Drought Indicators Report

Georgia Environmental Protection Division

January 2020

Background

Pursuant to the Rules for Drought Management, Section 391-3-3-.04 Drought Indicators and Triggers, the Director of EPD monitors climatic indicators and water supply conditions to assess drought occurrence and severity, and its impact upon the ability of public water systems to provide adequate supplies of water. These indicators and conditions December include, but not be limited, to the following:

- U.S. Drought Monitor;
- Precipitation;
- Streamflow;
- Groundwater;
- Reservoir levels;
- Short term climate predictions;
- Soil moisture; and
- Water supply conditions.

Background

- The Rules require EPD to report on current climatic indicators at least semi-annually or monthly when any part of the state has experienced at least two consecutive months of severe drought.
- This reports compare current conditions to historical levels (and/or reservoir rule curves) for each of the following indicators:
  - Precipitation during the prior 3, 6, and 12 months;
  - Streamflow at the select United States Geological Survey gages;
  - Groundwater levels at select United States Geological Survey monitoring wells; and
  - Reservoir levels at Allatoona Lake, Lake Hartwell, Clarks Hill Lake, and Lake Lanier.
- The following sections of this presentation provide the data and information sources analyzed by EPD in developing this drought indicators report for conditions as of January 9, 2020.

Drought Indicator Analysis Summary (slide 1 of 2)

- **U.S. Drought Monitor** – Drought conditions eased significantly statewide. Severe Drought (D2) and Moderate Drought (D1) no longer exist. Abnormally dry (D0, the least intense level) exists in seven counties (Seminole, Decatur, Grady, Thomas, Brooks, Mitchell, and Colquitt) in the southwest corner of the state.
- **Precipitation -** Three-month precipitation is above normal statewide, except a small area in the southwest corner of the state being slightly below normal. Six-month precipitation is slightly below normal in most parts of the north-central GA and southern GA. Twelve-month precipitation is slightly below normal in central GA and southern GA and is normal or above normal in the rest of the state.
- **Soil Moisture -** Soil moisture conditions are normal or above normal statewide.

Drought Indicator Analysis Summary (slide 2 of 2)

- **Streamflow** – Stream flows at most selected USGS gages (29 out of 34) are above or near normal. Five gage flows are between the driest 20th percentile and median (one in upper-Ocmulgee, one in lower-Ochlockonee, and three in lower-Suwanee basins).
- **Groundwater Level** – Groundwater levels in more than half of selected wells (9 out of 17) are above or near normal. Six well levels are between the lowest 20th percentile and median (one in Crystalline Rocks Aquifer in northeast GA and five in Floridan Aquifer system in south GA). One well level is in the lowest 10th -20th percentiles and one well level is at the lowest 5th percentile (both in Floridan Aquifer system in south GA).
- **Reservoir Levels** – At the end of the December 2019, most federal reservoirs in Georgia (ACF, ACT, and Savannah River Basins) are at levels above their respective top of conservation (normal) pools. Carters and Allatoona levels are slightly below their respective normal pools. Lanier remains in Zone 1 but is approaching its normal pool. The ACF composite storage is above its top of conservation level.
- **Short-term Climate Prediction** – National Climatic Prediction Center projects above normal temperature and equal chance of precipitation statewide in January 2020 – March 2020. U.S. Drought Outlook predicts drought removal likely in current D0 areas along the southern boarder in January 2020 – March 2020.
- **Water Supplies** – Georgia EPD lifted Level 1 Drought Response on December 27, 2019. All five Drought Response Level 2 (DRL2) Variances expired on December 31, 2019.

US Drought Monitor

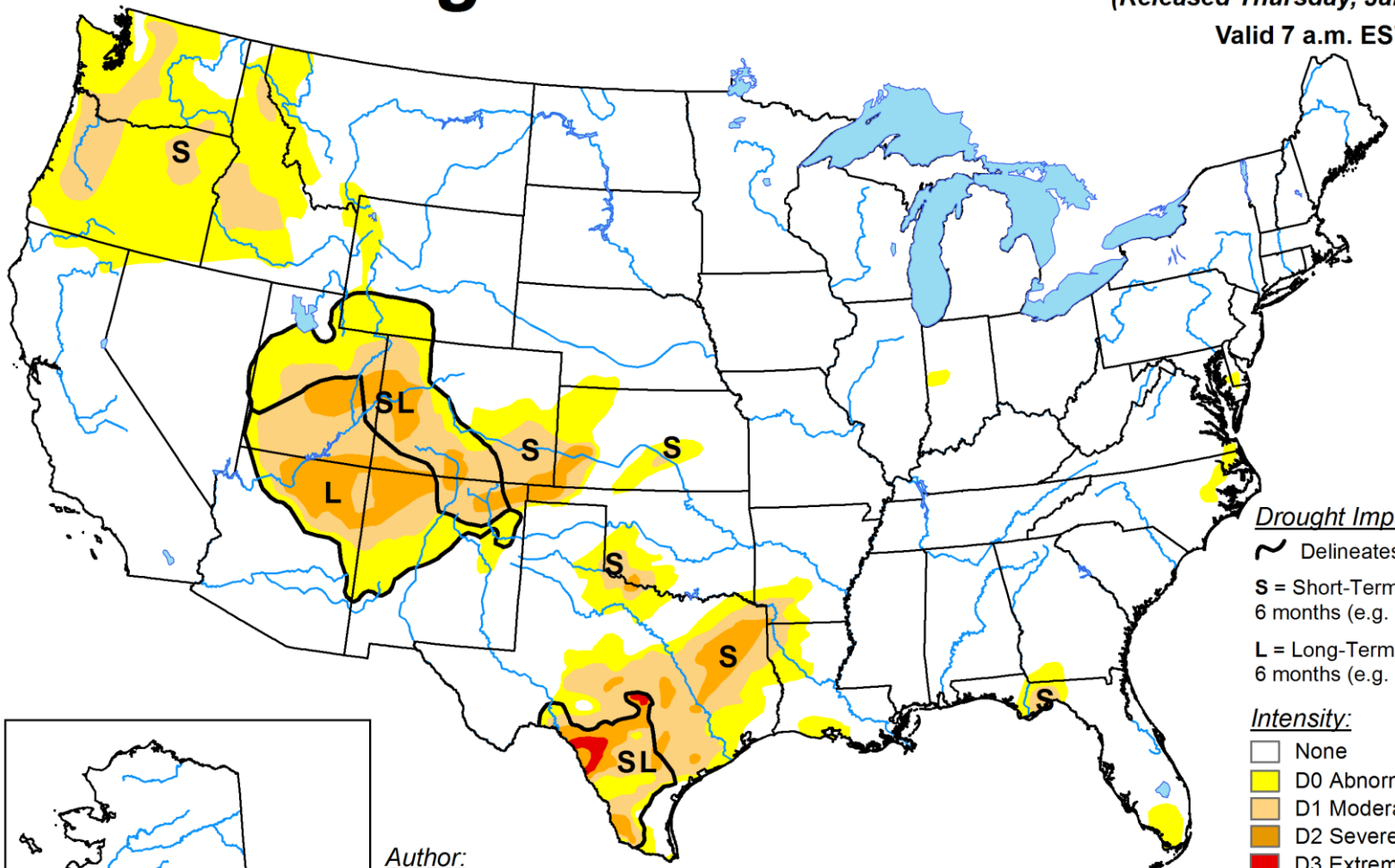
Data Source:
http://droughtmonitor.unl.edu/

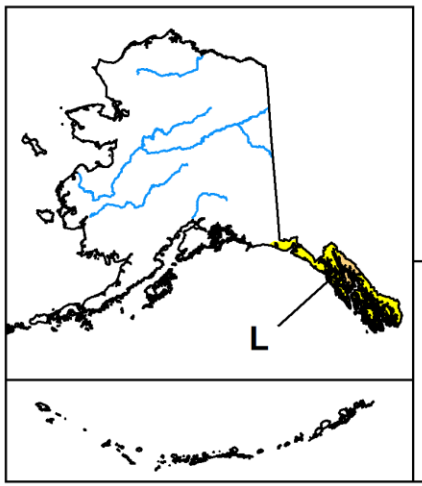
U.S. Drought Monitor

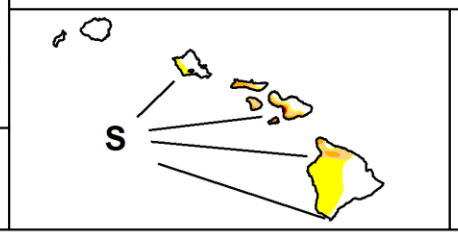
January 7, 2020

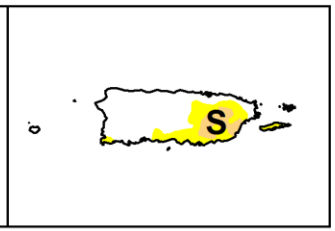
(Released Thursday, Jan. 9, 2020)

Valid 7 a.m. EST









Drought Impact Types:

Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Author:

Curtis Riganti

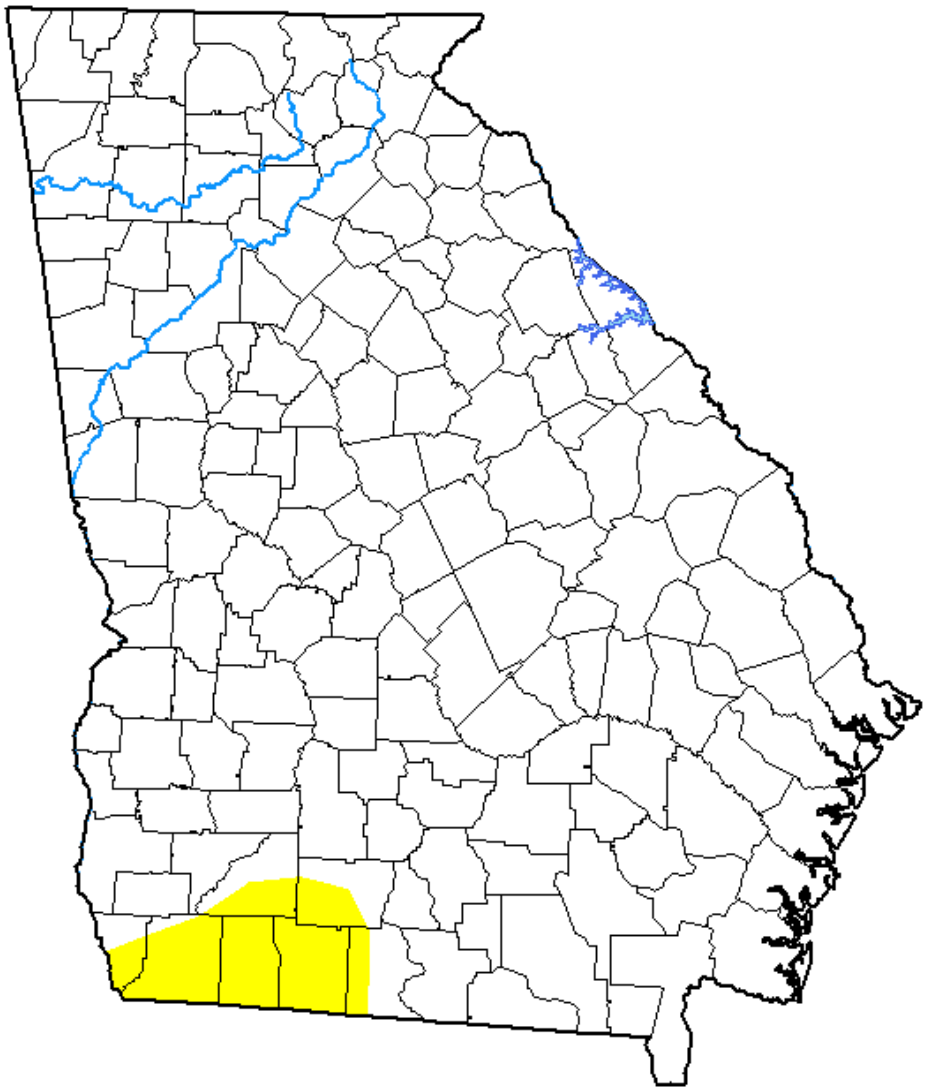
National Drought Mitigation Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

USDA NDMC NOAA

droughtmonitor.unl.edu

U.S. Drought Monitor
Georgia



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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	96.00	4.00	0.00	0.00	0.00	0.00
Last Week *12-31-2019*	96.00	4.00	0.00	0.00	0.00	0.00
3 Months Ago *10-08-2019*	0.00	100.00	97.16	52.98	11.80	0.00
Start of Calendar Year *12-31-2019*	96.00	4.00	0.00	0.00	0.00	0.00
Start of Water Year *10-01-2019*	0.00	100.00	61.58	28.35	4.49	0.00
One Year Ago *01-08-2019*	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

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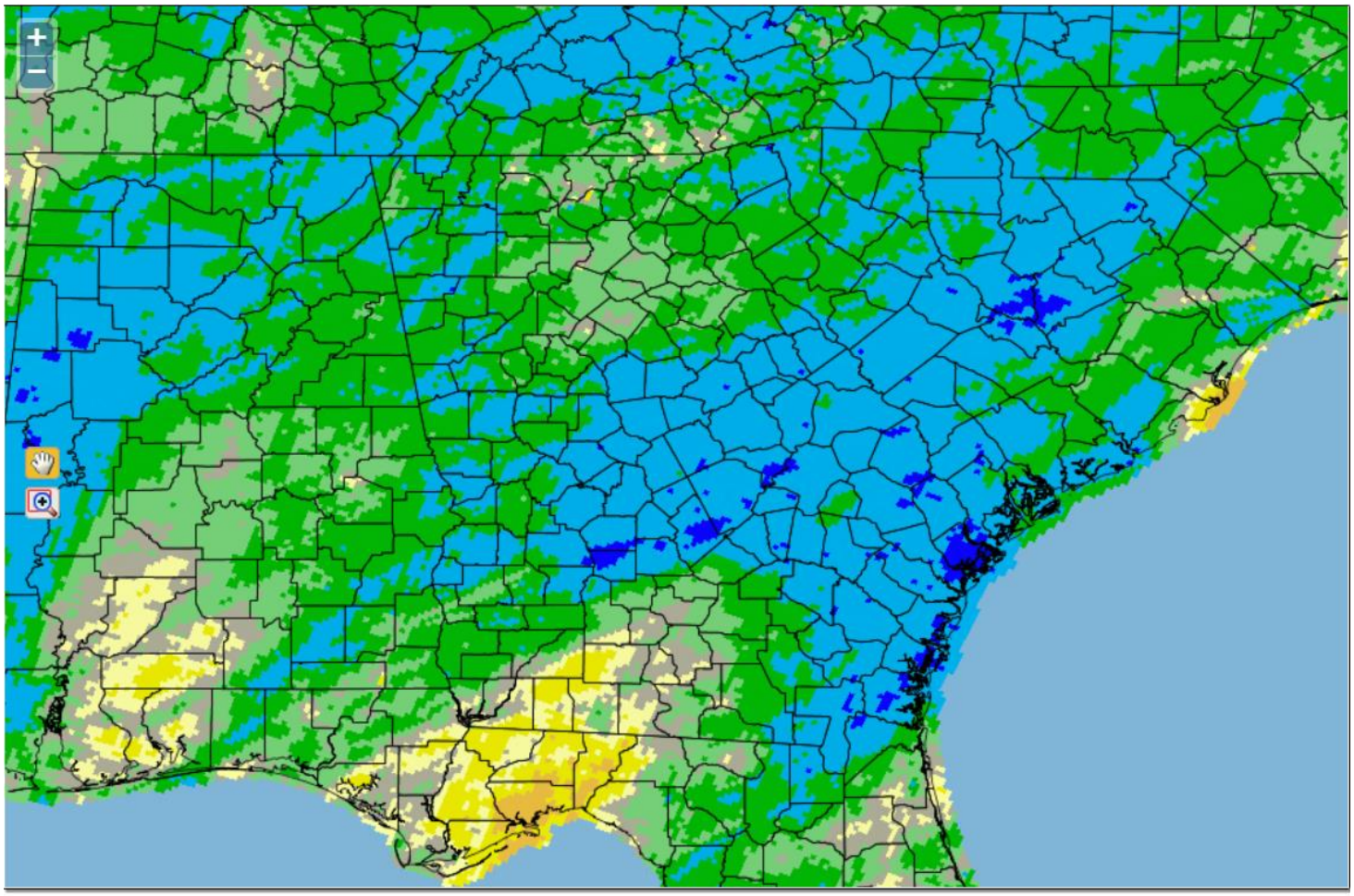
National Drought Mitigation Center

droughtmonitor.unl.edu

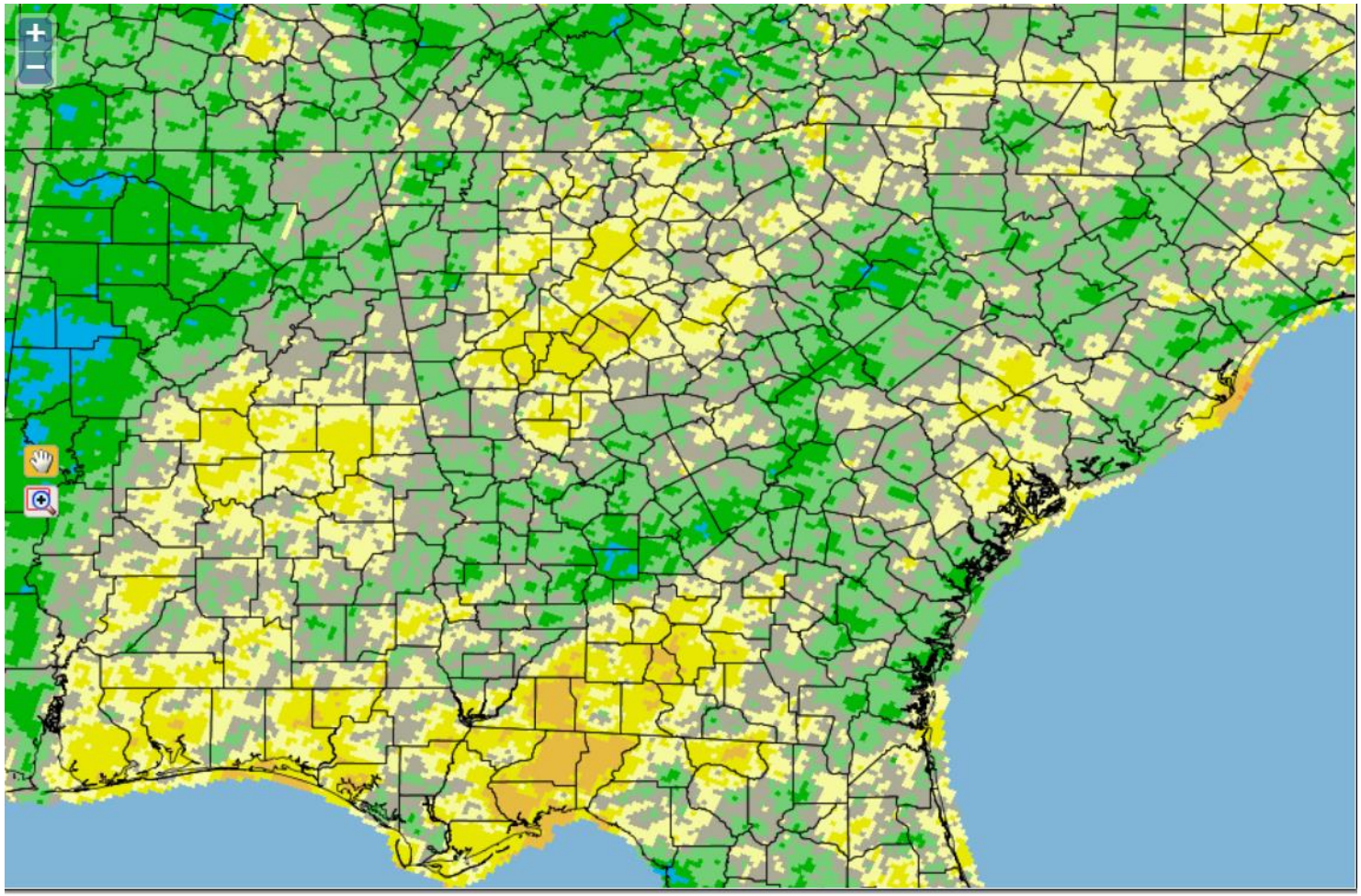
3, 6, and 12 Month Percent of Normal Precipitation

Data Source:
http://climate.ncsu.edu/drought/map

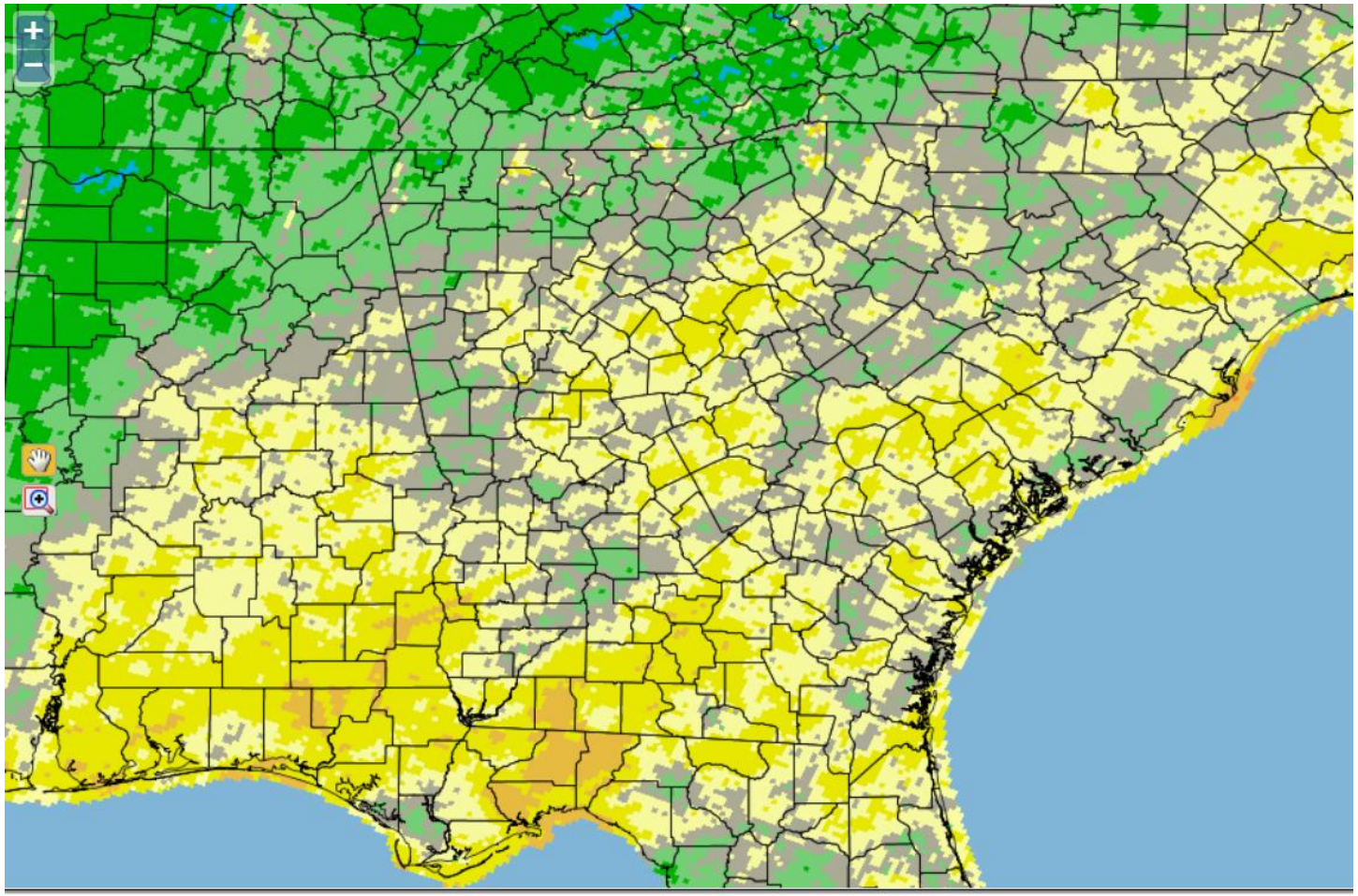
3 Month Percent of Normal Precipitation



6 Month Percent of Normal Precipitation

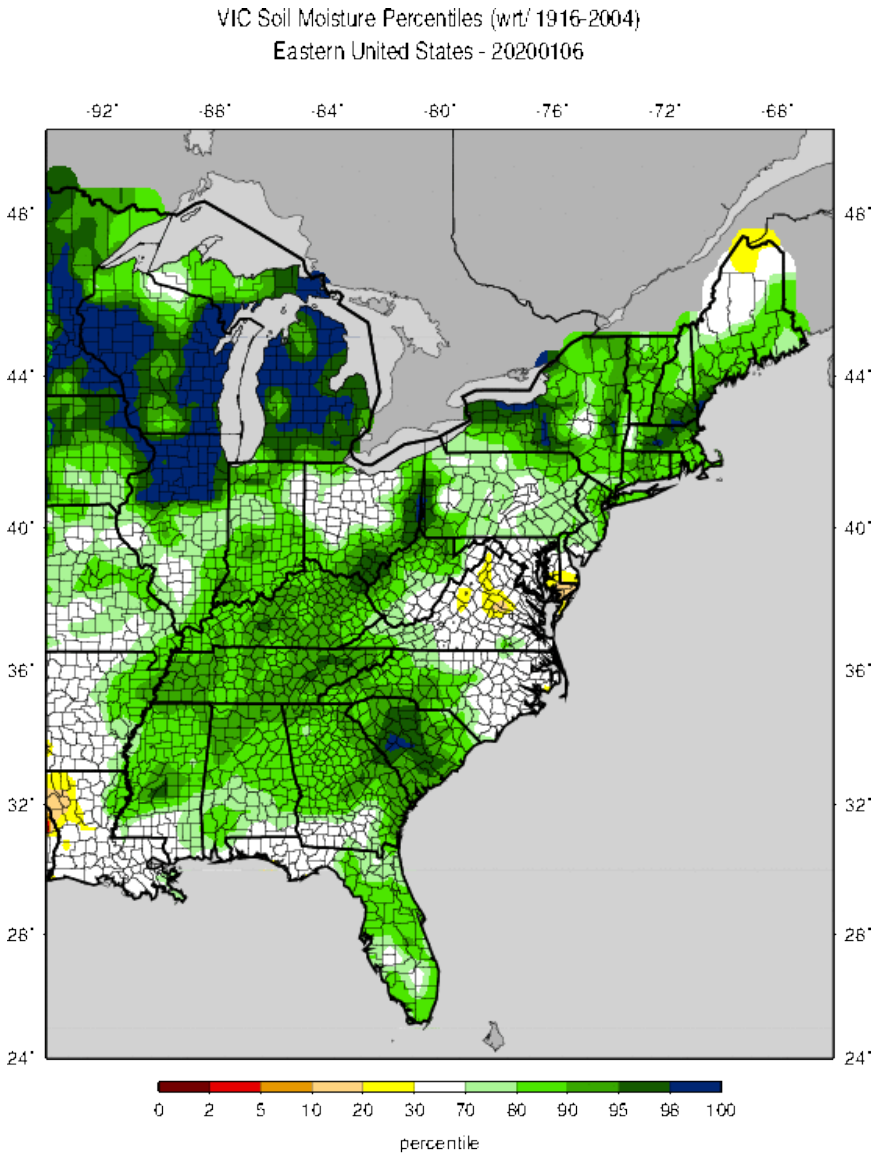


12 Month Percent of Normal Precipitation



Soil Moisture Conditions

Data Source:
http://www.hydro.ucla.edu/SurfaceWaterGroup/forecast/monitor/curr/conus.mexico/east.vic.sm_qnt.gif



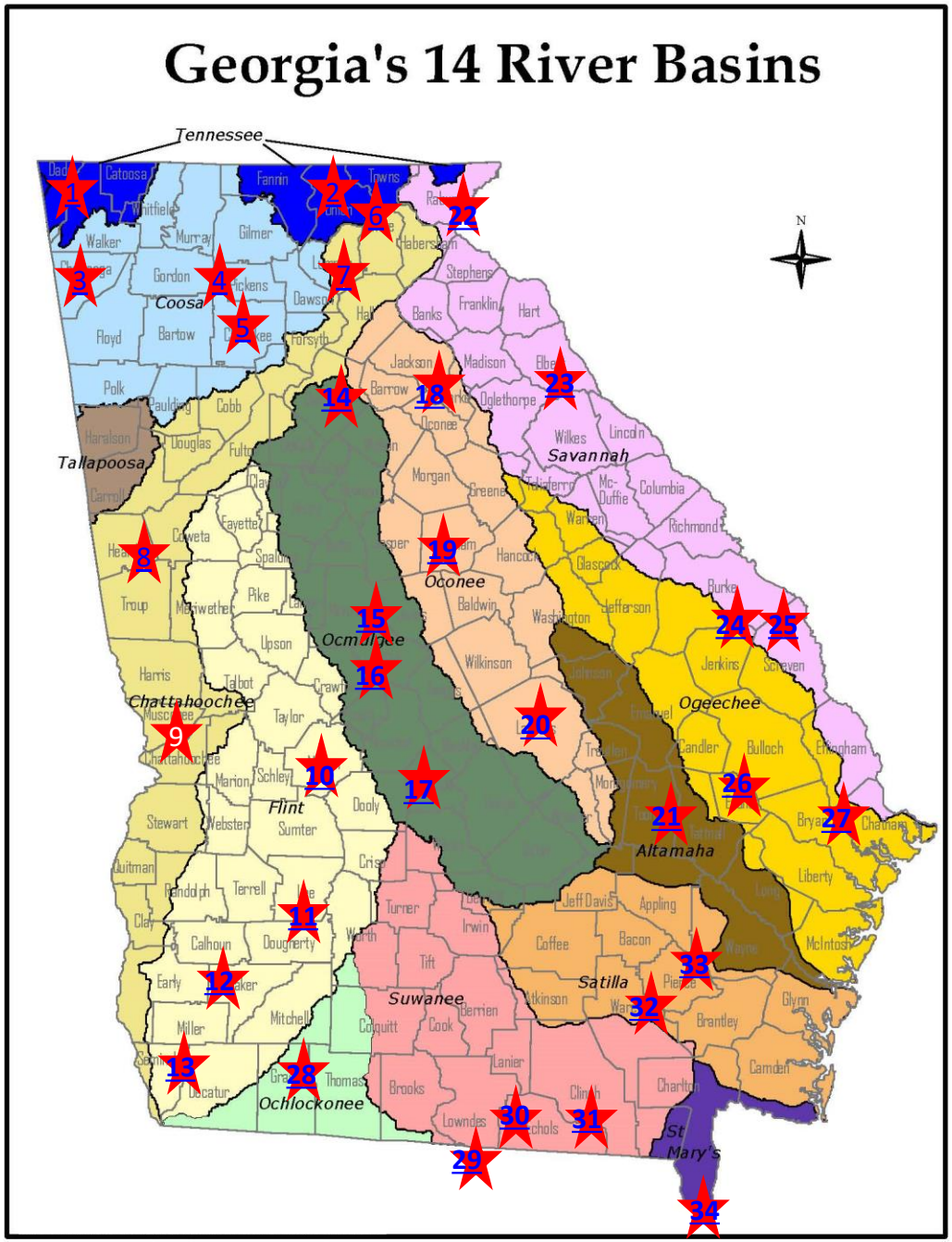
Current (daily updated) percentiles for soil moisture (SWE) with respect to the climatological period (1916-2004).

Streamflow Conditions

Data Source: USGS

Streamflow Monitoring

- As shown on the following slide, EPD Monitors 34 USGS stream gages in 13 of the State's major river basins to assess drought conditions.
- These gages were selected because each has:
  - Long-term and relatively complete records for recent decades; and
  - Relatively low consumptive water use implications and streamflows are not heavily influenced by dams.
- Note: Hydrologic conditions of major rivers with streamflows that are heavily influenced by dams can be assessed by reviewing status of major storage reservoirs



USGS Stream Gages Monitored by EPD to Assess Drought Conditions

GAGE#	BASIN	GAGE NAME
1	TENNESSEE	LOOKOUT CREEK NEAR NEW ENGLAND
2	TENNESSEE	NOTTELY RIVER NEAR BLAIRSVILLE
3	COOSA	CHATTOOGA RIVER AT SUMMERVILLE
4	COOSA	TALKING ROCK CREEK NEAR HINTON
5	COOSA	ETOWAH RIVER AT CANTON
6	CHATTAHOOCHEE	CHATTAHOOCHEE RIVER AT CORNELIA
7	CHATTAHOOCHEE	CHESTATEE RIVER NEAR DAHLONEGA
8	CHATTAHOOCHEE	NEW RIVER AT GA 100 NEAR CORINTH
9	CHATTAHOOCHEE	UPATOI CREEK AT COLUMBUS
10	FLINT	FLINT RIVER AT GA26 NEAR MONTEZUMA
11	FLINT	FLINT RIVER AT ALBANY
12	FLINT	ICHAWAYNOCHAWAY CREEK AT MILFORD
13	FLINT	SPRING CREEK NEAR IRON CITY
14	OCMULGEE	ALCOVY RIVER ABOVE COVINGTON
15	OCMULGEE	OCMULGEE RIVER AT MACON
16	OCMULGEE	TOBESOFKEE CREEK NEAR MACON
17	OCMULGEE	TUCSAWHATCHEE CREEK NEAR HAWKINSVILLE
18	OCONEE	MIDDLE OCONEE RIVER NEAR ATHENS
19	OCONEE	LITTLE RIVER NEAR EATONTON
20	OCONEE	OCONEE RIVER AT DUBLIN
21	ALTAMAHA	OHOOPEE RIVER NEAR REIDSVILLE
22	SAVANNAH	CHATTOOGA RIVER NEAR CLAYTON
23	SAVANNAH	BROAD RIVER NEAR BELL
24	SAVANNAH	BEAVERDAM CREEK NEAR SARDIS
25	SAVANNAH	BRIER CREEK AT MILLHAVEN
26	OGEECHEE	CANOOCHEE RIVER NEAR CLAXTON
27	OGEECHEE	OGEECHEE RIVER NEAR EDEN
28	OCHLOCKONEE	OCHLOCKONEE RIVER NEAR THOMASVILLE
29	SUWANEE	WITHLACOOCHEE RIVER NEAR PINETTA FL
30	SUWANEE	ALAPAHA RIVER AT STATENVILLE
31	SUWANEE	SUWANNEE RIVER AT US 441, AT FARGO
32	SATILLA	SATILLA RIVER NEAR WAYCROSS
33	SATILLA	LITTLE SATILLA RIVER NEAR OFFERMAN
34	ST MARY	ST MARYS RIVER NEAR MACCLENNY FL

Streamflow Graphs

- For each of the 34 gages, EPD has prepared a graph that shows monthly average streamflow from January 2019 through December 2019;
- To help put these streamflow conditions into perspective, for comparison purposes, each graph also shows:
  - Monthly average streamflows for the years 2007 and 2011 when streamflows were at or near recorded low levels across much of the state; and
  - A statistical composite of historical conditions showing the “driest” 50, 20, 10, and 5 percent of all recorded monthly average stream flows at the same gage.

How to Read the Streamflow Graphs
Example #1: **Etowah River at Canton**

The streamflow graph for Gage #5, USGS Etowah River gage at Canton shows :

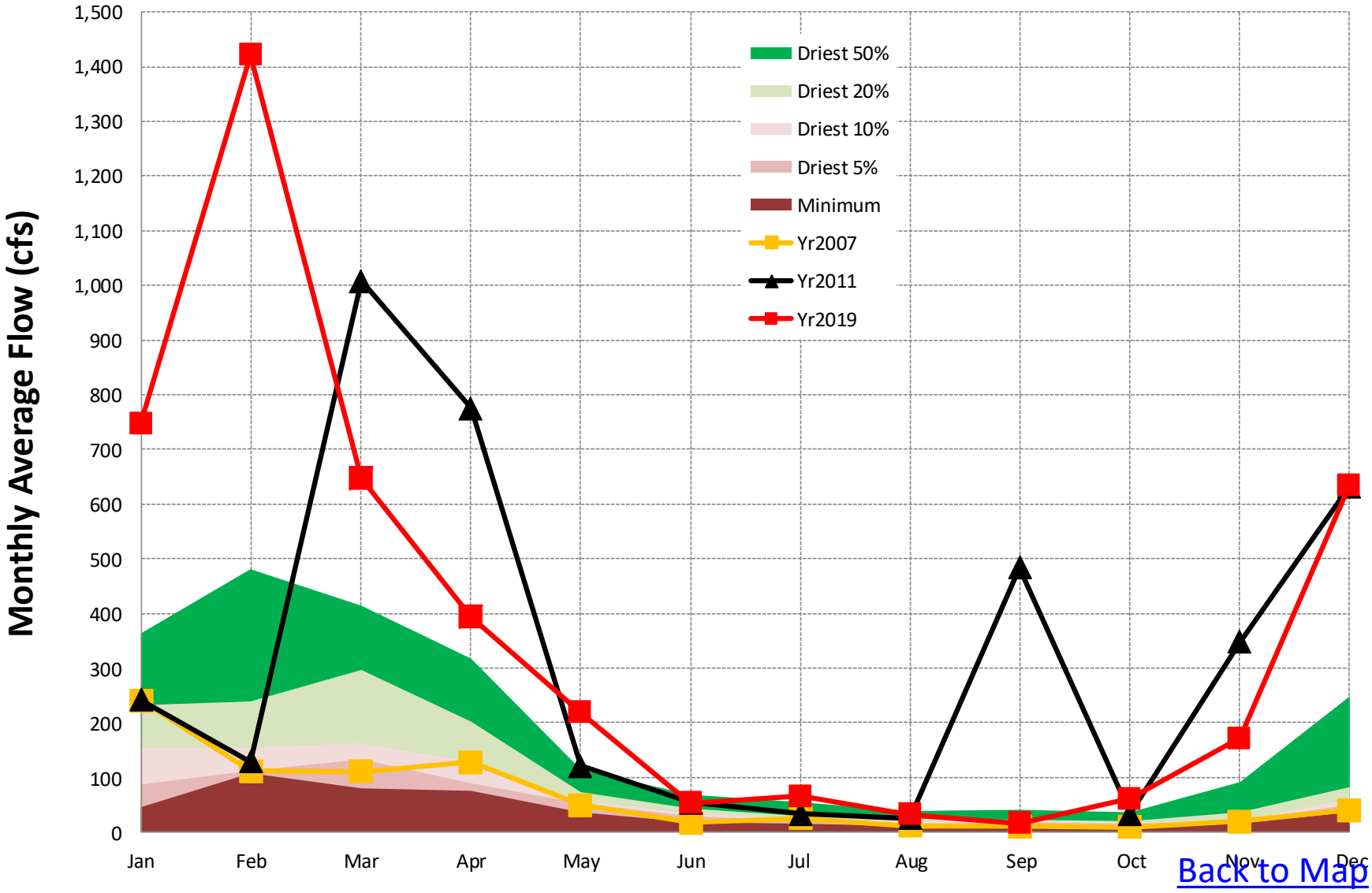
- Average stream flow for December 2019 was 966 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2019 about 52% of the time; 48% of the time in December it has been higher.
- Average stream flow in December 2011 was 790 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2011 only 30-40% of the time; 60-70% of the time in December it has been higher.
- Average stream flow in December 2007 was 342 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2007 only 0.1% of the time; 99.9% of the time in December it has been higher.

How to Read the Streamflow Graphs
Example #2: **Flint River at Albany**

The streamflow graph for Gage #11, USGS Flint River gage at Albany shows:

- Average stream flow for December 2019 was 9,451 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2019 about 83% of the time; about 17% of the time in December it has been higher.
- Average stream flow in December 2011 was 2,100 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2011 about 2-5% of the time; about 95-98% of the time in December it has been higher.
- Average stream flow in December 2007 was 2,463 cfs. The statistical composite of all historical data for this gage shows that average streamflow in December has historically been lower than December 2007 about 5-10% of the time; about 90-95% of the time in December it has been higher.

Gage #1. USGS #03568933, Tennessee Basin, LOOKOUT CREEK NEAR NEW ENGLAND, GA



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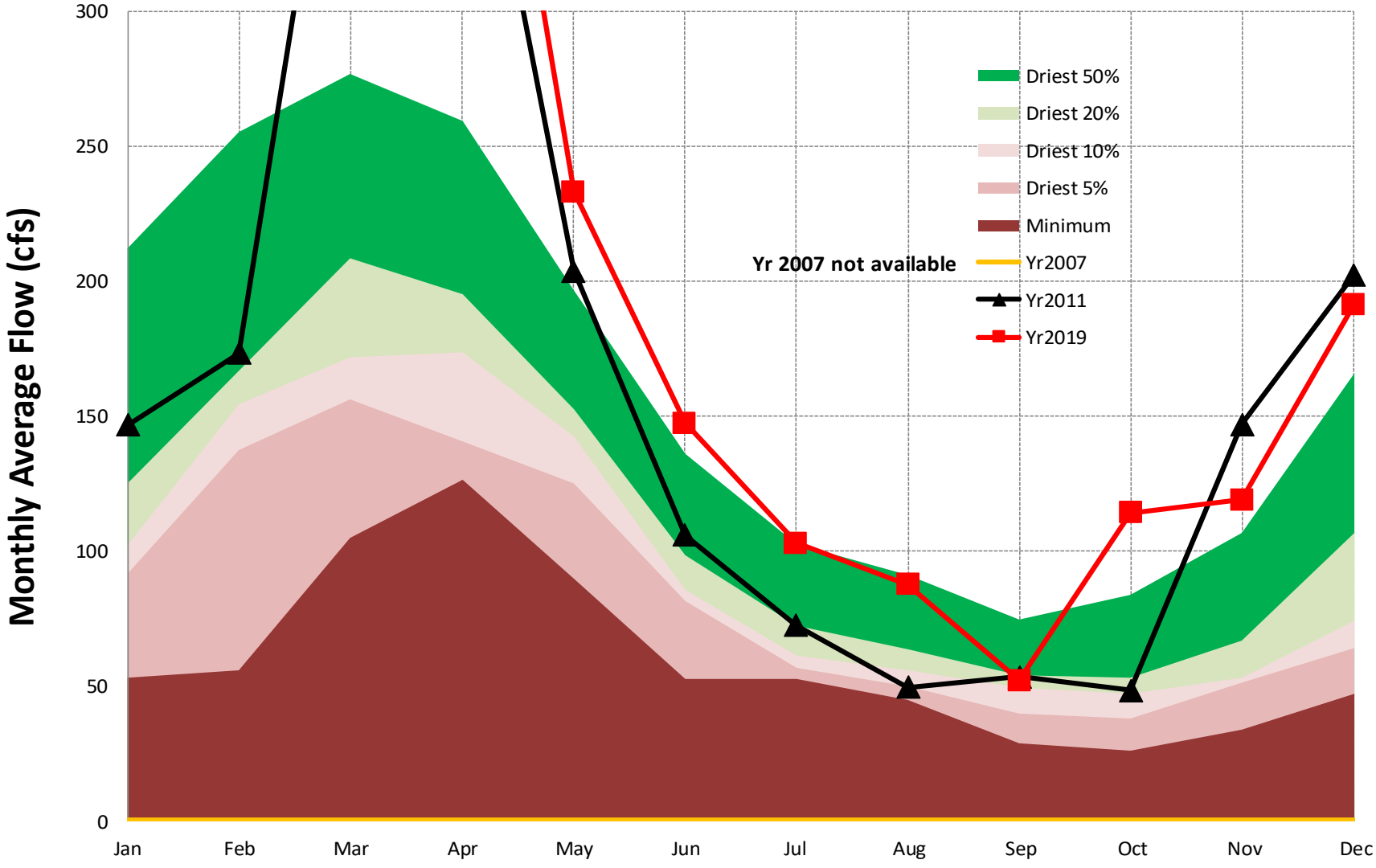
Gage #2, USGS #03550500, Tennessee Basin, NOTTELY RIVER NEAR BLAIRSVILLE, GA



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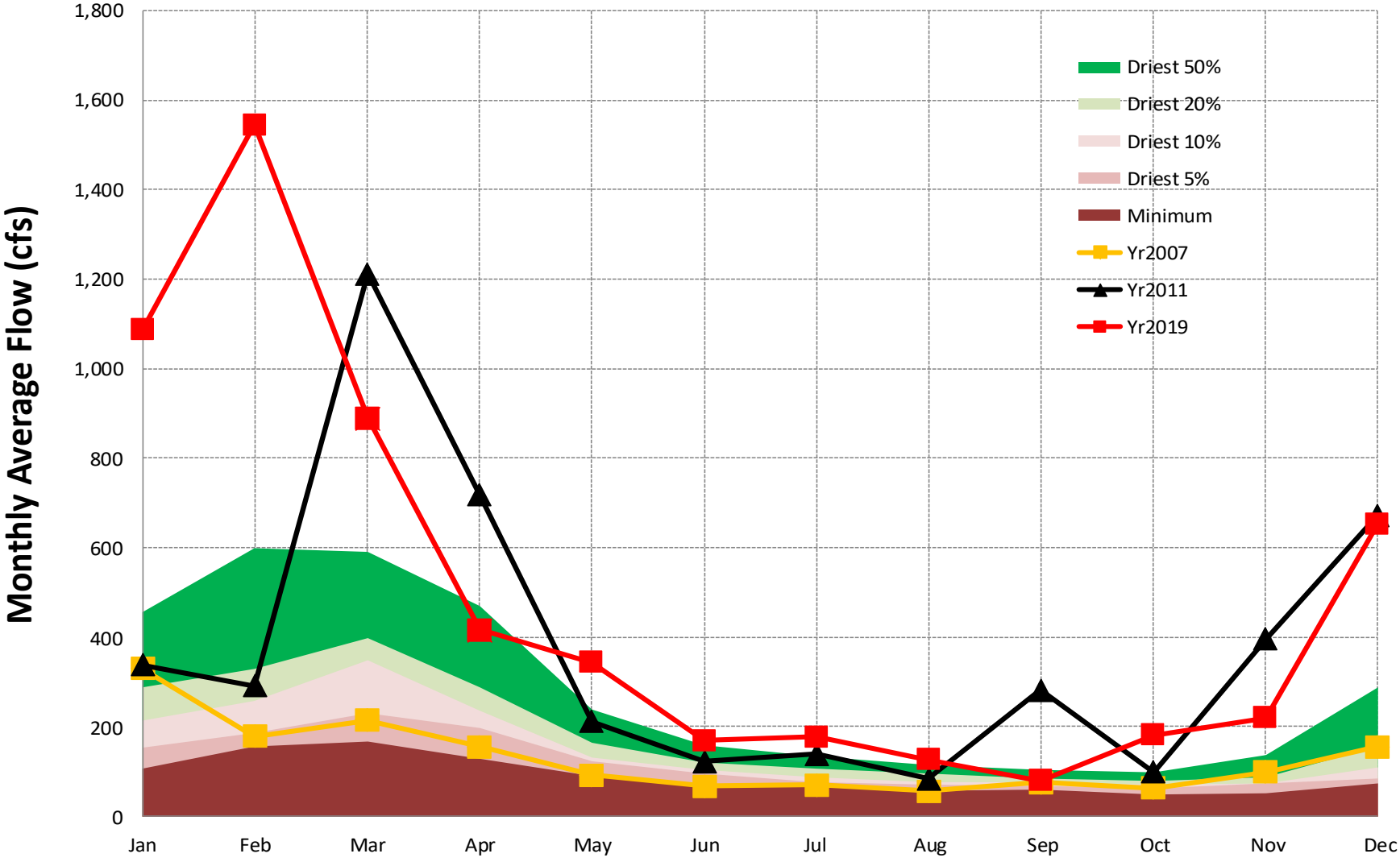
Gage #3. USGS #02398000, Coosa Basin, Chattooga River at Summerville, GA



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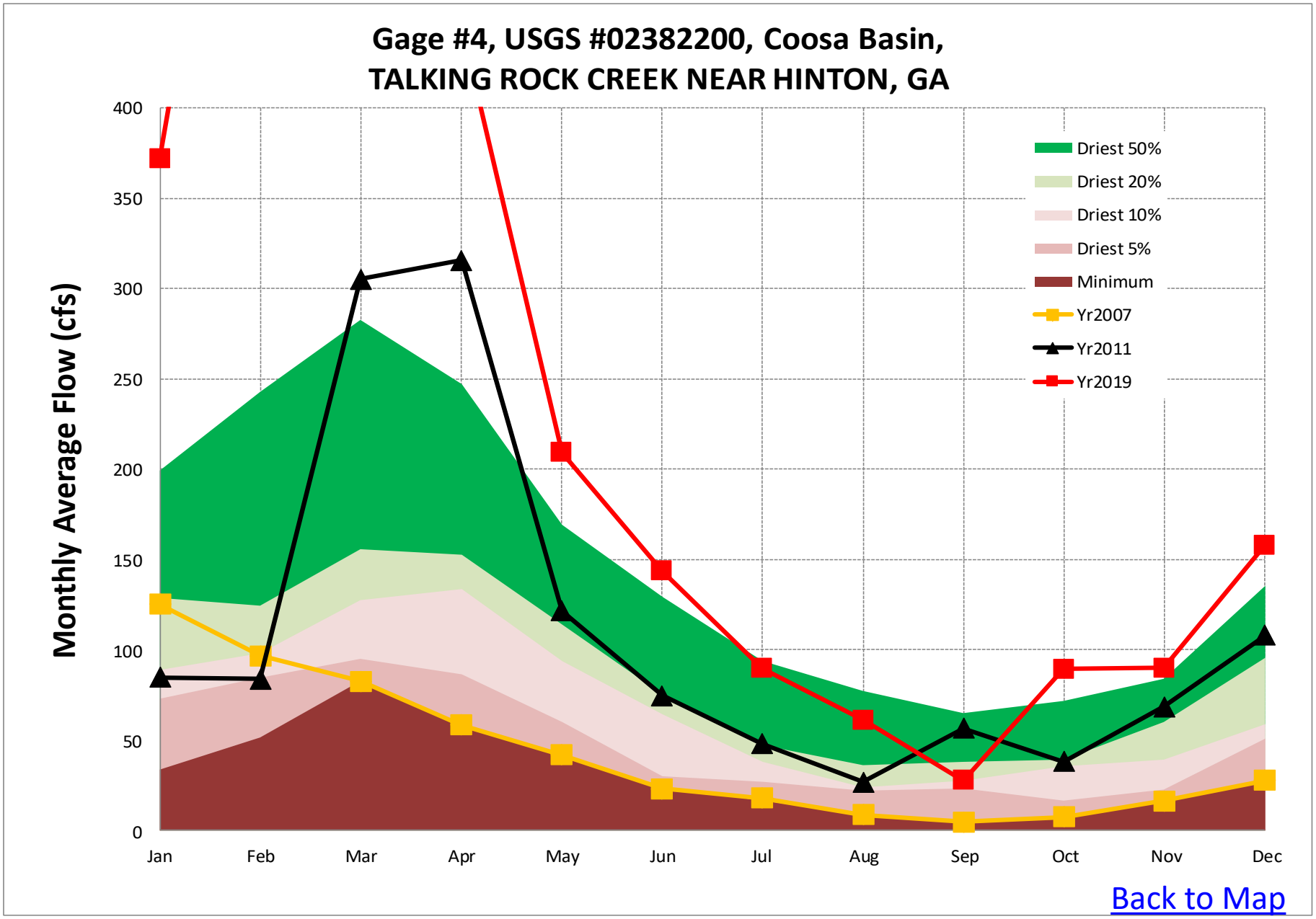
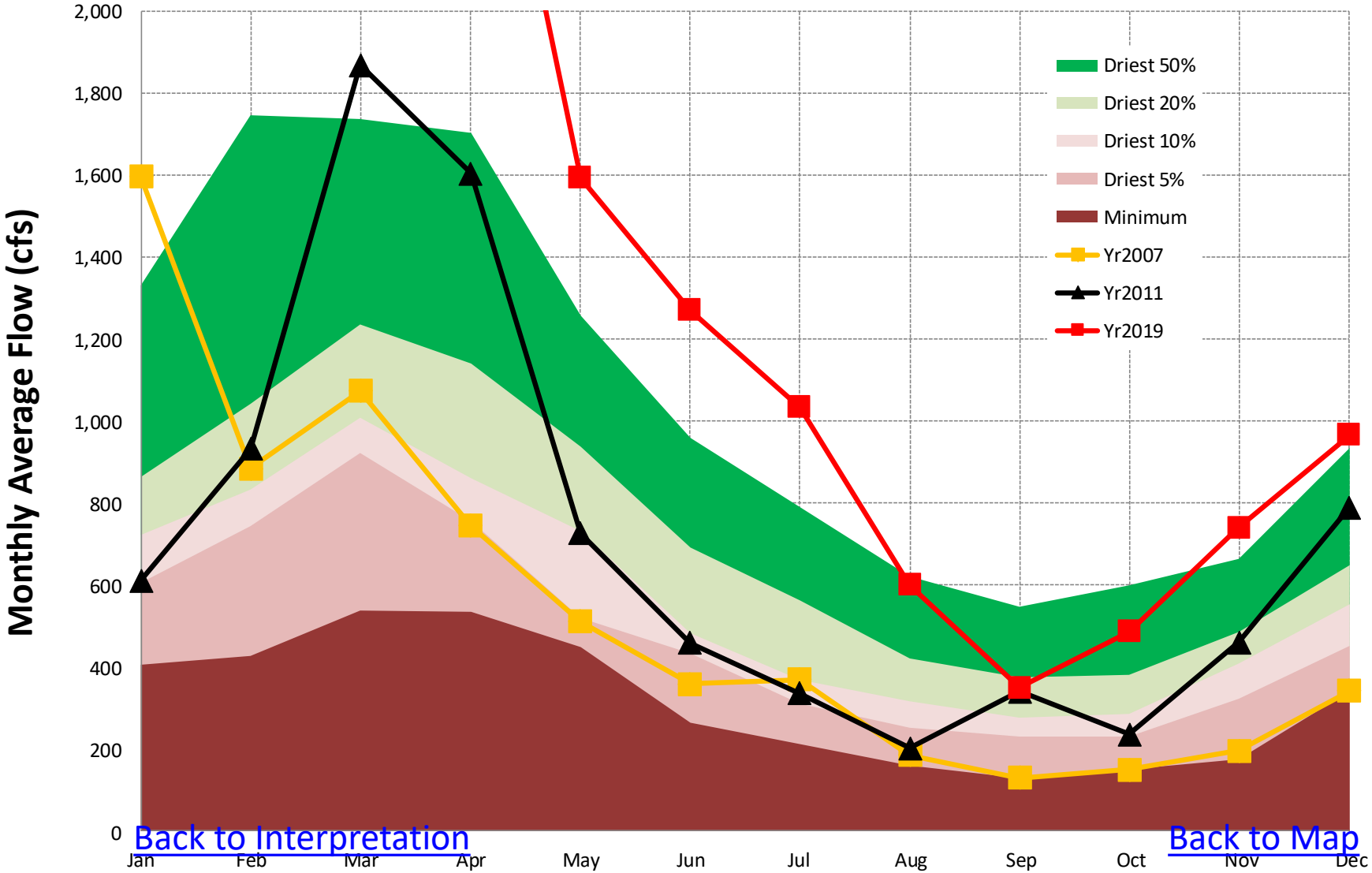

Gage #4, USGS #02382200, Coosa Basin,
TALKING ROCK CREEK NEAR HINTON, GA
Monthly Average Flow (cfs)
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

Back to Map

Gage #5, USGS #02392000, Coosa Basin, Etowah River at Canton, GA



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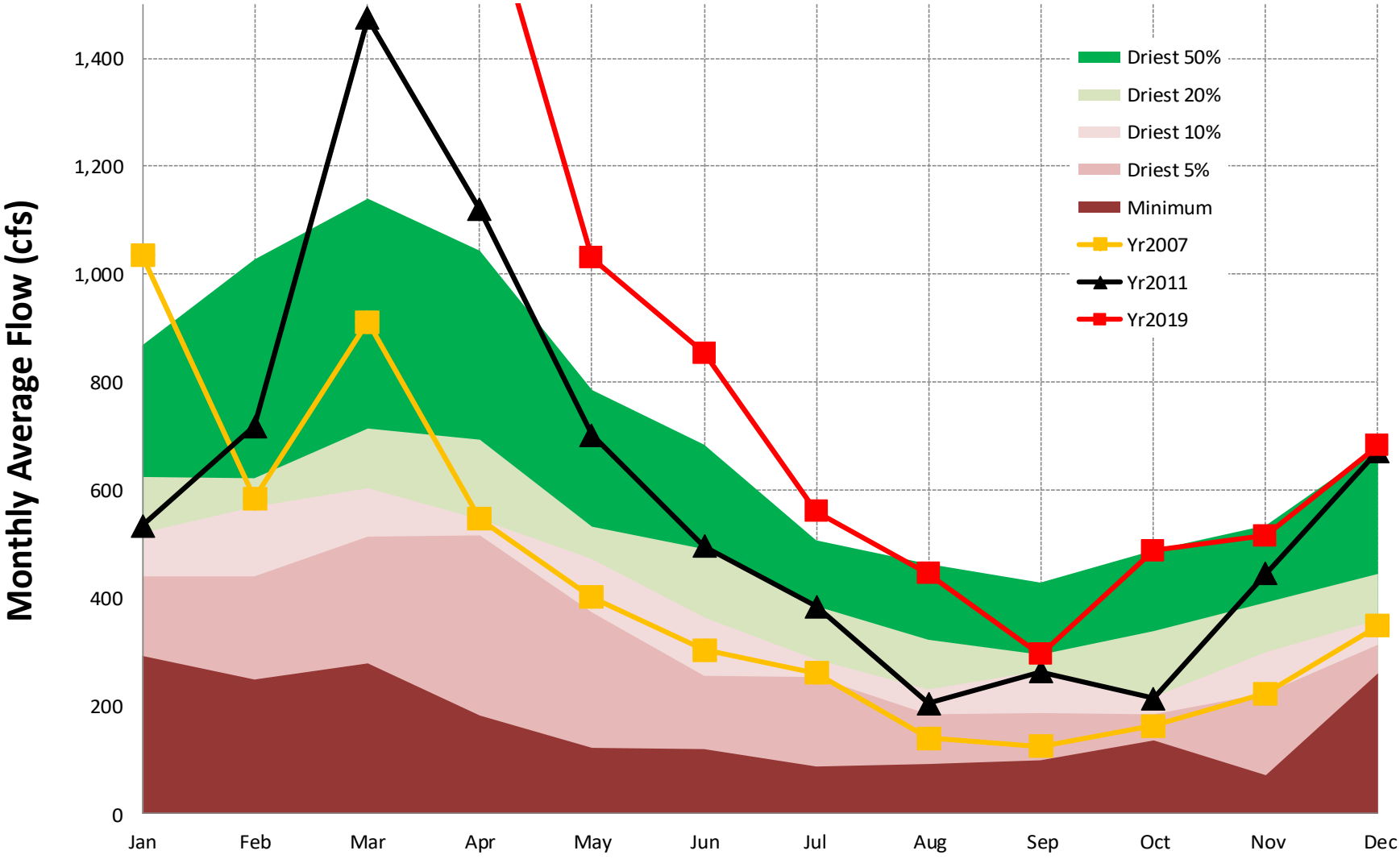
Gage #6, USGS #02331600, Chatthoochee Basin, CHATTAHOOCHEE RIVER AT CORNELIA, GA



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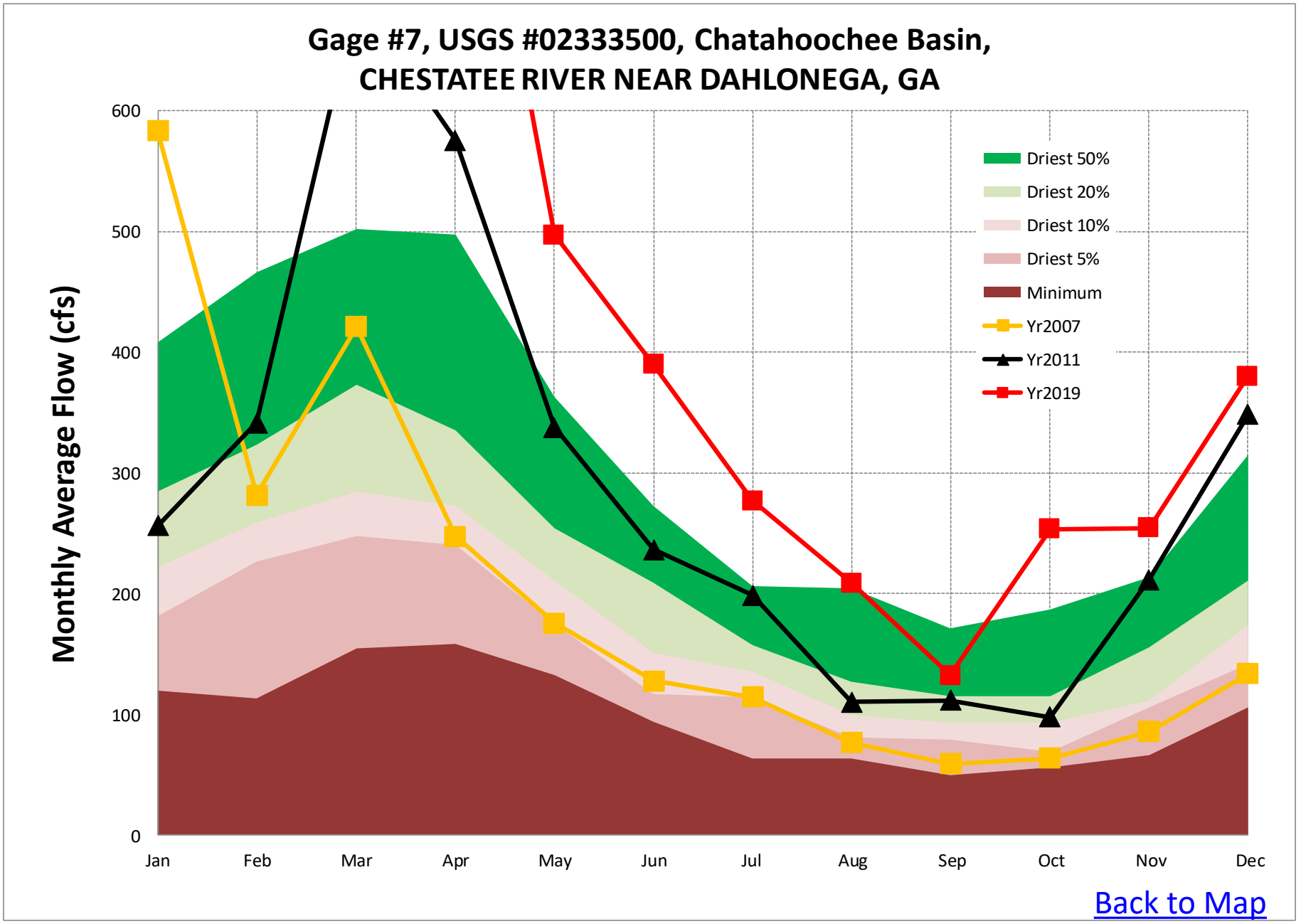
Gage #7, USGS #02333500, Chatahoochee Basin,
CHESTATEE RIVER NEAR DAHLONEGA, GA
Monthly Average Flow (cfs)
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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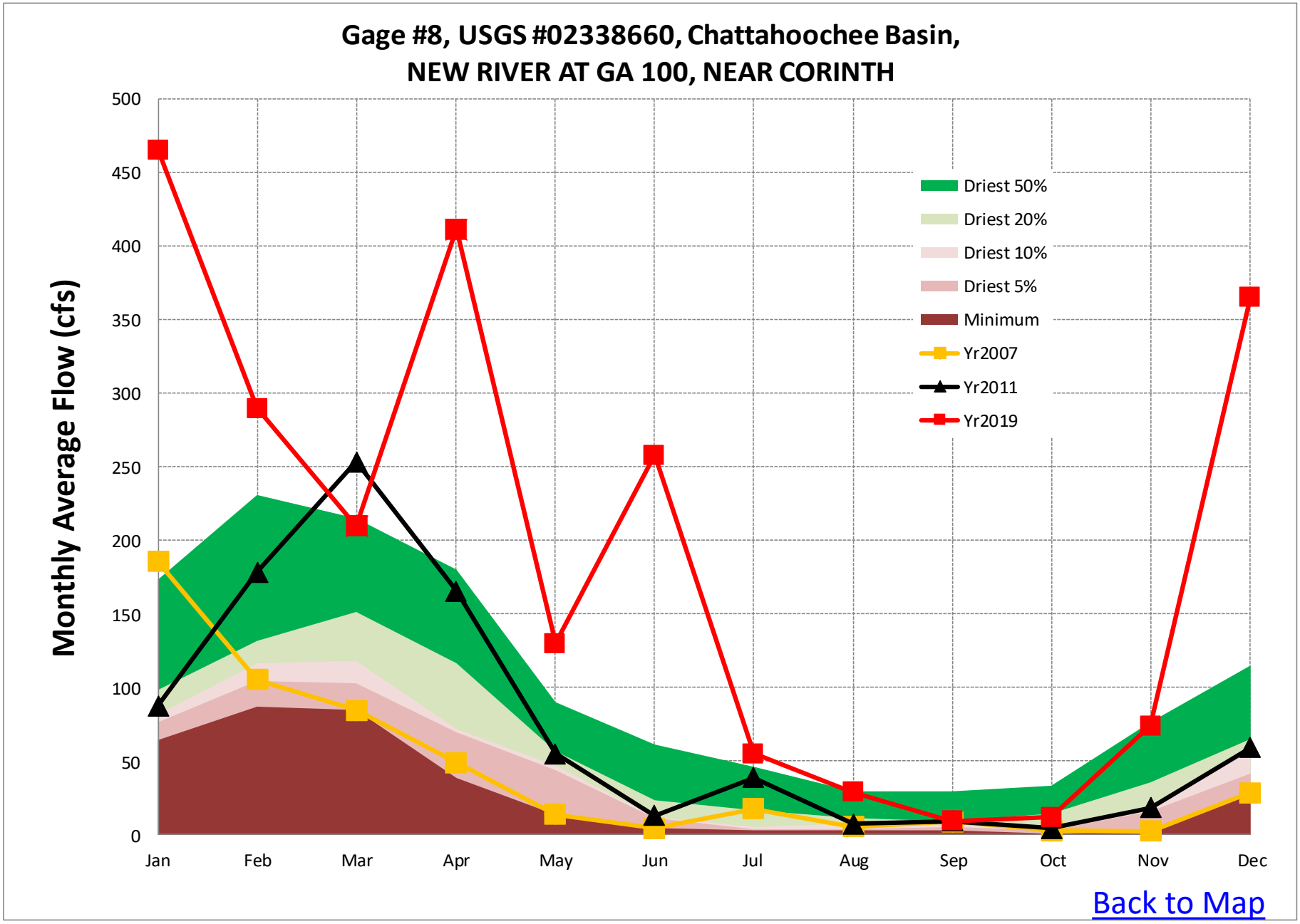
Gage #8, USGS #02338660, Chattahoochee Basin,
NEW RIVER AT GA 100, NEAR CORINTH
Monthly Average Flow (cfs)
500
450
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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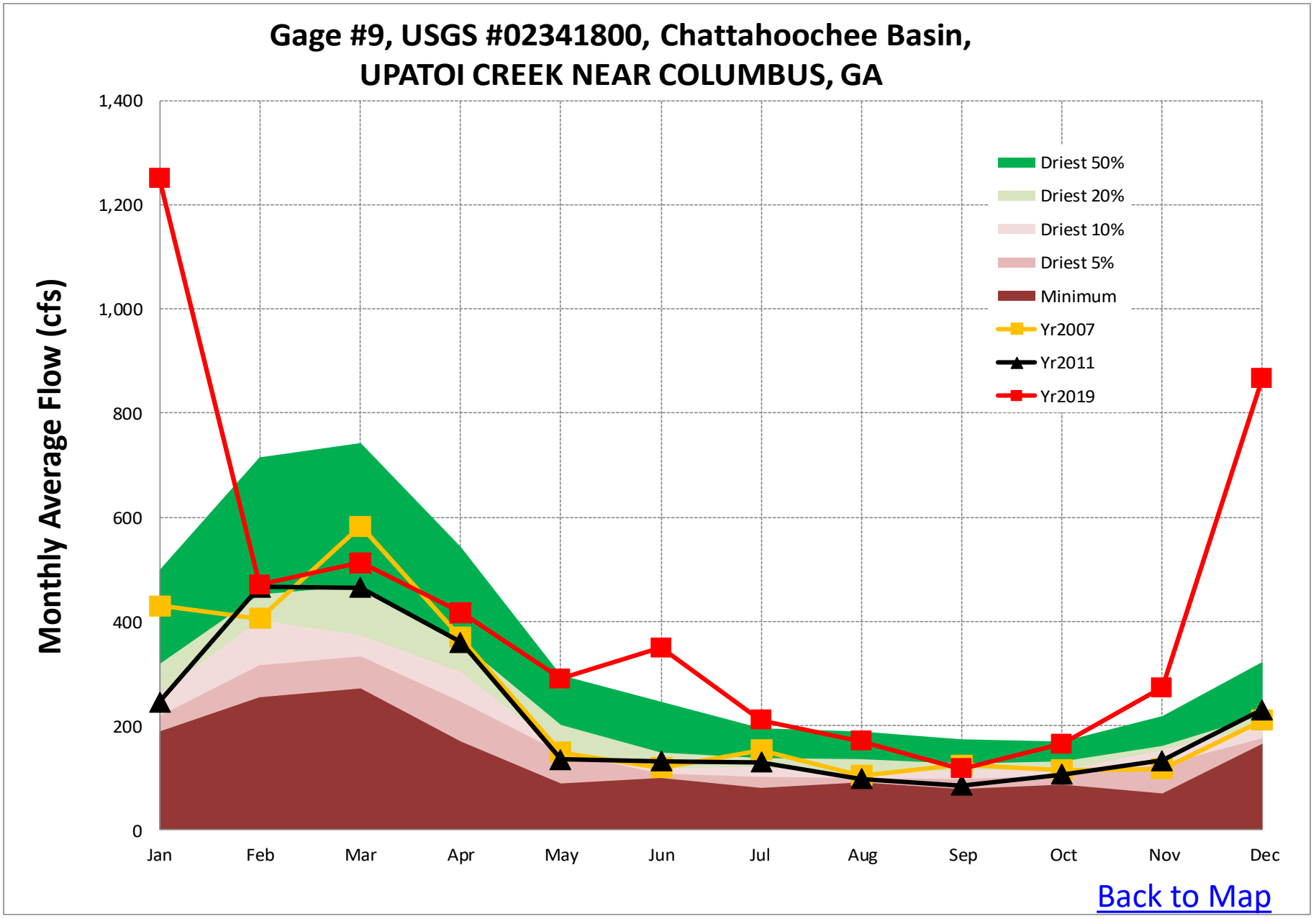
Gage #9, USGS #02341800, Chattahoochee Basin,
UPATOI CREEK NEAR COLUMBUS, GA
Monthly Average Flow (cfs)
1,400
1,200
1,000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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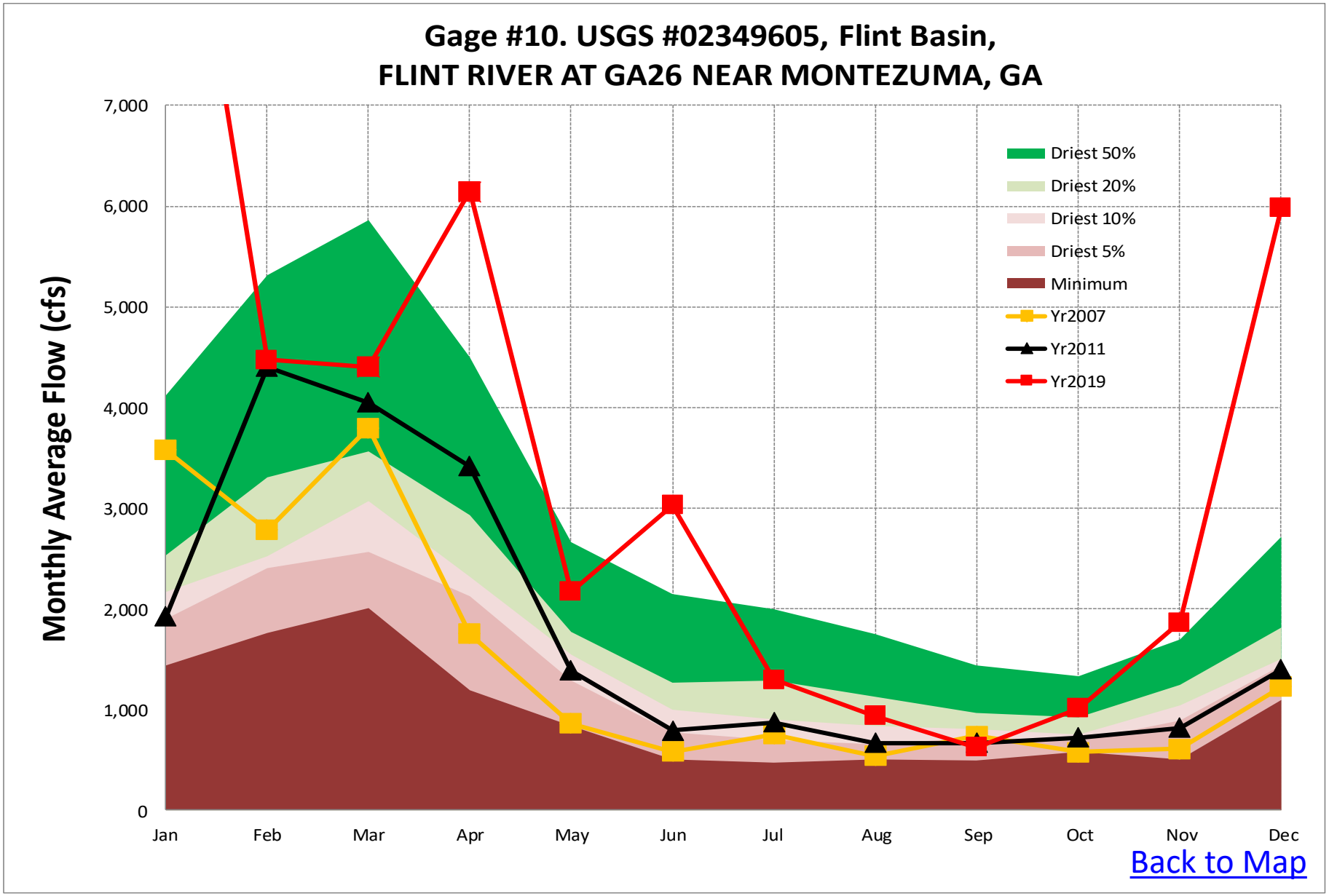
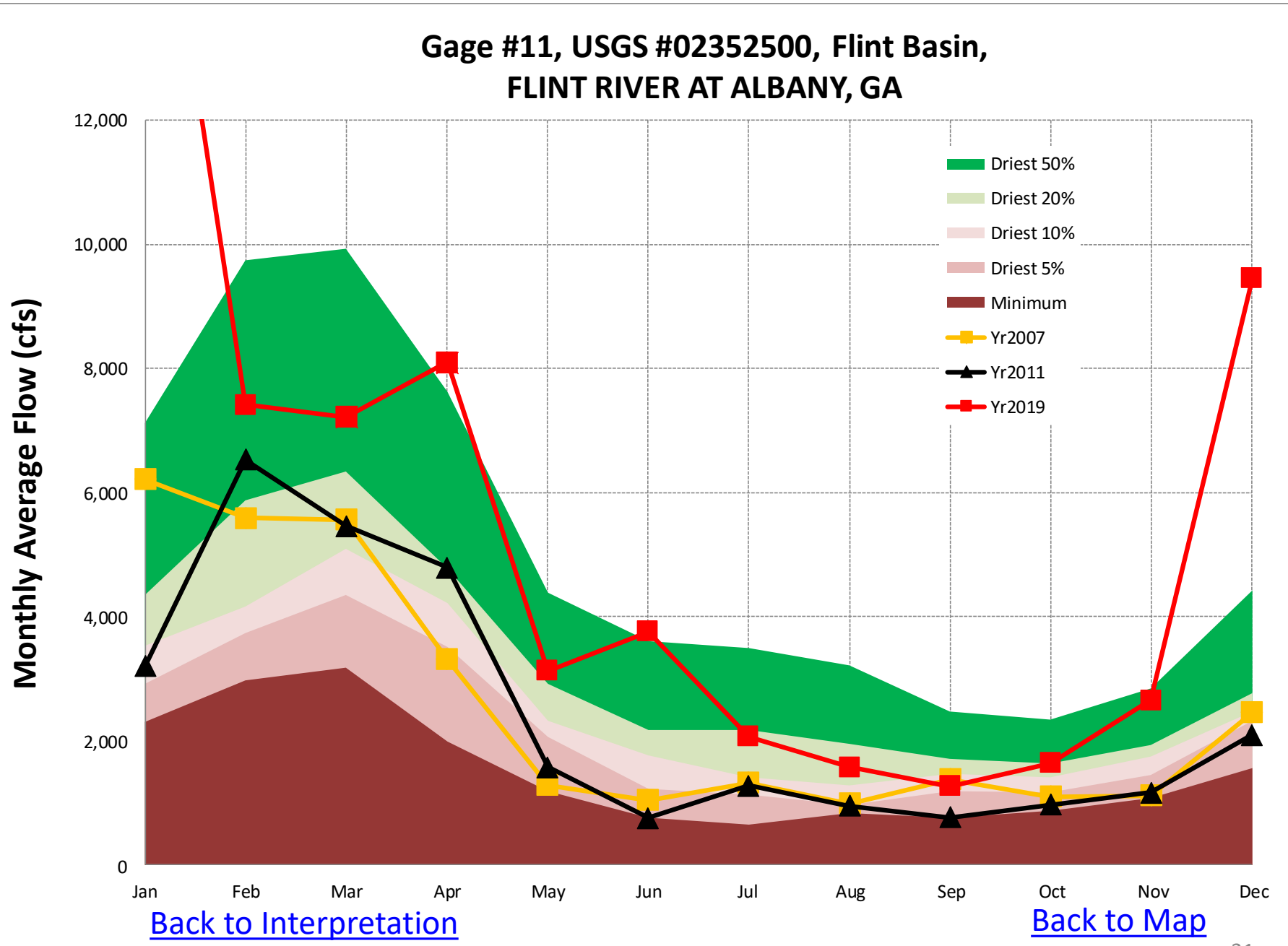

Gage #10. USGS #02349605, Flint Basin,
FLINT RIVER AT GA26 NEAR MONTEZUMA, GA
Monthly Average Flow (cfs)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

Back to Map



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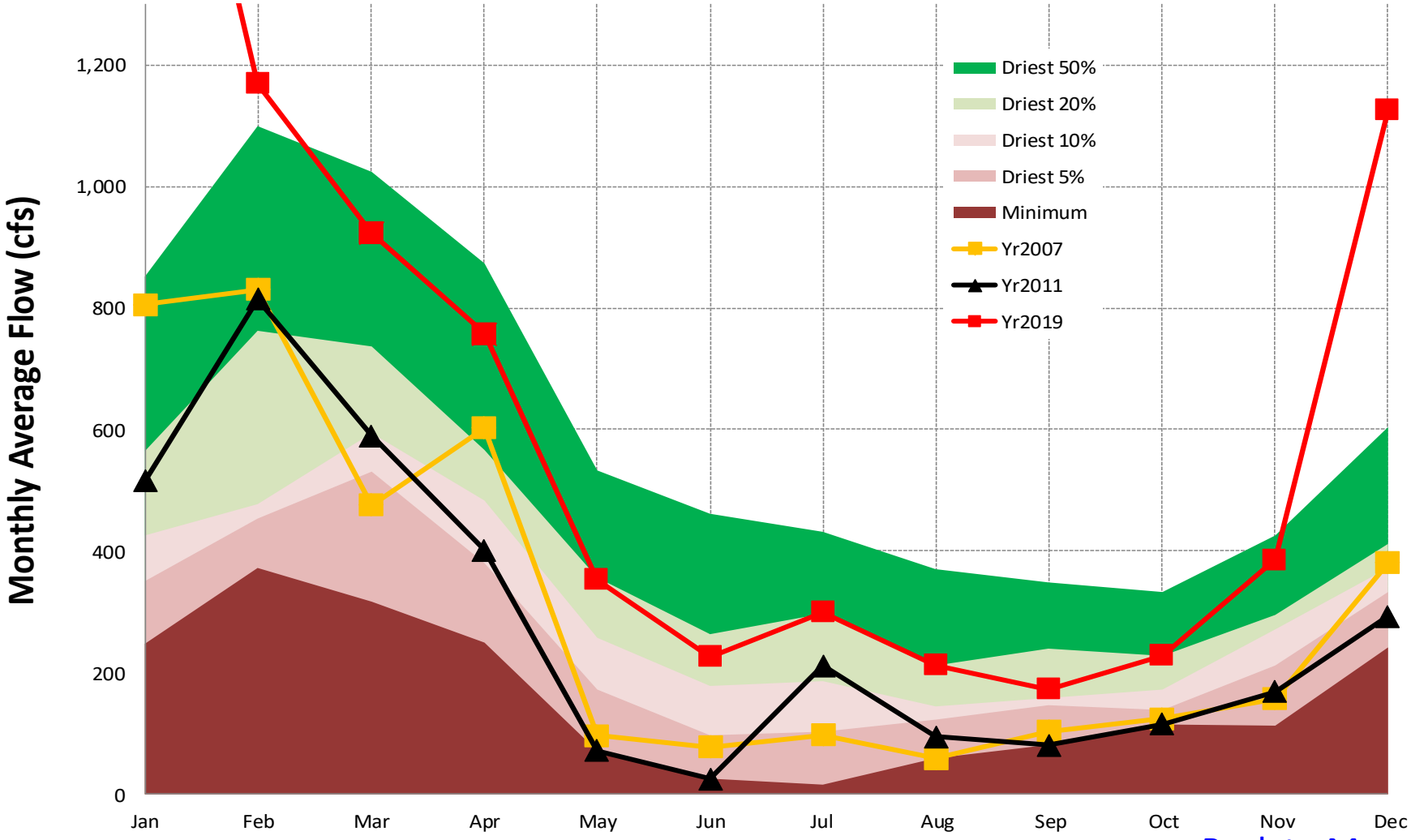
Gage #12. USGS #02353500, Flint Basin, Ichawaynochaway Creek at Milford, GA



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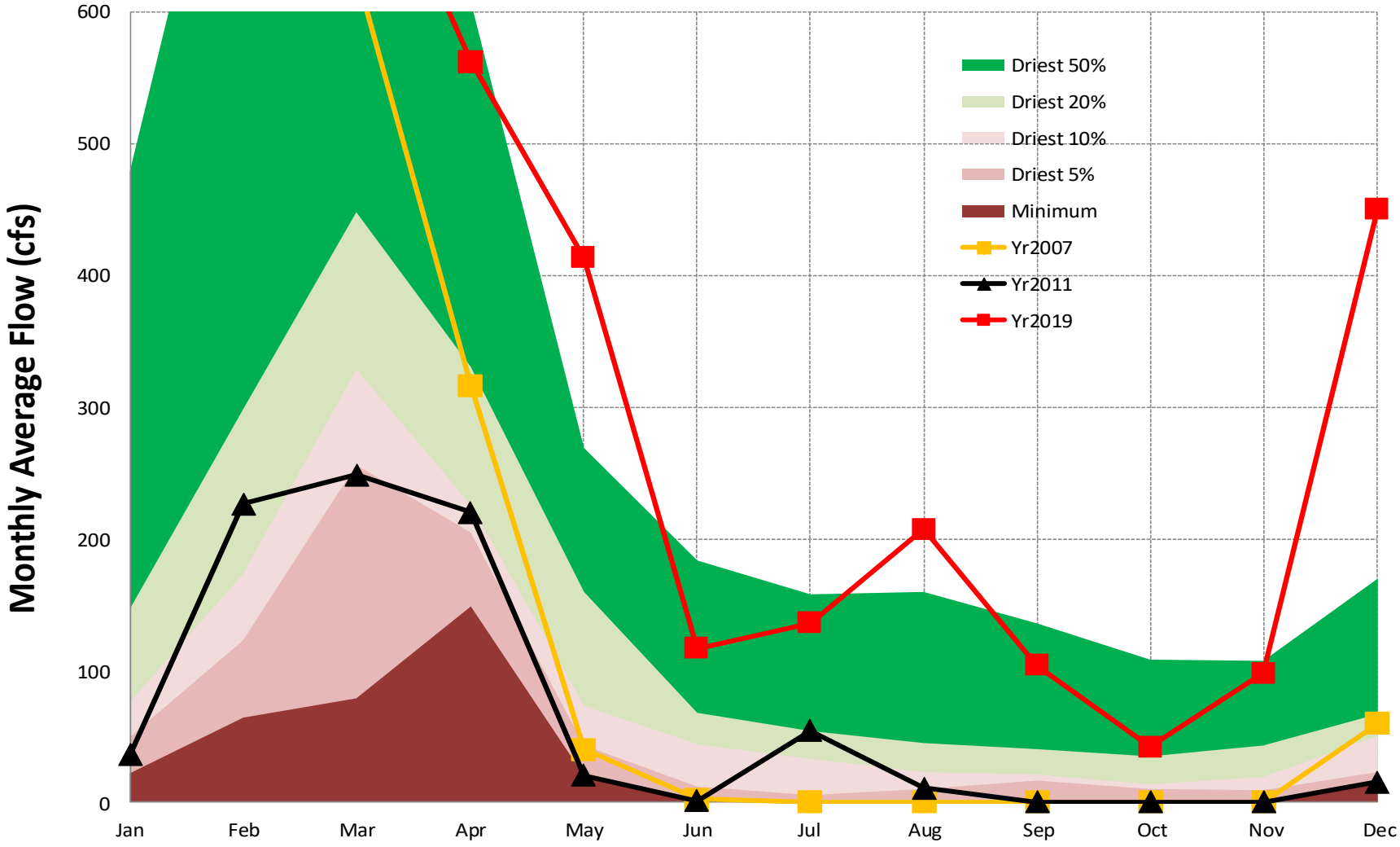
Gage #13. USGS #02357000, Flint River, Spring Creek near Iron City, GA



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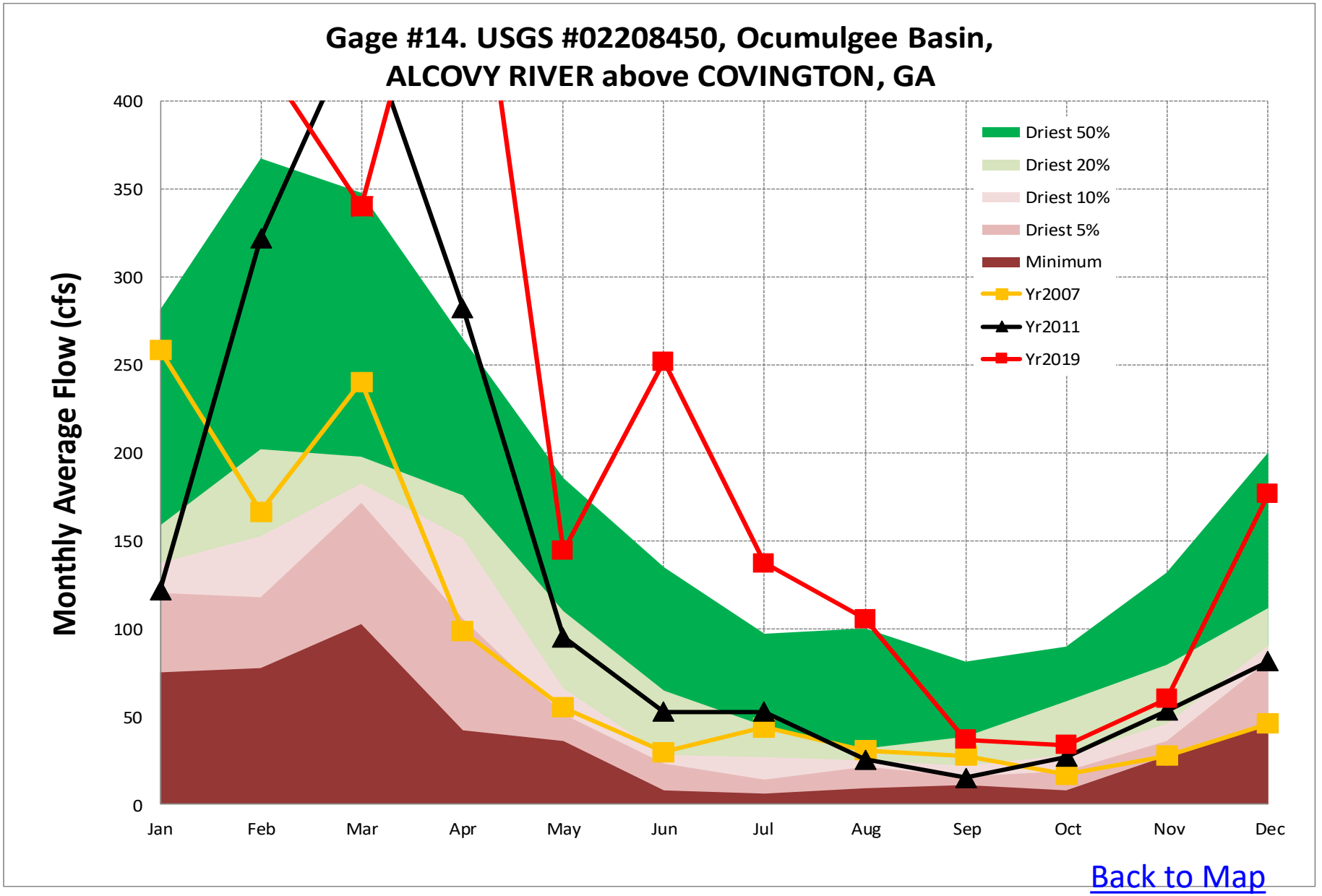
Gage #14. USGS #02208450, Ocumulgee Basin,
ALCOVY RIVER above COVINGTON, GA
Monthly Average Flow (cfs)
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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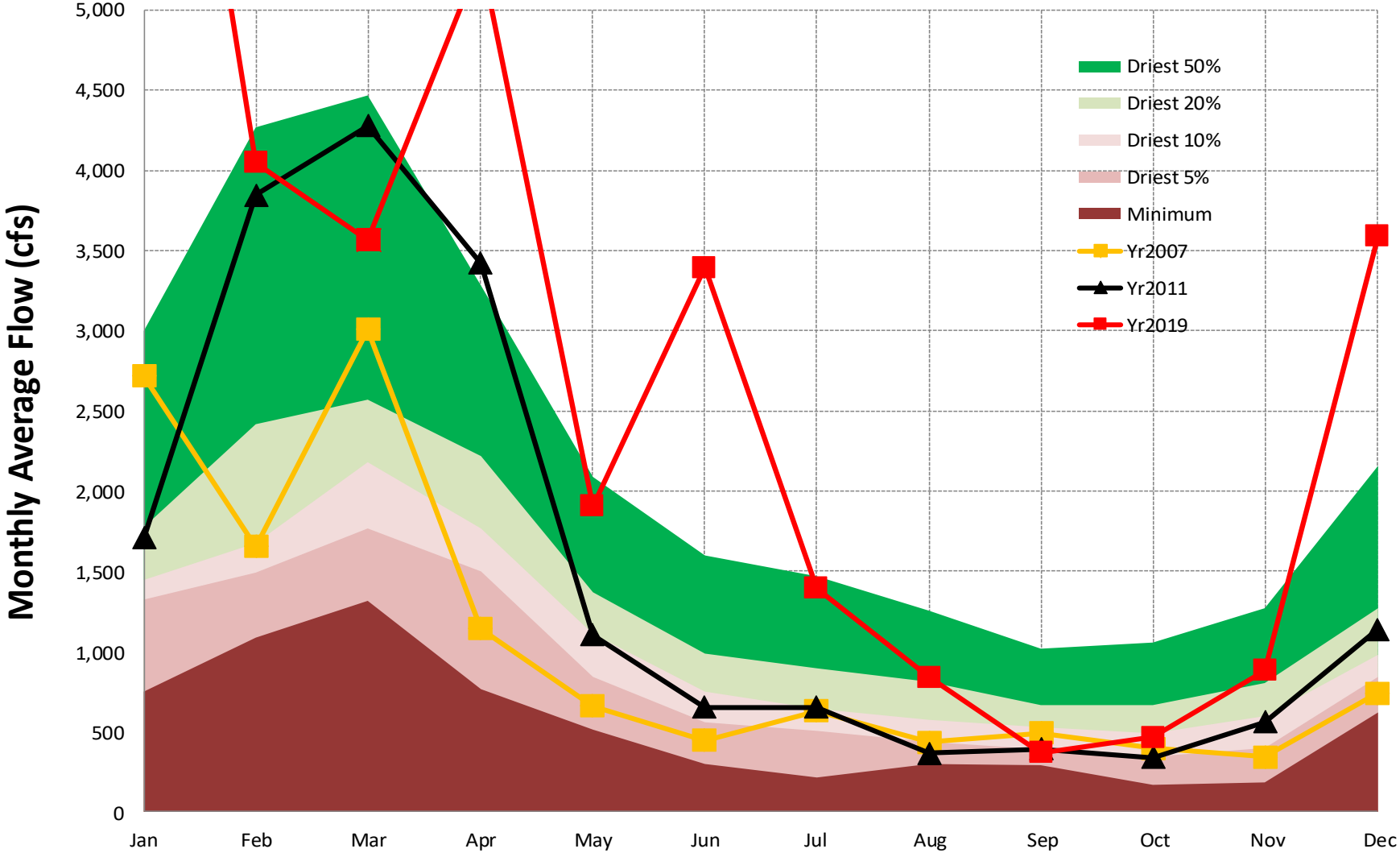
Gage #15. USGS #02213000, Ocmulgee Basin, Ocmulgee River at Macon, GA



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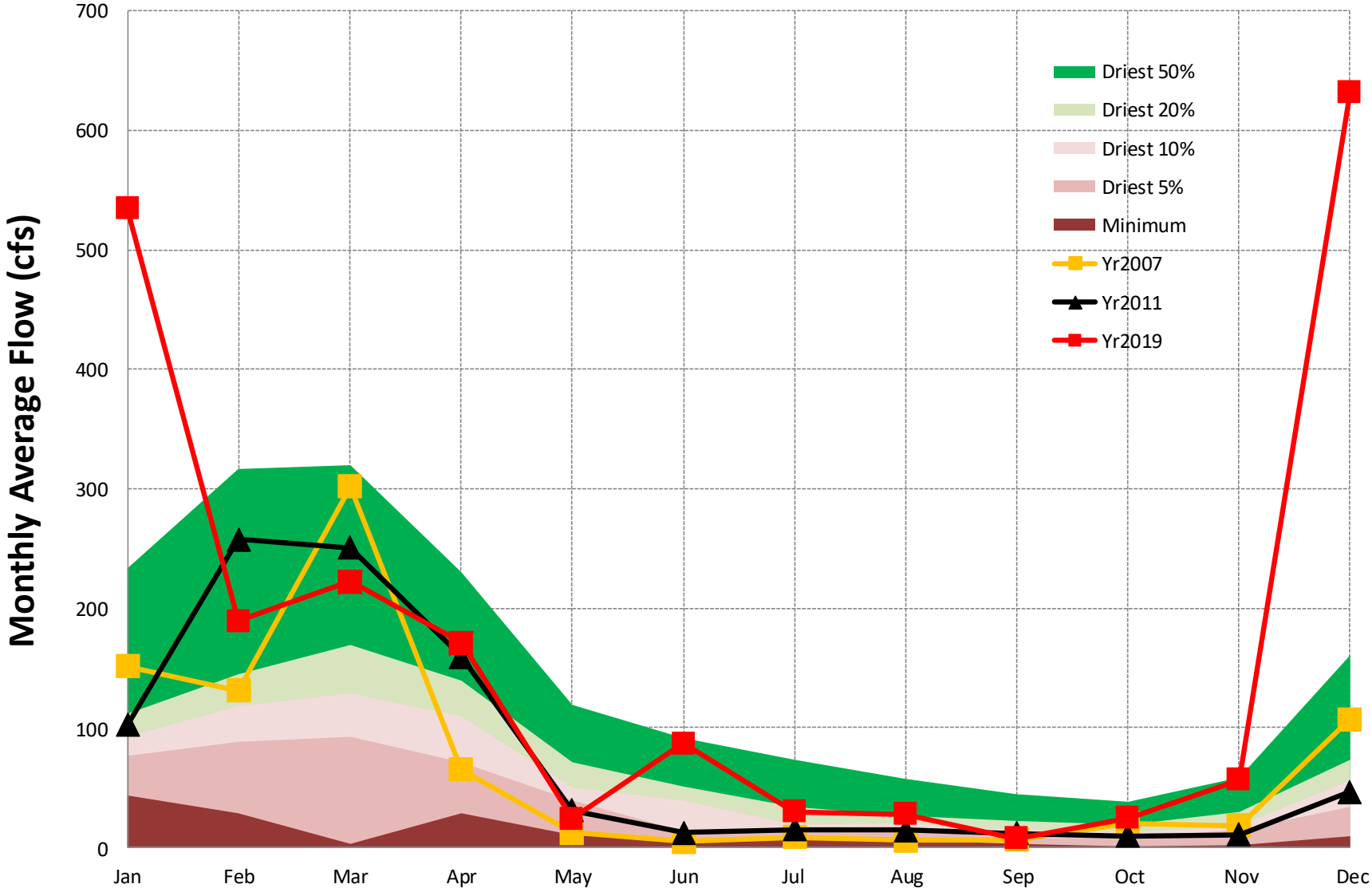
Gage #16. USGS #02213500, Ocmulgee Basin, TOBESOFKEE CREEK near MACON, GA



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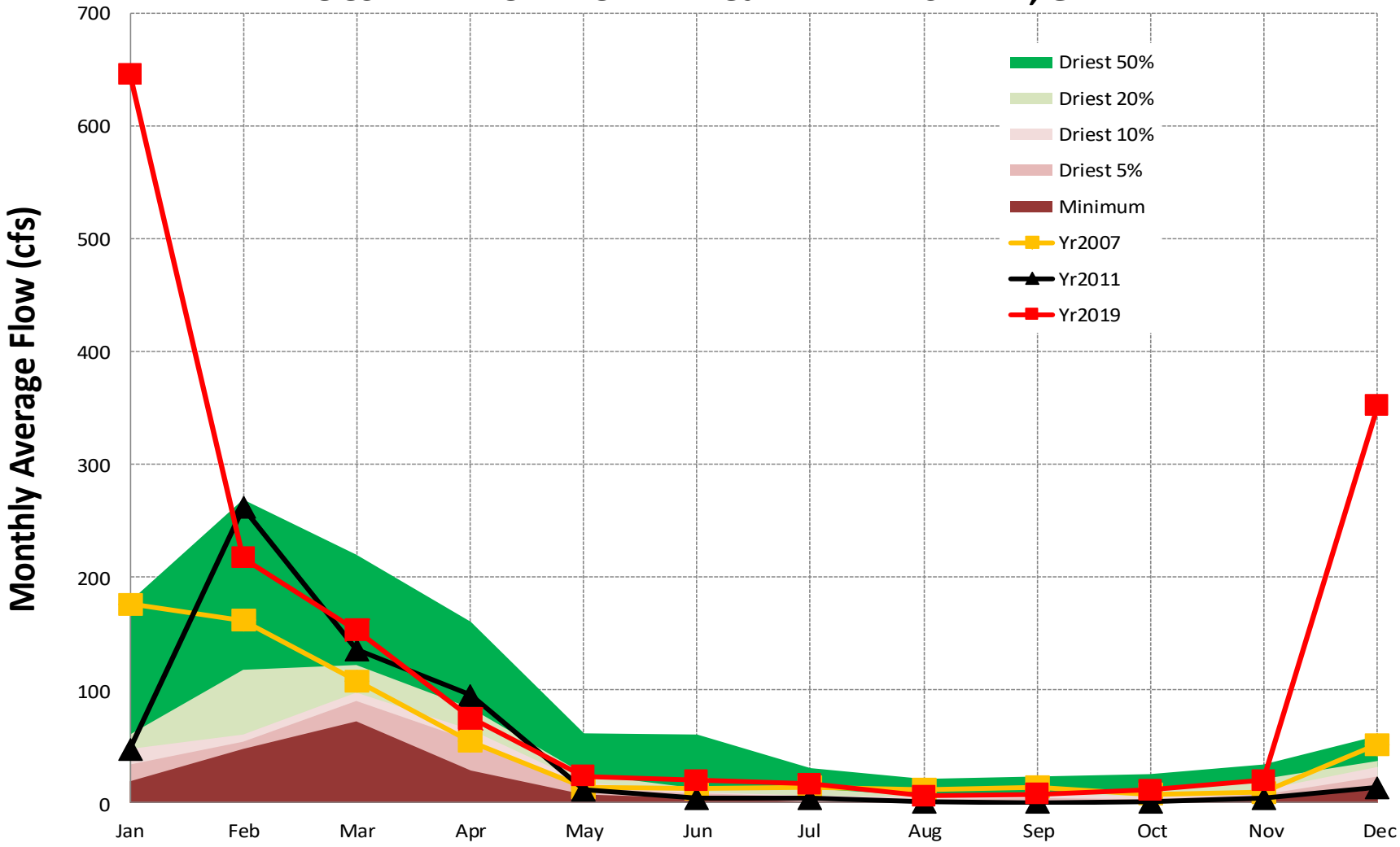
Gage #17. USGS #02215100, Ocmulgee Basin, TUCSAWHATCHEE CREEK near HAWKINSVILLE, GA



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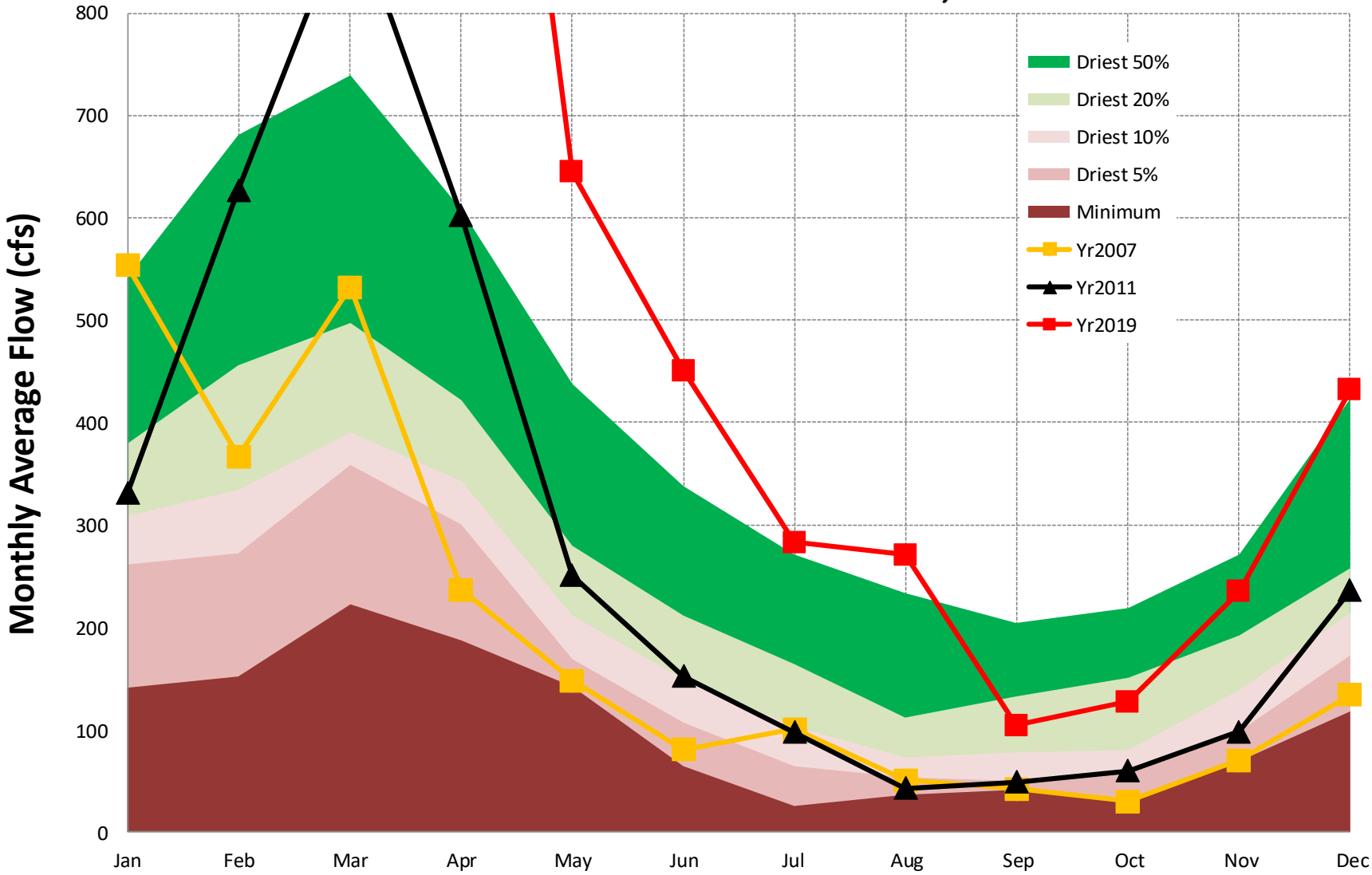
Gage #18. USGS #02217500, Oconee Basin, MIDDLE OCONEE RIVER near ATHENS, GA



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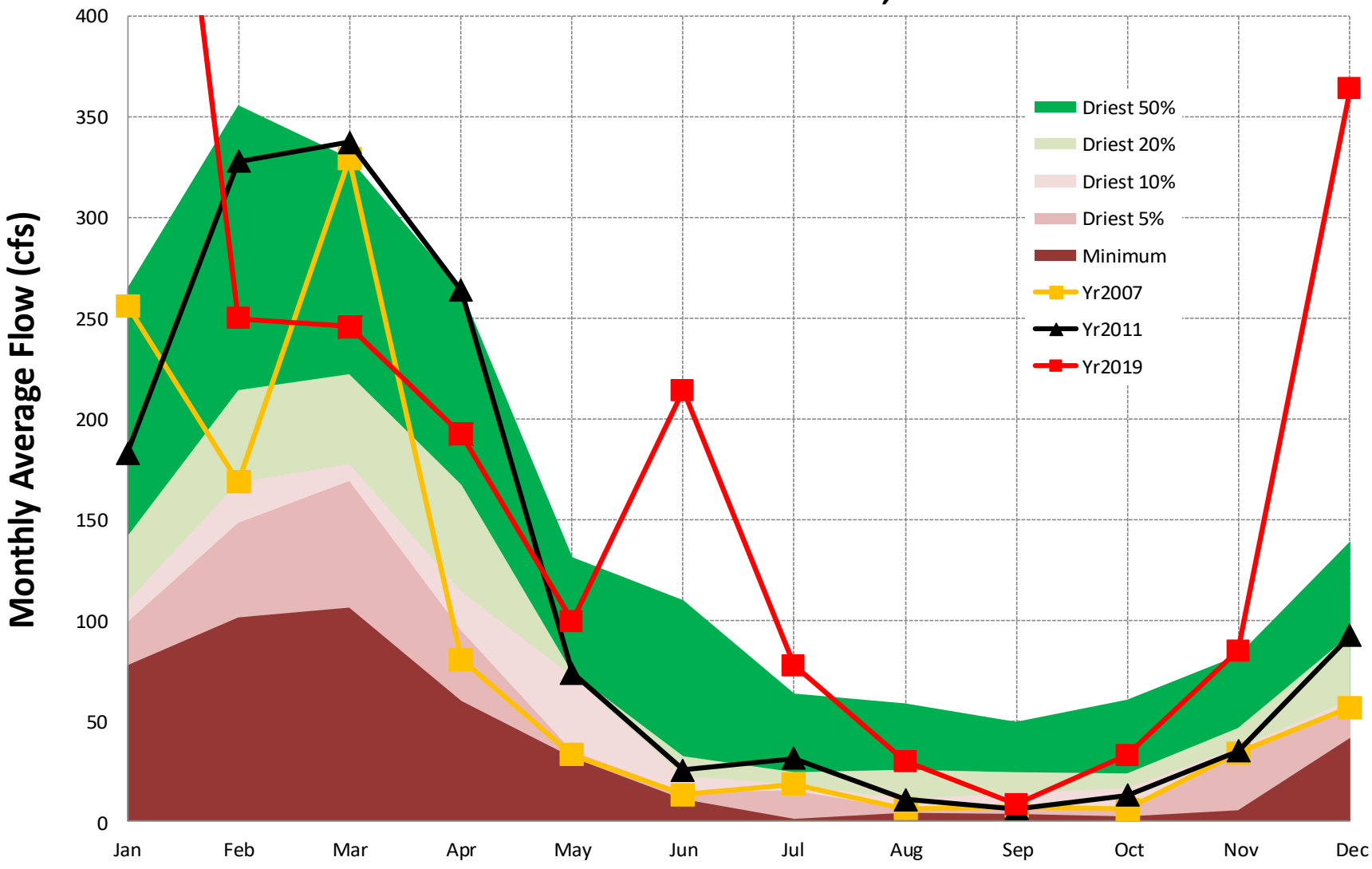
Gage #19. USGS #02220900, Oconee Basin, LITTLE RIVER near EATONTON, GA



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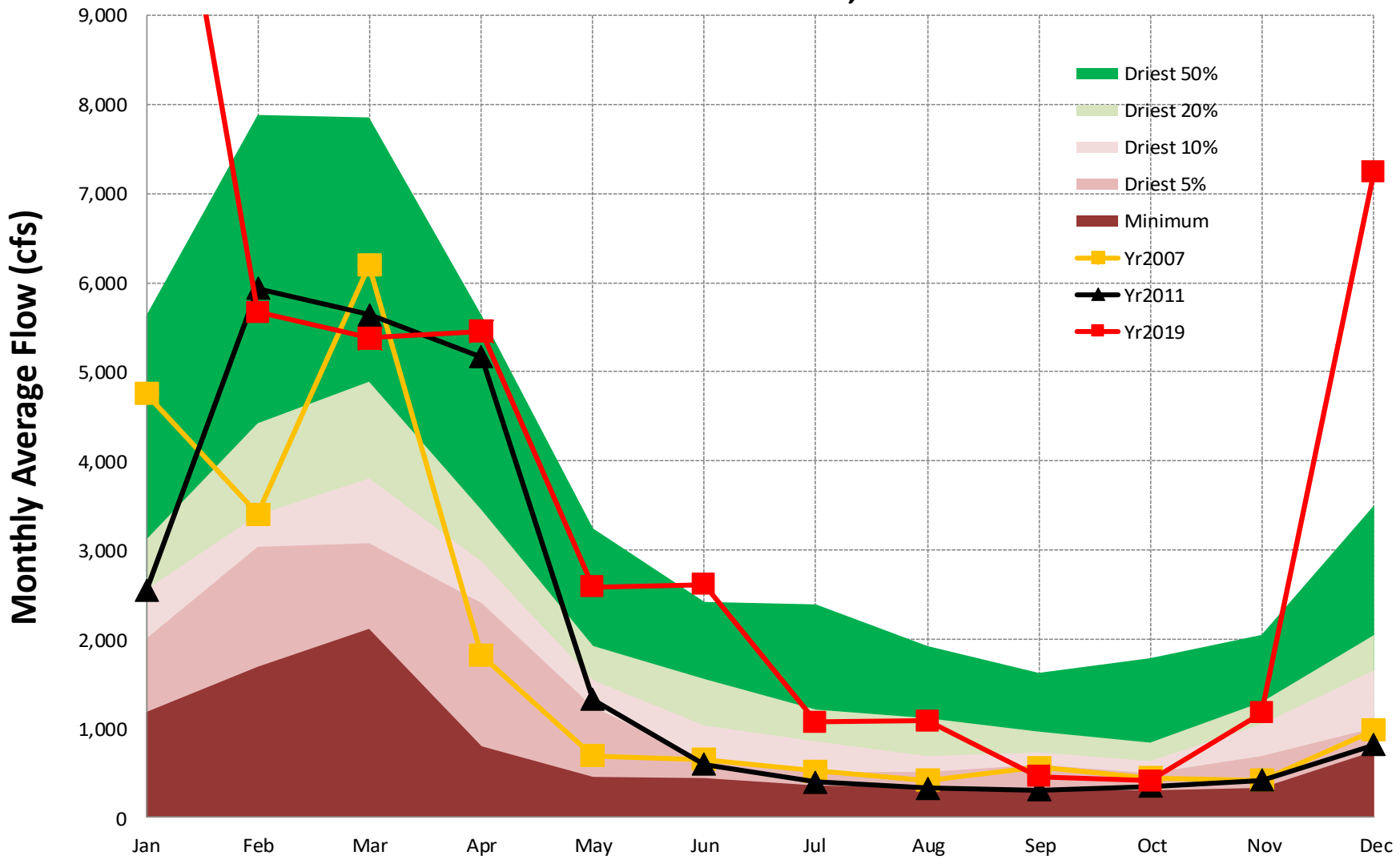
Gage #20. USGS #02223500, Oconee Basin, Oconee River at Dublin, GA



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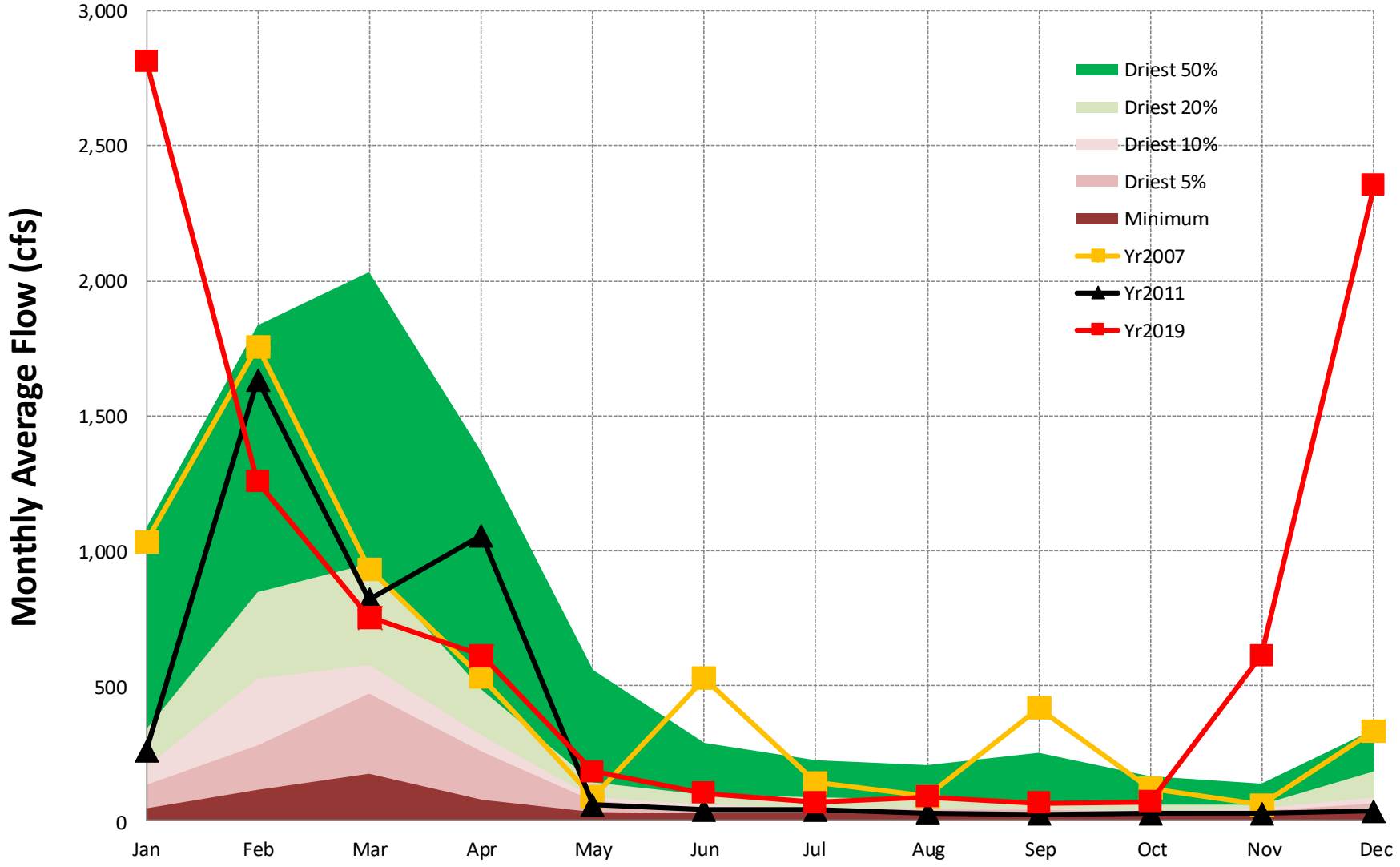
Gage #21. USGS #02225500, Altamaha Basin, OHOOPEE RIVER near REIDSVILLE, GA



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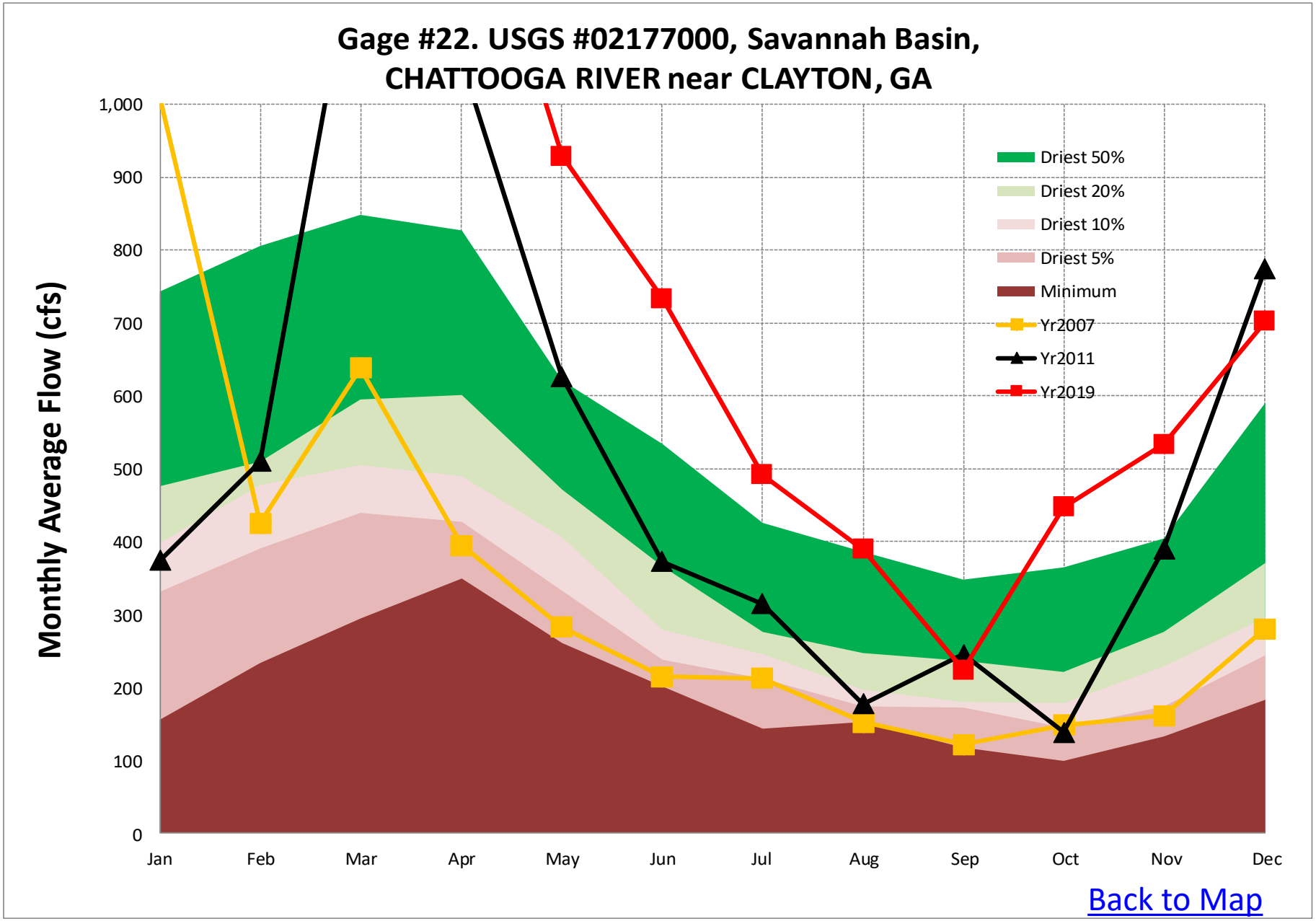
Gage #22. USGS #02177000, Savannah Basin,
CHATTOOGA RIVER near CLAYTON, GA
Monthly Average Flow (cfs)
1,000
900
800
700
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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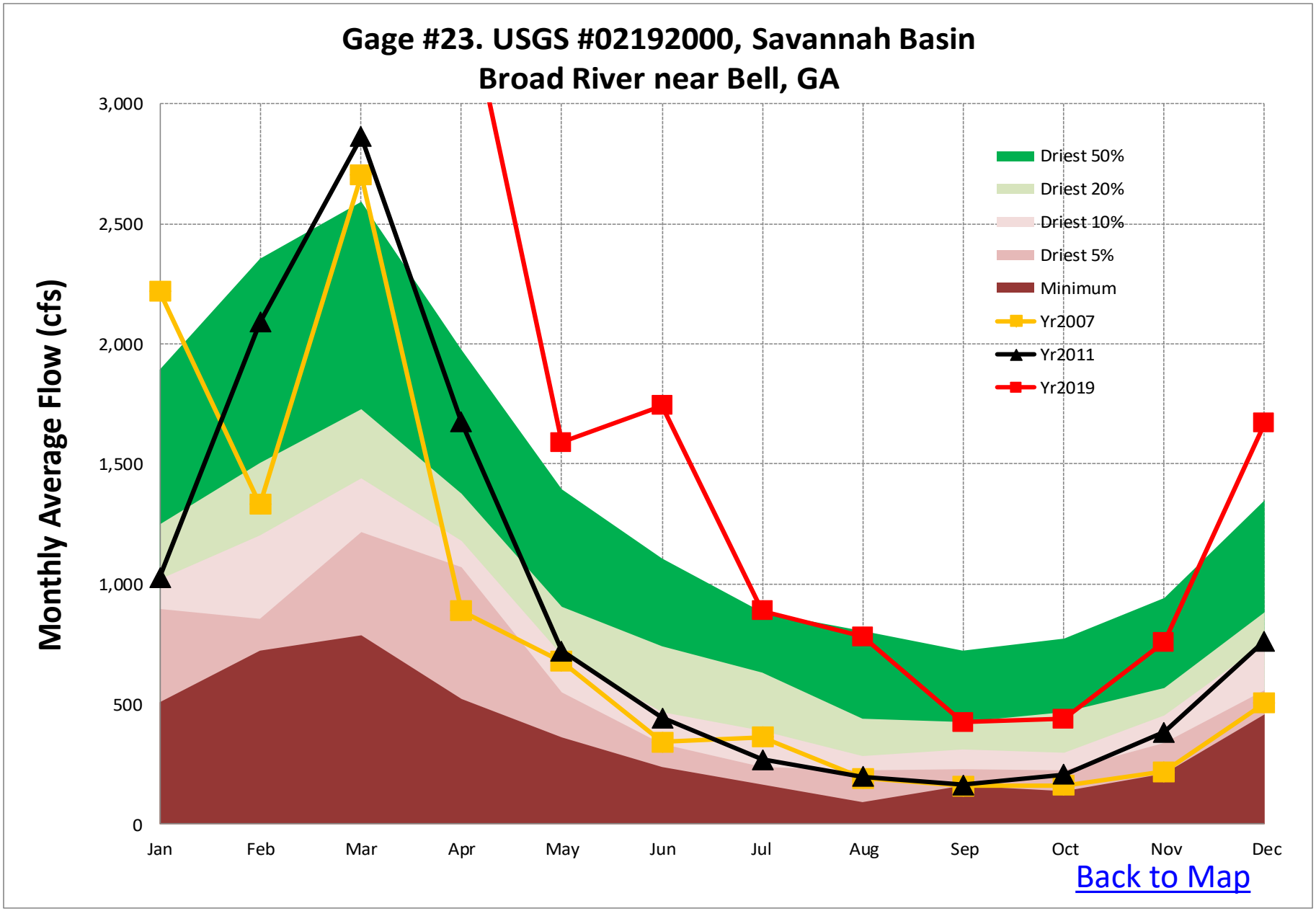
Gage #23. USGS #02192000, Savannah Basin
Broad River near Bell, GA
Monthly Average Flow (cfs)
3,000
2,500
2,000
1,500
1,000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2019

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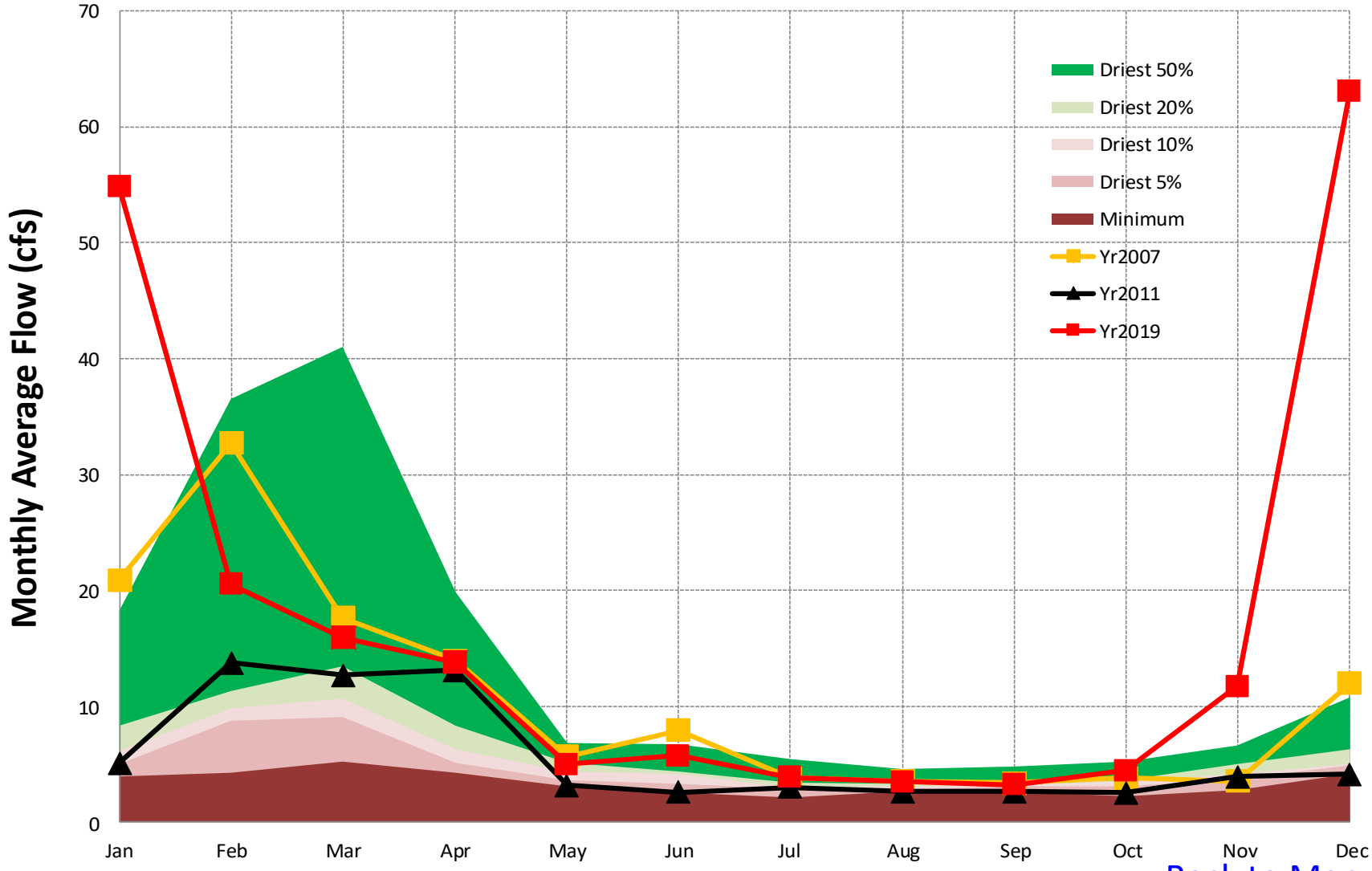
Gage #24. USGS #02198100, Savannah Basin, BEAVERDAM CREEK near SARDIS, GA



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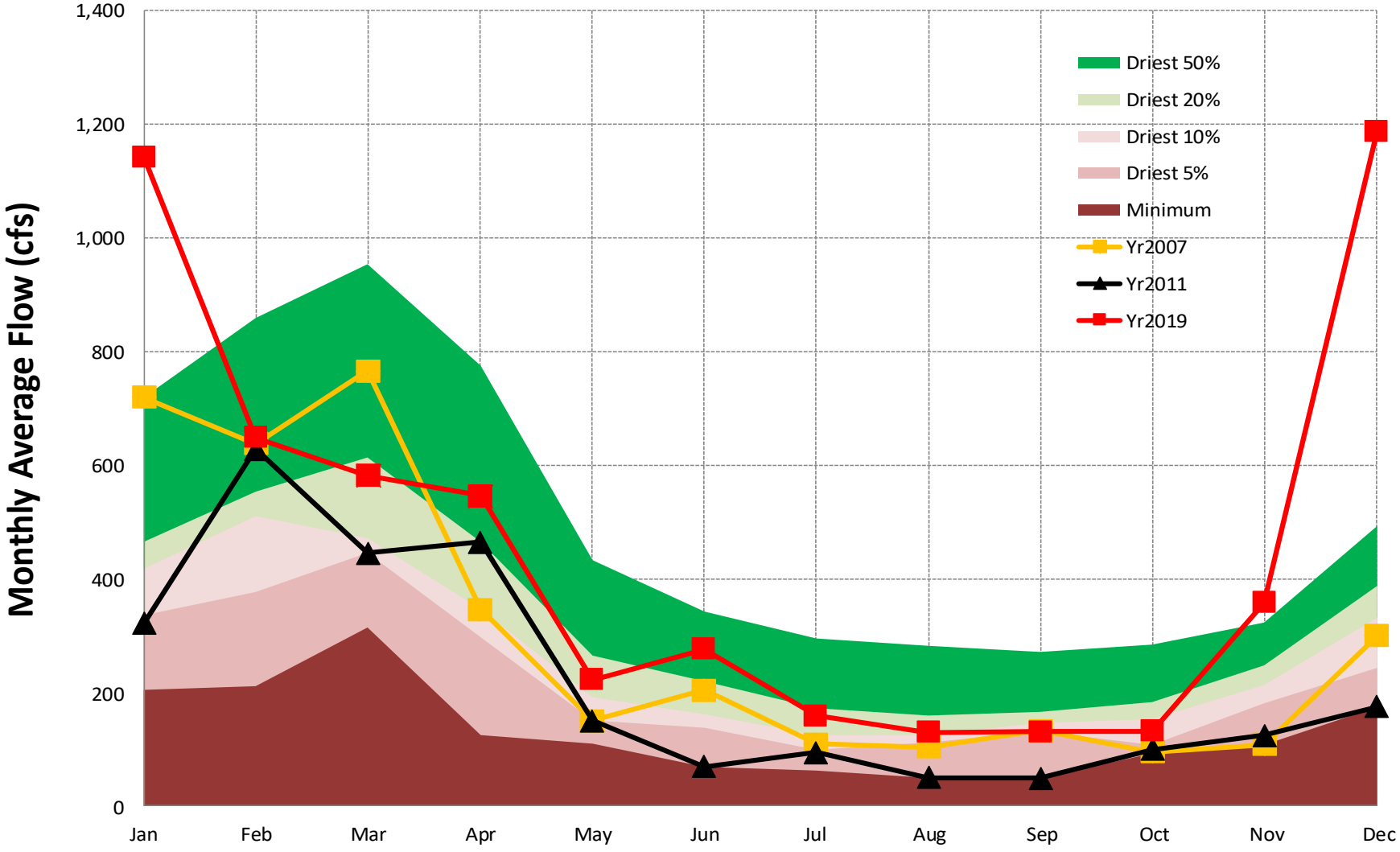
Gage #25. USGS #02198000, Savannah Basin, BRIER CREEK at MILLHAVEN, GA



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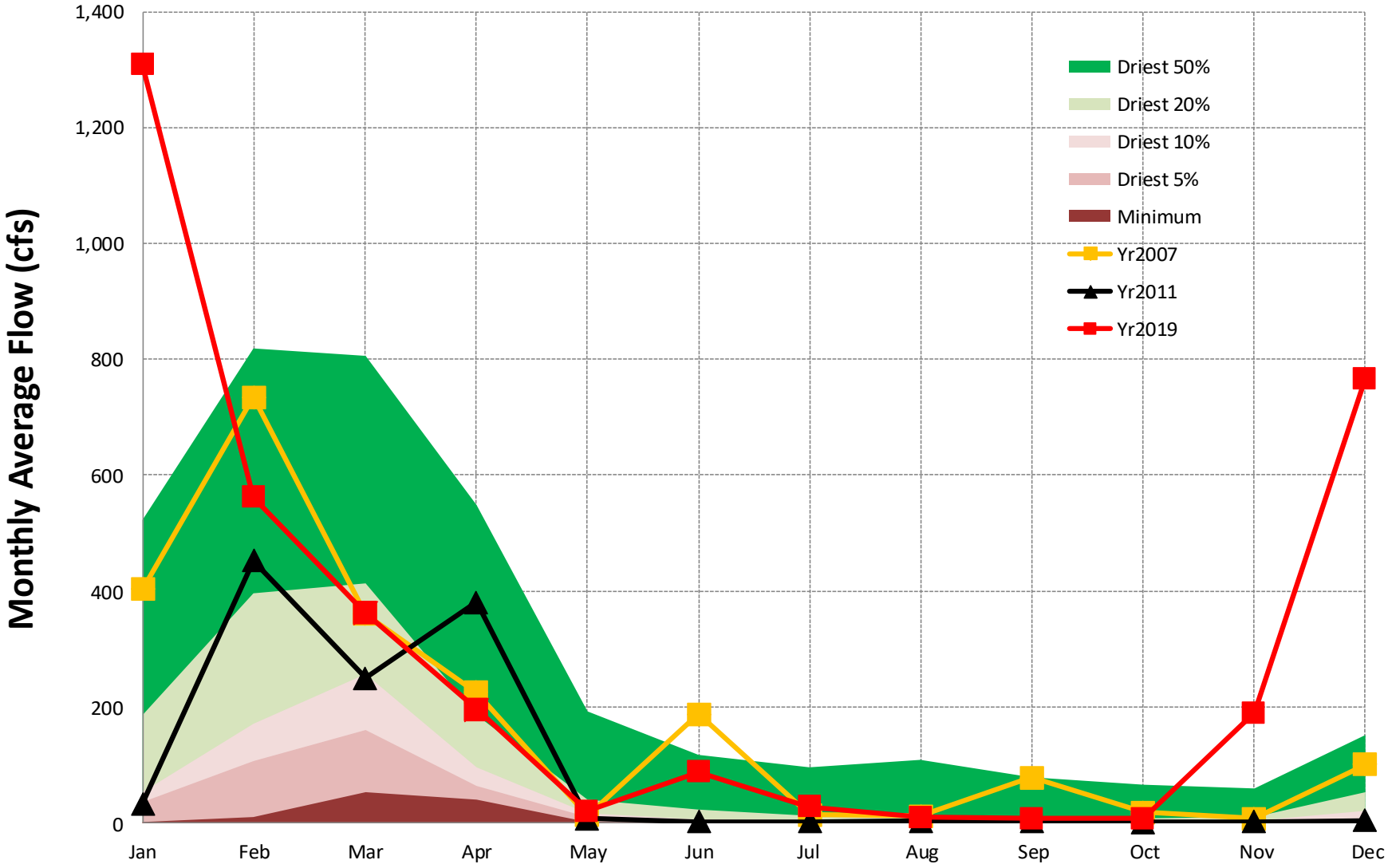
Gage #26. USGS #02203000, Ogeechee Basin, CANOOCHEE RIVER near CLAXTON, GA



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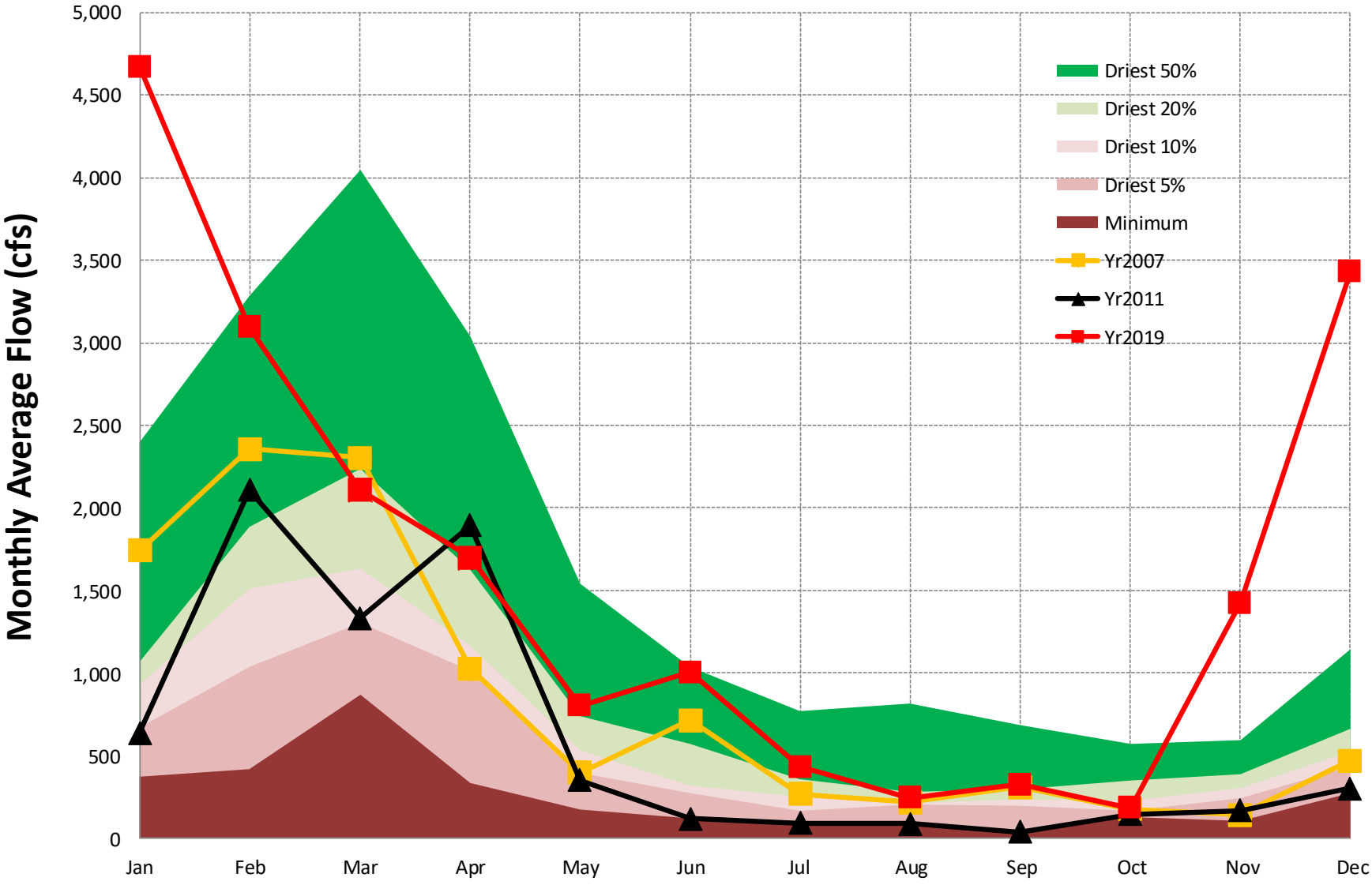
Gage #27. USGS #02202500, Ogeechee Basin, Ogeechee River near Eden, GA



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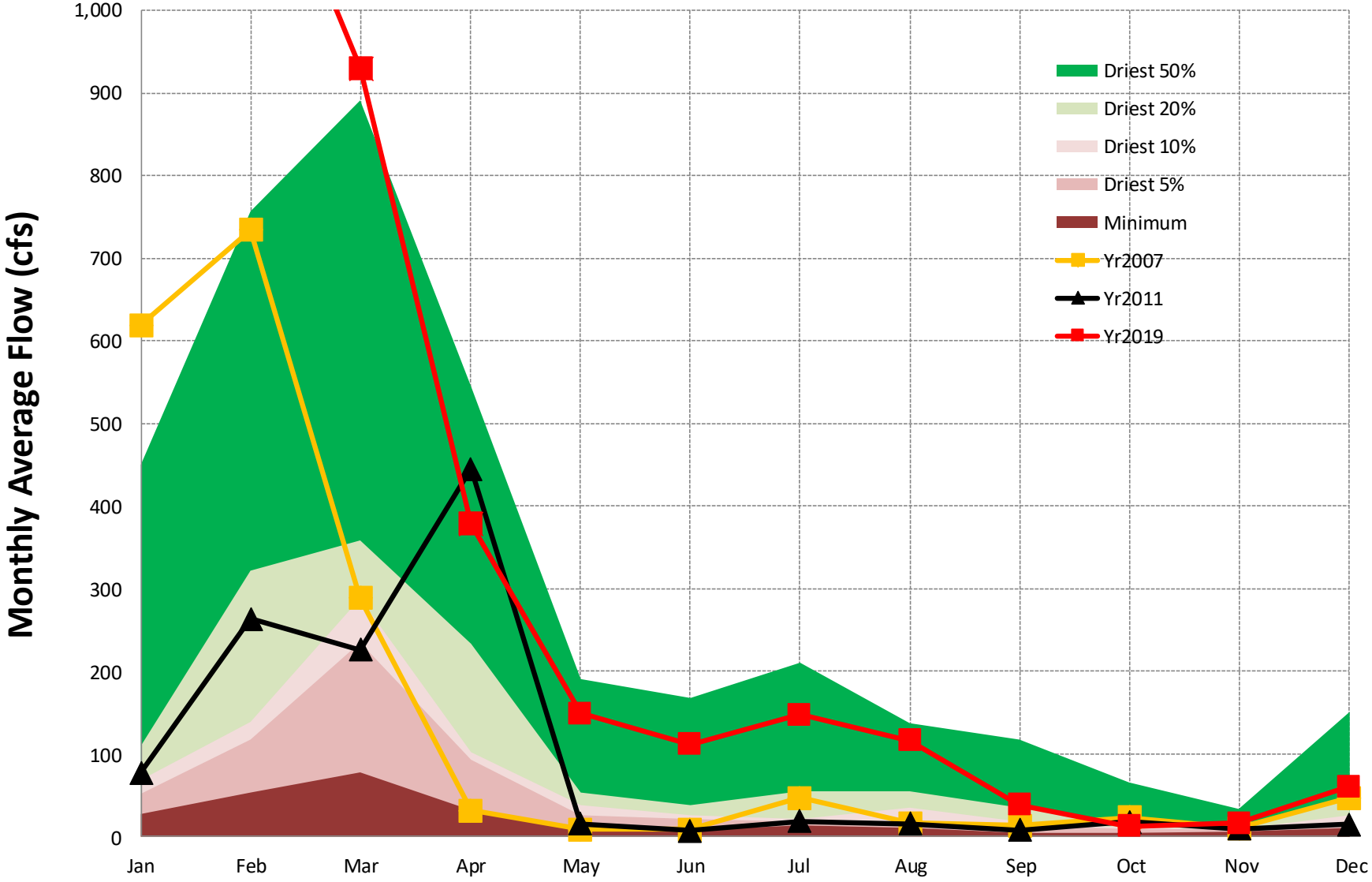
Gage #28. USGS #02327500, Ochlockonee Basin, OCHLOCKONEE RIVER near THOMASVILLE, GA



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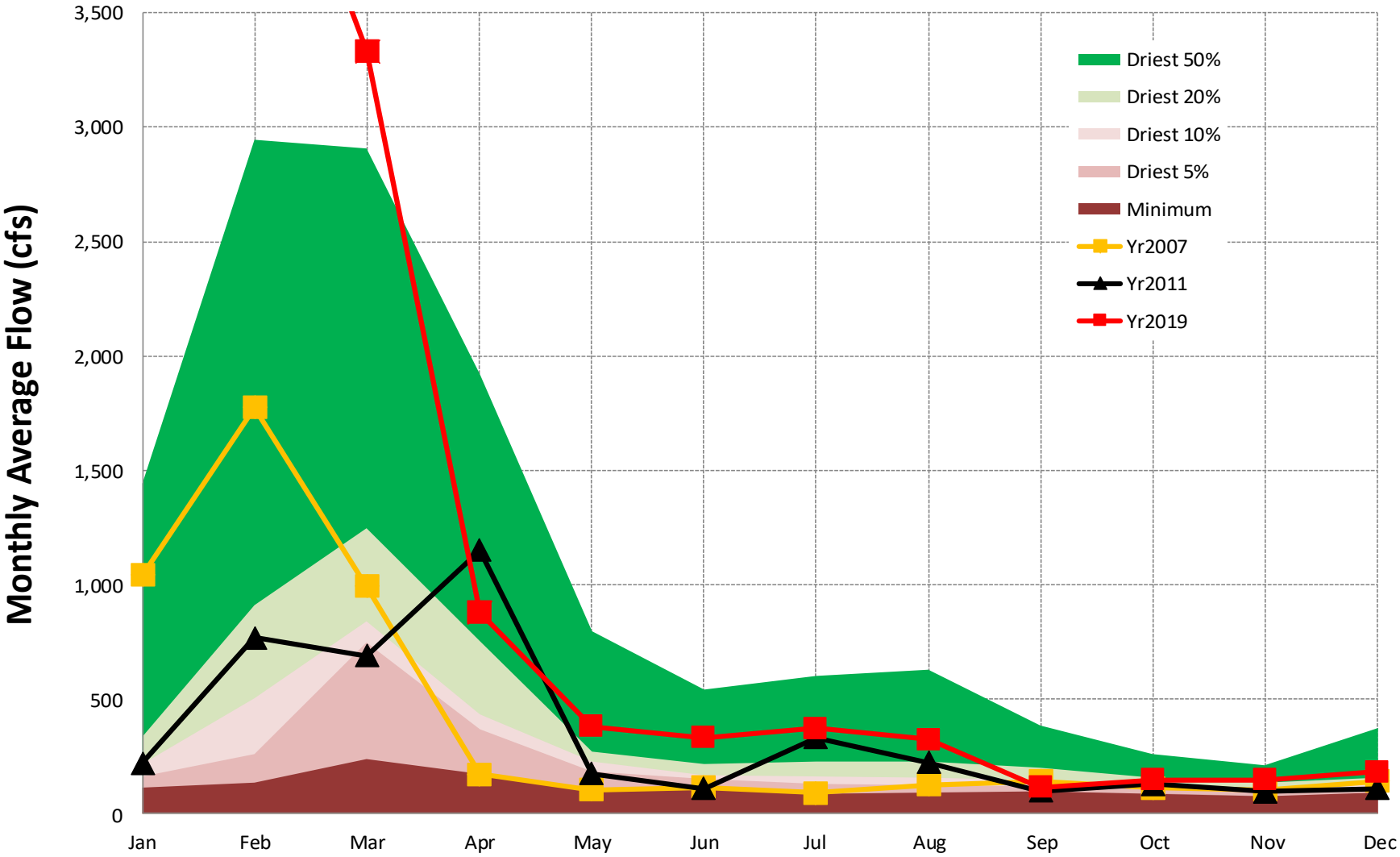
Gage #29. USGS #02319000, Suwanee Basin, WITHLACOOCHEE RIVER near PINETTA, FL



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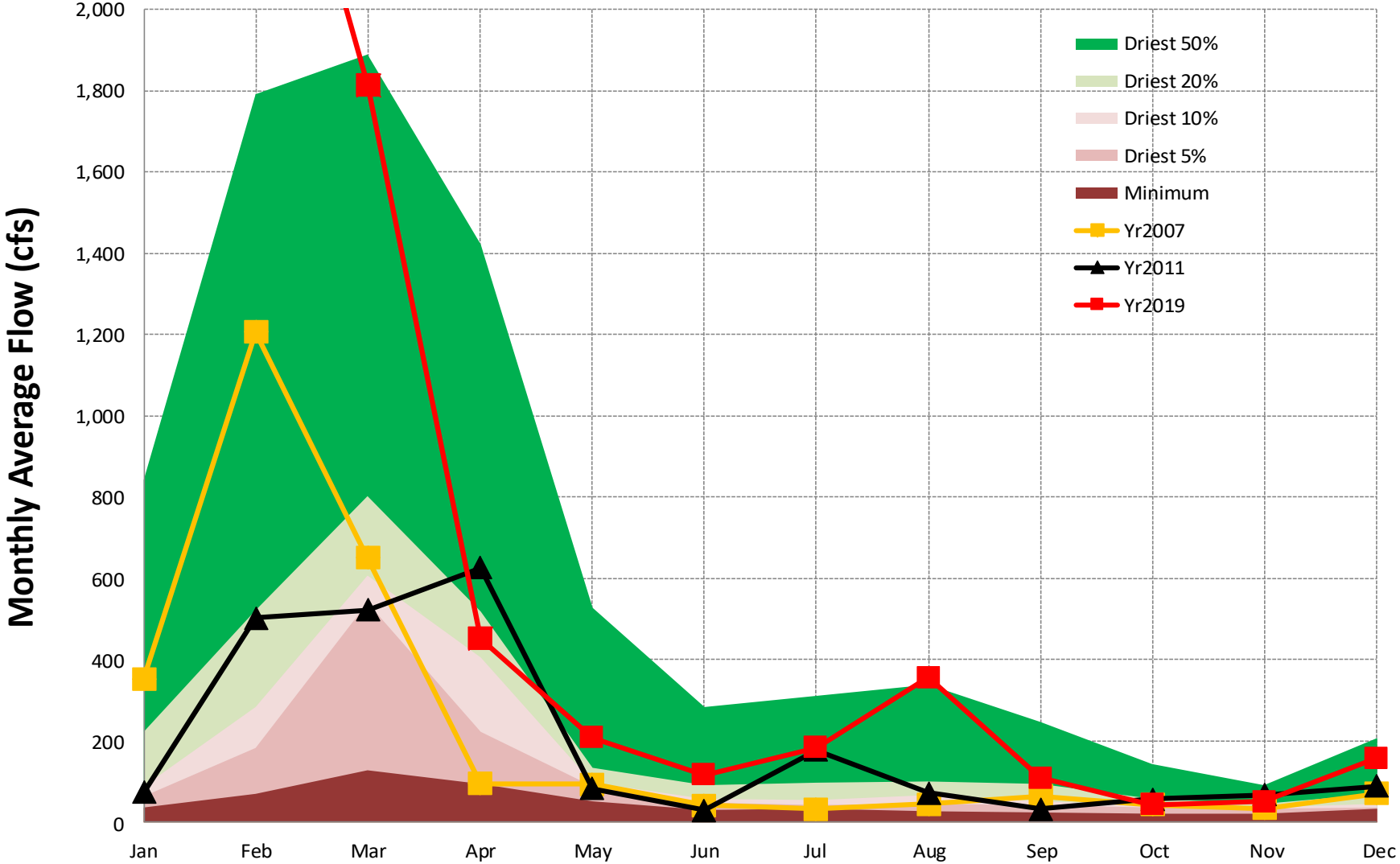
Gage #30. USGS #02317500, Suwanee Basin, Alapaha River at Statenville, GA



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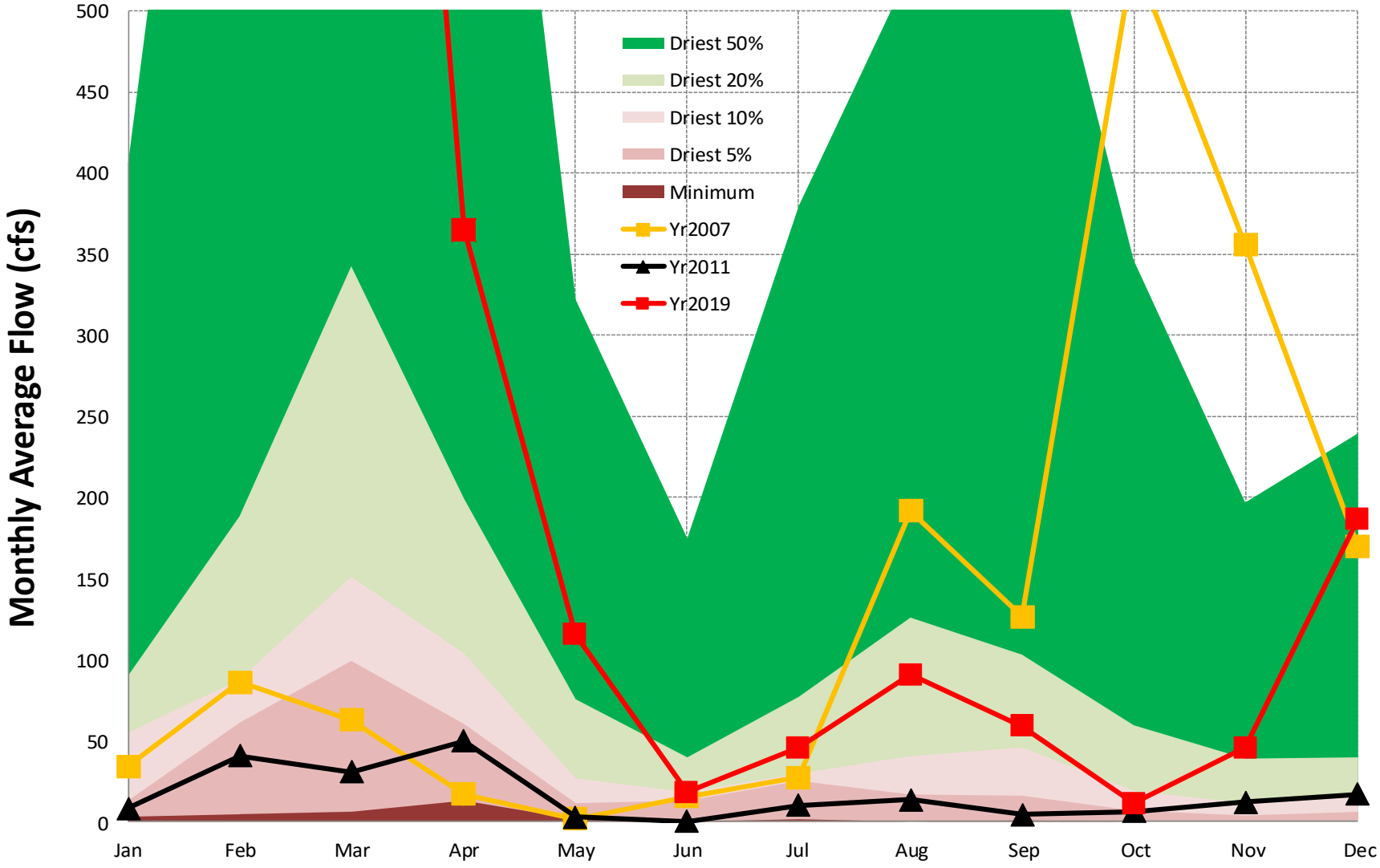
Gage #31. USGS #02314500, Suwanee Basin, SUWANNEE RIVER AT US 441, AT FARGO, GA



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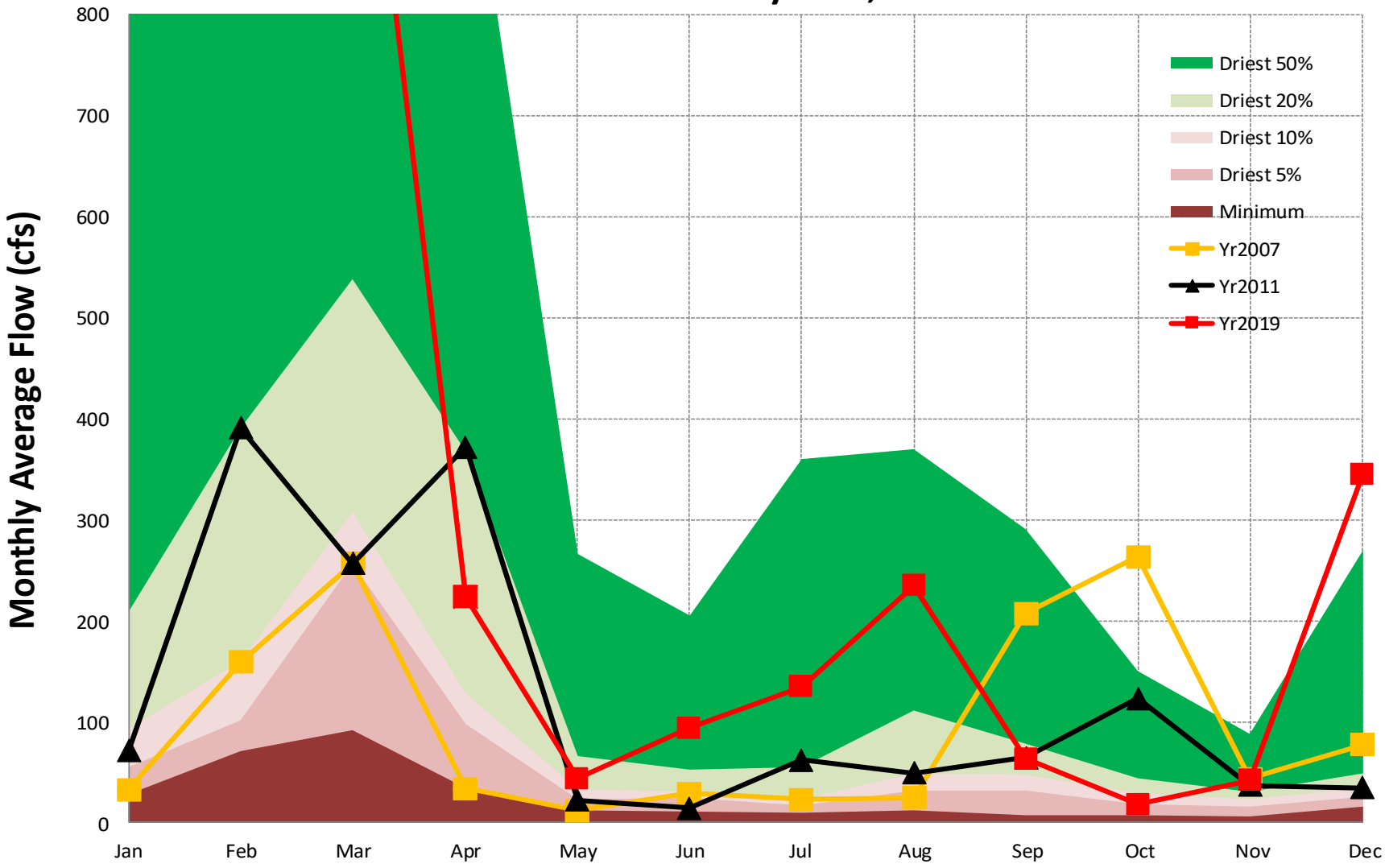
Gage #32. USGS #02226500, Satilla Basin, Satilla River near Waycross, GA



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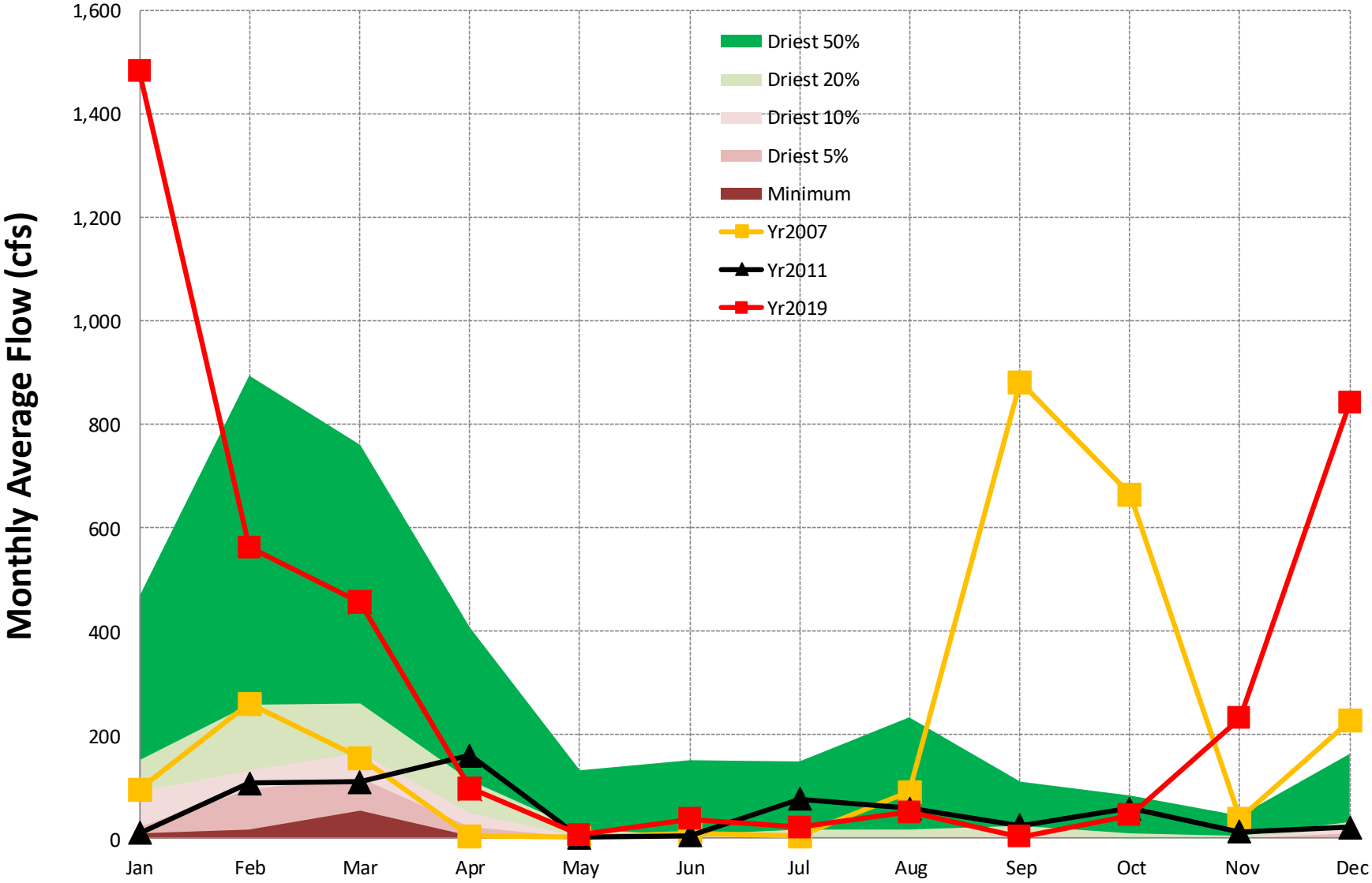
Gage #33. USGS #02227500, Satilla Basin, LITTLE SATILLA RIVER near OFFERMAN, GA



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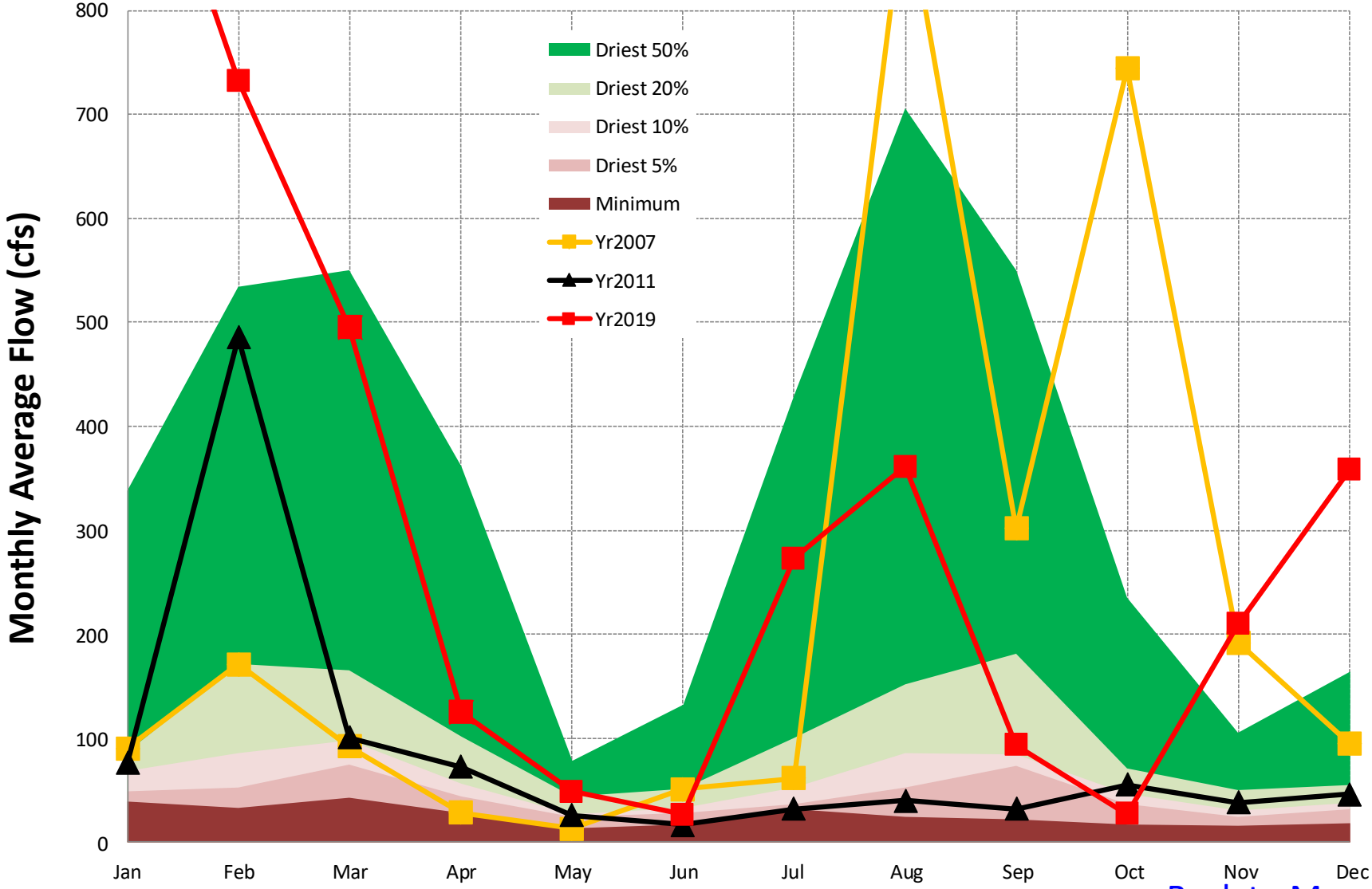
Gage #34. USGS #02231000, St Mary Basin, ST. MARYS RIVER near MACCLENNY, FL



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Groundwater Levels

Data Source: USGS

Rationale for Choosing USGS Monitoring Wells

EPD monitors 17 groundwater USGS monitoring wells shown on the following slide to assess drought conditions. These wells were selected for monitoring because they have:

- Long-term monitoring records consisting of three decades or more of data; and
- Real-time monitoring that represents the most up-to-date conditions.

USGS Wells Monitored

Chattahoochee Basin
1. 16MM03

Flint Basin
2. 11AA01
3. 13L180
4. 12M017
5. 08K001
6. 11K003
7. 12K014
8. 13J004
9. 08G001
10. 10G313
11. 09F520
16. 11J011

Oconee Basin
12. 21T001

Tennessee Basin
13. 03PP01

Suwanee Basin
14. 19E009
17. 27E004

Ogeechee Basin
15. 35P094

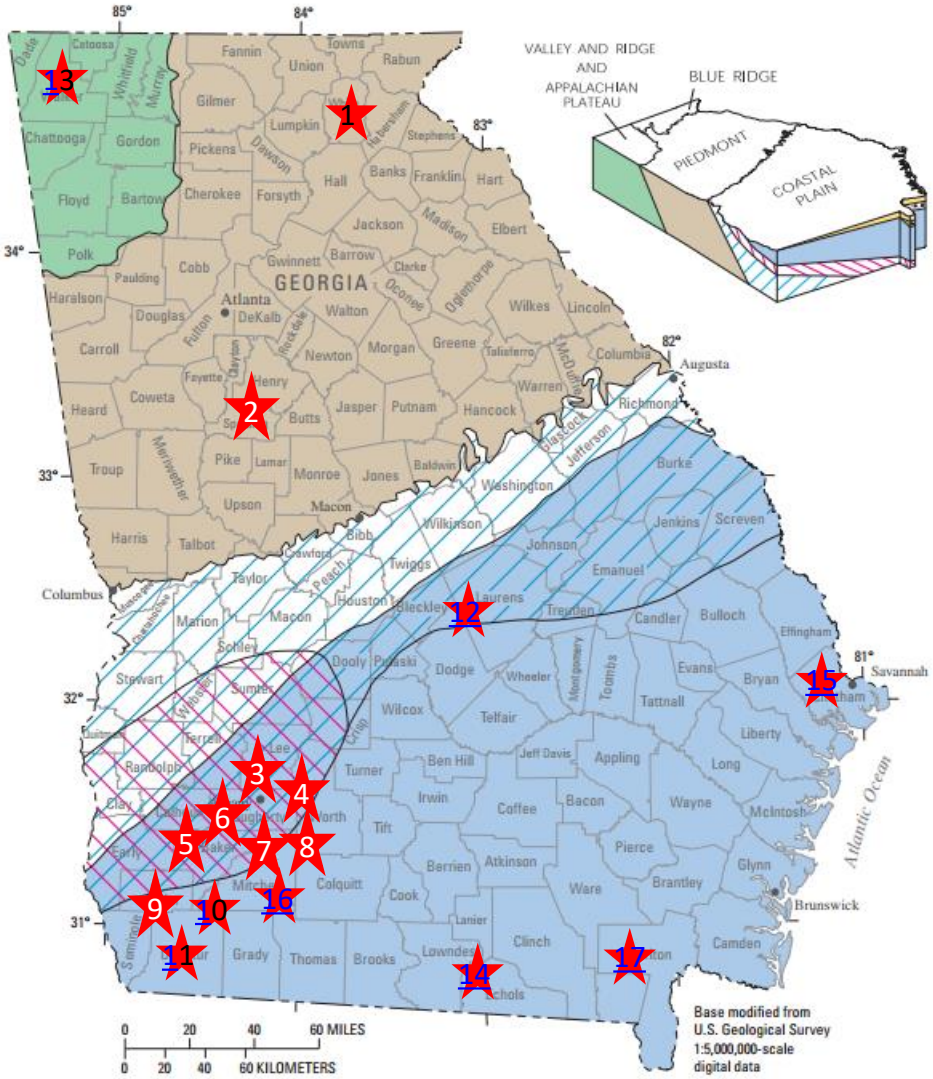


Figure 2. Area of use of principal aquifers and physiographic provinces in Georgia (modified from U.S. Geological Survey, 2006).

Groundwater Level Graphs

- For each of the 17 groundwater wells, EPD has prepared a graph that shows monthly average groundwater levels from January 2019 through December 2019;
- To help put these levels into perspective, for comparison purposes, each graph also shows:
  - Monthly average levels at that same well for the years 2007 and 2011 when groundwater levels were at or near recorded low levels across much of the state; and
  - And a statistical composite of historical conditions at that same gage showing the “lowest” 50, 20, 10, and 5 percent of all recorded monthly average levels at the same well.

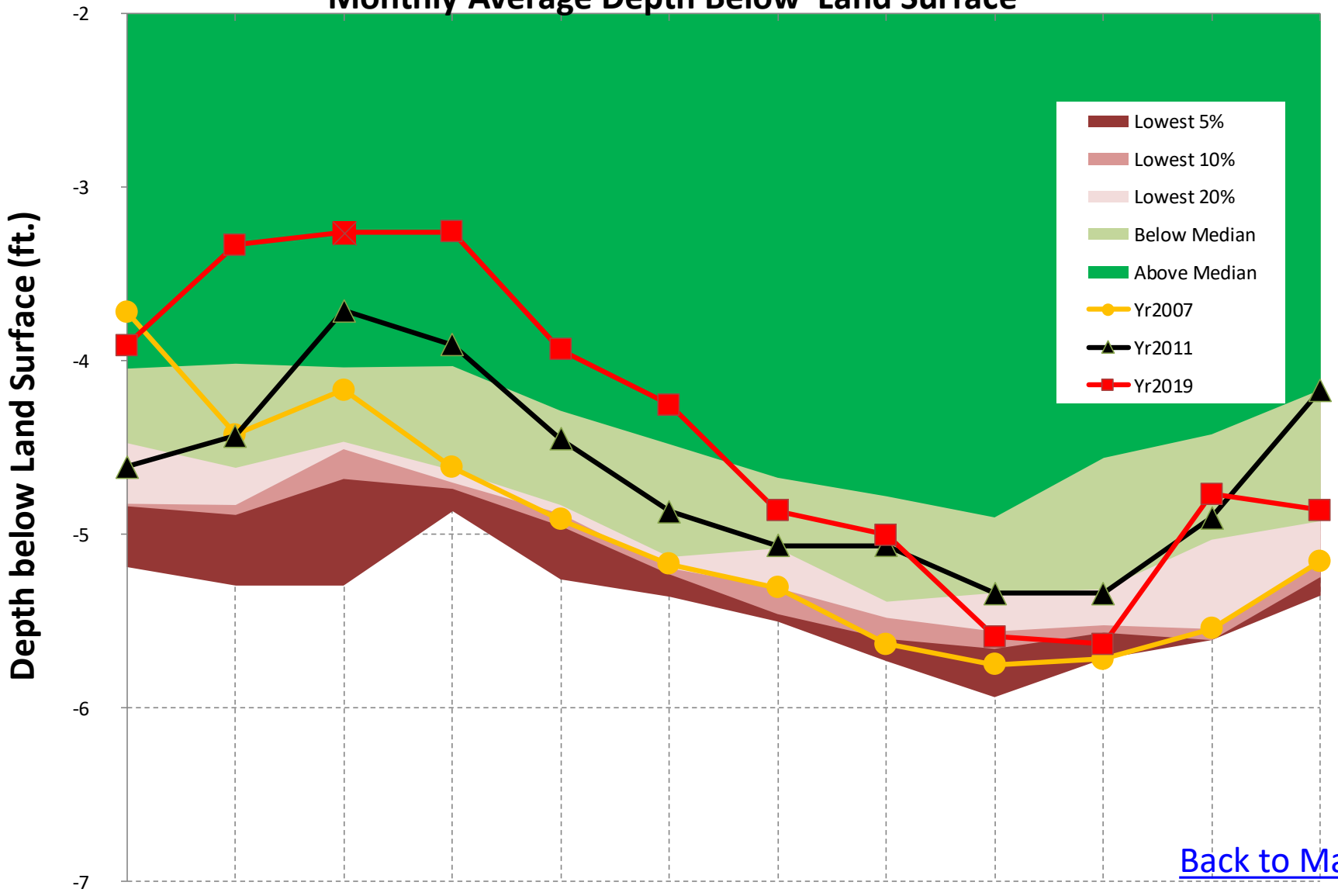
How to Read the Groundwater Level Graphs

Example: **Well #11, 09F520, Flint River Basin**

The groundwater level graph for Well #11, USGS 09F520 shows:

- The average monthly groundwater level for December 2019 was 48.5ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in December have historically been lower than December 2019 about 33% of the time; about 67% of the time in December they have been higher.
- The average monthly groundwater level in December 2011 was 50.8ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in December have historically been lower than December 2011 about 2% of the time; about 98% of the time in December they have been higher.
- The average monthly groundwater level in December 2007 was 50.8ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in December have historically been lower than December 2007 about 2% of the time; about 98% of the time in December they have been higher.

Well #1, 16MM03, Crystalline Rocks Aquifer in Chattahoochee Basin, Monthly Average Depth Below Land Surface



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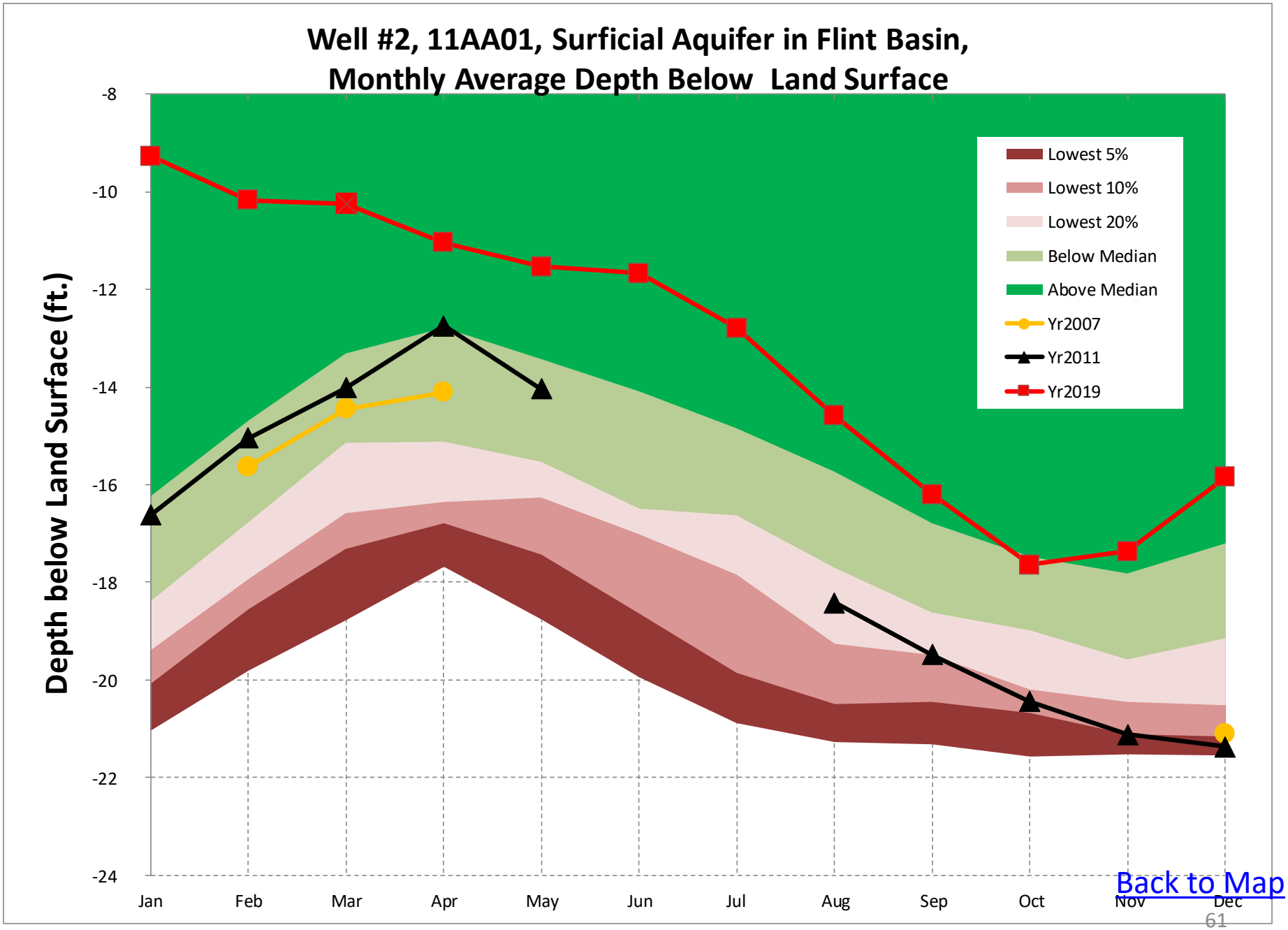
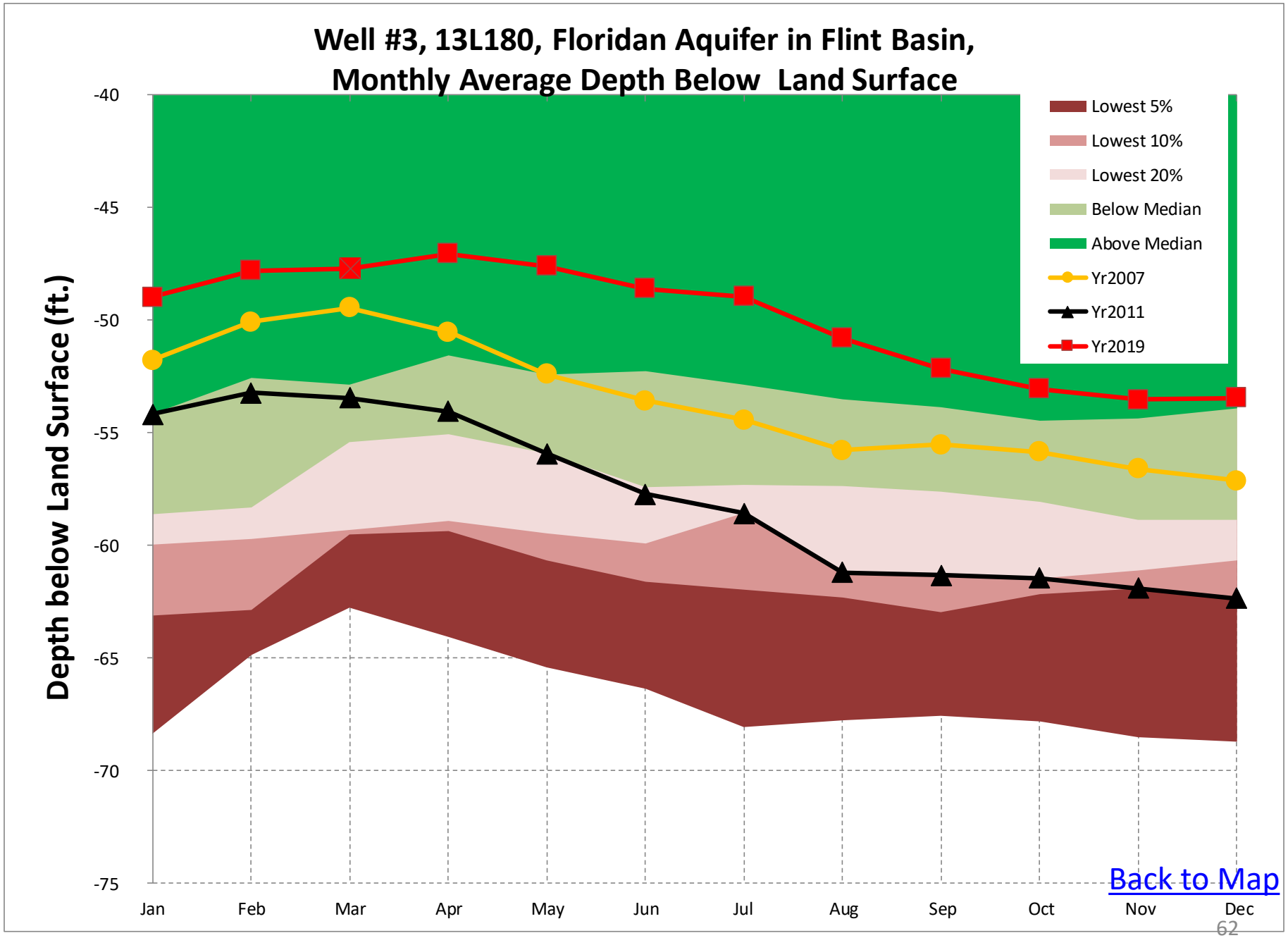
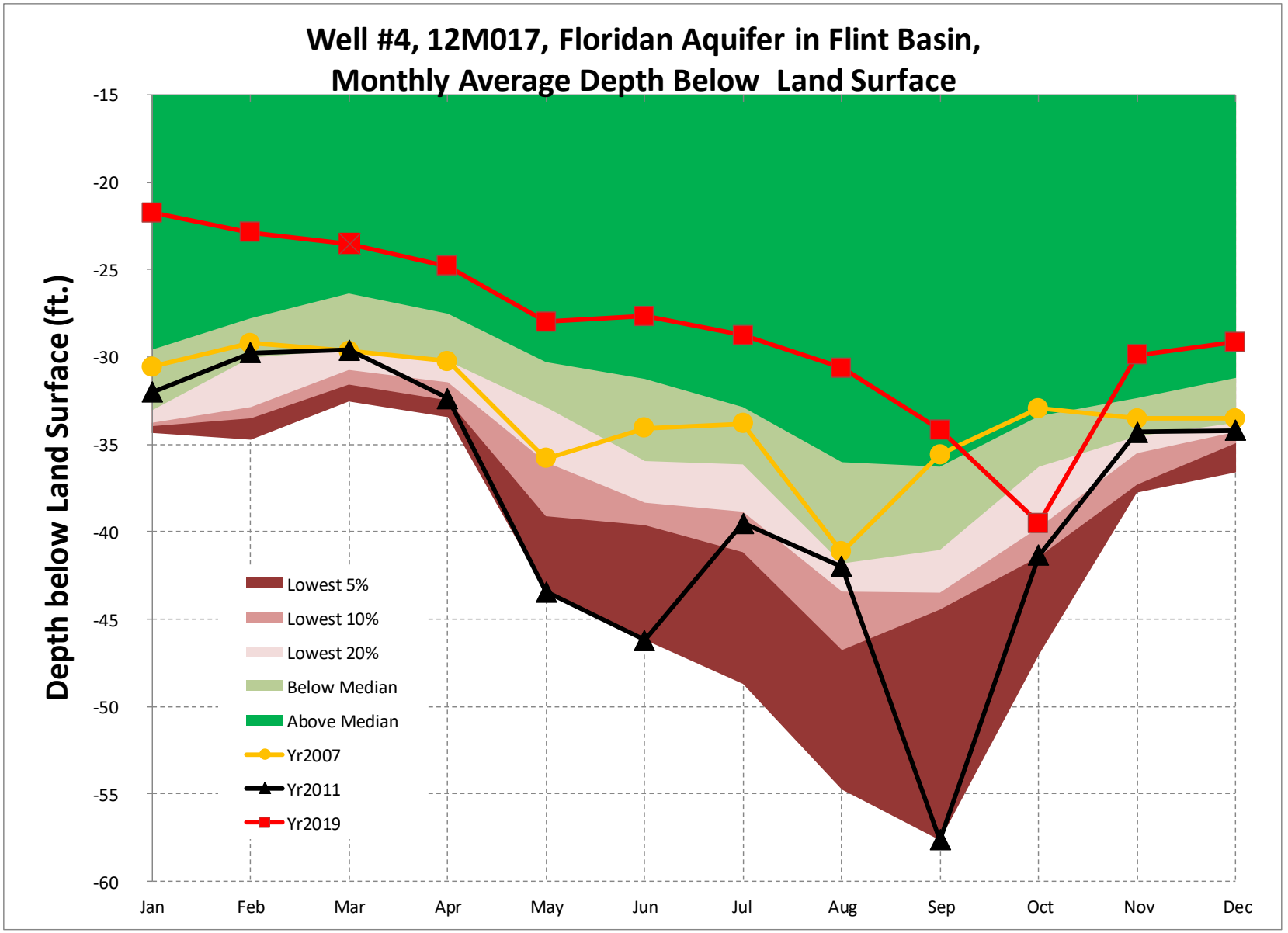

Well #2, 11AA01, Surficial Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-8
-10
-12
-14
-16
-18
-20
-22
-24
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

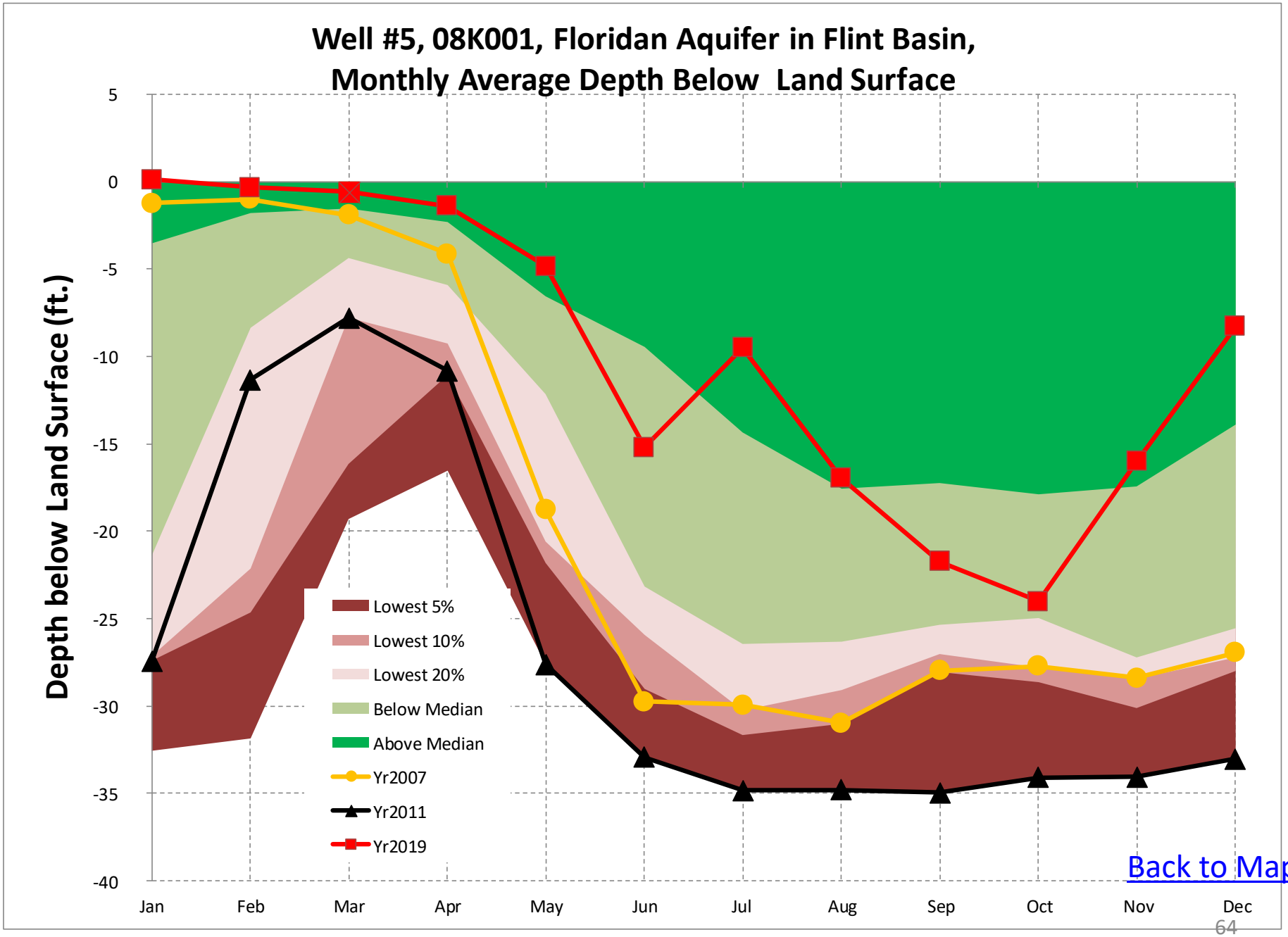
Back to Map


Well #3, 13L180, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
-70
-75
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

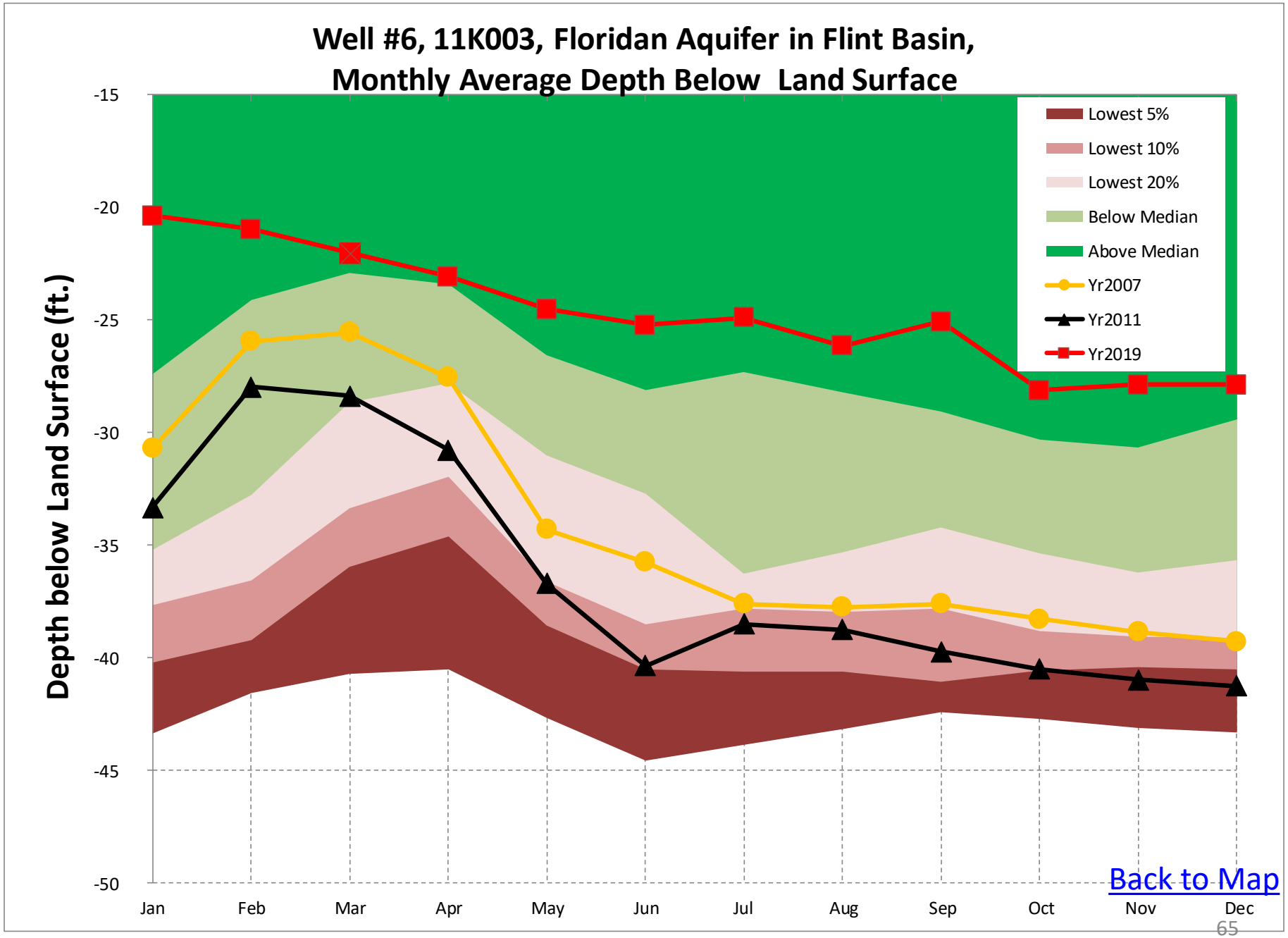
Back to Map


Well #4, 12M017, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

Back to Map


Well #5, 08K001, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

Back to Map


Well #6, 11K003, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-15
-20
-25
-30
-35
-40
-45
-50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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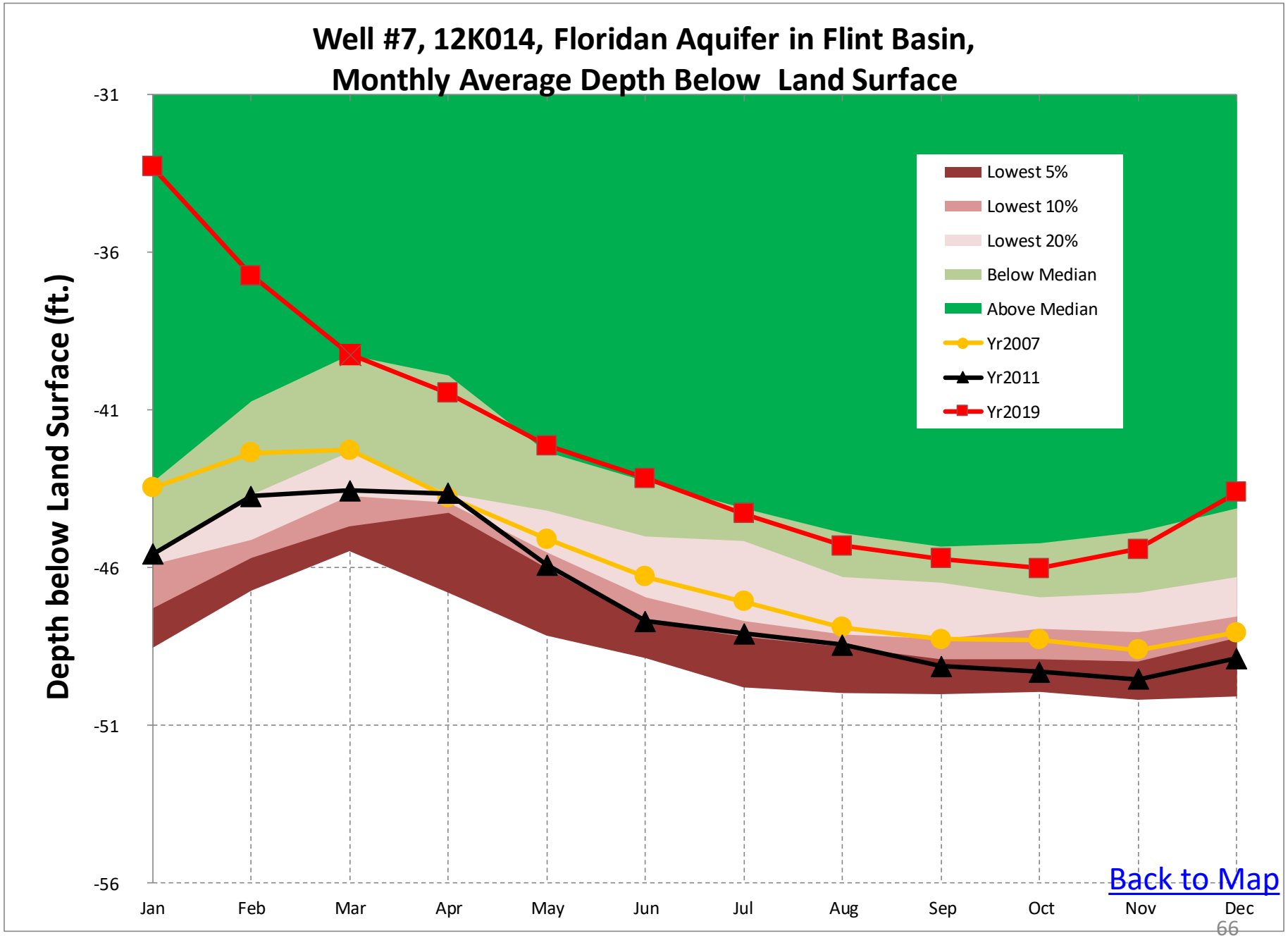
Well #7, 12K014, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-31
-36
-41
-46
-51
-56
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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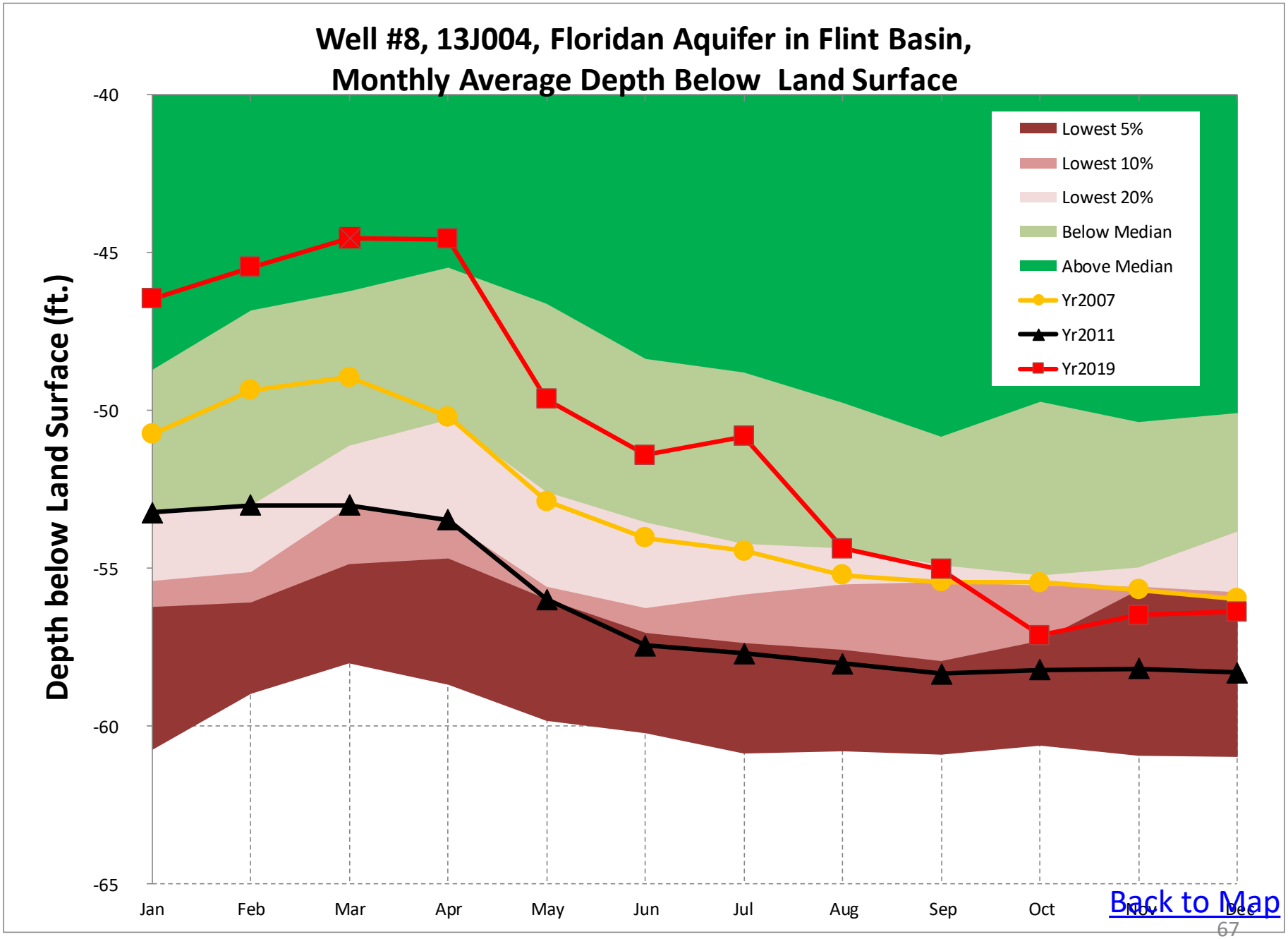
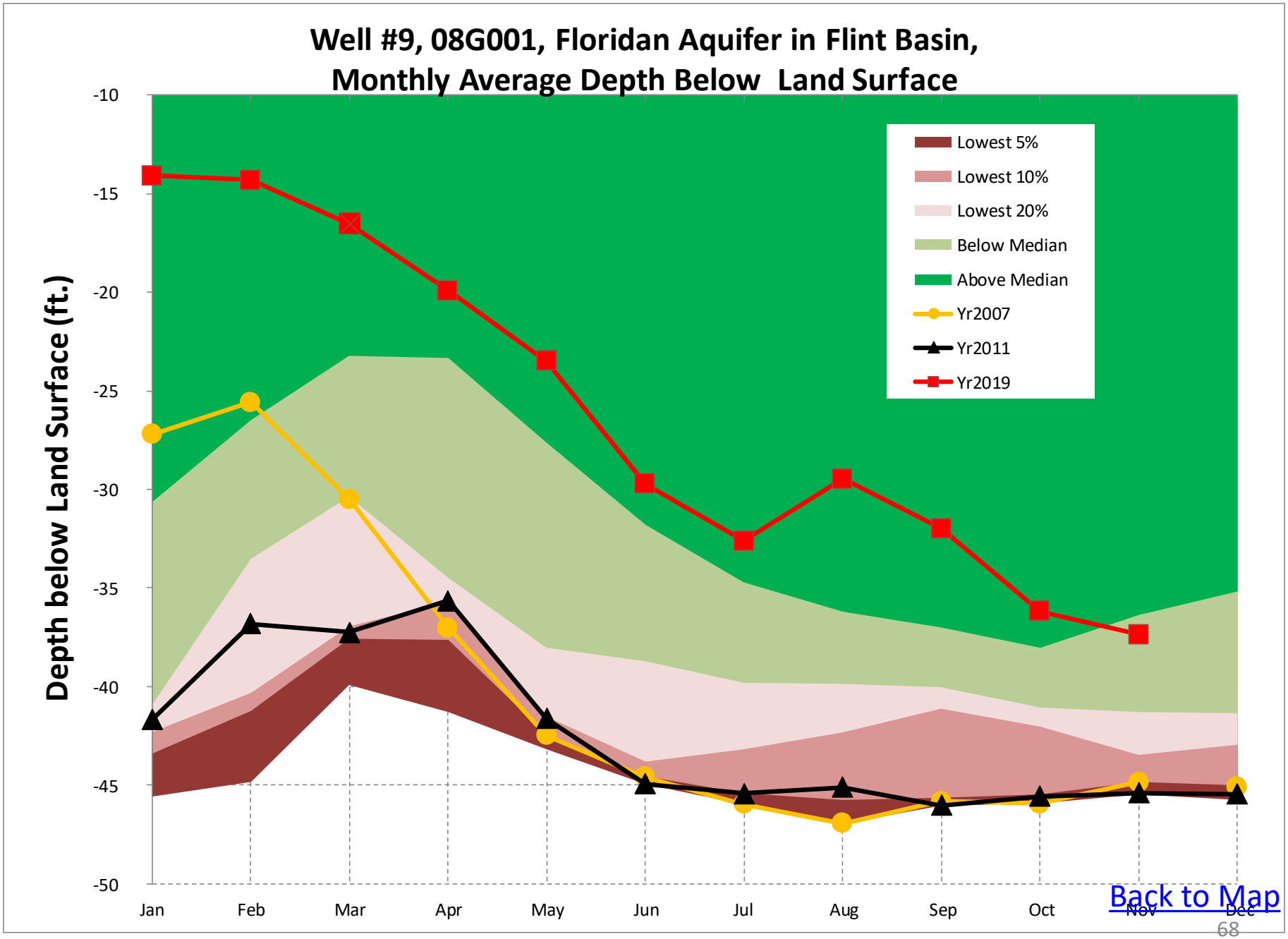

Well #8, 13J004, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

Back to Map


Well #9, 08G001, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-10
-15
-20
-25
-30
-35
-40
-45
-50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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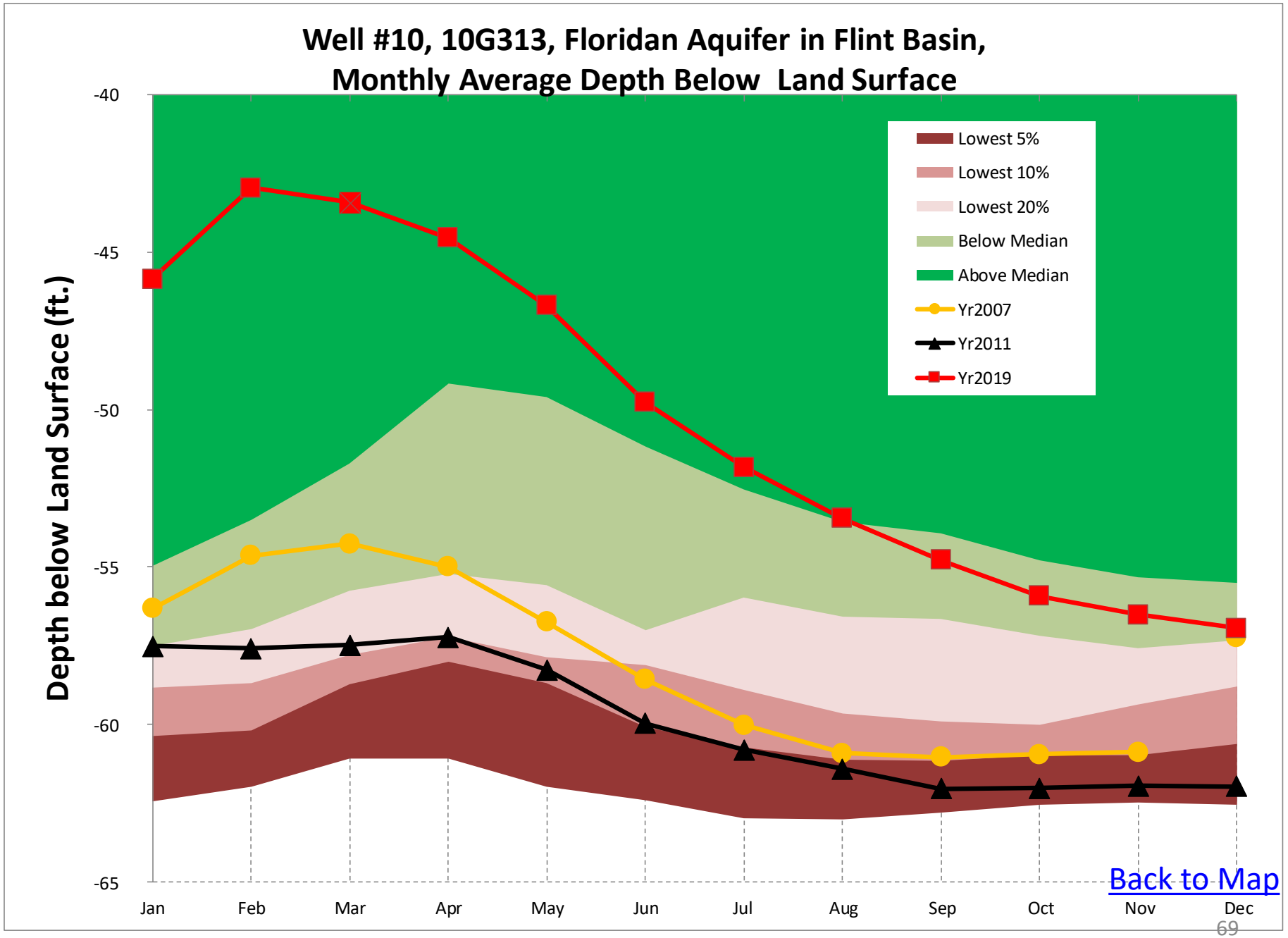
Well #10, 10G313, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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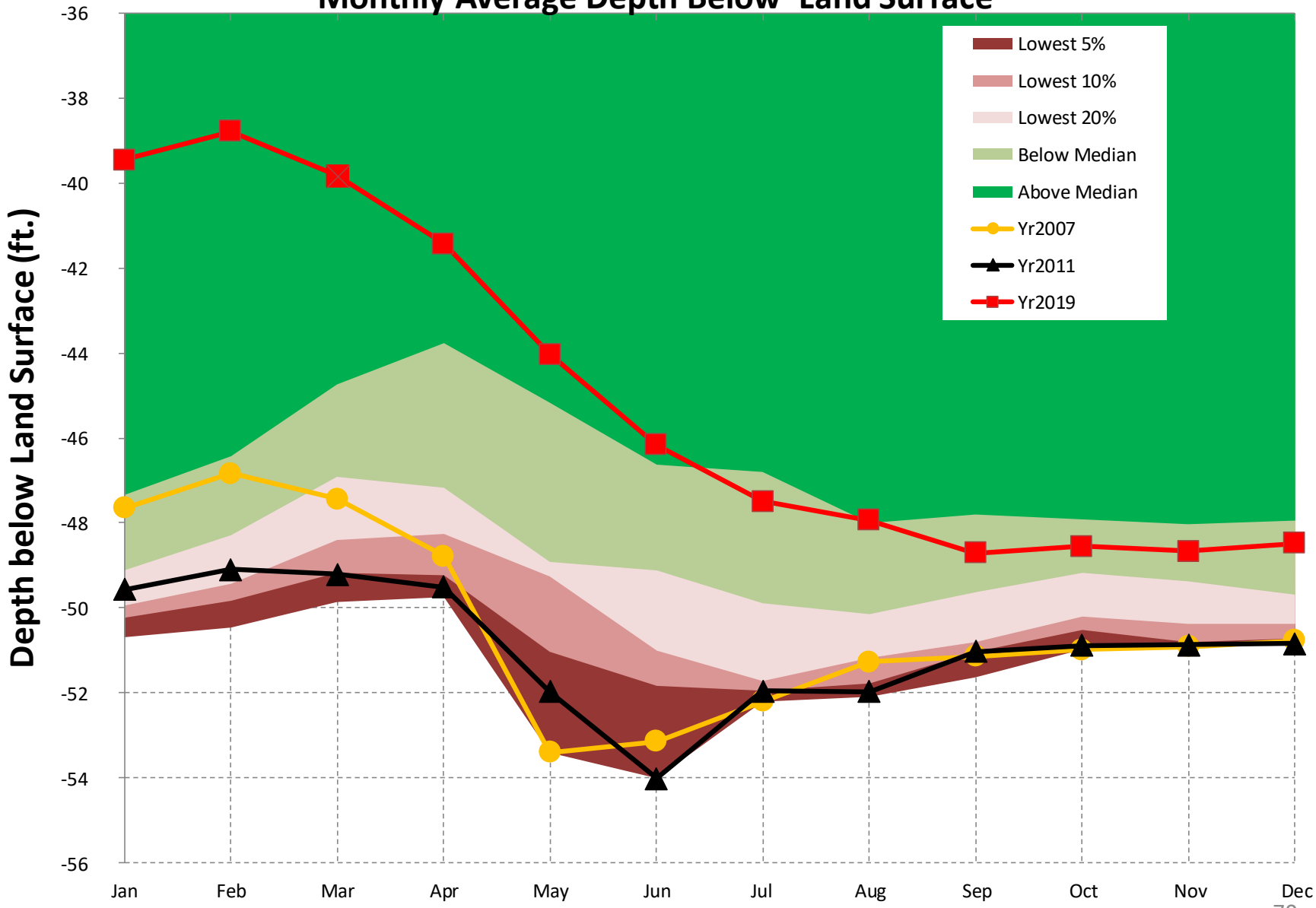
Well #11, 09F520, Floridan Aquifer in Flint Basin, Monthly Average Depth Below Land Surface



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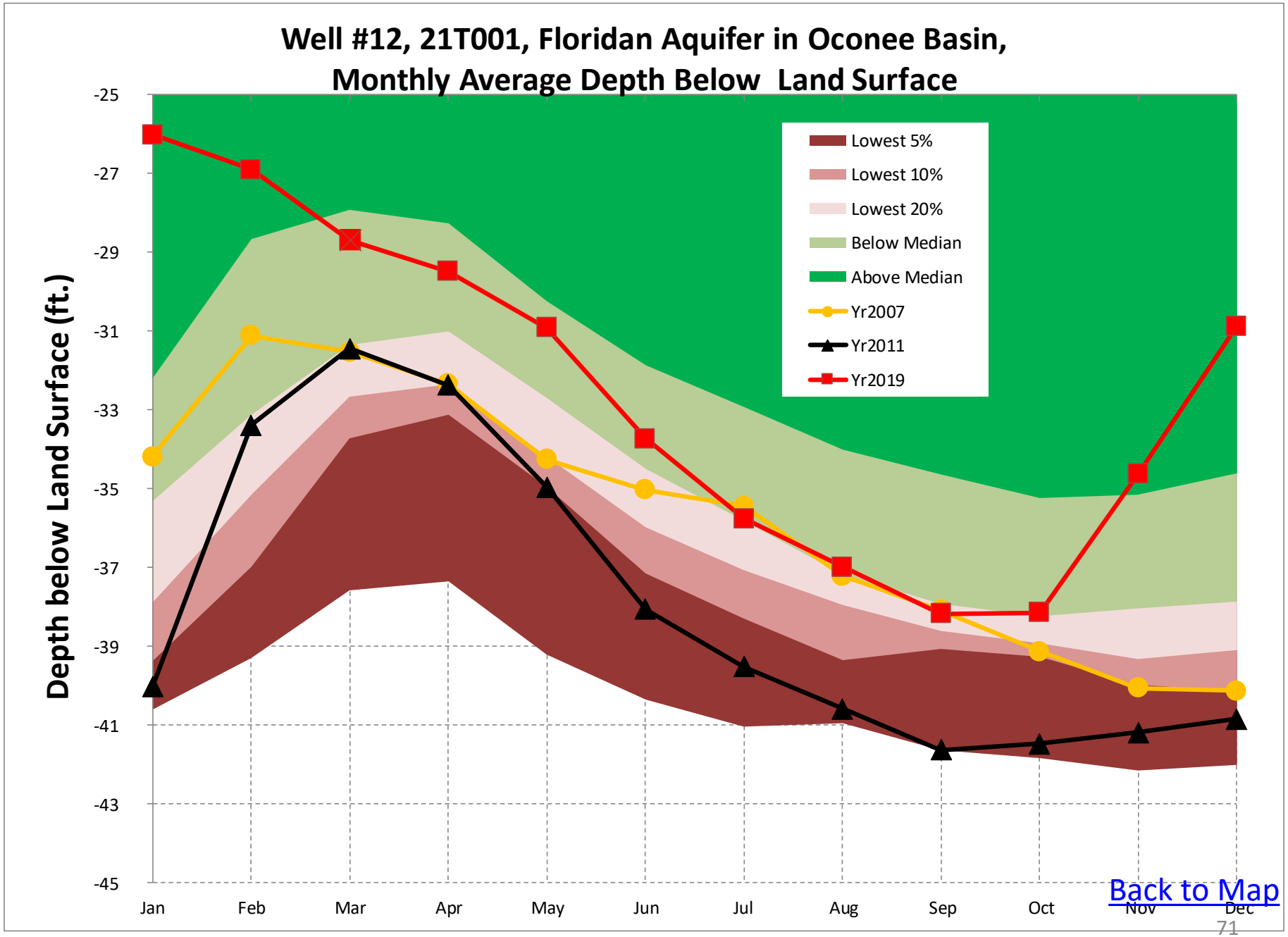
Well #12, 21T001, Floridan Aquifer in Oconee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-25
-27
-29
-31
-33
-35
-37
-39
-41
-43
-45
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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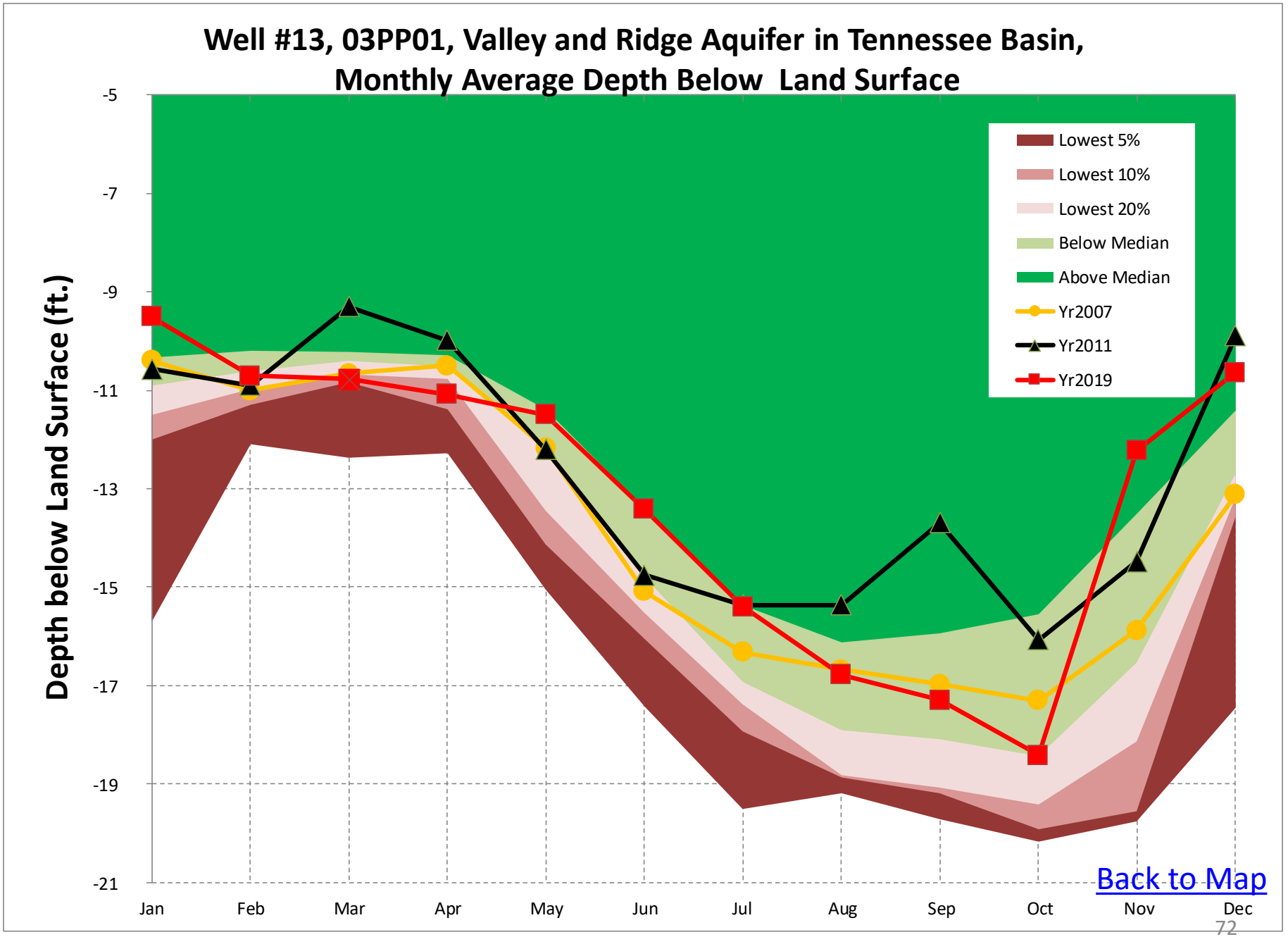
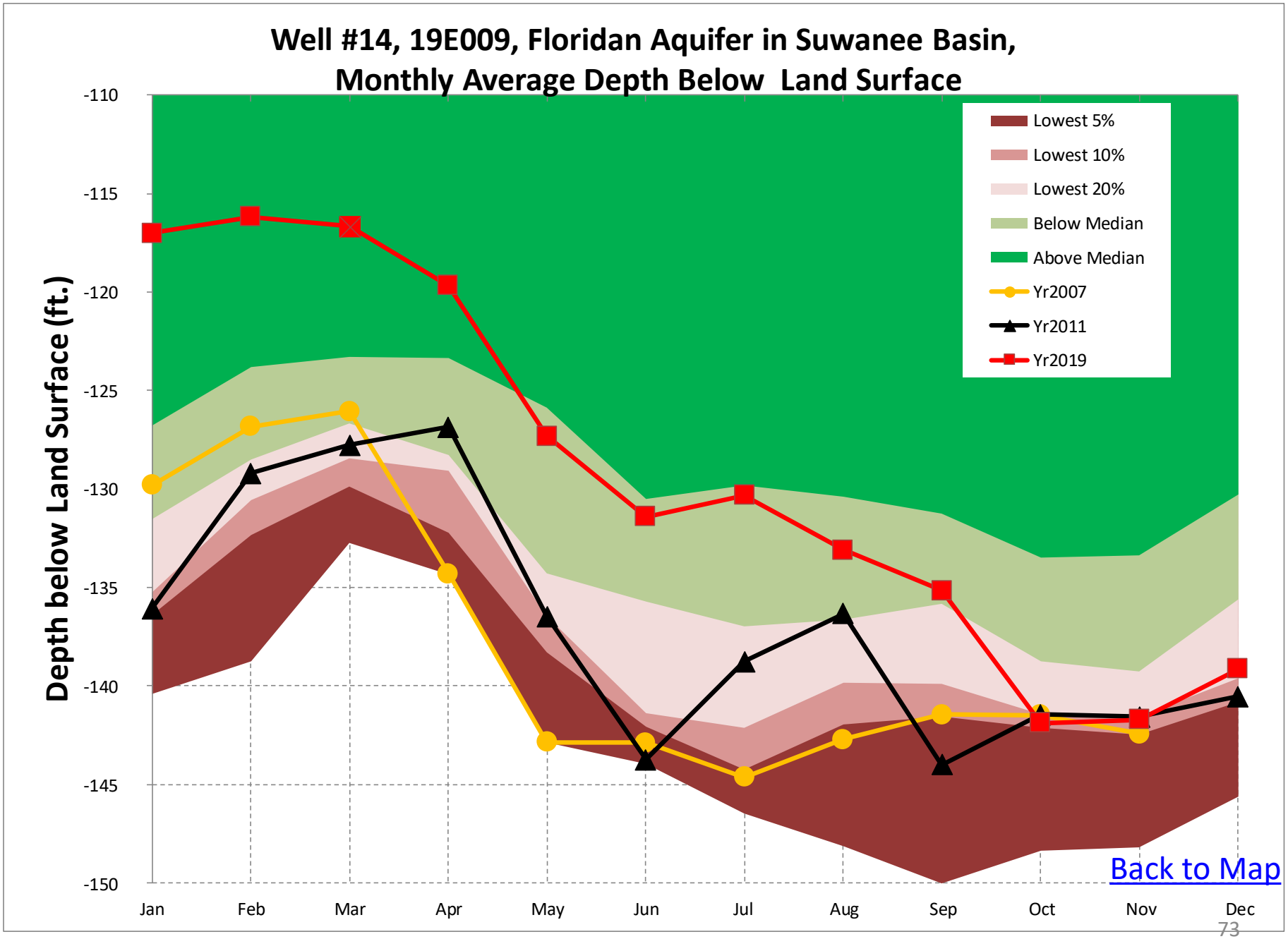

Well #13, 03PP01, Valley and Ridge Aquifer in Tennessee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-5
-7
-9
-11
-13
-15
-17
-19
-21
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019
Back to Map


Well #14, 19E009, Floridan Aquifer in Suwanee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-110
-115
-120
-125
-130
-135
-140
-145
-150
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019
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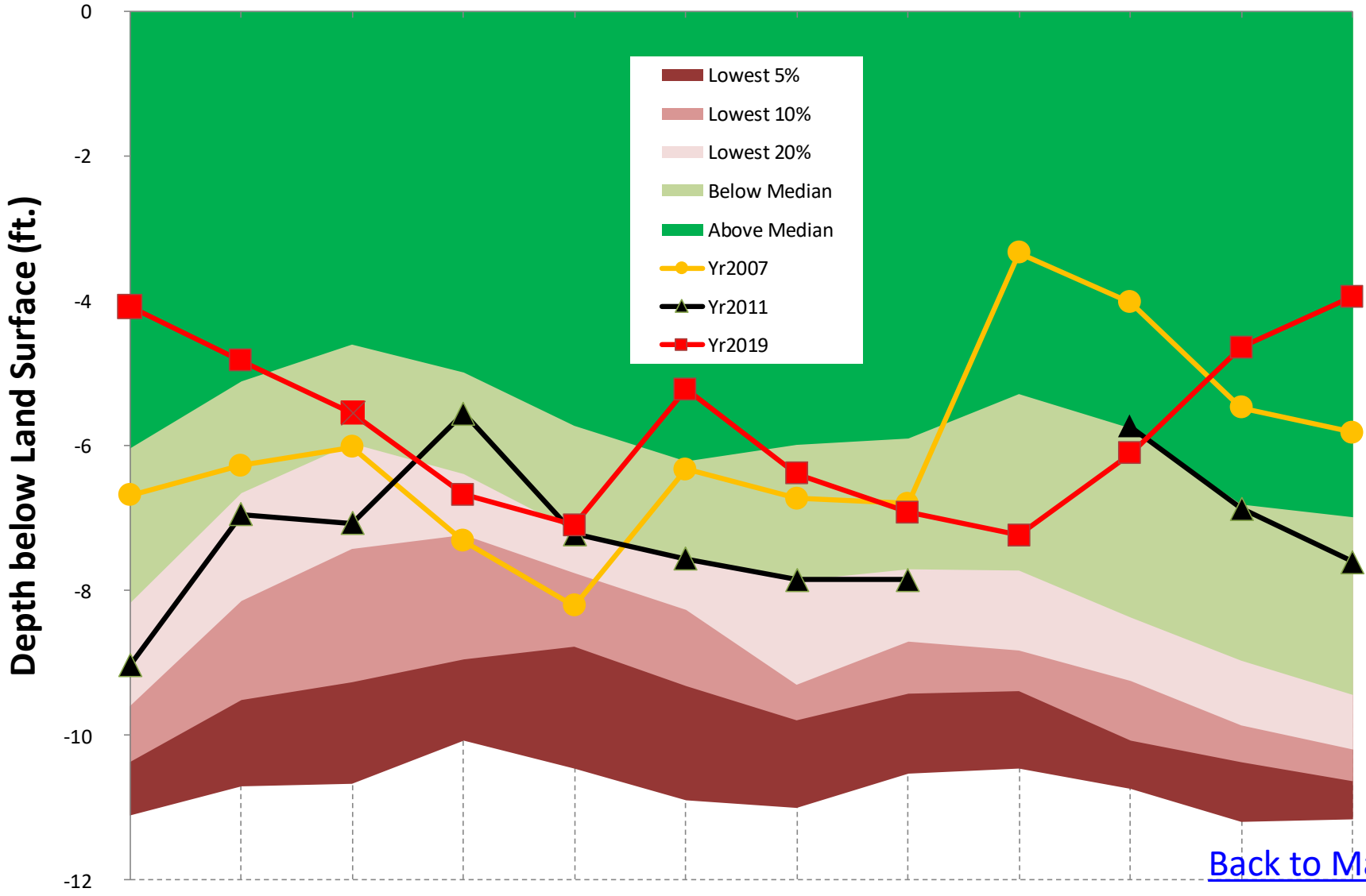
Well #15, 35P094, Surficial Aquifer in Ogeechee Basin, Monthly Average Depth Below Land Surface



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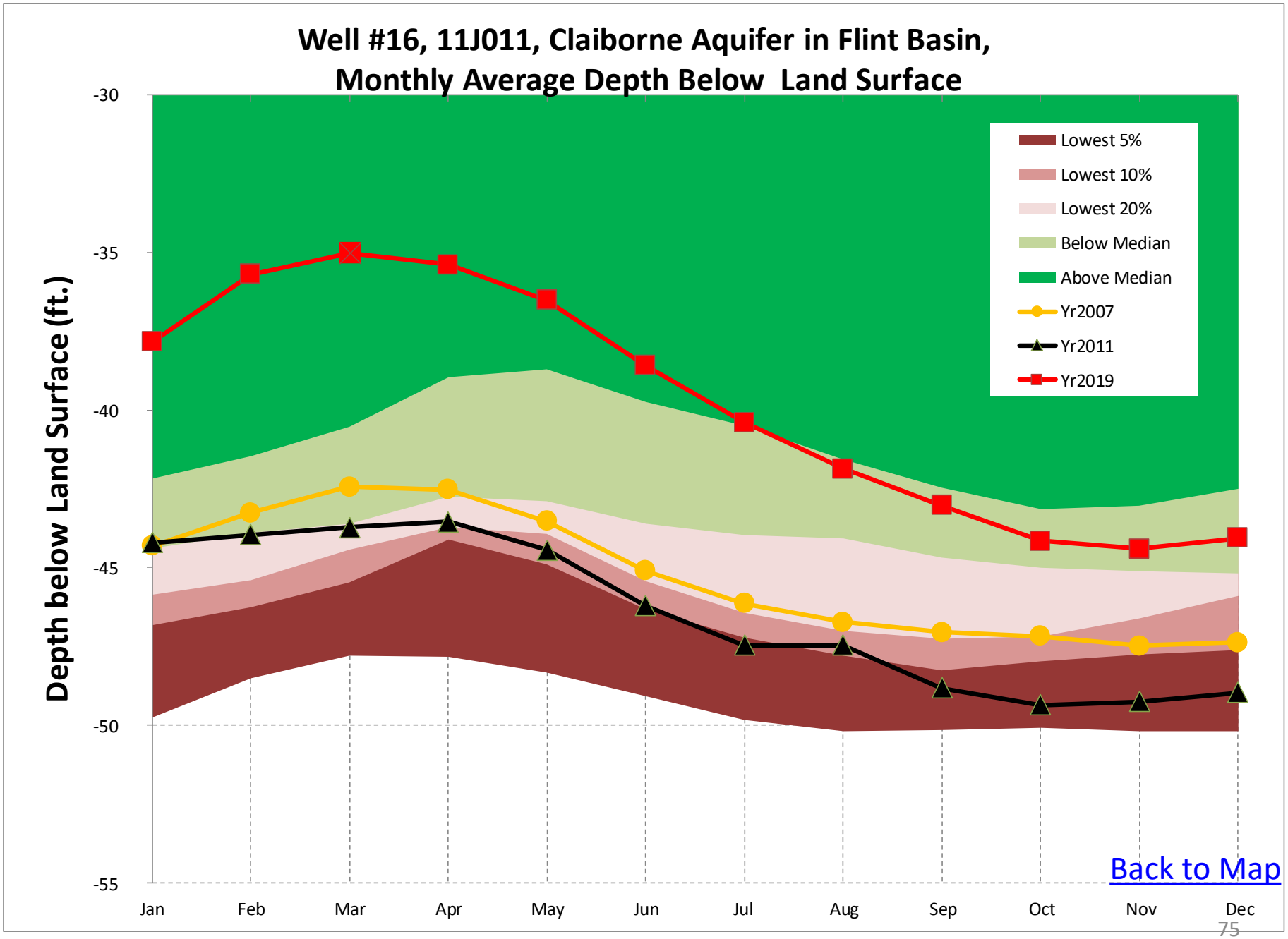
Well #16, 11J011, Claiborne Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-30
-35
-40
-45
-50
-55
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019

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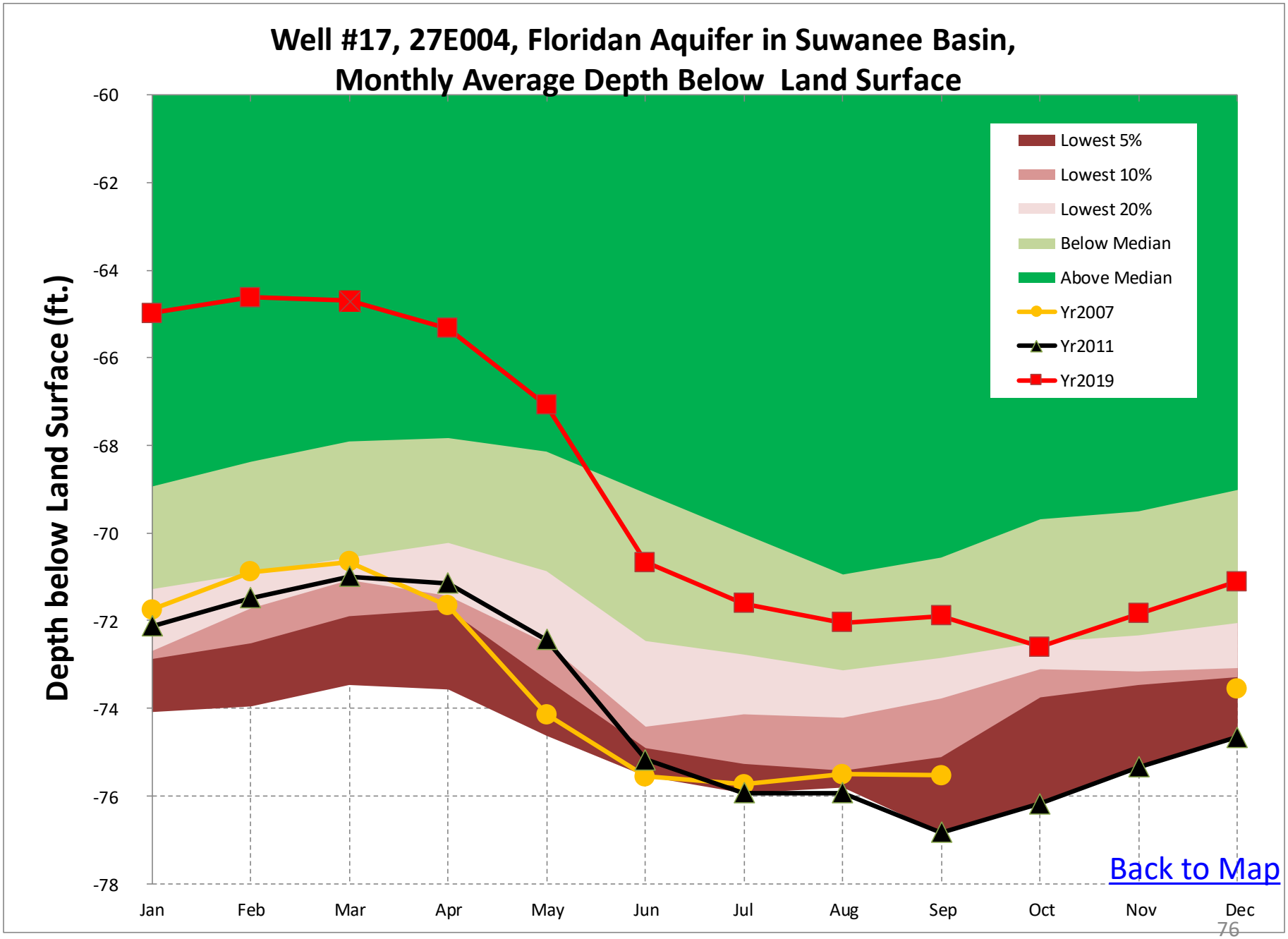

Well #17, 27E004, Floridan Aquifer in Suwanee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-60
-62
-64
-66
-68
-70
-72
-74
-76
-78
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2019
Back to Map

Reservoir Levels

Data Source:
US Army Corps of Engineers

Coosa Basin
1. Carters
2. Allatoona

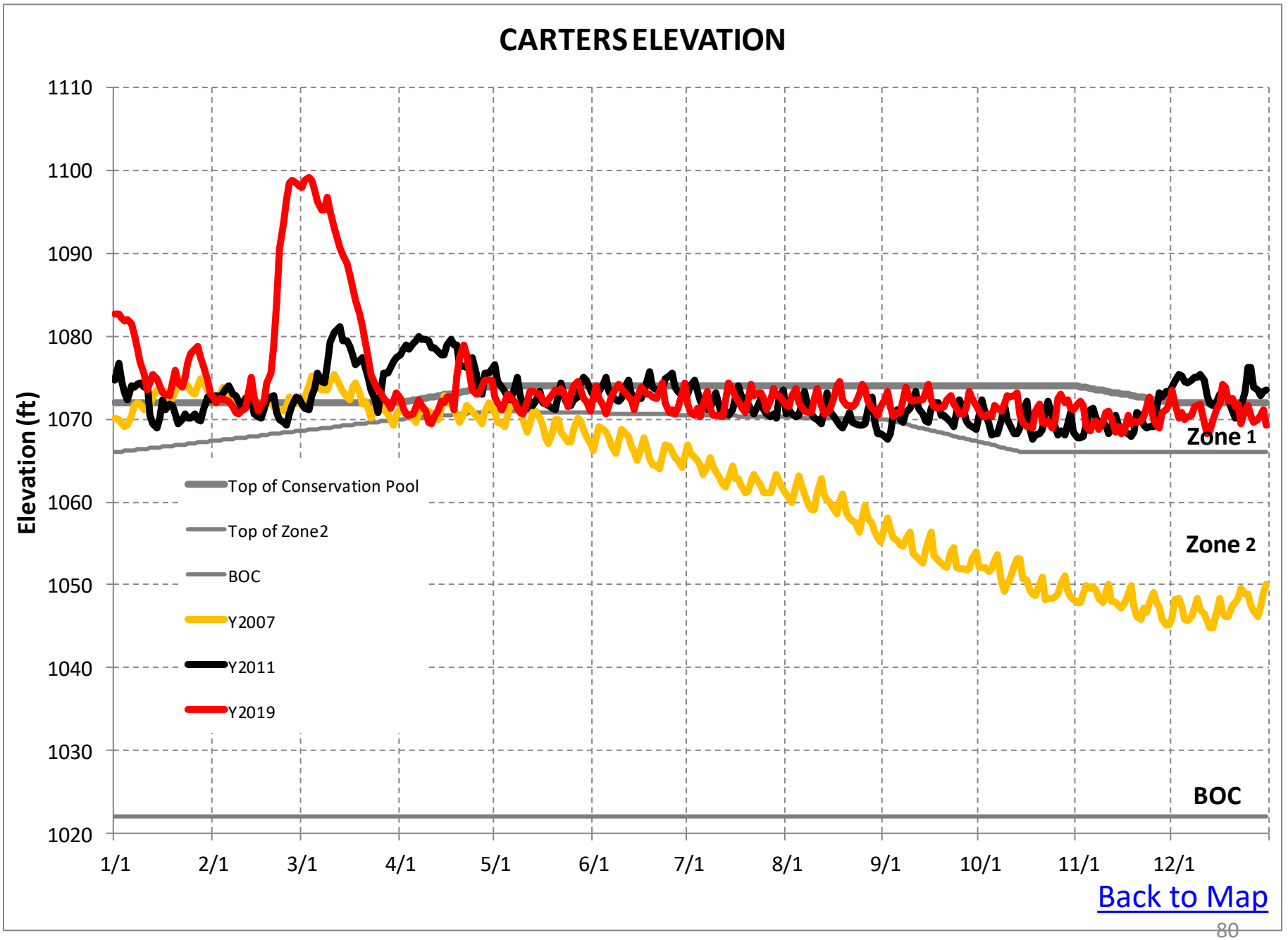
Chattahoochee Basin
3. Lanier
4. West Point
5. W.F. George

Savannah Basin
6. Hartwell
7. Thurmond

EPD monitors the water levels of seven reservoirs to assess drought conditions.

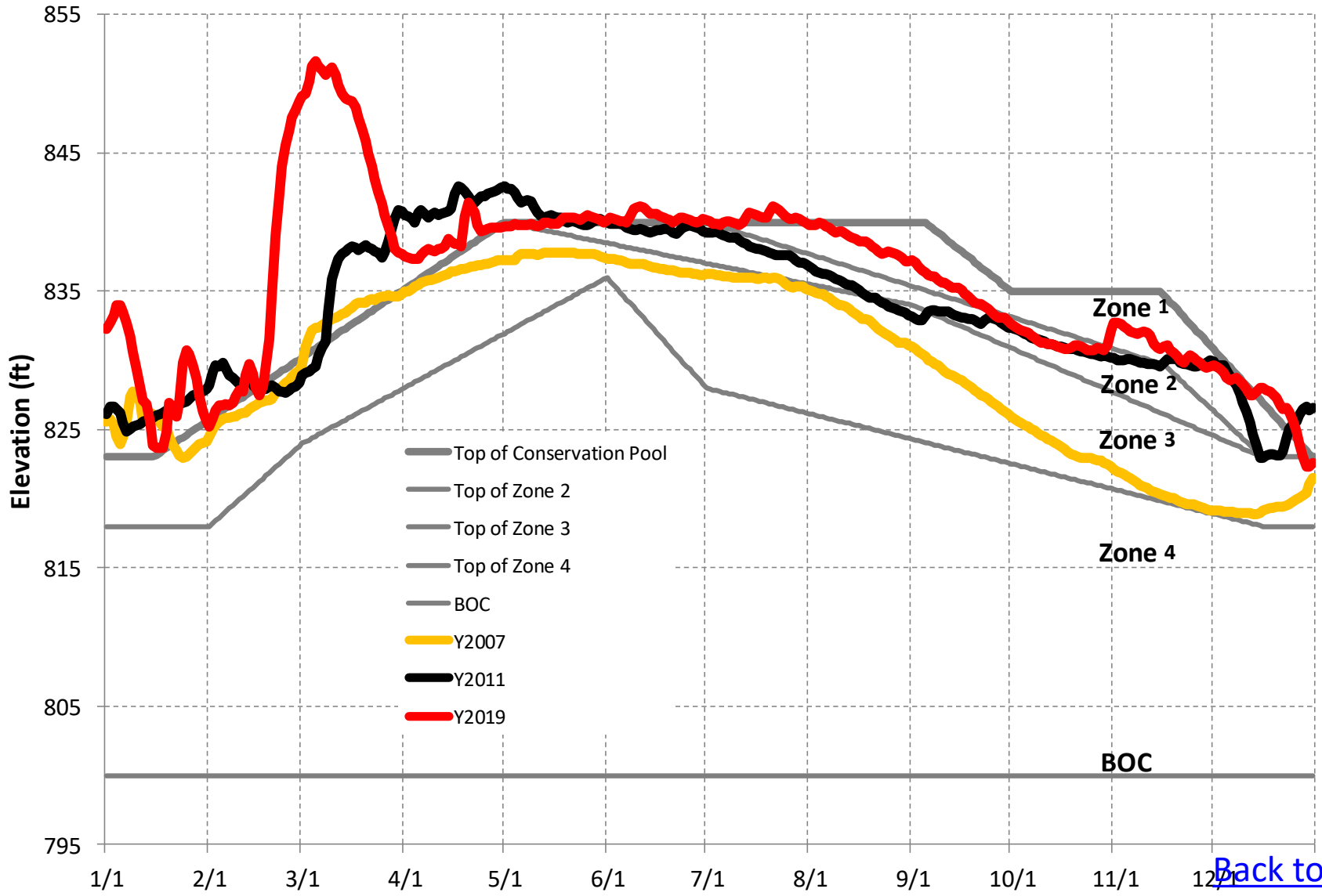
Reservoir Elevation Graphs

- The following graphs show the reservoir elevation curves for January 2019 through December 2019.
- Each graph also shows the Action Zone Divides (or Levels) for each reservoir
  - Zone 1 is the top layer of the conservation pool
  - Zone 2 is the layer below Zone 1
  - Zone 4 is the lowest layer in the conservation pool
  - There is no conservation storage below the bottom of Zone 4
- To put 2019 reservoir elevations into perspective, elevations for 2007 and 2011 are also shown.


CARTERS ELEVATION
Elevation (ft)
1110
1100
1090
1080
1070
1060
1050
1040
1030
1020
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Top of Conservation Pool
Top of Zone2
BOC
Y2007
Y2011
Y2019
Zone 1
Zone 2
BOC

Back to Map

ALLATOONA ELEVATION



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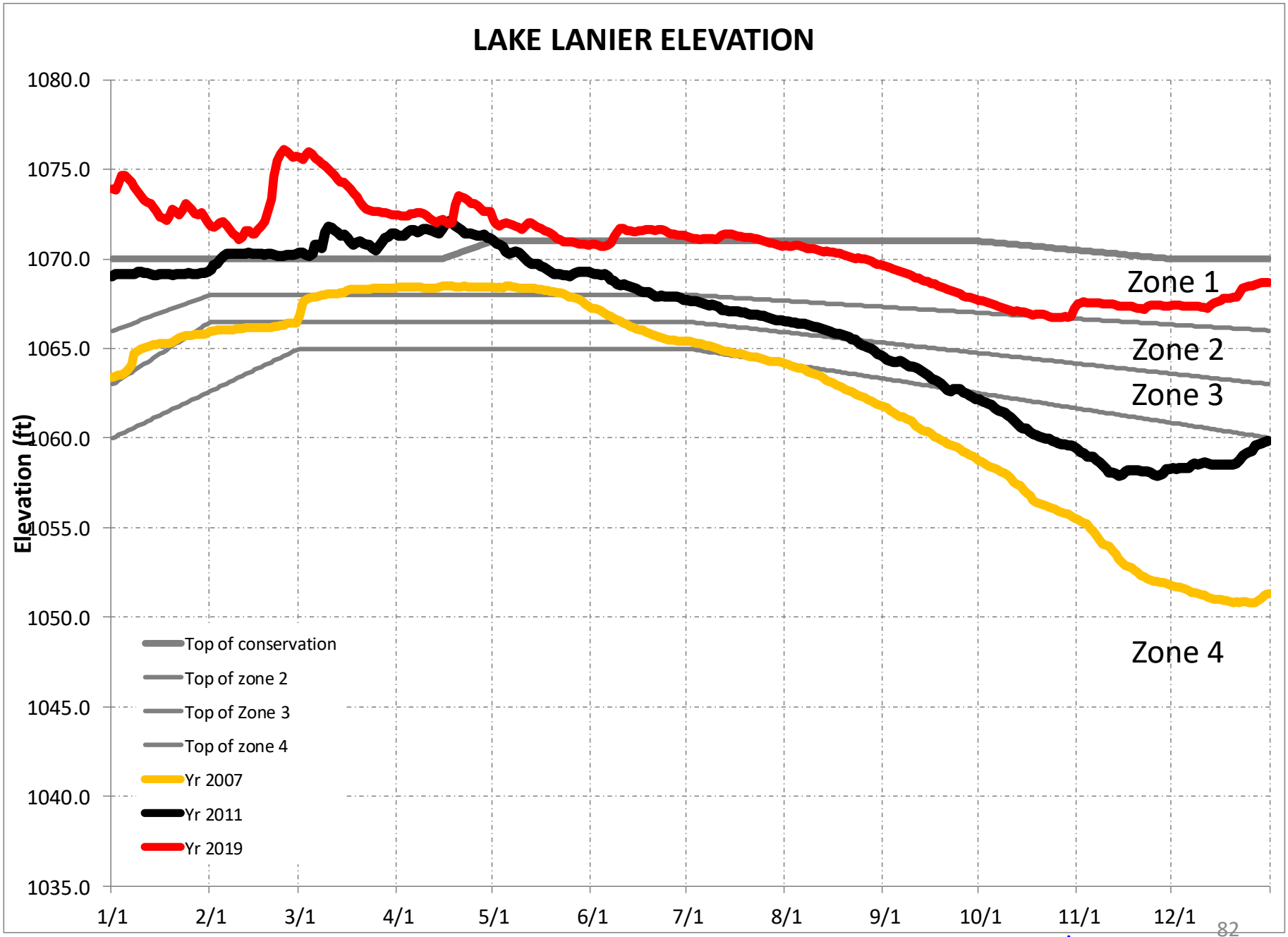
LAKE LANIER ELEVATION
Elevation (ft)
1080.0
1075.0
1070.0
1065.0
1060.0
1055.0
1050.0
1045.0
1040.0
1035.0
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Yr 2007
Yr 2011
Yr 2019

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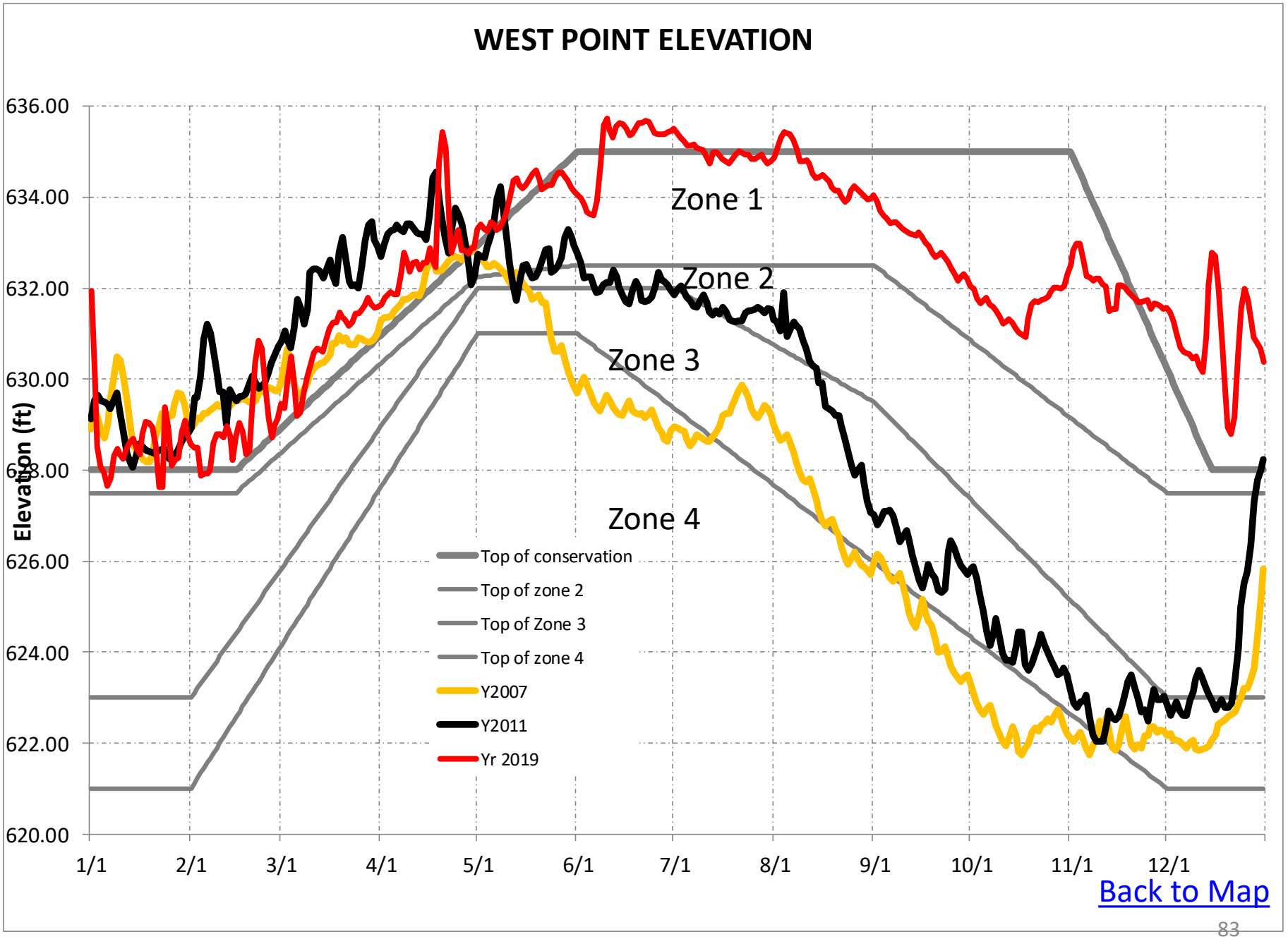
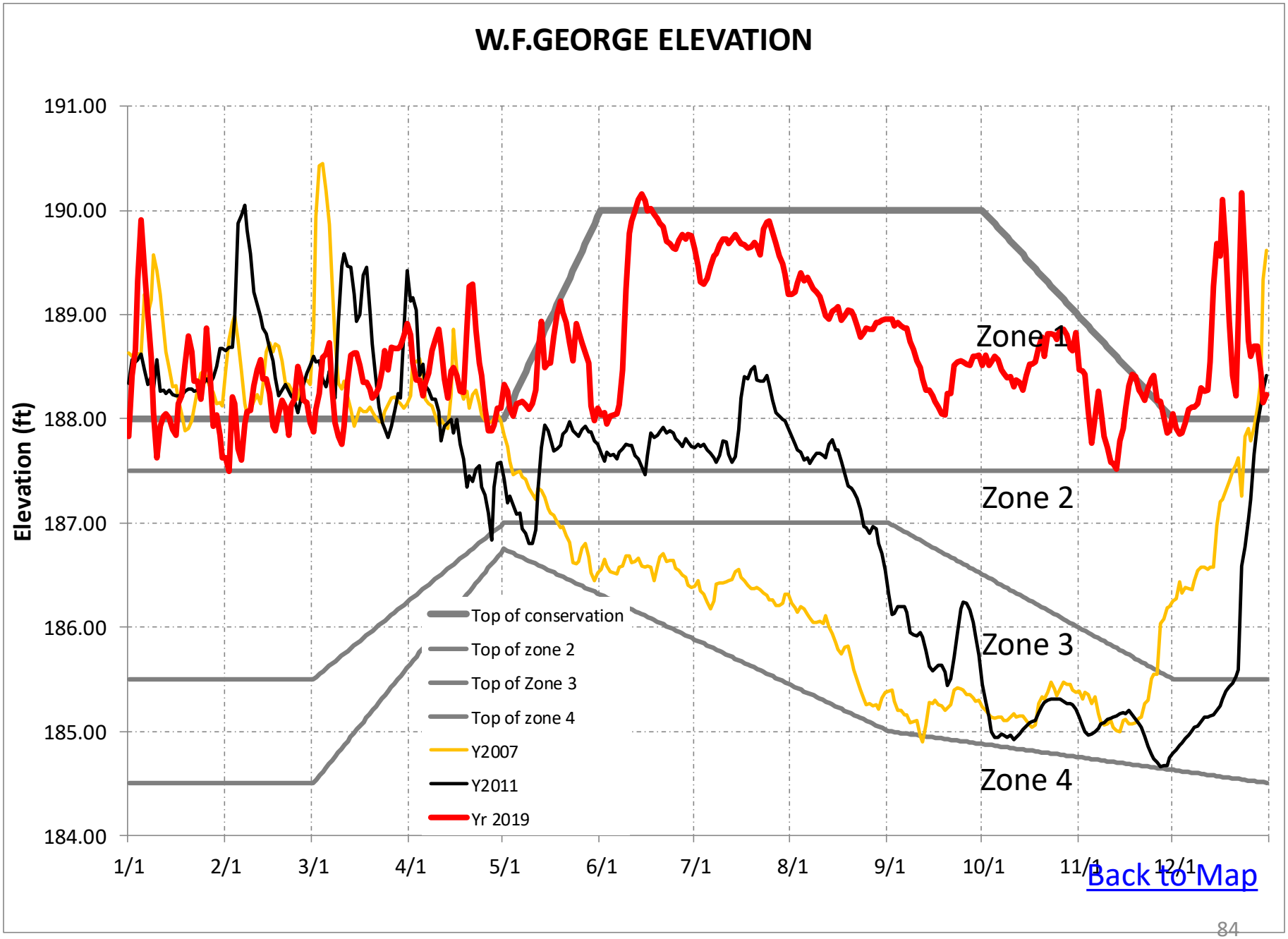

WEST POINT ELEVATION
636.00
634.00
632.00
630.00
628.00
626.00
624.00
622.00
620.00
Elevation (ft)
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Y2007
Y2011
Yr 2019

Back to Map


W.F.GEORGE ELEVATION
Elevation (ft)
191.00
190.00
189.00
188.00
187.00
186.00
185.00
184.00
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Y2007
Y2011
Yr 2019

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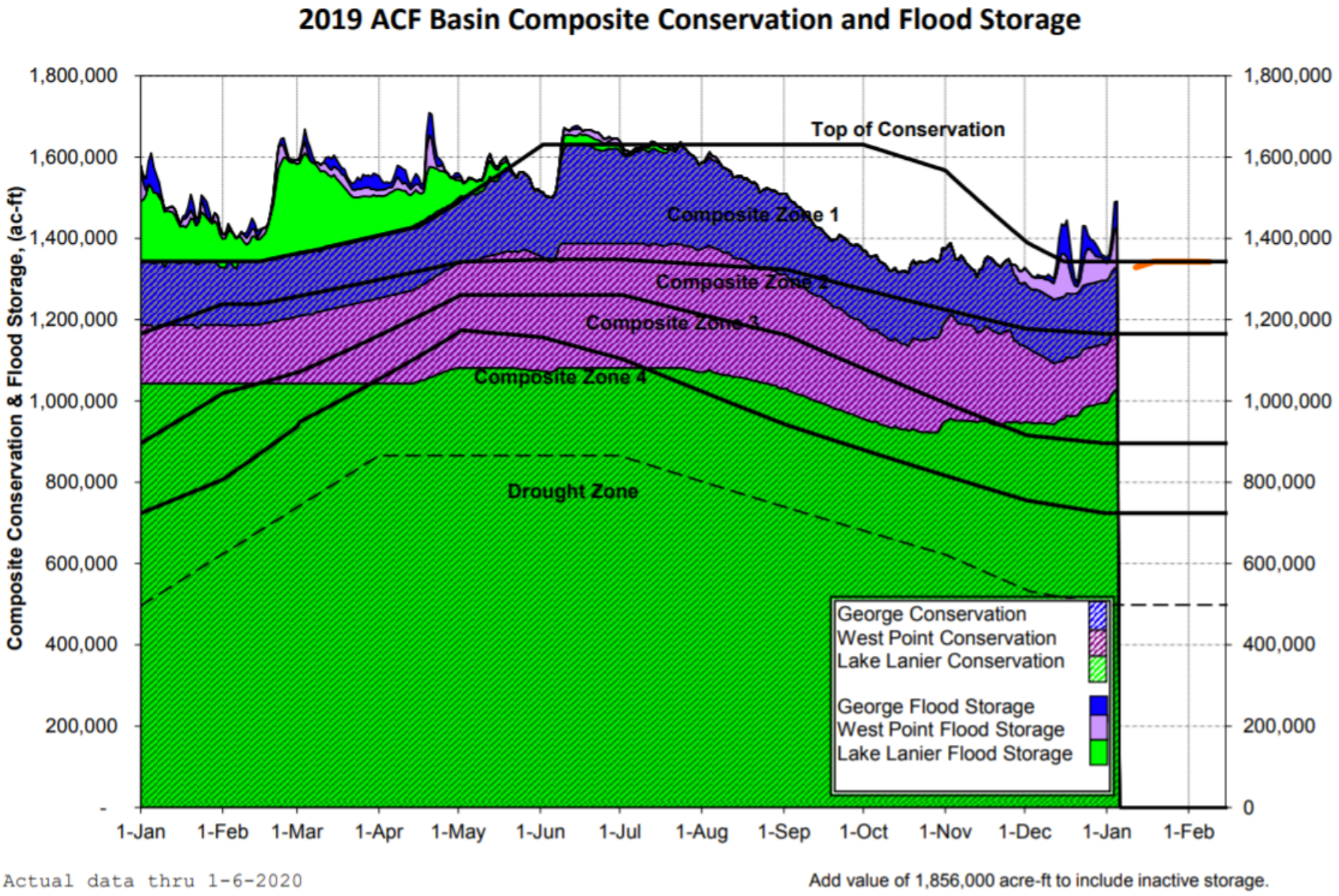
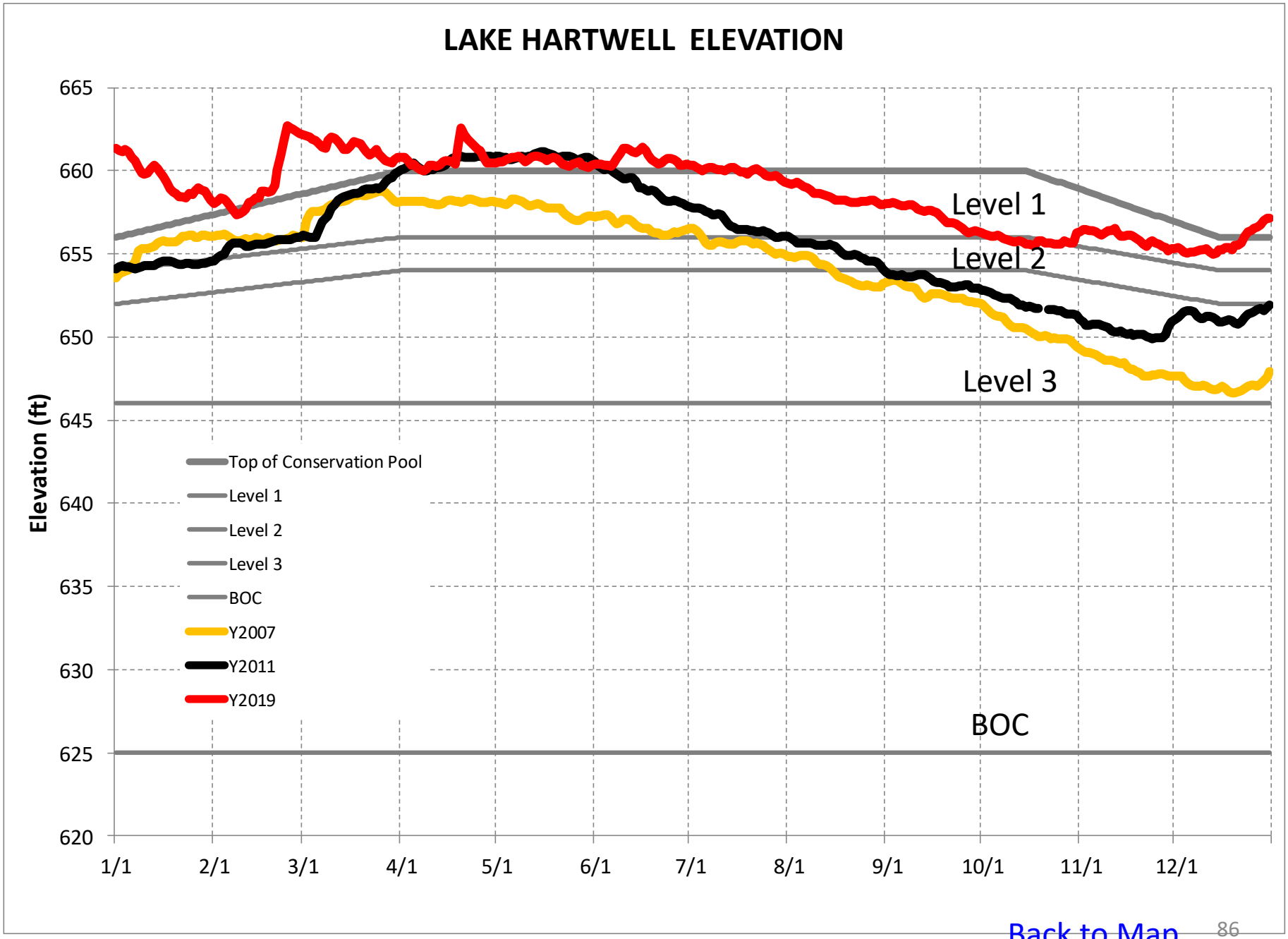


Compiled by USACE.


LAKE HARTWELL ELEVATION
Elevation (ft)
665
660
655
650
645
640
635
630
625
620
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Level 1
Level 2
Level 3
BOC
Top of Conservation Pool
Level 1
Level 2
Level 3
BOC
Y2007
Y2011
Y2019

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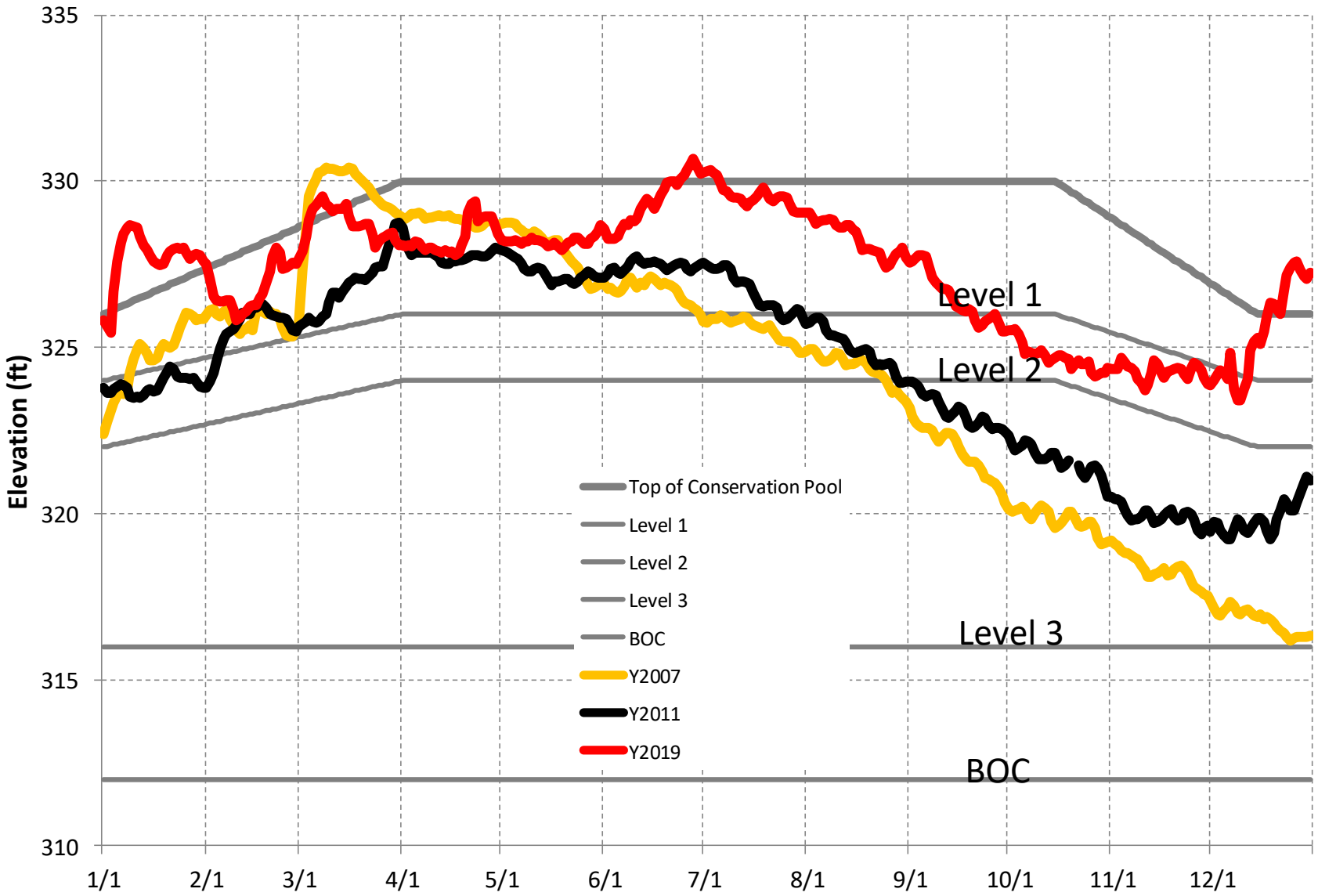
LAKE CLARKS HILL (THURMOND) ELEVATION



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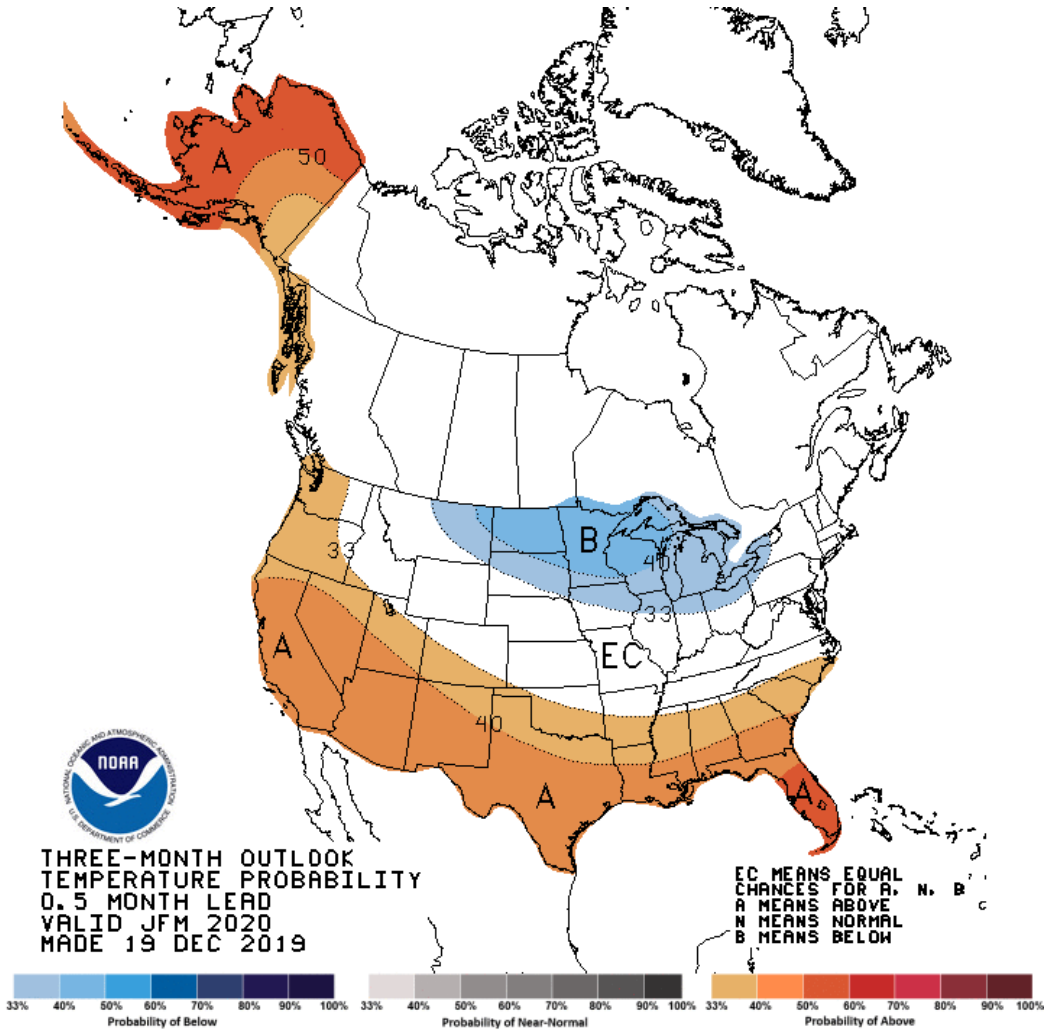
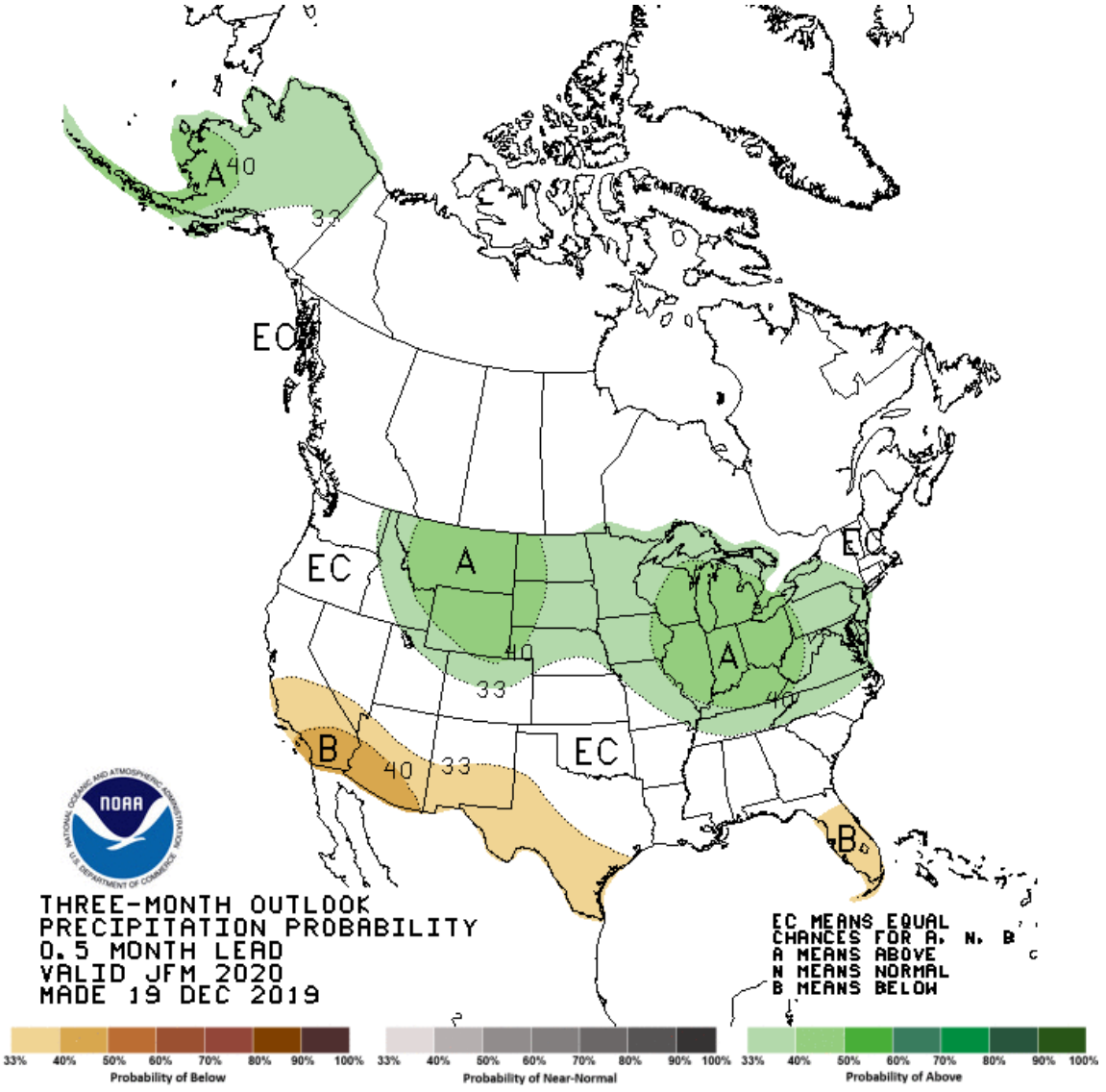
Climate Prediction Center 3-month Temperature and Precipitation Probability Outlook and Seasonal Drought Outlook

Data Source:
http://www.cpc.ncep.noaa.gov/

Temperature Outlook



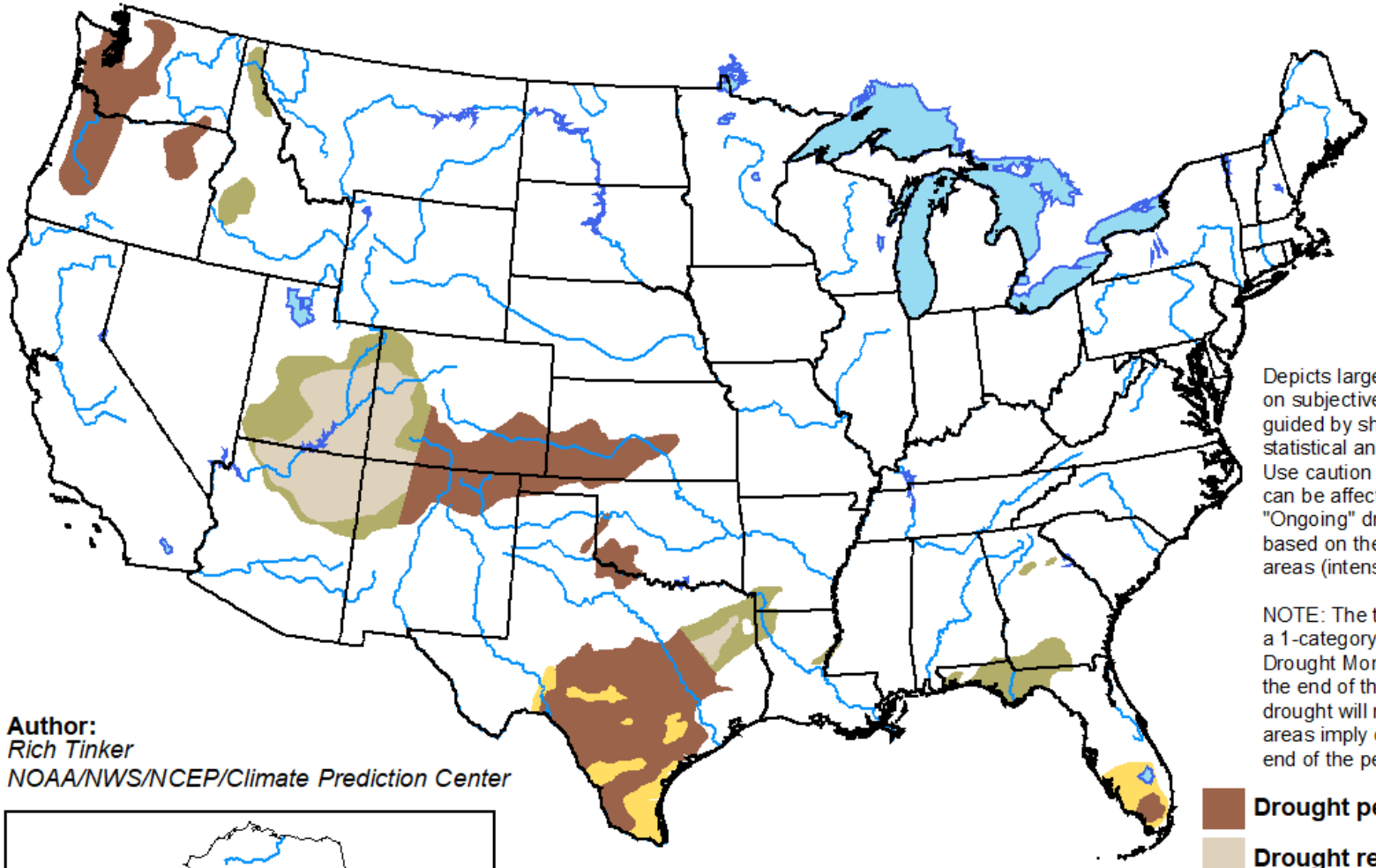
Precipitation Outlook



U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for December 19, 2019 - March 31, 2020
Released December 19, 2019



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

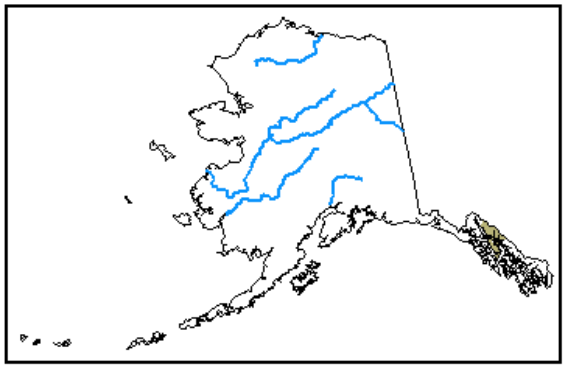
Drought persists

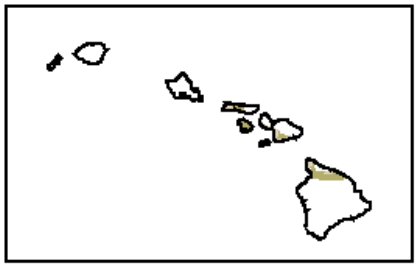
Drought remains but improves

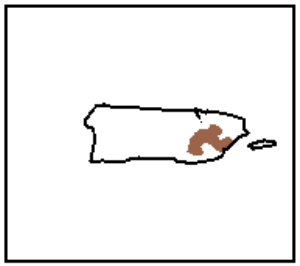
Drought removal likely

Drought development likely

Author:
Rich Tinker
NOAA/NWS/NCEP/Climate Prediction Center







http://go.usa.gov/3eZ73