

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: July 9, 2009

RE: June 2009 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 (111 wells), surfacewater levels (16 lakes and 11 rivers), river flows (6 stations on 4 rivers), spring flows (5 stations, courtesy of the Florida Department of Environmental Protection and the U.S. Geological Survey), and general hydrological and 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 rainfall in June was 5.70", which is below the long-term monthly average of 6.52" (Table 1, Figure 1). Most of Lafayette, Dixie, and Levy counties saw above-normal rainfall, with some areas receiving more than 10". Figure 2 shows the estimated rainfall accumulation across the District, and Figure 3 shows the rainfall totals as a percent of normal June precipitation.
- Twelve-month rainfall was 1.35" above average. Figure 4 depicts the 12-month surplus/deficit across the District. Figure 5 shows the change in annual deficits beginning in 1998.

SURFACEWATER

- **Rivers:** Major river stations were flowing at higher than normal rates at the beginning of June, but generally fell throughout the month. However, most stations remained within their normal range by June 30 (Figure 6). Discharge statistics for six river stations are presented in Figure 8.
- **Lakes:** Levels at monitored lakes fell by an average of 0.2 feet. Seven of sixteen lakes remained below their long-term average levels. Figure 7 shows levels relative to the long-term average, minimum, and maximum levels for six lakes.

- **Springs:** Average June springflow relative to historical flows is shown for 5 systems in Figure 11. The Suwannee River flowed into White Springs during the first half of the month, but the spring reversed flow once again as the river fell below the springhouse sill.

GROUNDWATER

- Groundwater levels increased in 70% of the District's monitored wells (Figure 9). Eighty-two percent of the levels were above the 25th percentile (normal range). Only 5% were below the 10th percentile, which is considered extremely low. (The percentile is the percentage of historic levels that are equal to or below the observed value.) Significant improvement was observed in the Santa Fe Basin. Statistics for a representative sample of wells are shown in Figure 10.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- The 12-month Standardized Precipitation Index (SPI), based on long-term precipitation patterns that impact streams and groundwater, indicated near-normal conditions throughout the District. The 3-month SPI, which better describes soil moisture deficits, also indicated normal conditions.
- As characterized by the US Geological Survey based on seven-day average streamflow, none of the District's rivers are below normal or in hydrological drought.
- Long-range outlooks from the National Weather Service Climate Prediction Center show probable above-normal precipitation through September.

WATER CONSERVATION

A Phase I Water Shortage Advisory requesting voluntary reductions in water use remains in effect. The District urges all water users to eliminate wasteful and inefficient water use. Water is conserved by using the minimum amount needed and by irrigating 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.

/dd

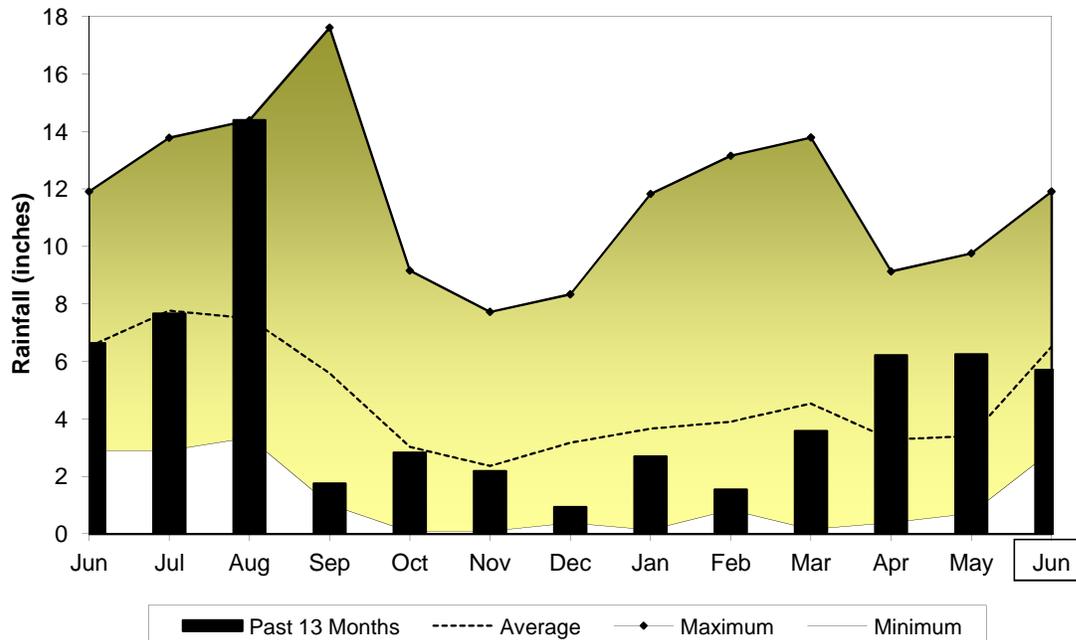
Table 1. Estimated Rainfall Totals

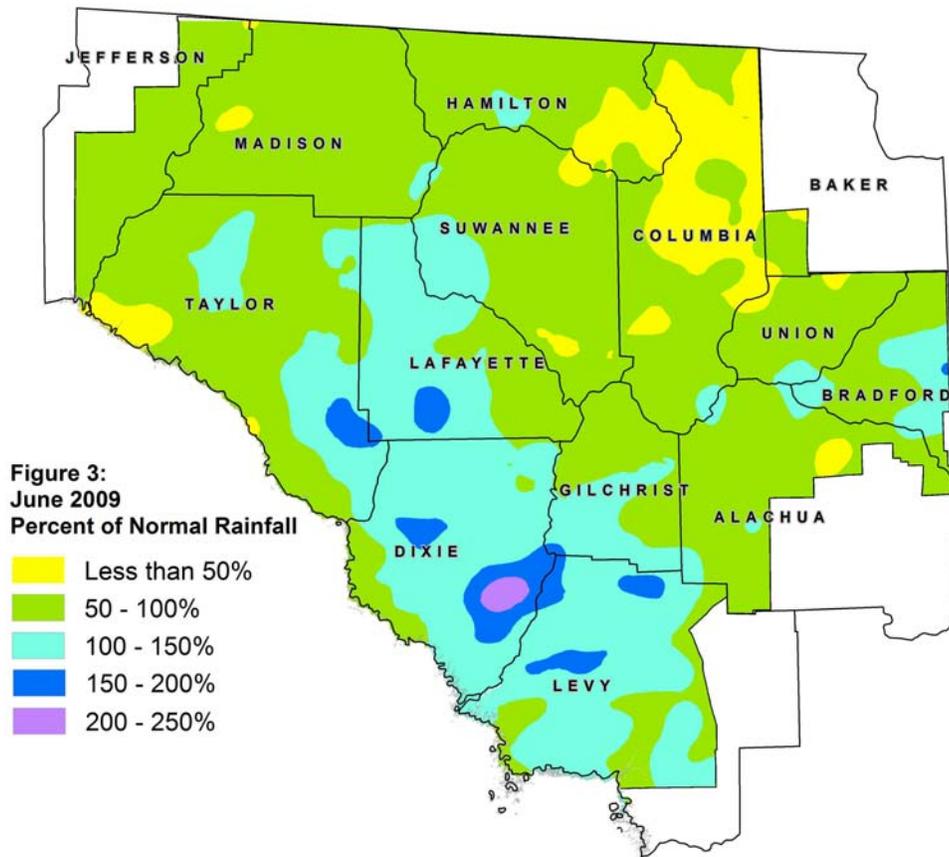
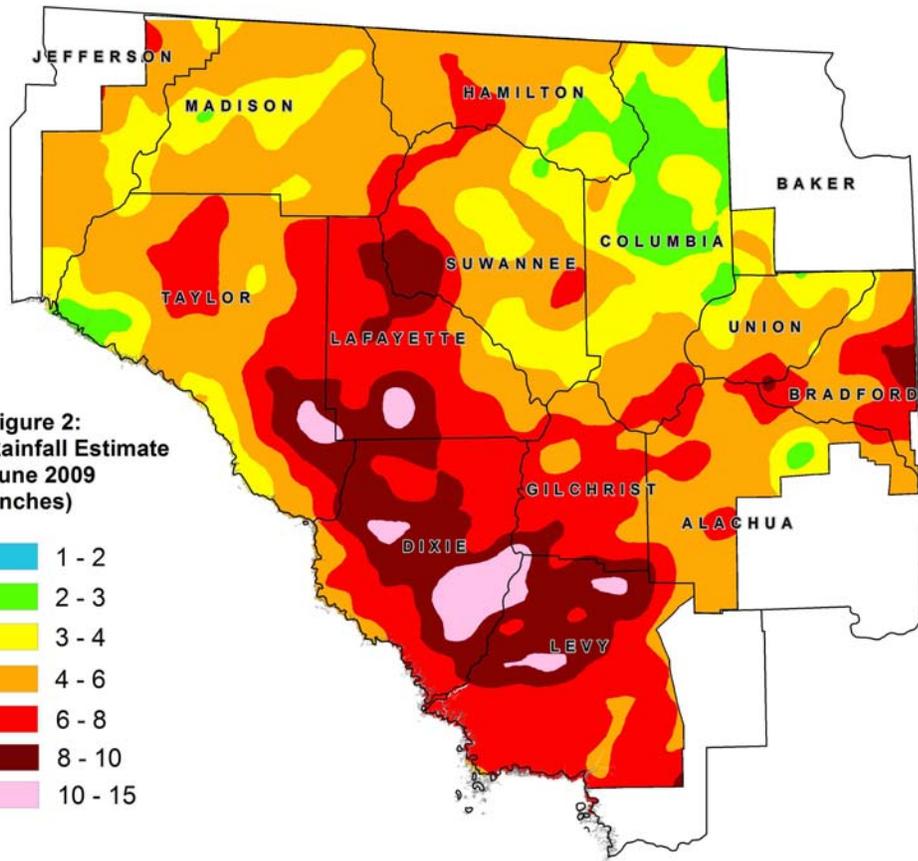
County	June-2009	June-2008	Last 12 Months	June Average
Alachua	5.21	7.01	53.21	6.57
Baker	3.68	4.30	59.56	6.29
Bradford	6.07	4.22	58.88	6.11
Columbia	3.68	6.40	53.09	6.25
Dixie	8.34	7.01	61.34	6.42
Gilchrist	6.69	7.70	54.68	6.43
Hamilton	4.57	5.63	51.52	6.13
Jefferson	4.53	3.57	60.84	6.09
Lafayette	7.27	7.36	58.47	6.25
Levy	7.65	8.34	55.64	6.87
Madison	4.52	5.23	60.96	6.08
Suwannee	5.03	8.59	52.78	6.20
Taylor	5.62	5.28	57.11	6.93
Union	4.47	4.75	50.81	6.78

June 2009 Average: 5.70
 Historical June Average: 6.52
 Historical 12-month Average: 54.68
 Past 12-Month Total: 56.03
 12-month Rainfall Surplus: 1.35

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall





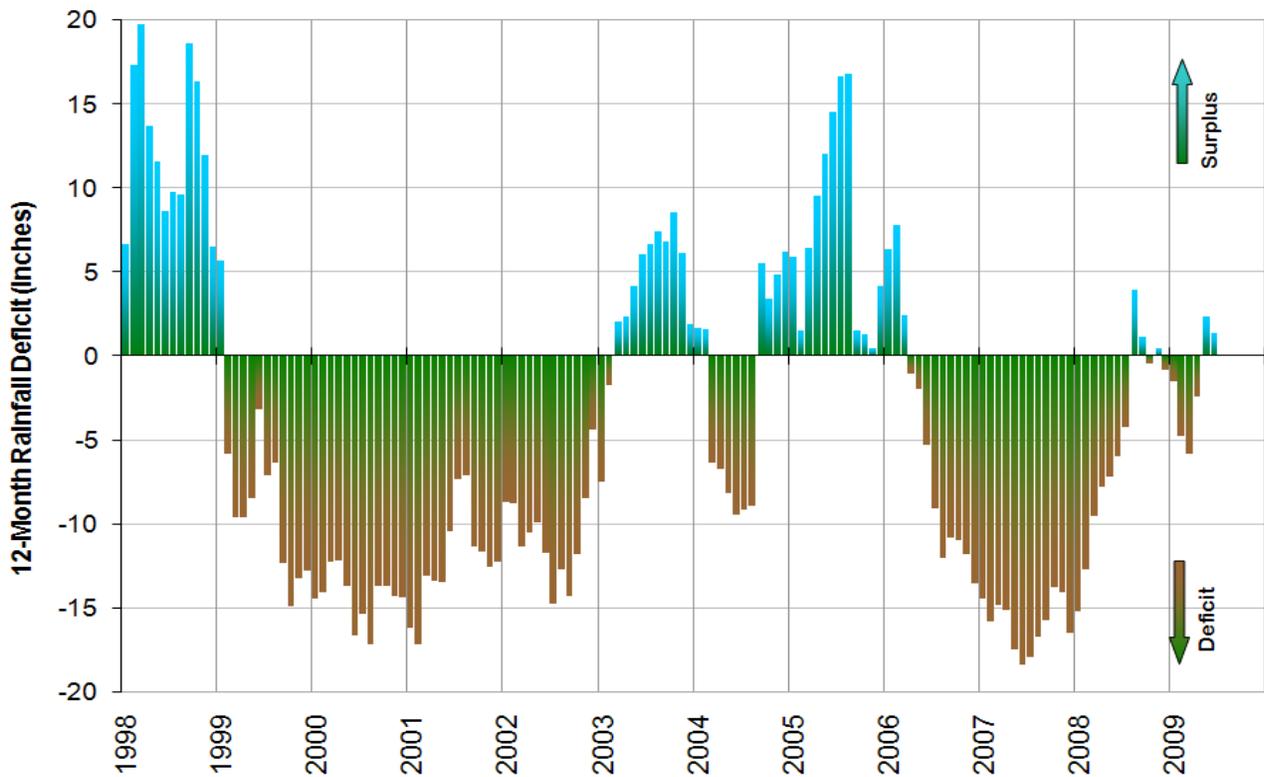
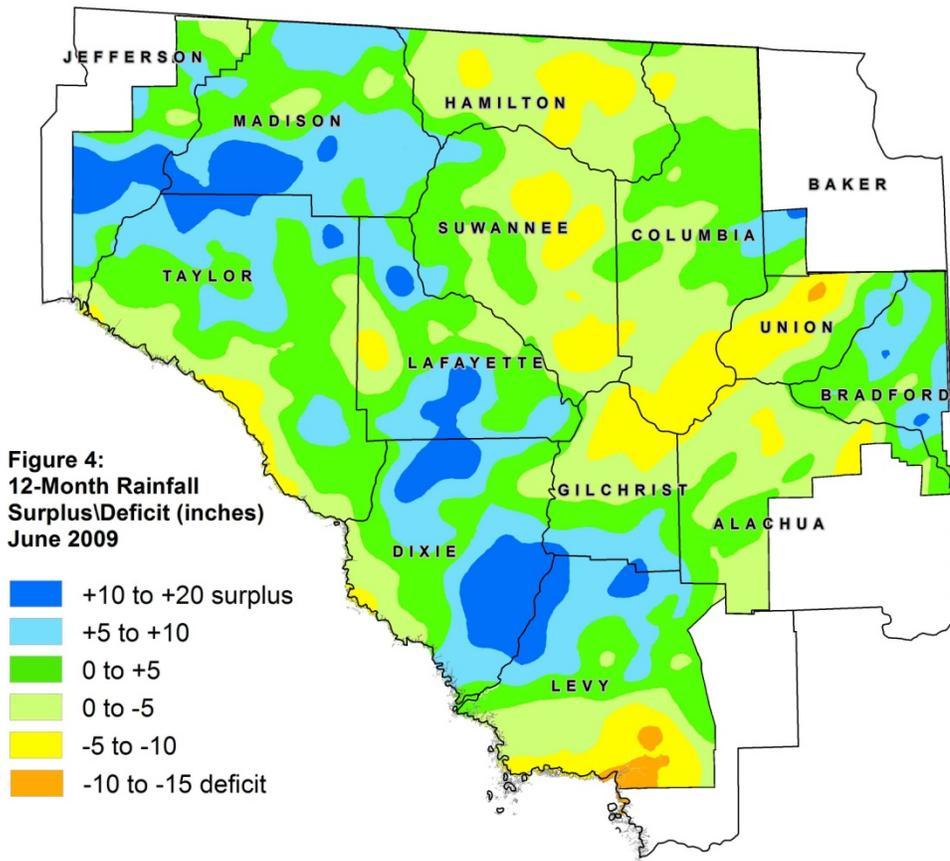


Figure 5: 12-month rolling rainfall deficit (difference between the rainfall that fell during any 12-month period and the long-term average expected over the same period, January 1998-June 2009)

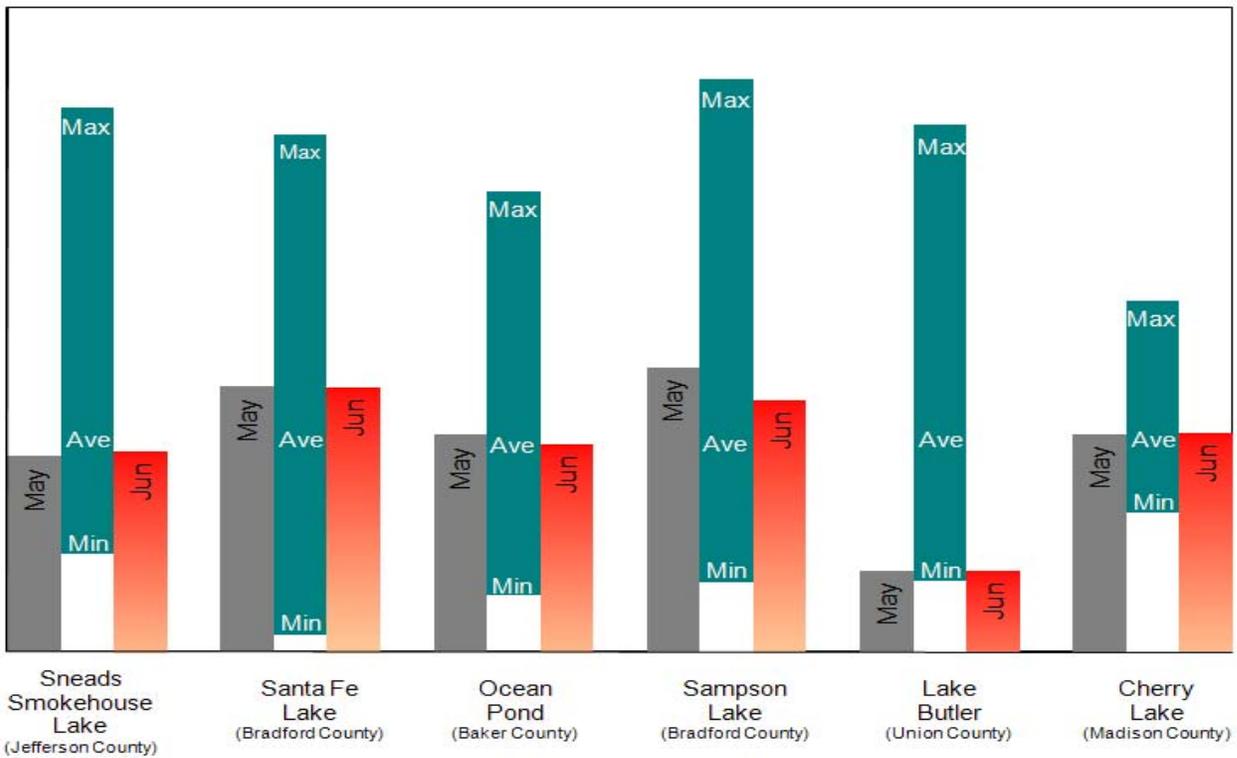
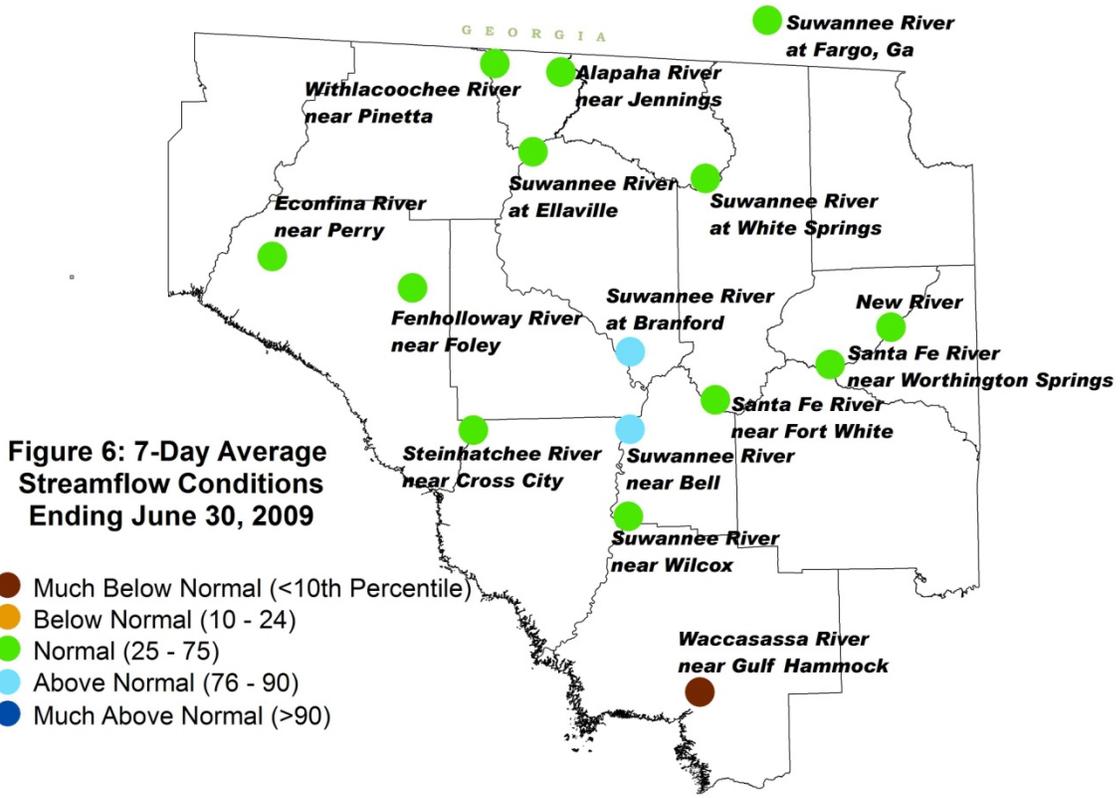
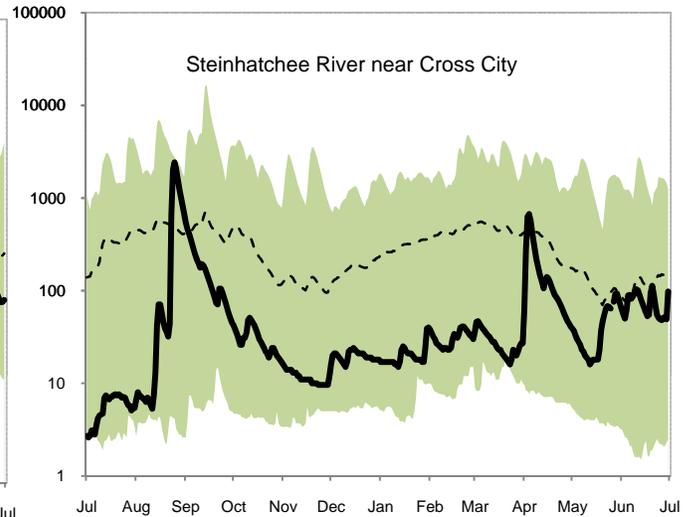
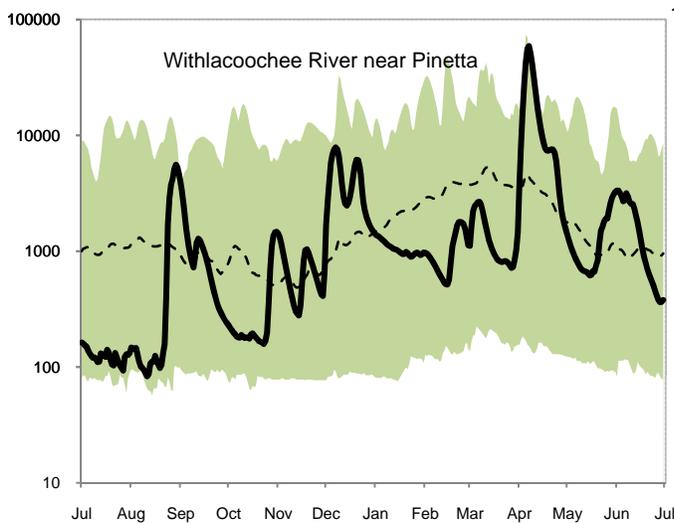
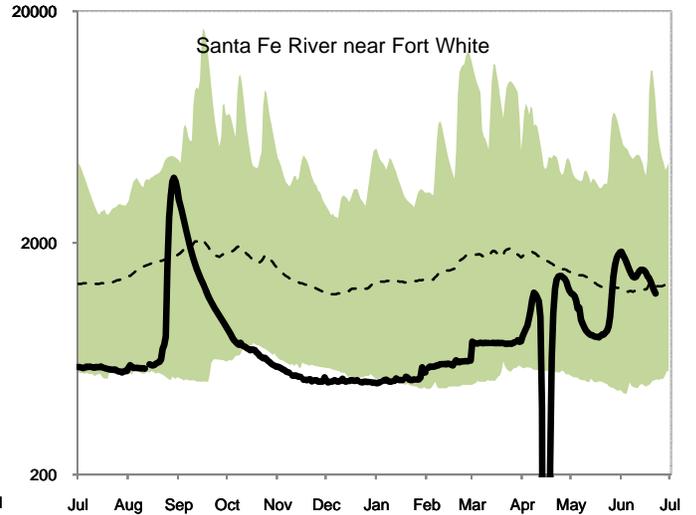
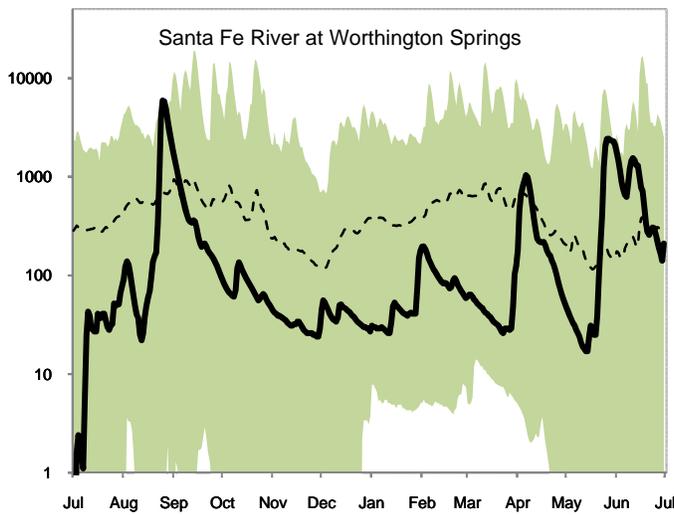
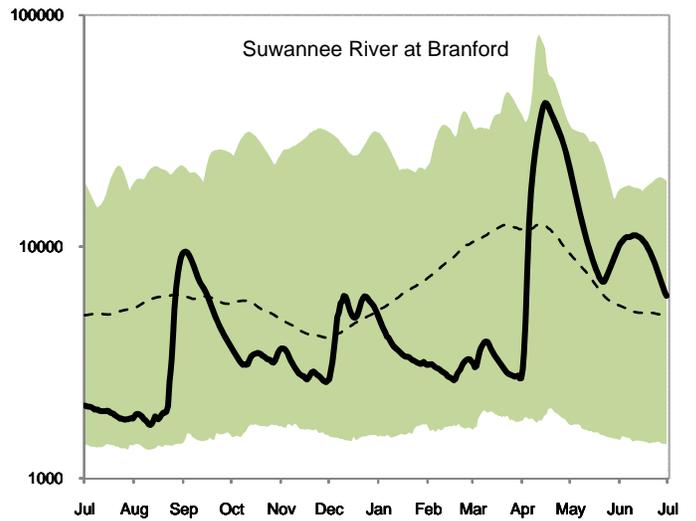
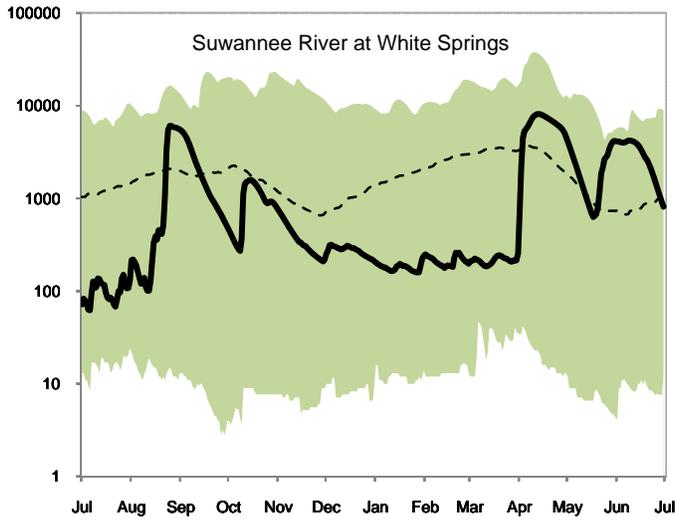
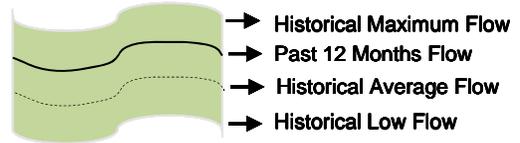


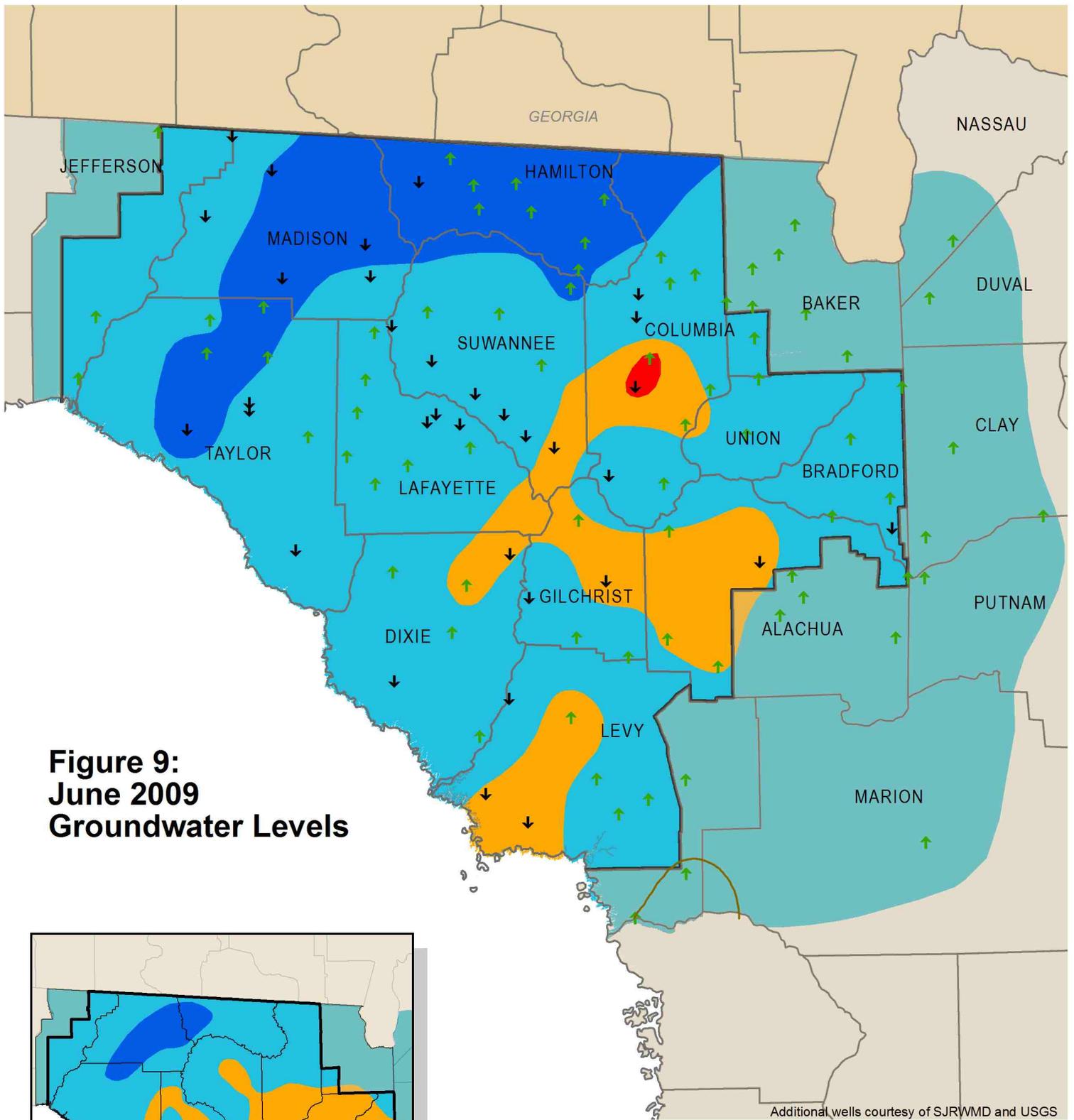
Figure 7: Lake levels, relative to historic maximum, minimum, and average levels.

Figure 8: Daily River Flow Statistics

July 1, 2008 through June 30, 2009

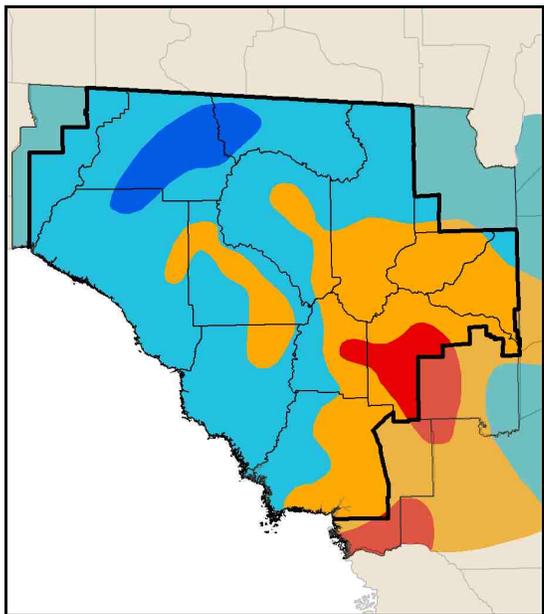


RIVER FLOW, CUBIC FEET PER SECOND



Additional wells courtesy of SJRWMD and USGS

**Figure 9:
June 2009
Groundwater Levels**



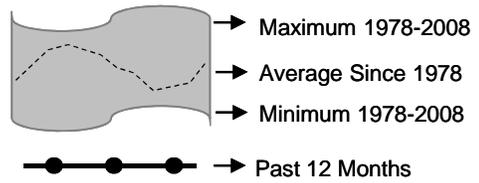
Inset: May 2009 Groundwater Levels

- High
(Greater than 75th Percentile)
- Normal
(25th to 75th Percentile)
- Low
(10th to 25th Percentile)
- Extremely Low
(Less than 10th Percentile)
- ↑ ↓ Increase/decrease in level since last month
- District Boundary

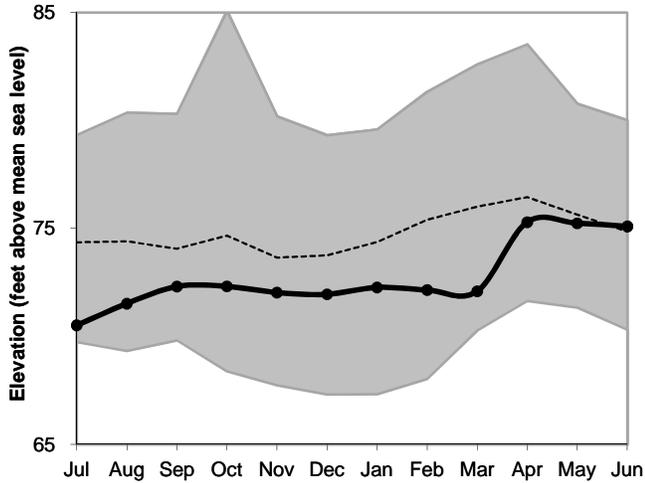
Figure 10: Monthly Groundwater Level Statistics

Levels July 1, 2008 through June 30, 2009

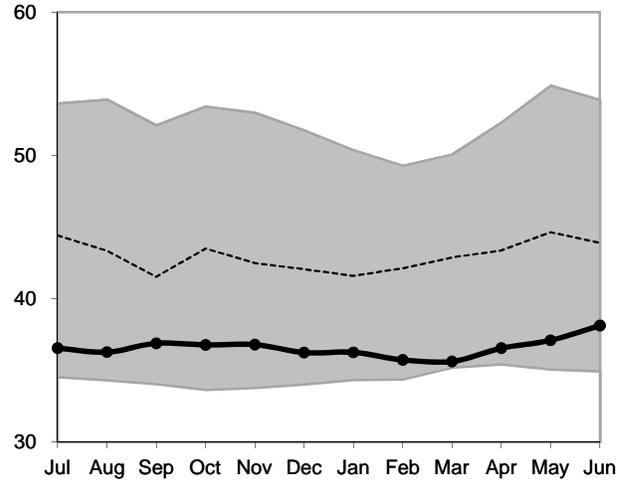
Period of Record Beginning 1978



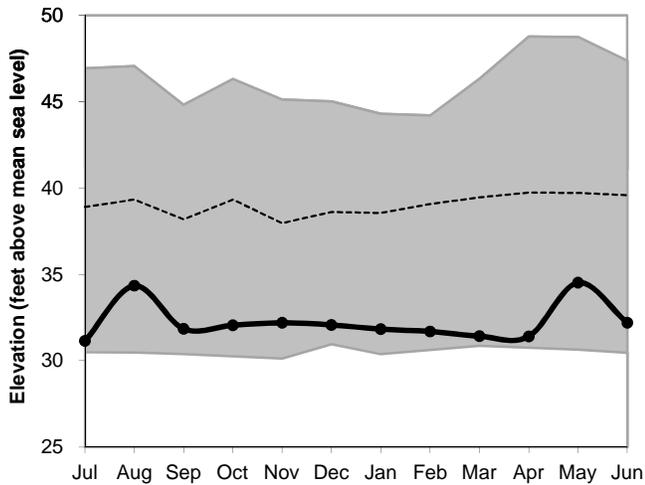
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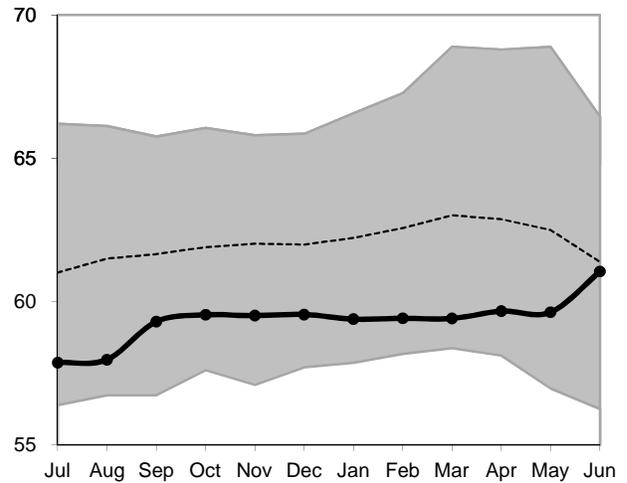
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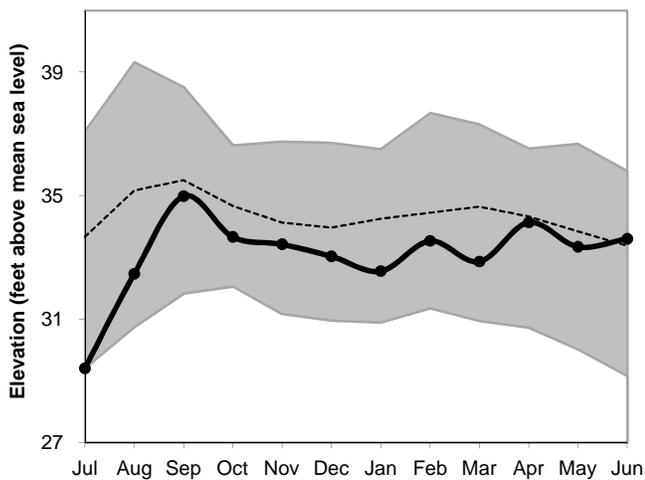
Columbia County S041625001



Bradford County S072132001



Dixie County S101210001



Taylor County S050701001

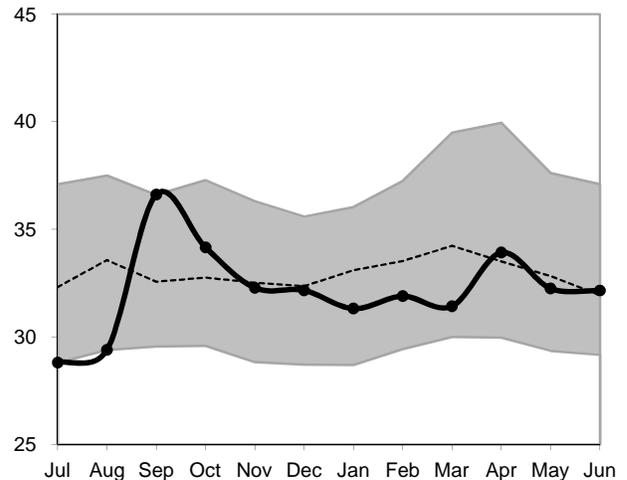
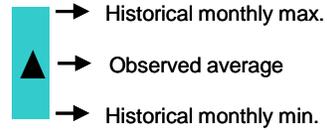


Figure 11: Monthly Springflow Statistics

Flows July 1, 2008 through June 30, 2009
 Springflow data are given in cubic feet per second.
 Period of record beginning 2002. Data are provisional.



Note: Rising river levels caused by high tides or flooding can cause springflow to slow or reverse.

Springflow for months marked by an asterisk (*) was strongly affected by river conditions.

Data for these months will be revised once approved and published by the U.S. Geological Survey.

