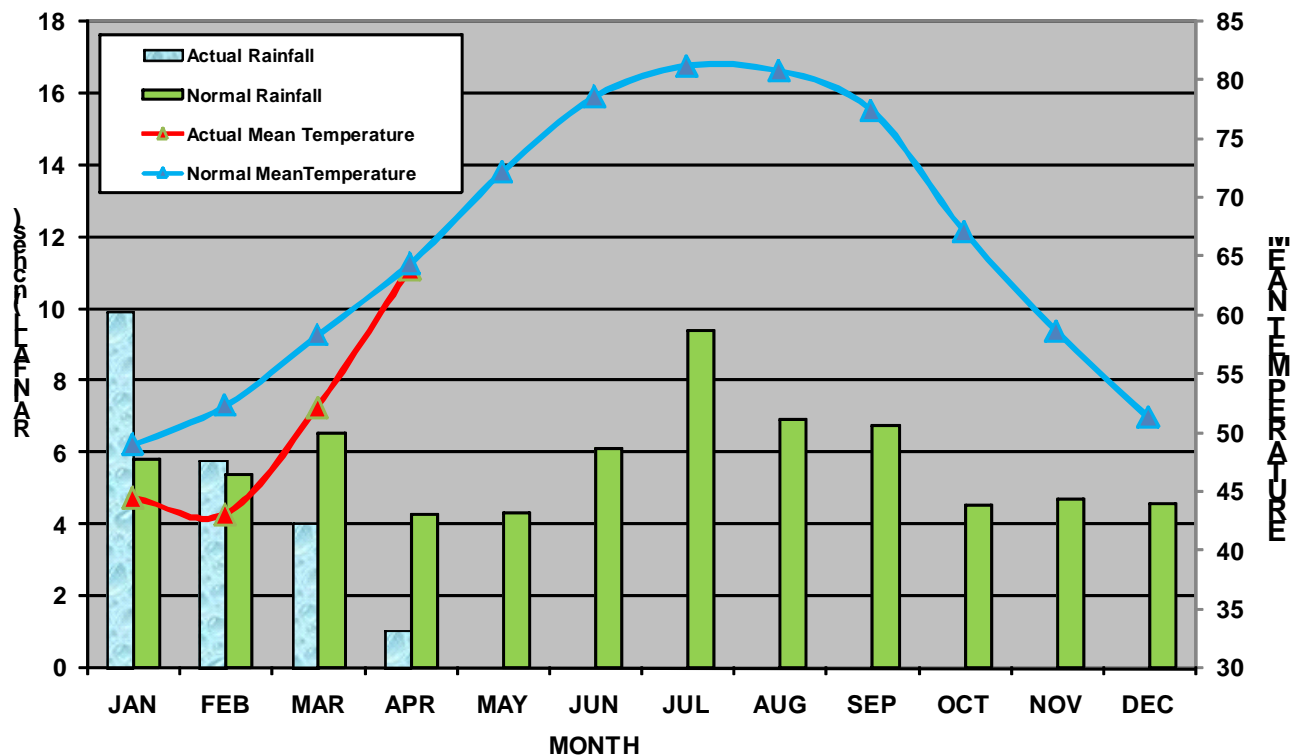


Introduction

April 2010's temperature averaged near normal for Niceville, FL and precipitation was much below normal. The progressive and stormy trend of the past winter season returned to a drier and seasonable spring pattern. The jet-stream associated with the declining weak El Niño weakened during month over the Gulf of Mexico (Figure 1). Three cold fronts cleared the FL panhandle on the 8th, 20th, & 25th April. The first three weeks produced tranquil conditions as a much drier airmass dominated the local area with a few daytime temperatures reaching the lower 80's. Daytime temperatures averaged slightly below normal due to the weak sea breeze moving over the cooler shelf and bay waters. Overnight minimum temperatures fluctuated, but averaged near normal due to different airmass regimes. Precipitation was very light with amounts less than a tenth of an inch. Abnormally dry conditions (D-0 Drought) started on 20th April and persisted for the rest of the month. By month's end, a pattern change commenced with a weak upper level trough displacing the ridge of high pressure over the eastern U.S. Rainfall returned by the fourth week with 1 inch amounts reported for the month's greatest rainfall (Figure 2). No severe weather was reported over western Florida panhandle, however; a significant supercell thunderstorm on April 24 spawned an EF-4 tornado (maximum winds 170 mph) that traversed 149 miles across Mississippi causing 10 fatalities. This is extremely rare for a tornado to stay on the ground continuously. The world record is the 219 mile long path of the deadliest tornado in U.S. history, the violent F-5 [Tri-State Tornado of 1925](#), which killed 695 people in Missouri, Illinois, and Indiana.

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



April 2010 Climate Summary

Jackson Guard rainfall for April totaled **1.05** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **1.01** inches, which is 76% *below* normal (4.26 inches). This was the 12th driest April in Niceville with records dating back to 1927. There were 5 days (including 3 days with thunder) with measurable precipitation, which is 1 day *below* the normal April average. Eglin AFB recorded **1.99** inches for the month, 2.40 inches *below* the normal of 4.39 inches. Pensacola, FL recorded **2.73** inches, which is 1.16 inches *below* the normal of 3.89 inches. Year to date 2010 rainfall at Pensacola, FL was **22.05** inches.

which is 1.74 inches *above* the normal of 20.31 inches. Year to date 2010 rainfall at Eglin AFB was **21.23** inches which is 1.64 inches *above* the normal of 19.59 inches.

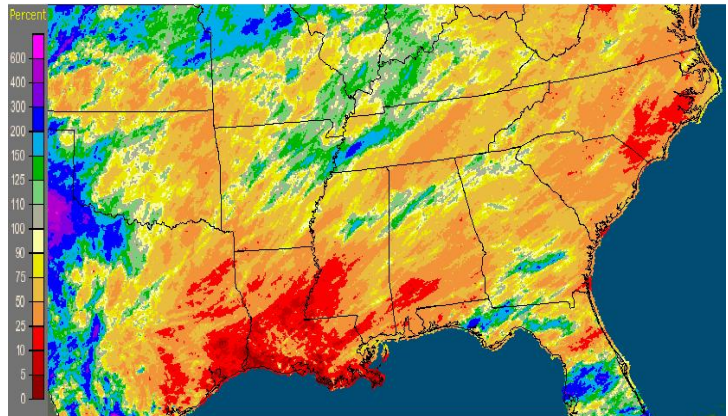
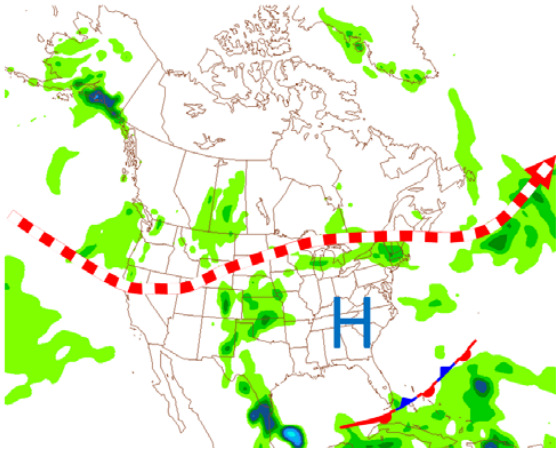


Figure 1. Generalized zonal (dashed) flow aloft of the jet stream and upper-level ridging during April 2010. Courtesy of SERFC-Peachtree City, GA

Figure 2. Percent of normal April 2010 rainfall. Courtesy of NOAA.

The monthly mean temperature was **62.9°F** which is 0.5°F *below* normal. This was 23rd coolest April in Niceville with records dating back to 1940. The average high temperature at Niceville NVOC was **76.1°F** (1.4°F *below* normal). There were 2 days when the maximum temperature was $\geq 80^\circ\text{F}$. The highest temperature of the month was **82°F** recorded on the 19th and 26th April. The average low temperature was **51.6°F** (0.3°F *above* normal). The lowest temperature of the month was **42°F** observed on 1st and 2nd April.

The Keetch-Byram Drought Index (KBDI) at the beginning of May 2010 was estimated to be normal. Technical difficulties caused by the interruption in the flow of precipitation data from the National Weather Service on 19 April prevented the Florida Division of Forestry's calculation of the KBDI values. Reporting is expected to resume later in the May 2010. Average Eglin AFB reservation rainfall was **1.70** inches.

Florida County	Average KBDI (19 APRIL 2010)	Florida County	Average April 2010 Rainfall (inches)
Santa Rosa	368	Santa Rosa	1.16
Okaloosa	377	Okaloosa	1.23
Walton	363	Walton	1.30
Gulf	282	Gulf	3.05

El Niño Outlook

Sea surface temperatures (SST) remained 0.5°C above average across much of the eastern and central equatorial Pacific, a trend marking a *rapid* decline to a weak El Niño. Latest observations and model forecasts indicate that the current El Niño phase is at the end. The current phase will gradually decrease to a neutral phase by the summer 2010. Although, this climate phase is ending, there remains a residual effect of an enhanced jet stream moving over the Gulf of Mexico generating additional precipitation over the Gulf Coast (Figures 3 & 4). Longer range model forecasts are split with the majority indicating neutral conditions by May-July 2010 and persisting into the Fall 2010. However, several statistical and dynamical models now suggest the development of La Niña conditions during the Fall 2010. This forecast strongly suggests that neutral-El Niño Southern Oscillation conditions will be a contributing factor in the upcoming Atlantic Hurricane season. Another consideration for this trend is the possibility of a return to *decreased* precipitation over Florida and a return to drought conditions during 2010-2011 winter season.

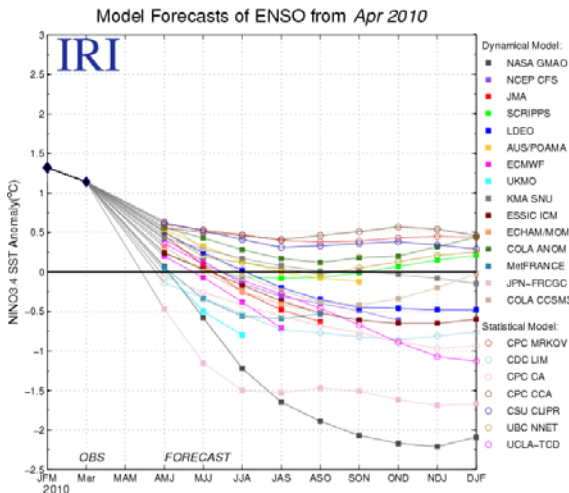


Figure 3. International Research Institute for Climate and Society model forecast for El Niño Southern Oscillation 15 April 2010.

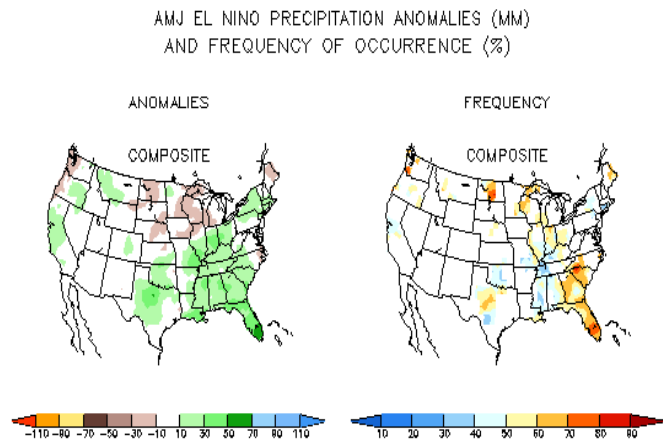


Figure 4. Precipitation model for April-May-June (AMJ) based on 13 analog years for El Niño having 10-30 percent greater precipitation recurring with a 50% probability.

May Outlook

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

May Climatology

May continues the spring seasonal dry pattern for the Florida panhandle. May is normally drier than other months because frontal passages become less frequent and sea breeze thunderstorms have not strengthened to summertime levels. Daytime temperatures increase over the course of the month an average of six degrees into the upper 80s°F. Offshore water temperatures in the Gulf of Mexico average around 80°F. The highest temperature observed was **101°F** in Niceville on 28th May 1958 and lowest temperature observed was **38°F** on 3rd May 1940. Typically, the May atmosphere is stable, despite warm afternoons. Scattered cumulus clouds can be seen during the afternoon moving northward ahead of the sea breeze front containing a line of towering cumulus clouds and isolated cumulonimbus (thundershowers). Behind the sea breeze front, clear skies persist until the early morning hours when a land breeze sets up coastal cloudiness. When rainfall does occur in May, usually an organized complex of thunderstorms form inland over Mississippi, Alabama, and drift over the Florida panhandle; but at most only a one or two these events occur. Thunderstorm frequency averages 6 days during May and 6 days have measurable rainfall. Normal rainfall is **3.52** inches at Eglin AFB and **4.32** inches at Niceville recording stations. The maximum 24-hour Niceville rainfall is 5.10 inches on 21st May 1989 and at Eglin AFB 24-hour rainfall record is 5.24 inches recorded on May 3, 1978. Record May rainfall (Niceville) is 12.51 inches (1989) and 11.77 inches (1978) at Eglin AFB. The driest May (Eglin AFB) produced 0.02 inch in 1965 and 0.15 inch in 2000 was recorded in Niceville.

Average monthly temperatures range from 65°F for morning lows to 83°F for afternoon highs. The record high (Eglin AFB) is 102°F (May 27, 1953) and the record low (Niceville) is 38°F (May 8, 1958). High temperatures 90°F or above occur four days during May.

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, Florida Division of Forestry and the Southeast Regional Climate Center websites. NVOC Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and rainfall data.