



Weather Forecasting For  
Traders, Investors, and Businesses

# US HRWW GRAIN WEATHER ISSUES

**as of FRIDAY**  
**26 JANUARY 2018**

**S.AMERICA COMING UP SHORTLY**



LOCATED in Richmond VA

Featured frequently on AGRI-MONEY

**EMAIL WXRISK@VERZION .NET**



@WXRISK.COM



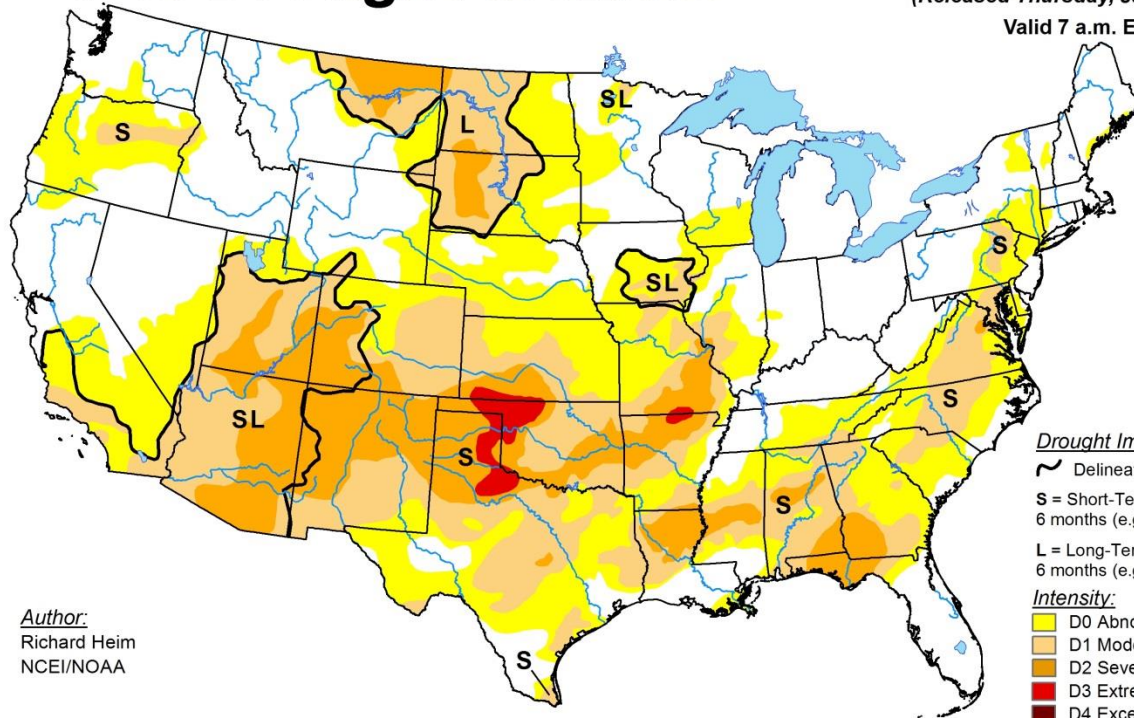
<https://www.facebook.com/WxRisk>

[wxrisk@gmail.com](mailto:wxrisk@gmail.com)

# DROUGHT CONDITIONS OVER MOST OF PLAINS / DELTA WORSENING WEEKLY

## U.S. Drought Monitor

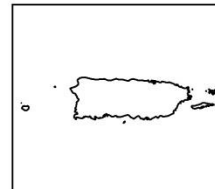
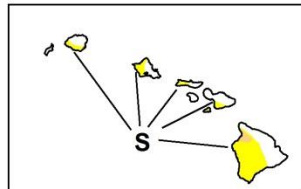
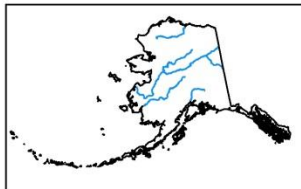
January 23, 2018  
 (Released Thursday, Jan. 25, 2018)  
 Valid 7 a.m. EST



Author:  
 Richard Heim  
 NCEI/NOAA

- 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:
- ☐ 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. See accompanying text summary for forecast statements.



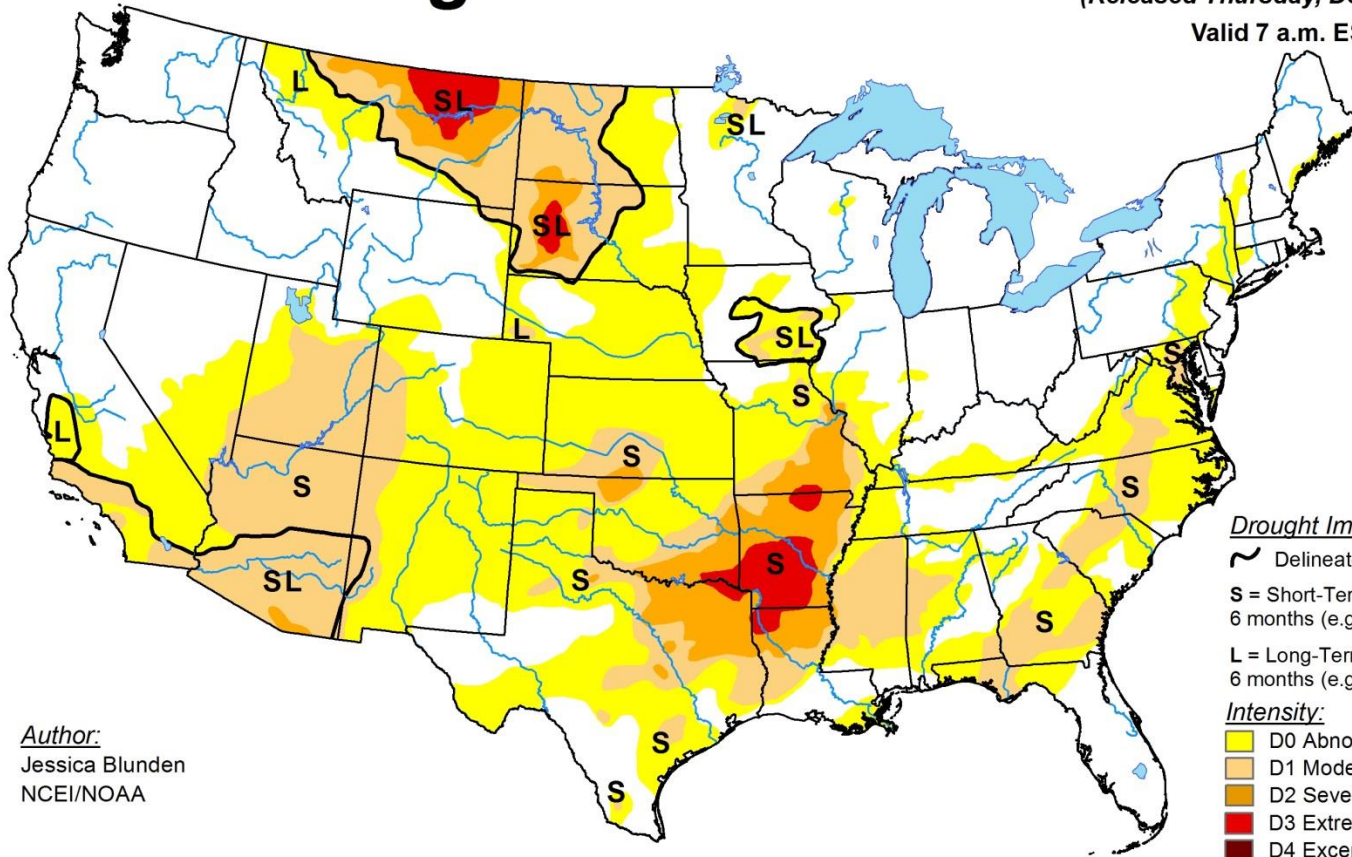
<http://droughtmonitor.unl.edu/>



# US DROUGHT CONDITIONS 12/12/17

## U.S. Drought Monitor

December 12, 2017  
 (Released Thursday, Dec. 14, 2017)  
 Valid 7 a.m. EST



*Author:*  
 Jessica Blunden  
 NCEI/NOAA

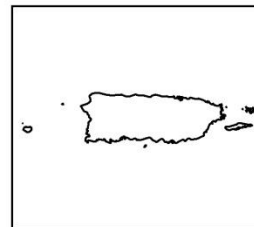
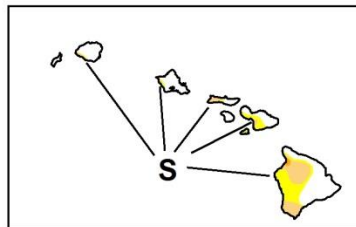
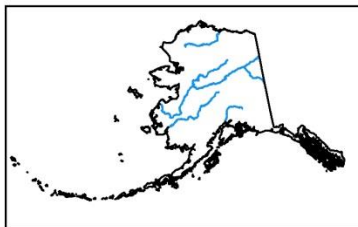
***Drought Impact Types:***

- ~ 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:***

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Orange: D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought

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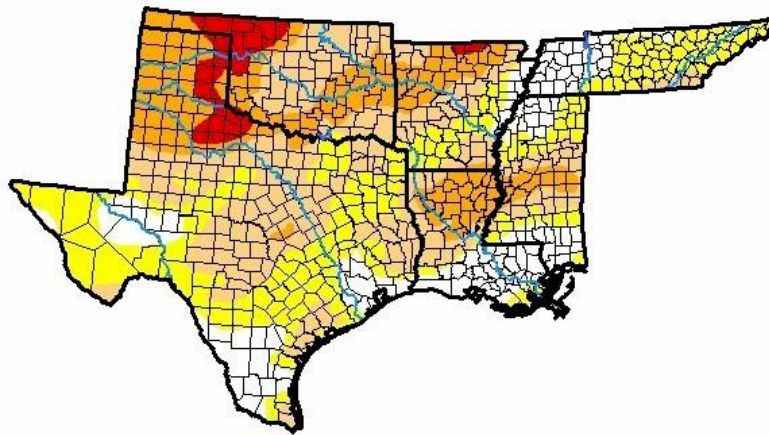
<http://droughtmonitor.unl.edu/>



**SEE PURPLE lines.. Since 10/24/17 the % of TX OK ARK LA MS TN that has seeing ANY drought (D0-D4) has gone from 30% to 83% ... D2-D4 from 0% to 23%**

**U.S. Drought Monitor  
South**

**January 23, 2018**  
(Released Thursday, Jan. 25, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	17.17	82.83	53.71	22.85	4.33	0.00
<b>Last Week</b> <i>01-16-2018</i>	23.03	76.97	47.33	21.79	2.87	0.00
<b>3 Months Ago</b> <i>10-24-2017</i>	70.31	29.69	9.92	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	31.09	68.91	42.64	15.33	0.30	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	72.17	27.83	2.38	0.02	0.00	0.00
<b>One Year Ago</b> <i>01-24-2017</i>	68.83	31.17	17.65	6.40	0.73	0.00

Intensity:

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

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Author:

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NCEI/NOAA

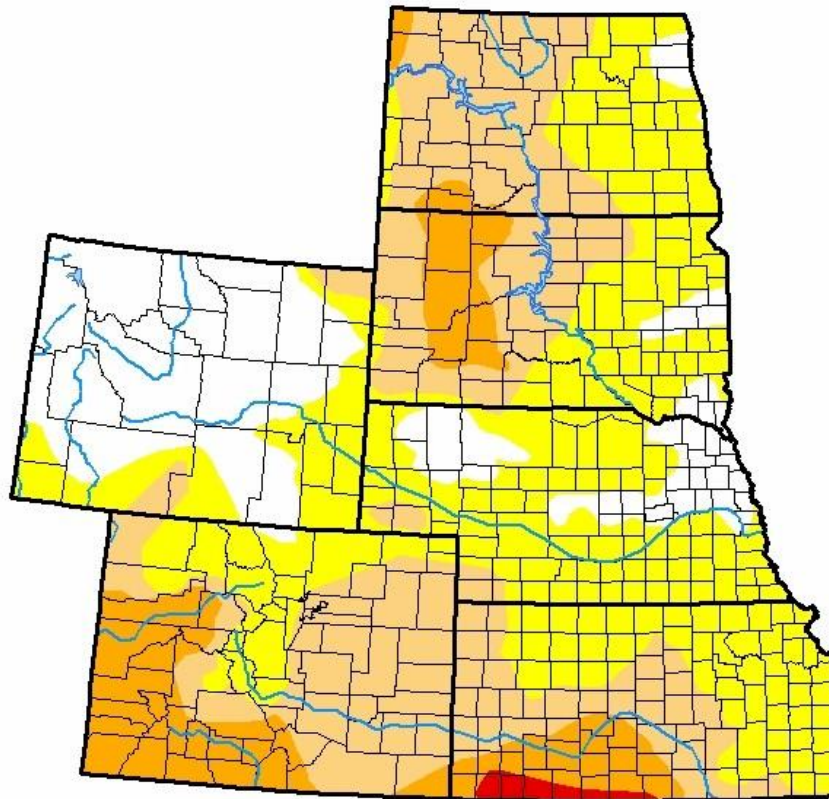


<http://droughtmonitor.unl.edu/>

**SEE PURPLE lines.. Since 10/24/17 the % of Plains that has seeing ANY drought (D0-D4) has gone from 25% to 81% ... D2-D4 from 3% to 12%**

**U.S. Drought Monitor  
High Plains**

**January 23, 2018**  
(Released Thursday, Jan. 25, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	18.95	81.05	41.55	12.11	0.66	0.00
<b>Last Week</b> <i>01-16-2018</i>	17.26	82.74	41.47	11.28	0.66	0.00
<b>3 Months Ago</b> <i>10-24-2017</i>	64.98	35.02	13.68	3.26	0.90	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	19.28	80.72	29.19	6.34	0.90	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	56.15	43.85	21.11	8.37	1.32	0.06
<b>One Year Ago</b> <i>01-24-2017</i>	59.83	40.17	18.60	2.28	0.00	0.00

Intensity:

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

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Author:

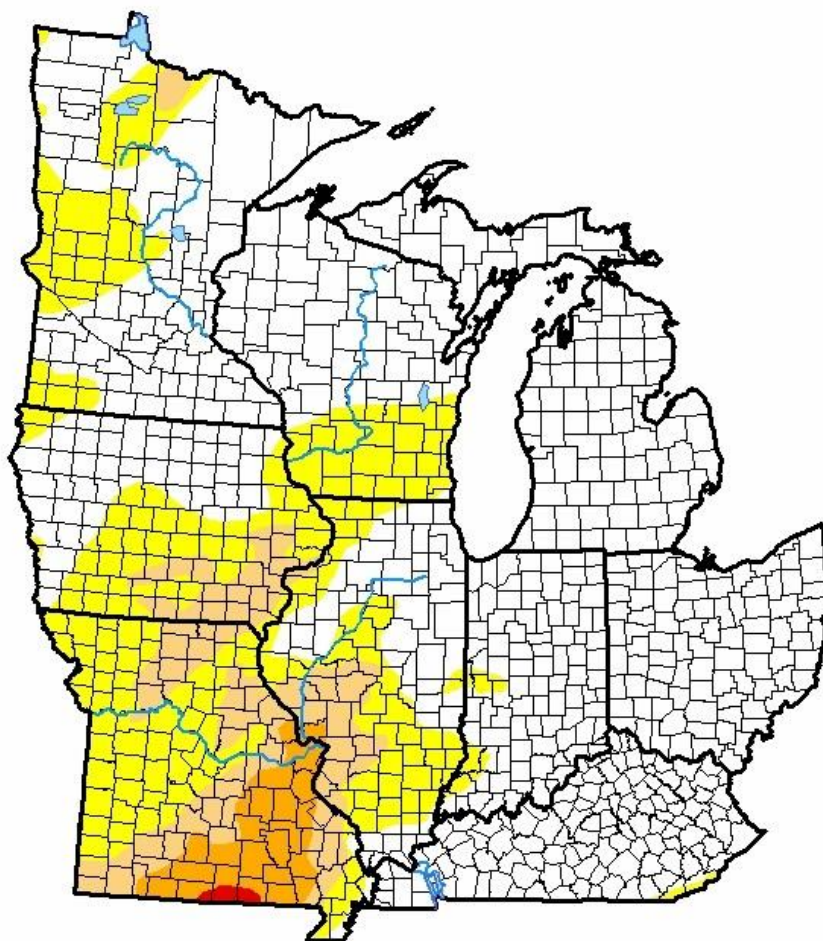
Richard Heim  
NCEI/NOAA



# Midwest in in good shape BUT MISSOURI is not

## U.S. Drought Monitor Midwest

**January 23, 2018**  
(Released Thursday, Jan. 25, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	65.82	34.18	11.36	3.44	0.18	0.00
<b>Last Week</b> <i>01-16-2018</i>	65.95	34.05	9.46	3.44	0.18	0.00
<b>3 Months Ago</b> <i>10-24-2017</i>	74.56	25.44	7.46	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	69.93	30.07	9.46	3.44	0.18	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	58.41	41.59	8.86	0.77	0.25	0.00
<b>One Year Ago</b> <i>01-24-2017</i>	83.55	16.45	6.16	0.00	0.00	0.00

Intensity:

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

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Author:  
Richard Heim  
NCEI/NOAA





# SEE PURPLE lines.. Since 10/24/17 the % of MO that has seeing ANY drought (D0-D4) has gone from 59% to 99% ... D2-D4 from 0% to 24%

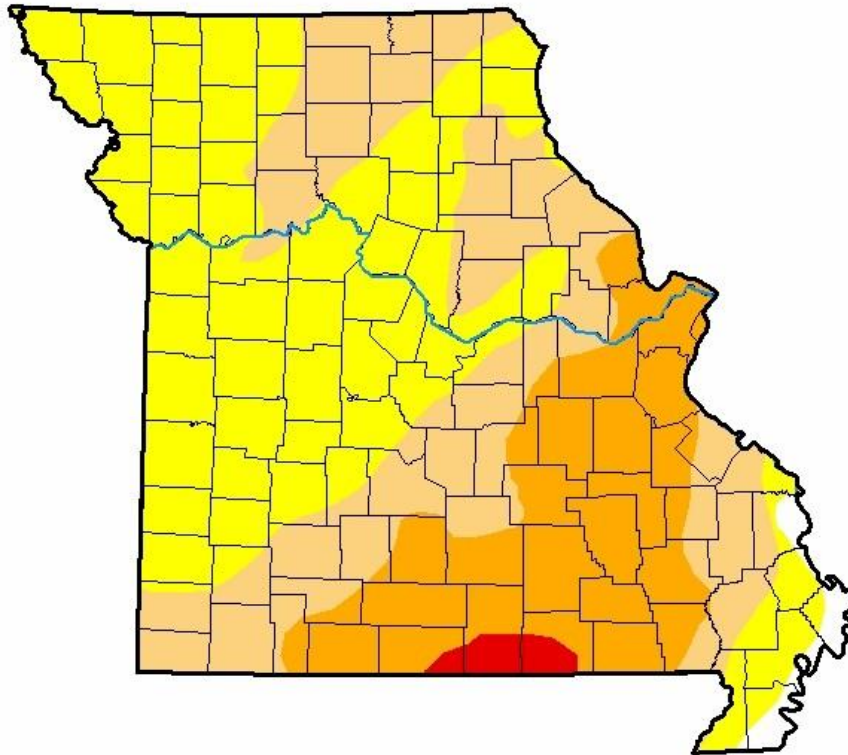
U.S. Drought Monitor

## Missouri

January 23, 2018

(Released Thursday, Jan. 25, 2018)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	1.50	98.50	53.59	23.68	1.29	0.00
<b>Last Week</b> <i>01-16-2018</i>	1.50	98.50	46.34	23.68	1.29	0.00
<b>3 Months Ago</b> <i>10-24-2017</i>	40.83	59.17	32.17	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	1.49	98.51	46.34	23.68	1.29	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	35.49	64.51	8.80	0.00	0.00	0.00
<b>One Year Ago</b> <i>01-24-2017</i>	11.01	88.99	40.34	0.00	0.00	0.00

Intensity:

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

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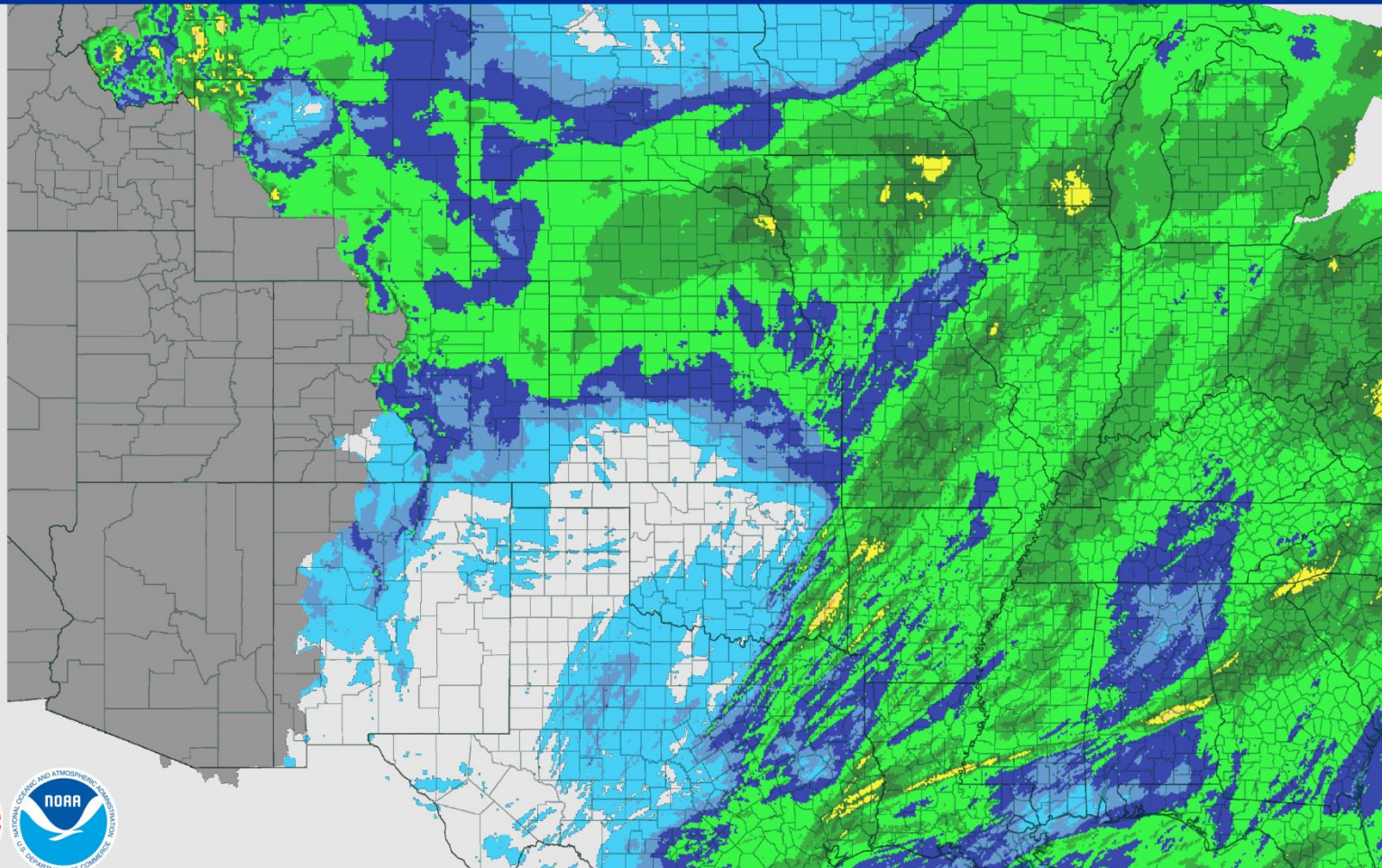


# RAINFALL AMOUNTS PAST 14 DAYS

January 26, 2018 14-Day Observed Precipitation

Created on: January 26, 2018 - 15:31 UTC

Valid on: January 26, 2018 12:00 UTC



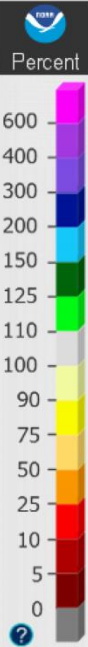
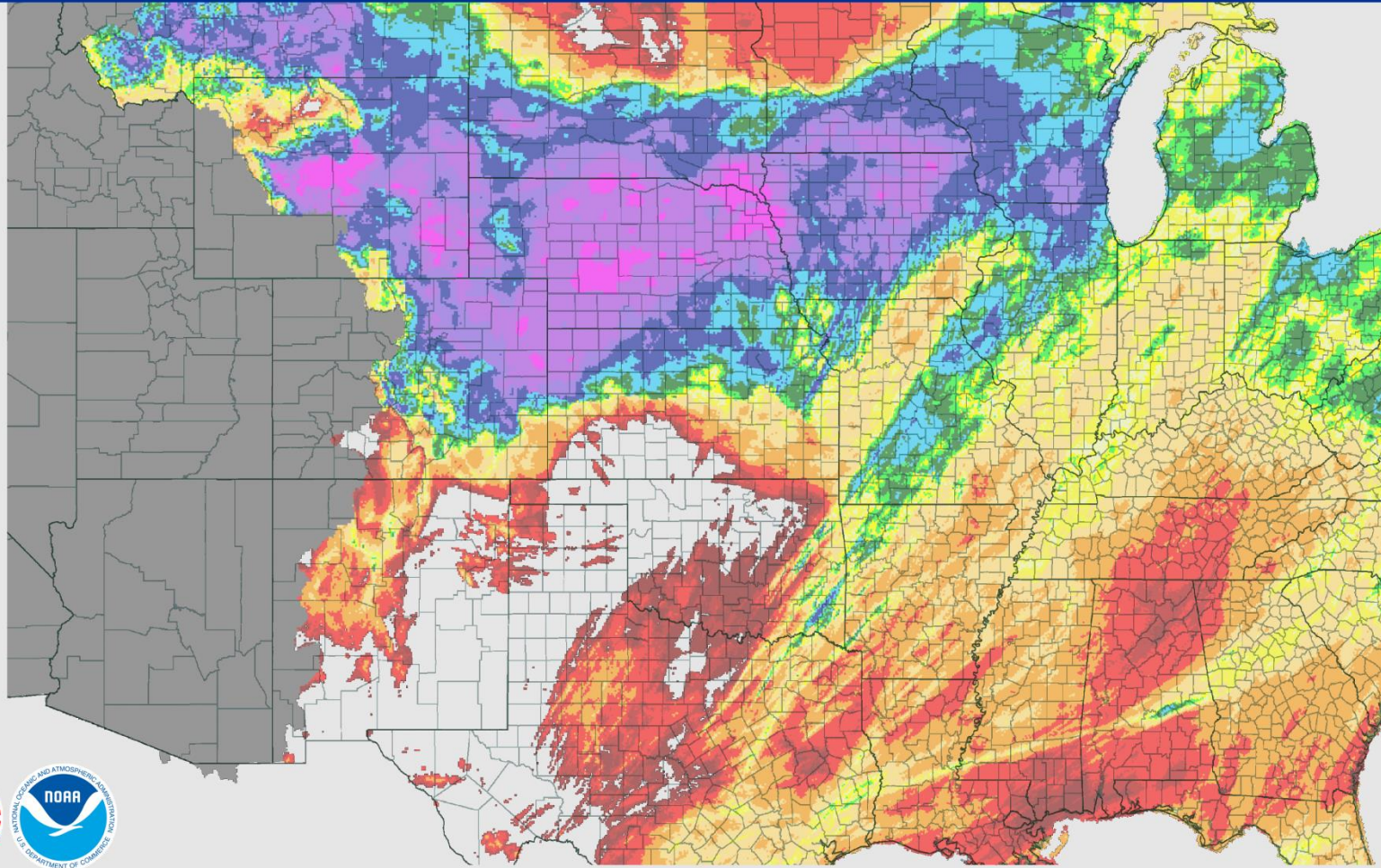


# RAINFALL ANOMALIES PAST 14DAYS

January 26, 2018 14-Day Percent Precipitation

Created on: January 26, 2018 - 15:35 UTC

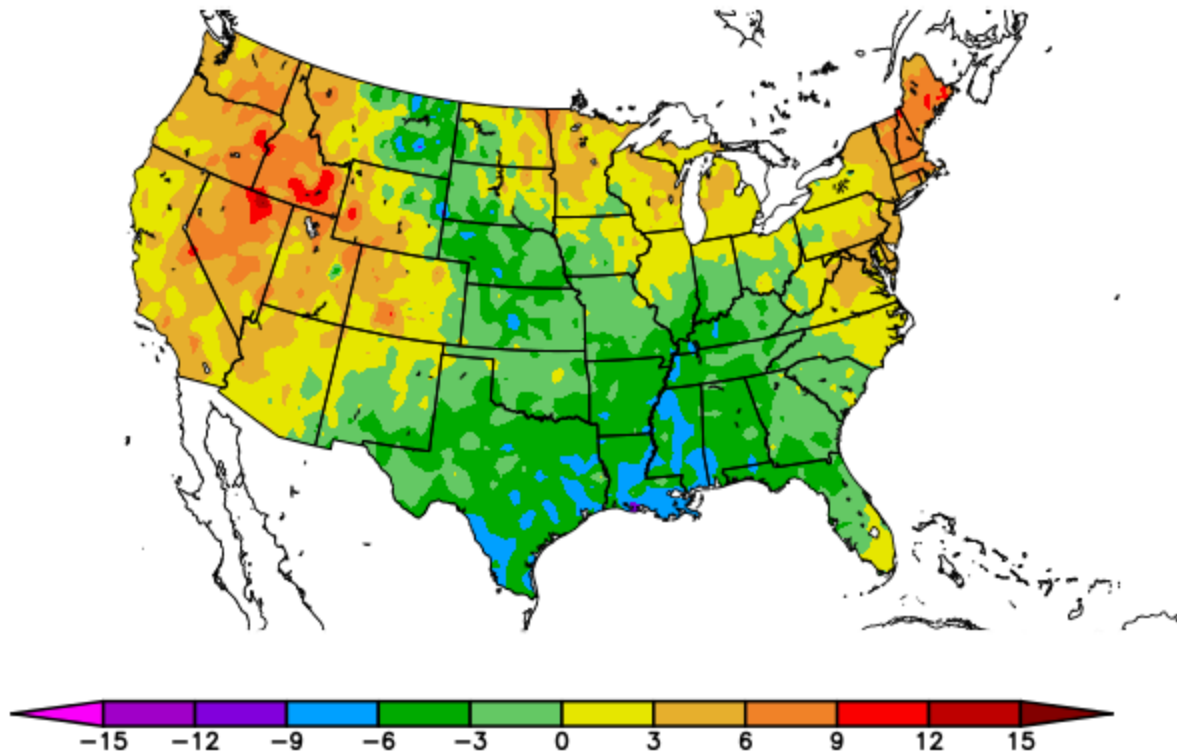
Valid on: January 26, 2018 12:00 UTC





# TEMPS FALL PAST 7/30 DAYS—

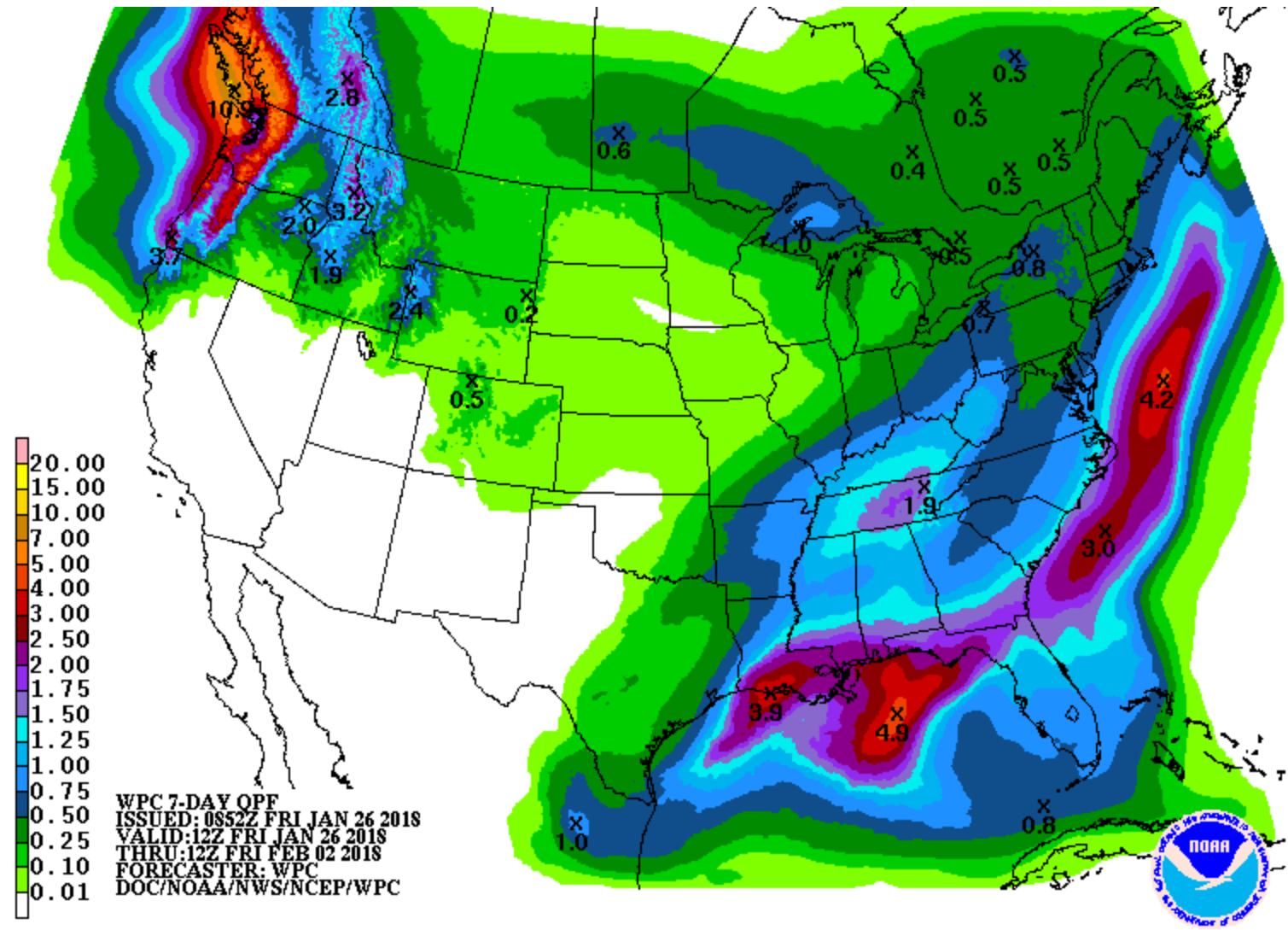
Departure from Normal Temperature (F)  
1/12/2018 – 1/25/2018



Generated 1/26/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

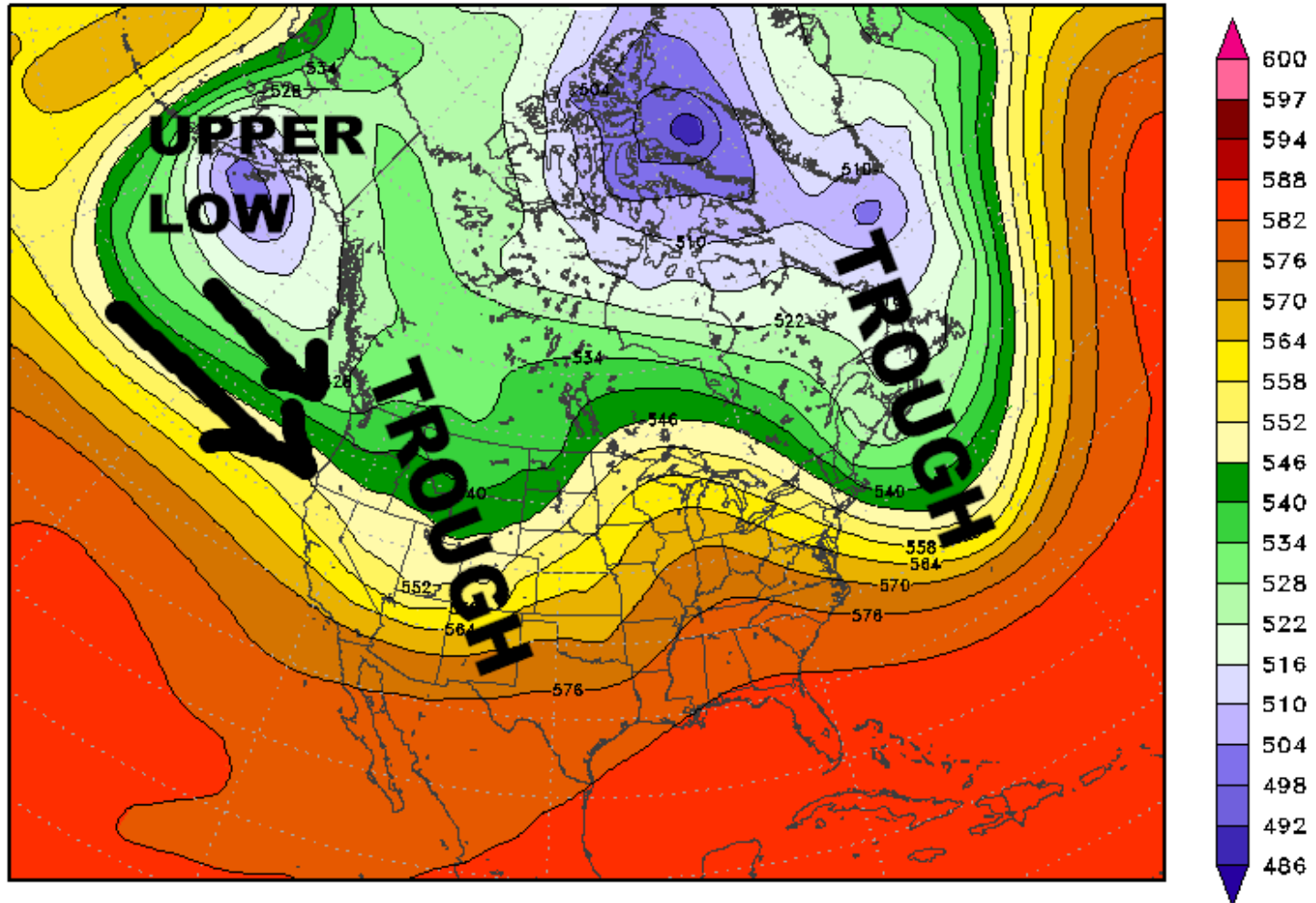
# NWS OFFICIAL RAINFALL NEXT 7 DAYS



# CURRENT UPPER AIR PATTERN.. Now its is the PACIFIC JET 'S TURN

500 mb Height  
Valid: 09z Fri 26 Jan 2018

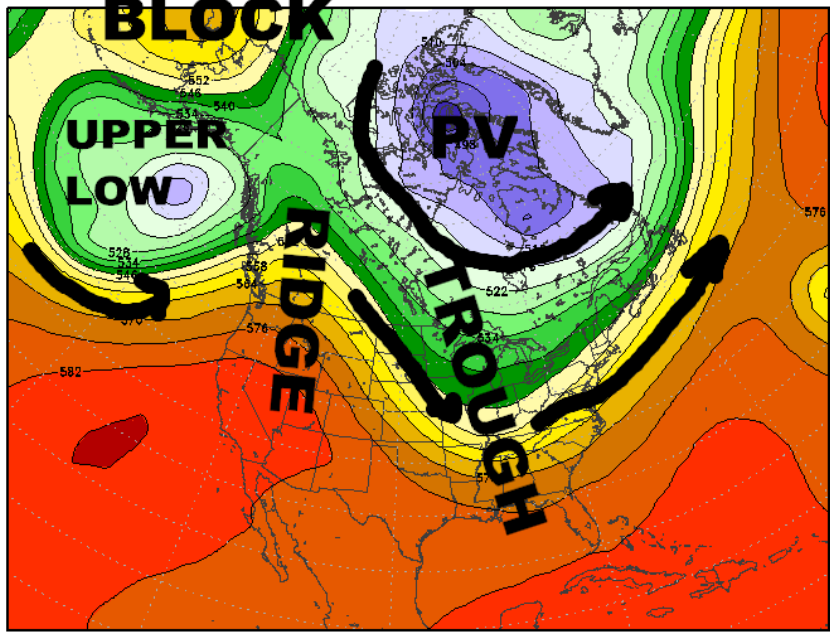
ECMWF  
Hour: 9





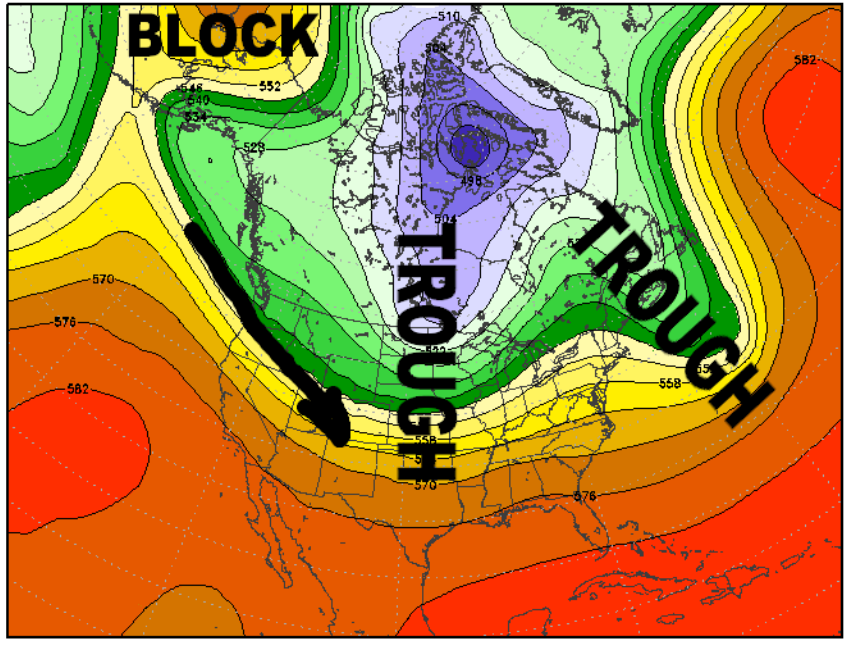
500 mb Height  
Valid: 09z Mon 29 Jan 2018

ECMWF  
Hour: 81  
**MONDAY**



500 mb Height  
Valid: 00z Thu 01 Feb 2018

ECMWF  
Hour: 144



GRADS: COLA/IGES

StormVistaWxModels.com

Init: 00z Fri 21 2018-

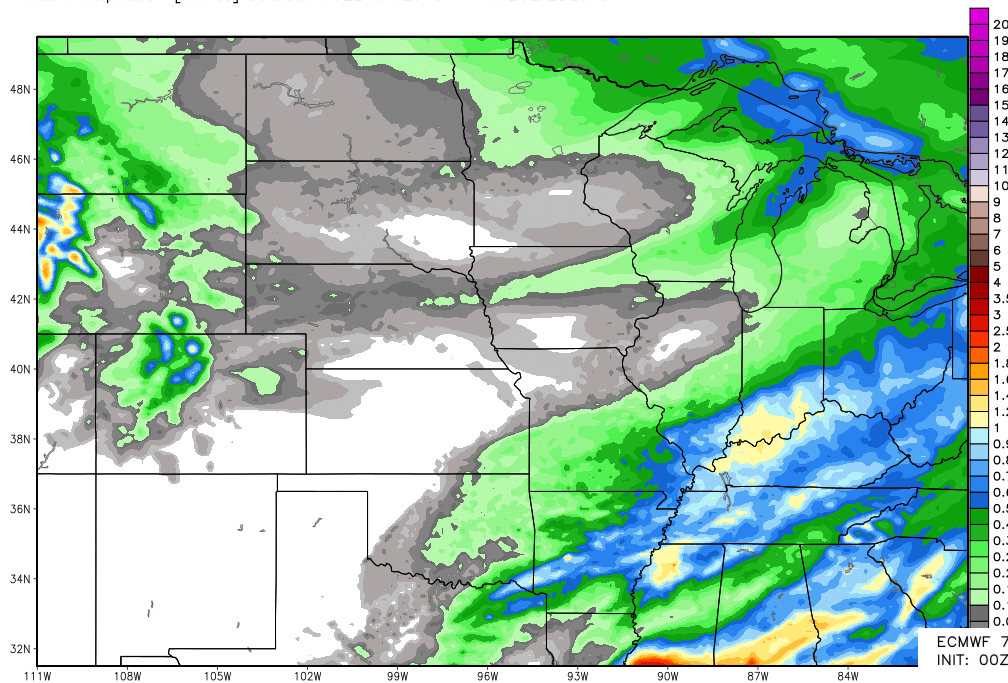
**WED PM**

GRADS: COLA/IGES

StormVistaWxModels.com

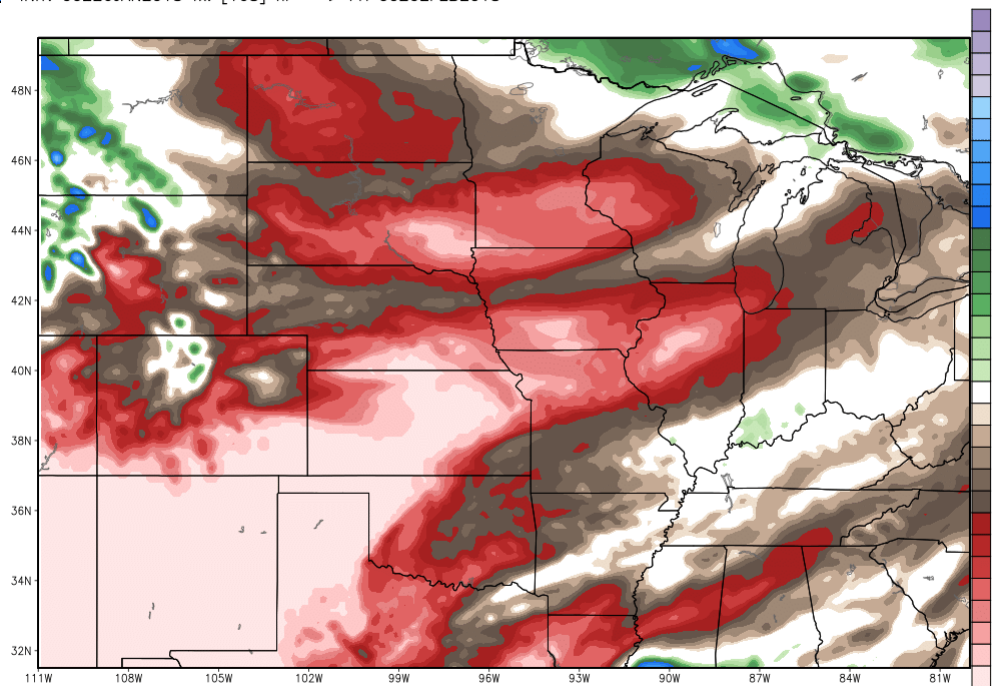
Init: 00z Fri 26 Jan 2018  
2018-01-26-01:27

ECMWF 7-day Precipitation [inch] INIT: 00Z26JAN2018 fx: [168] hr --> Fri 00Z02FEB2018  
Total Precipitation [inches] between 00Z26JAN2018 -- 00Z02FEB2018



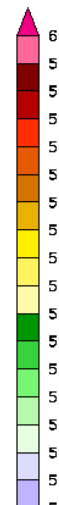
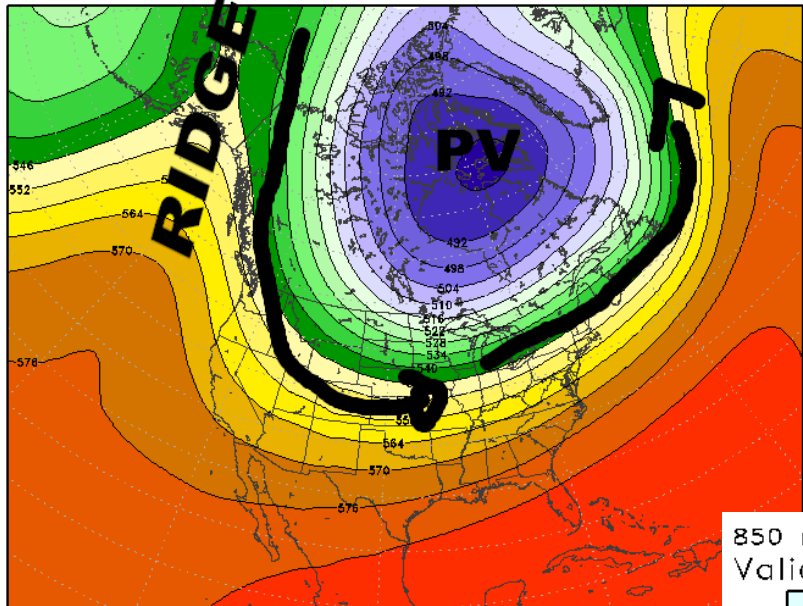
**RINFALL NEXT 7  
DAYS – 0.25-1.5”/ 6-  
38mm lower ECB  
Deep South DRY WCB  
/ Plains**

**RAINFALL ANOMALIES-  
even rains over lower  
ECB and Deep South  
still Below Normal**



500 mb Height  
Valid: 00z Mon 05 Feb 2018

ECMWF-EPS  
Hour: 240



**FEB 5 -- PV (Polar Vortex)  
INTENSIFIES and  
COMES SOUTH .. Deep  
trough over Upper  
Plains / Midwest**

850 mb Temperature (C)  
Valid: 00z Mon 05 Feb 2018

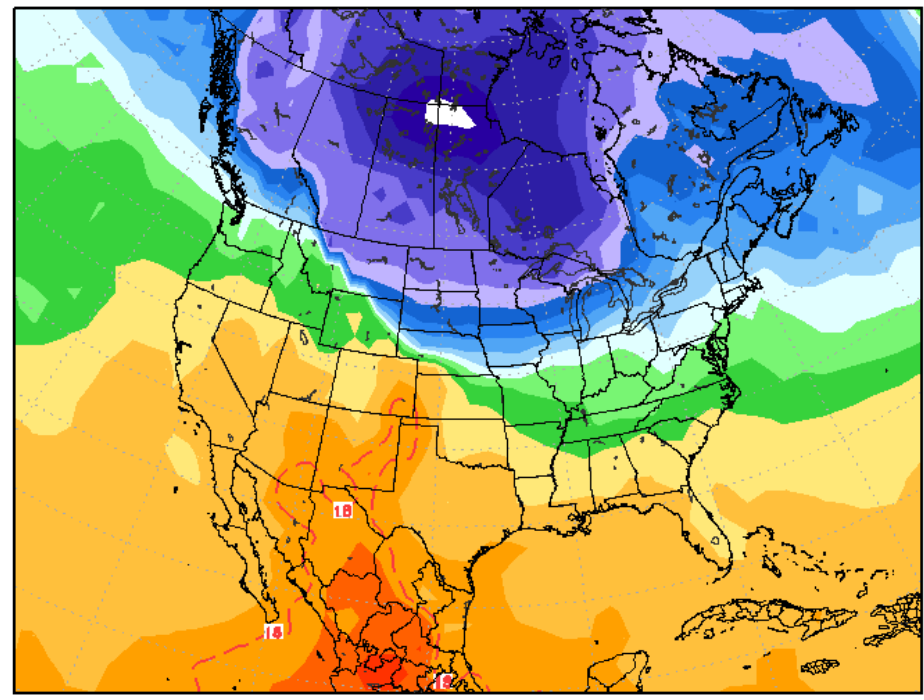
ECMWF  
Hour: 240

GRADS: COLA/IGES

StormVistaWxModels.com

Init:

**SEVERE COLD  
OVER SOUTH  
CENTRAL CANADA  
nears US Border**



GRADS: COLA/IGES

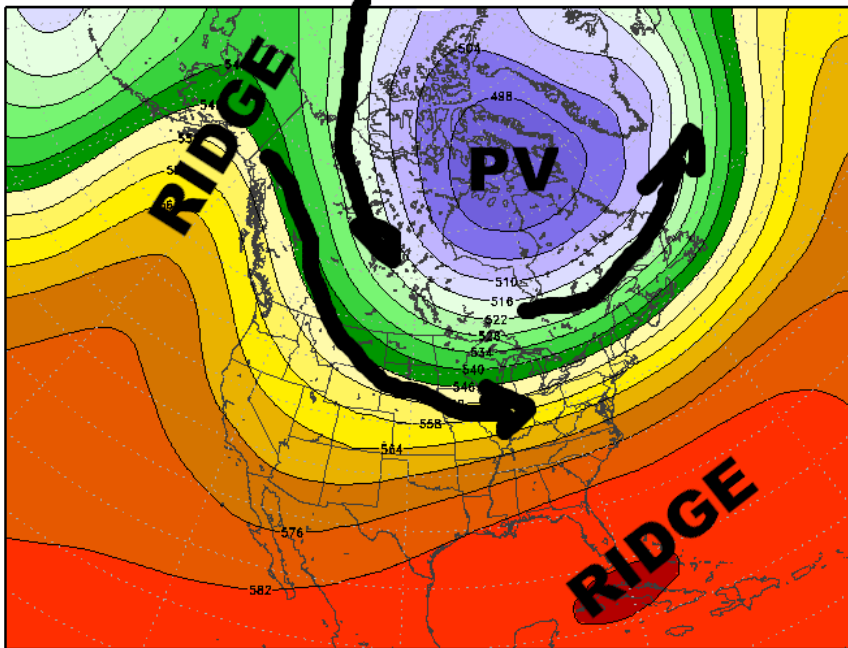
StormVistaWxModels.com

Init: 00z Fri 26 Jan 2018  
2018-01-26-01:55



500 mb Height  
Valid: 18z Thu 08 Feb 2018

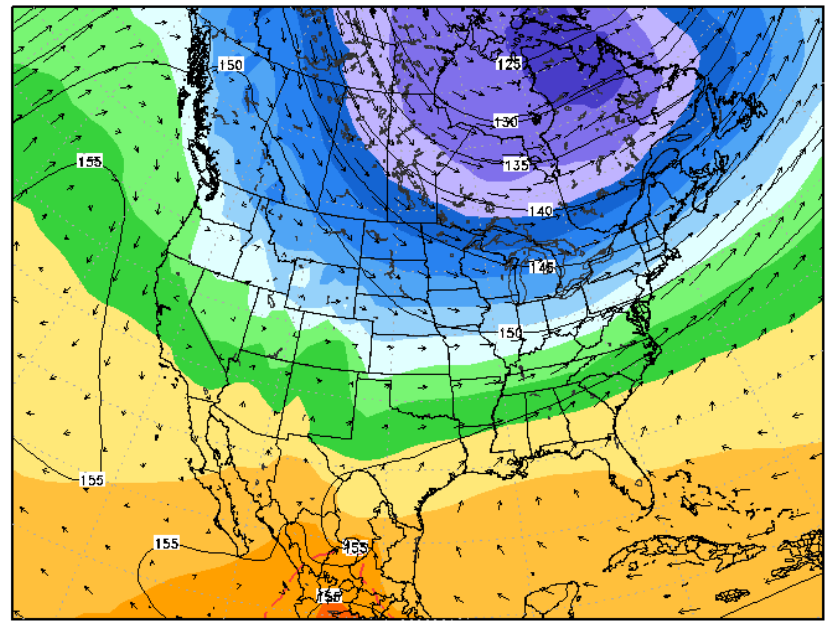
ECMWF-EPS  
Hour: 330



**FEB 8-9 -- PV (Polar Vortex) INTENSIFIES--  
Weak ridge over se US  
= wet pattern for ECB  
Deep South East coast**

850 mb Height & Temperature (C)  
Valid: 18z Fri 09 Feb 2018

ECMWF-EPS  
Hour: 354



GrADS: COLA/IGES

StormVistaWxModels.com

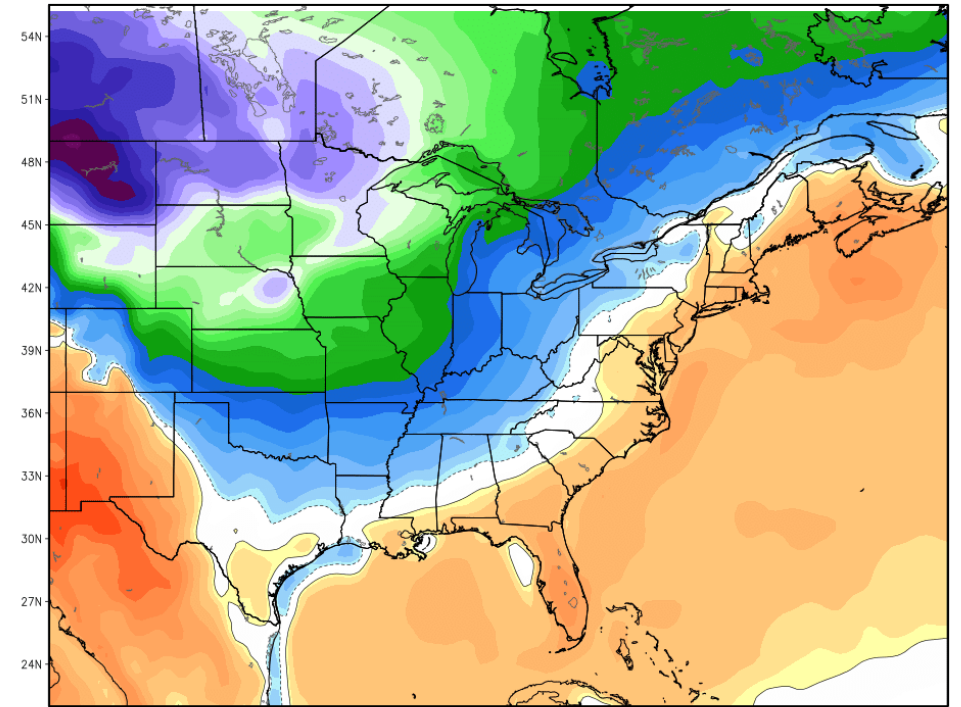
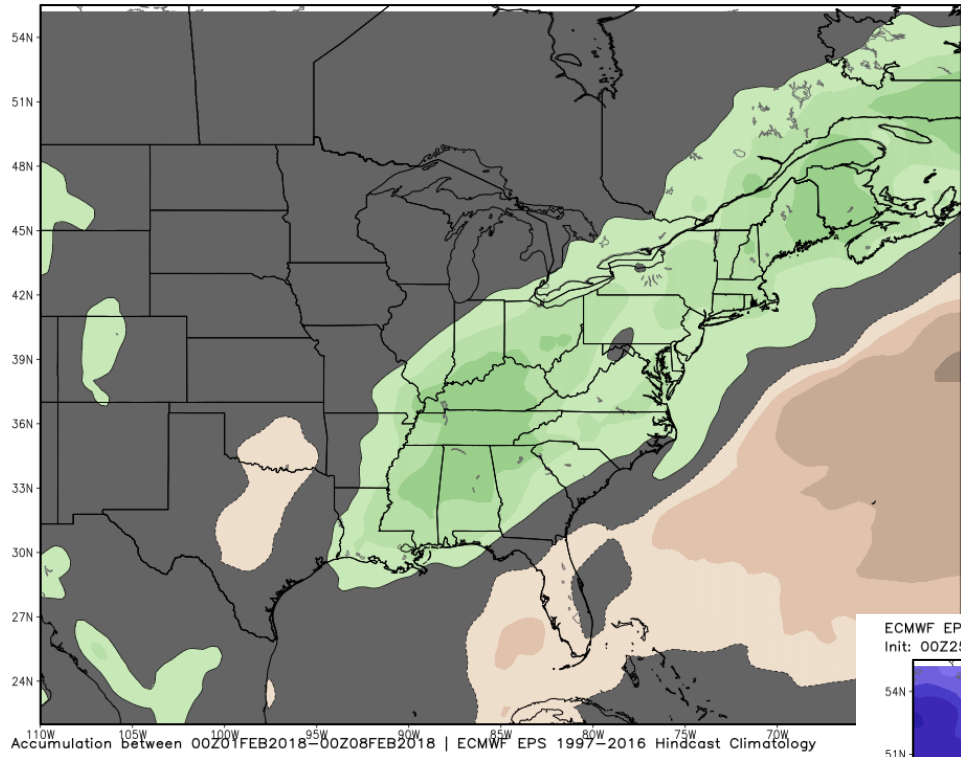
Init: 00z Fri 20

**SEVERE COLD STAYS  
ALONG & NORTH OF THE  
US CANADA BORDER..  
For now**

GrADS: COLA/IGES

StormVistaWxModels.com 40 Init: 00z Fri 26 Jan 2018 2018-01-26-02:59

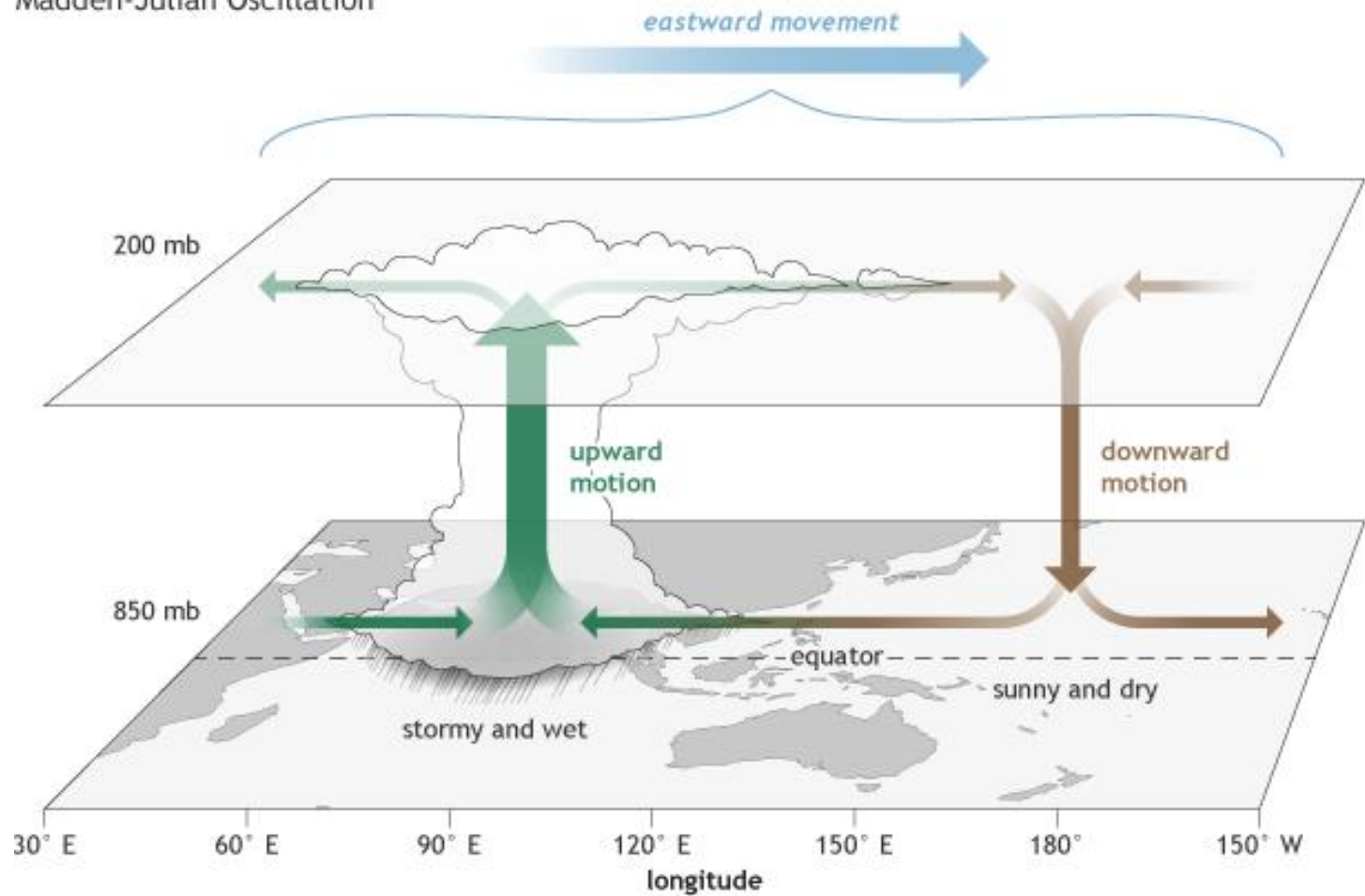
# WEEK 2 PRECIP ANOMALIES



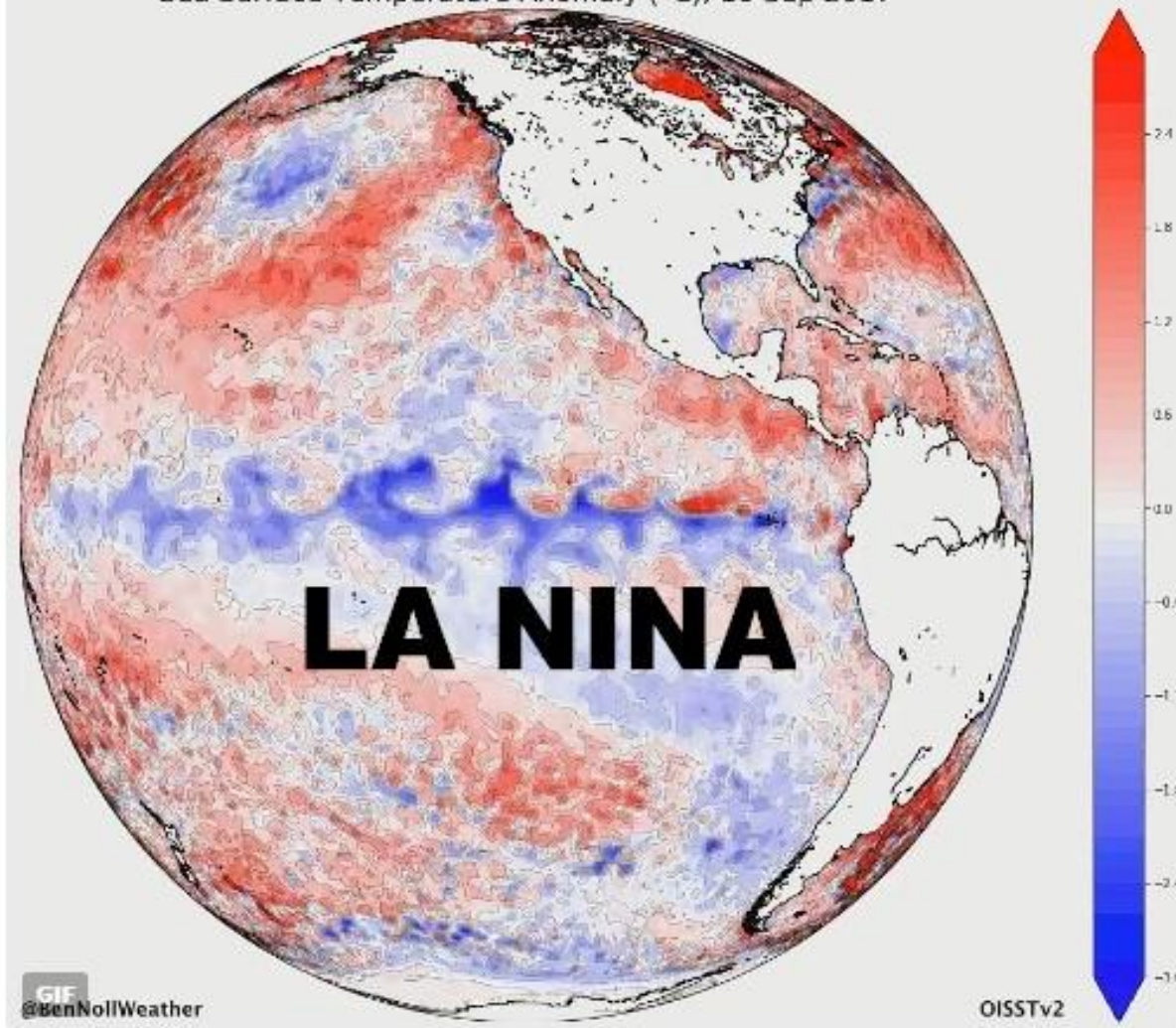
**WEEK 2 TEMP ANOMALIES** Most fo the serious cold over MT ND MN south central Canada

# LETS TALK MJO/ENSO

Madden-Julian Oscillation



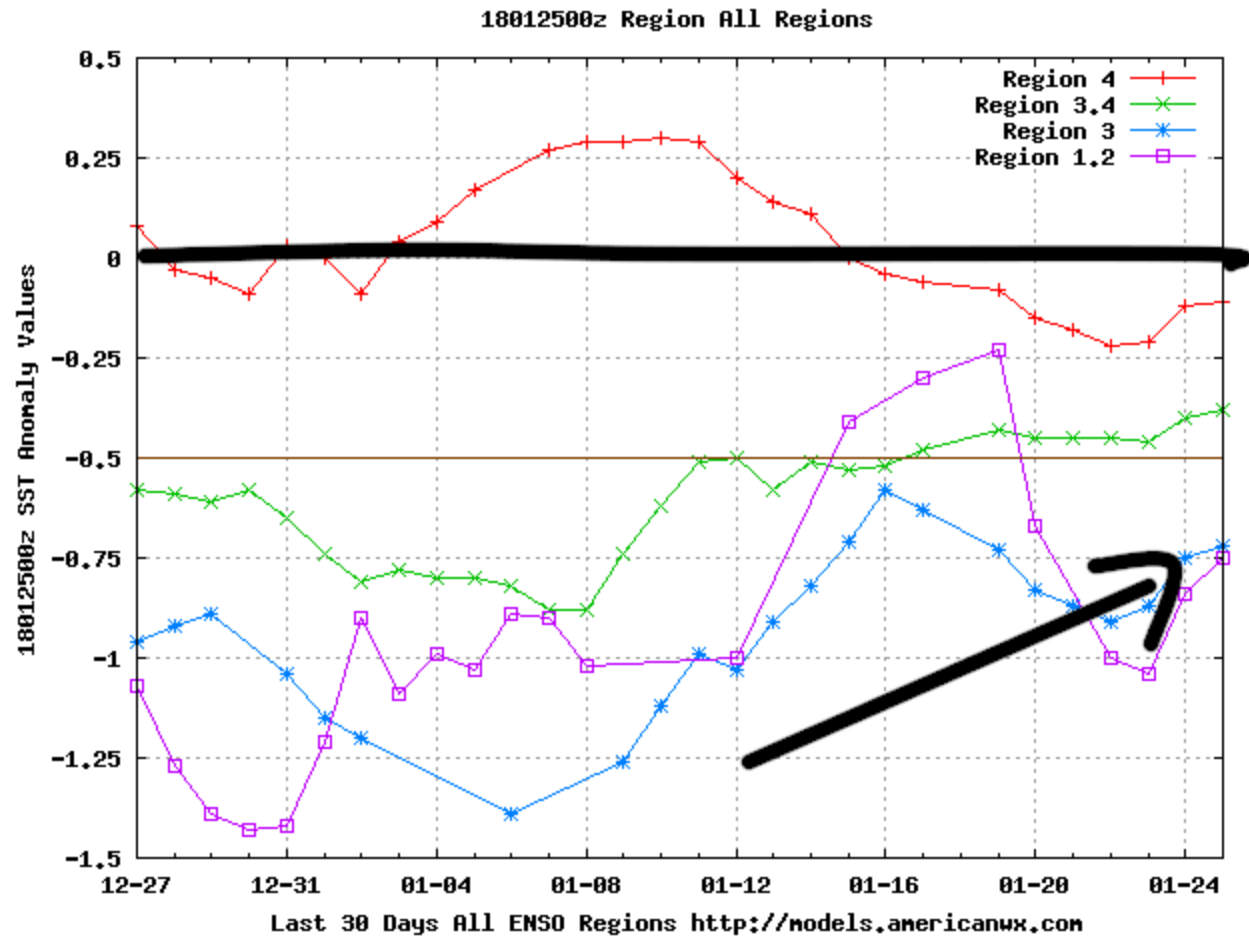
Sea Surface Temperature Anomaly (°C), 10 Sep 2017



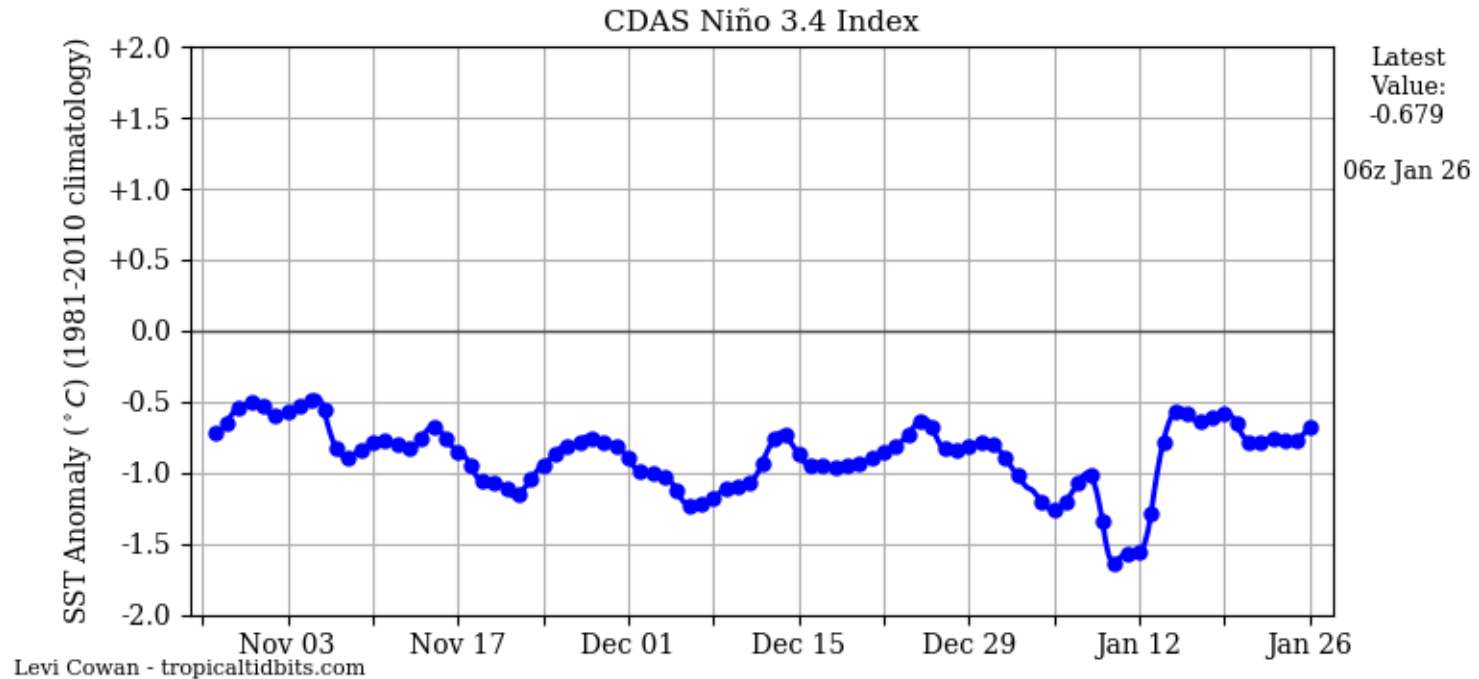
6:29 AM - 13 Sep 2017



# ACTUAL SEA SURFACE TEMP ANOMALIES – of all 4 regions.. Is LA NINA weakening ?



# LA NINA REACHED MAX INTENSITY JAN 12 then weakened ..rose .. Leveled off ... Is barely holding on borderline weak La Nina



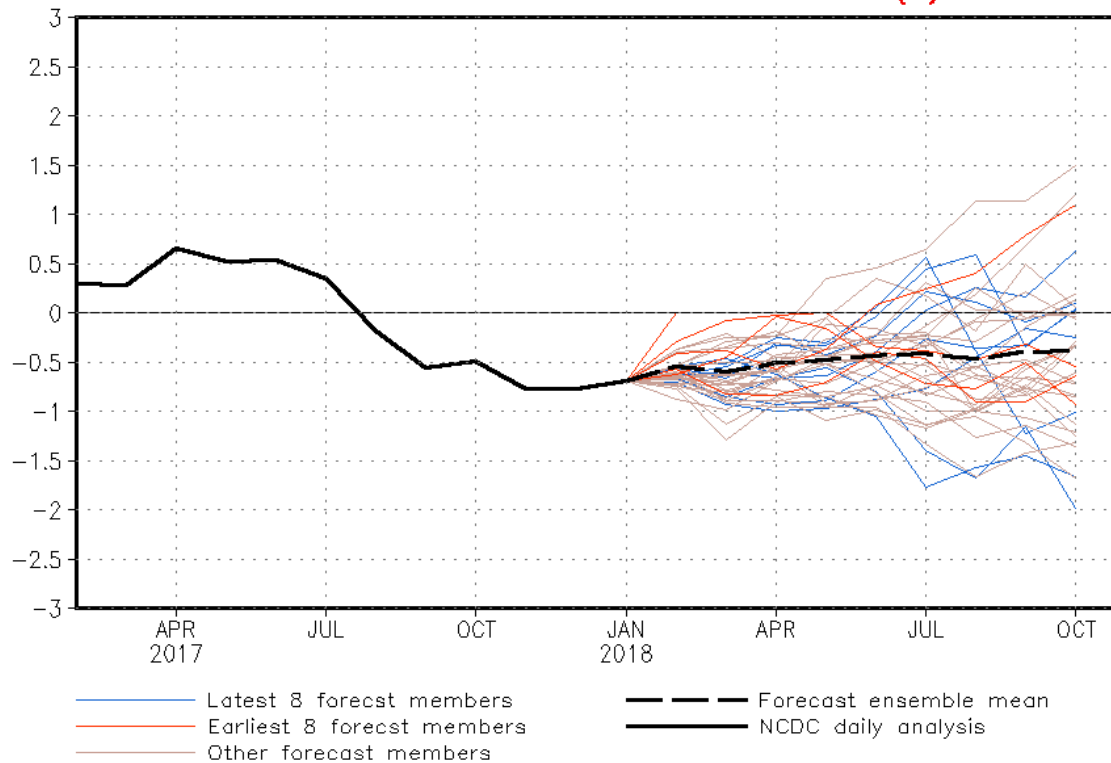
# LATEST CFS MODEL PROJECTION = \*\* La Nina steady weakening this SPRING.. Over by APRIL



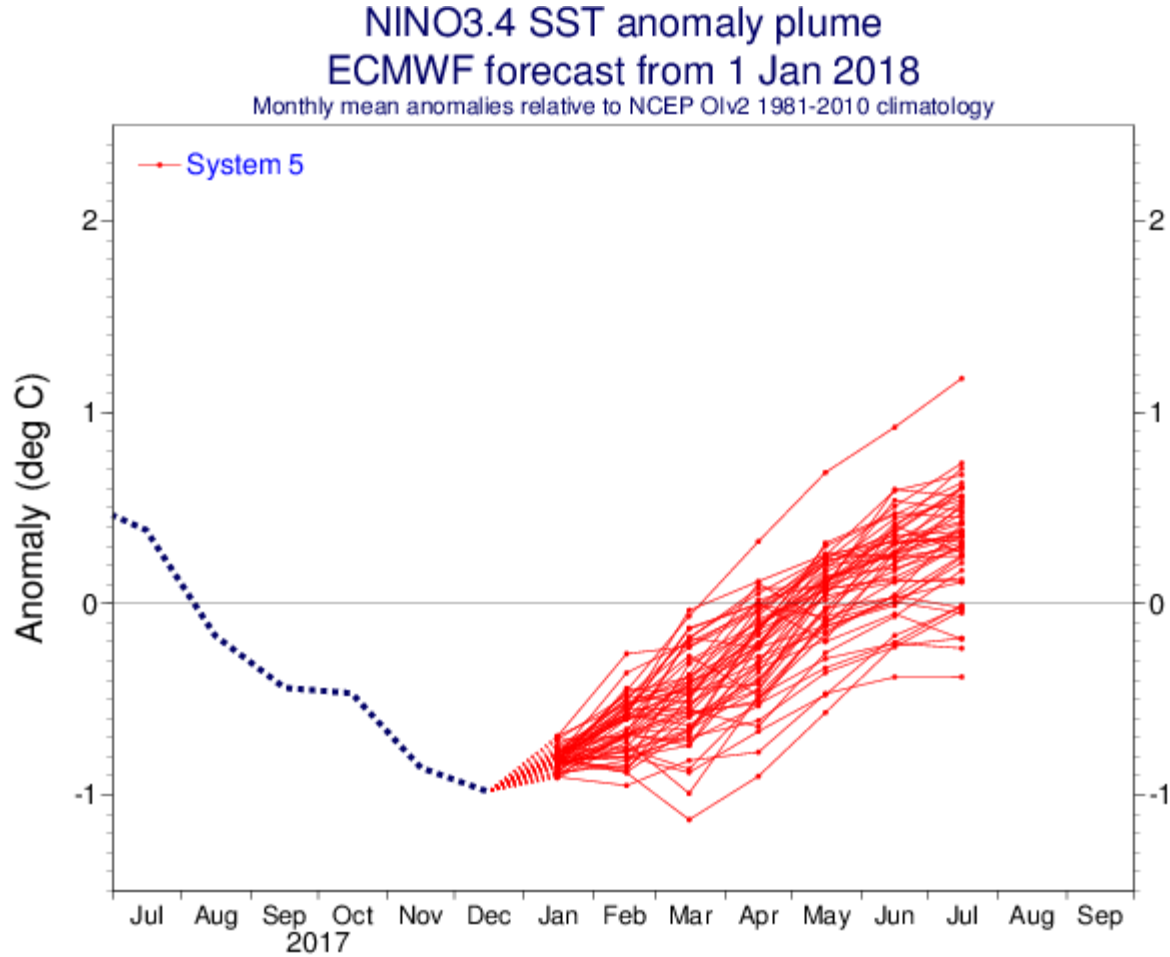
NWS/NCEP/CPC

Last update: Thu Jan 25 2018  
Initial conditions: 26Dec2017-4Jan2018

CFSv2 forecast Nino3.4 SST anomalies (K)

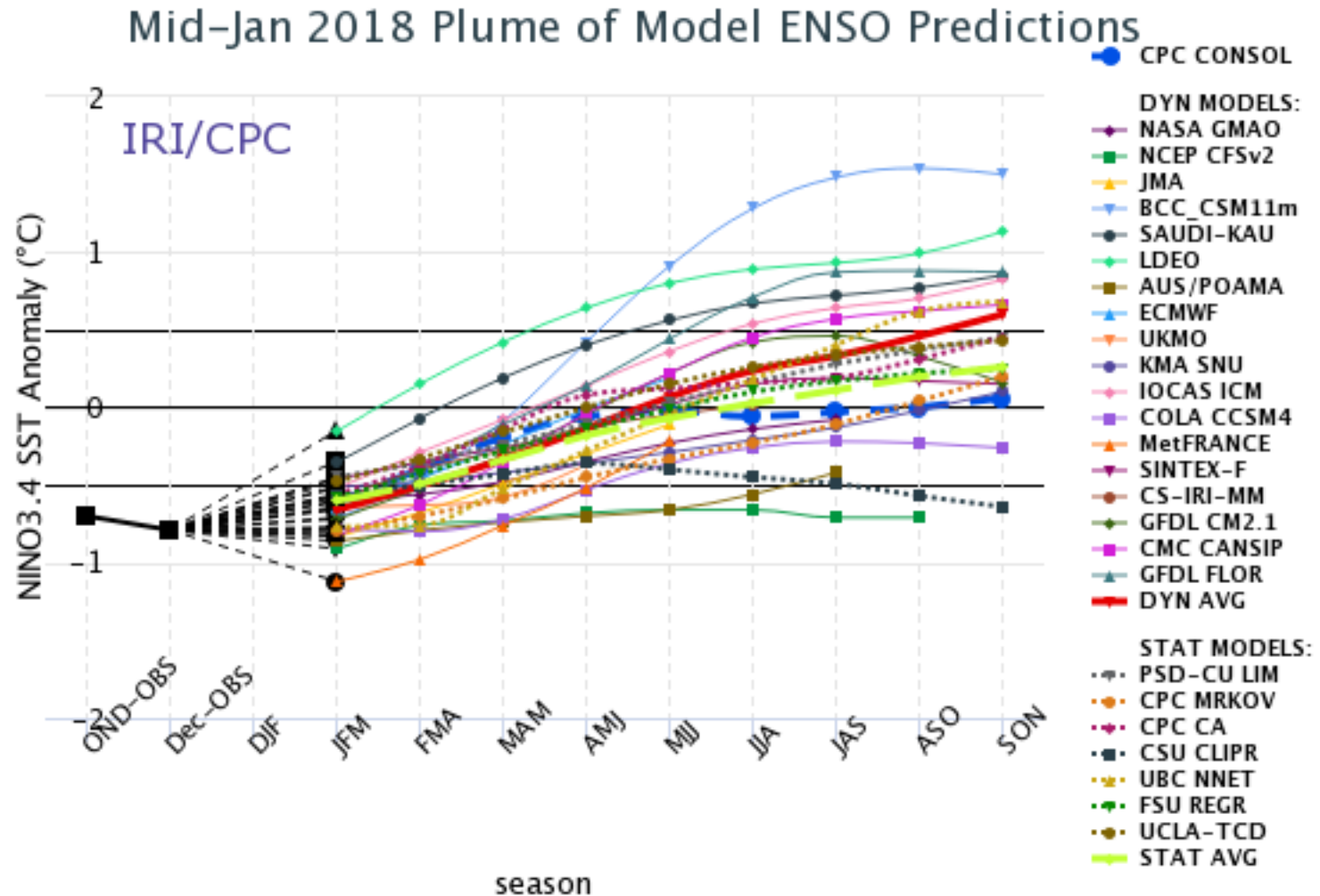


# ECMWF ENSO PLUMES ... Weakening La Nina ...NEUTRAL by APRIL / MAY





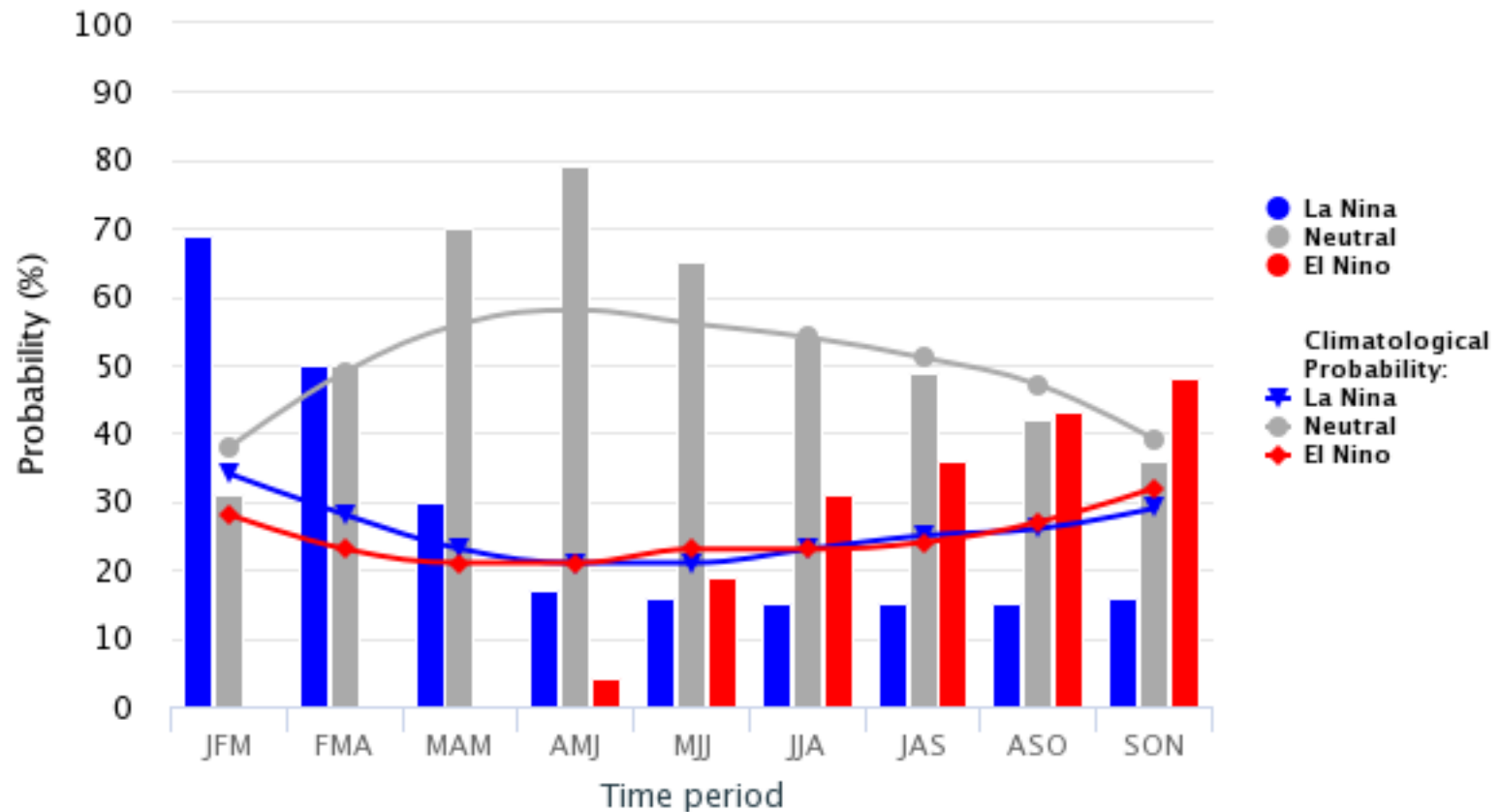
# UPDATED IRI climate models 80% of all models show that by MAM (APRIL) La Nina is over.. Hints of weak El Nino by Autumn 2018



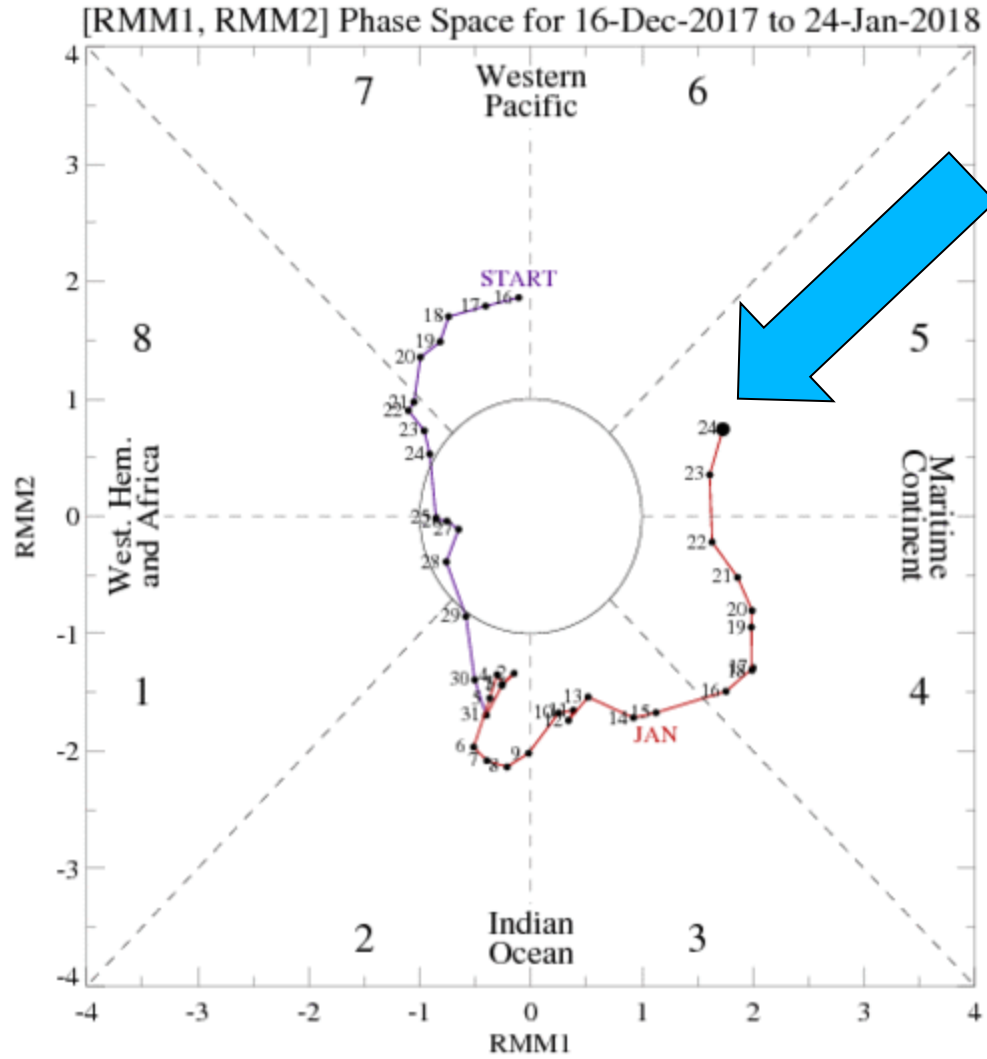
# IRI ENSO PROBABILITIES

## Mid-Jan IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly  
Neutral ENSO: -0.5 °C to 0.5 °C



# MJO IS IN PHASE 5



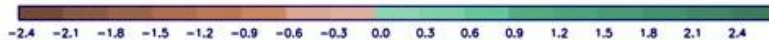
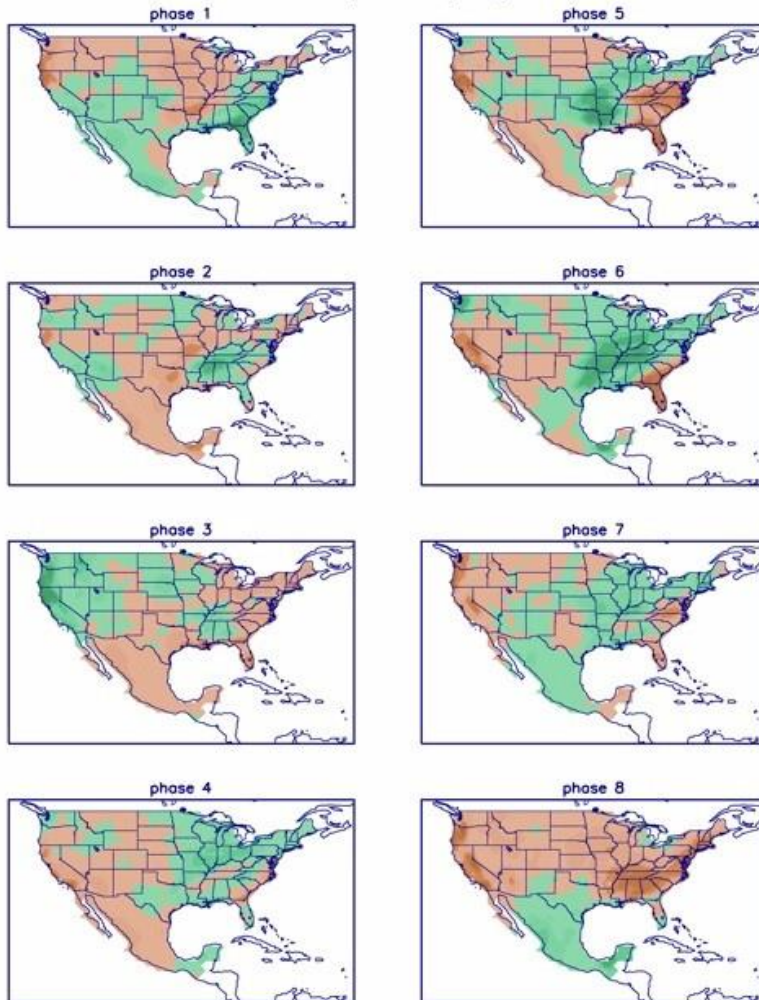




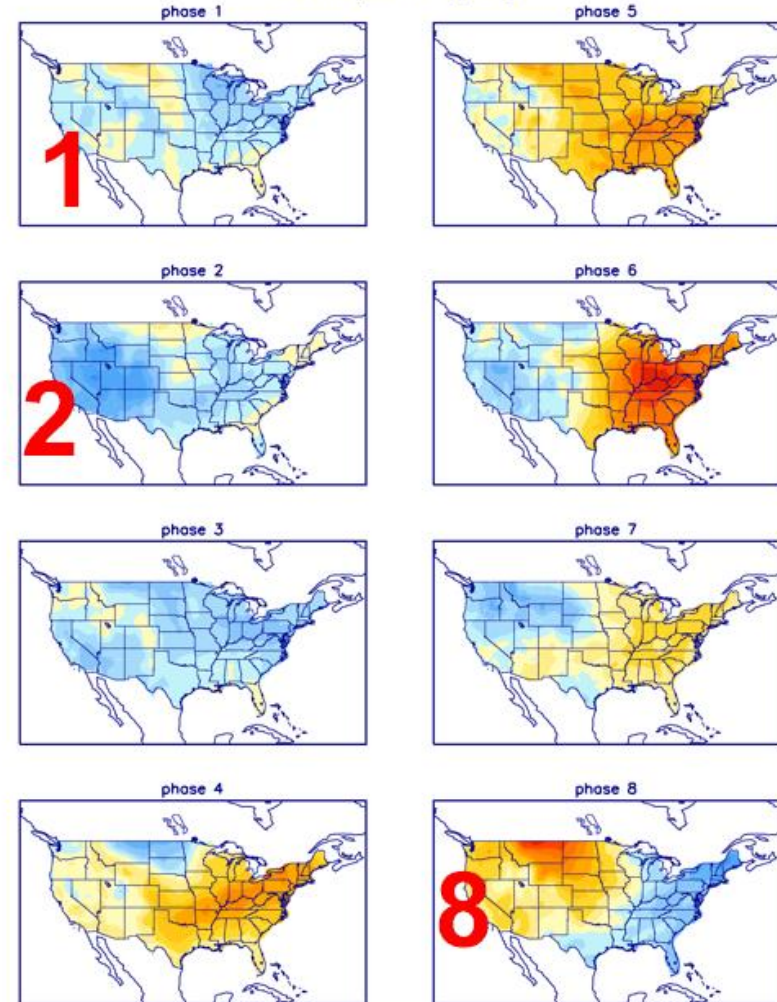
# IN FEB PHASE 8 2 1 DRY OVER PLAINS MIDWEST WET OVER EAST PHASE 1-2

# FEBRUARY

P composites (JFM)

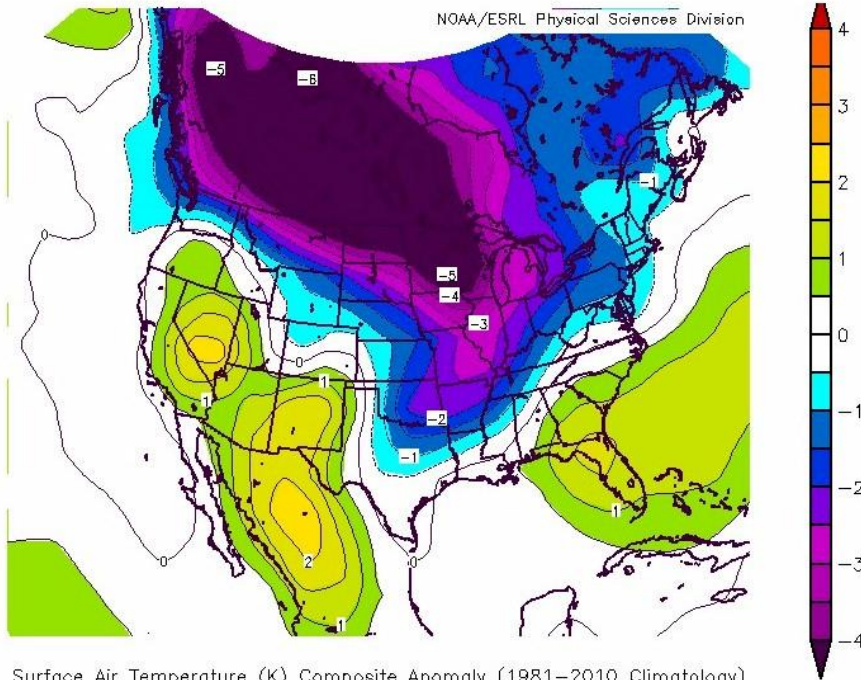


T composites (JFM)



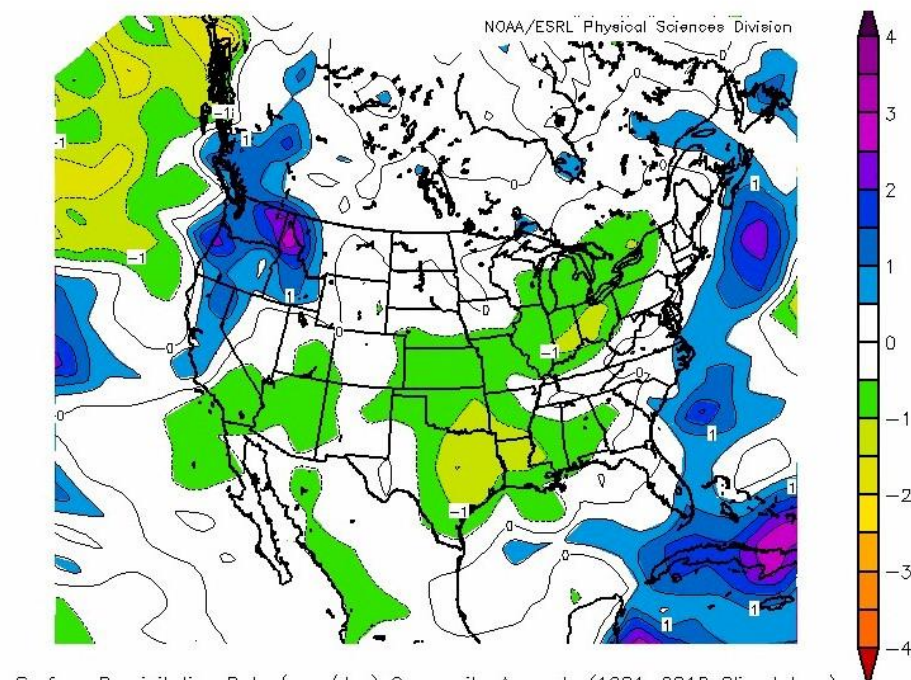
# 16-20 DAY ROLL OVER MODEL -- FINDS THE TOP 10 ANALOGS MATCHING THE FORECASTED 11-15 DAY ... THEN CONTINUES THE PATTERN INTO 16-20 DAY ... VALID FEB 11-15

## 16-20 DAY TEMPS



Surface Air Temperature (K) Composite Anomaly (1981–2010 Climatology)  
CPC Analog 16–20 Day Composite  
NCEP/NCAR Reanalysis

## 16-20 DAY PRECIP



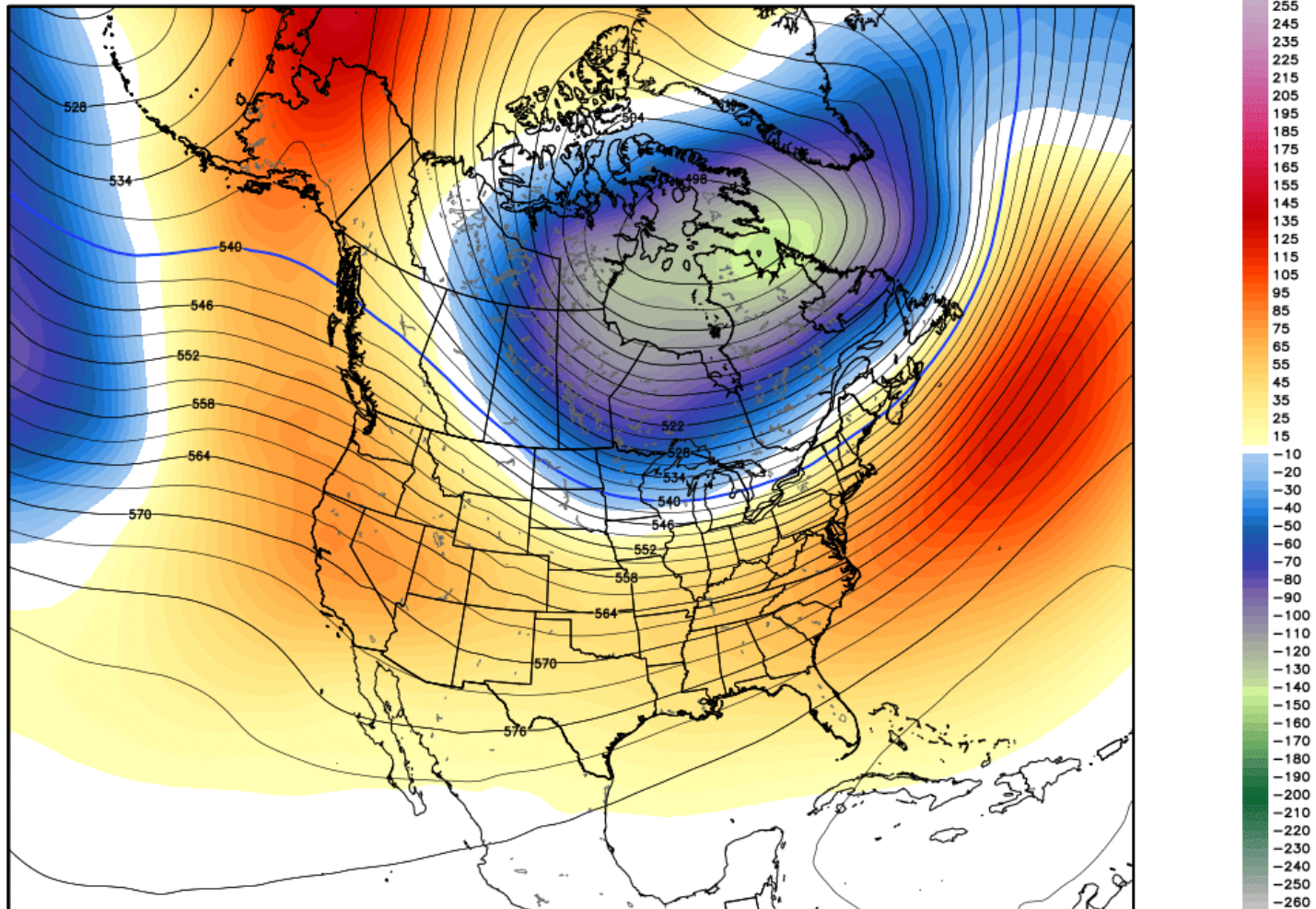
Surface Precipitation Rate (mm/day) Composite Anomaly (1981–2010 Climatology)  
CPC Analog 16–20 Day Composite  
NCEP/NCAR Reanalysis



# EURO WEEKLY FEB 12-13.... Large powerful PV over ne Canada keeps north half of US but so far no sign Arctic cold plunges Deep into the Plains/ Midwest like we saw in DEC

ECMWF EPS Monthly Ensemble Mean 500 hPa Geopotential Height [dm] & Anomaly [m]  
INIT: 00Z25JAN2018 fx: [456] hr --> Tue 00Z13FEB2018

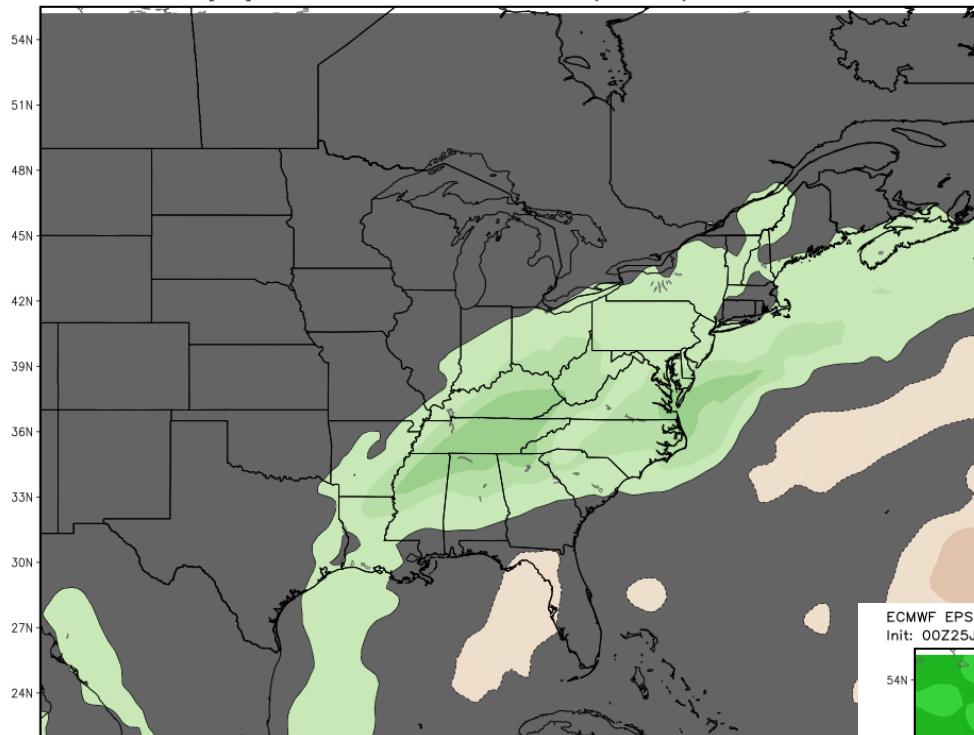
Min|Max: -149.6 | 162.4 m





ECMWF EPS Ensemble Mean 7-day Avg Precipitation Anomaly [inch]  
Init: 00Z25JAN2018 -- [504] hr --> Valid on Thu 00Z15FEB2018 Day 14 - Day 21

Min|Max Anom: -0.6 | 1.0 inch

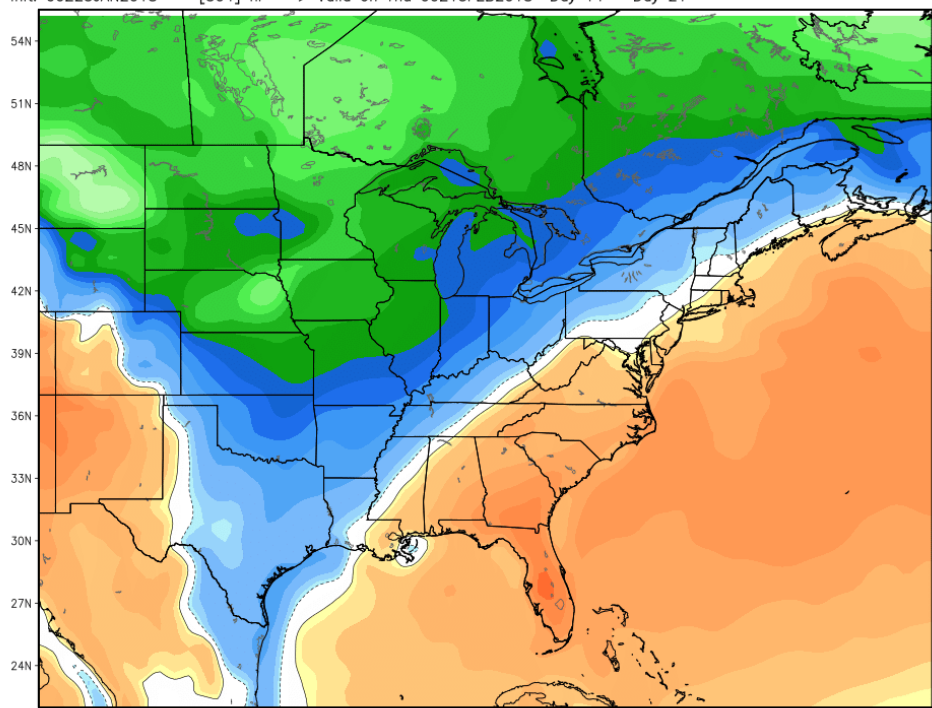


Accumulation between 00Z08FEB2018-00Z15FEB2018 | ECMWF EPS 1997-2016 Hindcast Climatology

**WEEK 3 FEB 8-14**  
**PRECIP ANOMALIES...**  
**Wet over Deep South**  
**Lower ECB East coast**

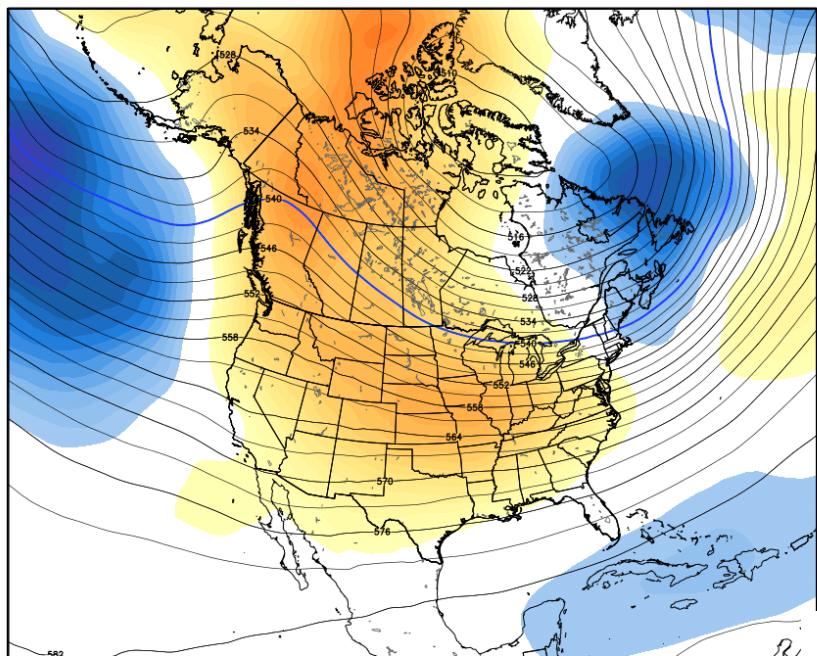
ECMWF EPS Ensemble Mean 7-day Avg 2m Temperature Anomaly [°C]  
Init: 00Z25JAN2018 -- [504] hr --> Valid on Thu 00Z15FEB2018 Day 14 - Day 21

Min|Max: -6.7° | 3.4°C



Average between 00Z08FEB2018-00Z15FEB2018 | ECMWF EPS 1997-2016 Hindcast Climatology

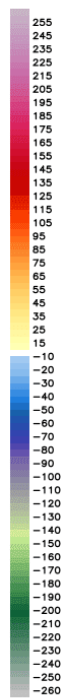
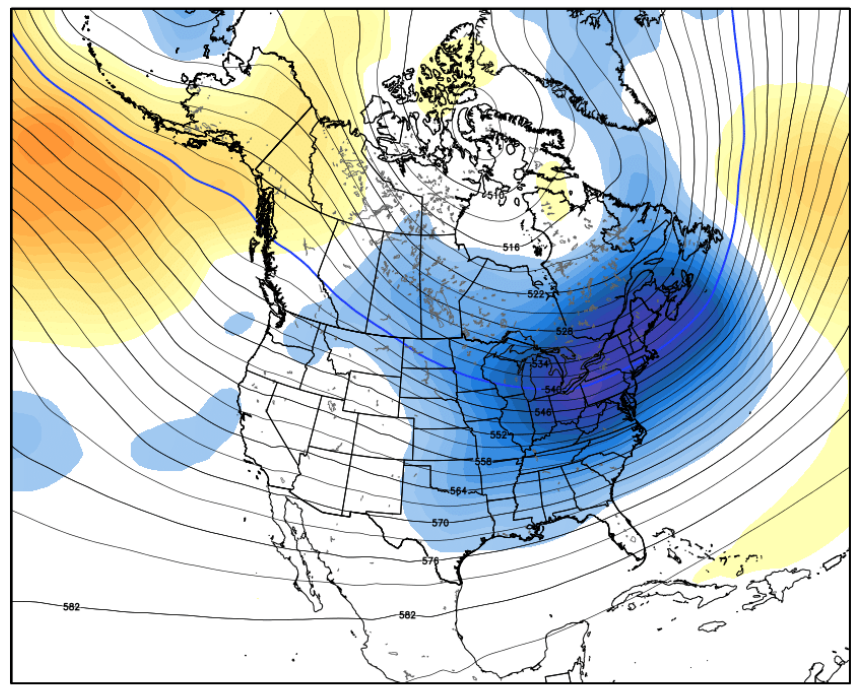
**WEEK 3 FEB 8-14**  
**TEMPS --- so good**  
**chance of snow/ ice over**  
**ARK TN KY se IND OH**  
**WVA MD DEL VA PA NY**  
**NJ New England**



ECMWF EPS Monthly Ensemble Mean 500 hPa Geopotential Height [dm] & Anomaly [m]  
INIT: 00Z25JAN2018 fx: [936] hr --> Mon 00Z05MAR2018 Min|Max: -77.8 | 78.6 m

# PATTERN MAY "RELAX" around FEB 20-24

## SEVERE COLD INTO M EARLY / MOD MARCH ??



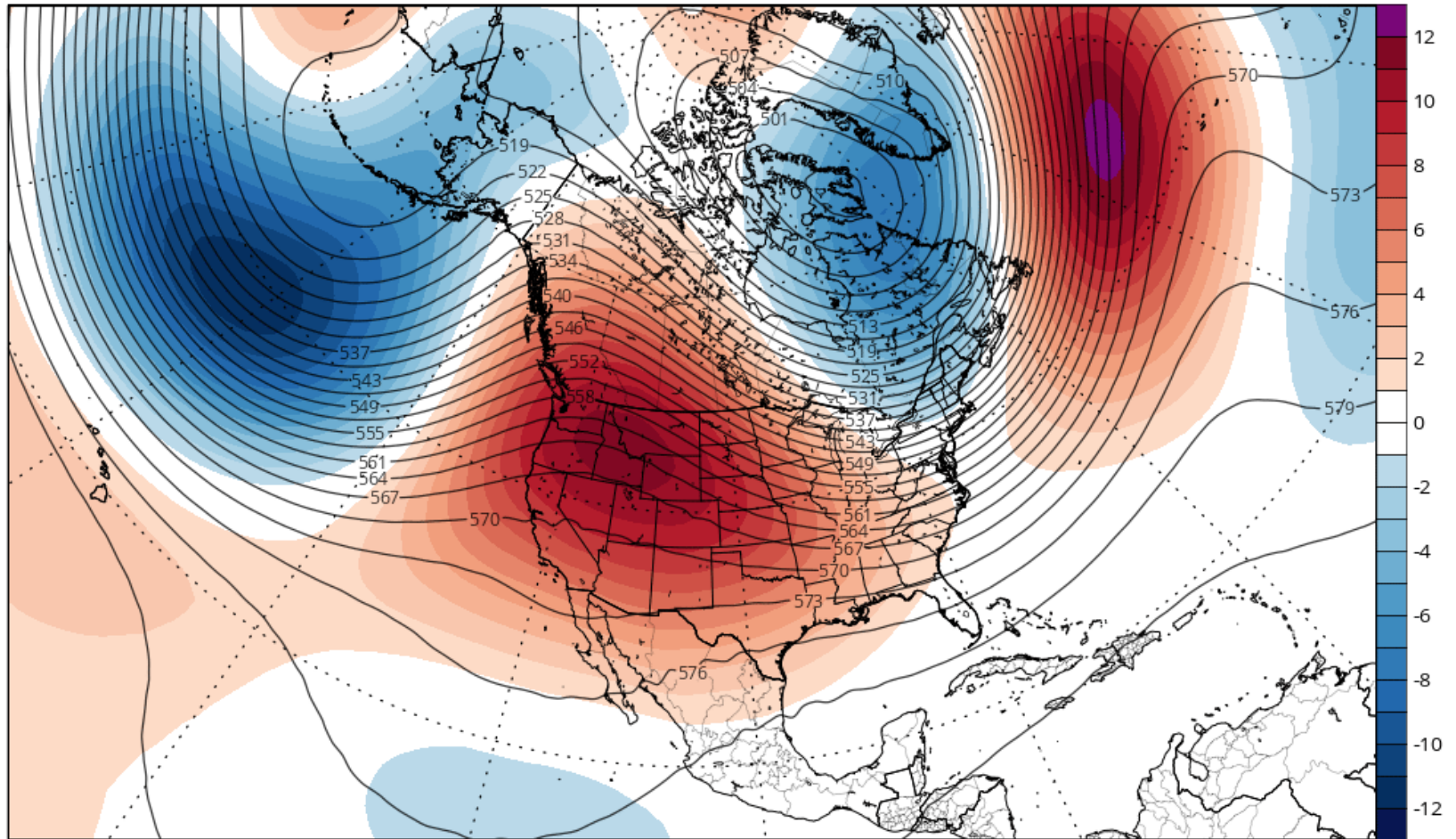
# CFS WEEK 3 NOT AS COLD AS EURO OR 16-20 DAY ROLLOVER -- but DRY

CFSv2 Mean 500mb GPH & Anomaly (dam) from 00z09Feb2018 to 00z16Feb2018 (Days 15-21)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

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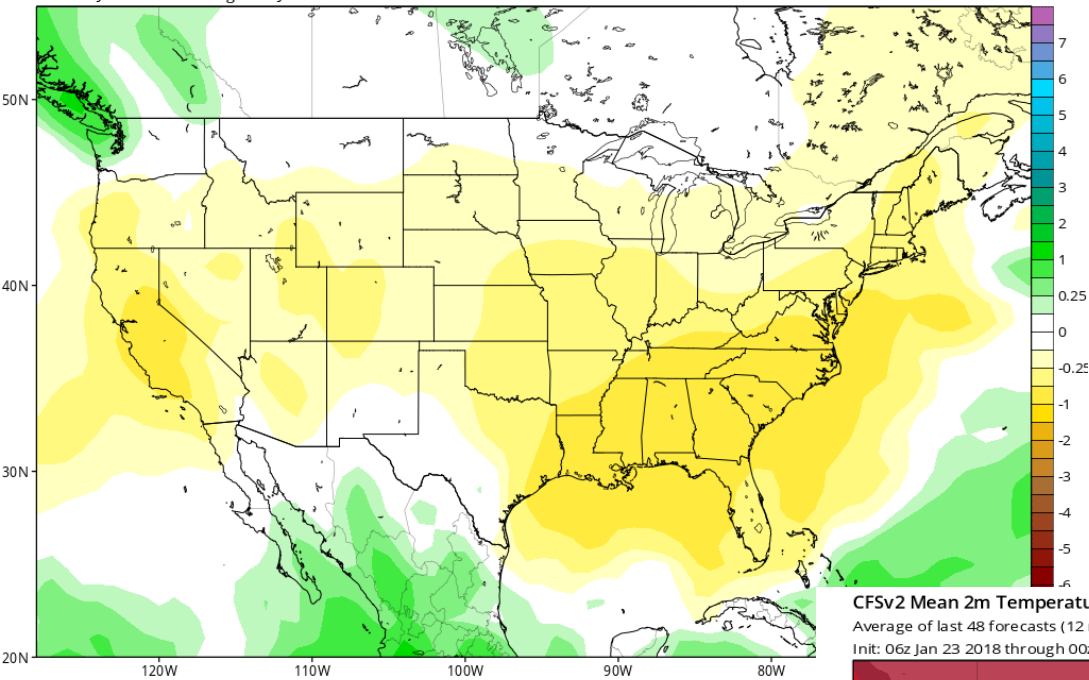


CFSv2 Accumulated Precip. Anomaly (in) from 00z09Feb2018 to 00z16Feb2018 (Days 15-21)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

TROPICALTIDBITS.COM

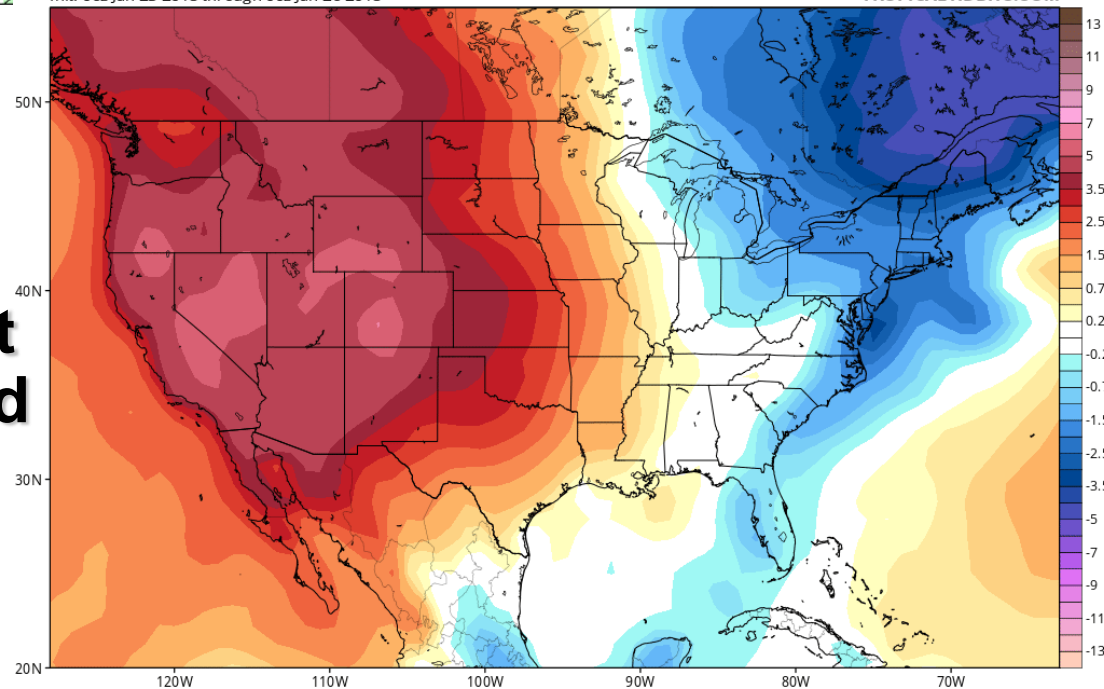


CFSv2 Mean 2m Temperature Anomaly (°C) from 00z09Feb2018 to 00z16Feb2018 (Days 15-21)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

TROPICALTIDBITS.COM



**WEEK3 CFS PRECIP ANOMALIES – much DRIER over Deep South ECB East Coast and not as cold over Plains and Upper Midwest**



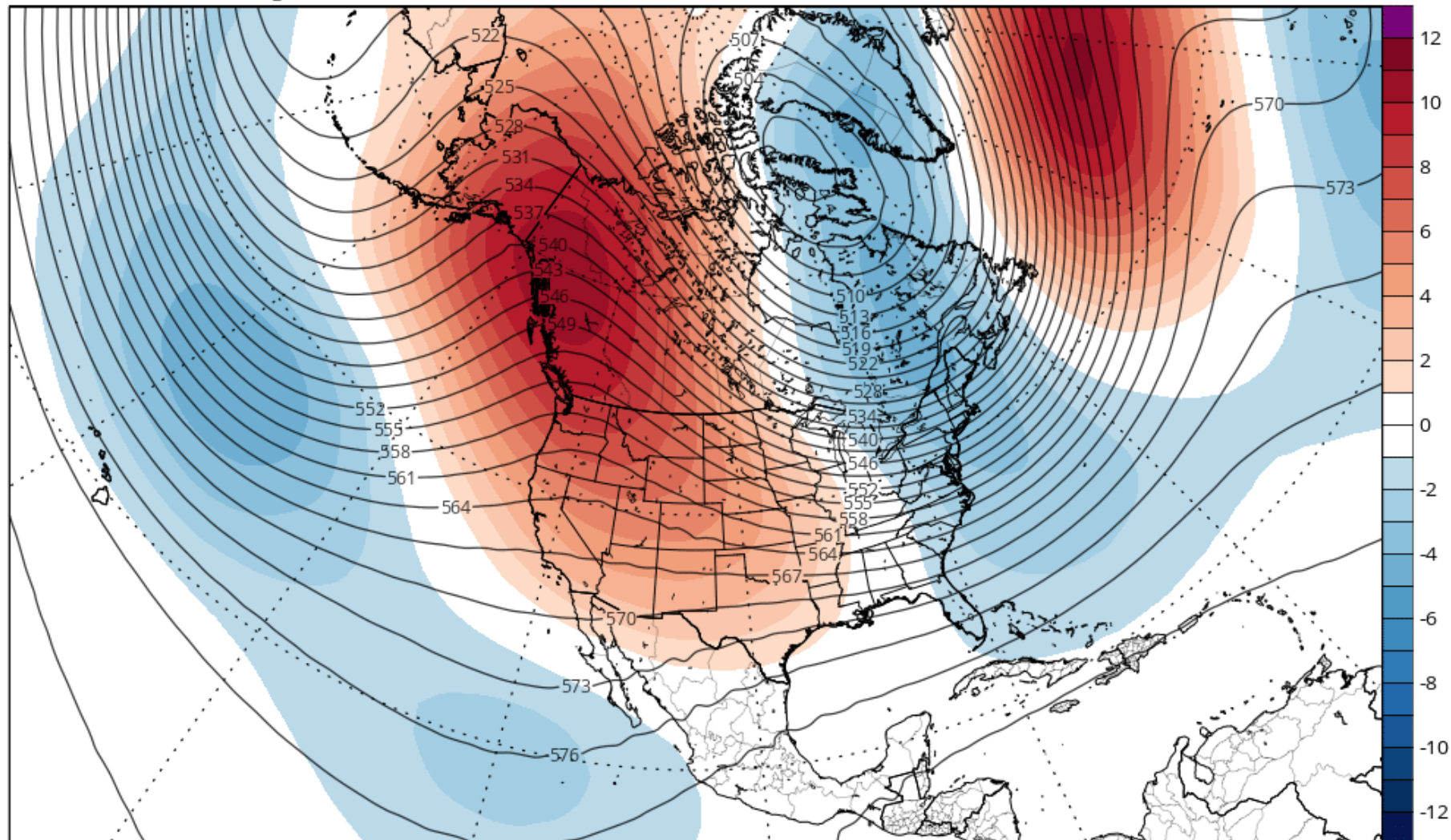
# CFS WEEK 4 BIGGER RIDGE ON WEST COAST == COLDER PATETRN... STILL VERY DRY

CFSv2 Mean 500mb GPH & Anomaly (dam) from 00z16Feb2018 to 00z23Feb2018 (Days 22-28)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

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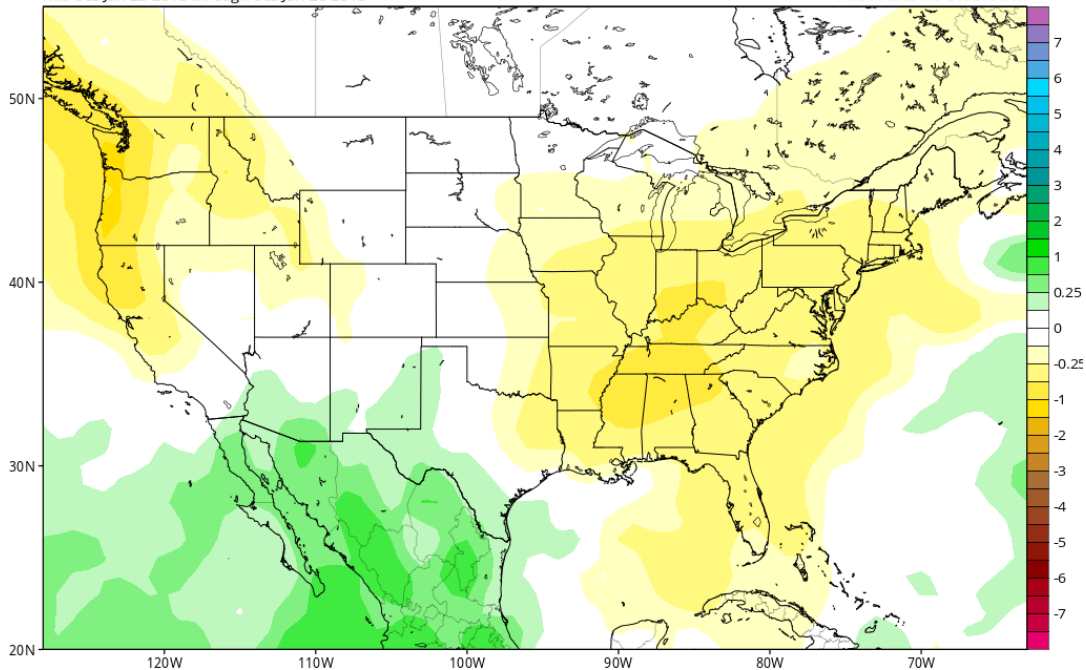


CFSv2 Accumulated Precip. Anomaly (in) from 00z16Feb2018 to 00z23Feb2018 (Days 22-28)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

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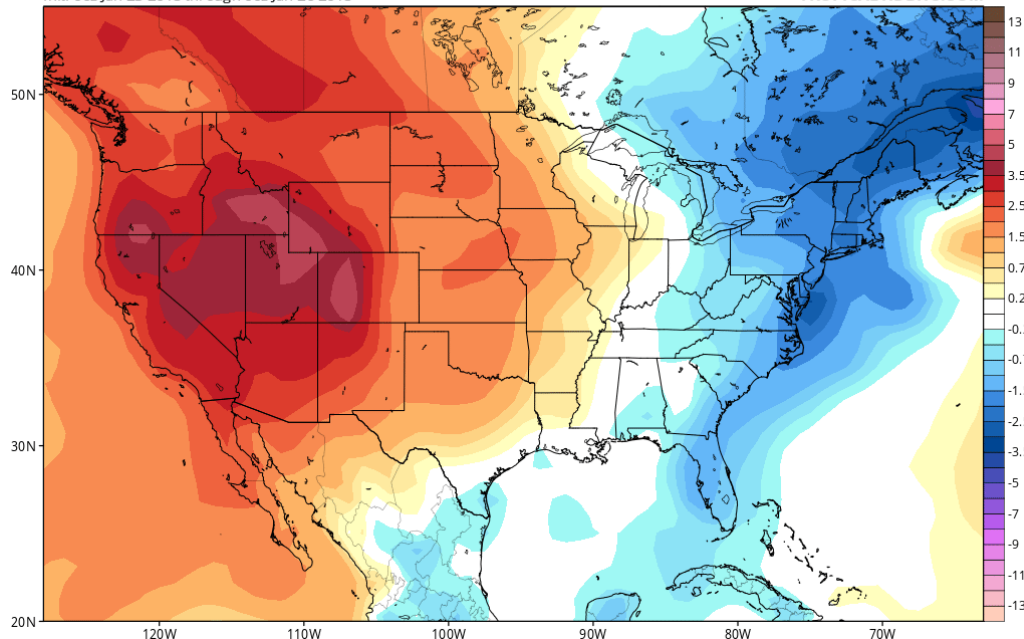
**WEEK4 CFS PRECIP ANOMALIES –DRY over Midwest & East Coast mild over Plains and NEAR NORMAL RAINS over west TX ???**

CFSv2 Mean 2m Temperature Anomaly (°C) from 00z16Feb2018 to 00z23Feb2018 (Days 22-28)

Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Jan 23 2018 through 00z Jan 26 2018

TROPICALTIDBITS.COM

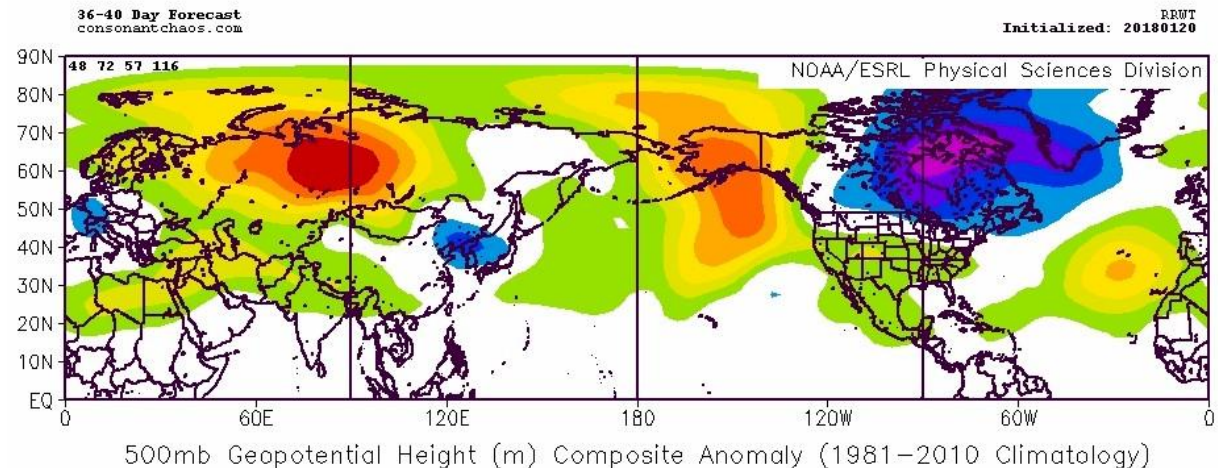
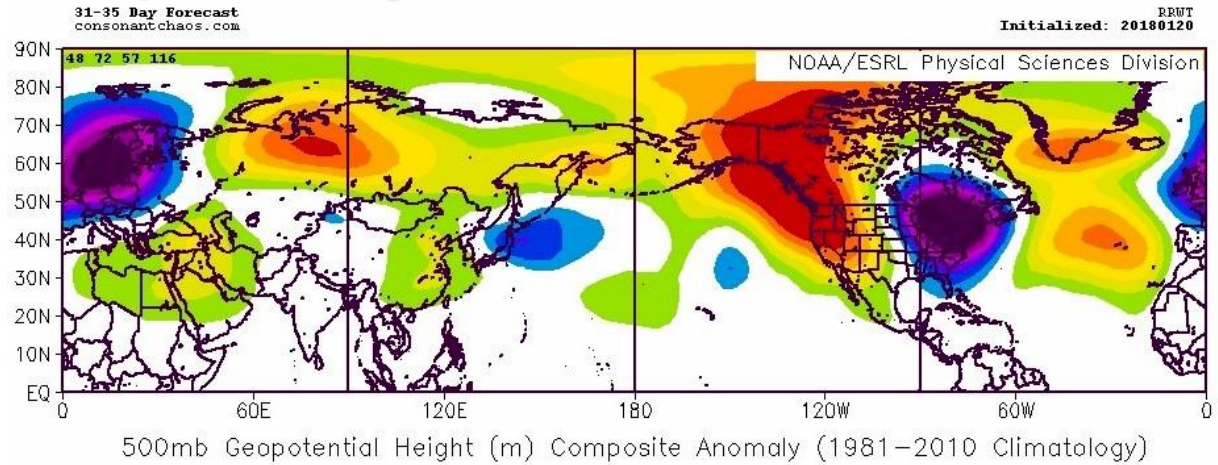




# RRWT MODEL - experimental model out to 45 days that use LARGE SCALE planetary waves to forecast general trends

## RRWT MODEL

The JAN 21 Edition drops PV deep into Midwest = record cold / energy use FEB 20-24



# RRWT MODEL

**SURFACE TEMP  
ANOMALIES =  
severe cold  
eastern US**

