

MEMORANDUM

TO: Governing Board

FROM: Megan Wetherington, P.E., Water Resources Engineer *MW*

THRU: David Still, Executive Director *DS*
Kirk B. Webster, Deputy Executive Director *KBW*

DATE: June 4, 2008

RE: May 2008 Hydrologic Conditions Report for the District

The hydrologic conditions report is compiled in compliance with Chapter 40B-21.211, Florida Administrative Code, using water resource data collected from the following: rainfall (radar-derived estimate), groundwater levels (92 wells), surfacewater levels (16 lakes and 11 rivers), river flows (6 stations on 4 rivers), and general hydrological/meteorological information (drought indices and weather forecasts). Data are provisional, and subject to revision. Statistics are updated as revised data become available.

RAINFALL

- Average District-wide rainfall was 1.48 inches, less than half of the long-term May average of 3.27 inches (Table 1, Figure 1). Accumulations in portions of Hamilton, Madison, and Jefferson counties were normal to above-average, while most of the District received from 5 to 50% of normal rainfall. Figure 2 shows the estimated rainfall accumulation across the District.
- The twelve-month average deficit through May 31 was 7.2 inches, and the 24-month deficit was 23.4 inches. Figure 3 depicts the estimated 12-month deficit. Figure 4 shows the change in annual deficits beginning in 1998.

SURFACEWATER

- Seven-day average streamflow fell below the 25th percentile on the middle- and upper-Suwannee River (Figure 5). The Fenholloway River (near Foley), Withlacoochee River, New River, and Santa Fe River fell below the 10th percentile, considered much below normal for May. The percentile is the percentage of flows or levels that are equal to or below the observed value. Discharge statistics for six river stations are presented in Figure 6.
- An apparent record low level for the month was observed at the Econfina River near Perry, for the second month in a row.
- Lake levels decreased by an average of 0.52 feet. All lake levels were below their long-term averages. No record lows were observed.

GROUNDWATER

- Groundwater levels monitored in 92 wells (Figure 7) decreased by an average of 1.7 feet since April. Increases in levels were observed in only three wells. Twenty-seven percent of the levels were below the 10th percentile, compared to 25% in April and 31% in March. Twenty-seven percent of the levels were above the 25th percentile.
- Eight wells set new May lows, and two all-time lows were recorded. Monthly statistics for a representative sample of wells are shown in Figure 8.
- The District received no requests for emergency dry well permits in May. A total of 191 have been issued since April 1, 2007 (Figure 7).

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- The Palmer Drought Severity Index, which uses temperature, precipitation, and soil moisture to indicate prolonged and abnormal moisture deficiency or excess, fell from near normal to moderate drought.
- The 12-month Standardized Precipitation Index (SPI), based on long-term precipitation patterns that impact streamflow and groundwater conditions, indicated moderate to extreme dryness in western and southwestern counties, while the remainder of the District was near normal. The 6-month SPI, which reflects medium-term precipitation, was near normal with the exception of Taylor County, which was moderately dry.
- Seven-day average streamflow conditions ending May 31 were categorized throughout the District as below normal (10th-24th percentile) by the US Geological Survey.
- Long-range outlooks from the National Weather Service Climate Prediction Center show an increased probability of above-normal precipitation for the Florida peninsula through August.

WATER CONSERVATION

A Phase I Water Shortage Advisory requesting voluntary reductions in water use remains in effect. Normal summer rainfall will not significantly recharge surfacewater and groundwater because of increased evaporation and uptake by vegetation. The District urges all water users to eliminate wasteful and inefficient water use. Water is conserved by using the minimum amount needed for specific applications and by irrigating lawns, plants, and crops only when necessary and in the morning before 10 a.m. and in evening hours after 4 p.m., when lower temperature and wind velocity reduce the amount of water lost to evaporation. The District offers a variety of free water conservation information to the public via its website and by request.

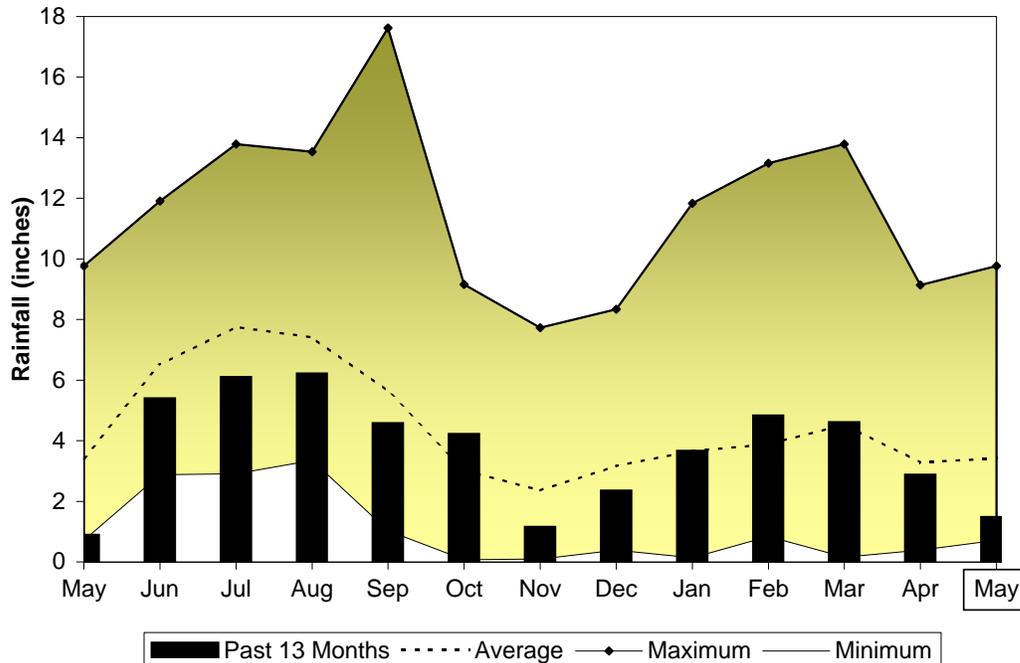
Table 1. Estimated Rainfall Totals

County	May-2008	May-2007	Last 12 Months	May Average
Alachua	0.58	1.31	46.79	2.27
Baker	1.67	0.85	47.59	1.89
Bradford	0.62	0.57	47.55	2.22
Columbia	1.62	0.92	46.84	3.21
Dixie	1.08	1.29	46.85	3.43
Gilchrist	0.98	1.43	43.85	3.36
Hamilton	2.75	1.01	47.75	3.16
Jefferson	3.12	0.40	50.57	5.88
Lafayette	1.42	0.72	43.14	3.33
Levy	0.54	1.25	53.63	2.67
Madison	2.92	1.03	52.32	4.73
Suwannee	1.33	0.79	45.66	3.24
Taylor	1.20	0.44	44.63	4.16
Union	0.85	0.50	45.13	2.21

May 2008 Average: 1.48
 Historical May Average: 3.27
 Historical 12-month Average: 54.71
 Past 12-Month Total: 47.49
 12-month Rainfall Deficit: -7.22

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall



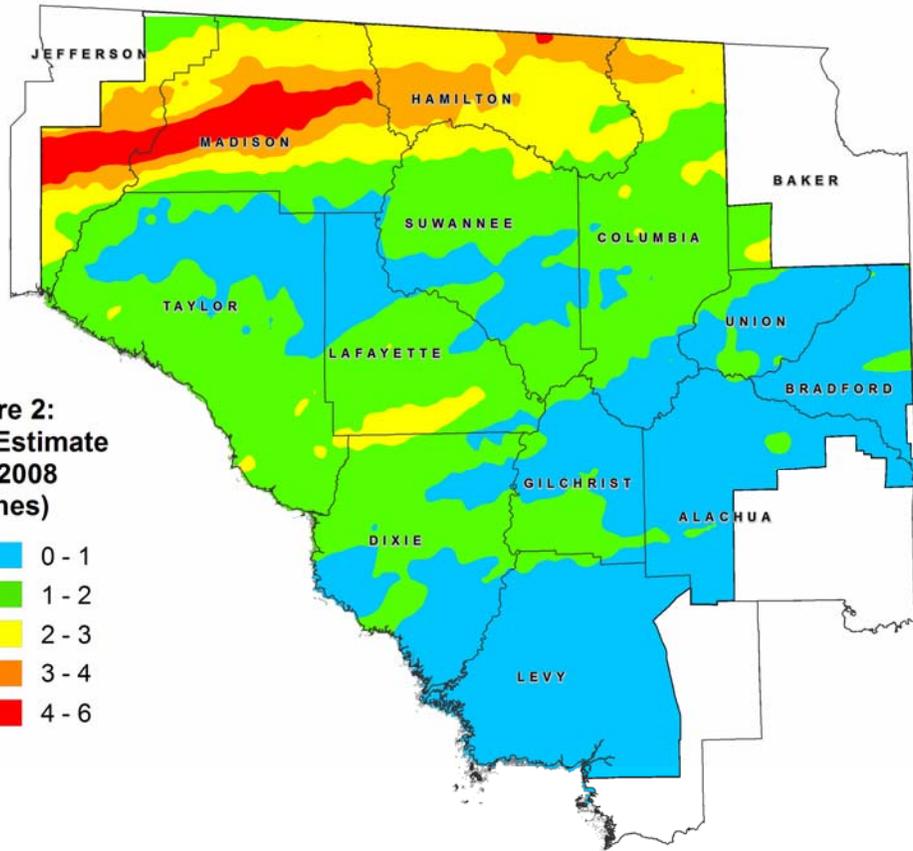


Figure 2: Rainfall Estimate May 2008 (inches)

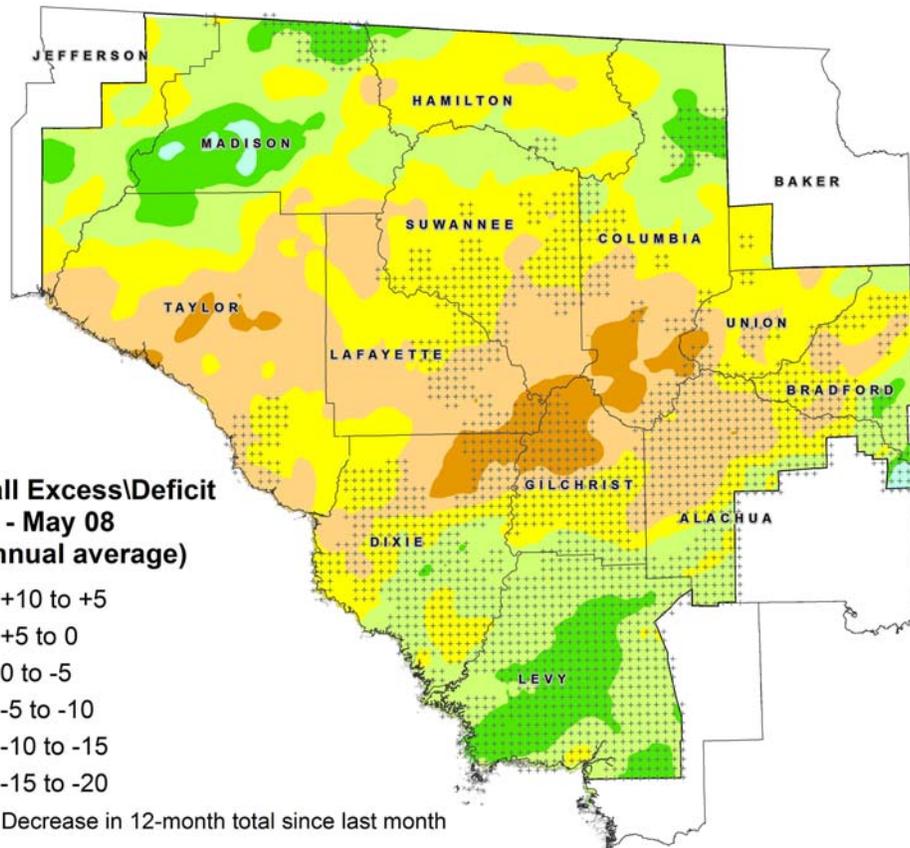


Figure 3: Rainfall Excess\Deficit June 07 - May 08 (inches +/- annual average)

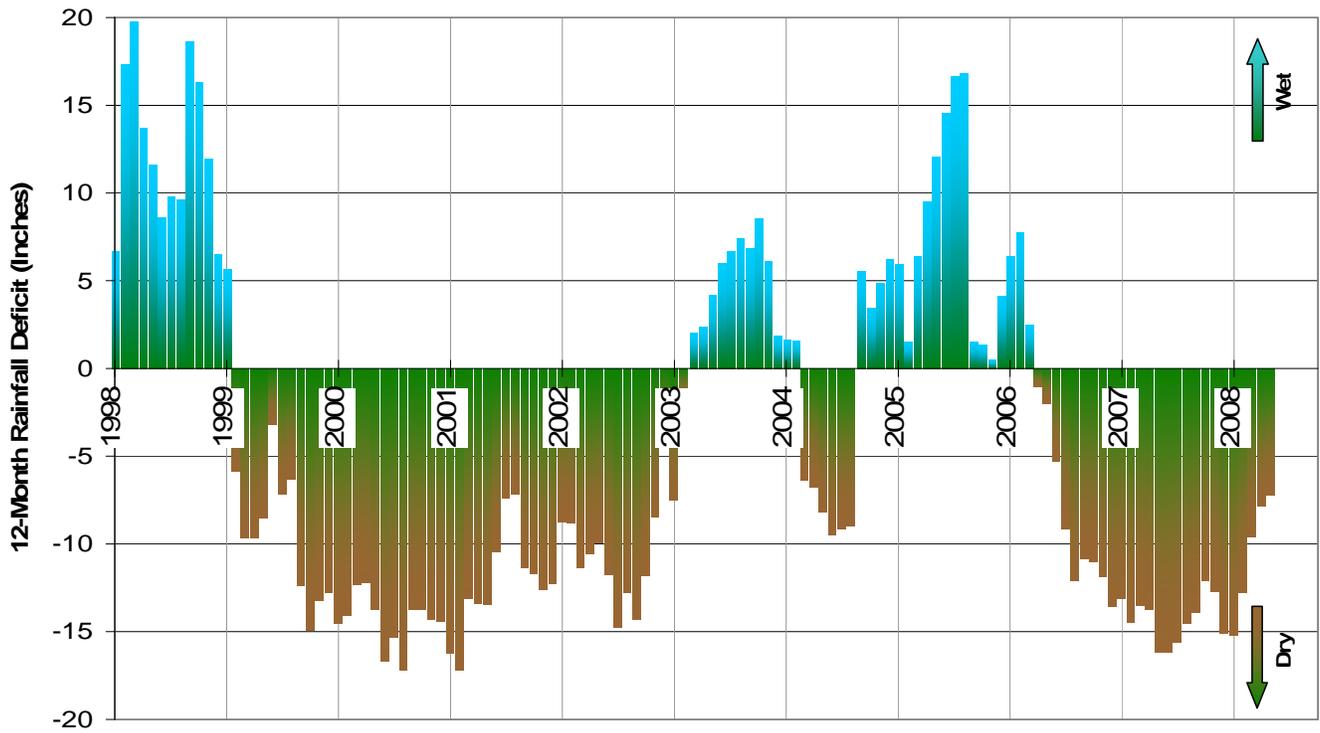


Figure 4: 12-month rolling rainfall deficit (difference between the rainfall that fell during any 12-month period and the long-term average expected over the same period, January 1998-May 2008)

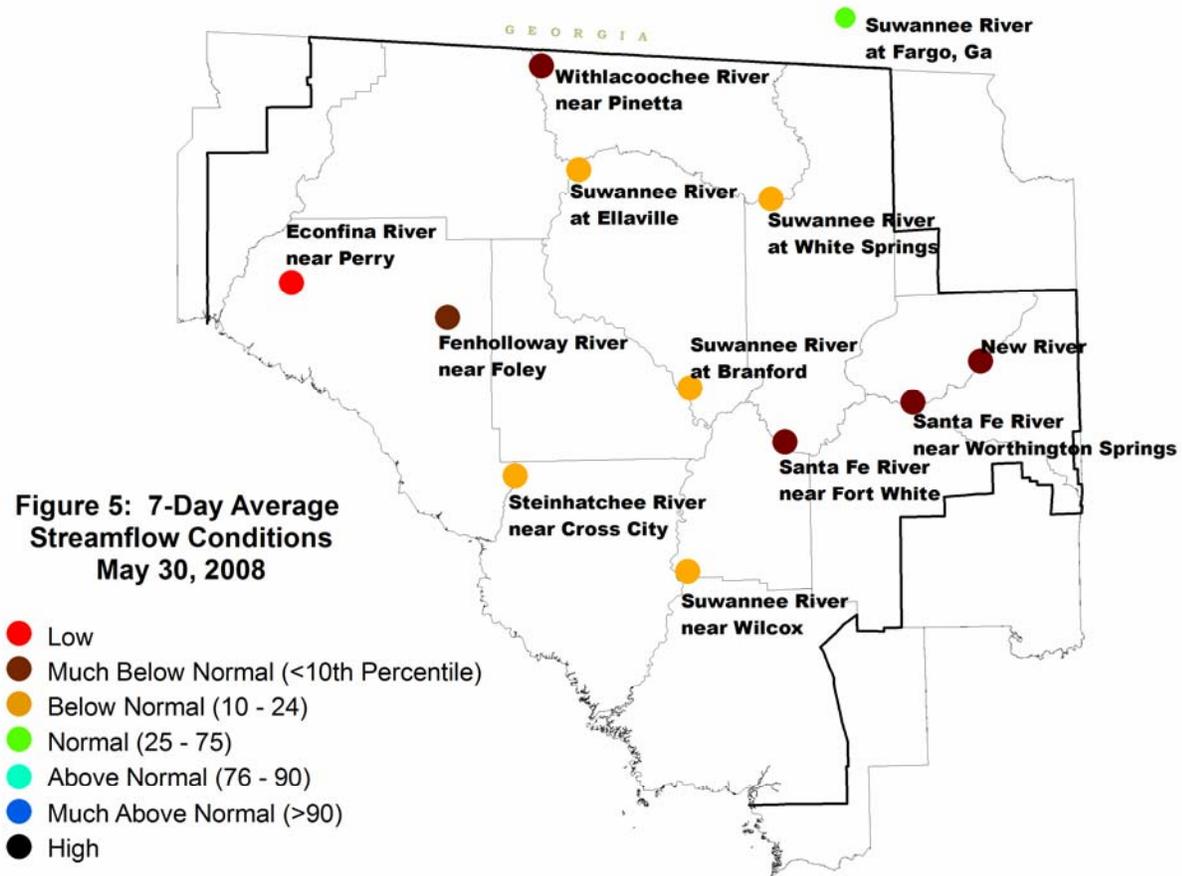


Figure 6: Daily River Flow Statistics

June 1, 2007 through May 31, 2008



RIVER FLOW, CUBIC FEET PER SECOND

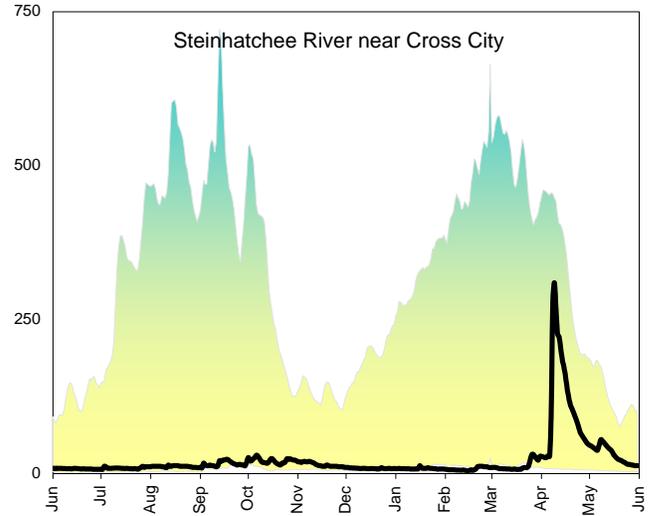
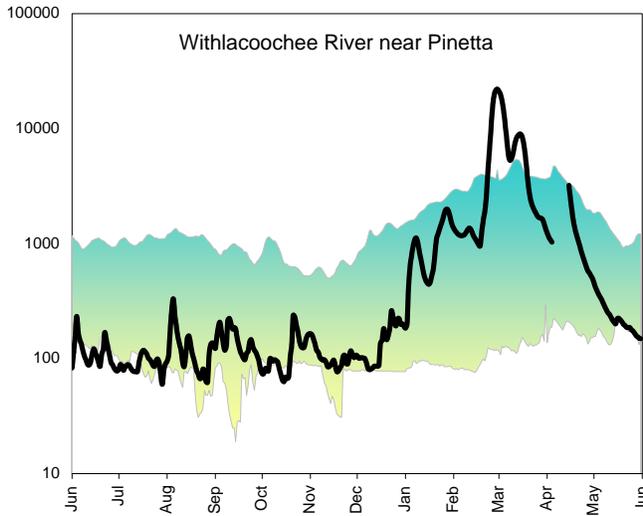
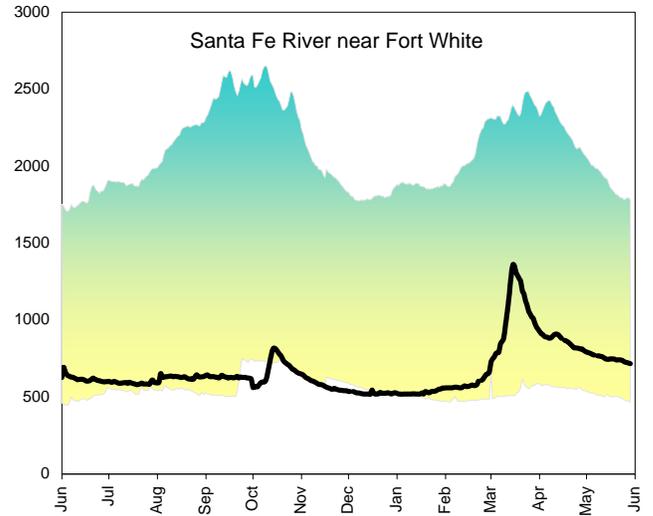
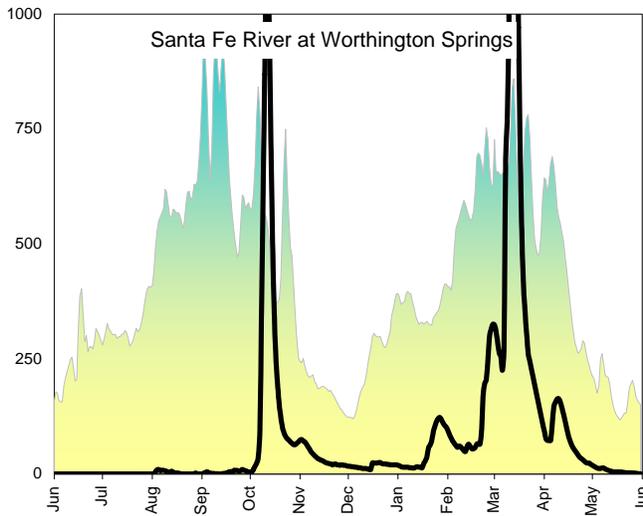
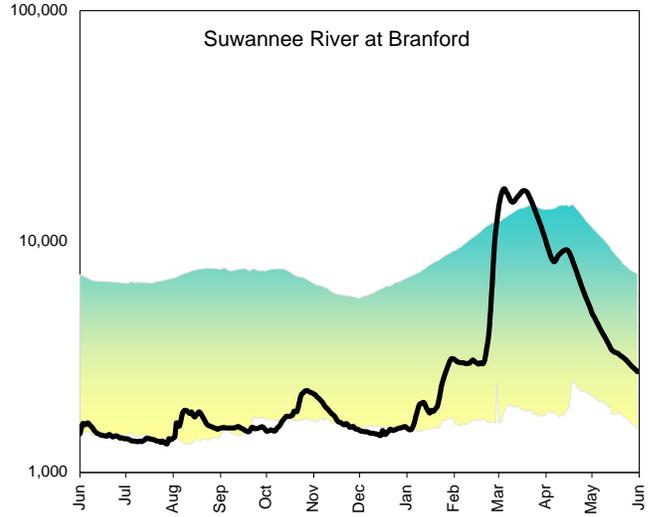
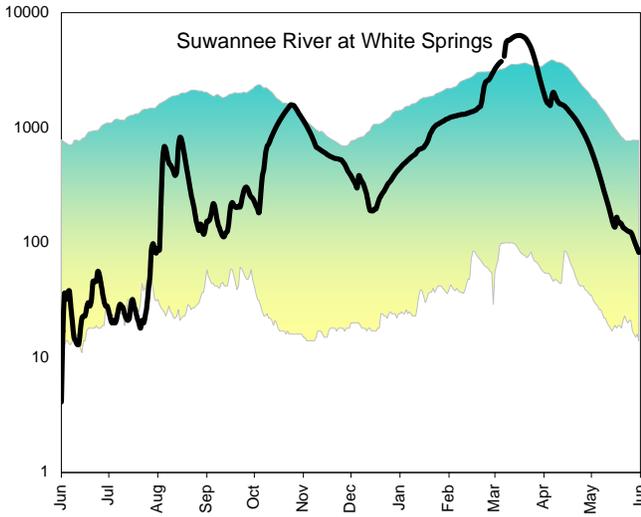
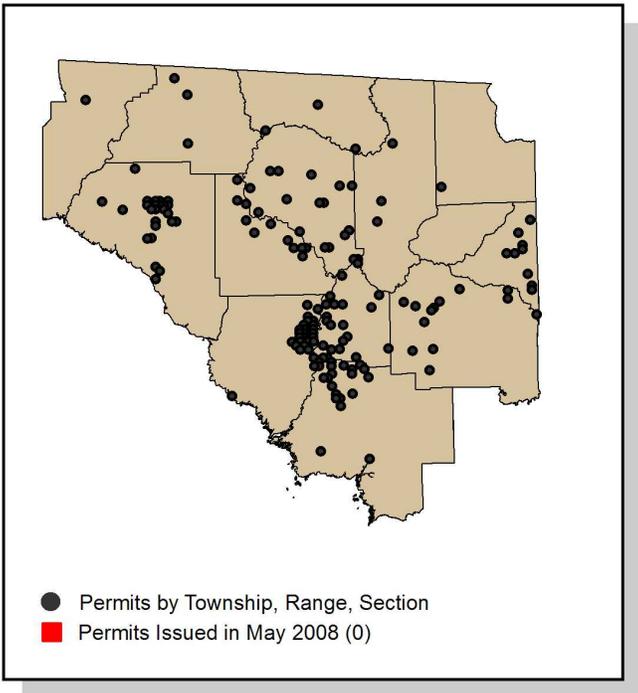
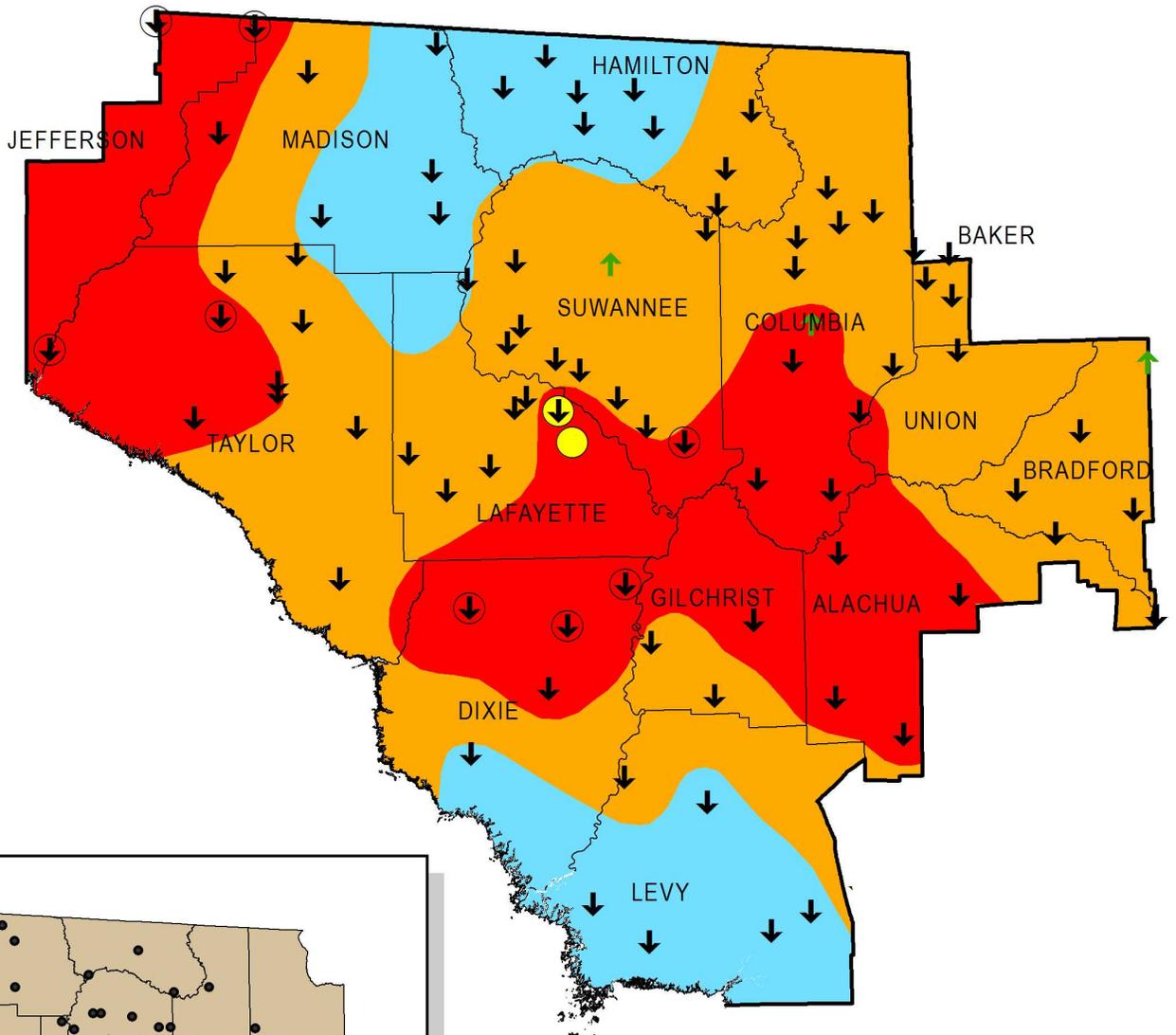


Figure 7: May 2008 Groundwater Levels



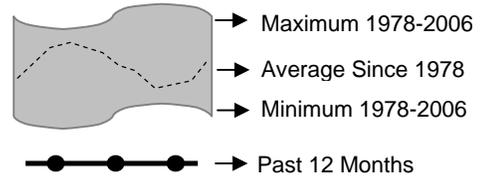
- High
(Greater than 75th Percentile)
- Normal
(25th to 75th Percentile)
- Low
(10th to 25th Percentile)
- Extremely Low
(Less than 10th Percentile)
- Well Level Increase Since Last Month
- Well Level Decrease Since Last Month
- Record Monthly Low
- Historic Low

Inset: Emergency Dry Well Permits
April 1, 2007 - May 31, 2008

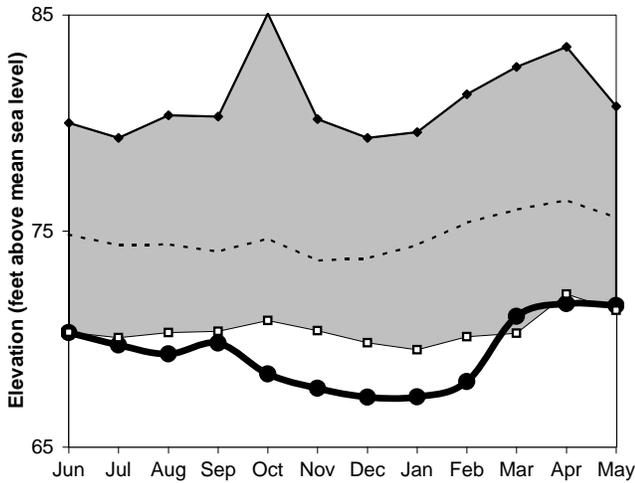
Figure 8: Monthly Groundwater Level Statistics

Levels June 1, 2007 through May 31, 2008

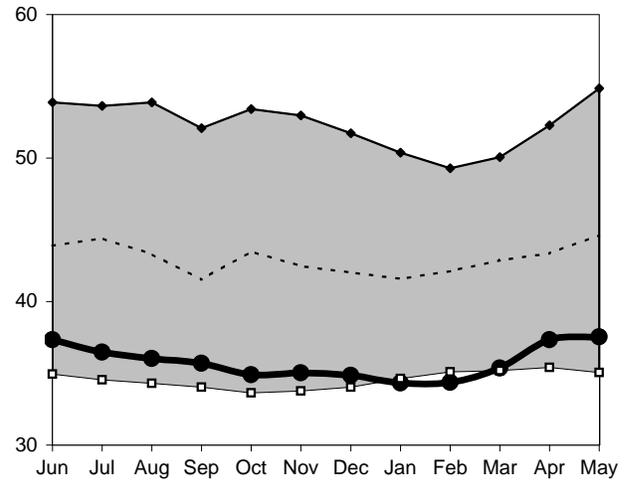
Period of Record Beginning 1978



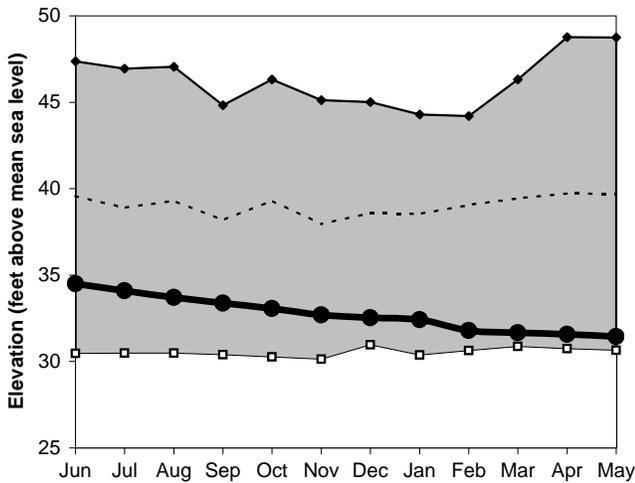
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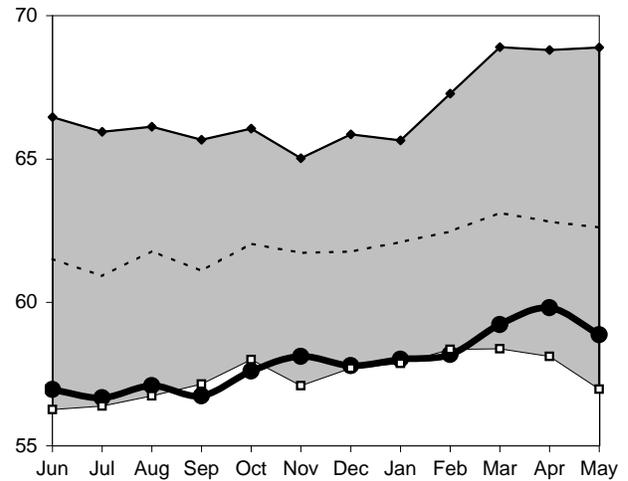
Suwannee County S021335001



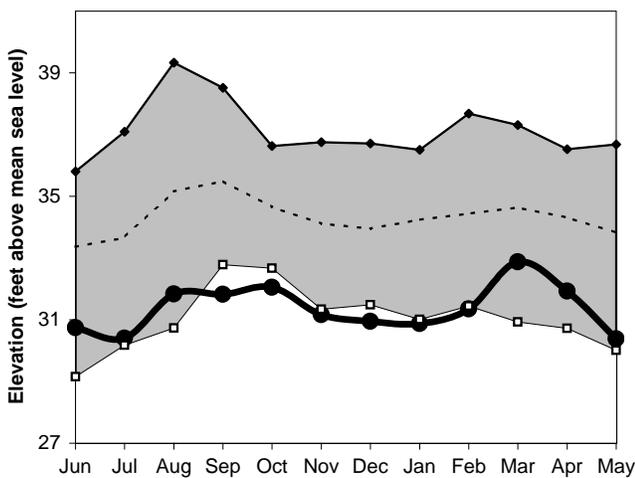
Columbia County S041625001



Bradford County S072132001



Dixie County S101210001



Taylor County S050701001

