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 2, 2008

RE: June 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 (91 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 6.10 inches, which is below the long-term June average of 6.51 inches (Table 1, Figure 1). Locally intense storms caused accumulations of over 10 inches in central and southern counties. Bradford, Union, Taylor, and Jefferson counties received between 50 and 75 percent of normal rainfall. Figure 2 shows the estimated rainfall accumulation across the District.
- The twelve-month average deficit through June 30 was 6.5 inches, an improvement of 0.7 inches since May. The 24-month deficit was 23.6 inches. Figure 3 depicts the 12-month deficit. Figure 4 shows the change in annual deficits beginning in 1998.

SURFACEWATER

- Seven-day average streamflow fell below the 10th percentile in the Withlacoochee River and middle Suwannee River (Figure 5). (The percentile is the percentage of flows or levels that are equal to or below the observed value.) The upper Santa Fe River and New River remained below the 5th percentile. Apparent record low flows for June were observed in the Coastal Rivers (Steinhatchee, Fenholloway, and Econfina). 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 third month in a row.

- Lake levels decreased by an average of 0.09 feet. All lake levels were below their long-term averages. No record lows were observed.

GROUNDWATER

- Groundwater levels monitored in 91 wells (Figure 7) decreased by an average of one foot since May. Increases in levels were observed in only six wells. Thirty-two percent of the levels were below the 10th percentile, compared to 27% in May and 25% in April. Thirteen percent of the levels were above the 25th percentile (normal range).
- Seven wells set new June lows, and three all-time lows were recorded. Monthly statistics for a representative sample of wells are shown in Figure 8.
- The District received two requests for emergency dry well permits in June. A total of 193 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, improved from moderate drought last month to mild drought.
- The 12-month Standardized Precipitation Index (SPI), based on long-term precipitation patterns that impact streams and groundwater, indicated moderate to severe dryness in western and southwestern counties, while the remainder of the District was near normal.
- Seven-day average streamflow conditions ending June 30 were categorized in the Suwannee basin as moderate hydrologic drought, and in the Coastal Rivers and Waccasassa basins as severe hydrologic drought 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 Florida through September.

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 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

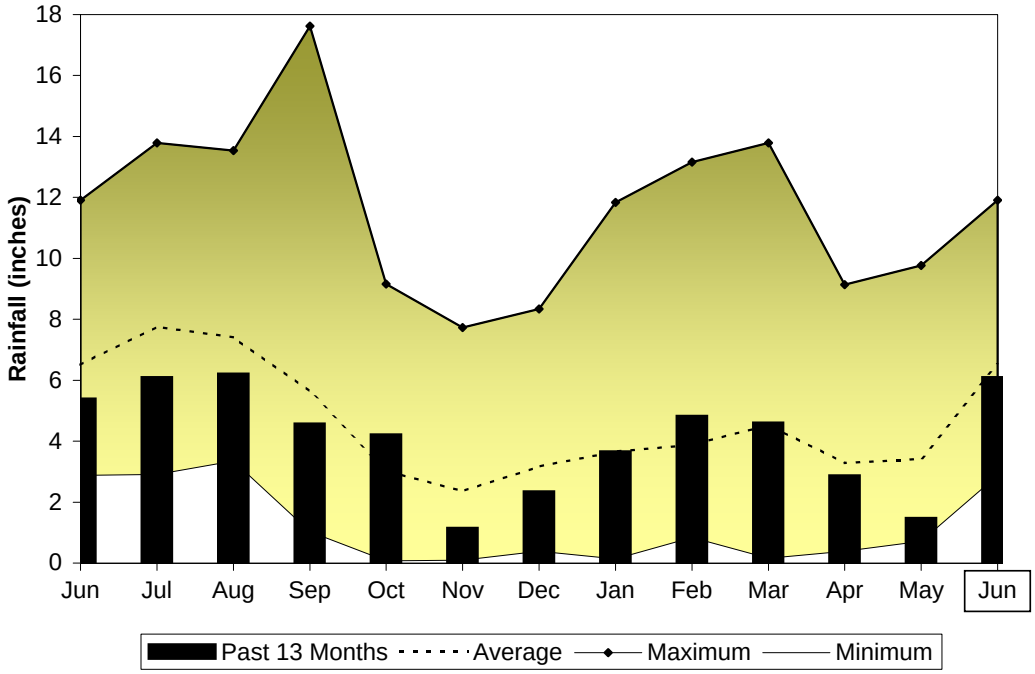
Table 1. Estimated Rainfall Totals

County	June-2008	June-2007	Last 12 Months	June Average
Alachua	7.01	5.56	48.23	6.57
Baker	4.30	4.68	47.21	6.29
Bradford	4.22	4.96	46.81	6.11
Columbia	6.40	5.49	47.75	6.25
Dixie	7.01	6.24	47.62	6.42
Gilchrist	7.70	5.70	45.86	6.43
Hamilton	5.63	5.57	47.81	6.13
Jefferson	3.57	5.53	48.60	6.09
Lafayette	7.36	4.63	45.86	6.25
Levy	8.34	6.71	55.26	6.87
Madison	5.23	5.61	51.95	6.08
Suwannee	8.59	5.18	49.08	6.20
Taylor	5.28	4.04	45.87	6.93
Union	4.75	5.65	44.22	6.78

June 2008 Average:	6.10
Historical June Average:	6.51
Historical 12-month Average:	54.71
Past 12-Month Total:	48.19
12-month Rainfall Deficit:	-6.52

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall



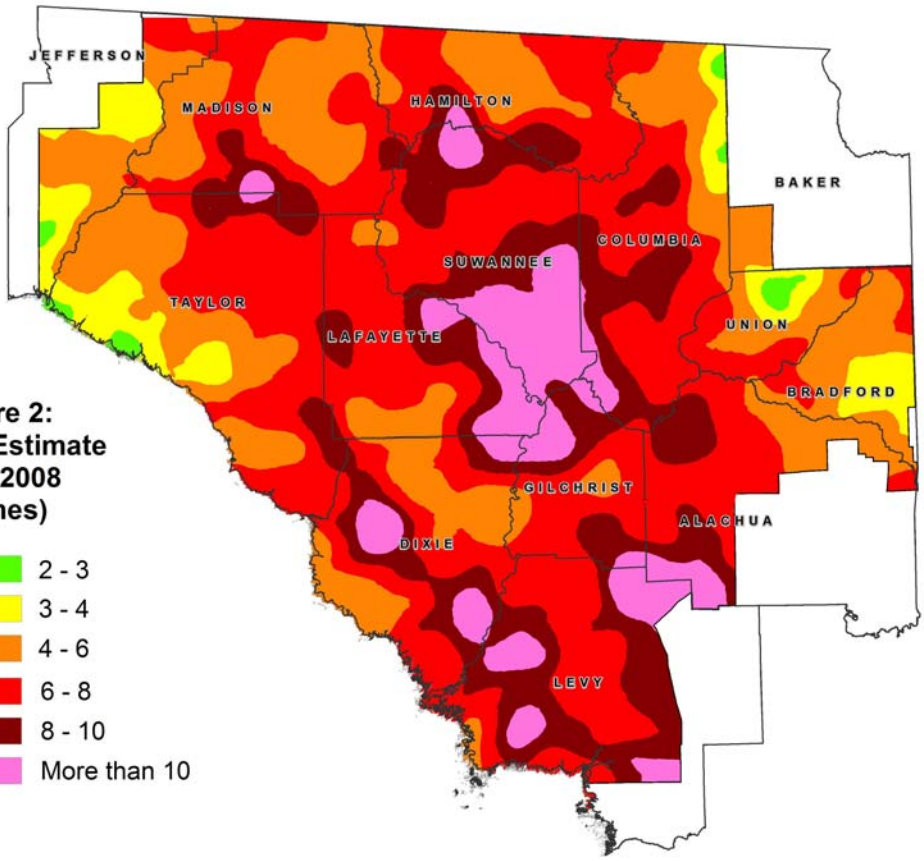


Figure 2: Rainfall Estimate June 2008 (inches)

- 2 - 3
- 3 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- More than 10

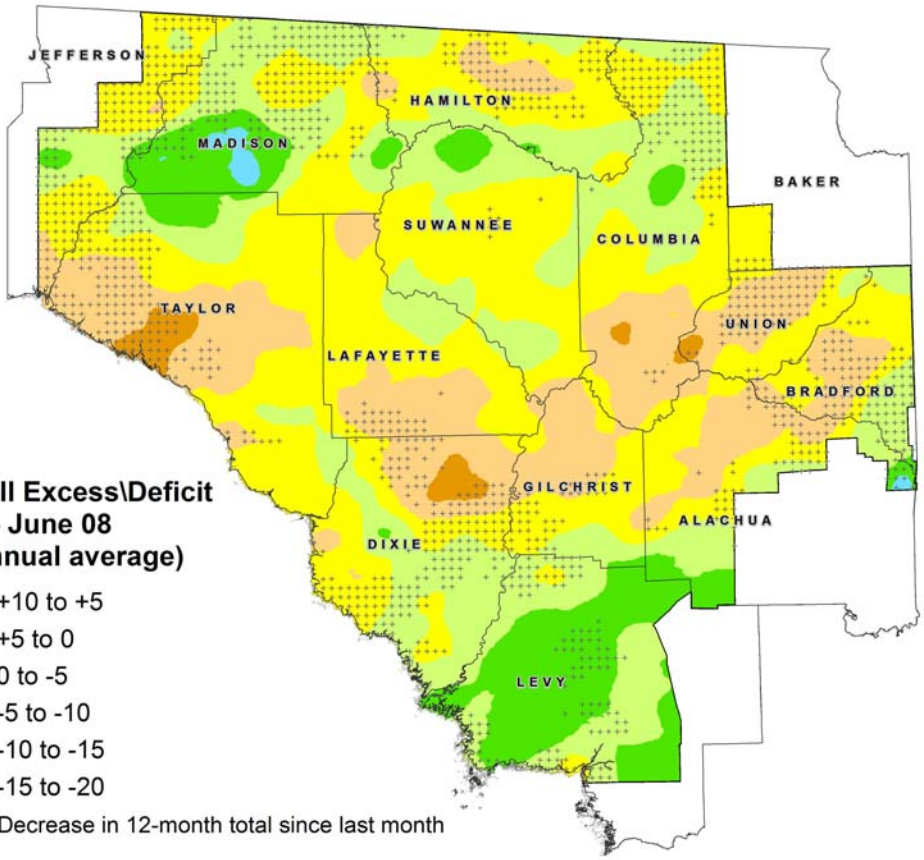


Figure 3: Rainfall Excess\Deficit July 07 - June 08 (inches +/- annual average)

- +10 to +5
- +5 to 0
- 0 to -5
- -5 to -10
- -10 to -15
- -15 to -20
- Decrease in 12-month total since last month

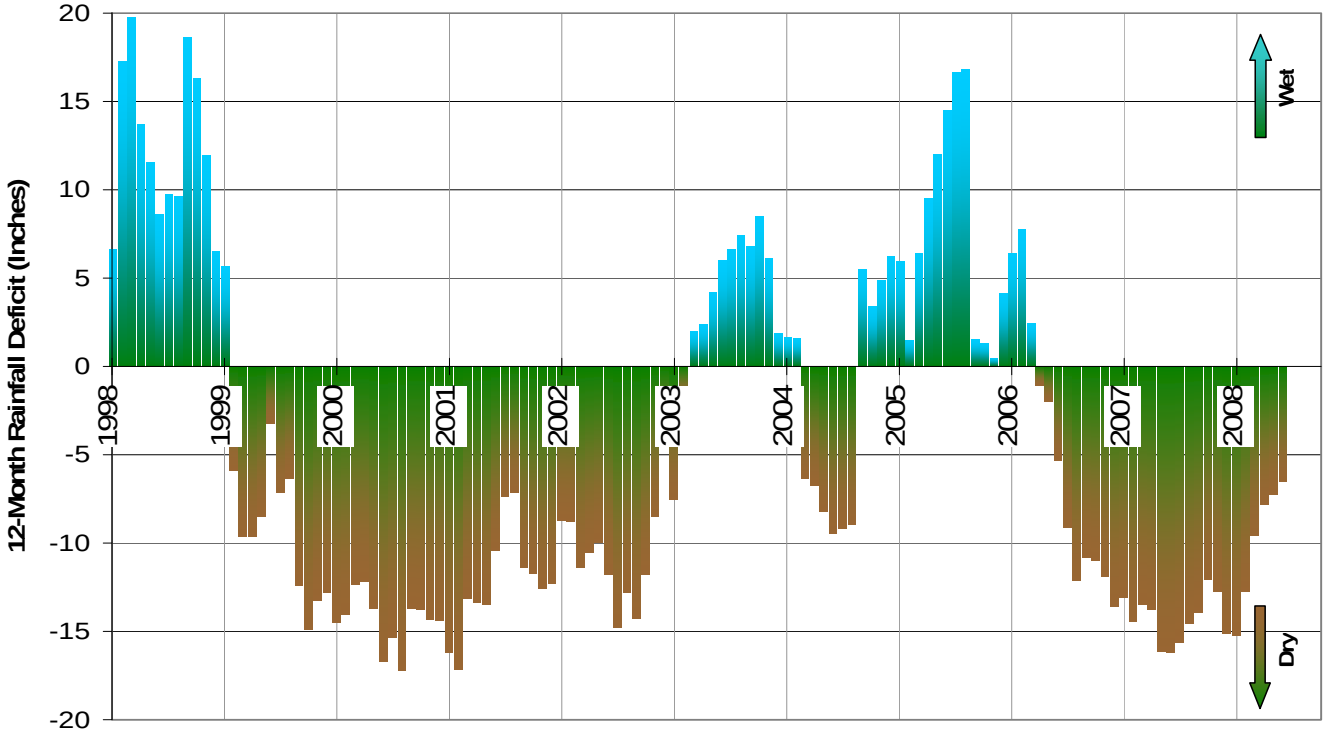


Figure 4: 12-month rolling rainfall deficit (difference between the rainfall that fell during any 12-month period and the long-term average expected over the same period, January 1998-June 2008)

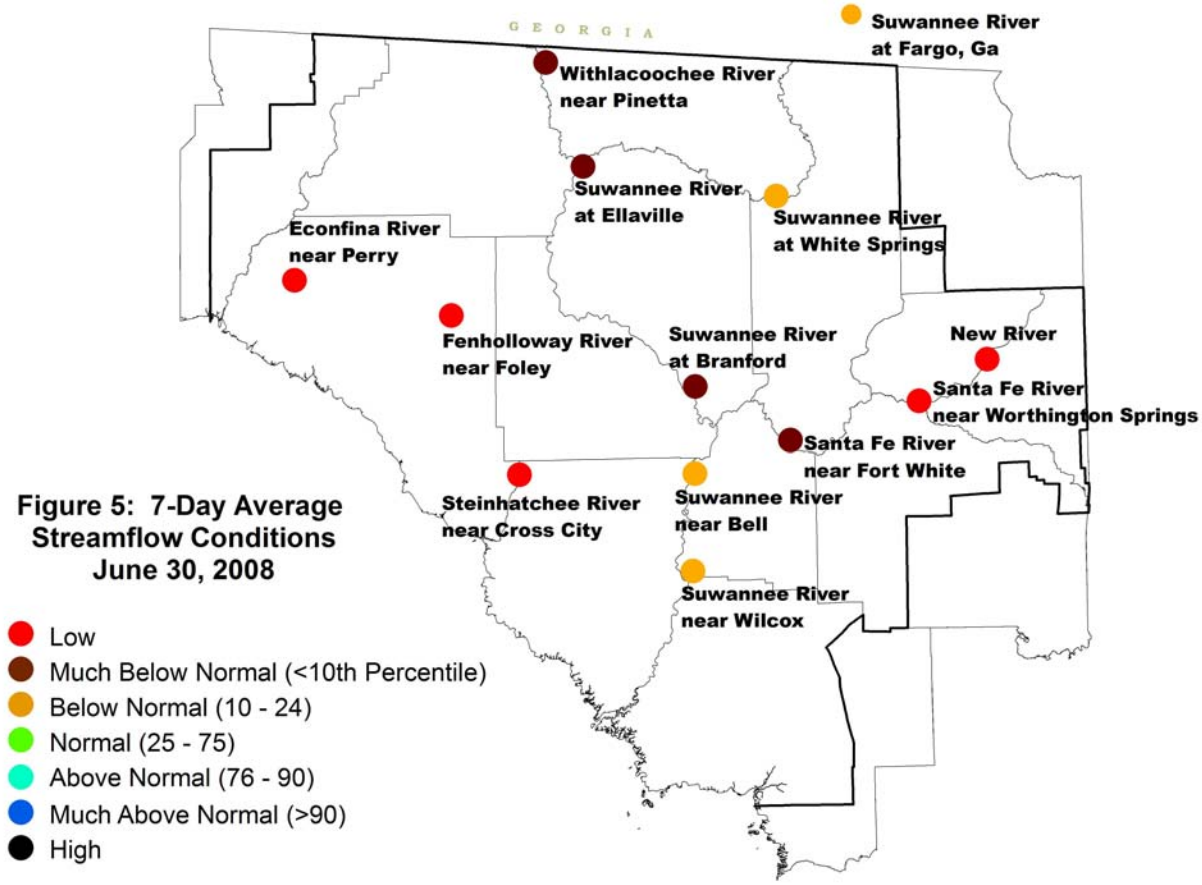


Figure 5: 7-Day Average Streamflow Conditions June 30, 2008

Figure 6: Daily River Flow Statistics

July 1, 2007 through June 30, 2008

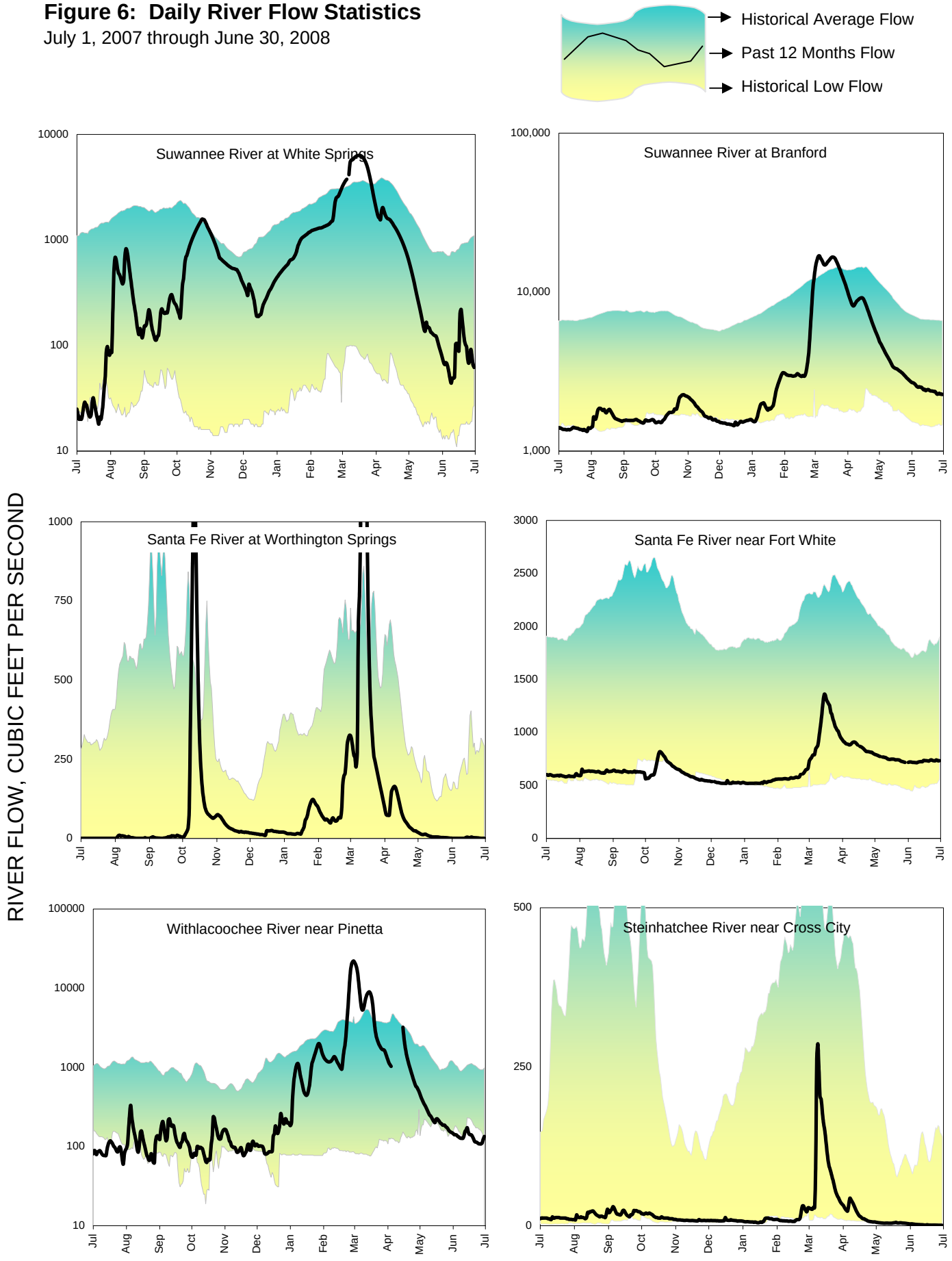
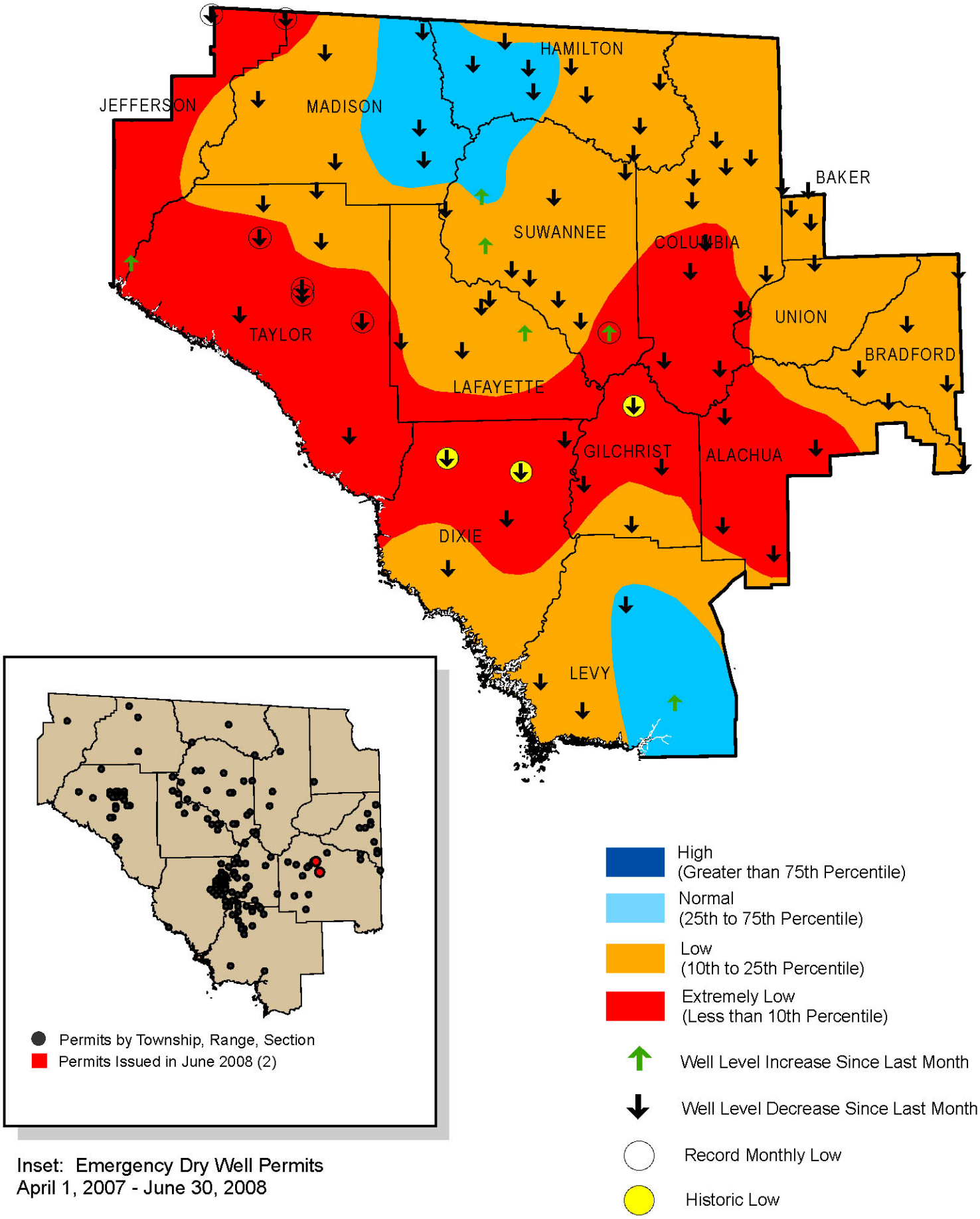
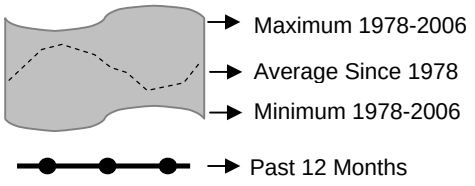
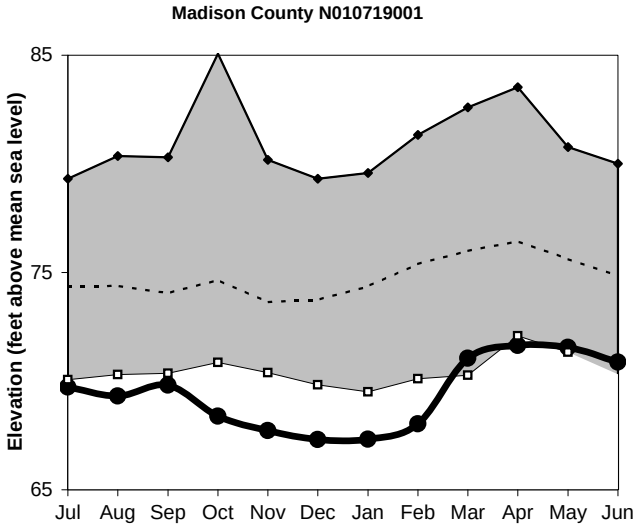
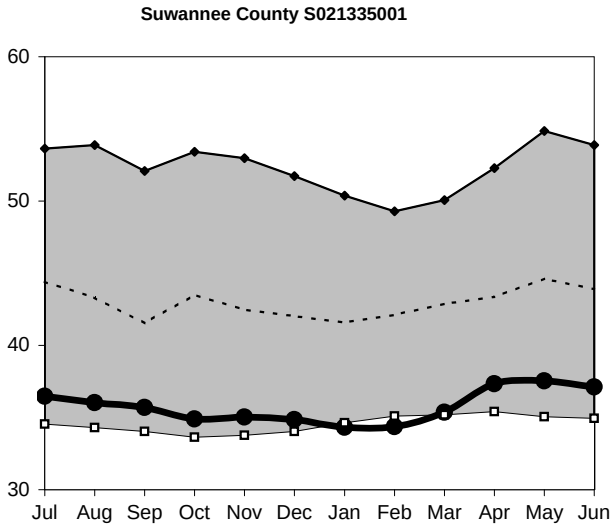
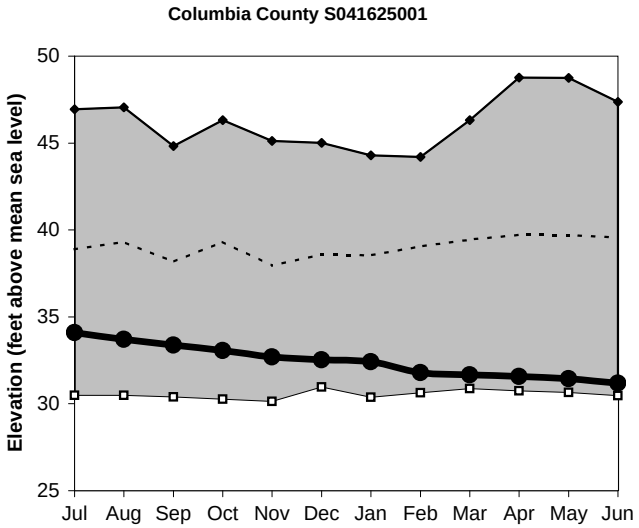
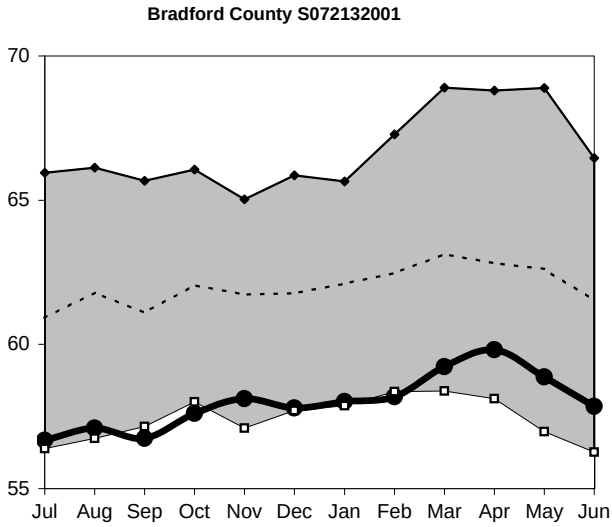
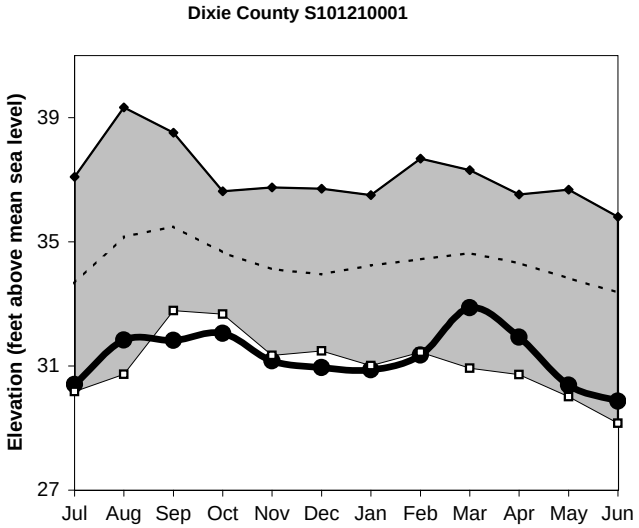
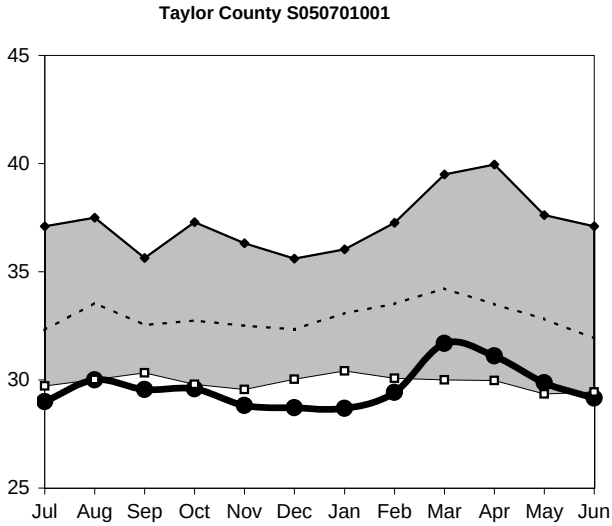


Figure 7: June 2008 Groundwater Levels



Inset: Emergency Dry Well Permits
April 1, 2007 - June 30, 2008

Figure 8: Monthly Groundwater Level Statistics

Levels July 1, 2007 through June 30, 2008
Period of Record Beginning 1978