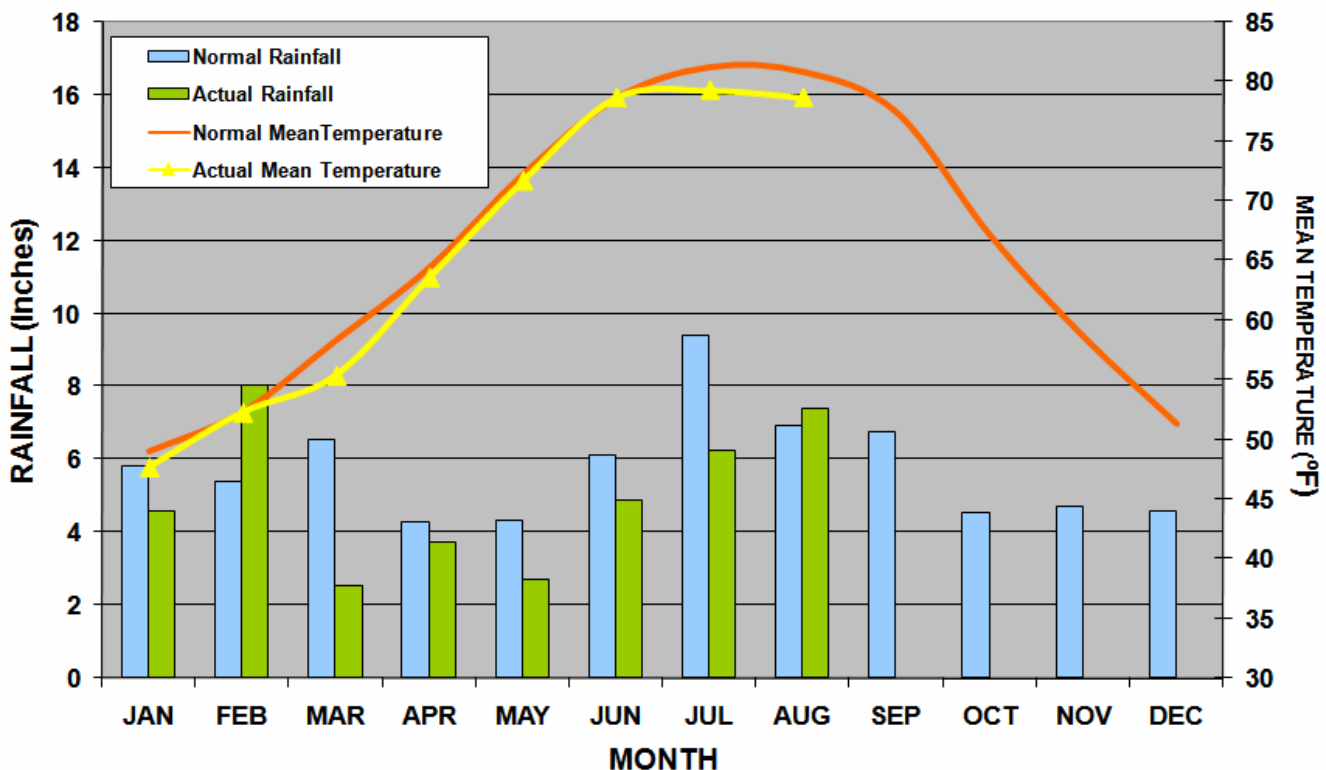


Introduction

August 2008 produced below normal temperatures and near normal precipitation for Niceville, FL. An active weather pattern highlighted the month with a series of upper-air disturbances and frontal passages during the first half of the month. As was the trend during July 2008, two rare frontal passages cleared the FL panhandle on the 8st & 14th August. Three tropical cyclones (Edouard, Fay, & Gustav) in the Gulf of Mexico occurred during the first and third weeks, with the strongest hurricane to date, Hurricane Gustav emerged into the southern Gulf at the end of August 2008. Tropical Storm Fay was the highlight of the month setting the **fourth** greatest all-time single storm rainfall in the state of Florida with 27.65 inches at Melbourne (Windover Farms). Other notable rainfall amounts were 27.50 inches in Thomasville, GA and 19.71 inches north of Tallahassee, FL. Rainfall averaged near two inches over the Eglin, AFB due in part to the ingestion of dry air caused by a storm over southern Arkansas and northern Louisiana as the Tropical Storm Fay's eyewall approached the Eglin AFB reservation. There were seventeen days with measurable rainfall recorded at Jackson Guard (Eglin AFB Natural Resources) which was slightly above average for Okaloosa County, FL. Temperatures were unseasonable cooler due to abundant cloud cover, suppressing daytime temperatures in Niceville, FL resulting in the **third** coolest August on record since 1947. The [Madden-Julian Oscillation](#) has become better organized over the west-central Pacific and is presently entering the Indian Ocean. This eastward-traveling, equatorial pattern of anomalous rainfall will reemerge into the tropical Atlantic as a weak anomaly during the first two weeks of September 2008. Also, another consideration is the absence of dust in the [Saharan Air Layer](#) suppressing tropical waves off the west-African continent near Cape Verde. The result will be an active tropical cyclone pattern continuing past the peak date (10th September) in the tropical Atlantic basin.

2008 Jackson Guard Rainfall/NVOC Temperature
1971-2000 Climatic Normal (Niceville, FL)



August 2008 Climate Summary

Jackson Guard rainfall for August totaled **7.39** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **6.76** inches. Eglin AFB recorded **5.31** inches for the month, *1.58* inches below the normal of 6.89 inches. Pensacola, FL recorded **4.68** inches, which is *2.17* inches below the normal of 6.85 inches. There were 16 days with measurable precipitation in Niceville, which is 4 days above normal. There

were 13 thunderstorm days recorded at Eglin AFB, which is 1 day *below* normal. Year to date rainfall at NVOC is 42.72 inches, which is 5.96 inches below normal. Year to date rainfall at Eglin AFB is 32.00 inches, which is 11.43 inches below the normal of 43.43 inches. Year to date rainfall at Pensacola, FL is 37.81 inches, which is 8.16 inches below normal of 45.97 inches.

The [Keetch-Byram Drought Index](#) (KBDI) at the end of July 2008 was *normal*; except for Gulf County where the index was *low*. Widespread, very heavy precipitation fell during Tropical Storm Fay covering most of Florida except for the western panhandle. The Florida Division of Forestry's [fire weather outlook](#) for the fall 2008 season will be updated in October. Normal values of the KBDI are an indication that [wildfire](#) conditions are possible across the western Florida panhandle. When the index exceeds **420** during the fall months of September-October-November for north Florida, the wildfire danger becomes high. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (1 September 08)	Florida County	Average August 2008 Rainfall (inches)
Santa Rosa	310	Santa Rosa	5.17
Okaloosa	355	Okaloosa	5.85
Walton	333	Walton	7.23
Gulf	147	Gulf	10.15

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

The monthly mean temperature was **78.76°F** which was 2.04°F *below* normal. Niceville's record lowest August average temperature is 78.10°F (1969). The average high temperature at Niceville NVOC was **86.4°F** (4.5°F *below* normal). The highest temperature of the month was 93°F recorded on the 7th and 31st August. There were 7 days when the maximum temperature reached 90°F or above, which was 13.5 days *below* normal. Three record low maximum temperatures were established during August 2008. On 17th August, **81°F** broke the previous record of 84°F (1969); 18th August **84°F** broke the previous record of 85°F (2003); and 19th August **82°F** broke the previous record of 84°F (1994). The average low temperature was **71.1°F** (0.4°F above normal). The lowest temperature of the month was 65°F observed on 9th, 10th, & 11th August. No minimum temperature records were established during August 2008. The table below is the summary conditions for June 2008 through August 2008 at Niceville, FL:

Niceville, FL (NVOC)	Normal Summer (June-August) Temperature (1971-2000)	80.2°F
	June 2008-August 2008 Average Temperature	78.9°F (-1.3°F)
Niceville, FL (NVOC)	Normal Summer (June-August) Rainfall (1971-2000)	22.39 inches
	June 2008-August 2008 Total Rainfall	19.18 inches (-14.3%)

Tropical Storm Fay Ends Drought Conditions in Florida

Tropical Storm Fay has become the fourth greatest rain producer in Florida climatology (Figure 1). The storm made 4 distinct landfalls in the state (Figure 2). Rainfall totals exceeding 24 inches across the eastern Florida panhandle locations have created record floods east of Tallahassee, FL. On 21st August 2008, Tropical Storm Fay moved very slowly across northern Florida, producing widespread heavy rain across southeastern Georgia and northern Florida. By 22nd August, Fay approached Apalachee Bay from the east (Figure 3). Very heavy rainfall began over the region late in the day, which was the start of the extreme rainfall event for much of southwestern Georgia and the Florida Big Bend. Fay emerged into Apalachee Bay by late 22nd August and made its fourth and final landfall on 23rd August near Carrabelle, Florida. A large feeder band east of the Apalachicola River in the morning and spread into southwestern Georgia by afternoon of 23rd August; additional intense thunderstorms developed and trained over the same locations for several hours on 23rd August near Tallahassee, FL to Thomasville, GA. Heavy rainfall stopped east of the

Choctawhatchee River and spared the western FL panhandle. General rainfall of less than 2 inches covered most of the Eglin AFB reservation during the entire storm event (23-26 August). Later on 23rd August, the center of Tropical Storm Fay moved across south Walton County around 1700 hrs north of Choctawhatchee Bay and departed Santa Rosa County north of Yellow River near Interstate 10 by 1930 hours. Minimal barometric pressure was 29.43 inches of mercury (996 millibars). Peak wind gusts at the time of passage was less than 40 m.p.h. Tropical Storm Fay weakened to a depression late on 23rd August losing all of its southern convection due to dry air intrusion upon moving further inland (Figure 4). Tropical Depression Fay stalled in MS on 24th August near Jackson, MS before moving northeast into the Tennessee Valley by 26th August. Fay dissipated into remnant low near Huntington, WV on 28th August.

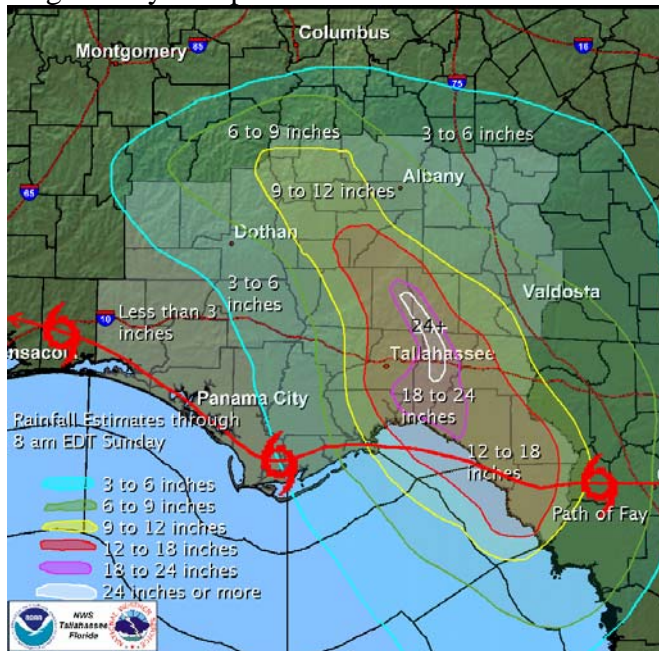


Figure 1. Rainfall Totals 22-24 August 2008.

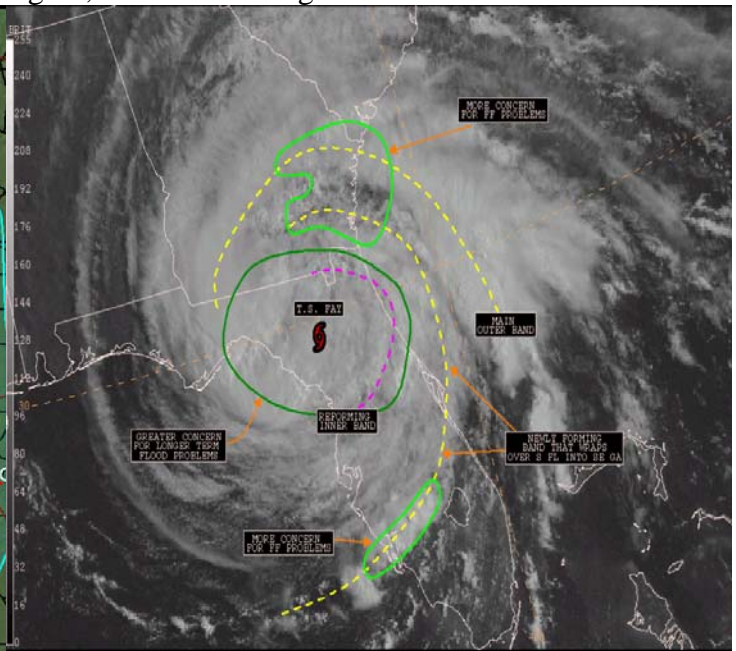


Figure 3. Tropical Storm Fay 0915 hrs 22 August 2008.

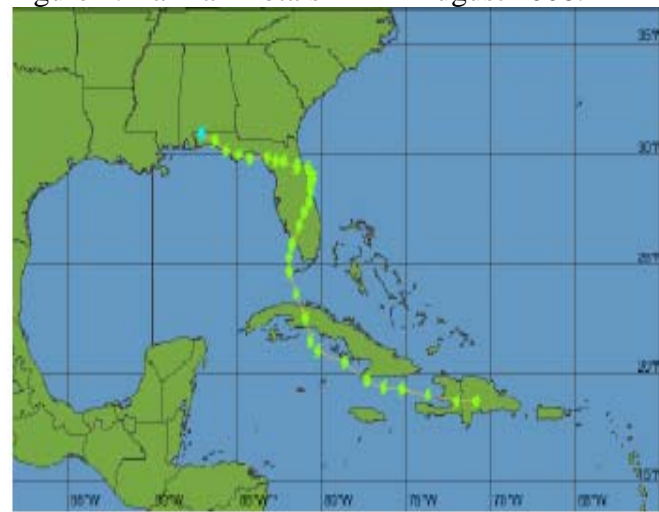


Figure 2. T.S. Fay Track 15-23 August 2008.

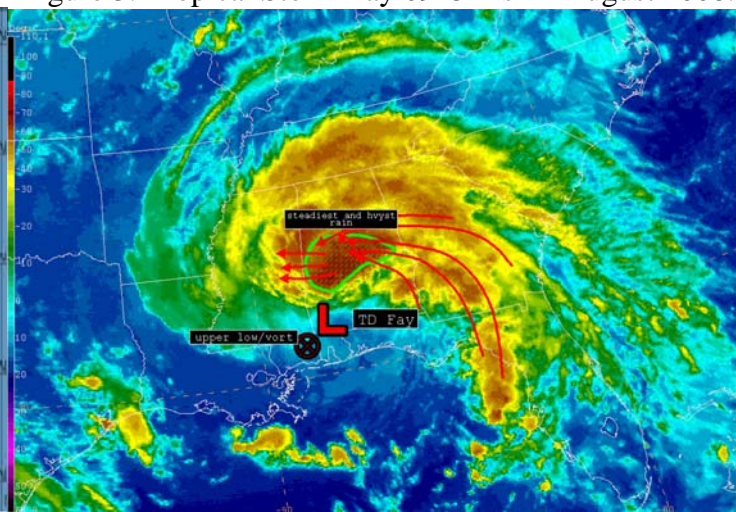


Figure 4. Tropical Depression Fay 2245 hrs 23 August '08.

Drought Outlook

Heavy to excessive rainfall associated with Fay and its remnants will reduce drought across parts of the Southeast. One- and two-category improvements left northern Florida, southern and coastal counties of Georgia and southern Alabama free of drought and abnormally dry conditions (Figure 5). With forecasts of above median rainfall in the short- and medium-range and the monthly outlook along with the increased odds of additional tropical systems (Hanna & Ike), improvement is forecast across the southeast U.S. (Figure 6). Moderate to severe drought has recently spread into Virginia, but forecasts on most time scales favor improvement. Although drought intensified in northern Louisiana during early August, ongoing rainfall should alleviate drought conditions.

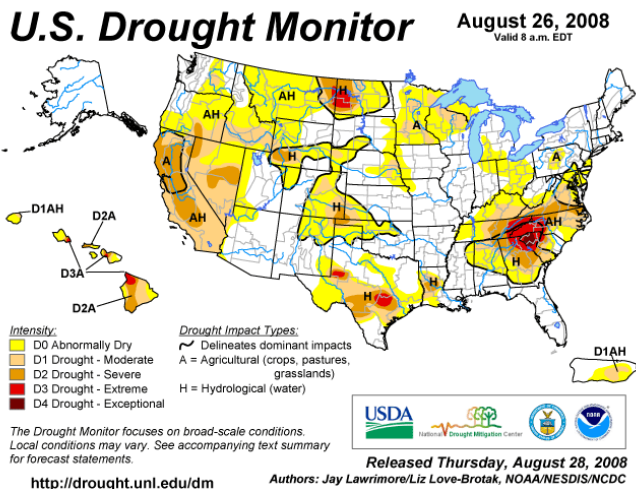


Figure 5. Exceptional drought (D4) persists in NC/SC.

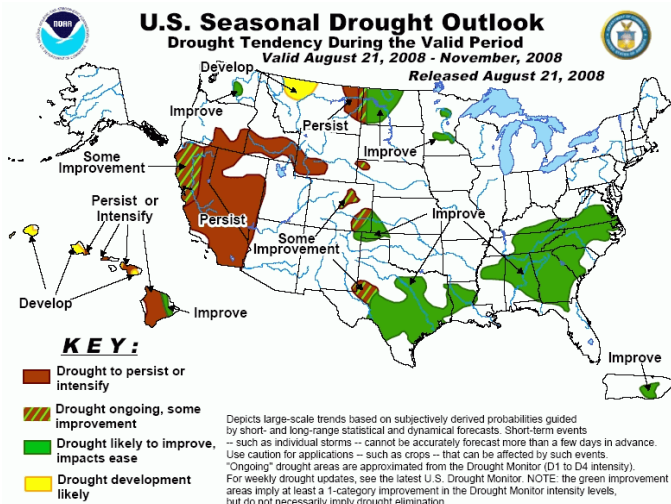
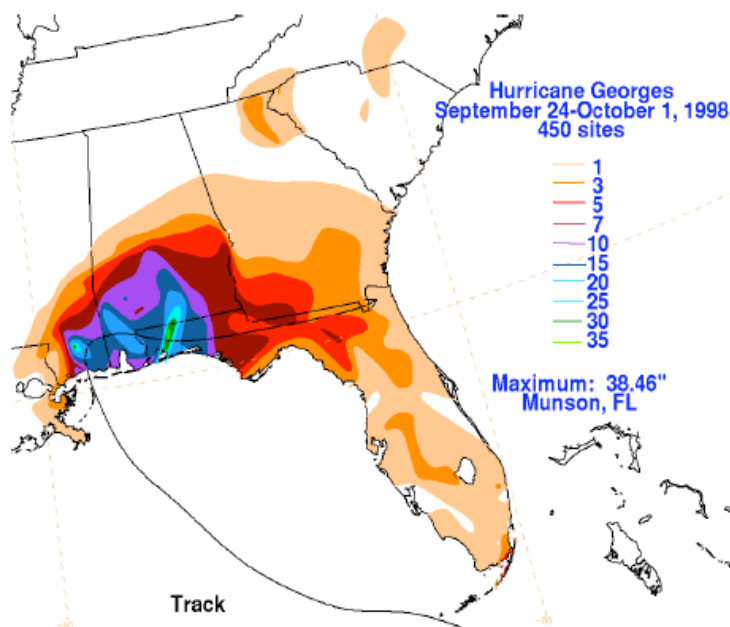


Figure 6. Drought recovery anticipated with future tropical systems over the Gulf coast and SE U.S.

September Climatology

The Climate Prediction Center <http://www.cpc.ncep.noaa.gov/products/predictions/30day/> outlook for September 2008 predicts above normal temperatures and rainfall for the northwest FL.

September transitions slowly into meteorological fall as the Atlantic hurricane seasons peaks by September 10th. The sea breeze phenomenon of afternoon showers and thunderstorms fade as cold fronts return to the Gulf Coast. Thunderstorm frequency averages 8 days with 9 days of measurable rain. Rainfall averages **6.73** inches at Eglin AFB (climatic period 1940-2006) and **6.72** inches at Niceville recording stations (climatic normal 1971-2000). The maximum 24-hour Eglin AFB rainfall is 10.20 inches recorded on 28th September, 1998 during Hurricane Georges (Figure 7). Record September rainfall is 28.63 inches (1998) and this is an all time record for any month of any year of record at Eglin AFB. Niceville also set a similar record of 31.41 inches for September 1998. The driest September produced only 0.03 inch in 1984.



Location	Total
Munson, FL	38.46"
Bay Minette, AL	29.66"
Andalusia, AL	26.90"
Milton, FL	25.06
Eglin Air Force Base	24.24"
Crestview, FL	19.98"
Niceville, FL	19.53"
Pensacola, FL	15.78"

Figure 7. Hurricane Georges 1998 Storm Rainfall—Second greatest Florida Rainfall (courtesy FL-CoCoRHS)

Average monthly temperatures range from **66°F** to **88°F** for Niceville. The record high is 102°F (1st September 1954) and the record low is 37°F (30th September 1967). High temperatures warm to 90°F or above an average 11 days and rarely exceed 95°F during September. Low temperatures rarely fall below 50°F during the month.

Relative humidity (RH) averages 73%. RH > 70% occurs 59 percent of the time. The highest hourly humidity (average RH = 85%) occurs between the hours of 3 and 5 a.m.

Surface winds are calm or northerly during the nighttime and early morning hours. Winds shift to southerly winds by midmorning with the speed averaging between 8 to 11 m.p.h. Highest September wind gust was 111 m.p.h. in 1975 from the west-northwest at Eglin AFB.

September 2008 Weather Outlook

The Climate Prediction Center [30-day outlook](#) for September 2008 predicts an equal chance to 33% chance of below normal temperatures and a for 40% chance for above normal rainfall in the western Florida panhandle.

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, High Plains Regional Climate Center, Southeast Regional Climate Center, Community Collaborative Rain, Hail, & Snow Network (CoCoRaHS.org) and Florida Division of Forestry websites. NVOC Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and rainfall data.