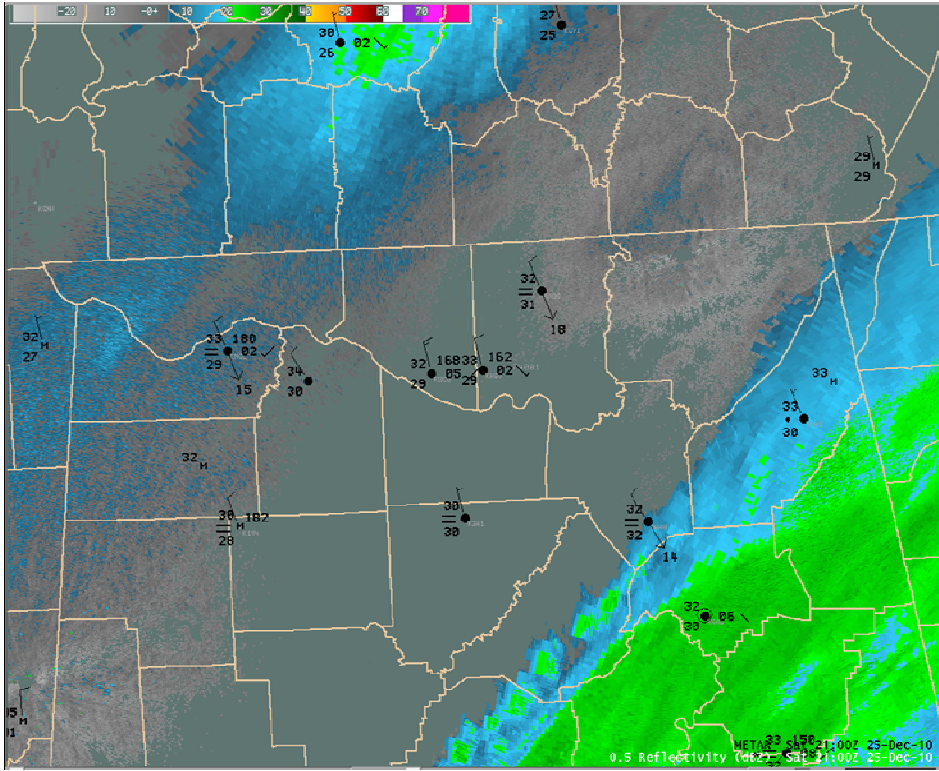


Figure 7: Radar mosaic and surface observations for 25 Dec 3:00 PM CST