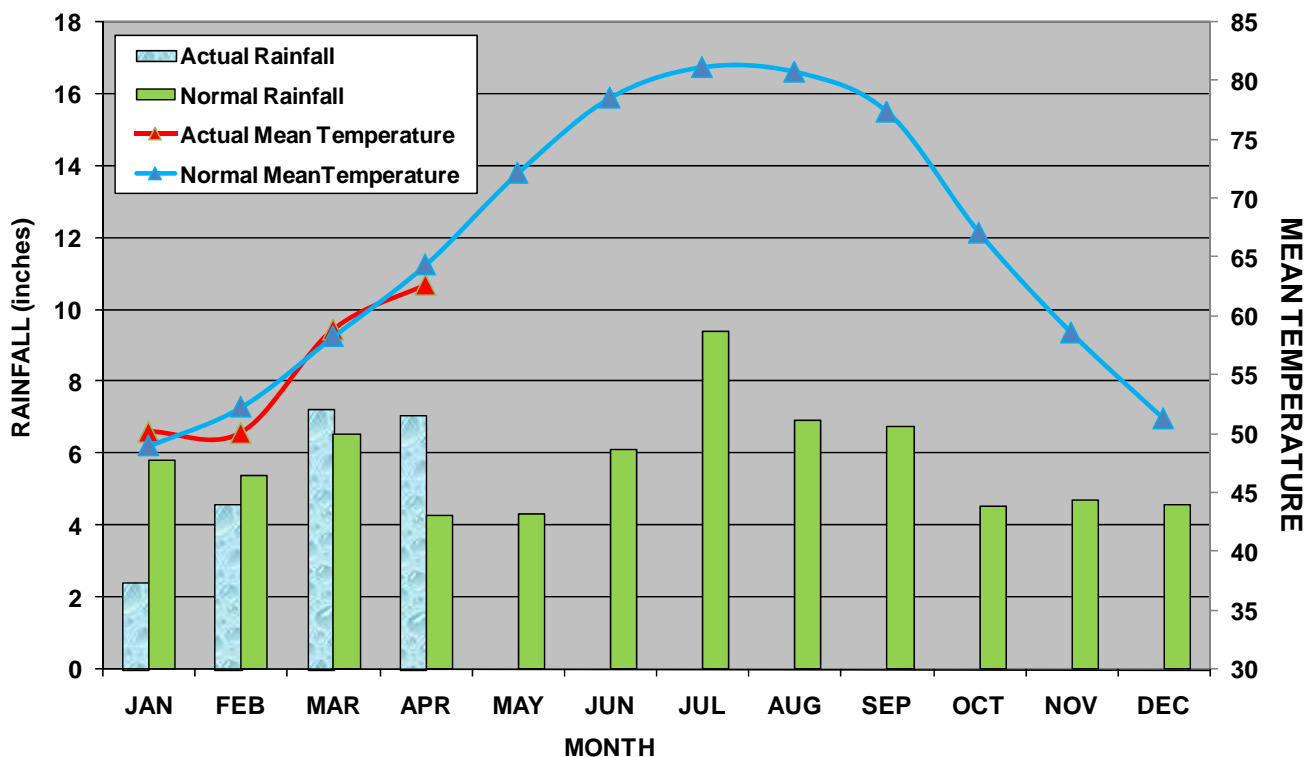


Introduction

April 2009's temperature averaged much below normal for Niceville, FL and precipitation was above normal. The progressive and stormy trend of late March continued into mid April, then stabilized to a more stable and seasonable pattern. Again, the weather pattern was a memorable month of contrasts. The first week was warm, humid, and breezy with a strong thunderstorm squall on the 3rd April. The second week brought abrupt cooling with a late season frost; rapid warmth followed and ended with intense thunderstorms on the 13th April, producing rainfall in excess of 4 inches across the western FL panhandle. After mid month, only light rainfall fell as a much drier airmass dominated the local area with daytime temperatures reaching the lower 80's. Seven cold fronts cleared the FL panhandle on the 1st, 3rd, 6th, 11th, 14th, 20th, & 21st April. One warm front moved north over the western FL panhandle early on the 2nd April. Daytime temperatures averaged slightly below normal due to the month's early polar airmass and persistent cloud cover. Overnight minimum temperatures fluctuated, but averaged near normal due to different airmass regimes. A tight pressure gradient between the surface Bermuda high to the east and troughs to the northwest brought an awakened sea breeze and set the stage for strong rip currents along the coastal beaches. Moderate to major flooding, particularly the Choctawhatchee River, subsided across the local region. Smaller streams and rivers are currently receding to normal levels; the threat of renewed flooding for remainder of the spring season is diminishing as a seasonably drier weather pattern prevails.

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



April 2009 Climate Summary

Jackson Guard rainfall for April totaled **7.06** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **7.90** inches, which is 85% *above* normal (4.26 inches). This was the 17th wettest April in Niceville with records dating back to 1927. There were 7 days (including 4 days with thunder) with measurable precipitation, which is 1 day *above* the normal April average. Eglin AFB recorded **6.87** inches for the month, 2.50 inches *above* the normal of 4.37 inches. Pensacola, FL recorded **4.84** inches, which is 0.95 inches *above* the normal of 3.89 inches. Pensacola rainfall of 2.82 inches established a new 24-hour rainfall record for 13th April, which broke the previous record of 1.27 inches set on this date back in 1994. Year to date 2009 rainfall at Pensacola, FL was **18.12** inches, which is 2.19 inches *below* the normal of

20.31 inches. Year to date 2009 rainfall at Eglin AFB was **21.80** inches which is 2.22 inches *above* the normal of 19.58 inches.

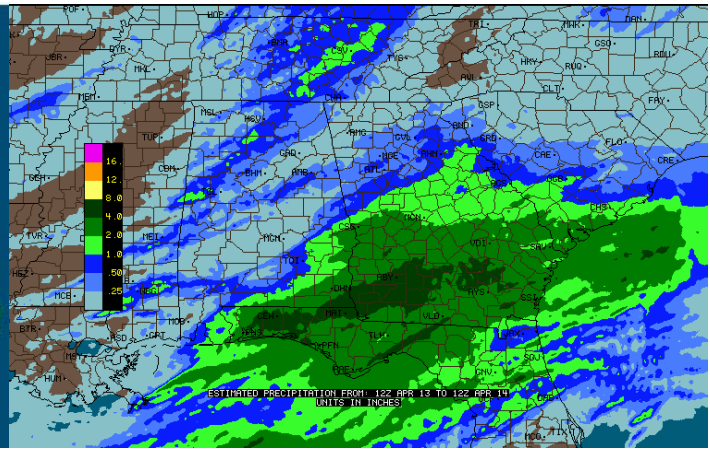
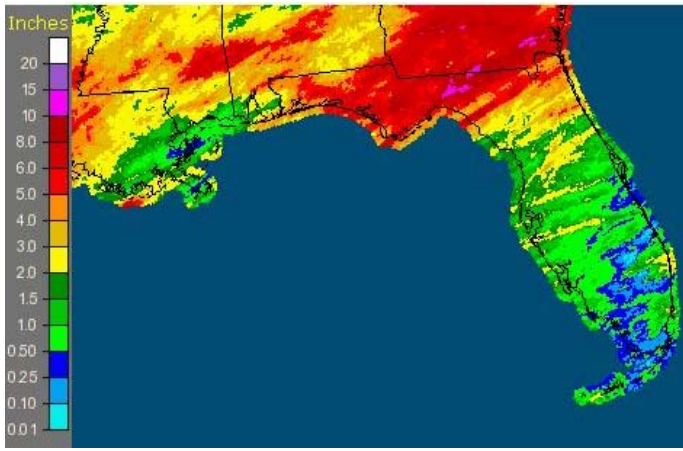


Figure 1. Observed rainfall (inches) Courtesy NOAA Advanced Hydrologic Prediction Service.

Figure 2. 24-hour rainfall ending 7 a.m. 14 April 2009 Courtesy of Weather Services International.

The monthly mean temperature was **62.7°F** which is 1.7°F *below* normal. This was 8th coolest April in Niceville with records dating back to 1940. The average high temperature at Niceville NVOC was **73.3°F** (4.2°F *below* normal). There were 2 days when the maximum temperature was $\geq 80^\circ\text{F}$. The highest temperature of the month was 81°F recorded on the 26th April. A record low maximum temperature of **58°F** observed on the 8th April broke the previous record of 66°F set on this date back in 1971 in Niceville. The average low temperature was **52.0°F** (0.7°F *above* normal). The lowest temperature of the month was 32°F observed on 8th April. The latest date for the last spring freeze (32°F) of record is 21st April 1953 in Niceville. A record low minimum of 38°F broke the record (39°F) for the 8th April set on this date in 2007 for Pensacola.

The Keetch-Byram Drought Index (KBDI) at the beginning of May 2009 was normal. The values below are an indicator of soil moisture conditions compared with average rainfall in the counties containing Eglin AFB natural resources. Average Eglin AFB reservation rainfall was **5.98** inches.

| Florida County | Average KBDI (1 May 09) | Florida County | Average April 2009 Rainfall (inches) |
|----------------|-------------------------|----------------|--------------------------------------|
| Santa Rosa | 336 | Santa Rosa | 7.41 |
| Okaloosa | 280 | Okaloosa | 7.22 |
| Walton | 265 | Walton | 8.26 |
| Gulf | 259 | Gulf | 9.47 |

Severe Weather & Flooding April 2009

During the early afternoon of 2nd April 2009, heavy rainfall of 2 to 3 inches fell across the local area with golf ball-size hail reported from Perdido Key across US Hwy 98 in Pensacola (Escambia County), FL and dime to penny-size hail reported in Holley (Santa Rosa County), FL. Mossy Head (Walton County), FL also observed golf ball-size hail from these storms. Eglin AFB recorded a wind gust to 58 mph and wind damage was reported in Eastpoint (Franklin County), Vernon (Washington County), Marianna (Jackson County), and Tallahassee (Leon County), FL.

On 13th April, significant straight line winds caused damage along the length of SR 20 from Clarksville to Blountstown (Calhoun County) to Bristol (Liberty County) to near Tallahassee (Leon County), FL. Winds were estimated to be 55 to 80 mph with all the damage found to be facing southeast indicating a wind event rather than a tornado. Penny to golf ball-size hail was reported in these areas as well. Separate storms produced penny-size hail in Panama City (Bay County) and wind damage was reported in Campbellton and Oakdale (Jackson County). Flash flooding rainfall of 2 inches per hour was

observed during the height of the storm resulting in street flooding for Fort Walton Beach (Okaloosa County). Storm totals of more than 4 inches fell across parts of Destin and Crestview (Okaloosa County), FL.

Major river flooding on Choctawhatchee and Suwannee Rivers has subsided to normal levels by the month's end. Numerous highway closures took place by the third weekend on the Suwannee River, but I-10 remained open. See figures 3 & 4 for the latest hydrograph and historical streamflow for the Choctawhatchee River.

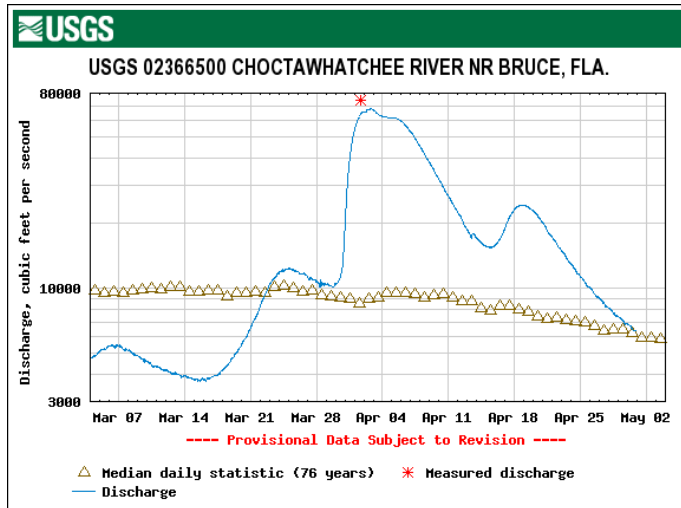


Figure 3. Discharge hydrograph Choctawhatchee River near Bruce, FL. Courtesy US Geological Survey.

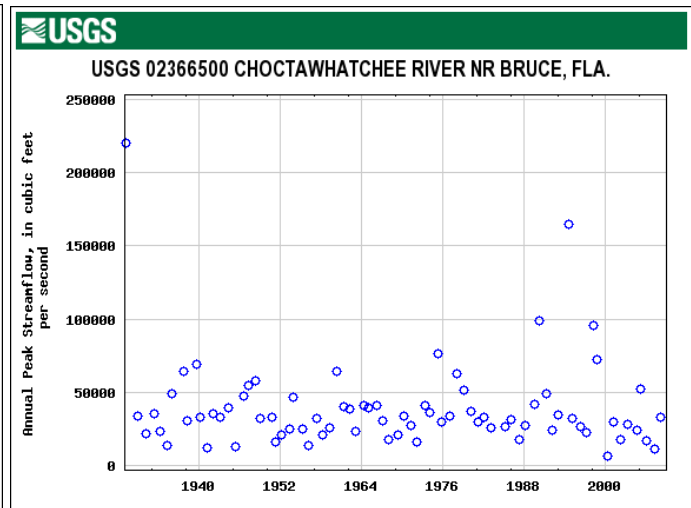


Figure 4. Peak streamflow for the Choctawhatchee River near Bruce, FL.

May Outlook

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

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. 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 3.48 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). The driest May (Eglin AFB) produced 0.02 inch in 1965.

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.

La Niña Advisory

Based on recent trends in the observations and model forecasts, weak La Niña conditions are expected to transition to a neutral condition during the next few months. Recent water temperature measurements have reached 0.1°C below normal in the east-central Pacific (28 April 2009). Model forecasts indicate a trend toward El Niño conditions which may become established by the end of the year (Figure 5). Another consideration for this trend is the possibility of a return to increase precipitation over south Florida where ongoing moderate to severe drought is present. Figure 6 is Climate Prediction Center

precipitation forecast for a neutral El Niño Southern Oscillation (ENSO) that takes into account a similar climate pattern plus the latest precipitation trend.

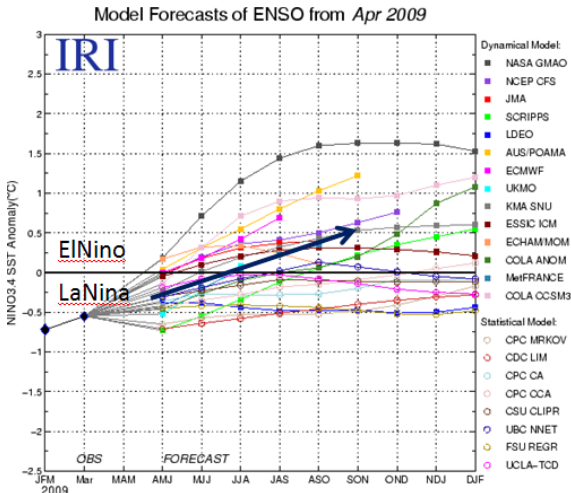


Figure 5. International Research Institute for Climate and Society model forecast for El Niño Southern Oscillation 15 April 2009.

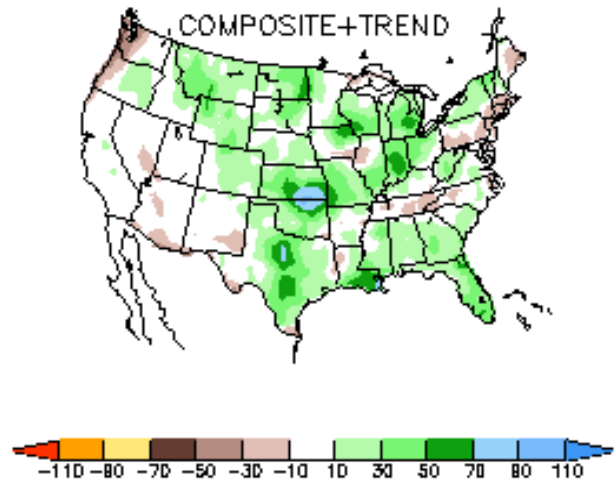


Figure 6. Precipitation forecast for May through July.

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, 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.