

SUNDAY NIGHT – MONDAY

US GRAIN WEATHER 4/3/17

OVERVIEW

A rather busy weather week coming up across much of the Plains the Delta and the Midwest. This is not a surprise given the WxRisk Spring 2017 forecast for the U.S. grain areas. The next 5 days will feature two significant areas of strong LOW pressure which will come out of OK/ TX and track in a northeast direction through MO...OH... western NY State. Because the track of these 2 lows will be almost identical ...the rainfall amounts will be significant over the same areas. In addition both of these systems will have a high severe weather threat associated with them as they move across the Delta into the Ohio Valley/ ECB .

WEEK 2 - looks just as wet. As you will see the models are showing significant rain over much of the Plains and the Midwest but we think this is underdone. A new surge of energy in the Pacific jet stream will drive a massive trough into the West Coast and Rockies this coming weekend. This trough will reach the Plains and the Midwest after April 9 or 10th and it is likely to bring significant LOW pressure across much of the Plains and the Midwest resulting in more widespread significant rain over these areas in the week 2 to forecast. The weather models develop a large cold HIGH pressure area over south central I Canada which drop temperatures into the middle and Upper 20s over portions of the central / upper Plains and WCB on the morning of April 11 and 12. There is some indication that there may be a temporary break in the wet pattern April 16 -21

RAINFALL OVER THE LAST 2 DAYS - 0700 CDT 31 MARCH - 0700 CDT 2 APRIL

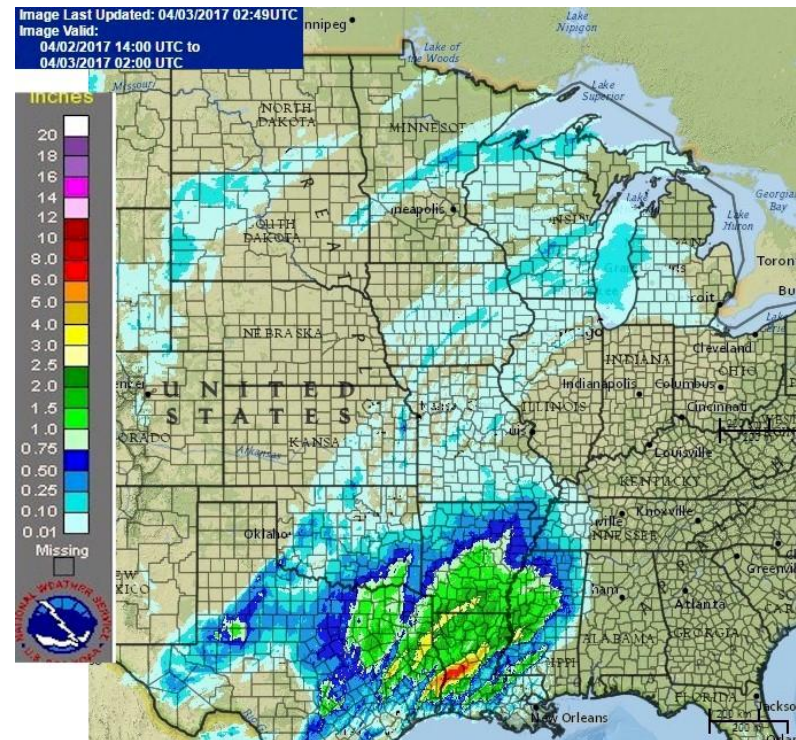
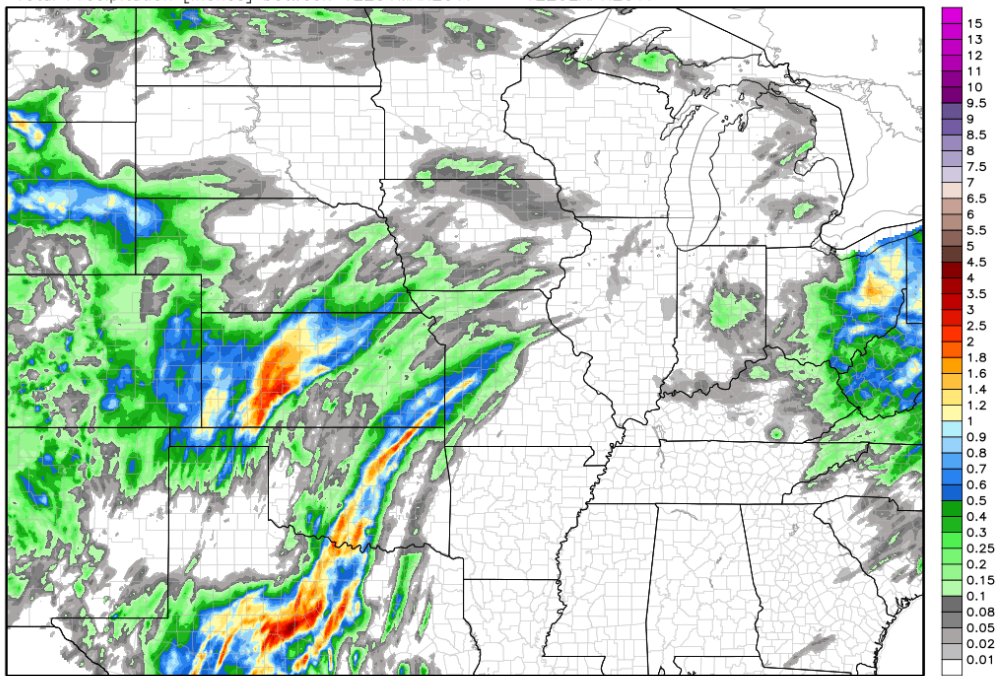
... Narrow band of 1-3:" 25-75mm over central TX into Dallas area / south central & central OK with 50% coverage of these areas... 1-2"/ 25-50mm over for southeast KS into southwest MO 50% with coverage -- 2nd area of rain 0.25-0.75"/ 6-20mm 60% coverage eastern third COL western half of KS

image on RIGHT SUNDAY RAINFALL END ING 10PM CDT SUNDAY NIGHT

1-3" 25-75mm over eastern third of TX central and southern ARK most of LA west central Mississippi river

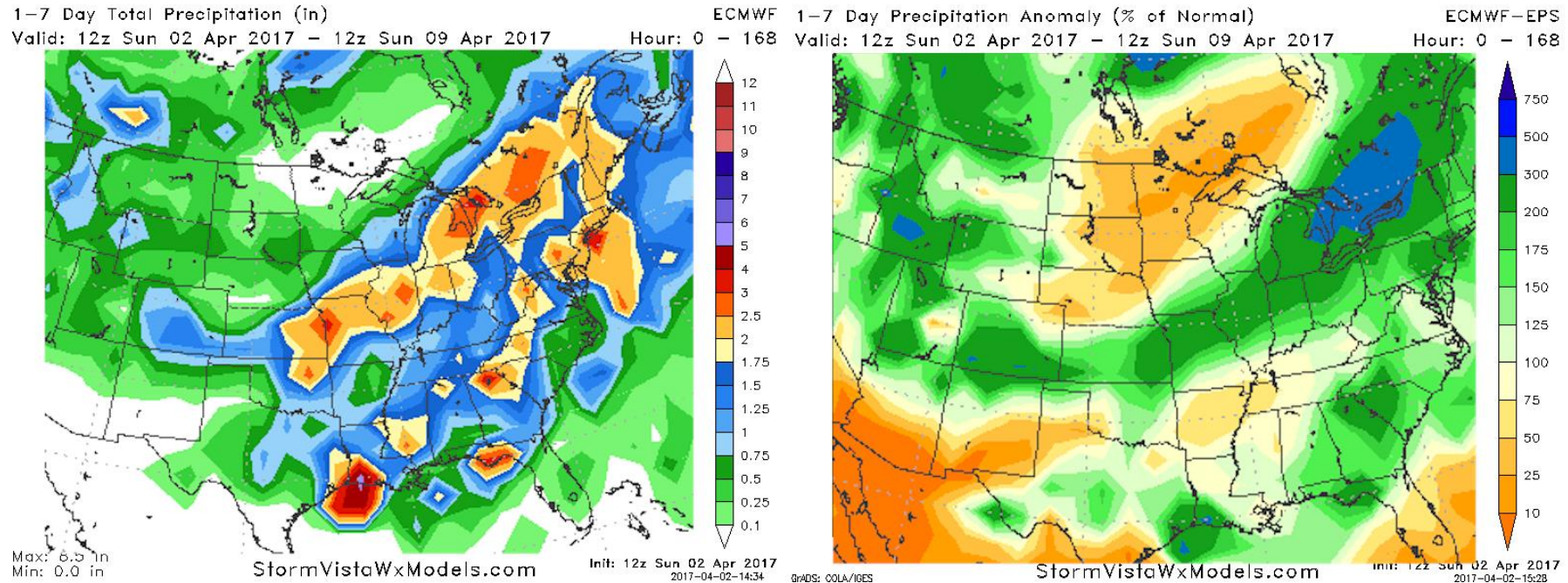
NWS Precipitation Analysis 4-km HRAP Grid -- 2-day Total Accumulation
Total Precipitation [inches] between 12Z31MAR2017 -- 12Z02APR2017

Domain Max: 4.7 in.



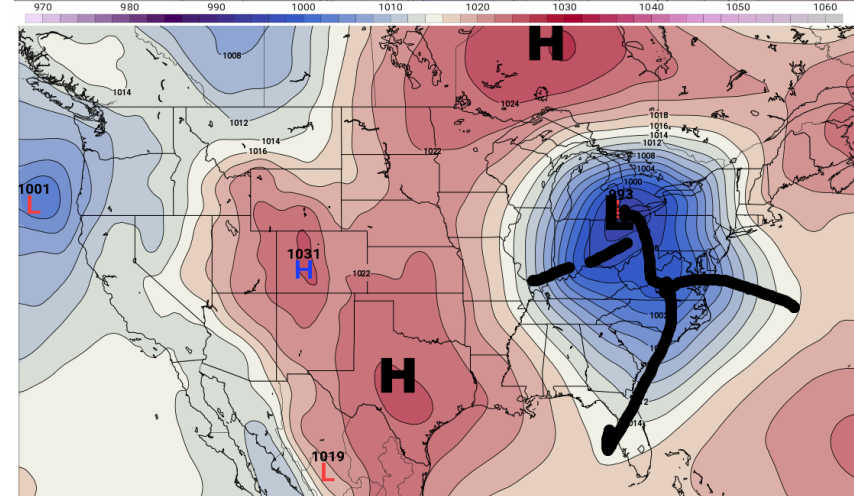
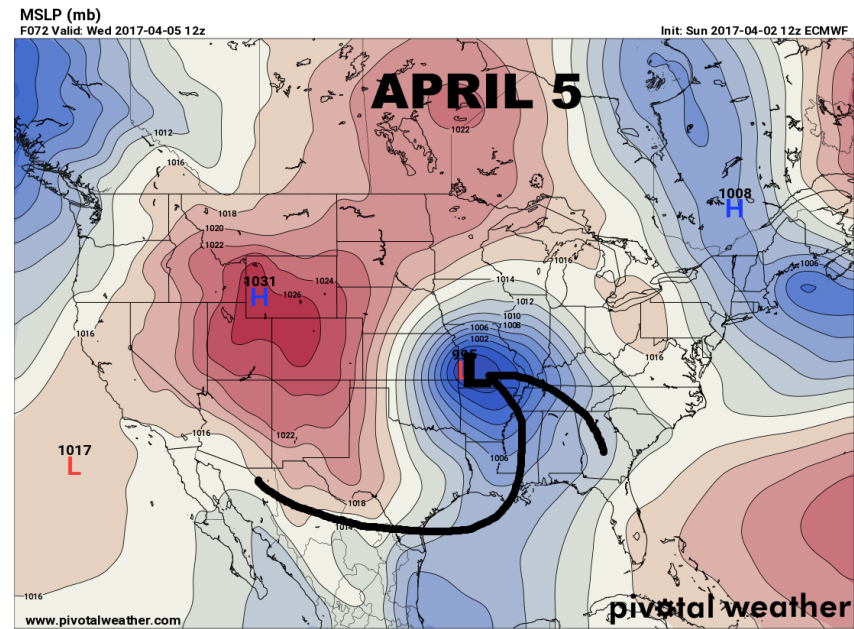
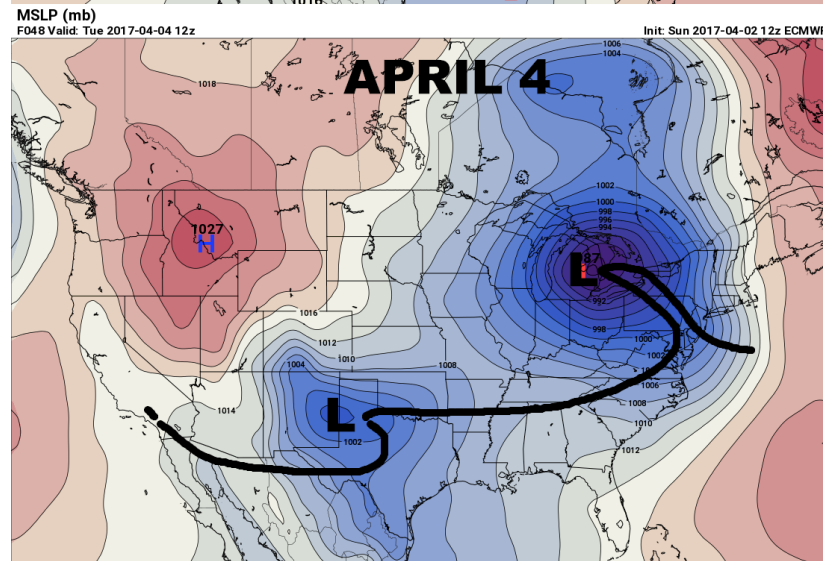
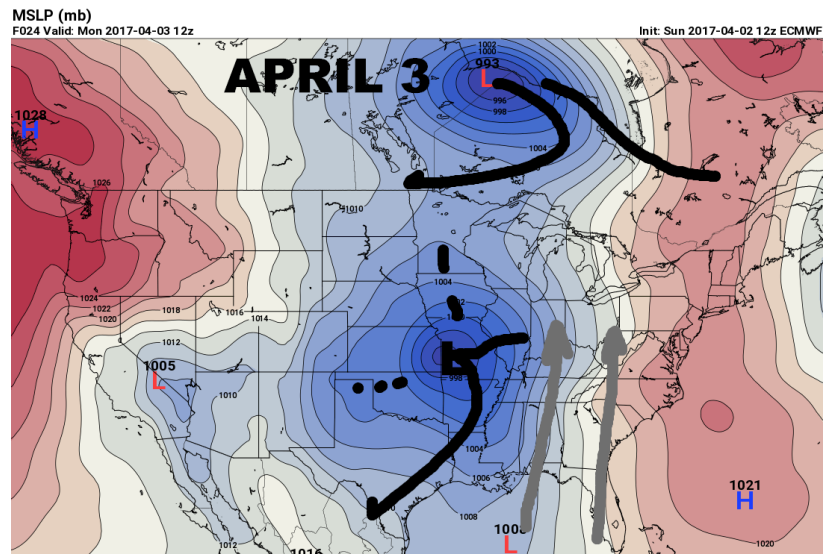
THIS WEEK

The rainfall amounts look quite significant over the next five days with amounts of 1-3"/25-75mm from central and eastern Oklahoma and Kansas through most of Missouri southeast Iowa most of Illinois Indiana Ohio and Michigan. There will be a secondary area of significant rain and severe weather over the Delta across Alabama Georgia and Carolinas and probably into Virginia as well. The rainfall anomalies reflect the fact that this is significant rainfall across the heart of the Midwest. It should be noted however that Minnesota and most of the Dakotas as well as Nebraska see below normal rainfall over the next five days.



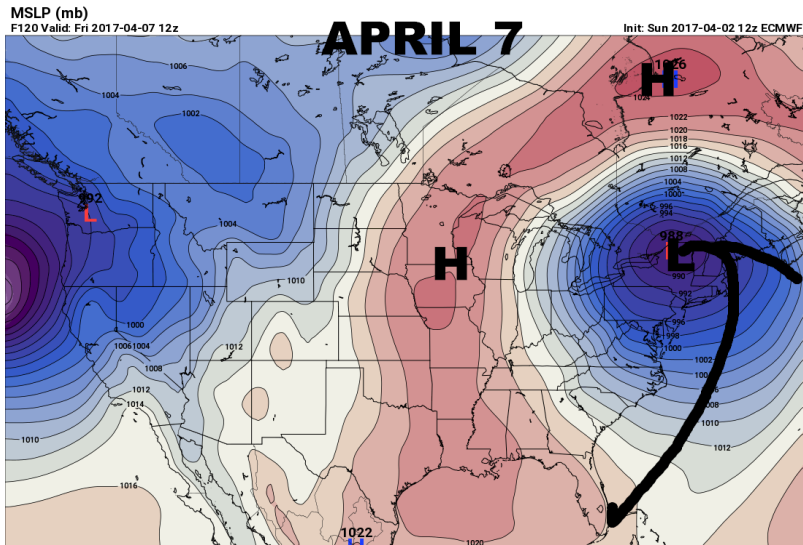
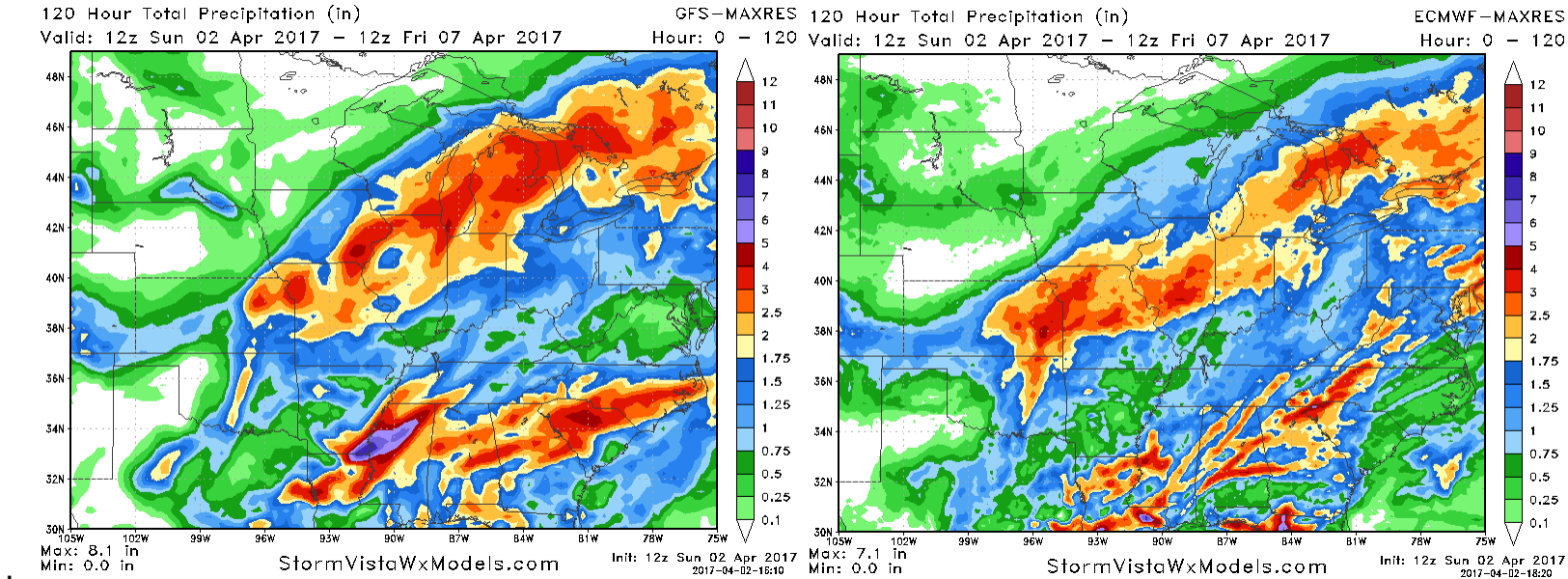
FOCUS ON NEXT DAYS

These SURFACE maps from the European model give you an idea of the sequence of events over the next 5-6 days. As you can see one significant area of LOW pressure is followed by another and both of these systems take almost identical tracks.



If we break down the rainfall and focus on the next five days when most of the rain will occur we can see that the GFS and the European models are in identical agreement with regard to rainfall amounts and coverage. Again note that Minnesota Nebraska and the Dakotas are

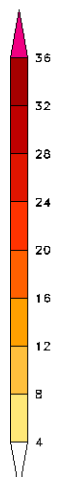
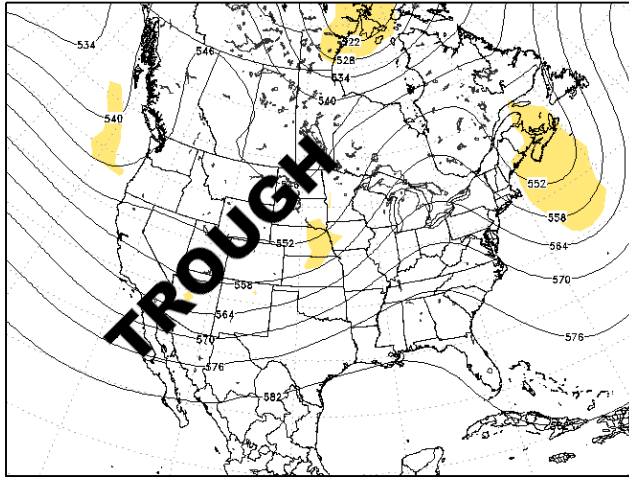
essentially dry and that there is a secondary area of rain associated with a severe weather and thunderstorms across the delta and the deep south. By April 7 we have a deep intense area of low pressure over nor the New England which is bringing down windy and coal conditions to the Ohio Valley and the East Coast. HIGH pressure will be located across most of the Plains and the Midwest but the air mass associate with this HIGH pressure system will feature below normal temperatures



WEEK 2 6-10 DAY

500 mb Height & Vorticity
Valid: 06z Mon 10 Apr 2017

ECMWF-EPS
Hour: 186



In week two forecast the weather models clearly show another major trough or surge of energy and the Pacific jet stream over the Eastern Pacific Ocean that slams into the West Coast this weekend. This trough will move through the Rockies and reach the Plains by April 9 and 10th.

Even though the models shows significant rain over the Delta and a good portion of the central and eastern Plains and much of the Midwest ...we think the rainfall forecast is probably underdone. Our experience shows that when you have a large deep trough like this which is situated over the Plains states... AND a strong ridge over the eastern conus .. surface cold fronts stalled for prolonged interval of time which would mean more rain over portions of the Plains and the Mississippi Valley.

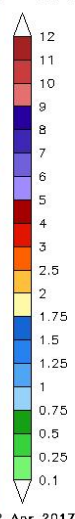
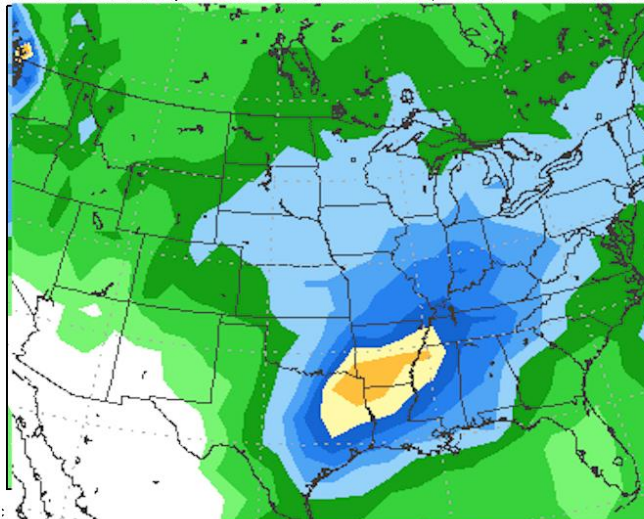
GrADS: COLA/IGES

StormVistaWxModels.com

Init: 12z Sun 02 Apr 2017
2017-04-02-15:31

8-14 Day Total Precipitation (in)
Valid: 12z Sun 09 Apr 2017 - 12z Sun 16 Apr 2017

ECMWF-EPS
Hour: 168 - 336



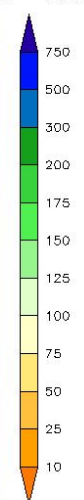
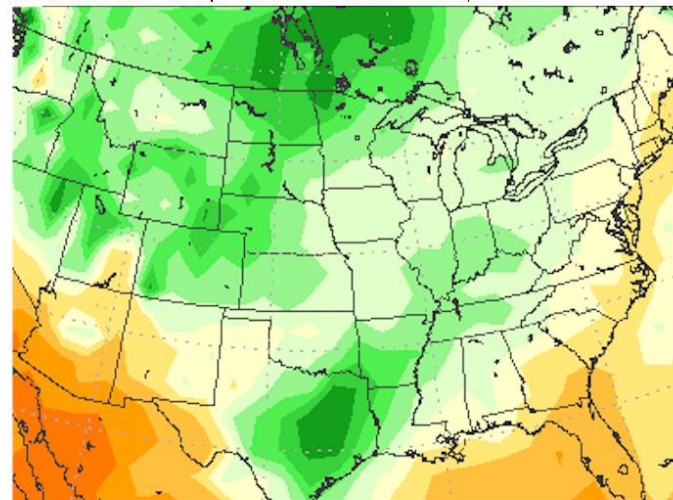
Max: 12.0 in
Min: 0.0 in
StormVistaWxModels.com
Init: 12z Sun 02 Apr 2017
2017-04-02-15:56

8-14 Day Precipitation Anomaly (% of Normal)

Valid: 12z Sun 09 Apr 2017 - 12z Sun 16 Apr 2017

ECMWF-EPS

Hour: 168 - 336

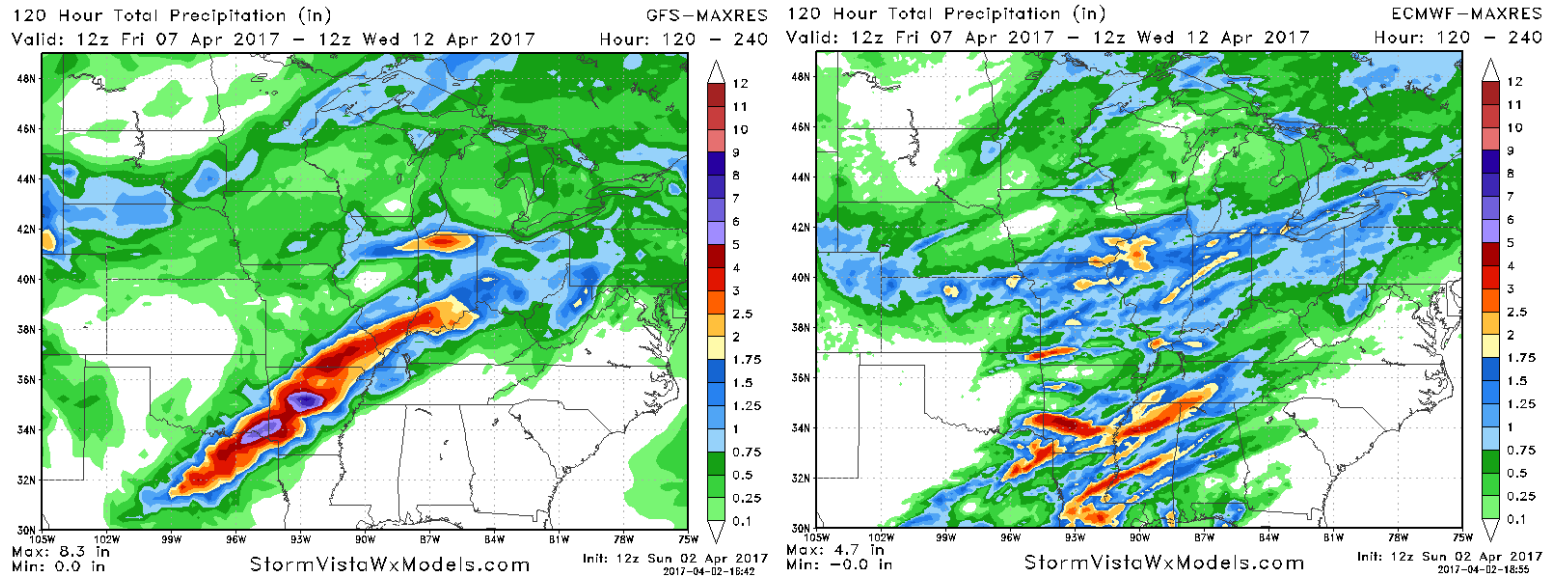


GrADS: COLA/IGES

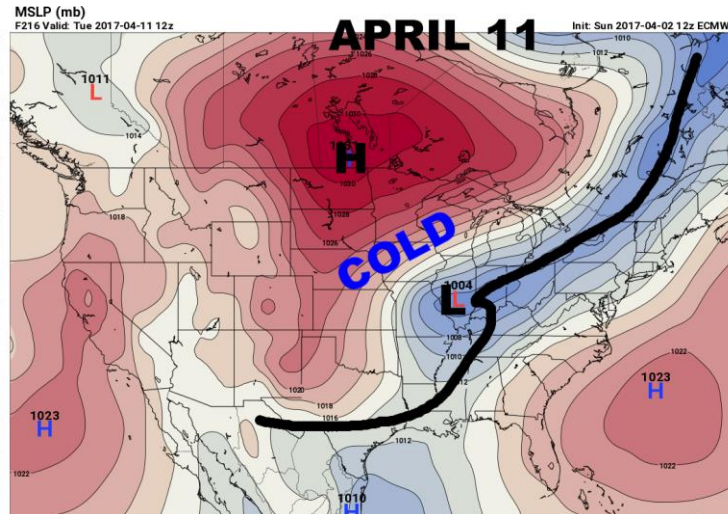
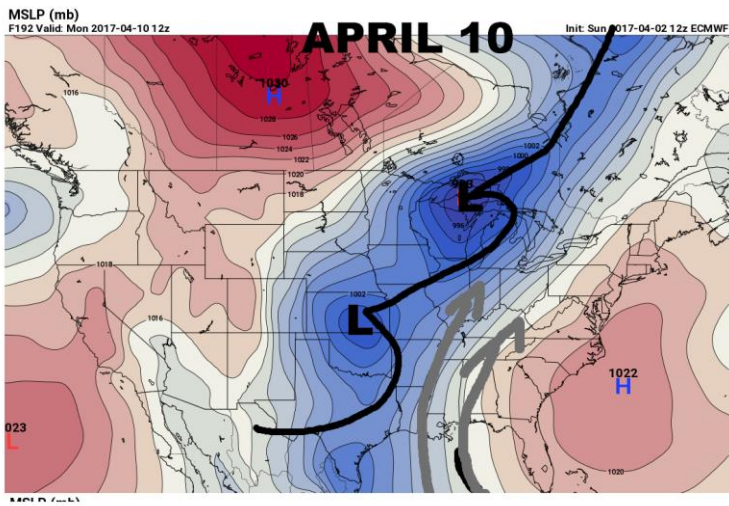
StormVistaWxModels.com

Init: 12z Sun 02 Apr 2017
2017-04-02-15:56

. The first half of the weak to forecast which consists of the 6-10 day shows areas of moderate to significant rain across the heart of the Midwest. The European model also has significant rain portion of the Delta. The GFS has heavier more concentrated rain but the coverage is not nearly as wide spread across the Midwest

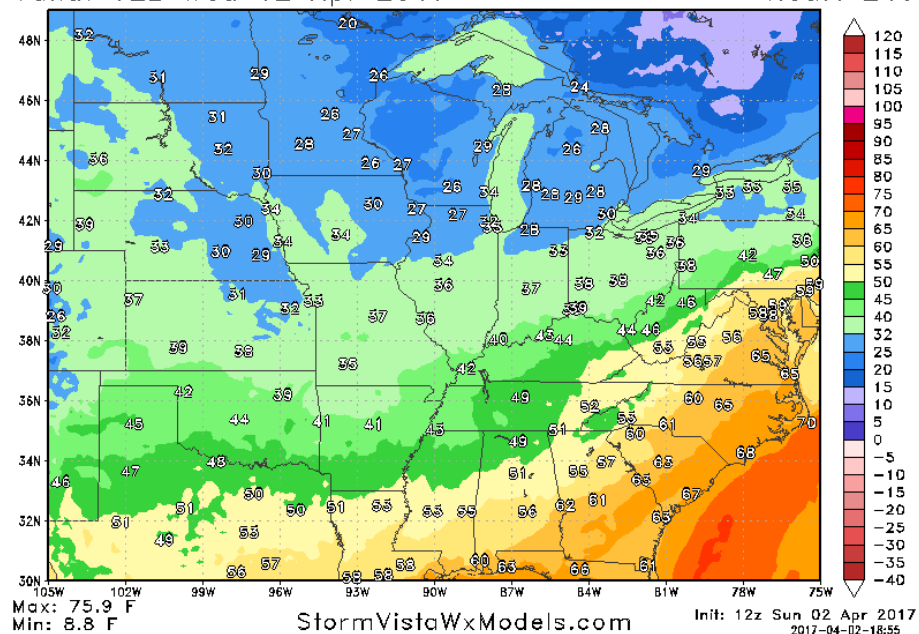


These two service map show what the European model is depicting for April 10 and 11th. Notice the slow moving areas of LOW w pressure across the stalled cold front over the central / lower Plains and the heart of the Midwest.



2 m Temperature (F)
Valid: 12z Wed 12 Apr 2017

ECMWF-MAXRES
Hour: 240

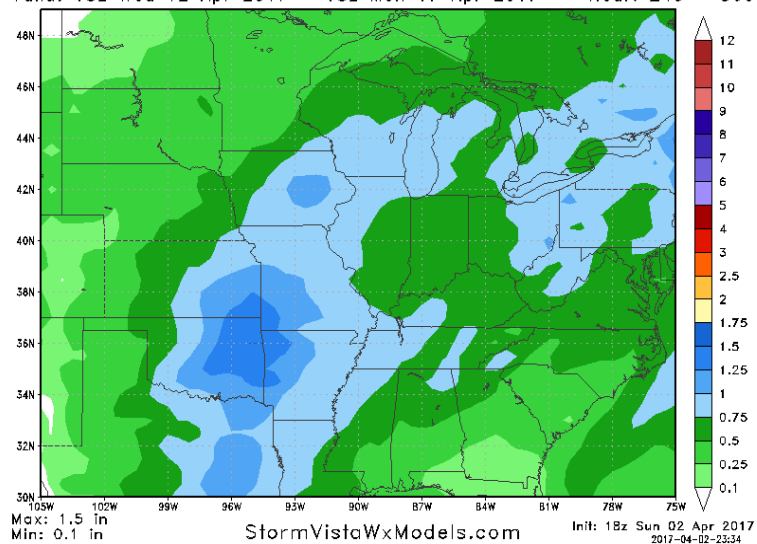


This image here shows the current cold air currently being forecasted by the European model moving into the central/ upper plains and WCB areas by April 11 and 12

If you take a look at the back end of the weak to forecast -- 11-15 day we can see that the overall pattern remains active and fairly wet.

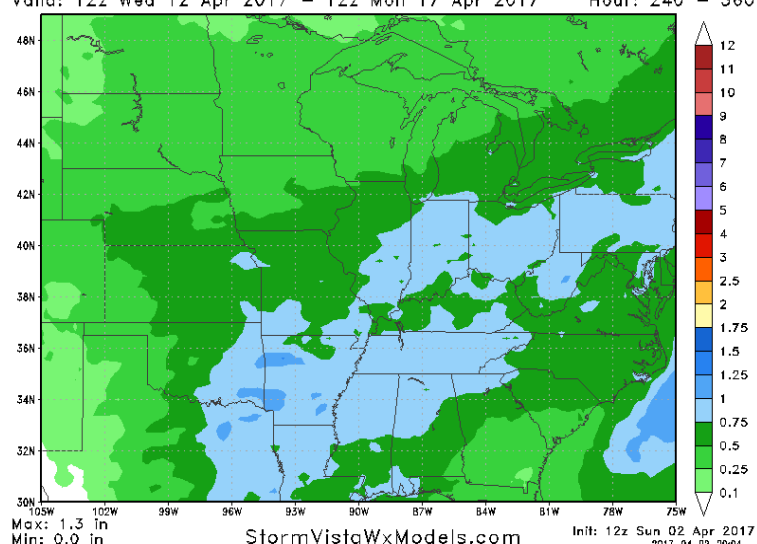
120 Hour Total Precipitation (in)
Valid: 18z Wed 12 Apr 2017 - 18z Mon 17 Apr 2017

GFS-ENS-MAXRES
Hour: 240 - 360



120 Hour Total Precipitation (in)
Valid: 12z Wed 12 Apr 2017 - 12z Mon 17 Apr 2017

ECMWF-EPS-MAXRES
Hour: 240 - 360



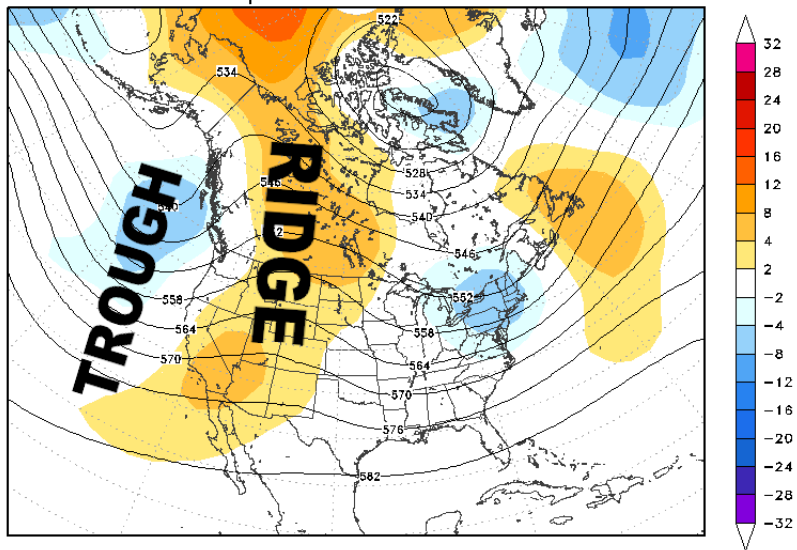
LOOKING AT WEEK 3 APRIL 16-22

Finally if we take a look of the week three forecasts based upon the extended European model ...we see that there may be a break in the overall wet pattern sometime around April 16 -20. The weather models are moving the strong ridge from the West Coast and Rockies into the Plains during this timeframe. If this is correct it would shut off the supply of moisture and allow the Plains / Midwest to dry out. Of course we also have another deep trough moving in from the eastern Pacific and if this feature reaches the Plains and the Midwest... it would bring about a new round of above normal rainfall and below normal temperatures probably after April 21

The RIDGE over Rockies shuts off Stormy pattern for Plains/ Delta/ Midwest for week 3 WET

500 mb Height Anomaly (dm)
Valid: 12z Sat 15 Apr 2017

ECMWF-EPS
Hour: 312



GRADS: COLA/IGES

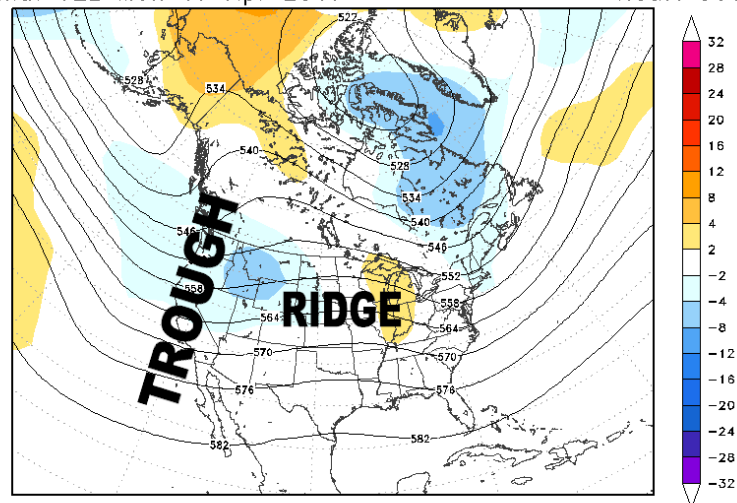
StormVistaWxModels.com

Init: 12z Sun 02 Apr 2017
2017-04-02-15:52

The RIDGE over the Plains Midwest = WEEK 3 DRIER. but New big trough over West coast is coming east--implies week 4 WET for Plains Midwest

500 mb Height Anomaly (dm)
Valid: 12z Mon 17 Apr 2017

ECMWF-EPS
Hour: 360



GRADS: COLA/IGES

StormVistaWxModels.com

Init: 12z Sun 02 Apr 2017
2017-04-02-16:00

DT wxrisk.com OFFICE 804 715 8330 CELL 804 307 8070