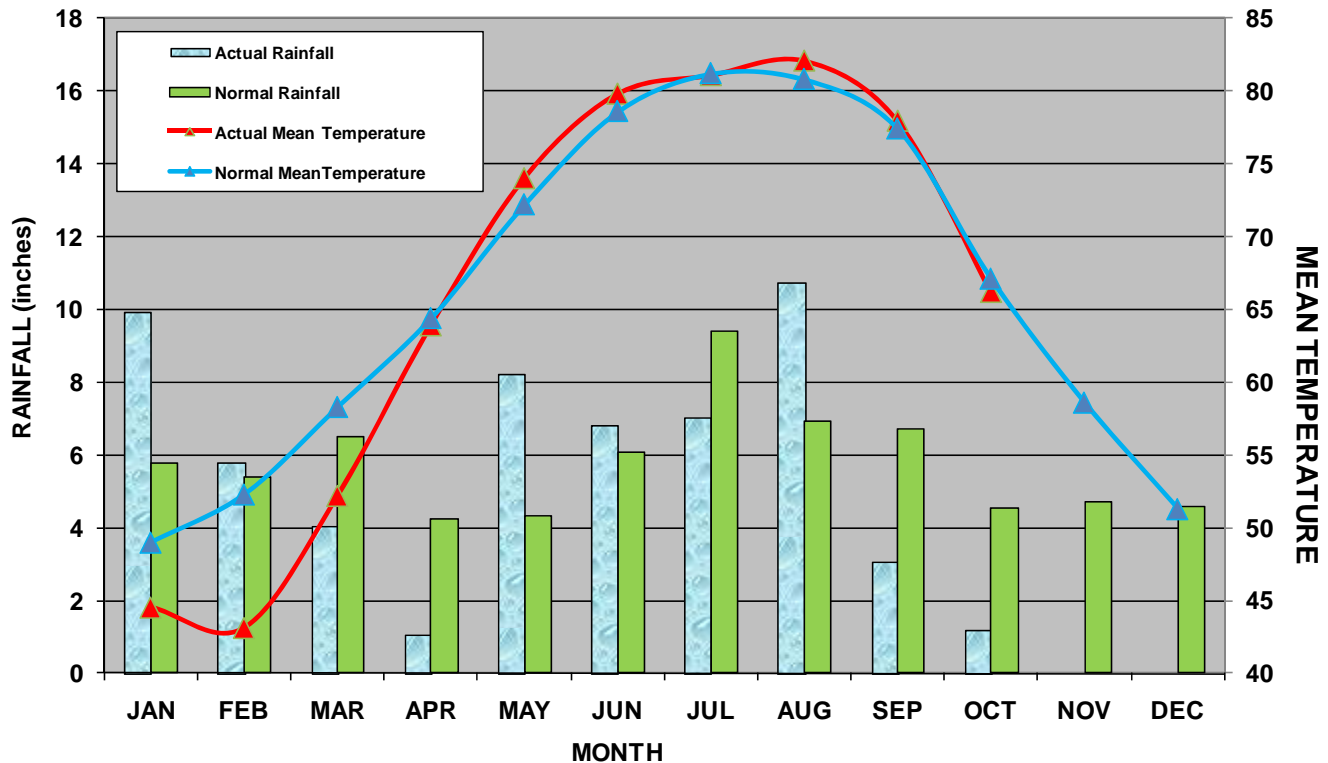


Introduction

October 2010 produced near seasonal temperatures and much below normal precipitation. Three cold fronts cleared the area on the 13th, 21st, and 28th October. The ongoing weather pattern was tranquil and stable air produced temperatures slightly cooler than normal. The first half of the month was dominated by continental high pressure with a very dry airmass. Daytime temperatures reached into the upper 80's during the second week for warmest part of the month. Brief, light rainfall covered much of the area with the passage of the 13th October cold front. A short-lived, polar-air mass brought the month's coolest temperatures down to lower 40's on the 18th October. By the start of the fourth week, abnormally warm and humid conditions returned as a powerful extratropical low crossed the northern U.S. Record warm minimum temperatures into the lower to mid 70's were measured from the 26th - 28th October. This storm system opened up the Gulf of Mexico, but rainfall was light and spotty in coverage with passage of the 28th October cold front. Drought persisted and intensified as the lack of tropical moisture bypassed the region. An average of less than an inch of rainfall fell across the entire Florida panhandle during October 2010.

**2010 Jackson Guard Rainfall/NVOC Temperature
1971-2000 Climatic Normal (Niceville, FL)**



October 2010 Climate Summary

Jackson Guard rainfall for October totaled **1.20** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **0.93** inches. Eglin AFB recorded **0.41** inches for the month, 3.48 inches *below* the normal of 3.89 inches. Pensacola, FL recorded **0.38** inches, which is 3.75 inches *below* the normal of 4.13 inches. There was only 1 day with measurable precipitation in Niceville, which is 4 days *below* the October average. There were no thunderstorm days which is 1 day *below* normal. Year to date rainfall at NVOC is **55.66** inches, which is 4.27 inches below normal of 59.93 inches. Year to date rainfall at Eglin AFB is **58.98** inches, which is 5.27 inches above the normal of 53.86 inches. Year to date rainfall at Pensacola, FL is **54.15** inches, which is 1.70 inches below the normal of 55.85 inches.

The [Keetch-Byram Drought Index](#) (KBDI) at the end of October 2010 was *moderate to severe*. Dry conditions should persist through the winter months as a strong La Niña event will bring much drier and warmer conditions to the local region. The values below reflect the soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (31 October 2010)	Florida County	Average October 2010 Rainfall (inches)
Santa Rosa	575	Santa Rosa	0.72
Okaloosa	621	Okaloosa	0.53
Walton	630	Walton	0.23
Gulf	521	Gulf	0.11

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

The monthly mean temperature was **66.2°F** which was 0.9°F *below* normal. The average high temperature at Niceville NVOC was **79.8°F** (0.7°F *below* normal). The highest temperature of the month was **88°F** observed on the 10th October. The average low temperature was **52.6°F** (1.1°F *below* normal). The lowest temperature of the month was **42°F** observed on the 18th October. Three record high minimum records were established. On 27th October, 73°F broke 68°F (1938); 28th October 75°F broke 67°F (1947); and 76°F broke 73°F (1938).

Tropical Summary October 2010

Five named storms formed during the month, all of which became hurricanes (Otto, Paula, Richard, Shary, & Tomas). This is three tropical storms above the long-term (1944-2009) average and four hurricanes above normal. These hurricanes were Category 1 & 2 and were confined to the north Atlantic and the eastern Caribbean region. The number of hurricanes was only one below the record of 6 that occurred in October 1870. The accumulated cyclone energy (ACE) which measures the combined intensity and duration of tropical storms and hurricanes was 40% above normal of the long-term October mean.

November Outlook

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



Figure 1. U.S. winter precipitation (December through February) prediction indicates a >50% probability for a drier than normal season.

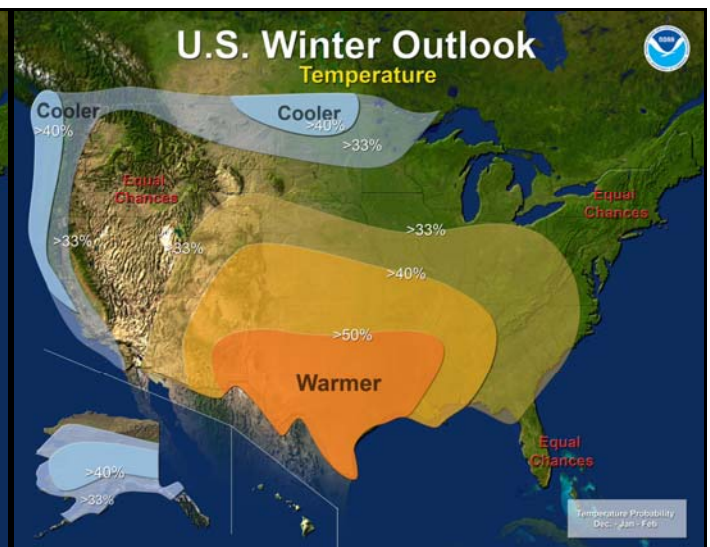


Figure 2. U.S. winter temperature (December February) prediction calls for a >40% probability for a warmer than normal season.

Seasonal Drought Outlook Due to the Ongoing La Niña

The La Niña phenomenon remains well-established in the Pacific. Given the current moderate to strong strength of the event, this La Niña is expected to persist into at least early 2011. Continued dryness

over the past 30 days (Figure 3) intensified drought conditions across the Southeast and lower Mississippi Valley. Tropical cyclone activity appears to be blocked within the Caribbean and high wind shear across the Gulf of Mexico precludes any tropical storm formation occurring in the Gulf of Mexico. Drought persistence will continue where severe to extreme conditions are now present (Figure 4). Therefore, forecast confidence in the current drought outlook (Figure 5) is moderate to high according to the National Weather Service Climatic Prediction Center.

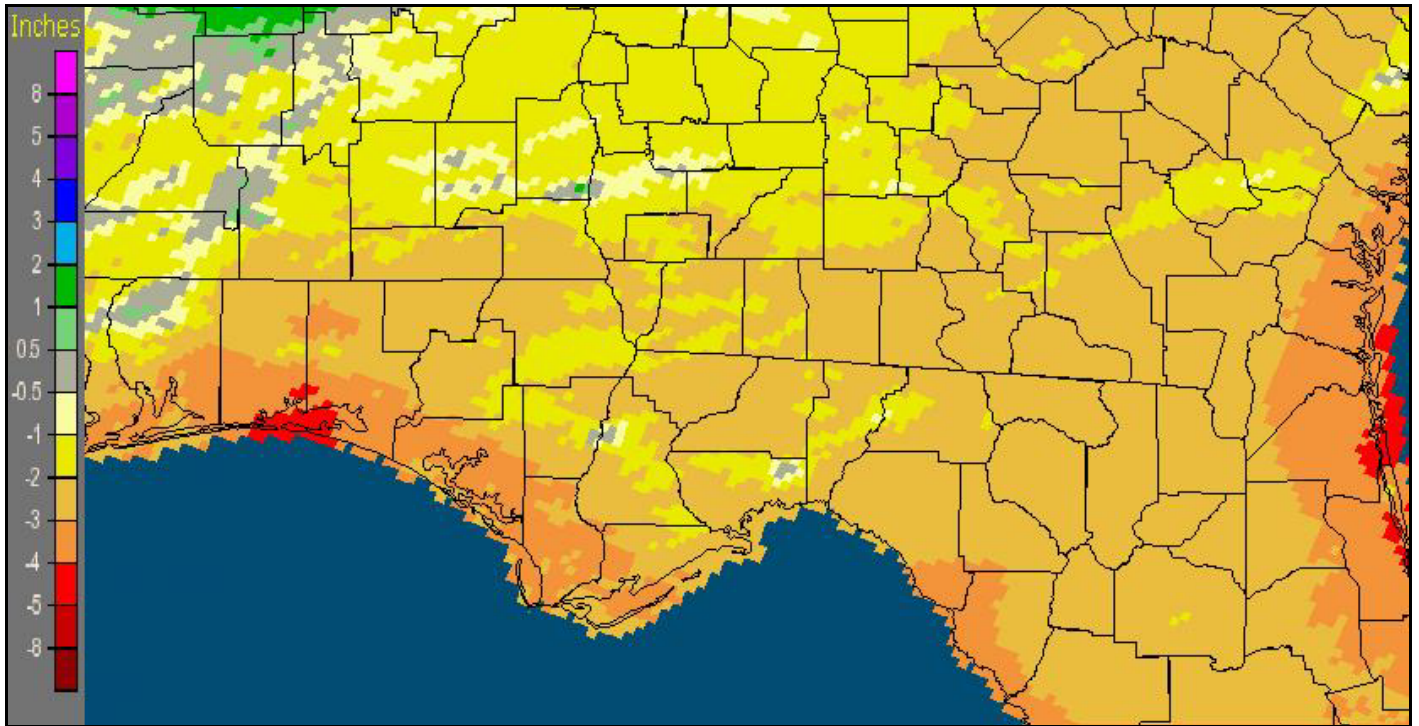


Figure 3. October 2010 north Florida departure from normal rainfall (inches). Note along the coastal areas in the western Florida panhandle counties that a deficient of 3- (orange) to 5- (red) inches of rainfall did not fall. (Tallahassee NWS region) Credit NOAA

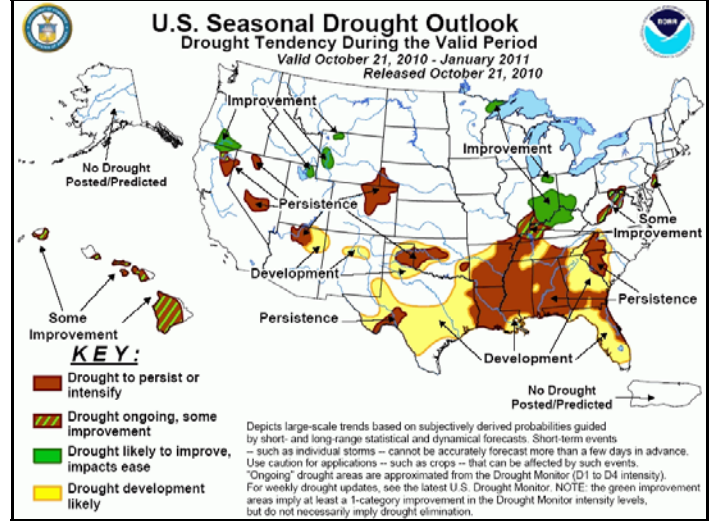
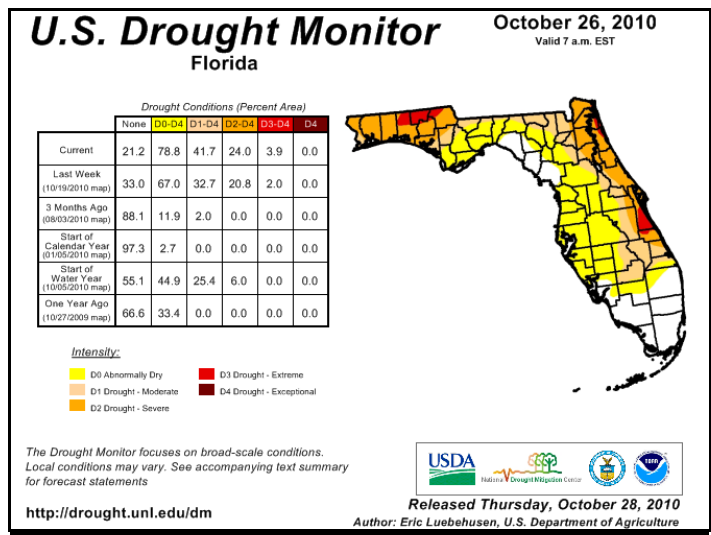


Figure 4. Current Florida drought conditions. Northwest FL has severe (D2) to extreme (D3) drought.

Figure 5. Winter drought outlook November 2010 through January 2011.

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 9°F over October’s average temperature. Tropical cyclone formation markedly decreases during the month as wind shear and cooler waters enter the Gulf of Mexico. 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 **3.97** inches at Eglin AFB (climatic average 1940-2009) 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 **46°F** to **71°F**. Temperatures never have exceeded 90°F and fall below 32°F 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 89°F (November 1, 1998) and the record low at Eglin AFB is 17°F (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, 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.