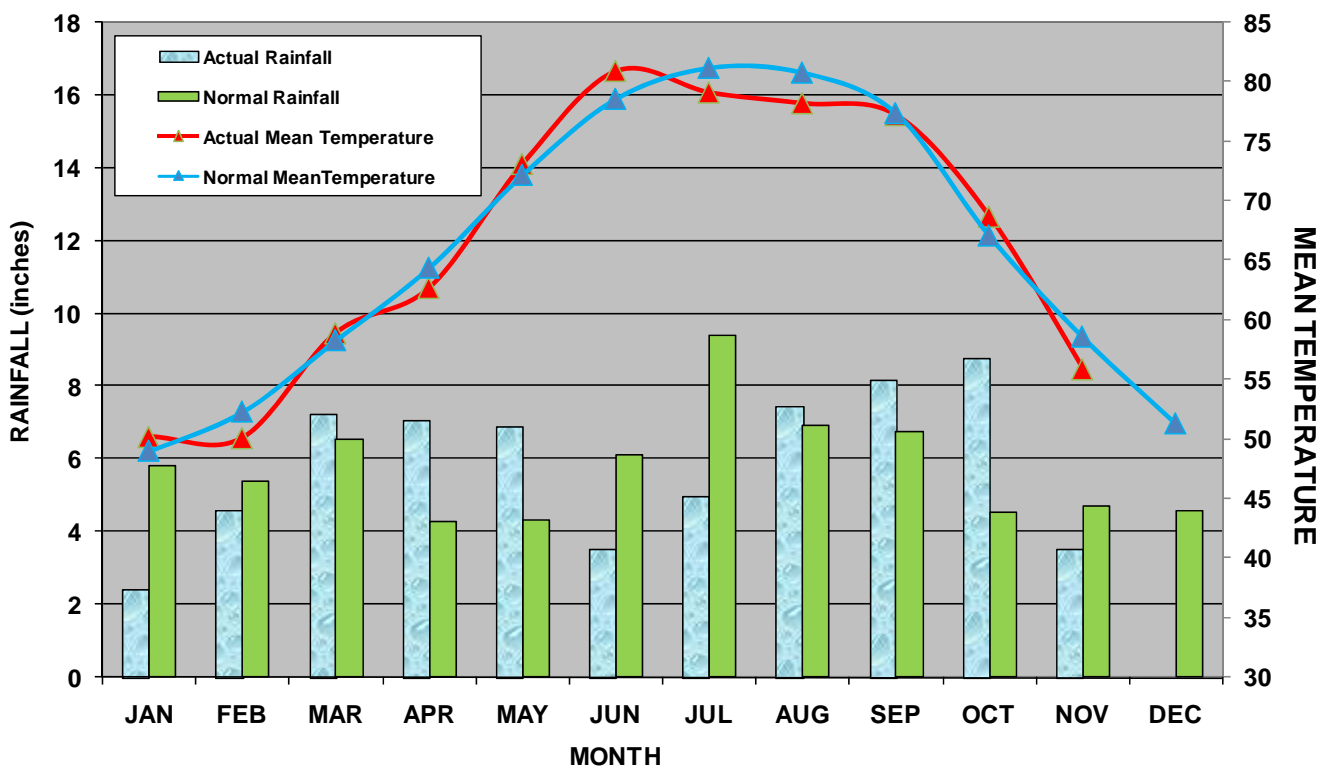


Introduction

November 2009 produced below normal temperatures and below normal precipitation for Niceville, FL. Overall, the past fall season (September-October-November) was slightly cooler and much wetter than normal. Average fall temperature of **67.2°F** was 0.7°F cooler than the normal (67.9°F) and total rainfall was **19.58** inches which was 4.99 inches wetter than normal (14.59 inches). The main event of the month was Tropical Storm Ida making landfall on Dauphin Island, AL on 10th November with sustained winds of 45 mph. Cold fronts cleared the area on the 17th, 25th, and 30th and one gulf low tracked across the coast on 22nd November. Near month's end, a polar airmass descended upon the central gulf coast producing the first fall freeze (27th November) for Niceville. This freeze is fifteen days past average freeze date of 12th November for Niceville. Morning temperatures on the 27th November fell to 29°F at Crestview and 32°F at Niceville, FL.

**2009 Jackson Guard Rainfall/NVOC Temperature
1971-2000 Climatic Normal (Niceville, FL)**



November 2009 Climate Summary

Jackson Guard rainfall for November totaled **3.53** inches and the Niceville (NVOC) Regional Sewer Board^oF, Inc. recorded **3.80** inches. Eglin AFB recorded **3.04** inches for the month, 0.94 inches below the normal of 3.98 inches. Pensacola, FL recorded **4.85** inches, which is 0.39 inches above the normal of 4.46 inches. There were 6 days with measurable precipitation in Niceville, which equals the November average. There was no thunderstorm during the month, which is 1 day below normal. No new precipitation record was observed during the month. Year to date rainfall at NVOC is 66.84 inches, which is 2.21 inches above normal of 64.63 inches. Year to date rainfall at Eglin AFB is 57.17 inches, which is 0.67 inches below the normal of 57.84 inches. Year to date rainfall at Pensacola, FL is 74.55 inches, which is 14.24 inches above normal of 60.31 inches.

The [Keetch-Byram Drought Index](#) (KBDI) at the beginning of December 2009 was *very low*. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (1 December 09)	Florida County	Average November 2009 Rainfall (inches)
Santa Rosa	87	Santa Rosa	3.43
Okaloosa	105	Okaloosa	3.32
Walton	103	Walton	4.09
Gulf	163	Gulf	5.31

For more information on daily KBDI values, visit the Florida Division of Forestry: [KBDI index](#).

The monthly mean temperature was **55.9°F** which was 2.7°F *below* normal. The average high temperature at Niceville NVOC was **68.1°F** (3.4°F *below* normal). The highest temperature of the month was **76°F** observed on the 8th & 9th November. The average low temperature was **43.6°F** (2.1°F *below* normal). The lowest temperature of the month was **31°F** observed on the 28th November. There were no mornings when the minimum temperature exceeded 65°F.

Tropical Summary November 2009

Tropical Storm Ida made two landfalls on 10 November with the first at 5:40 am on Dauphin Island, AL and a second landfall at Bon Secour, AL at 6:00 am. Winds and storm surge were typical of a weak tropical storm along the Alabama and northwest Florida coastline, but some beach erosion did occur in localized areas around Destin, FL. Maximum storm surge (astronomical tide plus Ida’s surge effect) was **4.8** feet at Bayou La Batre, AL; **4.0** feet at Pensacola, FL; **3.7** feet at Destin, FL; and **3.3** feet at Fort Walton Beach, FL. Ida was the *second* latest hurricane to form in November to make landfall along the Gulf Coast. Hurricane Kate in 1985 made landfall at Mexico Beach, FL as a Category 1 hurricane on 21st November. Ida formed as a tropical depression on the 4th November in the southwest Caribbean. The storm reached hurricane status twice and Category 2 intensity after moving through Yucatan Straights on 8th November peaking with 105 mph winds. Hurricane Ida encountered strong vertical wind shear and cooler waters which caused demise of the storm prior to landfall. Total rainfall over Alabama and northwest Florida coastal areas ranged from 4.0 to 6.6 inches.

Florida: 11/10/2009 1-Day Observed Precipitation
Valid at 11/10/2009 1200 UTC– Created 11/16/09 21:02 UTC

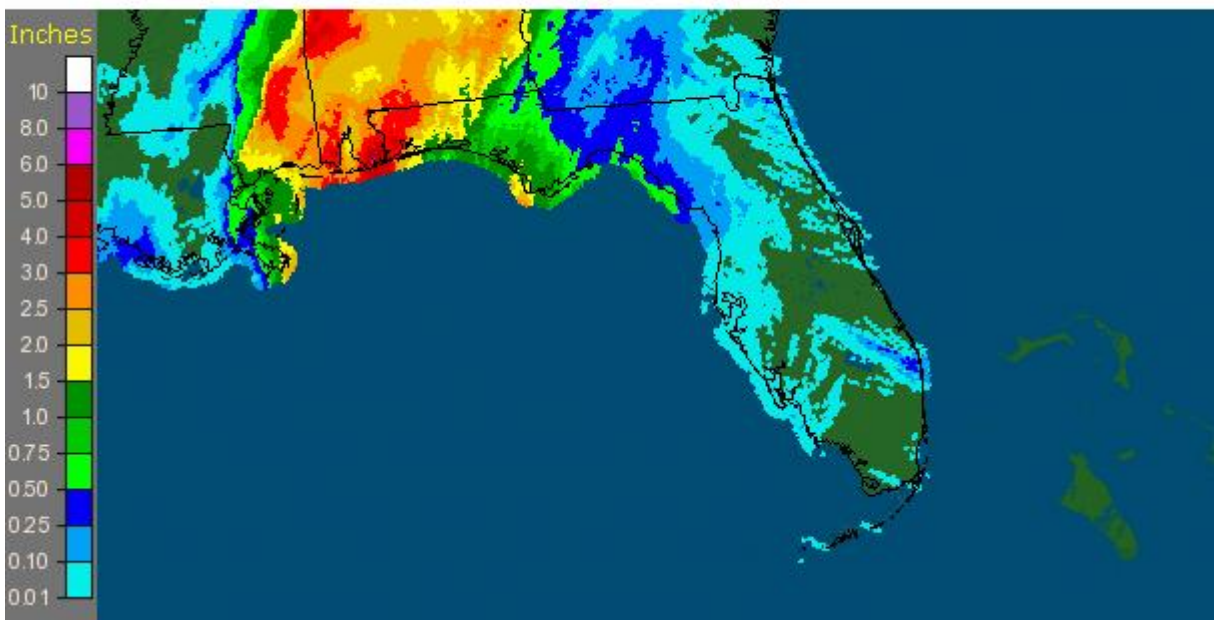


Figure 1. Tropical Storm Ida 24-hour total precipitation ending 6 a.m. 10 November 2009.

Noteworthy 2009 Atlantic Hurricane Season Details

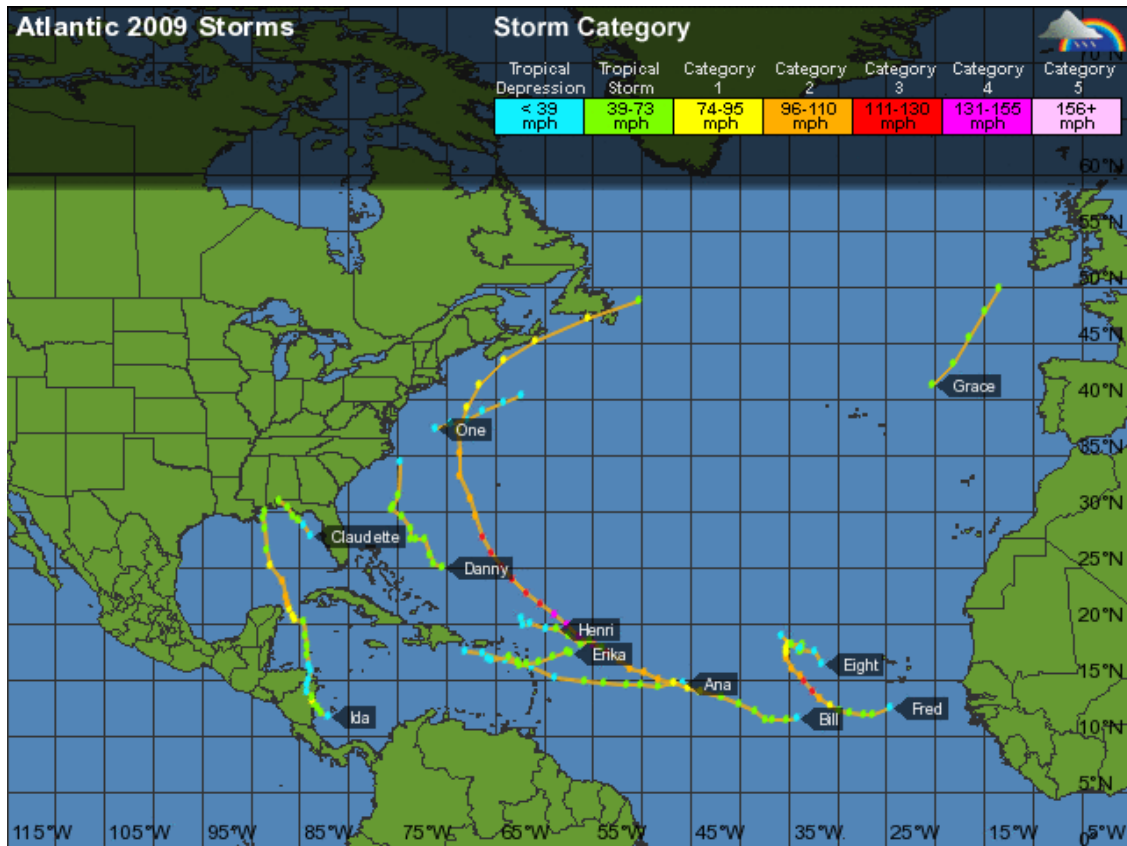


Figure 2. 2009 Atlantic Hurricane Season tracking map courtesy of the [Weather Underground](#).

Overall, the 2009 Atlantic Hurricane Season had only nine named storms which were the fewest storms since 1997 when eight named storms occurred. The season had the fewest number of named storm days (27.25) since 1991 when 24.25 named storm days were observed. Only three hurricanes (Bill, Fred, & Ida) formed, which is fewest number of hurricanes since 1997. Five named storms (Ana, Danny, Erika, Fred, and Henri) expired over the tropical and sub-tropical Atlantic due to the rare occurrence of seasonal vertical wind shear. No Category 5 hurricane formed during 2009 for the second consecutive year in a row. The last time this occurred was 1999-2002. No storms formed during June or July marking only the 18th year of the past 66 years with no June-July tropical storms. Activity during peak hurricane season (September through October) was the least since 1994. Hurricane Ida became the second hurricane to reach hurricane status in the Caribbean during an El Niño year in November since Hurricane Martha in 1969. Only 2 tropical storms (Claudette & Ida) made U.S. landfall. This is first time since 2006 and the 13th time in 66 years where no hurricanes struck the U.S. *Since 1995, the Atlantic hurricane basin has experienced 56 major hurricanes, but only 10 (18%) have made U.S. landfall. The long-term mean is that approximately 30% of major hurricanes that form in the Atlantic basin strike the U.S.*

December Outlook

The Climate Prediction Center <http://www.cpc.ncep.noaa.gov/products/predictions/30day/> outlook for December 2009 predicts below normal temperatures and above normal rainfall for the northwest FL.

December Climatology

December starts off the winter season with an increase in cloudiness and prevailing northerly winds. Cold fronts arrive every four to five days. Occasionally stalled frontal boundaries may develop waves that migrant eastward across the Gulf of Mexico causing widespread heavy rainfall in some years. Visibility becomes obstructed an average of 16 days occurring between the hours of 6 to 8 a.m. Radiation fog (cooling to the dew point during clear calm nights) can limit visibility to less than a quarter mile, but usually dissipates by mid morning. Advection (sea) fog (warm air moving over colder Gulf water) can occur anytime during the day, but most often forms during the late afternoon and can persist for several days.

Thunderstorm frequency averages 2 days during December and 9 days have measurable rainfall. Normal rainfall is **4.65** inches at Eglin AFB and **4.57** inches at Niceville recording stations. The maximum 24-hour rainfall (Eglin) is 7.70 inches and 8.00 inches in Niceville recorded on December 10, 1967. Record December rainfall (Eglin) is 15.58 inches in 1953 and 20.00 inches (1953) in Niceville. The driest December (Eglin) produced 0.59 inch and 0.20 inch (Niceville) during 1946.

Average monthly temperatures range from **64**°F to **40**°F (Niceville). The record high is 84° (December 20, 1968) and the record low is 8° (December 13, 1962). Minimum temperatures below 32°F average ten days during December. The latest date for the first fall freeze occurred on December 12.

Relative humidity (RH) averages 71%. RH > 70% occurs 56 percent of the time. The highest hourly humidity (average RH = 78%) occurs between the hours 3 and 8 a.m.

Surface winds tend to remain calm at nighttime. North winds occur during the day occur with speeds averaging up to 9 mph. Highest December wind gust was 62 m.p.h. in 1973 from the southwest (Eglin). Surface winds tend to remain calm, or light and variable, or northerly during the nighttime. Northerly or easterly winds tend to prevail during the day with wind speeds averaging up to 8 mph. The highest recorded wind speed is 60 mph in 1947.

This information was compiled from Jackson Guard rainfall observations. NVOG Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and additional rainfall data. Other reports were obtained from Eglin AFB 46th Weather Squadron, 10th Combat Weather Squadron-Hurlburt Field, Mobile National Weather Service, NOAA Climate Prediction Center, Southeast Regional Climate Center, Florida Division of Forestry, and the National Hurricane Center websites. Atlantic Hurricane 2009 track map was provided by the Weather Underground and the hurricane summary from [Colorado State University Tropical Meteorology Project](#).