



## The Christmas Day Freeze of 1989

# METEOROLOGICAL SET-UP

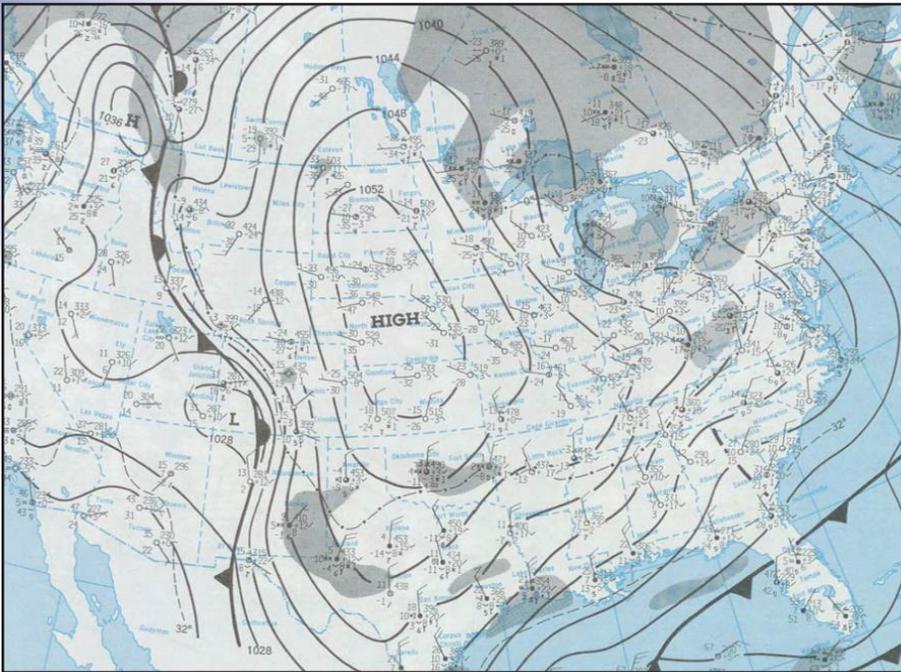


Figure 2. Surface Analysis, 7:00 a.m. EST December 23, 1989.

A large, deep, high pressure system of cold arctic air bellowed south, reaching Florida on December 23, 1989. Extreme cold temperatures were felt throughout Florida and much of the U.S. (Figure 2).

Map source: U.S. Daily Weather Maps, NOAA

A trough of low pressure over the southeast U.S. (developing a negative tilt, Figure 3) along with available moisture from the neighboring Atlantic Ocean, produced winter precipitation beginning December 24, 1989. Areas in northern Florida received up to three inches of snow, while one inch was reported as far south as Sarasota. Ice accumulations were a common sight in south Florida.

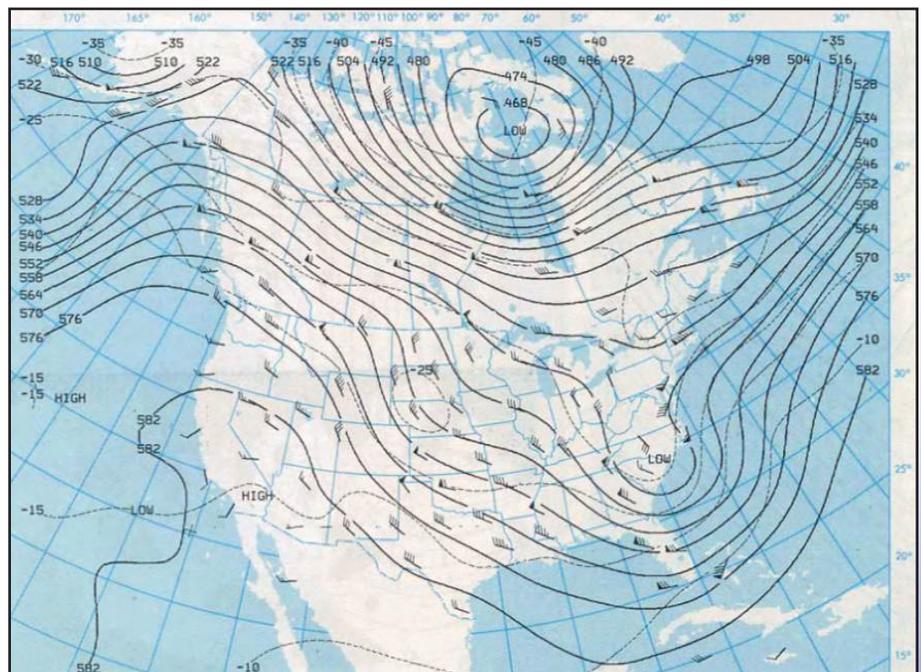


Figure 3. 500 mb Heights, 7:00 a.m. EST December 24, 1989.

From a long-term perspective, the North Atlantic Oscillation was in a negative phase, which can be supportive of colder temperatures in Florida. The El Niño Southern Oscillation was in a neutral phase, which can have La Niña-like tendencies (warmer and drier all around) in Florida, but it was not evident during this event.

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# IMPACTS

- » At least 26 deaths, including hypothermia cases, stove- and space heater-related fires
- » Power outages
- » Icy roads and walkways

Governor Martinez declared all 67 Florida counties disaster areas, with aid from:

- » National Guard
- » Red Cross
- » Many state and local agencies

Transportation grinded to a halt, leaving thousands of residents, travelers, and tourists stranded. Dangerous icy road conditions caused innumerable traffic accidents, resulting in the shutdown of many roadways, bridges, and interstates.

## Extreme Daily Minimum Temperatures

High Springs, FL: 8.0°F (12/24)**
Wewahitchka, FL: 11.0°F (12/24)*
Pensacola, FL: 11.0°F (12/24)
Tallahassee, FL: 13.0°F (12/24)
Gainesville, FL: 14.0°F (12/24)
Inverness, FL: 15.0°F (12/25)*
Jacksonville, FL: 16.0°F (12/24)
Titusville, FL: 19.0°F (12/23)*
Orlando, FL: 22.0°F (12/24)
Tampa Bay, FL: 23.0°F (12/24)
Everglades, FL: 24.0°F (12/24)
Miami, FL: 30.0°F (12/25)*

Table 1. Tied\* or Broken\*\* Records  
Source: National Climatic Data Center (NCDC) U.S. Daily Records.

## “Icy punch wallops Florida”

*The Miami Herald*, December 24, 1989

“The Florida Highway Patrol closed parts of I-10 in Tallahassee, FL just before noon after icy bridges triggered at least three pileups involving between a dozen and 20 cars apiece. Traffic on the eastbound lanes was blocked about 10:30 a.m. after two tractor-trailer rigs jackknifed just west of Tallahassee.”

*The Orlando Sentinel* Sunday, December 24, 1989



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# “From fish to fruit, freeze is a killer”

St. Petersburg Times, December 27, 1989

- » Extensive crop damage, including 30% of the entire \$1.4 billion citrus crop industry (Figure 4).
- » Sugarcane, strawberries, other berries, vegetables, nursery ornamentals, and fish experienced heavy losses.
- » This was the second impact freeze of the decade, and growers had no time for recovery.
- » Generational farms were put out of business, and migrant workers were left unemployed.
- » This event solidified the migration of citrus further south, where it currently is today.

## “Power suffers icy knockout”

St. Petersburg Times, December 25, 1989



Figure 4. *The Miami Herald*, December 27, 1989.



Figure 5. *The Miami Herald*, December 25, 1989.

From an increase in heated homes to holiday decorations, Florida experienced a record demand and usage of electricity. Heavy power outages and rotating blackouts swept across much of Florida, affecting hundreds of thousands of Florida residents. There were cases of over 4,000 residents without power for over 36 hours. Power utility companies of Florida had to resort to rotating blackouts to protect from statewide blackouts (Figure 5).



“We don't have an aggregation, but in Collier County they said they had lost over \$100 million,” Martinez said. “That's one small county. Then you have the big counties like Palm Beach and Hillsborough and the citrus belt—we're talking in the hundreds of millions of dollars.”

Governor Martinez, *Sun-Sentinel*, December 29, 1989



Figure 6. Icicles weigh down a young orange tree as Jay Chicone checks for plant damage at his family's grove near Windermere, FL. *The Orlando Sentinel*, December 23, 1989.



Figure 7. Utility services repairing power outages in Jacksonville, FL, December, 1989.

“I have so many layers of clothes on my arms; I can't stand another sleeve,” said Theresa Pond, 71, who lives near Windermere. She said her electricity had been off and on Saturday night and Sunday.

*The Orlando Sentinel*, December 25, 1989

For more information, please contact the Florida Department of Health BRACE Program or visit [www.floridahealth.gov](http://www.floridahealth.gov).

