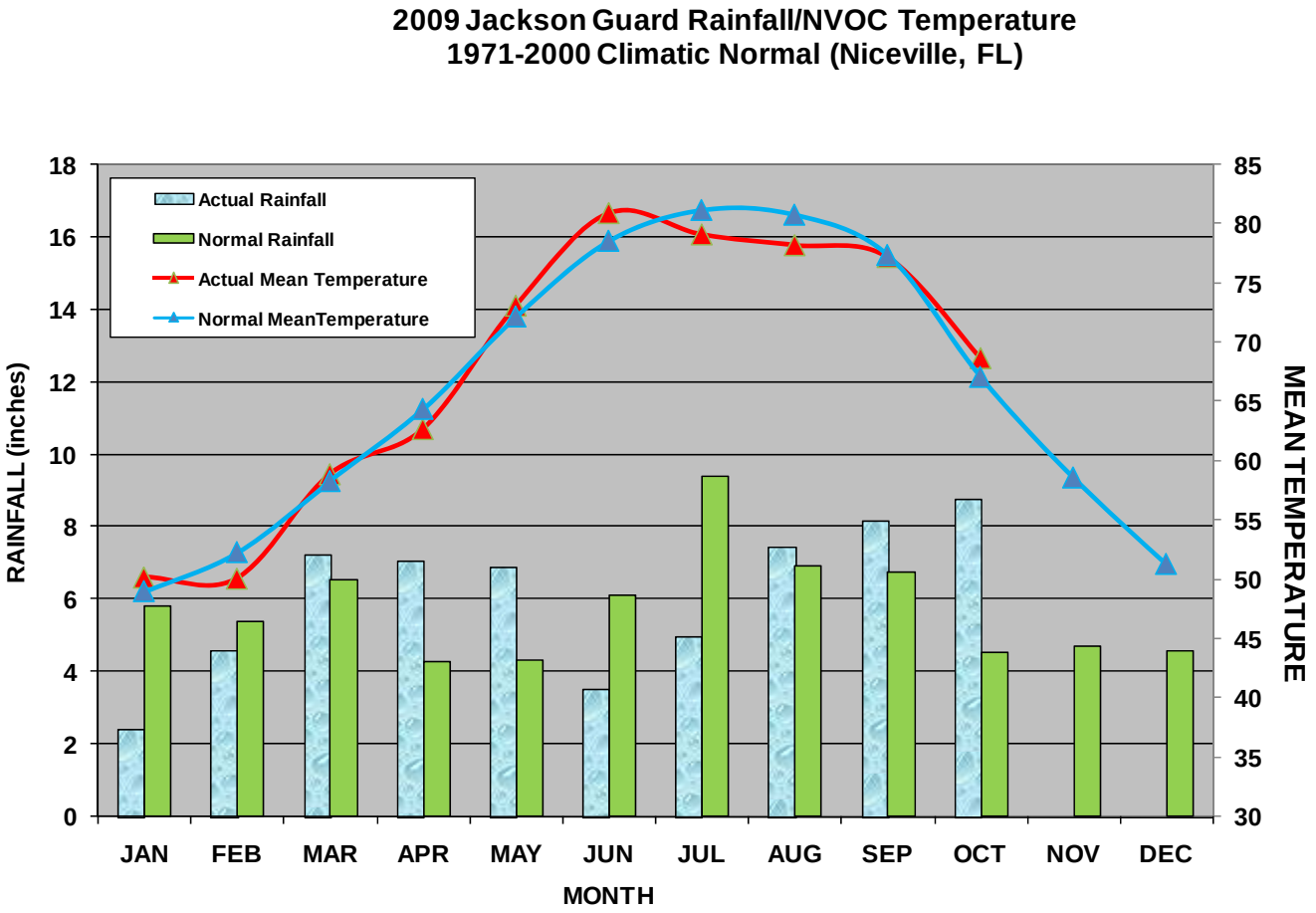
Introduction

October 2009 produced above normal temperatures and much above precipitation (10th wettest October) since record keeping began in 1927 for Niceville, FL. Several new temperature records were established in Niceville. Cold fronts cleared the area on the 3rd, 10th, 16th, 23rd, 28th and 31th October and one warm front crossed the coastline on 29th October. The first half of the month was dominated by a summer-like, humid airmass with numerous showers and thunderstorms. Heavy rainfall was concentrated over parts of coastal Escambia, Santa Rosa, and Okaloosa Counties, FL with 1-4 inches falling on 4th October and 1-3 inches occurring on the 14th & 27th October. A short-lived, polar-air mass brought the month's coolest temperatures down to middle to upper 30s on the 19th and 20th. The second half of the month fluctuated between a tropical airmass and a slightly drier and less cool, continental airmass that is more typical of the early fall season; however, the weather at month's end continued the wetter than normal with abnormally warm, humid conditions.



October 2009 Climate Summary

Jackson Guard rainfall for October totaled **8.77** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **8.67** inches. Eglin AFB recorded **6.88** inches for the month, *3.03* inches *above* the normal of 3.85 inches. Pensacola, FL recorded **11.28** inches, which is *7.15* inches *above* the normal of 4.13 inches. There were 12 days with measurable precipitation in Niceville, which is 7 days *above* the October average. There were 5 thunderstorm days which is 4 days *above* normal. Year to date rainfall at NVOC is **63.04** inches, which is *3.11* inches above normal of 59.93 inches. Year to date rainfall at Eglin AFB is **54.13** inches, which is *0.27* inches above the normal of 53.86 inches. Year to date rainfall at Pensacola, FL is **69.70** inches, which is *13.85* inches above normal of 55.85 inches.

The Keetch-Byram Drought Index (KBDI) at the end of October 2009 was ***very low*** to ***normal.*** Beneficial rainfall replenished surface moisture over the western Florida panhandle while drier conditions returned to northeast and southern Florida where the fire danger was moderate to severe. The Florida Division of Forestry's fire weather outlook for the winter 2009 season calls for above normal wet conditions through December 2009 with near normal temperatures. Wet conditions should persist through the early

spring months as a moderate El Niño event may possible limit early growing season control burns. The values below reflect the soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (31 October 09)	Florida County	Average October 2009 Rainfall (inches)
Santa Rosa	55	Santa Rosa	10.29
Okaloosa	50	Okaloosa	8.13
Walton	65	Walton	7.11
Gulf	287	Gulf	4.31

For more information on daily KBDI values, visit the Florida Division of Forestry: KBDI index.

The monthly mean temperature was **68.7**°F which was 1.6°F *above* normal. The average high temperature at Niceville NVOC was **77.6**°F (2.9°F *below* normal). The highest temperature of the month was **89**°F observed on the 8th October. Two low maximum temperature records were established. On 18th October, 60°F broke the previous record of 65°F (2001) and 19th October, 60°F broke 67°F in1948. The average low temperature was **59.8**°F (6.1°F *above* normal). The lowest temperature of the month was **38**°F observed on the 20th October. Five record high minimum records were established. On 6th October, 73°F broke 72°F (2007); 9th October 76°F broke 71°F (1949);15th October 70°F broke 65°F (2002); 16th October 70°F broke 69°F (1993); and 73°F broke 66°F (1984). There were 7 mornings when the low temperature exceeded 70°F.

Tropical Summary October 2009

Two named storms (Tropical Storms Grace and Henri) was the normal for the month, but no hurricane formed during the month, which was below the normal of one hurricane for the long-term October average. Grace and Henri formed and dissipated between 4-8 October 2009. These storms were moderate to strong tropical storms which did not significantly impact land areas in the north Atlantic and the eastern Caribbean region. The accumulated cyclone energy (ACE) which measures the combined intensity and duration of tropical storms and hurricanes was much below normal at 18% of the long-term mean.

November Outlook

The Climate Prediction Center http://www.cpc.ncep.noaa.gov/products/predictions/30day/ outlook for November 2009 predicts near normal temperatures and rainfall for the northwest FL. For the official winter outlook for December 2009 – February 2010, see Figures 1 & 2 below.

Figure 1. U.S. winter precipitation (December through February) forecast indicates wetter than normal conditions for Florida as well as an increased chance for severe storms.

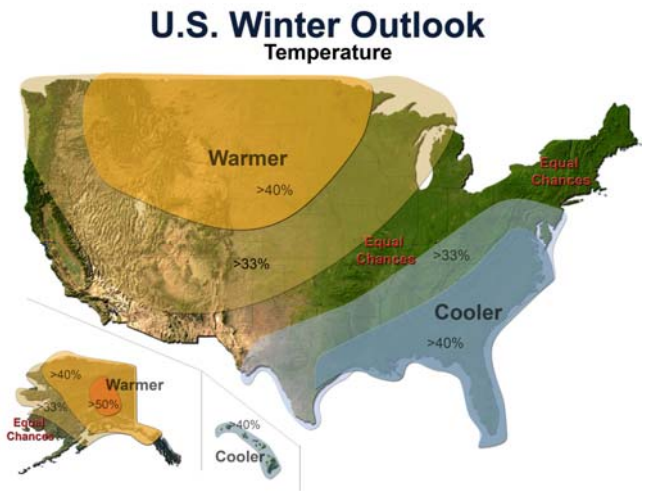


Figure 2. U.S. winter temperature (December through February) forecast calls for below-average seasonal temperatures for most of the southeast U.S.

El Niño Update

Current conditions and statistical forecasts indicate that a moderate El Niño episode will continue through February 2010 with sea surface temperature (SST) departures > 1.0°C in the central and east-central equatorial Pacific Ocean. The latest weekly departure was 1.5°C above normal in the Nino 3.4 region. The Oceanic Niño Index is based on SST departures from an average in the Niño 3.4 region, and is a principal measure for assessment for El Niño. The models (Figure 3) disagree on the eventual strength of El Niño (SST anomalies ranging from +0.5°C to greater than +2.0°C), but a majority indicate at least a moderate strength El Niño (greater than +1.0°C) during November-December-January 2009-10. Moderate El Niño episodes tend to reach their maximum strength during December through February, persisting for 9-12 months and typically recur every 2 to 7 years.

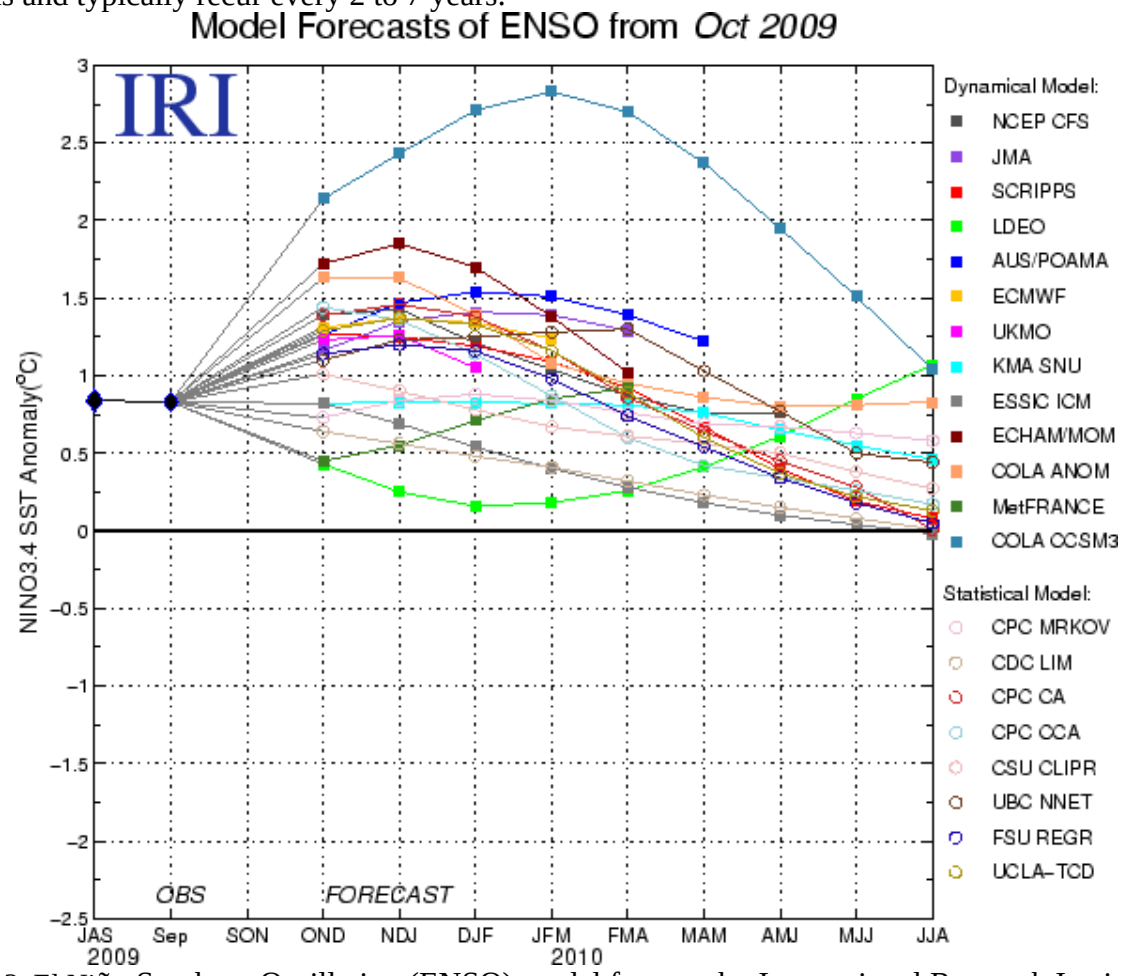


Figure 3. El Niño Southern Oscillation (ENSO) model forecast by International Research Institute (IRI) released on 15 October 2009.

Phase	Region	Oct-Dec	Jan- Mar	Apr-Jun	Jul-Sep
El Nino	Peninsular Florida	Wet & cool	Very Wet & cool	Slightly dry	Slightly dry to no impact
	Southern AL, GA, & North FL	Wet	Wet	Slightly wet	No impact
	Western FL Panhandle	No impact	Wet	Slightly Dry	No impact
	Central and North AL & GA	No impact	No impact	No impact	Slightly Dry

Table 1. Summary of the El Niño impacts across southeastern U.S. as precipitation and temperature effects.

November Climatology

November transitions to cooler temperatures marking the end of the growing season. Continental high pressure predominates as cooler and drier air masses lower average temperatures 9ºF over October's average temperature. The Atlantic hurricane season officially ends at the end of the month. Frontal passages are the chief precipitation maker with occasional waves developing along stalled fronts near the Gulf of Mexico. Thunderstorm frequency averages 1 day with 6 days of measurable rain. Rainfall averages **3.98** inches at Eglin AFB (climatic average 1940-2008) and **4.70** inches at Niceville (climatic normal 1971-2000). The maximum 24-hour rainfall is **6.04** inches on 4 November 1992 (Eglin AFB) and **8.53** inches on 12 November 2004 (Niceville). Record November rainfall is 15.58 inches in 1992 and 0.19 inches in 1956 at Eglin AFB.

Average monthly temperatures for Niceville range from **46º**F to **71**ºF. Temperatures never have exceeded 90ºF and fall below 32ºF an average of 3 days. The average date of the first frost (32°F) is 12th November and the first hard freeze (<28°F) is 7th December. The record high at Niceville is 89ºF (November 1, 1998) and the record low at Eglin AFB is 17ºF (November 16, 1940). Relative humidity (RH) averages 72%. RH > 70% occurs 59 percent of the time. The highest hourly humidity (average RH = 80%) occurs between the hours of 3 and 5 a.m.

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. NVOC 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, National Weather Service-Mobile, NOAA Climate Prediction Center, National Hurricane Center, Southeast Regional Climate Center, Florida Division of Forestry, and the Community Collaborative Rain, Hail, & Snow Network (CoCoRaHS.org) websites.