

MEMORANDUM

TO: Governing Board

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

THRU: Jerry A. Scarborough, Executive Director *JAS*
Kirk B. Webster, Deputy Executive Director *KBW*

DATE: December 7, 2007

RE: November 2007 Hydrologic Conditions Report for the District

The Hydrologic Conditions Report is compiled from data collected from four water resource-monitoring networks. The four networks are rainfall (radar-derived rainfall estimate), groundwater levels (92 wells), lake levels (17 lakes), and river levels (31 stations on 8 rivers).

RAINFALL

The District received, on average, 1.16 inches of rain in November, less than half of the long-term November average of 2.38 inches. Total rainfall for the past 12 months is 42.00 inches. Twenty-one of the last 23 months had below-normal rainfall. Total District-wide rainfall for the past 12 months is 42.00 inches, while the long-term average annual rainfall is 54.71 inches. The average 12-month deficit is 12.71 inches. A summary of rainfall by county and a comparison of monthly rainfall versus the long-term average are provided in Table 1 and Figure 1, respectively. Figure 2 shows the radar-derived rainfall distribution, and Figure 3 shows the 12-month rainfall deficit. Figure 4 shows 12-month rainfall since 1932, and Figure 5 shows the 12-month rainfall deficit beginning in 1997. Rainfall data are provisional, and subject to revision. Statistics are updated as revised data become available.

GROUNDWATER

Groundwater levels in 92 wells monitored in November decreased by an average of 0.27 feet since October. Thirty-two wells set new November lows, and twelve wells set new historic lows. Levels remain extremely low, with all reading below the 25th percentile for the month, and 76 percent below the 10th percentile. The percentile is the percentage of the monthly average levels that are equal to or below this month's level. Slight improvements were seen in wells in the northeastern part of the District, presumably from above-average rains in October. See Figure 6 for a generalized representation of District groundwater

levels. The District issued 11 emergency construction permits for dry wells this month, for a total of 128 issued between April 1 and November 30. Permits for dry wells were 6% of the total number of water well permits issued in this period.

SURFACEWATER

Streamflow conditions in the upper Suwannee and Santa Fe Rivers declined after significant increases were seen in October, although the flow at Suwannee River at White Springs was normal for this time of year. Levels and flows in the middle- and lower-Suwannee River and other major streams in the District remained at or near extreme lows. For the third month in a row, the Santa Fe River near Fort White fell to an apparent historic low stage. The Withlacoochee River near Pinetta set a new monthly low level for the third straight month. The Econfina River near Perry was dry, four miles above U.S. 98 at the gage. The Aucilla River at Lamont, 0.5 miles below the gage at U.S. 27, also remained dry. Gage readings are provisional, subject to review and approval by the United States Geological Survey, which maintains some gages in cooperation with the District (Fort White, Pinetta) and the Florida Department of Environmental Protection (Econfina). River levels at selected monitoring stations are provided in Table 3. Discharge statistics for selected stations are shown in Figure 7.

Lake levels generally remained stable, dropping by an average of one inch. Snead's Smokehouse Lake, the headwaters of the Aucilla River, set a new historic low for the fourth consecutive month. Lake levels are shown compared to historic lake data on Table 2.

WATER CONSERVATION

The Climate Prediction Center (National Weather Service) predicts a likelihood of below-normal rainfall through February, and that drought conditions will develop further in our area. The District urges that water conservation be an ongoing activity for all water users. The Governing Board declared a Phase I Water Shortage Advisory on November 14, 2006, requesting voluntary reductions in water use. This advisory remains in effect. The District has a variety of free water conservation information available to the public. 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.

/dd

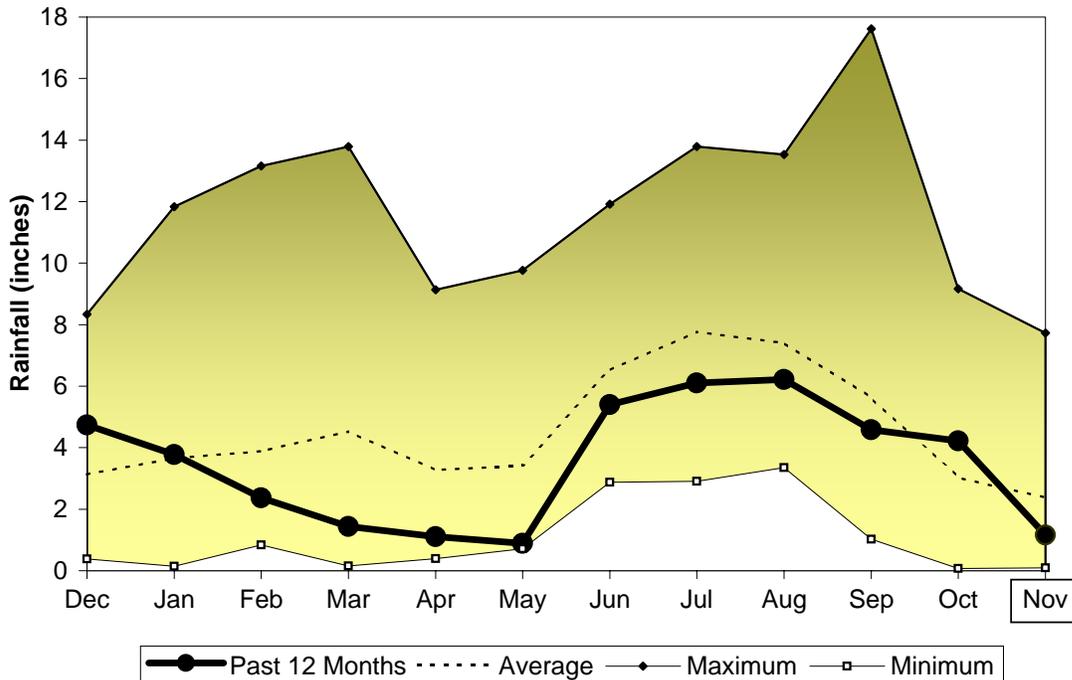
Table 1. Estimated Rainfall Totals

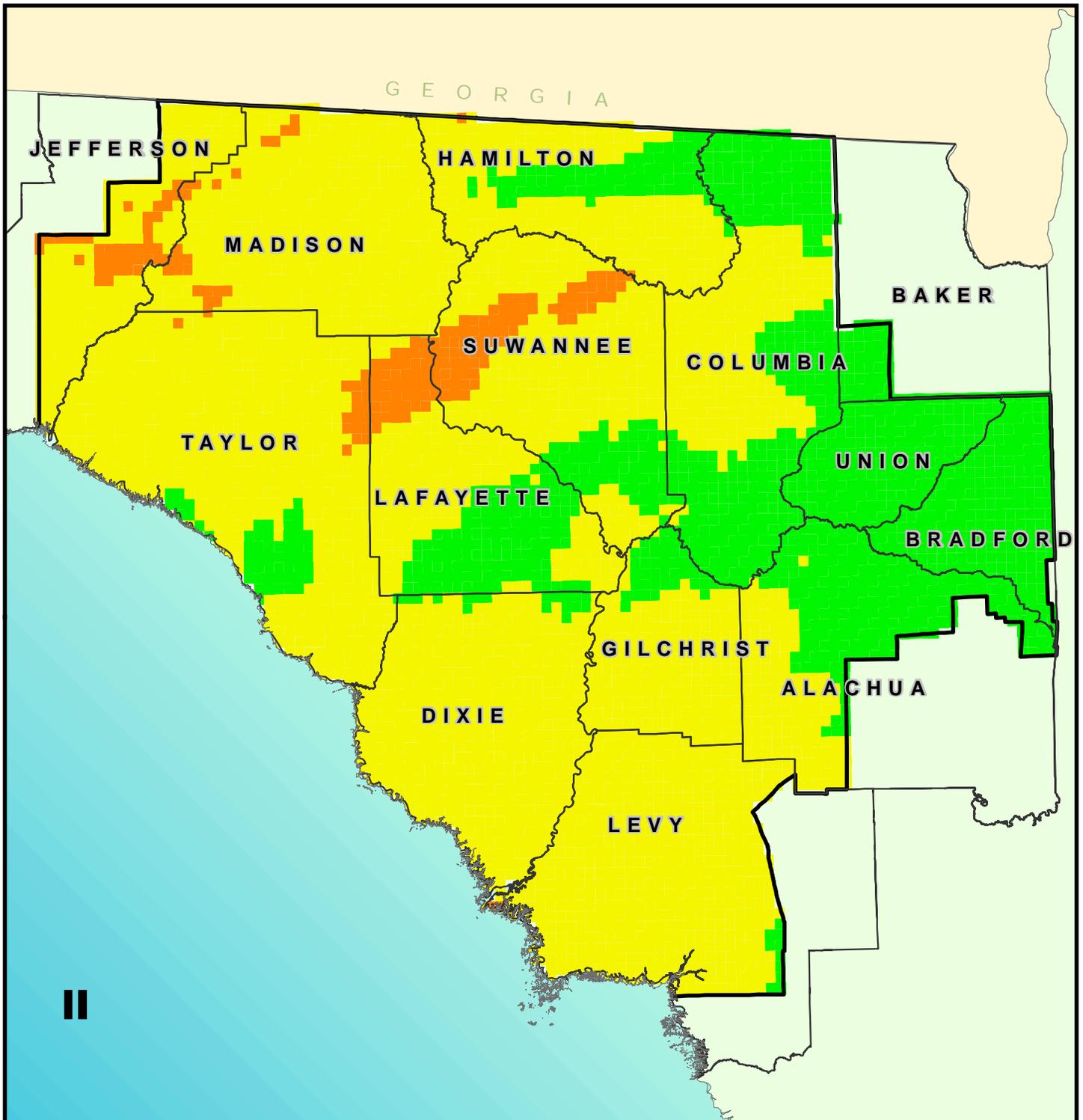
County	Nov-2007	Nov-2006	Last 12 Months	November Average
Alachua	0.92	1.03	43.39	2.35
Baker	0.65	0.89	39.81	2.22
Bradford	0.46	0.56	41.98	2.32
Columbia	0.99	1.06	39.98	2.44
Dixie	1.23	1.86	44.62	2.50
Gilchrist	1.23	0.99	41.13	2.72
Hamilton	1.17	1.65	39.45	2.72
Jefferson	1.74	1.78	44.79	3.44
Lafayette	1.31	2.08	37.42	2.78
Levy	1.43	1.67	51.17	2.55
Madison	1.61	2.41	43.16	3.12
Suwannee	1.47	1.46	38.19	2.53
Taylor	1.44	2.45	40.09	2.85
Union	0.55	0.77	39.85	2.55

District November 2007 Average: 1.16
 District Historical November Average: 2.38
 District Historical 12-month Average: 54.71
 District Past 12-Month Total: 42.00
 District Rainfall Deficit Since January: -14.13
 District 12-month Rainfall Deficit: -12.71

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall





II

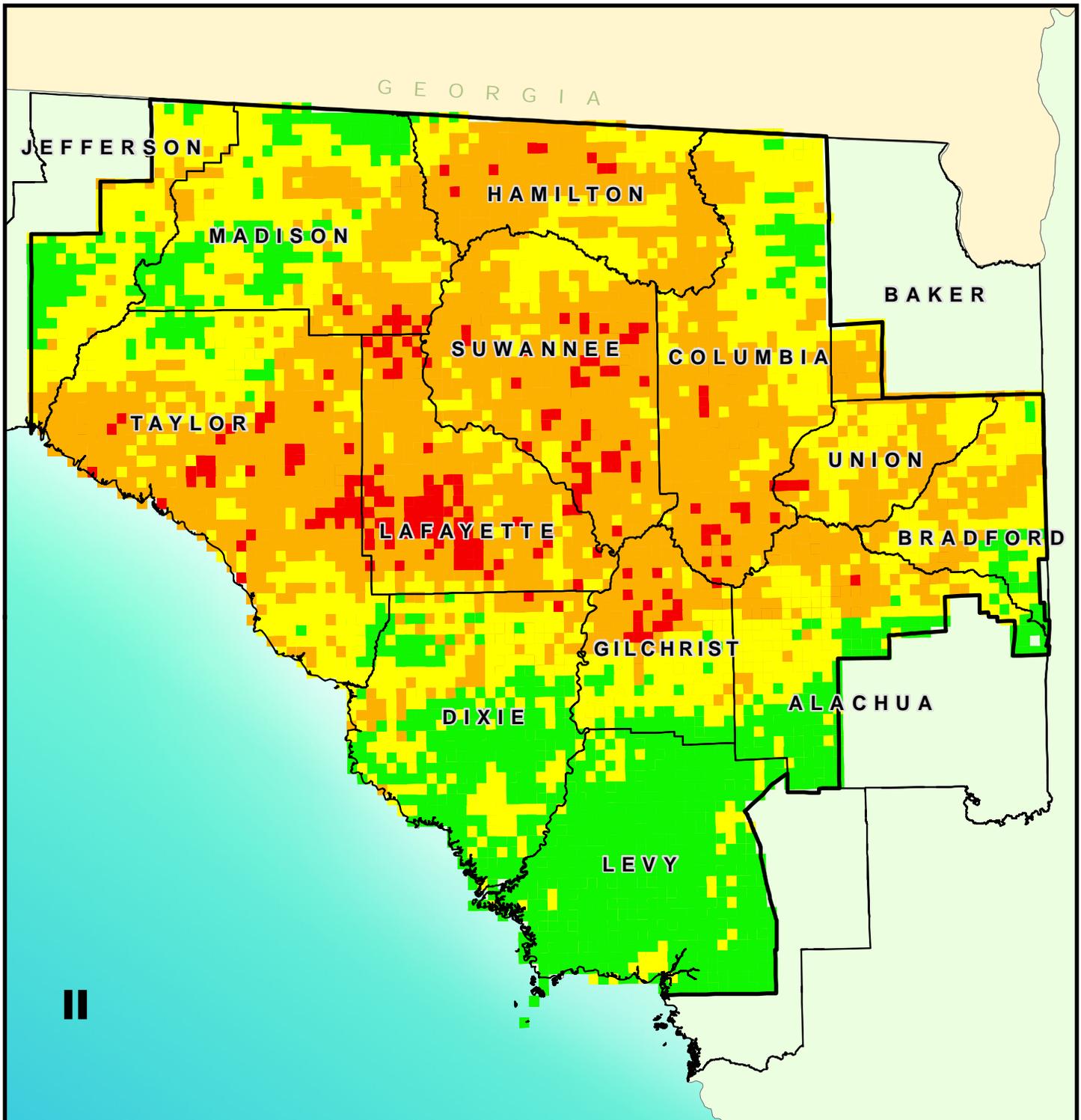
**November 2007
Estimated Rainfall
Figure 2**

Rainfall in inches

- Less than 1
- 1 - 2
- 2 - 3



Note: This map was created by the Suwannee River Water Management District (SRWMD) to be used for planning purposes only. SRWMD shall not be held liable for any injury or damage caused by the use of data distributed as a public records request regardless of their use or application. SRWMD does not guarantee the accuracy, or suitability for any use of these data, and no warranty is expressed or implied. For more information please contact the SRWMD at 386-362-1001.



**Estimated 12-Month Rainfall Deficit
December 2006 through November 2007
Figure 3**

Rainfall below Annual Average

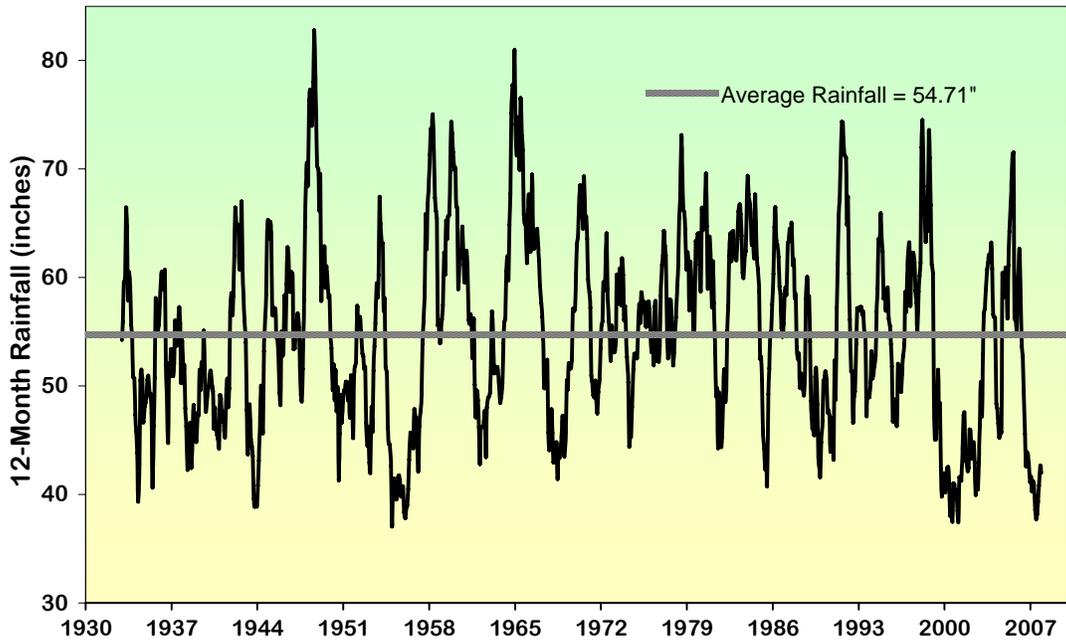
- Less than 8 inches below average
- 8 to 14 inches below average
- 14 to 20 inches below average
- More than 20 inches below average

- District Boundary
- County Boundaries

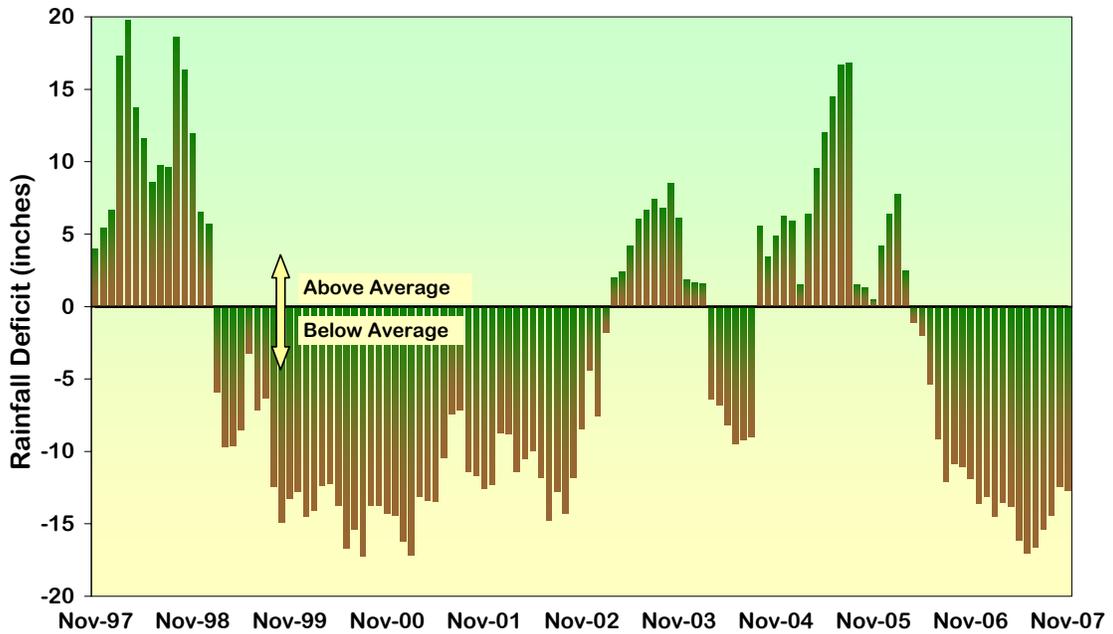


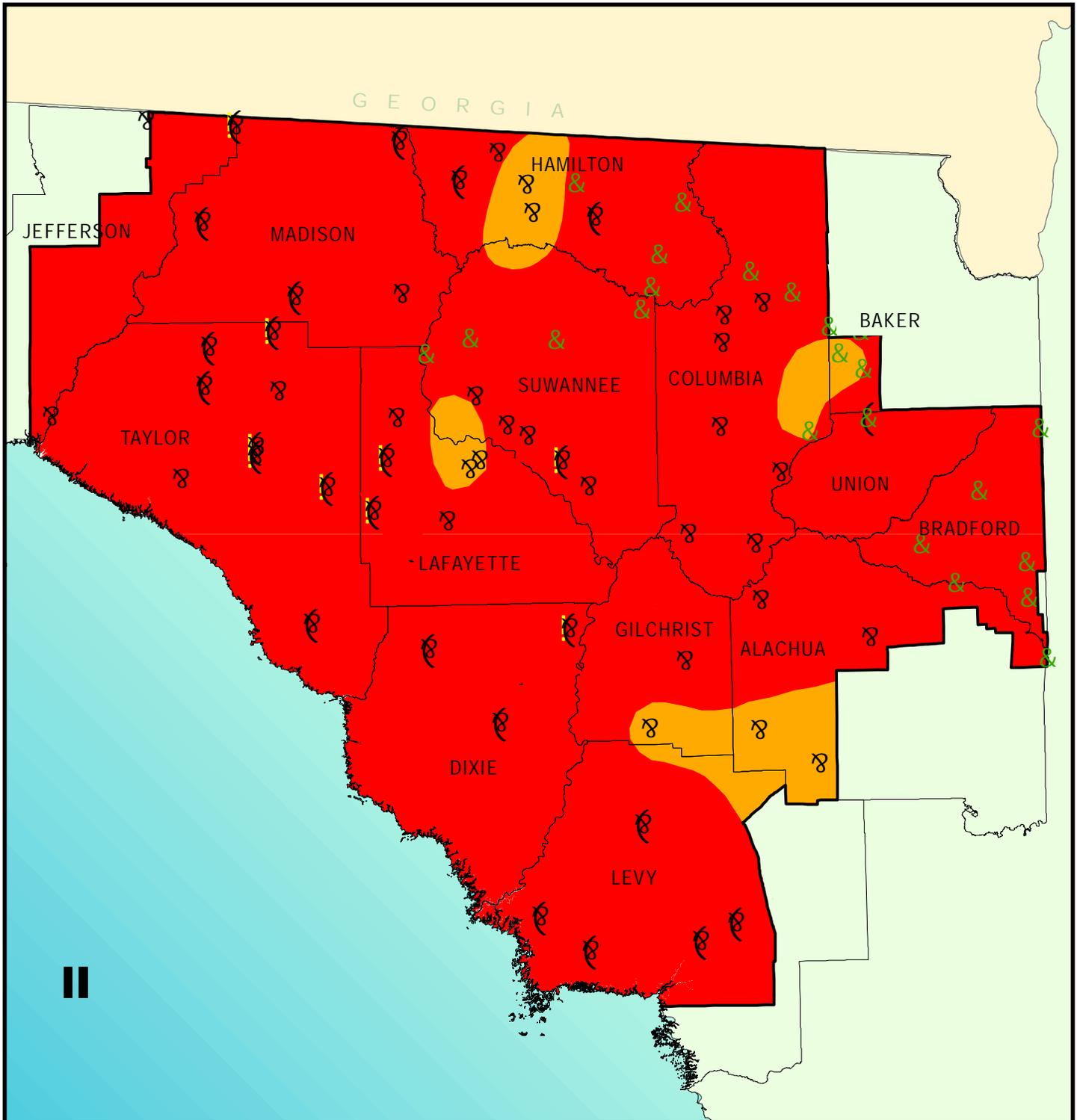
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**Figure 4: 12-Month Rainfall
December 1932 - Present**



**Figure 5: 12-Month Cumulative Rainfall Deficit
November 1997 - Present**





GEORGIA

JEFFERSON

MADISON

HAMILTON

BAKER

TAYLOR

SUWANNEE

COLUMBIA

UNION

BRADFORD

LAFAYETTE

GILCHRIST

ALACHUA

DIXIE

LEVY



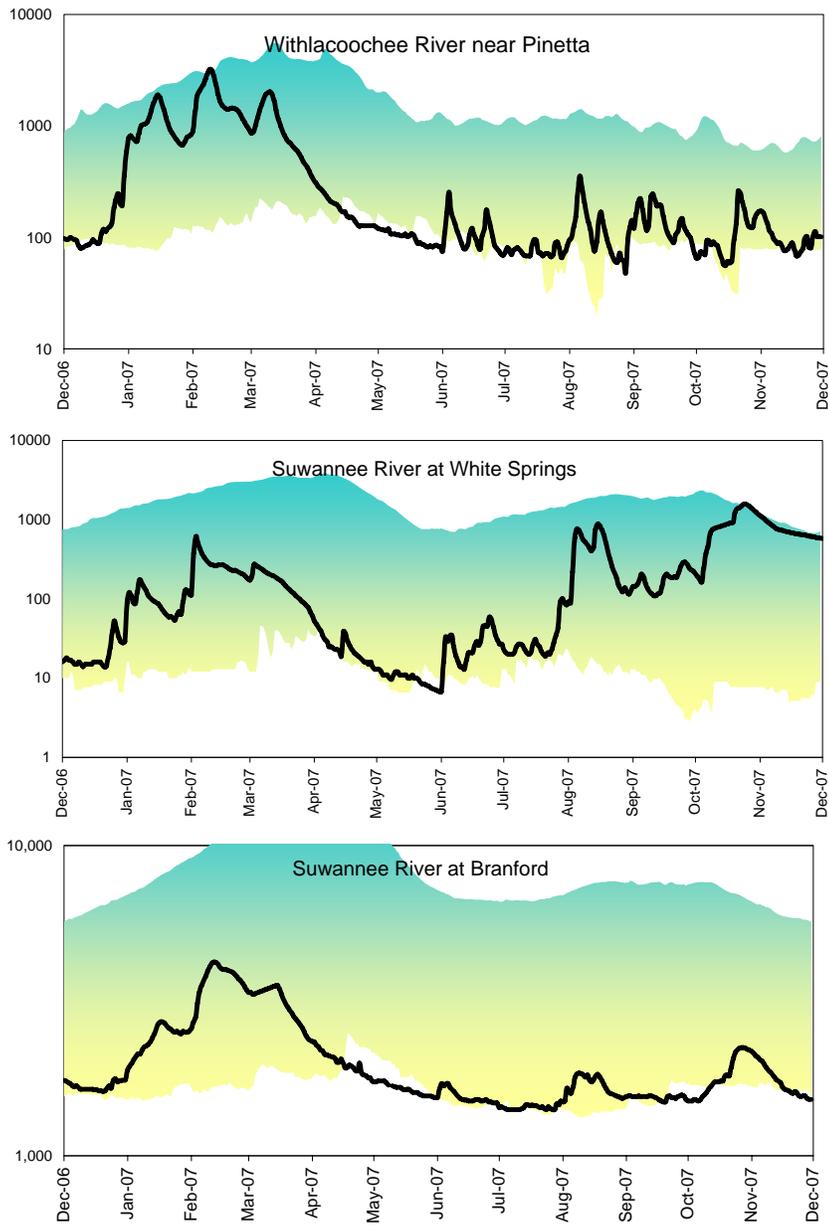
Groundwater Levels November 2007 Figure 6



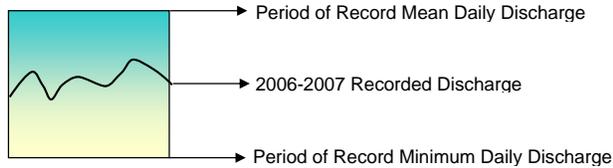
-  High
(Greater than 75th Percentile)
-  Normal
(25th to 75th Percentile)
-  Low
(10th to 25th Percentile)
-  Extremely Low
(Less than 10th Percentile)
-  Well Level Increase Since Last Month
-  Well Level Decrease Since Last Month
-  Record Monthly Low
-  Historic Low

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Figure 7: Daily Discharge Statistics for Selected River Stations
 December 1, 2006 through November 30, 2007



LEGEND



Discharge reported in cubic feet per second (cfs)

Data are provisional and subject to revision

Station	Period of Record
Withlacoochee River at Pinetta	1932-2007
Suwannee River at White Springs	1907-2007
Suwannee River at Branford	1932-2007

Table 2. Lake Levels within SRWMD

Lake	Beginning Record	2007 November	2007 October	2007 September	2006 November	Monthly Change	Record Low	Record High
Lake Octahatchee	Nov-74	N/A	102.19	102.15	BG	N/A	95.55 (3/89)	107.9 (3/05)
Cherry Lake	Nov-74	150.89	151.01	151.11	151.2	-0.12	150.78 (05/07)	154.0 (9/75)
Andrews Lake	Nov-74	74.00	74.33	74.66	76.2	-0.33	73.32 (12/01)	78.4 (12/94)
Palestine Lake	Aug-75	140.48	140.68	140.78	141.4	-0.20	139.34 (10/02)	145.2 (10/92)
Ocean Pond	Dec-74	151.52	151.62	151.60	152.6	-0.10	150.85 (8/02)	156.6 (2/98)
Governor Hill Lake	Nov-84	BG	BG	BG	47.3	N/A	45.29 (06/07)	54.3 (2/98)
Alligator Lake	Sep-65	BG	93.18	93.22	93.5	N/A	90.23 (4/68)	100.8 (9/04)
Lake Francis	Jun-99	139.44	139.61	139.81	139.9	-0.17	138.81 (05/07)	141.7 (9/04)
Lake Butler	Jul-57	127.28	127.48	127.18	128.4	-0.20	126.75 (7/02)	134.0 (9/64)
Hampton Lake	Feb-89	127.43	127.69	126.88	128.1	-0.26	124.48 (5/02)	133.4 (3/98)
Lake Sampson	Jul-57	131.41	131.75	129.37	129.9	-0.34	127.87 (05/07)	136.2 (3/59)
Lake Crosby	Feb-89	128.44	128.22	127.46	129.0	0.22	127.46 (9/07)	135.4 (10/04)
Waters Lake	Jul-72	BG	BG	BG	BG	N/A	55.10 (2/82)	79.7 (9/04)
Low Lake	Nov-74	146.85	147.04	147.12	147.4	-0.19	146.80 (7/00)	150.3 (6/94)
Santa Fe Lake	Jul-58	138.53	137.61	137.41	138.5	0.92	135.71 (10/02)	142.8 (1/98)
Lake Altho	Mar-76	137.92	138.10	137.12	138.0	-0.18	136.78 (7/01)	141.5 (2/98)
Snead's Smokehouse Lake	Dec-76	77.71	78.03	78.03	78.9	-0.32	78.03 (10/07)	85.4 (4/84)

Reported in feet above mean sea level

Bold indicates record measurement.

BG- Lake level below gage.

N/A - Data missing

Table 3. River Levels within SRWMD.

	November 2007	Average November	November 2006	November Lowest	November Highest	Historic Low	Historic High
SUWANNEE RIVER AND TRIBUTARIES							
SUWANNEE RIVER @ White Springs	52.84	53.04	52.3	48.79 11/2/81	83.50 11/1/47	48.75 Jul-81	88.54 Apr-73
SUWANNEE RIVER @ Ellaville	29.11	31.20	30.2	28.70 11/8/90	57.78 11/23/47	28.48 Jun-07	67.99 Apr-48
SUWANNEE RIVER @ Branford	7.40	11.33	10.9	7.06 11/30/55	31.76 11/26/47	6.74 Jul-02	38.84 Apr-48
SUWANNEE RIVER @ Wilcox	1.51	3.41	2.9	0.80 11/1/81	14.62 11/29/47	-1.08 Sep-99	21.79 Apr-48
WITHLACOOCHEE RIVER near Pinetta	53.43 11/18/2007	54.71	54.0	53.46 11/17/01	74.04 11/20/47	53.26 Aug-02	85.41 Apr-48
SANTA FE RIVER near Fort White	20.95 11/30/2007	22.21	21.7	21.02 11/9/02	28.61 11/19/47	21.02 Nov-02	36.20 Sep-64
COASTAL RIVERS							
AUCILLA RIVER at Lamont	44.49 No Flow	47.85	48.0	44.17 11/24/56	53.62 11/30/76	43.49 Feb-57	59.44 Apr-73
STEINHATCHEE RIVER near Cross City	10.33	11.16	10.2	10.22 11/19/05	23.11 11/19/51	9.83 Aug-83	26.55 Sep-64
ECONFINA RIVER near Perry	Dry	17.70	17.3	15.96 11/30/90	24.42 11/30/76	14.35 Jan-76	27.08 Sep-57
FENHOLLOWAY RIVER near Foley	54.46	55.40	55.0	54.18 11/1/77	60.72 11/22/76	54.16 May-01	68.80 Sep-64

Bold indicates new (provisional) record set during the month.

Reported level occurred on the last day of the month, unless indicated otherwise

Levels given in feet above mean sea level