

MEMORANDUM

TO: Governing Board

FROM: Megan Wetherington, P.E., Senior Professional Engineer *MW*

THRU: David Still, Executive Director *DS*
Jon Dinges, Department Director *JMD*

DATE: July 6, 2010

RE: June 2010 Hydrologic Conditions Report for the District

RAINFALL

- Average District rainfall in June was 6.54", nearly equal to the District's long-term average of 6.50" (Table 1, Figure 1). Distribution was uneven and typical of summer "hit or miss" convective rainfall patterns. While most of the Suwannee River Basin received above-average rain, the Santa Fe Basin, the Waccasassa Basin in Levy County, and Jefferson, Madison, and Taylor counties were below average, with localized areas significantly below average. Figure 2 shows the estimated rainfall accumulation, and Figure 3 shows the rainfall totals as a percent of normal June precipitation.
- Rainfall for the past twelve months was 58.61". The twelve-month surplus was 3.93". Figure 4 depicts the 12-month surplus/deficit across the District. Figure 5 shows the change in annual deficits beginning in 1998.

SURFACEWATER

- **Rivers:** Flows at Suwannee River and upper Santa Fe River gages remained near median seasonal conditions. The Santa Fe River near Fort White on the lower Santa Fe remained below the 25th percentile for the second month in a row (the percentile is the percentage of historic levels or flows for the month that are equal to or below the month's observed values). Conditions in the Fenholloway, Econfina, and Waccasassa rivers were above average, but in a range considered normal for the time of year. The Steinhatchee River remained above normal. Discharge statistics for six river stations are presented in Figure 6 and streamflow conditions for major gages are shown in Figure 7.
- **Lakes:** Levels at most monitored lakes fell, continuing a gradual decline since February. Eleven of the 16 monitored lakes fell below or remained below their long-term average levels, compared to ten in May. Levels at Waters Lake and Governor Hill Lake remained below the minimum measurable stage. Lake Butler in Union County rose to its highest stage since 2006 but remained below its long-term average. Figure 8 shows

levels relative to the long-term average, minimum, and maximum levels for six lakes.

- **Springs:** Average June flow relative to historical flows is shown for four spring systems in Figure 11.

GROUNDWATER

Conditions continued to decline, with levels in 84 percent of monitored wells dropping by an average of 0.6 feet (Figure 9). Conditions averaged across the District remained above the 50th percentile based on records beginning in 1978. Levels in Taylor County were above the 80th percentile, while levels in Gilchrist County and the SRWMD portion of Alachua County fell below the 30th percentile. Statistics for a representative sample of wells are shown in Figure 10.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- The Palmer Drought Severity Index (PDSI), a climatological tool produced by the National Weather Service, evaluates the scope, severity, and frequency of prolonged periods of abnormally dry or wet weather using precipitation, temperature, and soil moisture data. The PDSI indicated near normal conditions during June.
- Long-term forecasts from the National Weather Service predict the likelihood of above-normal rainfall through the summer, based on a potentially active hurricane season.

CONSERVATION

Homeowners and others within the District are required to limit landscape irrigation to two days per week, based on a year-round water conservation rule that applies to residential landscaping, public or commercial recreation areas, and public and commercial businesses that aren't regulated by a District-issued permit. The District offers a variety of free water conservation information to the public via its website and by request.

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 (115 wells), surfacewater levels (16 lakes and 11 rivers), river flows (15 stations), spring flows (4 stations), 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.

MW/bmp

cc: Charles H. Houder, III, Assistant Executive Director

Table 1: Estimated Rainfall Totals

County	June-2010	June-2009	Last 12 Months	June Average
Alachua	6.18	5.21	51.74	6.57
Baker	5.92	3.68	47.82	6.29
Bradford	4.83	6.07	49.41	6.11
Columbia	6.33	3.68	51.50	6.25
Dixie	8.26	8.34	57.04	6.42
Gilchrist	7.27	6.69	51.26	6.43
Hamilton	7.00	4.57	54.42	6.13
Jefferson	4.29	4.53	65.71	6.09
Lafayette	7.94	7.27	63.58	6.25
Levy	6.21	7.65	60.88	6.87
Madison	5.71	4.52	60.44	6.08
Suwannee	7.82	5.03	57.56	6.20
Taylor	5.99	5.62	65.04	6.93
Union	5.44	4.47	49.94	6.78

June 2010 Average: 6.54
 Historical June Average (since 1932): 6.50
 Historical 12-month Average (since 1932): 54.68
 Past 12-Month Total: 58.61
 12-month Rainfall Surplus: 3.93

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall

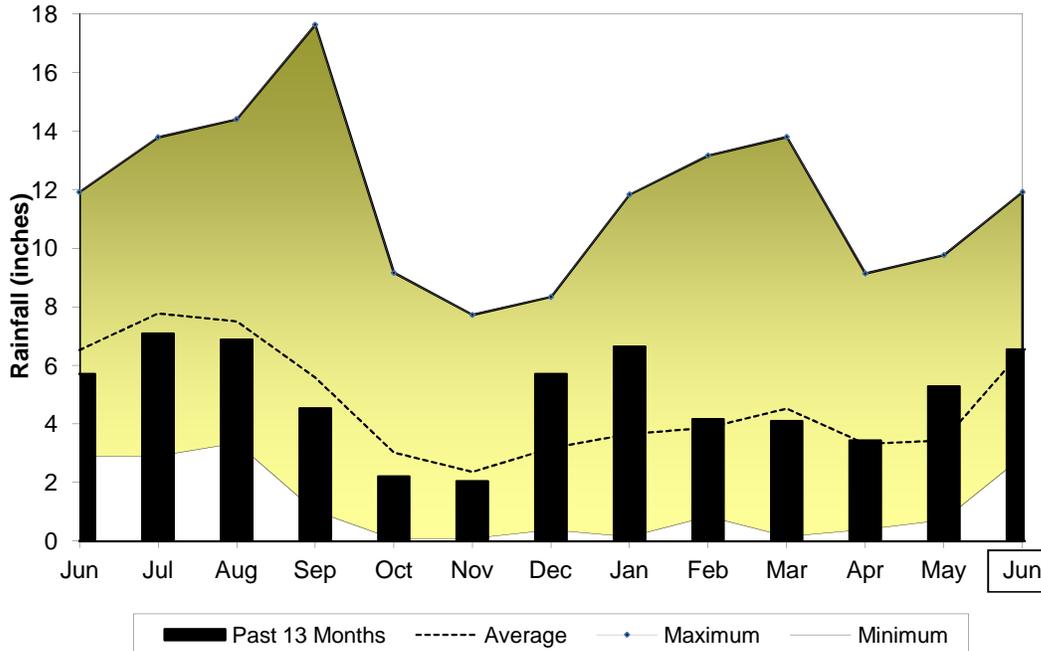


Figure 2: June 2010 Rainfall Estimate

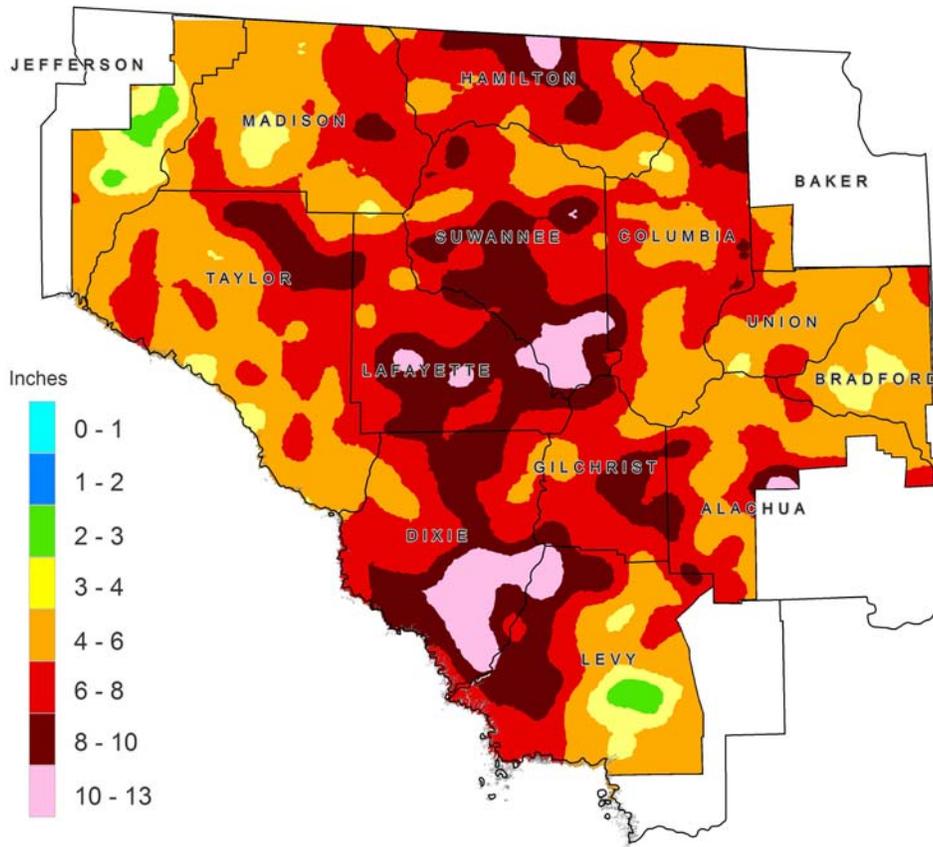


Figure 3: June 2010 Percent of Normal Rainfall

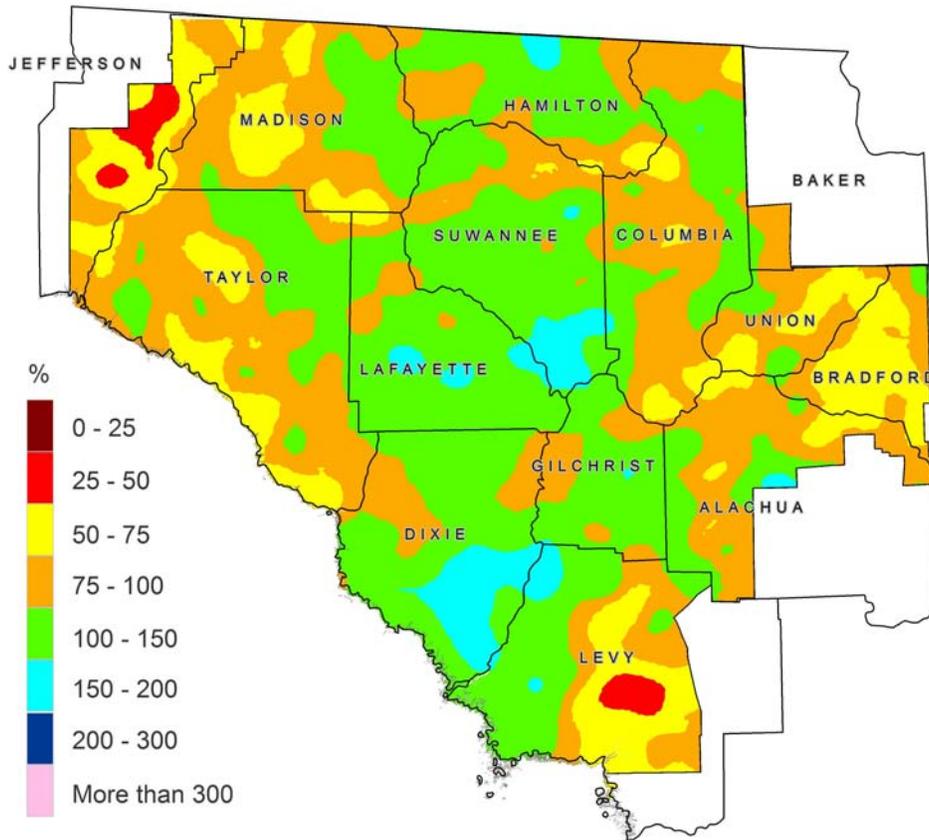


Figure 4: June 2010 Rainfall Surplus/Deficit

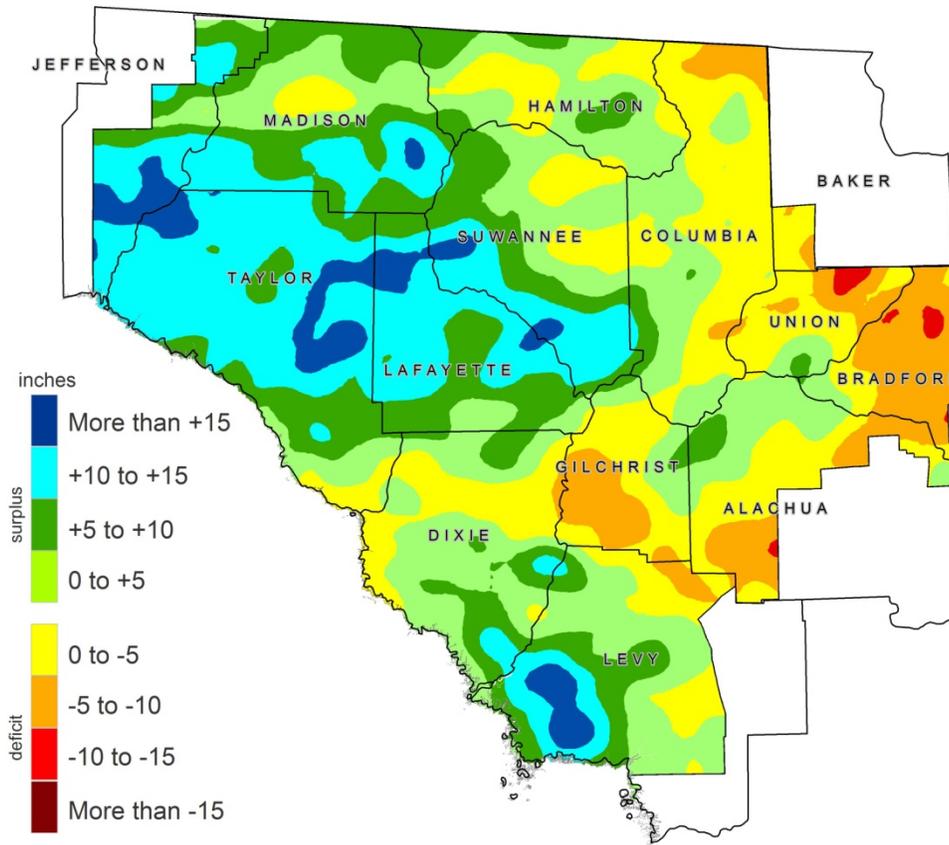


Figure 5: 12-month Rolling Rainfall Deficit Since 1998

Difference between observed 12-month rainfall and the long-term average over the same period

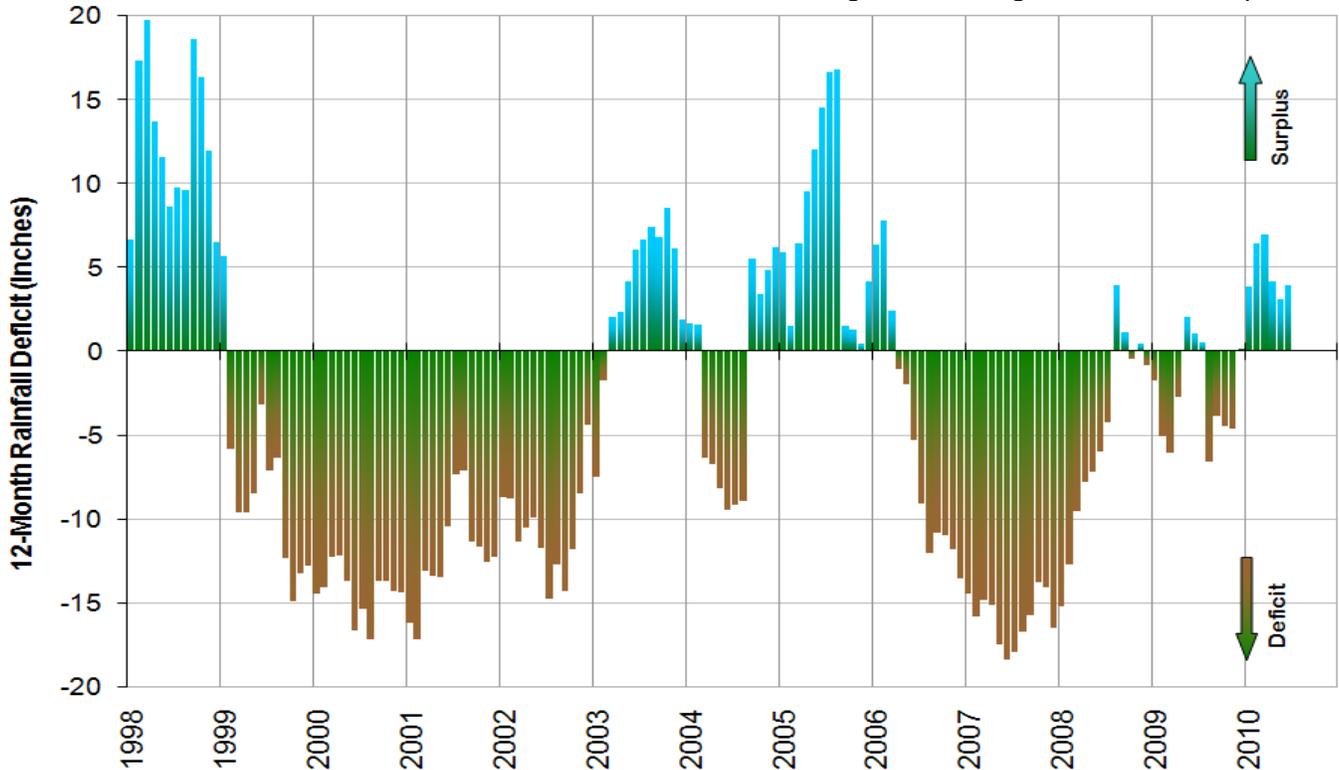
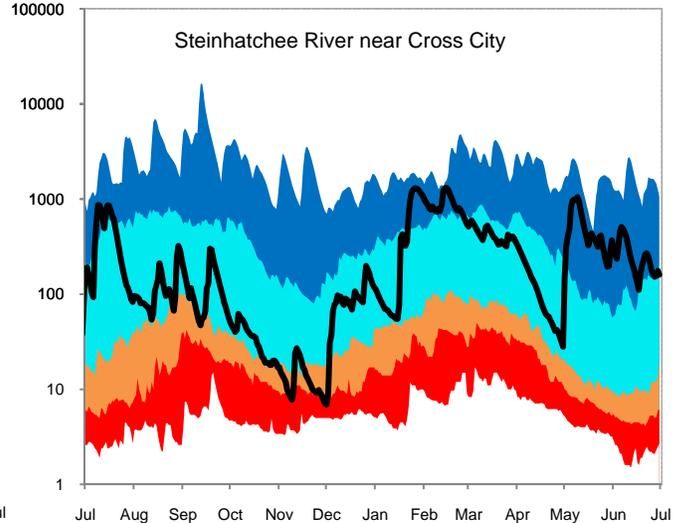
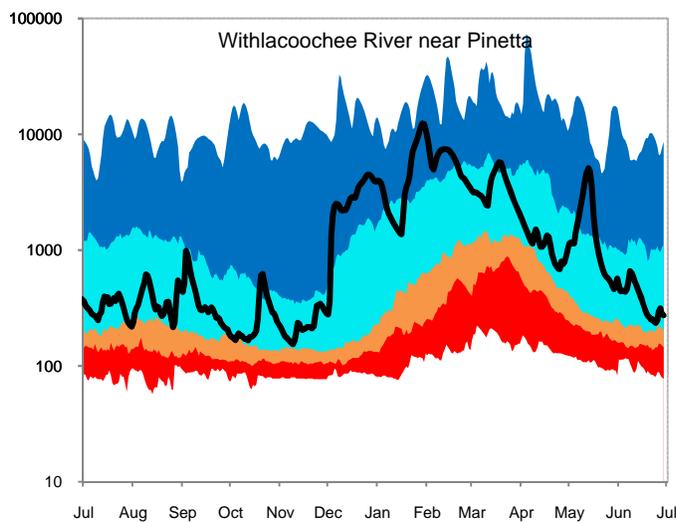
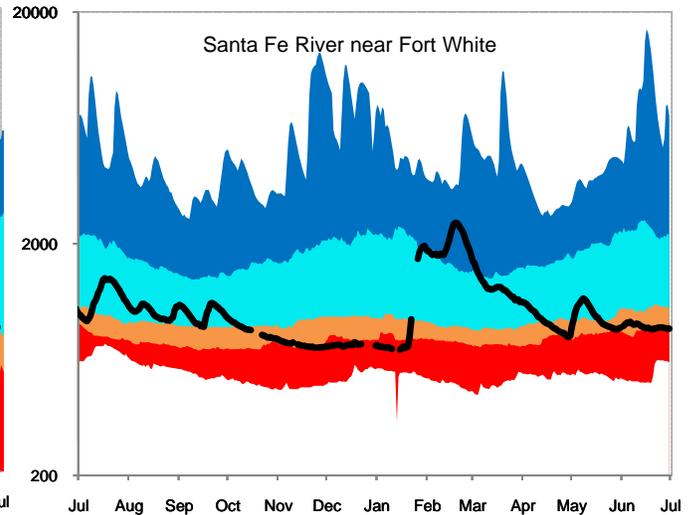
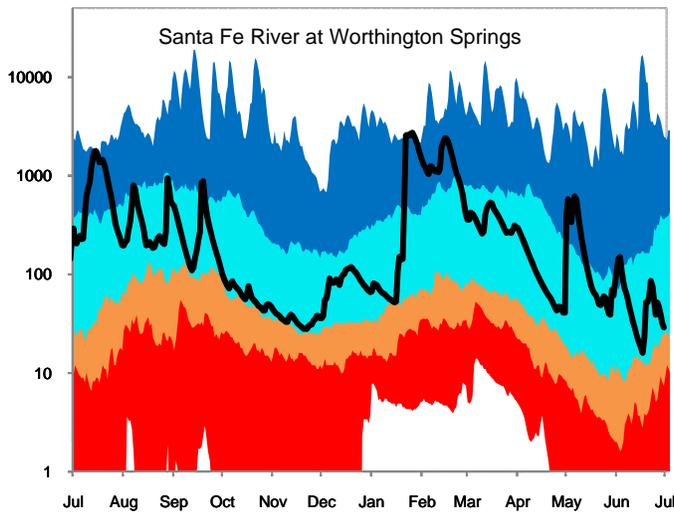
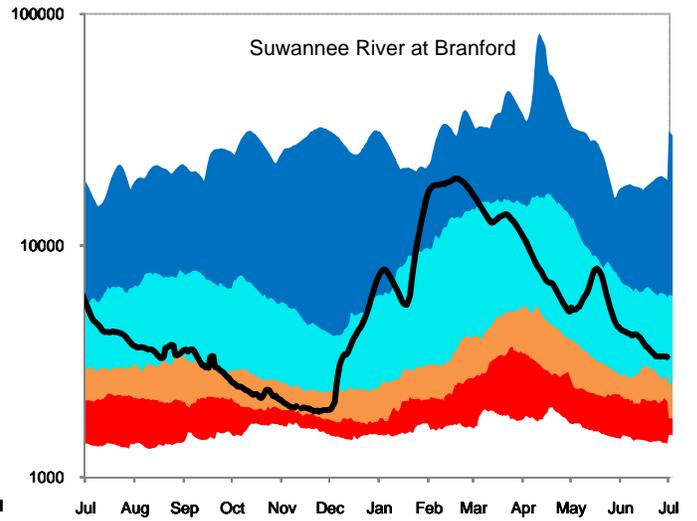
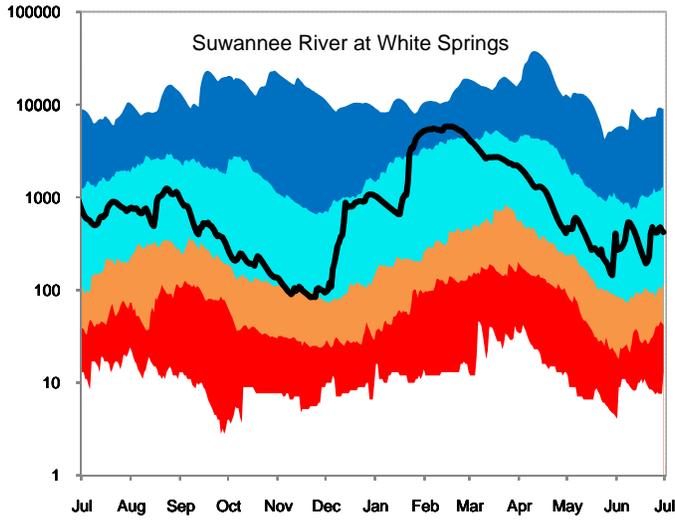
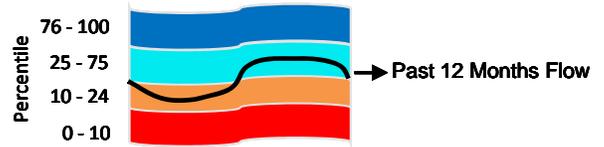


Figure 6: Daily River Flow Statistics

July 1, 2009 through June 30, 2010



RIVER FLOW, CUBIC FEET PER SECOND

Figure 7: June 2010 Streamflow Conditions

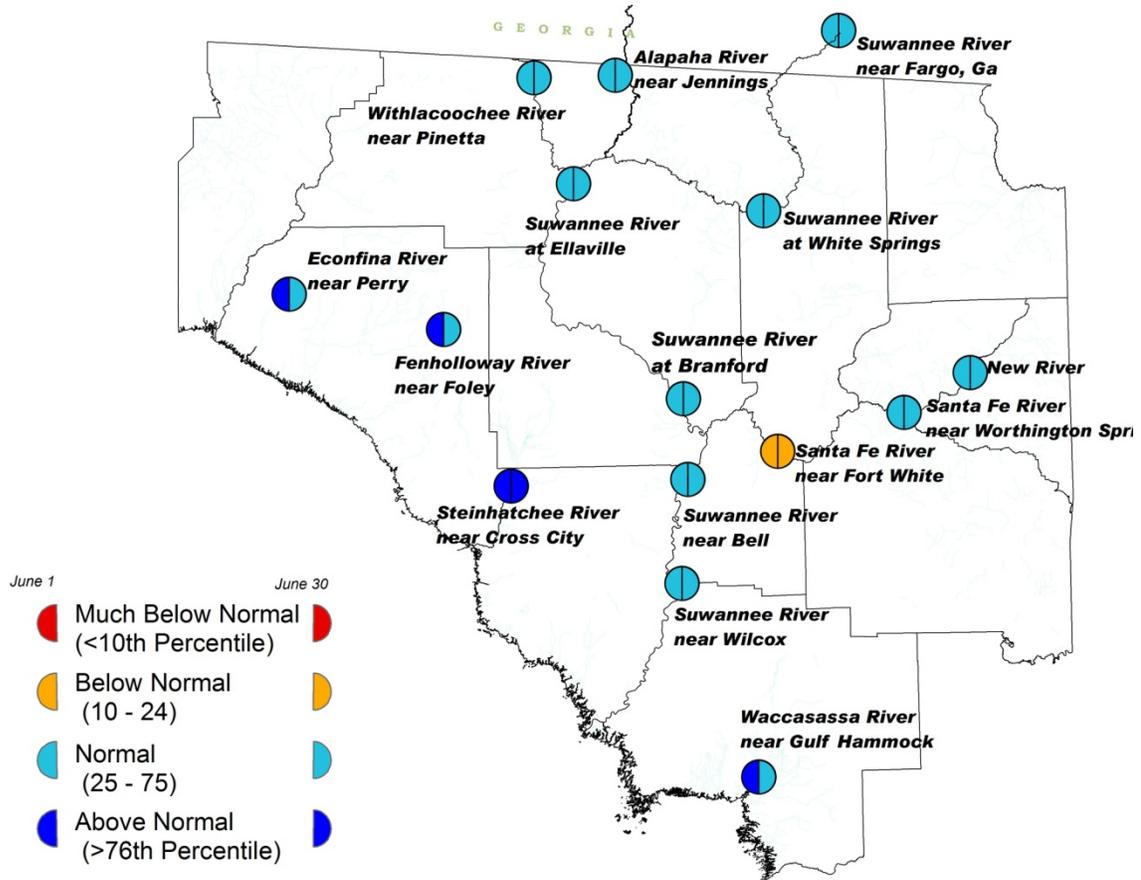
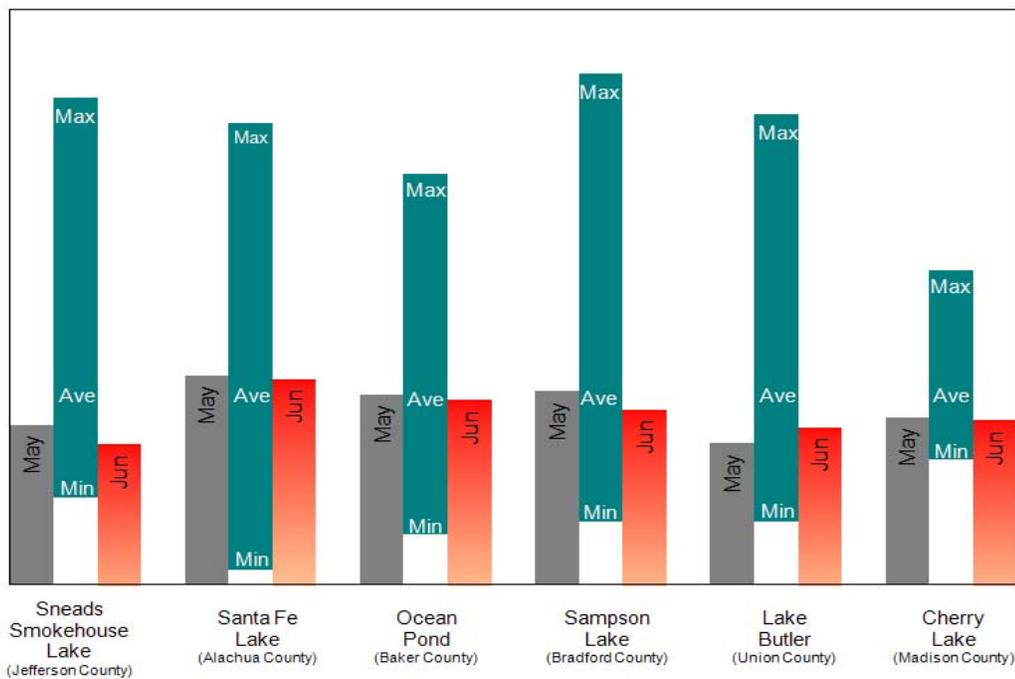


Figure 8: Lake levels, relative to historic maximum, minimum, and average levels.



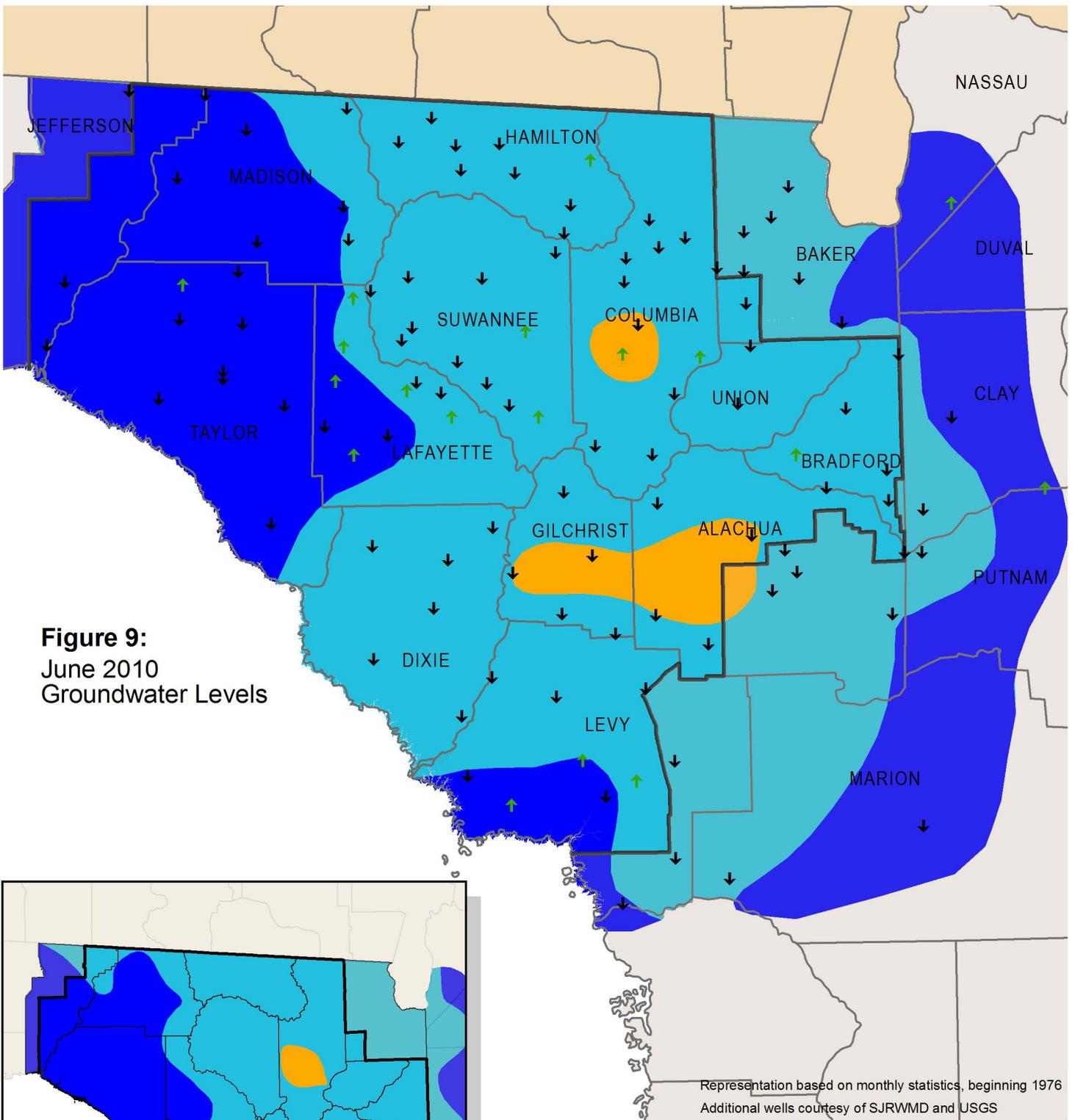
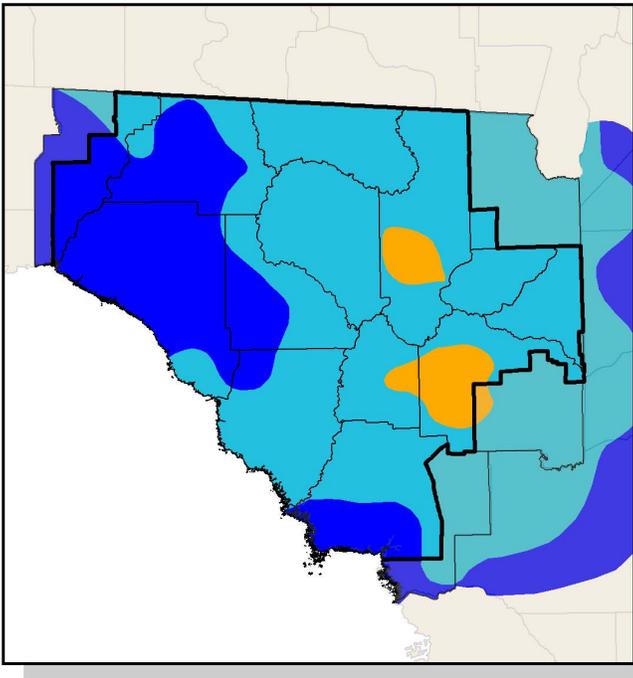


Figure 9:
June 2010
Groundwater Levels



Inset: May 2010 Groundwater Levels

Representation based on monthly statistics, beginning 1976
Additional wells courtesy of SJRWMD and USGS

- 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, 2009 through June 30, 2010

Period of Record Beginning 1978

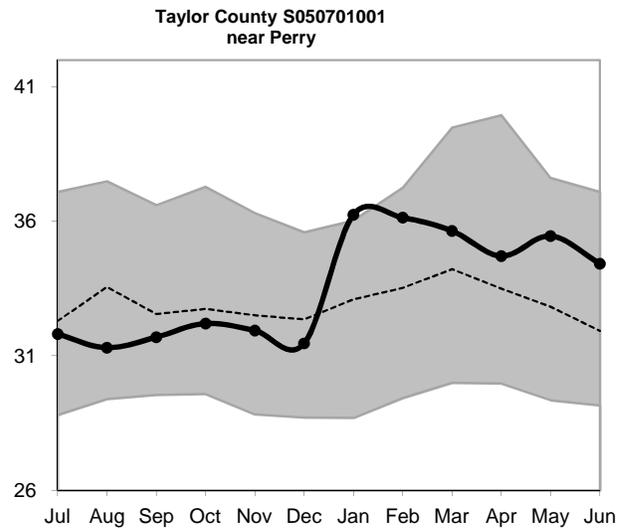
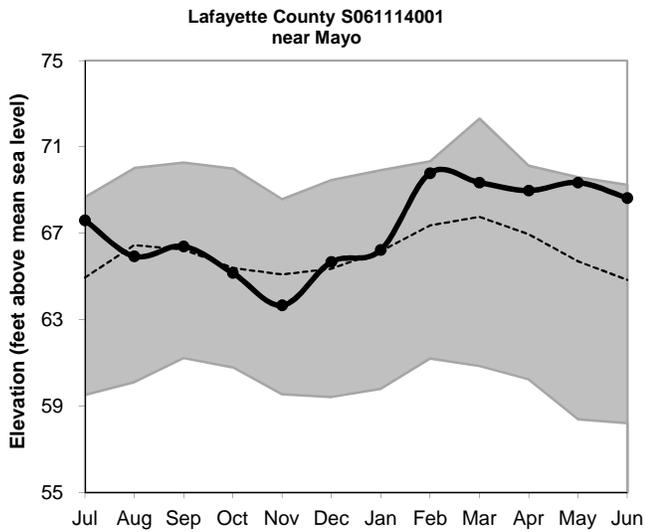
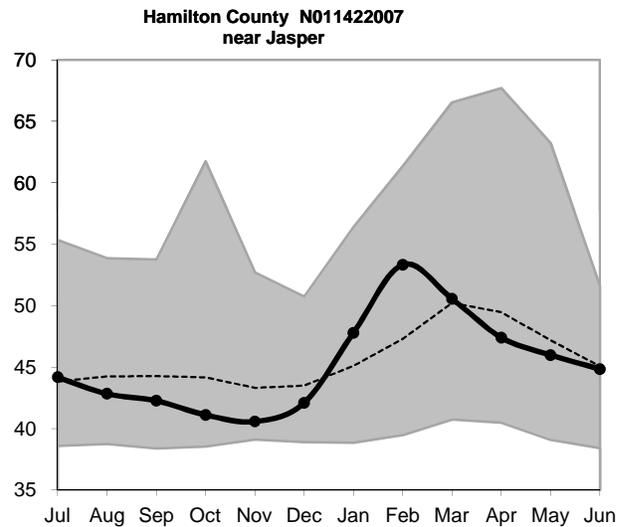
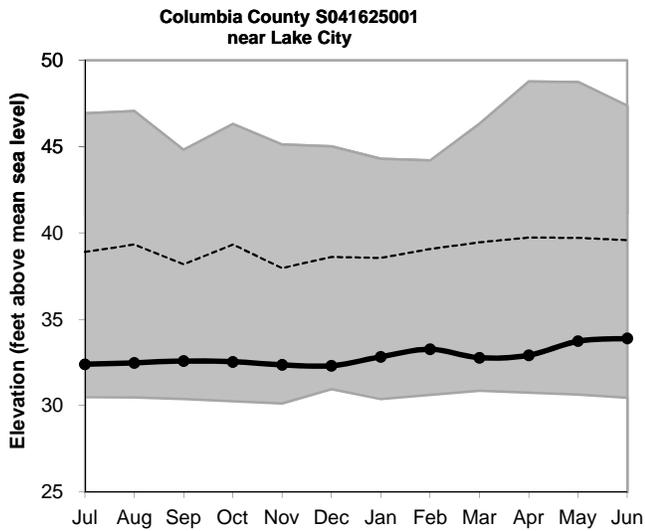
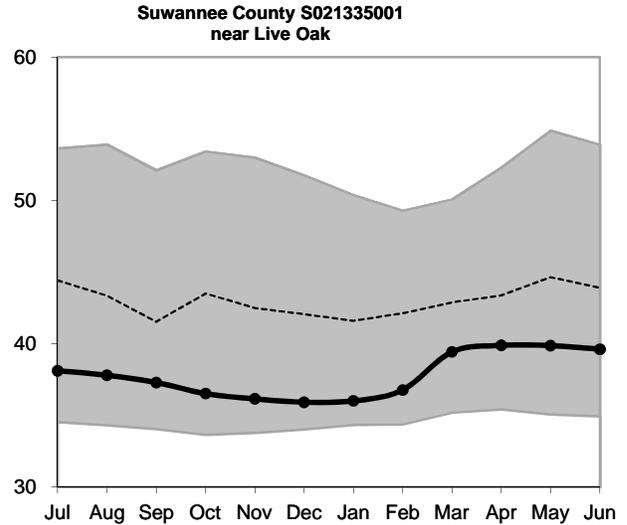
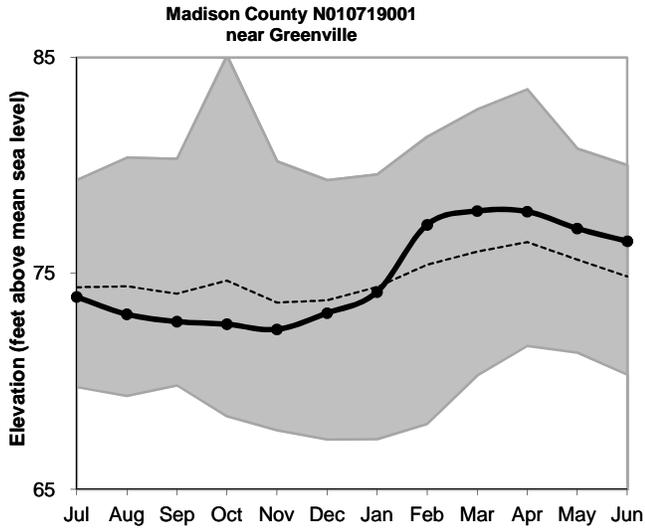


Figure 10, cont.: Monthly Groundwater Level Statistics
 Levels July 1, 2009 through June 30, 2010
 Period of Record Beginning 1978

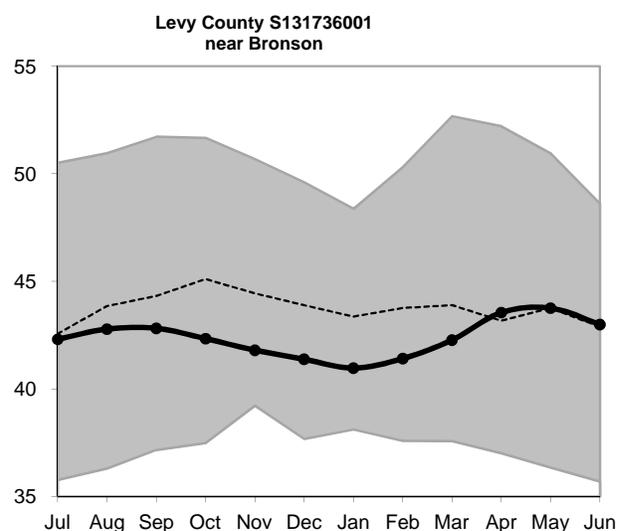
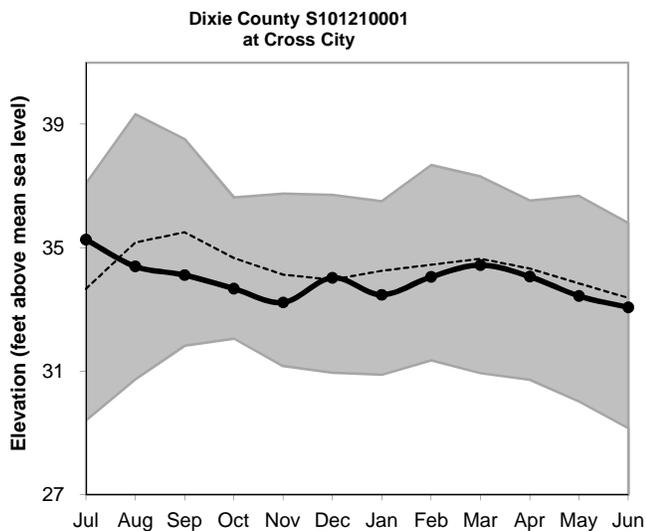
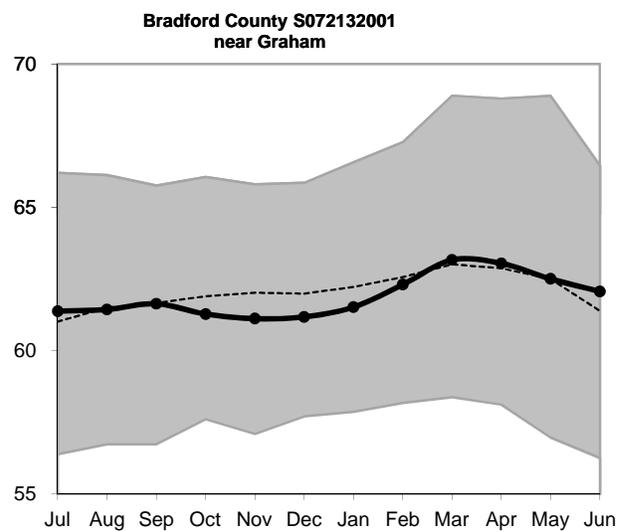
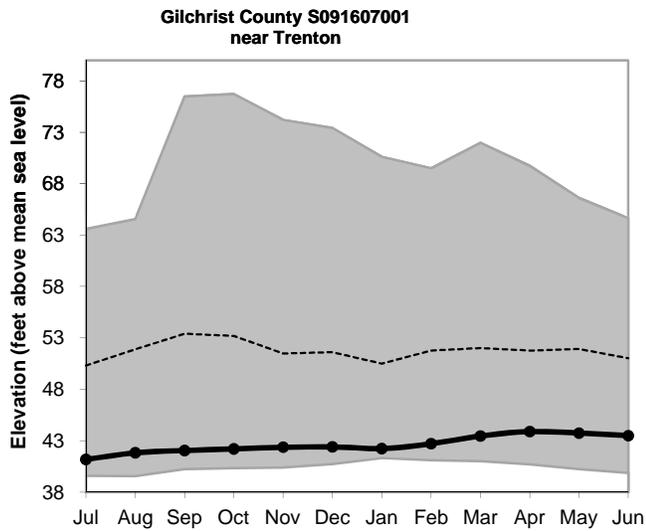
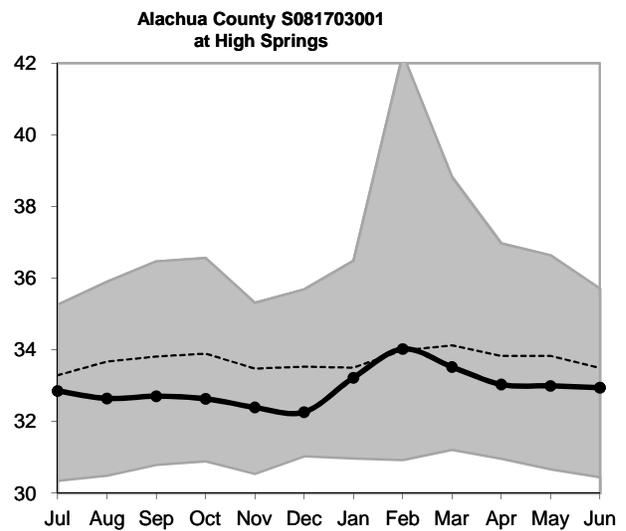
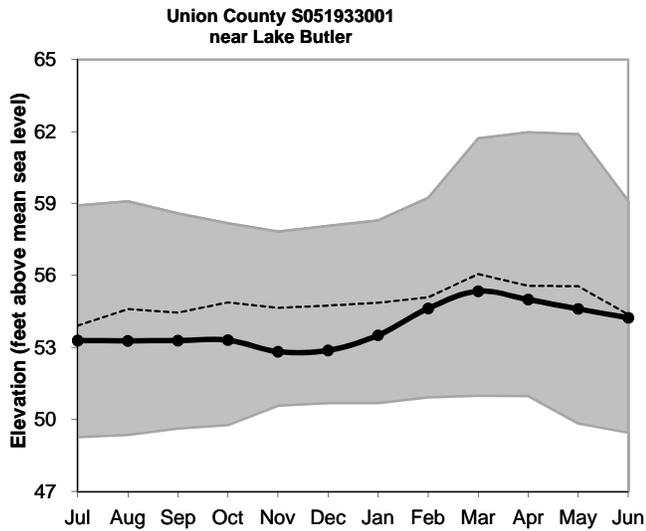
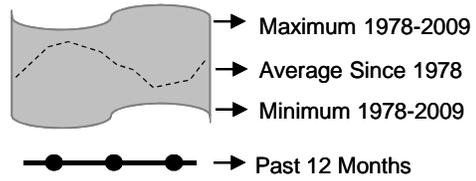
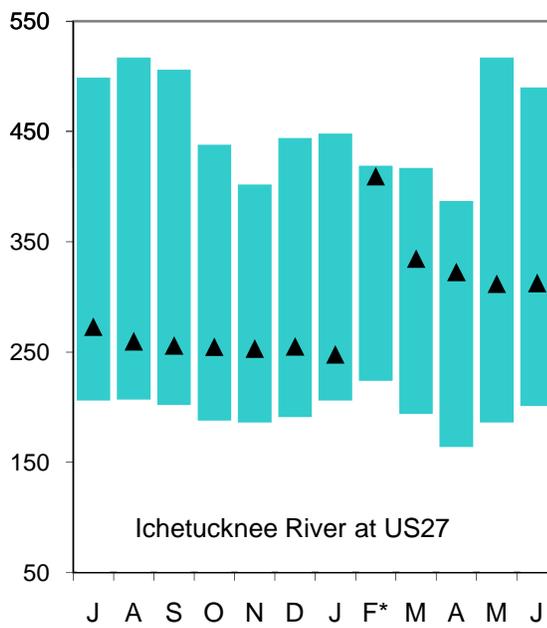
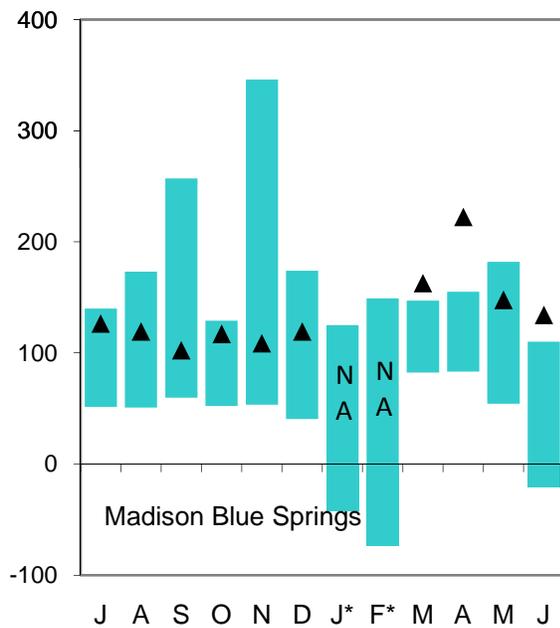
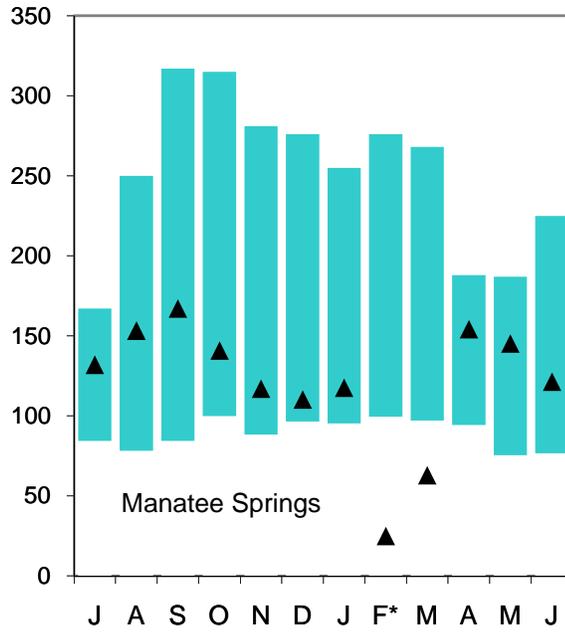
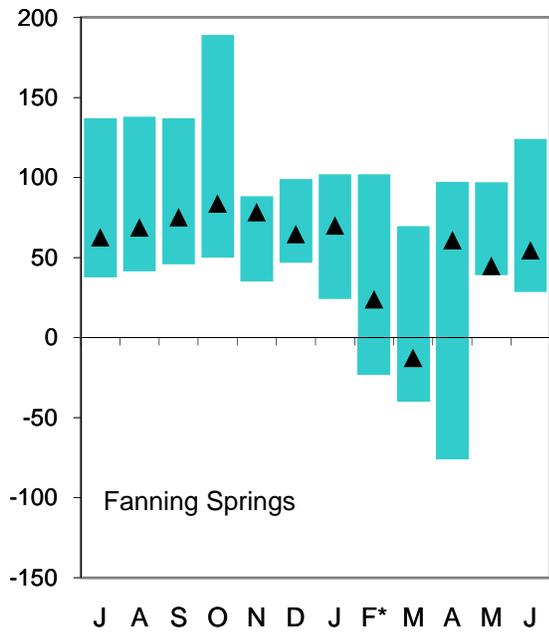
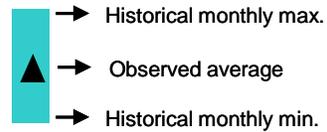


Figure 11: Monthly Springflow Statistics

Flows July 1, 2009 through June 30, 2010
 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 will be revised once approved and published by the U.S. Geological Survey.