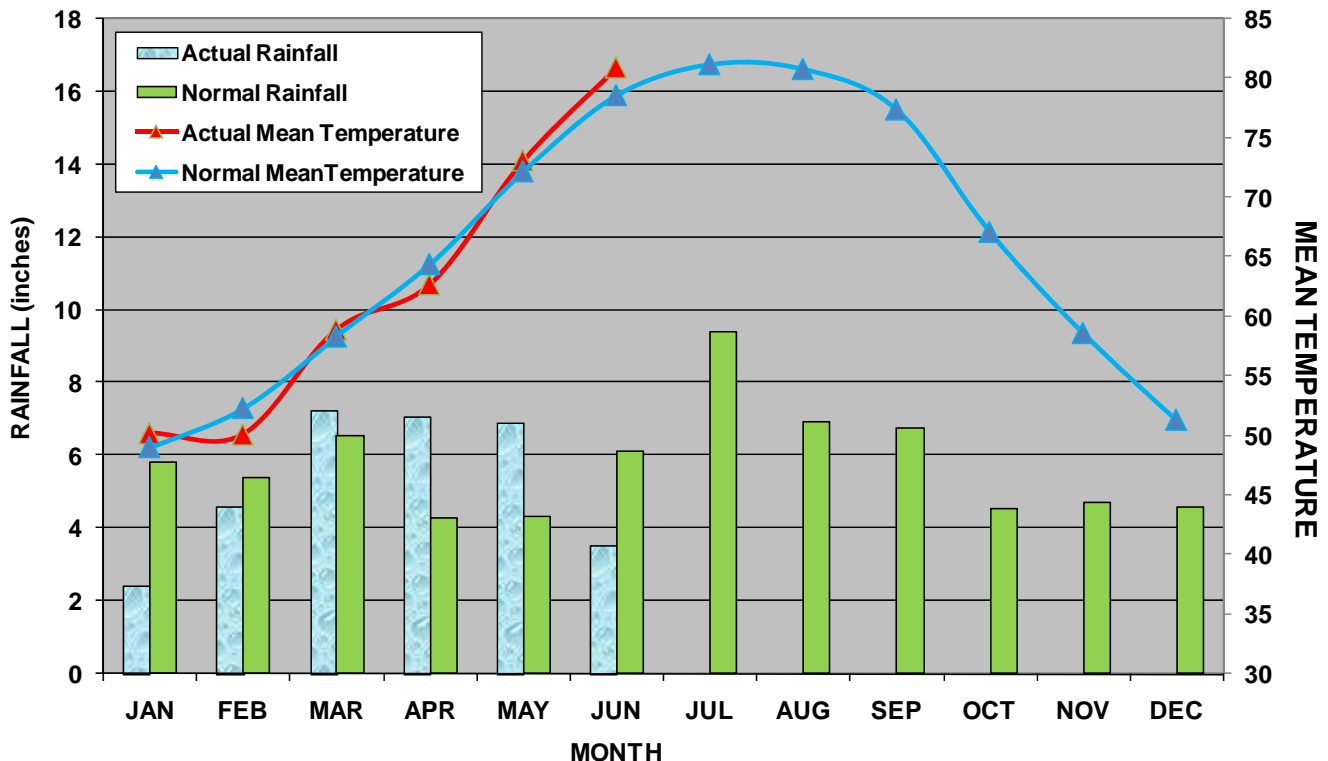


Introduction

June 2009 produced above normal temperatures and below normal precipitation for Niceville, FL. An unseasonably early heat wave prevailed across the FL panhandle during the last half of the month, producing record highs not experienced since June 1998. Overall, Niceville recorded the *eight* warmest June and *fifteenth* driest June since record keeping began in 1939. Temperatures rose to above normal after mid June when an anomalous upper-level ridge developed over the Lower Mississippi Valley. Daytime highs of 100+°F occurred for seven consecutive days (16th through 22nd June) in Tallahassee, FL with 103°F recorded on 22nd June. An all-time June maximum temperature of 102°F was established in Pensacola, FL and 101°F in Niceville, FL was observed on the 23rd June. Conditions would have been much worse if the region had not had *two* cold fronts that cleared the FL panhandle on the 5th & 30th June. An area of low pressure moved out of the Gulf of Mexico on 4-5th June across the Florida panhandle. This event sparked debate whether this was a tropical depression or a hybrid meso-scale convective vortex that formed along a passing cold front. Regardless, the event produced over two inches of rainfall across the Niceville area for the month's heaviest precipitation. Despite the presence of a humid tropical air mass around mid-month through month's end, northerly wind flow aloft suppressed the sea breeze convection; rainfall amounts were generally light to moderate. There were seven days with measureable rainfall recorded at Jackson Guard (Eglin AFB Natural Resources). At month's end a cold front and scattered thunderstorms brought a temporary relief to the oppressive heat and humidity as slightly drier air entered the region. No tropical systems formed during the month as a tropical storm formation averages every other year during June.

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



June 2009 Climate Summary

Jackson Guard rainfall for June totaled **3.55** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **2.95** inches. Eglin AFB recorded **4.01** inches for the month, 1.77 inches *below* the normal of 5.78 inches. Pensacola, FL recorded **5.21** inches, which is 1.18 inch *below* the normal of 6.39 inches. There were 5 thunderstorm days which is 6 days *below* normal; 6 days had measurable precipitation, which is 4 days *below* the normal June average. The heaviest rainfall at Jackson Guard was 2.10 inches which fell on 4th June. Year to date rainfall at Eglin AFB is 32.35 inches, which is 3.52 inches above the normal of 28.83

inches. Year to date rainfall at Pensacola, FL is **34.05** inches, which is 2.95 inches above the normal of 31.10 inches.

The monthly mean temperature was **80.9°F** which was 2.3°F above normal. The average high temperature at Niceville NVOC was **90.7°F** (1.0°F above normal). The highest temperature of the month was 101°F observed on the 23rd June which broke the previous record of 98°F (1944). There were 20 days when the maximum temperature reached 90°F or above, which was 6 days above normal. The average low temperature was **71.1°F** (3.6°F above normal). Average minimum temperature was the third warmest June on record. The lowest temperature of the month was 61°F observed on 6th June. There were 20 days when the minimum temperature fell to 70°F or above. Five record high minimum temperatures were established on 20th June when 76°F broke the old record of 75°F (1987), 21st June 76°F broke 74°F (1952), 22nd June 77°F broke 74°F (1967), 23rd June 78°F broke 77°F (1944), and 30th June 78°F broke 77°F (1988).

The Keetch-Byram Drought Index (KBDI) at the beginning of July 2009 was *moderate*; however, the trend was increasing as above normal temperatures are forecast to increase evapotranspiration until significant rainfall occurs. Moderate values of the KBDI are an indication that above normal drought conditions are somewhat favorable for the occurrence and rapid spread of wildfires when the index exceeds **500** during the summer months of June-July-August for north Florida. The values below are an indicator of drought conditions in the counties containing Eglin AFB natural resources. Average Eglin AFB rainfall was **3.48** inches for June 2009. The Florida Division of Forestry's fire weather outlook for the summer 2009 forecasts a low risk of above normal fire activity due to developing El Niño conditions in the equatorial Pacific and near normal frequency of tropical storm activity.

Florida County	Average KBDI	Florida County	Average June 2009 Rainfall (inches)
Santa Rosa	562	Santa Rosa	3.24
Okaloosa	606	Okaloosa	2.79
Walton	583	Walton	2.87
Gulf	345	Gulf	4.93

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

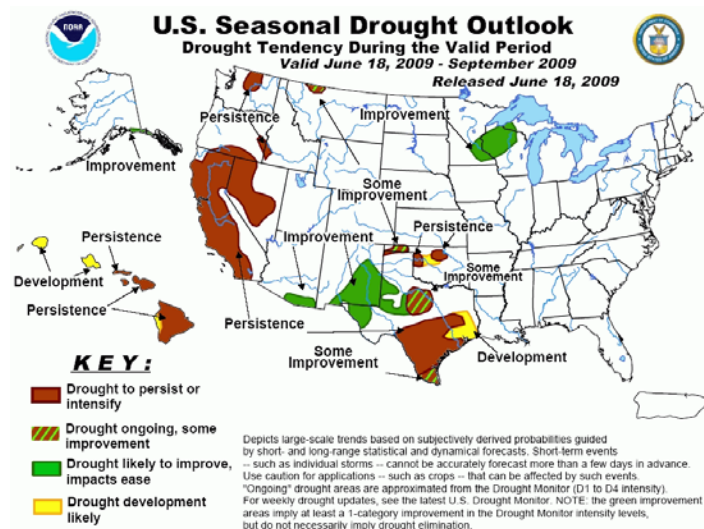


Figure 1. Long-term drought outlook through September based upon long-term climate models trends and soil moisture effects.

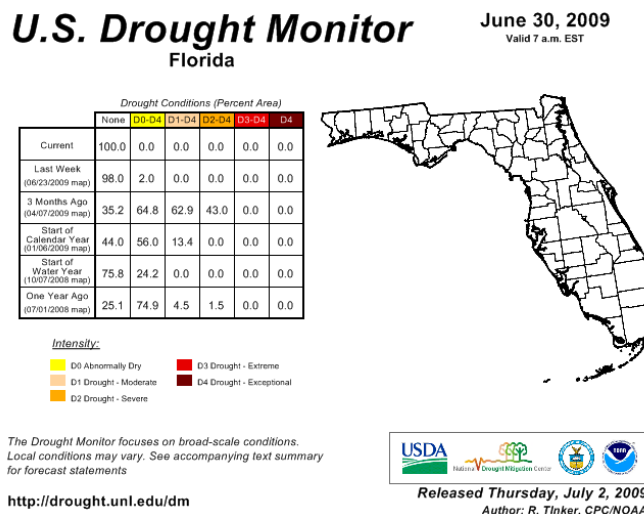


Figure 2. Latest Drought Monitor Index for Florida.

July Climatology

July is the wettest month of the year as well as the hottest. A maritime tropical airmass dominates the hot, humid weather pattern as the Gulf of Mexico warms to near 85°F. The landbreeze-seabreeze phenomenon is well established and continues through August. Afternoon thunderstorms push inland with the seabreeze and early morning thunderstorms form offshore with the landbreeze and occasionally drift over

the coast. Thunderstorm frequency averages 18 days with 14 days of measurable rain. There is 32% frequency of occurrence of a thunderstorm between 1200 to 1700 hours, the highest of the year. Rainfall averages **7.64** inches at Eglin AFB (climatic period 1940-2008) and **9.40** inches at Niceville recording stations (climatic normal 1971-2000). The maximum 24-hour Eglin AFB rainfall is 5.90 inches recorded on July 30, 1975. Record July rainfall is 19.88 inches (1975) at Eglin AFB and 31.42 inches (1994) at Niceville. The driest July produced only 0.66 inch in 1986 at Eglin AFB and 2.62 inches (1972) at Niceville.

Average monthly temperatures range from **71°F** to **91°F**. The Eglin AFB record high at is 106°F (July 14, 1980) and the record low is 60°F (July 23, 1947). The Niceville record high is 107 °F (July 15, 1980) and the record low is 55 °F (July 16, 1967). High temperatures average 90°F or above for 14 days, and rise above 95°F an average of two days during July. Low temperatures do not fall below 70°F during the month.

Relative humidity (RH) averages 74%. RH > 70% occurs 64 percent of the time. The highest hourly humidity (average RH = 84%) occurs between the hours of 3 and 5 a.m.

Surface winds are calm or northerly during the nighttime and early morning hours. Afternoon southerly winds occur with the speed averaging between 8 to 11 mph during the afternoon.

July Outlook

The Climate Prediction Center [30-Day Outlook](#) for July 2009 predicts above normal temperatures and precipitation for the western FL panhandle.

ENSO Alert System Status: El Niño Watch

Current conditions indicate that the near surface temperatures of the equatorial Pacific have increased indicating that the El Niño Southern Oscillation (ENSO)-neutral phase is over. Recent water temperature measurements average 0.9°C *above* normal in the east-central Pacific ENSO-neutral conditions persisted across the equatorial Pacific Ocean during June 2009. However, sea surface temperatures (SST) increased for the fifth consecutive month, with above-average temperatures extending across the equatorial Pacific Ocean by the end of June 2009. Weekly summary updates can be found at Climate Prediction Center ([El Niño/La Niña Current Conditions and Expert Discussions](#)).

There continues to be considerable spread in the model forecasts. All statistical models predict ENSO-neutral conditions will continue for the remainder of 2009. However, most dynamical models, including the NCEP Climate Forecast System, predict the onset of El Niño during summer 2009. Current observations, recent trends, and the dynamical model forecasts indicate that conditions are favorable for an official El Niño phase during July-August 2009 and continuing through the 2009-2010 winter.

July Tropical Weather Outlook

The average date of the first named tropical storm occurs by 10th July and the first named hurricane by 14th August. There is a nearly 50 percent chance of the first named system occurring by the middle of July. Weather model forecasts predict the possible formation of a tropical depression by this average July date between the African Cape Verde Islands and the Lesser Antilles as the upper level wind shear relaxes over favorably warm sea surface temperatures. High wind shear remains unfavorable over the Gulf of Mexico and the Caribbean Sea in the near future due to a vigorous upper level trough over the eastern U.S.; but this sheared environment may also relax over the remainder of July.

This information was compiled from Jackson Guard rainfall observations. Other reports were obtained from Eglin AFB 46th Weather Squadron, Mobile National Weather Service, NOAA Climate Prediction Center, National Hurricane Center-Tropical Prediction Center, Southeast Regional Climate Center, and the Florida Division of Forestry. NVOOC Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and rainfall data. Jackson Guard is a member of the Community Collaborative Rain, Hail, & Snow Network (www.CoCoRaHS.org).