Fire Weather Update Including Short and Long Term Outlooks

Presenter

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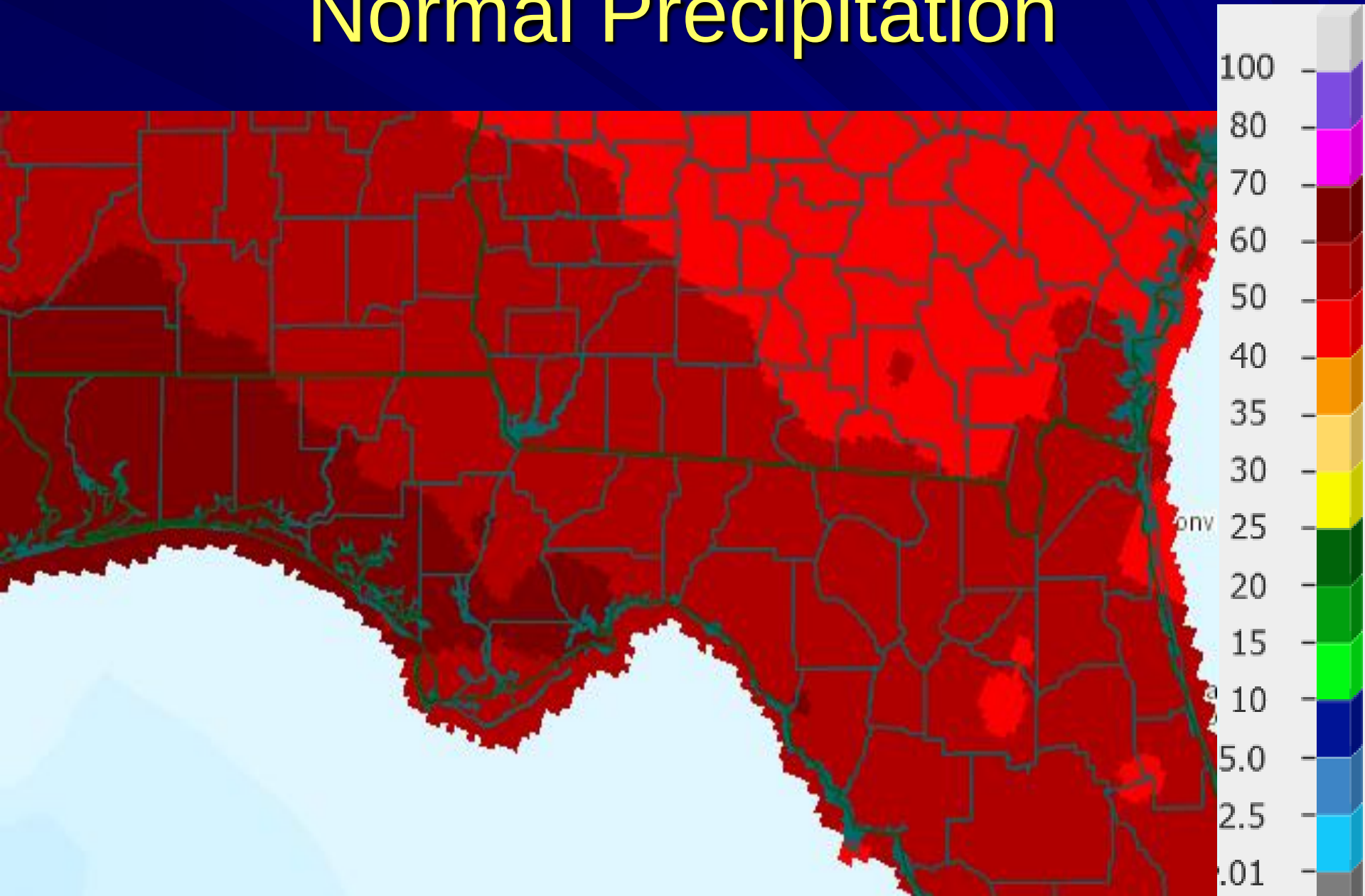
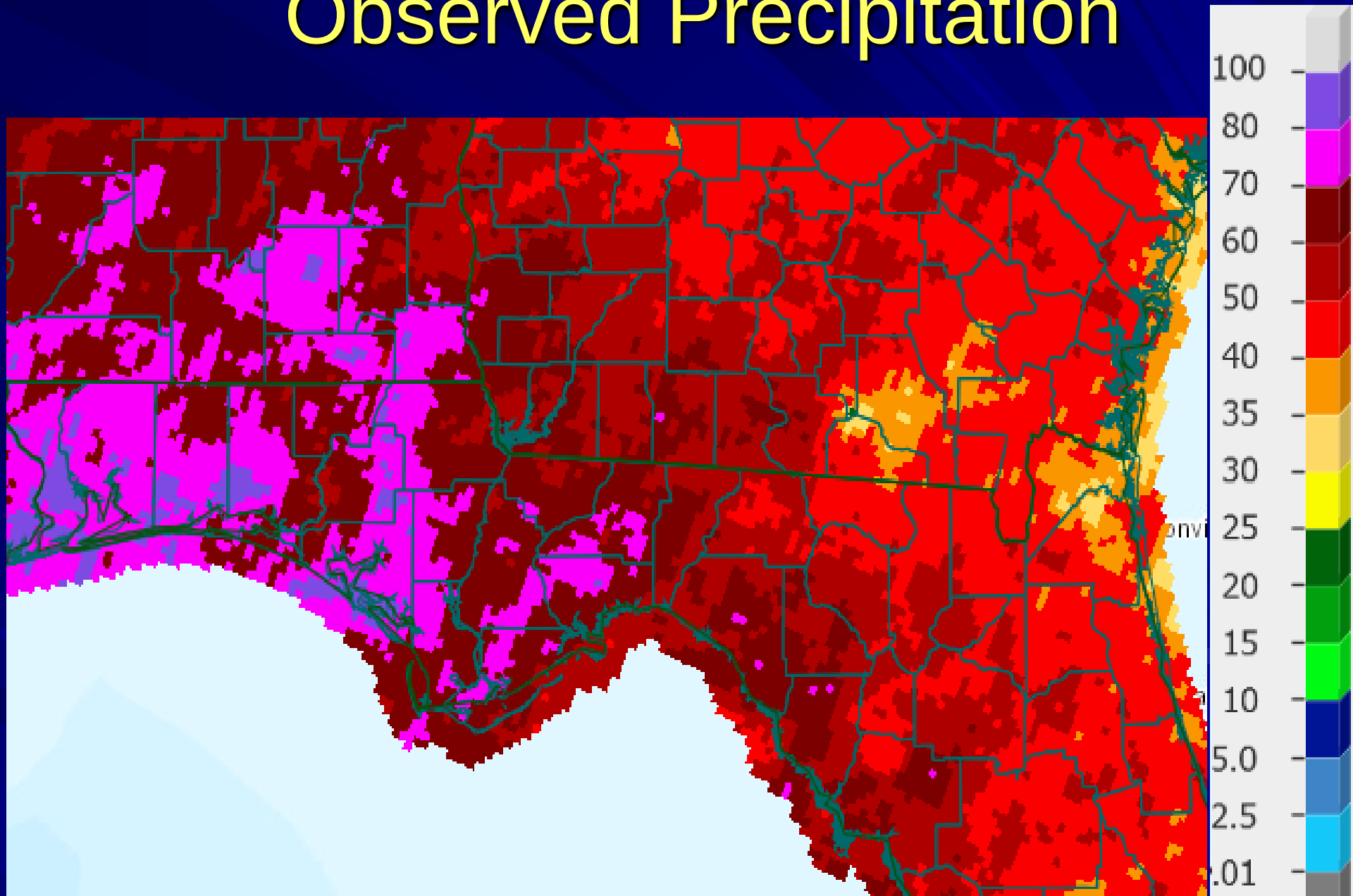
Presentation Outline

- Past/Current Weather Conditions
- Current and Forecast El Nino/ Southern Oscillation (ENSO) Conditions
- Short term/Seasonal Significant Wildland Fire Potential Outlooks

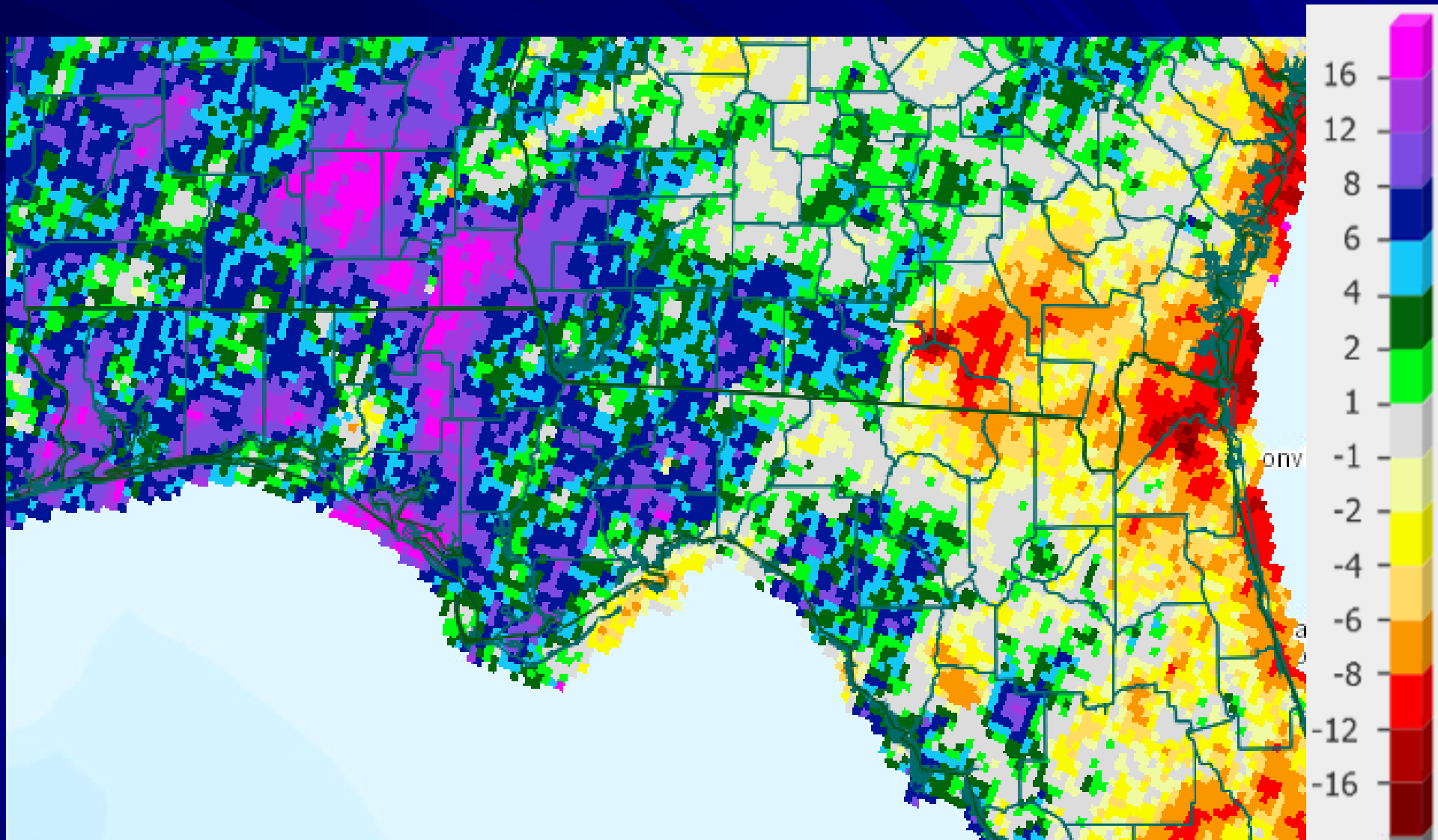
Water Year(Oct 1, 2015 – Sep 30, 2016)
Normal Precipitation



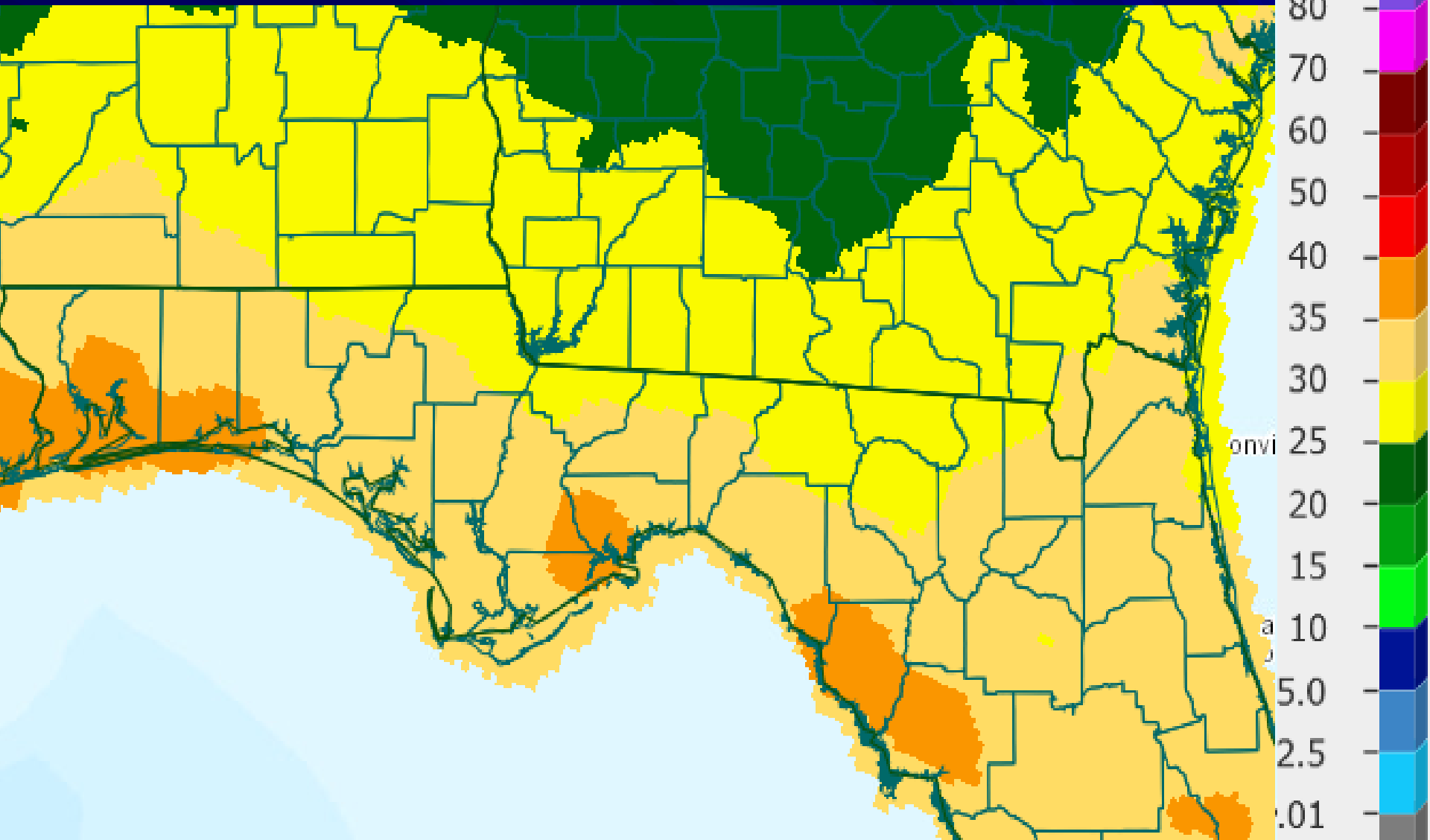
Water Year(Oct 1, 2015 – Sep 30, 2016)
Observed Precipitation



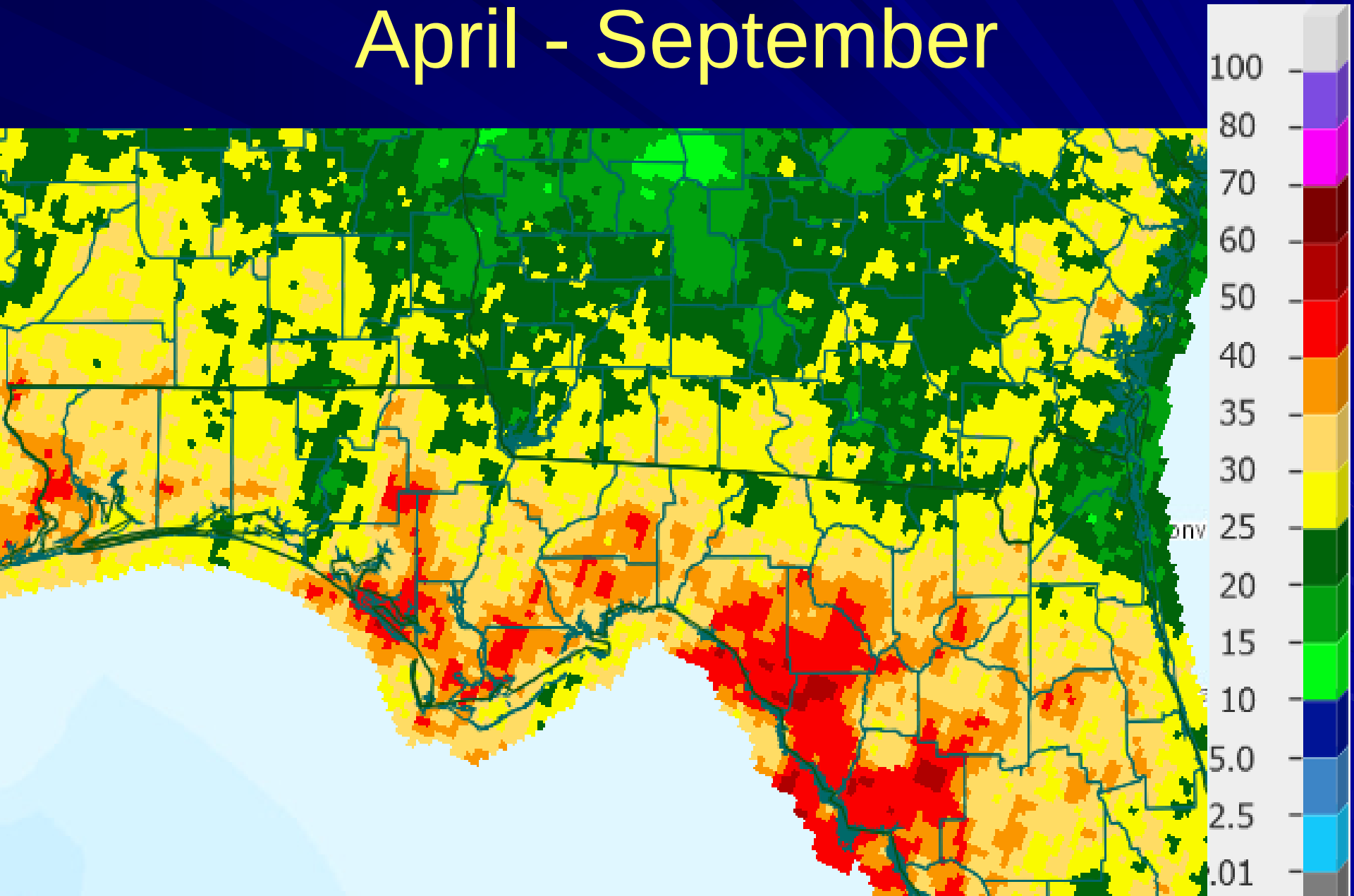
Water Year (Oct 1, 2015 –Sep 30, 2016)
Departure from Normal Precipitation



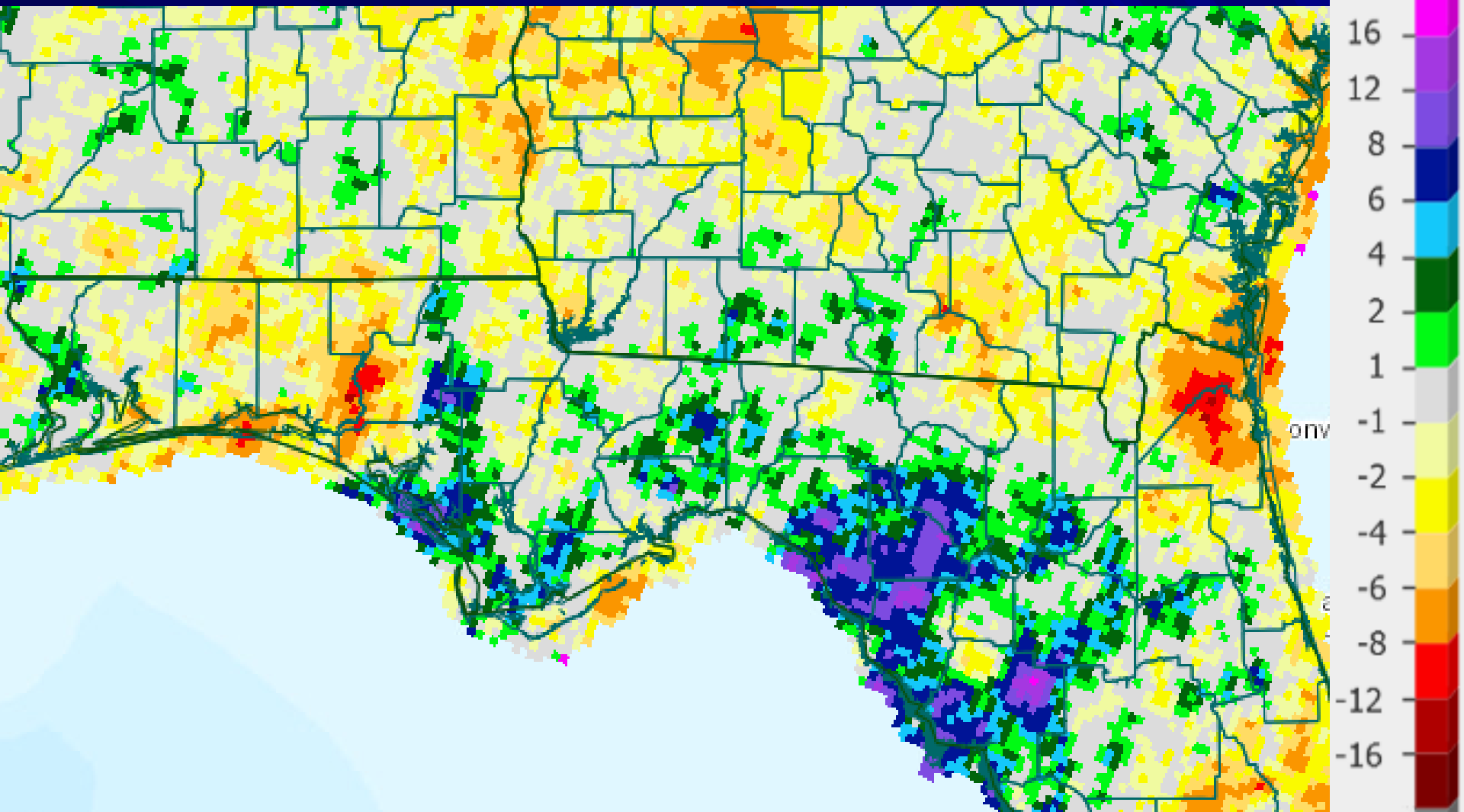
Normal Precipitation
April – September



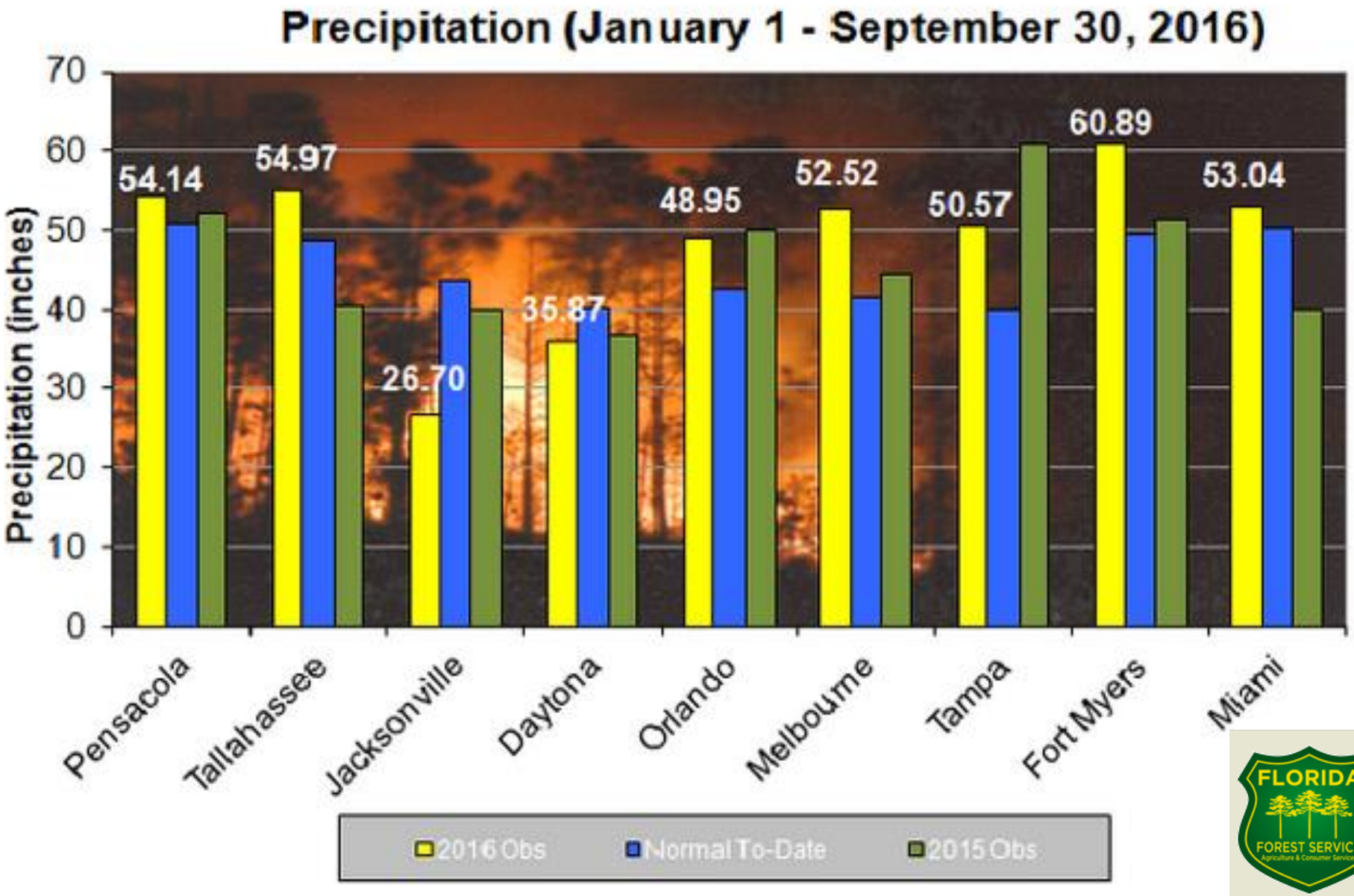
Observed Precipitation April - September



Departure from Normal Precipitation
April - September

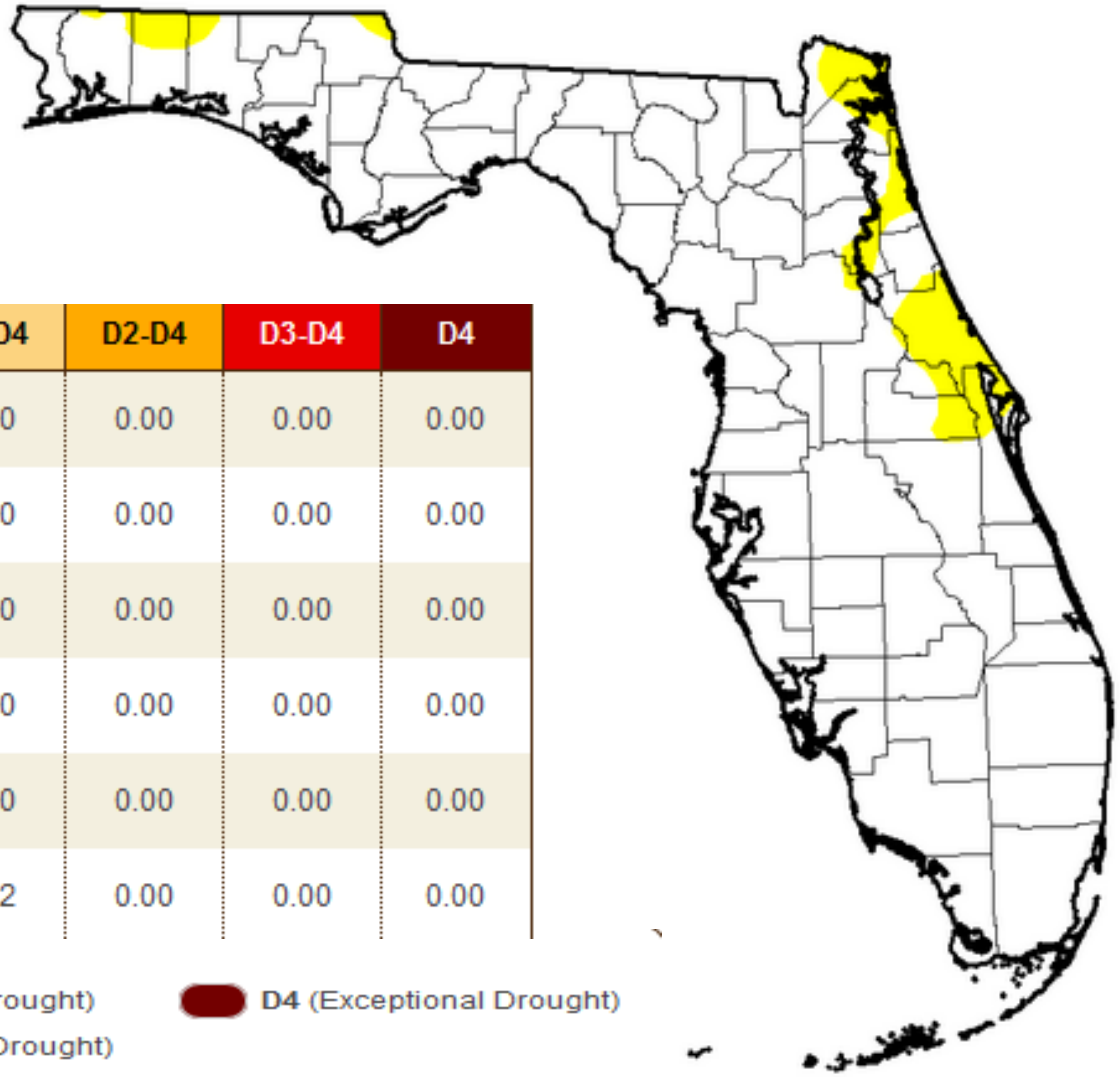


Year to Date Precipitation Across Florida



Current Weather Conditions - Drought Monitor

Florida



October 4, 2016

(Released Thursday October 6, 2016)

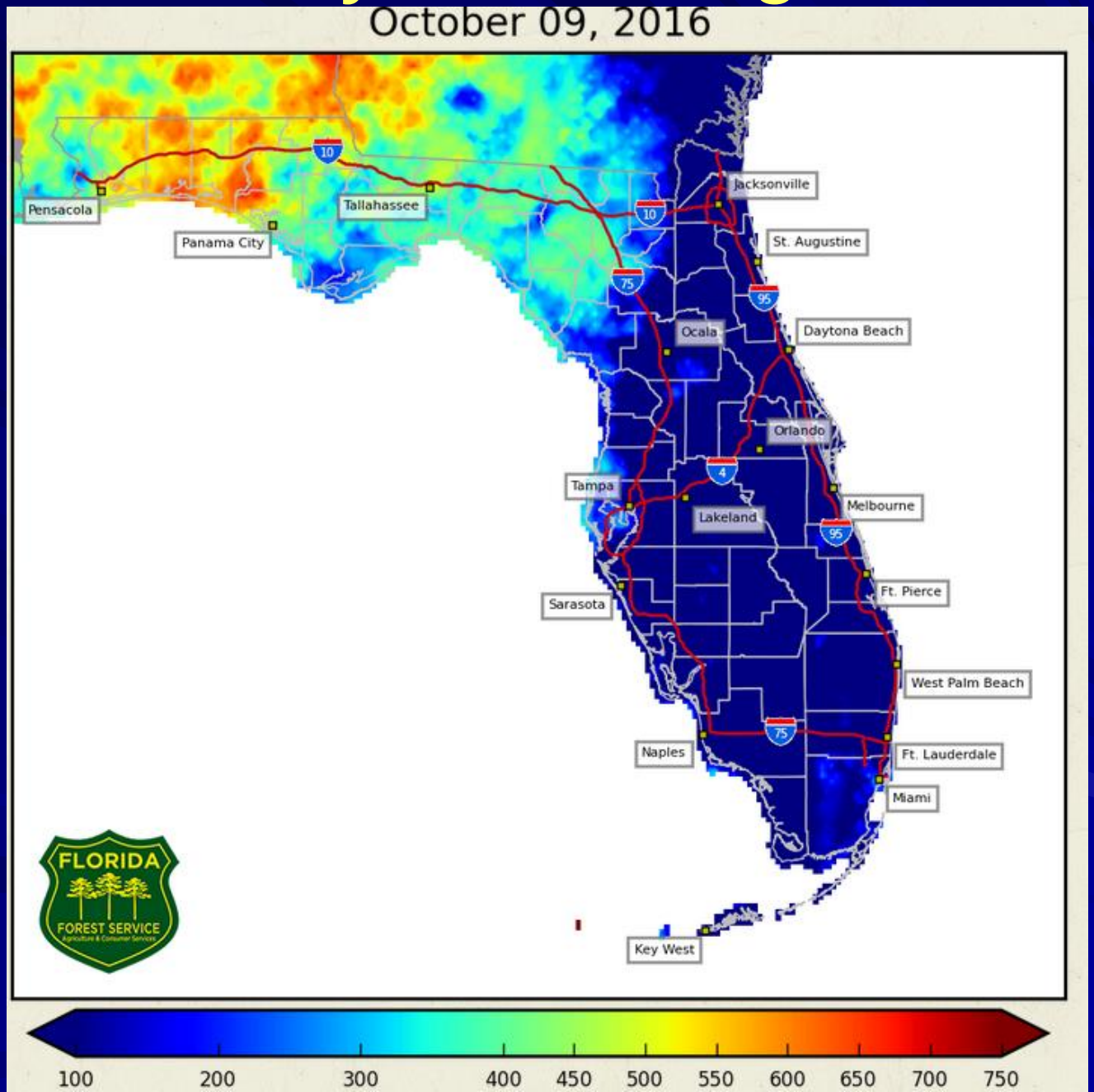
Valid 8 a.m. EDT

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2016-10-04	92.96	7.04	0.00	0.00	0.00	0.00
Last Week 2016-09-27	92.99	7.01	0.00	0.00	0.00	0.00
3 Months Ago 2016-07-05	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 2015-12-29	87.96	12.04	0.00	0.00	0.00	0.00
Start of Water Year 2016-09-27	92.99	7.01	0.00	0.00	0.00	0.00
One Year Ago 2015-10-06	84.36	15.64	3.72	0.00	0.00	0.00

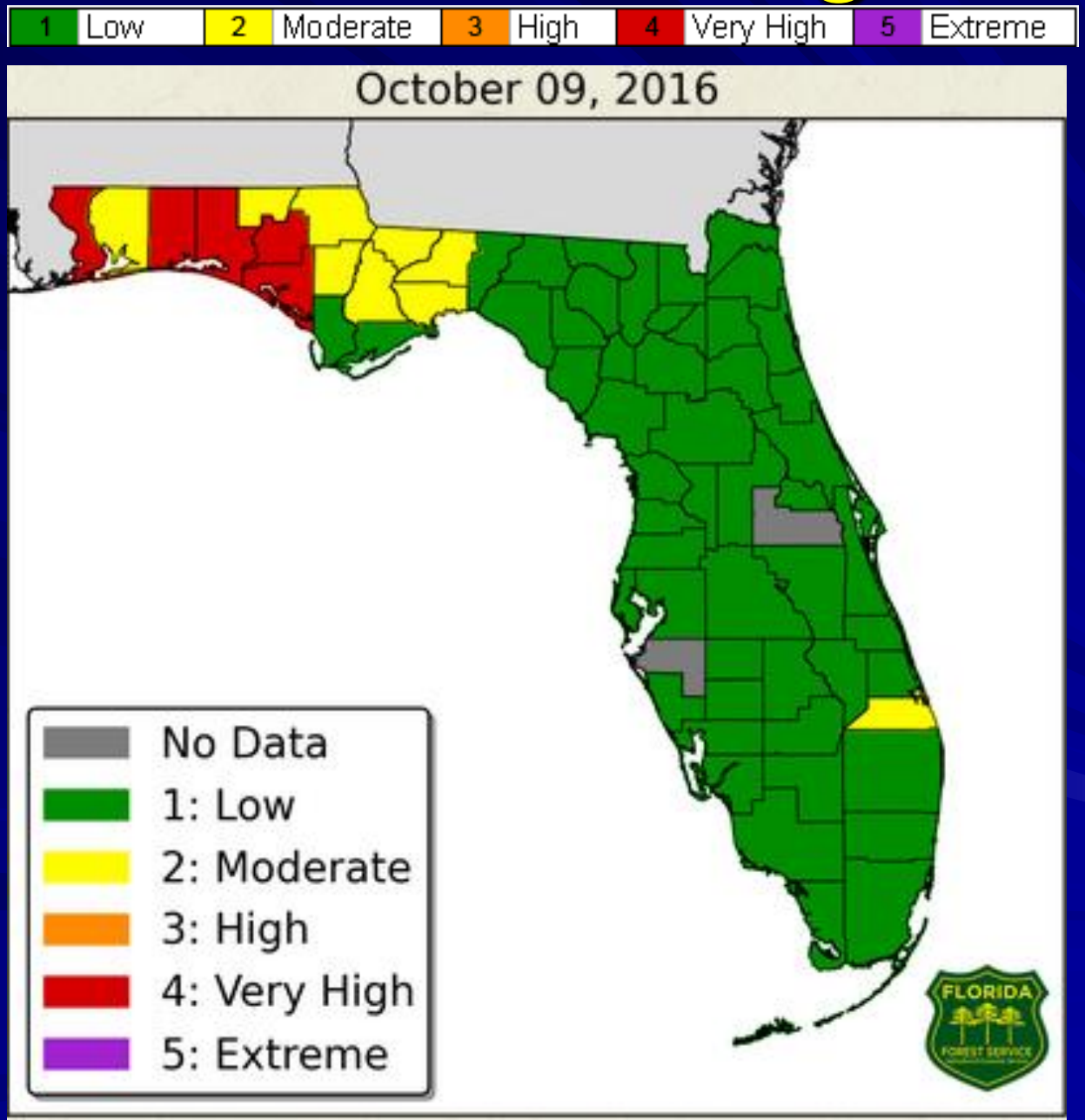
Intensity:

- **D0** (Abnormally Dry)
- **D1** (Moderate Drought)
- **D2** (Severe Drought)
- **D3** (Extreme Drought)
- **D4** (Exceptional Drought)

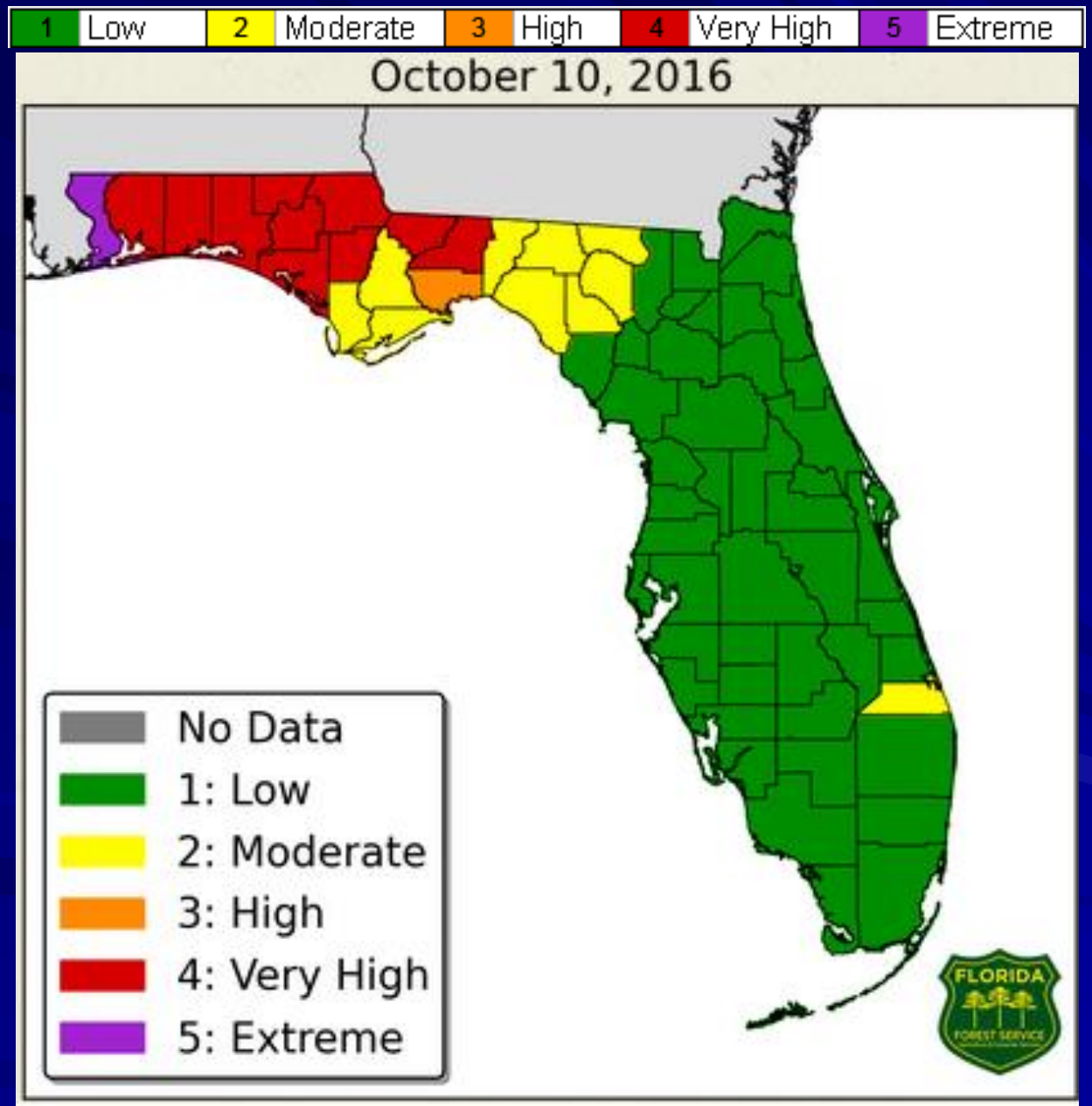
Keetch-Byram Drought Index



Observed Fire Danger Map



Forecast Fire Danger Map



Red Flag Warning Criteria - Florida

- Relative Humidity < 28% for 4 or more consecutive hours **AND** a forecast Energy Release Component (ERC) of 37 or greater. (Fuel Model G) **OR**
- Relative Humidity < 28% for any duration **AND** wind speeds of 15 mph or higher **AND** ERC of 26 or greater.

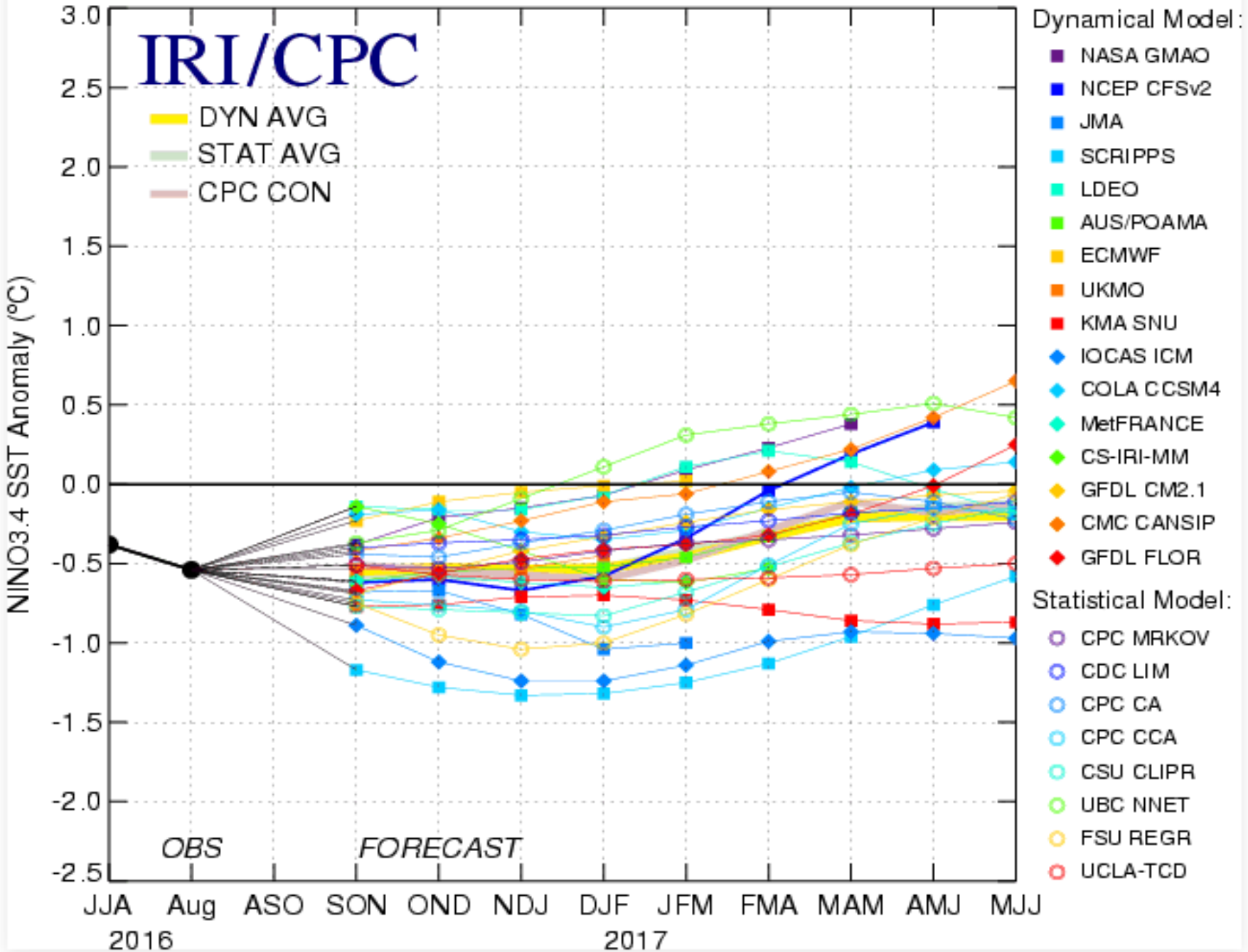
What is the ENSO Cycle?

- El Nino/Southern Oscillation (could be El Nino, La Nina or Neutral conditions)
- Large-scale ocean-atmospheric climate phenomenon linked to periodic variations in the sea-surface temperatures across the central and east-central Pacific Ocean.
- Global weather impacts.

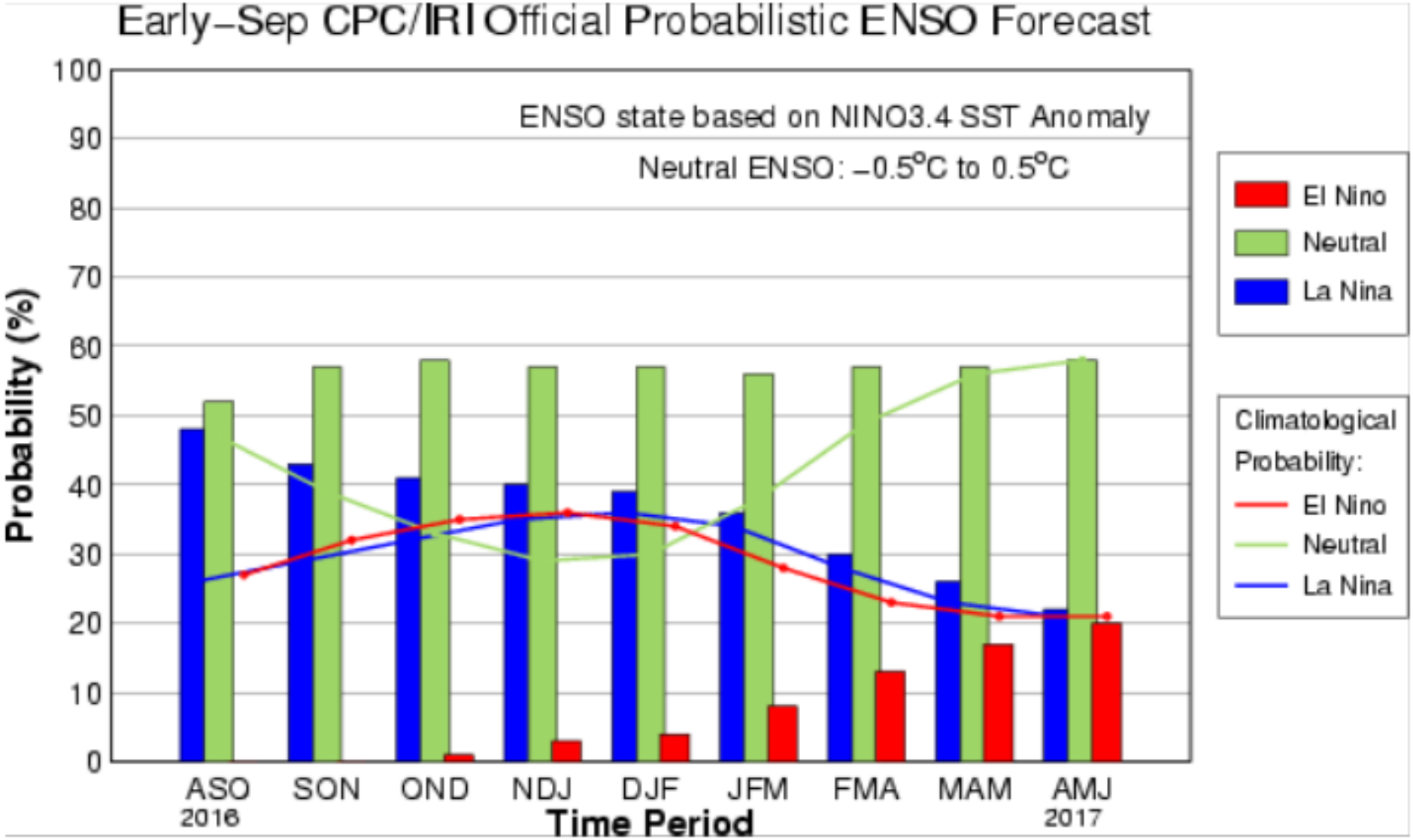
ENSO Cycle – neutral phase

- Currently the ENSO cycle is in the neutral phase and this is expected to continue at least through the winter and possibly into the spring of 2017.
- Typical winter impacts from neutral episodes generally favor warmer than normal temperatures along with near to above normal rainfall across the southeastern U.S..

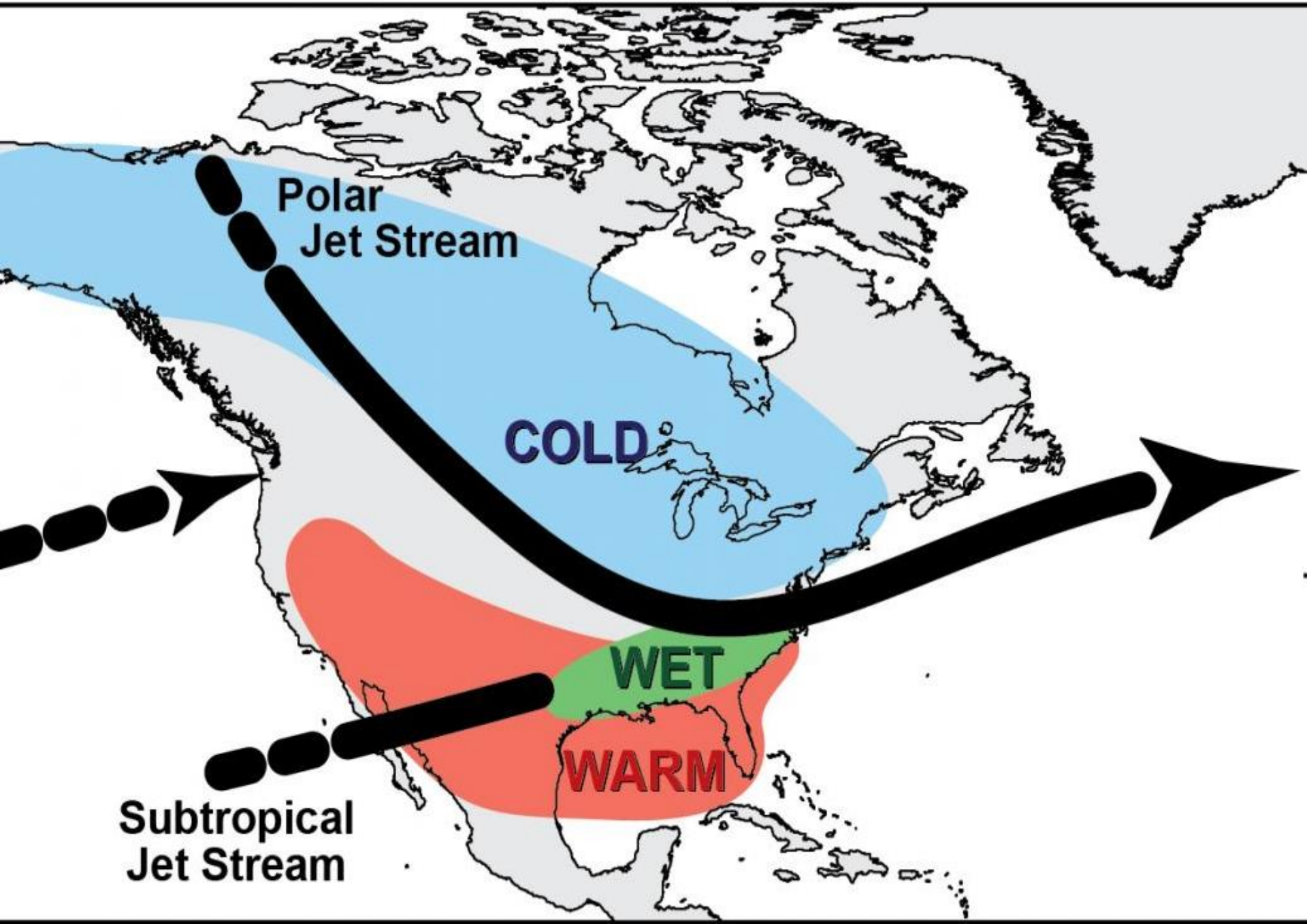
Mid-Sep 2016 Plume of Model ENSO Predictions



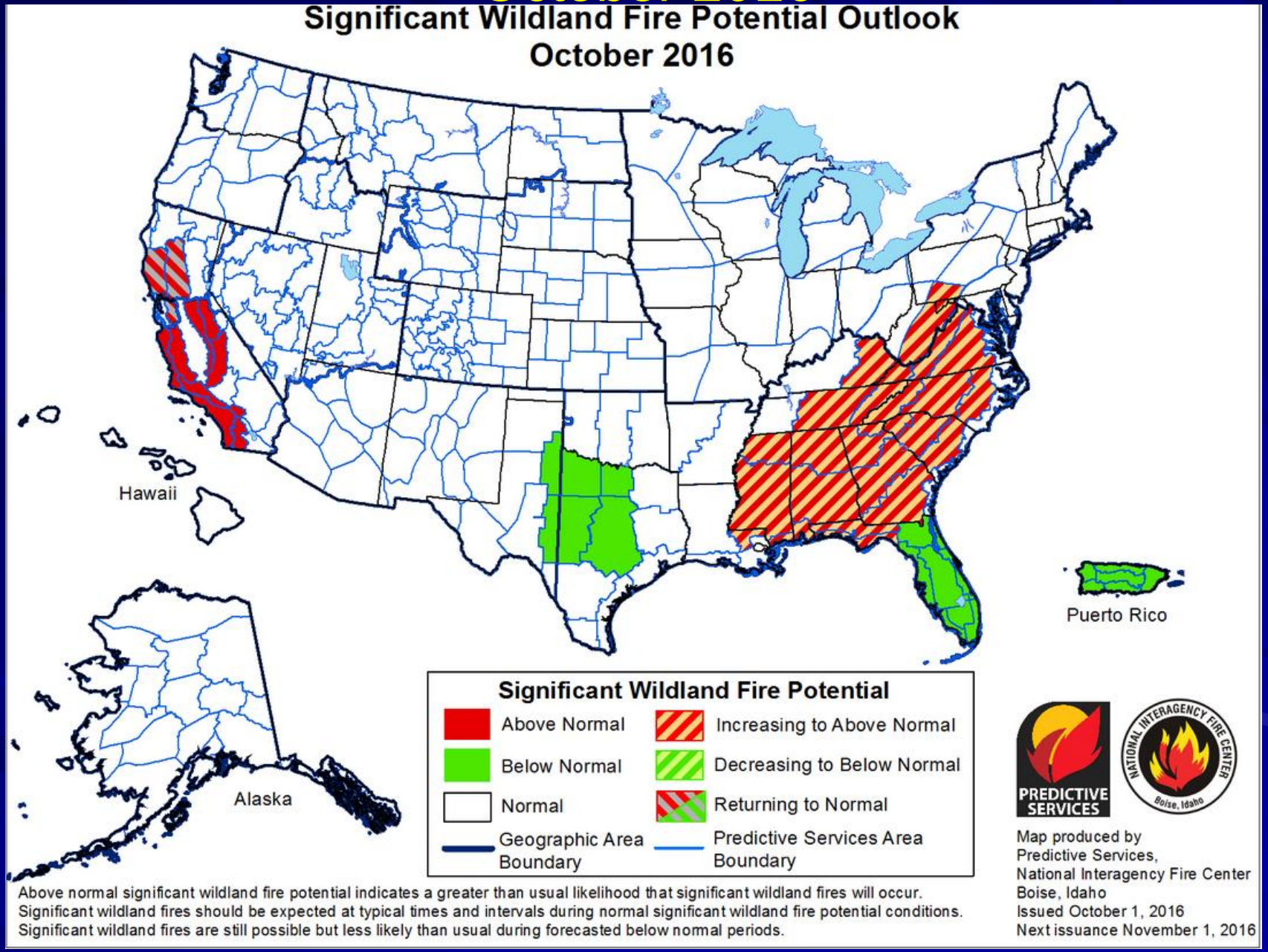
ENSO Cycle - cont.



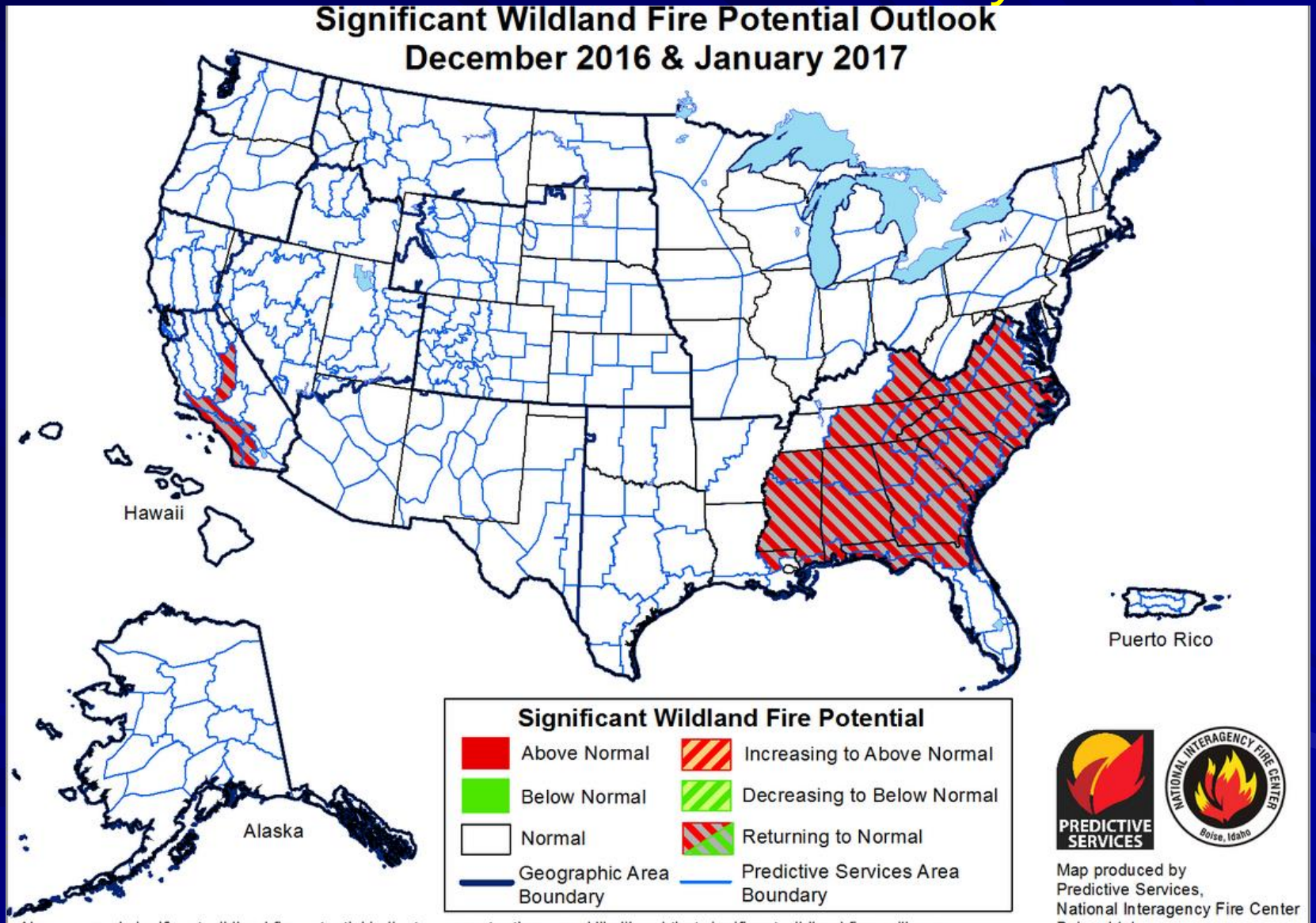
ENSO-Neutral Winter Pattern



National Significant Wildland Fire Potential Outlook October 2016



Seasonal Significant Wildland Fire Potential Outlook December 2016 to January 2017



Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued October 1, 2016
Next issuance November 1, 2016

Summary

- ENSO – neutral conditions are present and expected to continue at least through the winter. Typical winter impacts from neutral episodes generally favor warmer than normal temperatures along with near to above normal rainfall.
- October and November are two of our drier months with average rainfall between three and three and a half inches per month.

Internet Links

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

http://www.weather.gov/tae

http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Wildland-Fire/Fire-Weather

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Conclusion: Questions?

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Low Visibility Occurrence Risk Index (LVORI)

- Developed in 1995 by Lavis and Achtemeier (USDA Forest Service)
- First used in NWS fire weather products shortly after a 70 car pileup on I-4 (1/9/2008) due to zero visibility from a combination of smoke and fog.

Low Visibility Occurrence Risk Index (LVORI)

- Measure of the risk of low visibility occurring. Most closely associated with conditions that promote accidents due to smoke and/or fog.
- Risk dramatically increases when the Relative Humidity (RH) is high and the Dispersion Index (DI) is low.

LOW VISIBILITY OCCURRENCE RISK INDEX

LVORI	Description
1	Ideally low risk of accidents on highways due to smoke and/or fog formation.
2,3	Relatively low risk of accidents on highways due to smoke and/or fog formation.
4-6	Moderate risk of accidents on highways due to smoke and/or fog formation.
7-10	Particularly high risk of accidents on highways due to smoke and/or fog formation.

RH	Dispersion Index											
	>40	40-31	30-26	25-17	16-13	12-11	10-9	8-7	6-5	4-3	2	1
<55	1	1	2	2	2	2	2	2	2	2	2	2
55-59	1	1	2	2	2	2	2	3	3	3	3	3
60-64	1	1	2	2	2	2	3	3	3	3	3	3
65-69	1	3	3	3	3	3	3	3	3	3	3	4
70-74	3	3	3	3	3	3	3	3	3	3	3	4
75-79	3	3	3	3	4	4	4	4	4	4	4	4
80-82	3	3	3	3	4	4	4	4	4	5	5	6
83-85	4	4	4	4	4	4	4	4	5	5	5	6
86-88	4	4	4	4	4	5	5	5	5	6	6	6
89-91	4	4	4	4	5	5	5	5	6	6	7	7
92-94	4	4	4	5	5	5	6	6	6	6	7	8
95-97	4	4	4	5	5	6	6	6	7	8	8	9
>97	4	4	4	5	5	7	8	8	9	9	10	10

Notes about LVORI

- Dispersion Index (DI) represents a physical quantity and is a real number with no upper bound.
- LVORI is an indicator only of **relative risk** and should **not** be used as a hard estimate of **absolute risk** of hazardous visibility.