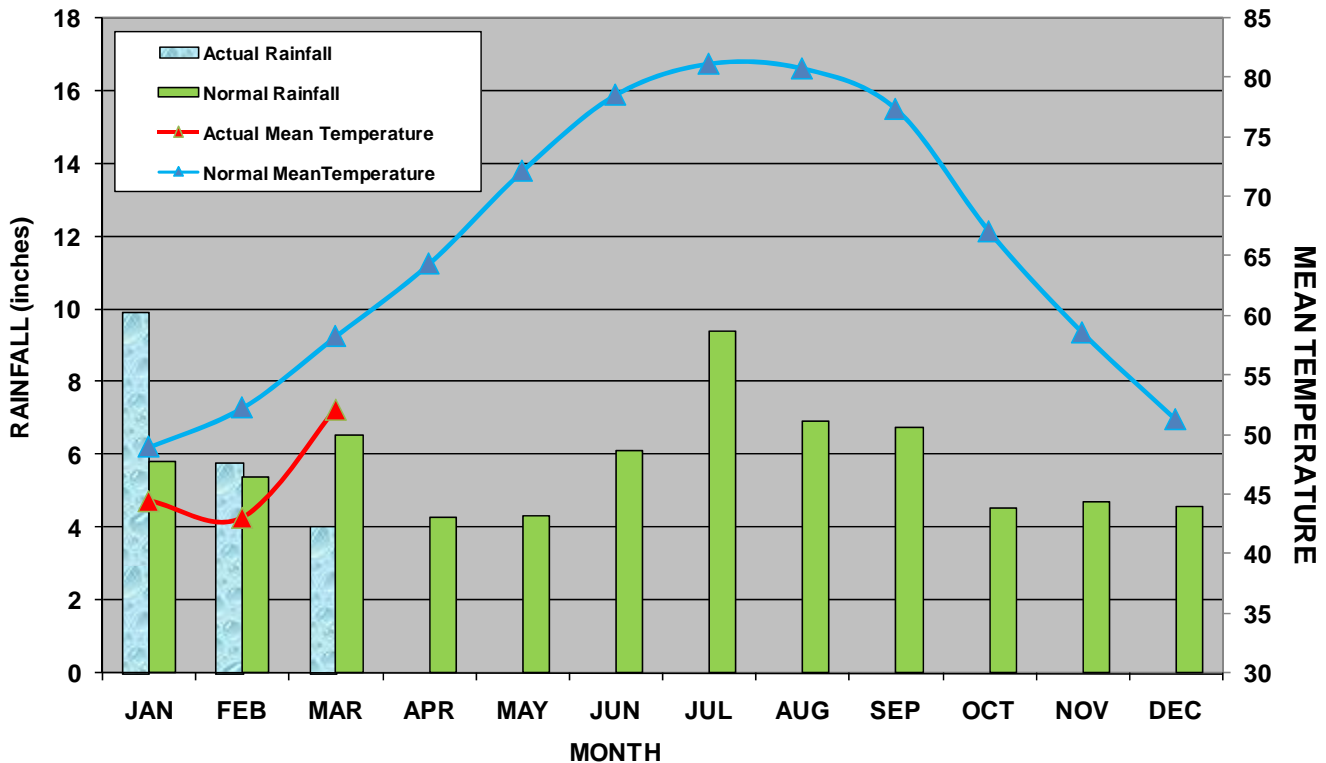


Introduction

March 2010 produced much below normal temperatures and below normal precipitation for Niceville, FL. Niceville set their *all-time lowest March average temperature*. Temperatures remained anomalously cool as a ridge of high pressure remained entrenched across eastern Canada and the upper level trough located over the Atlantic seaboard persisted. Cold fronts cleared the Florida panhandle on the 12th, 21st, 26th & 28th March and a warm front associated with a Gulf low occurred on 1st March. The moderate El Niño that plagued the region over the winter season with numerous Gulf lows quieted down during the month. Typically, March is the wettest month of the winter/spring season, but was about a third drier than normal due to a slightly southward deflected jet stream crossing the central Gulf of Mexico, impacting the Florida peninsular with heavy precipitation. Rainfall was evenly distributed over the month with the heaviest rainfall falling from the Gulf low (1st March) of 1 to 4 inches over the western FL panhandle. No severe weather was noted during the month; however, lightning struck a home in Niceville, FL on 25th March causing extensive fire damage.

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



March 2010 Climate Summary

Jackson Guard rainfall for March totaled **4.07** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **4.08** inches. Eglin AFB recorded **4.05** inches for the month, *1.93* inches *below* the average (1940-2009) of 5.98 inches. Pensacola, FL recorded **7.22** inches, which is *0.82* inches *above* the normal (1971-2000) of 6.40 inches. There were 7 days with measurable precipitation at the NVOC, which is the March average. There were 4 thunderstorm days, which is normal. March 2010 total precipitation tied the rank for the 28th driest March since record keeping began in 1927 at Niceville, FL.

The [Keetch-Byram Drought Index](#) (KBDI) at the end of March 2010 was *very low*. This is due to suppressed evapotranspiration from abnormally cooler temperatures and high soil moisture slowing the seasonal greening of the vegetation. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources based upon reported rainfall. At month's end dry polar air

masses dropped relative humidity values into the lower 20% range which resulted in the some areas experiencing high fire danger levels. See Figure 1 for March 2010 Doppler precipitation estimates.

Florida County	Average KBDI (1 April 2010)	Florida County	Average March 2010 Rainfall (inches)
Santa Rosa	160	Santa Rosa	4.98
Okaloosa	172	Okaloosa	3.86
Walton	165	Walton	3.45
Gulf	157	Gulf	6.14

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

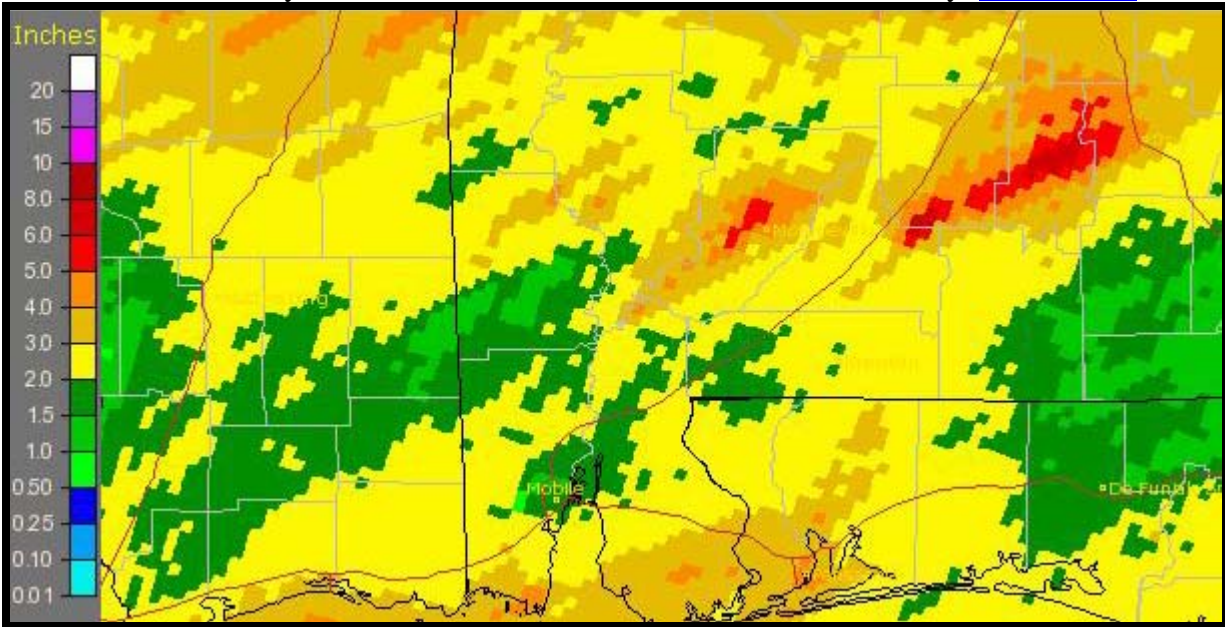


Figure 1. March 2010 total precipitation map showing 1.5 to 7 inches of rainfall. Garcon Point, FL (CoCoRaHS observer -Santa Rosa County) recorded 6.86 inches for the greatest March total reported.

The monthly mean temperature was **52.2°F** which was 6.1°F *below* normal. This is the *coldest March* since temperature record keeping began in 1927. The average high temperature at NVOC was **63.9°F** (6.8°F *below* normal). The highest temperature of the month was 73°F recorded on the 13th March. The average low temperature was **40.5°F** (5.4°F *below* normal). The lowest temperature of the month was 27°F observed on 6th March. There were 5 mornings when the minimum temperature was ≤32°F, which is 2 days *above* normal. Niceville NVOC recorded 5 consecutive mornings of minimum temperatures ≤32°F from 4th-8th March. Remarkably, no new temperature records were set during the month.

El Niño Outlook

Sea surface temperatures (SST) remained 1.1°C above average across much of the eastern and central equatorial Pacific, a trend marking a slow decline from a moderate El Niño. Latest observations and model forecasts indicate that the current El Niño phase is past its November-December 2009-January 2010 peak of 1.8°C. The current phase will gradually decrease to a neutral phase by the summer 2010. Longer range model forecasts are split with the majority indicating neutral conditions by May-July 2010 and persisting into the Fall 2010. Several models also suggest the potential of continued El Niño conditions or the development of La Niña conditions during the Fall 2010.

Model Forecasts of ENSO from Mar 2010

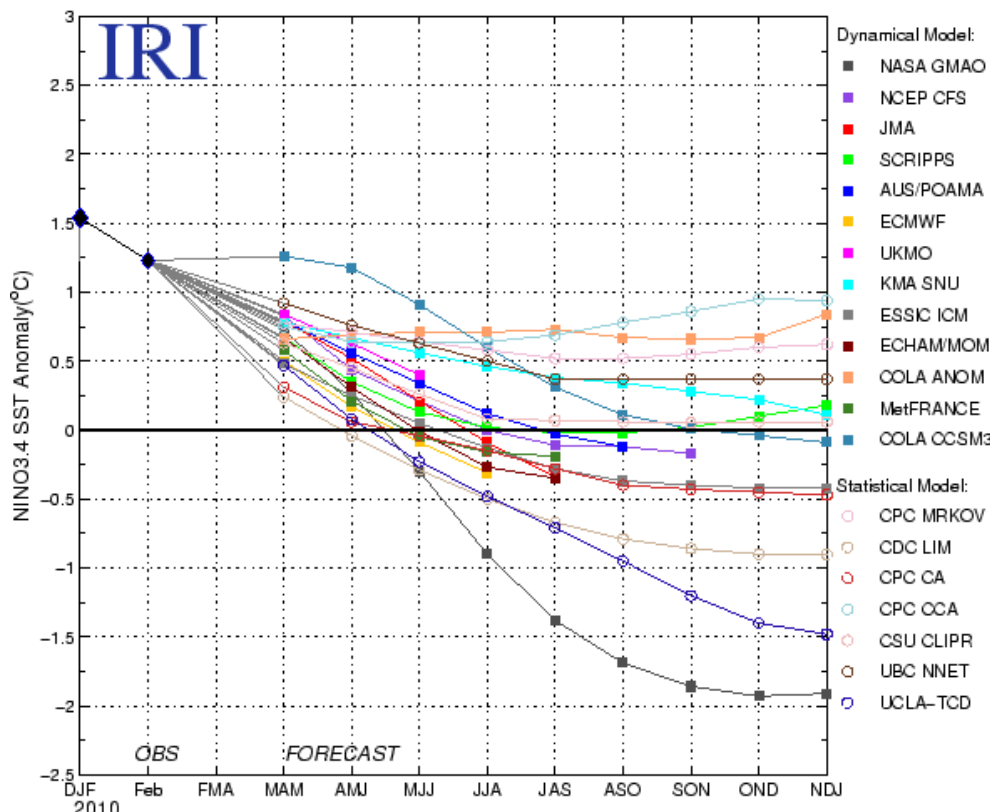


Figure 2. International Research Institute (IRI) forecast for the El Niño Southern Oscillation (ENSO) model forecast released on 16 March 2010.

April Outlook

The Climate Prediction Center [30-Day Outlook](#) for April 2010 predicts below normal temperatures and equal chances for normal rainfall for the Florida.

April Climatology

April, one of the driest months of spring, characterizes the region's climate with a general 5 to 7°F increase in temperature. The month transitions to a lower frontal passage frequency at the same time the sea breeze effect awakens as the Gulf of Mexico warms. While weather systems (fronts) tend to diminish over the course of the month, the combination of a moderate sea breeze or dry frontal passages can cause some unpredictable wildfire behavior. Evapotranspiration from greening vegetation may aggravate soil moisture loss even after rainfall occurs.

Thunderstorm frequency averages 4 days during April and 6 days have measurable rainfall. Normal rainfall is 4.39 inches at Eglin AFB and 4.26 inches at Niceville recording stations. The maximum 24-hour Niceville, FL rainfall is 7.75 inches recorded on April 1, 2005. Record Niceville April rainfall is 24.21 inches (2005). The driest April at Niceville produced 0.00 inch in 1981.

Average Niceville monthly temperatures range from 53°F to 77°F. The record high for Niceville is 101°F (April 18, 2002) and the record low for Niceville is 20°F (April 1, 1987). The threat of frost is rare and minimum temperatures below 32°F average less than one day over the past 30 years.

Relative humidity (RH) averages 70%. RH > 70% occurs 55 percent of the time. The highest hourly humidity (average RH = 82%) 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 10 m.p.h. during the afternoon. Highest April wind gust was 57 m.p.h. in 1950 from the northwest.

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