

WINTER WHEAT GRAIN WEATHER USA / UKRAINE RUSSIA / EAST CENTRAL CHINA **10/23/17 OVERVIEW**

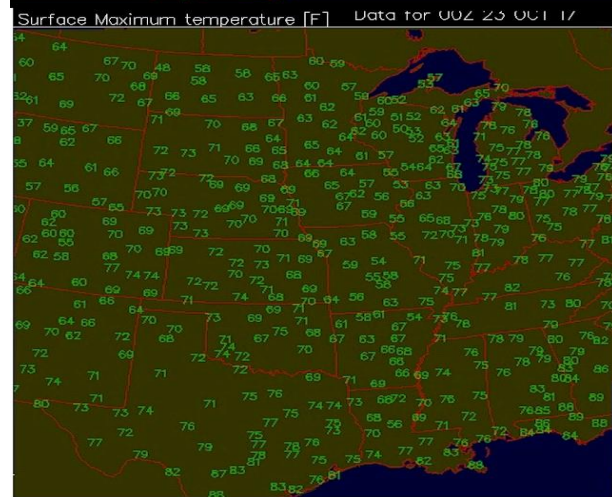
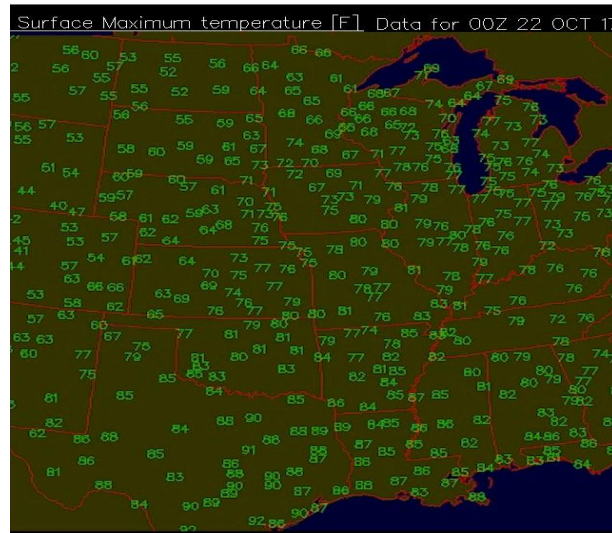
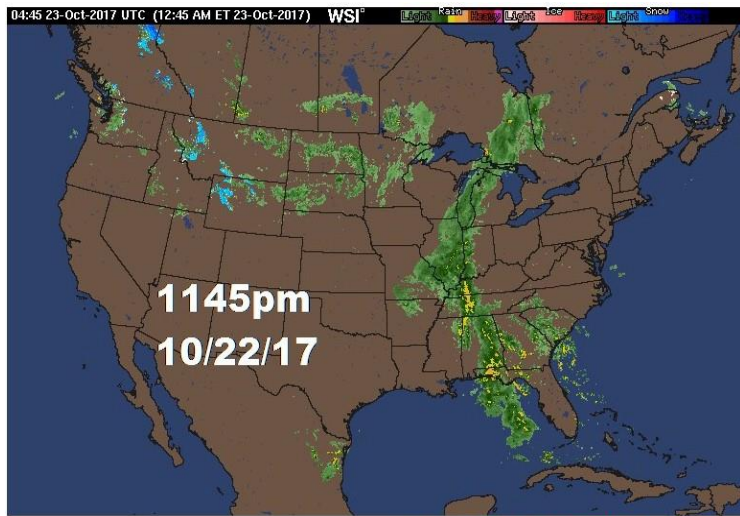
SUMMARY

As you will see I am transitioning from just US Grain weather to U.S. Grain / Harvest weather into Winter wheat in the USA and beginning to focus now on the Ukraine and southwest Russia winter wheat areas and China winter wheat areas. In particular there I am focusing on Ukraine and southwest Russia because of the dry conditions that those areas have been experiencing over the past 60 to 90 days and the developing crop stress conditions which are worsening in that area of the world.

For the U.S. the significant rains over the eastern third of the country and to take over the ECB will continue for couple more days. The pattern is turning colder finally with a series a deep troughs moving into the Midwest and the East Coast which will take us into the first week of November with many areas saying below normal temperatures. This also be a dry pattern especially for the plains the WCB with no significant rain events were snow events showing up in those areas for the next two weeks

RADAR AND 21 OCT AND 22 OCT

The radar from the Sunday night and on Monday morning continues to show significant rains over much of the Southeastern states as well as the ECB. There are some scattered light rain showers over portions of the Dakotas and Minnesota Sunday night which have dissipated Monday morning. Temperatures on Saturday and Sunday were mild for this time of year with many areas and the Midwest central and lower Plains into the 70s

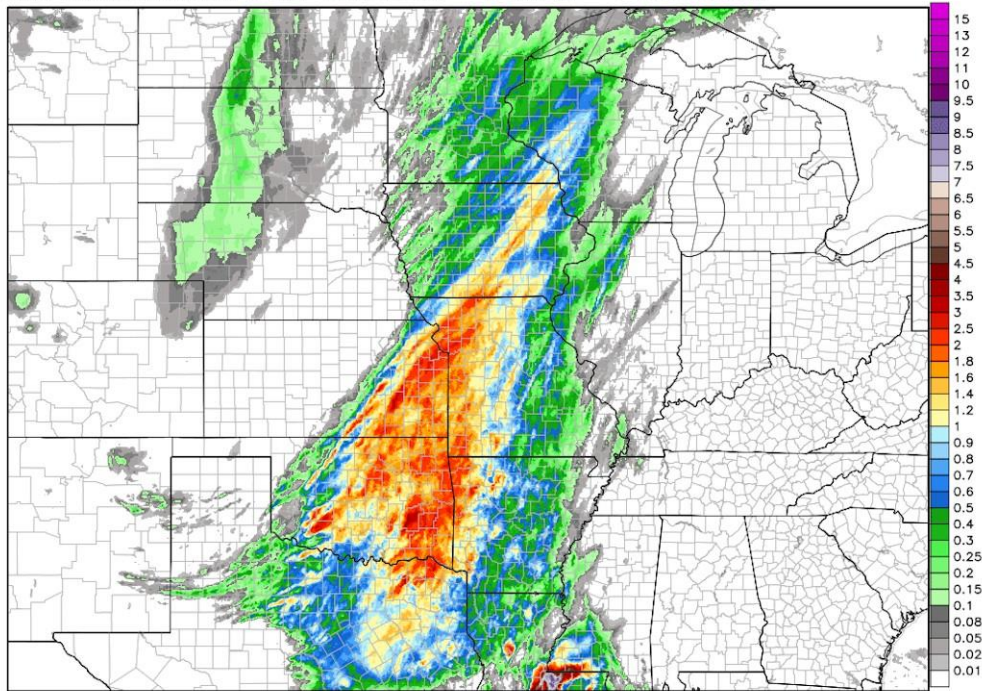


RAINFALL 10/21-17- 10/22/17 ending 0700 cdt - 10/22/17 - 10/23/17 ending 0700 CDT

Rainfall the past two days was also fairly significant. On Friday into Saturday there was a solid area of 1.0-2.5"/ 25-60mm over southeast 25% of KS ... central and eastern OK ...northeast TX... far western 25% of ARK ... western half of MO... into southwest IA... and 0.25-1.0"/ 6-25mm over western and eastern IA ... eastern third of MN ... western third of WI ...and central ARK.

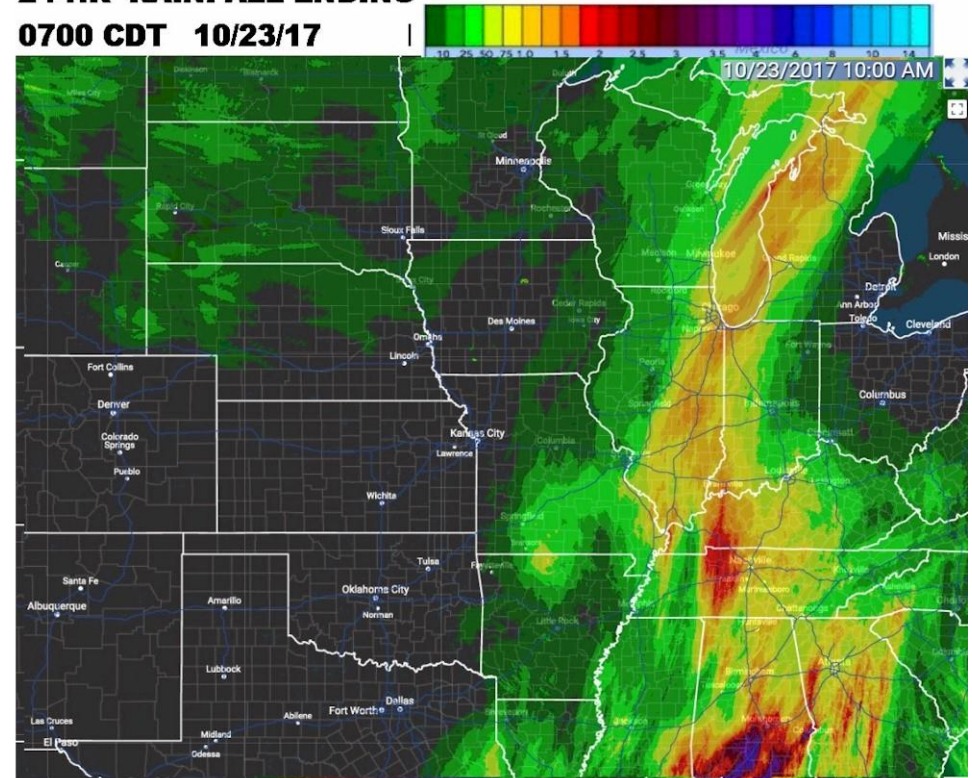
Rainfall Sunday into Monday was concentrated mostly over the central Gulf coast states and into the ECB. Rainfall amounts of 2-4"/ 50-100mm were common over southern AL ... and 1-2"/ 25-50mm over western GA into central AL western and central KY .. into eastern third of ILL ...western IND and western MI.

NWS Precipitation Analysis 4-km HRAP Grid -- 1-day Total Accumulation
Total Precipitation [inches] 1 days 12Z21OCT2017 --> through --> 12Z22OCT2017 Domain Max: 10.0 in.



4 km HRAP grid | End of hydrological day at 1200 UTC | <http://water.weather.gov/precip>

24 HR RAINFALL ENDING 0700 CDT 10/23/17

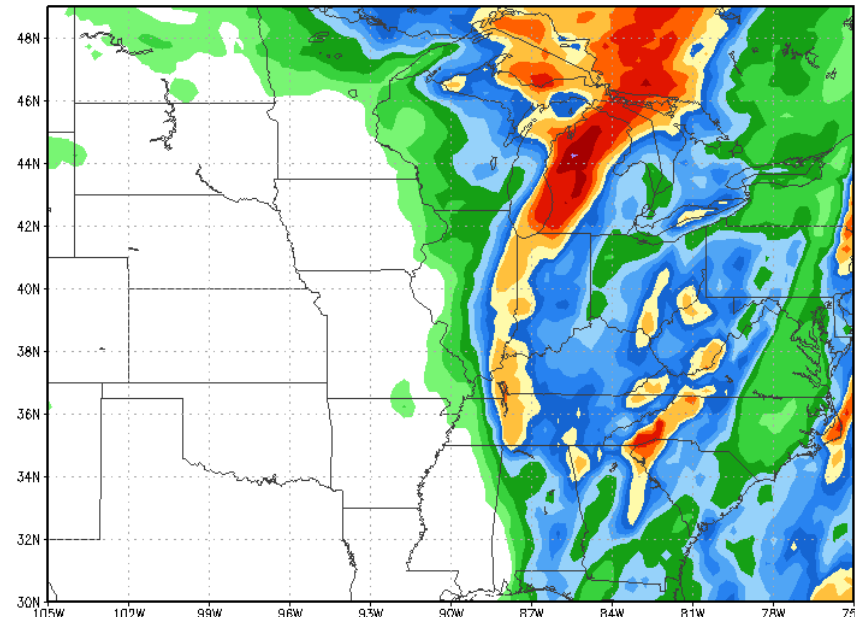


1-5 DAY

The upper air map (not shown) has one trough in the jet stream moving through the Midwest and into the Tennessee Valley and it is this trough and surface cold front which is causing the significant rain, thunderstorms, and outbreaks of severe weather over portions of the Deep South, Tennessee, and Kentucky. This trough is going to be reinforced by a stronger, deeper trough by the end of the week as it moves into the East Coast. Until that happens, we will continue to see areas of moderate to heavy rain over much of the Southeastern states...the Tennessee Valley...a good portion of the ECB and the central and eastern portions of the Great Lakes. As you can see, the WCB...all the plains...as well as the Delta region stays dry over the next five days.

120 Hour Total Precipitation (in)

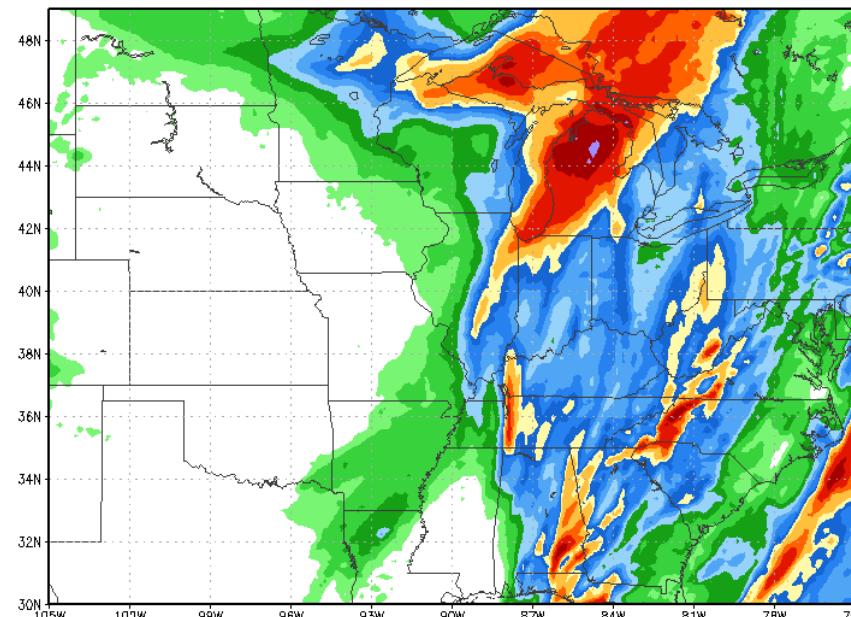
Valid: 00z Mon 23 Oct 2017 - 00z Sat 28 Oct 2017



Max: 5.2 in
Min: 0.0 in
StormVistaWxModels.com

GFS-MAXRES 120 Hour Total Precipitation (in)

Hour: 0 - 120 Valid: 00z Mon 23 Oct 2017 - 00z Sat 28 Oct 2017

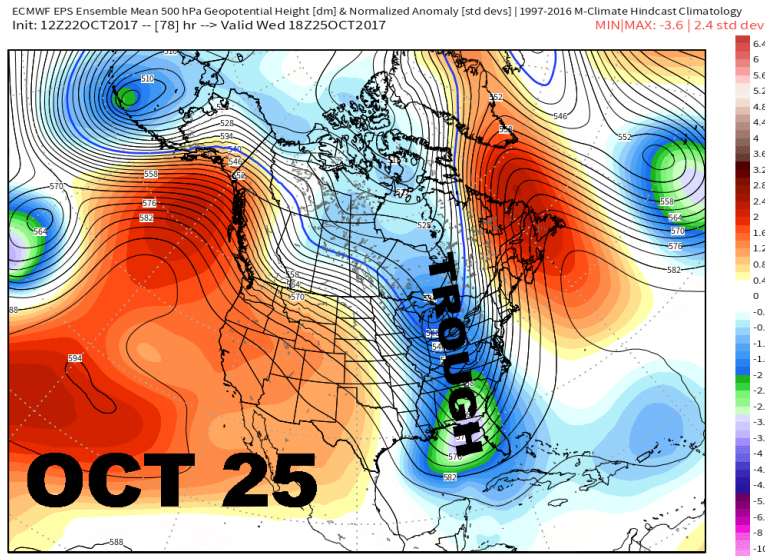


Max: 5.3 in
Min: 0.0 in
StormVistaWxModels.com

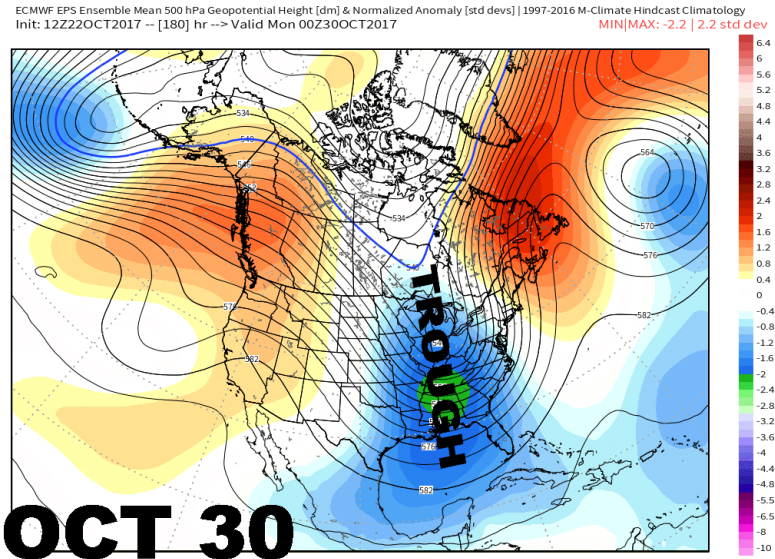
6-10 DAY

This image shows the troughs moving through the eastern US over the next several days. The image on the LEFT is valid Wednesday 10/25 while the image on the RIGHT is valid the next Monday, 10/30/17. You can see the mean trough remains locked in position over the

Midwest and the East Coast although these are not the same features. When the trough on October 25 weakens and leaves the next trough... a much stringer one..comes in so the pattern remains locked in place.

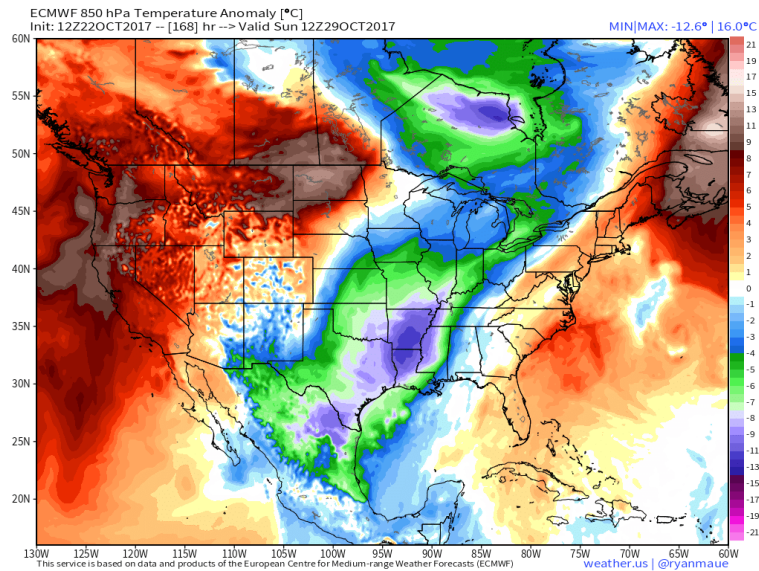
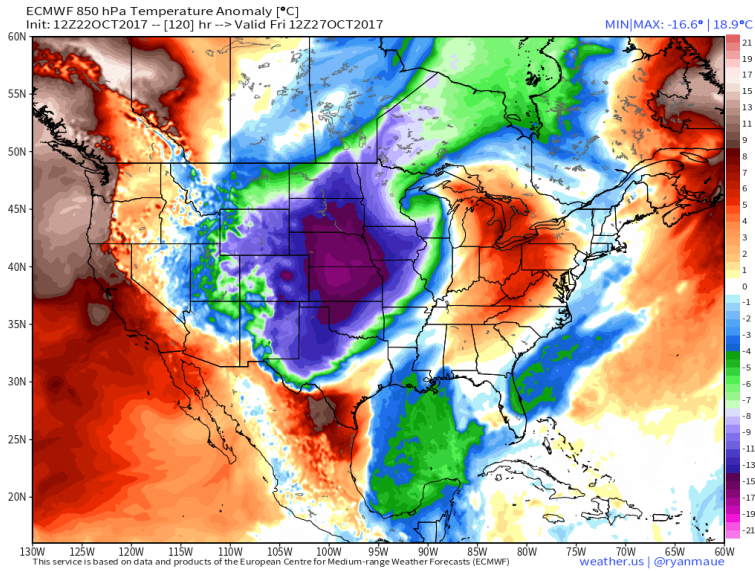


This service is based on data and products of the European Centre for Medium-range Weather Forecasts (ECMWF) [@ryanmaue](https://weather.us)

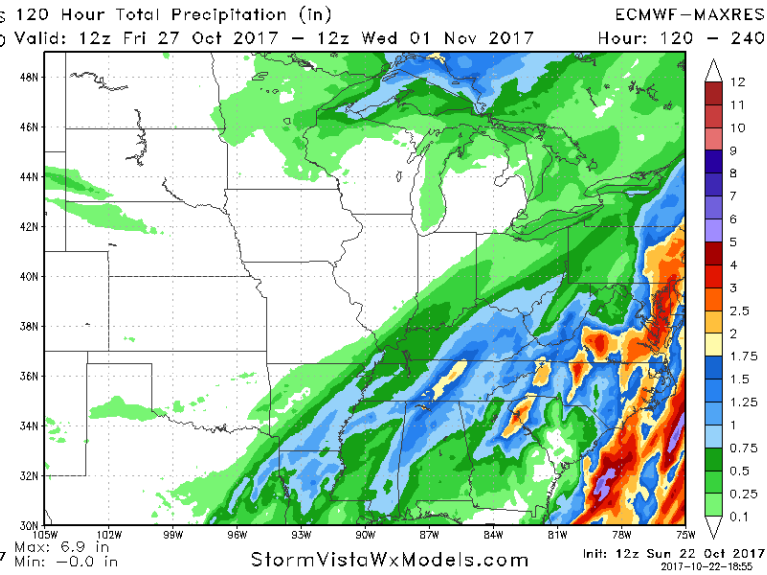
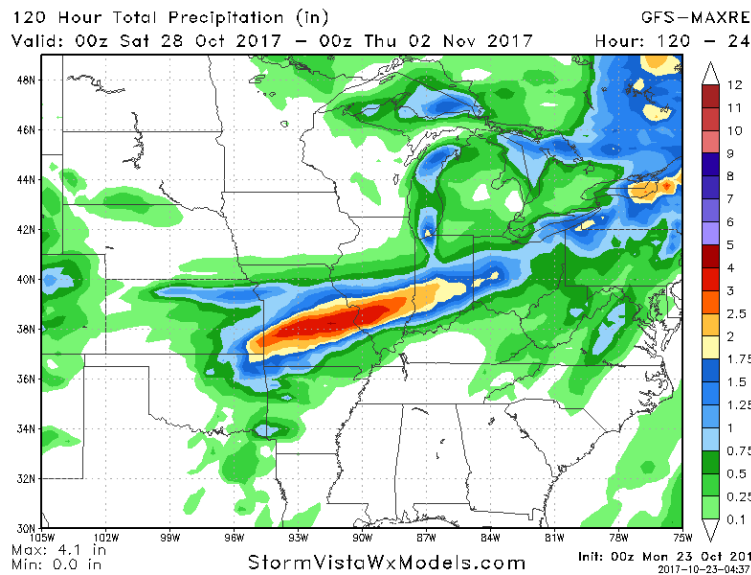


This service is based on data and products of the European Centre for Medium-range Weather Forecasts (ECMWF) [@ryanmaue](https://weather.us)

In particular we can see the temperatures at 850mb or 1 mile above the ground. Again the image on the LEFT valid 10/25 shows the impressively cold air coming in over the Rockies and central and northern plains... while the image on the right shows the same air mass several days later moving into the heart of the Midwest and the Delta region

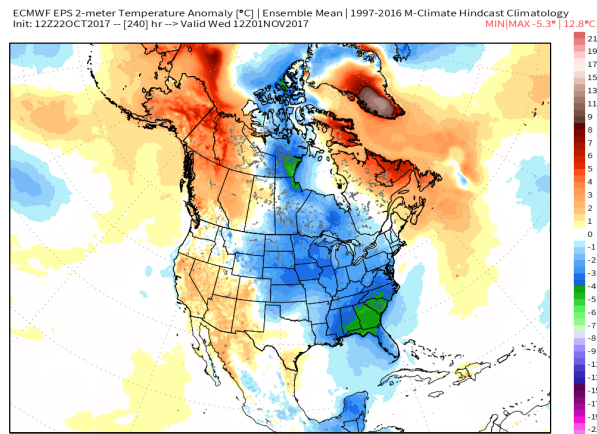
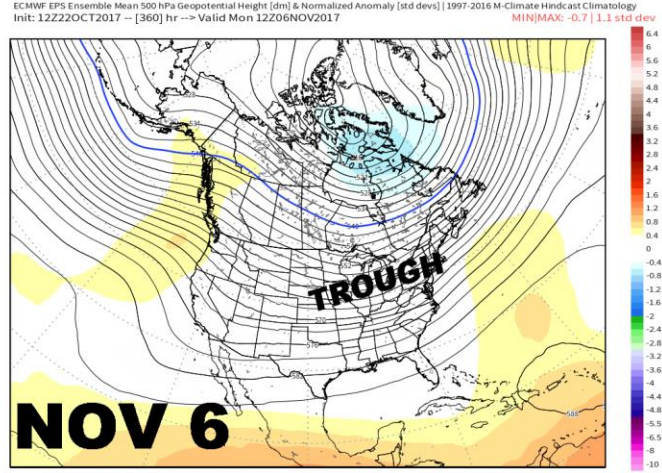
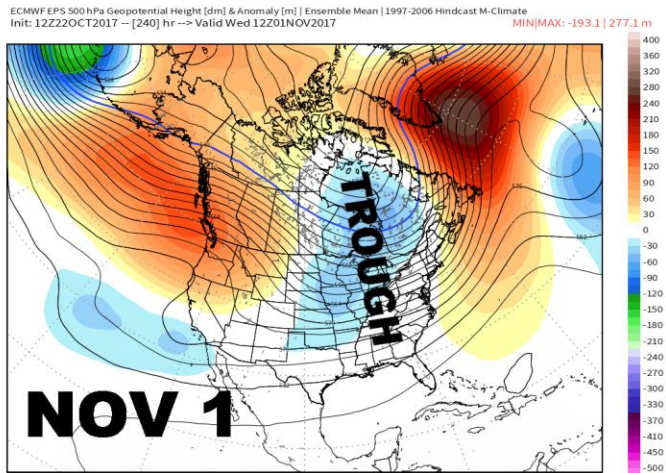


This second cold front is likely bring about another round of moderate and possibly significant rain over small portions of the Midwest. The GFS model has this rain hitting Central Missouri and Southern Illinois and Southern Indiana while the European has is rains centered more over Tennessee Kentucky Alabama Mississippi and Arkansas.



11-15 DAY

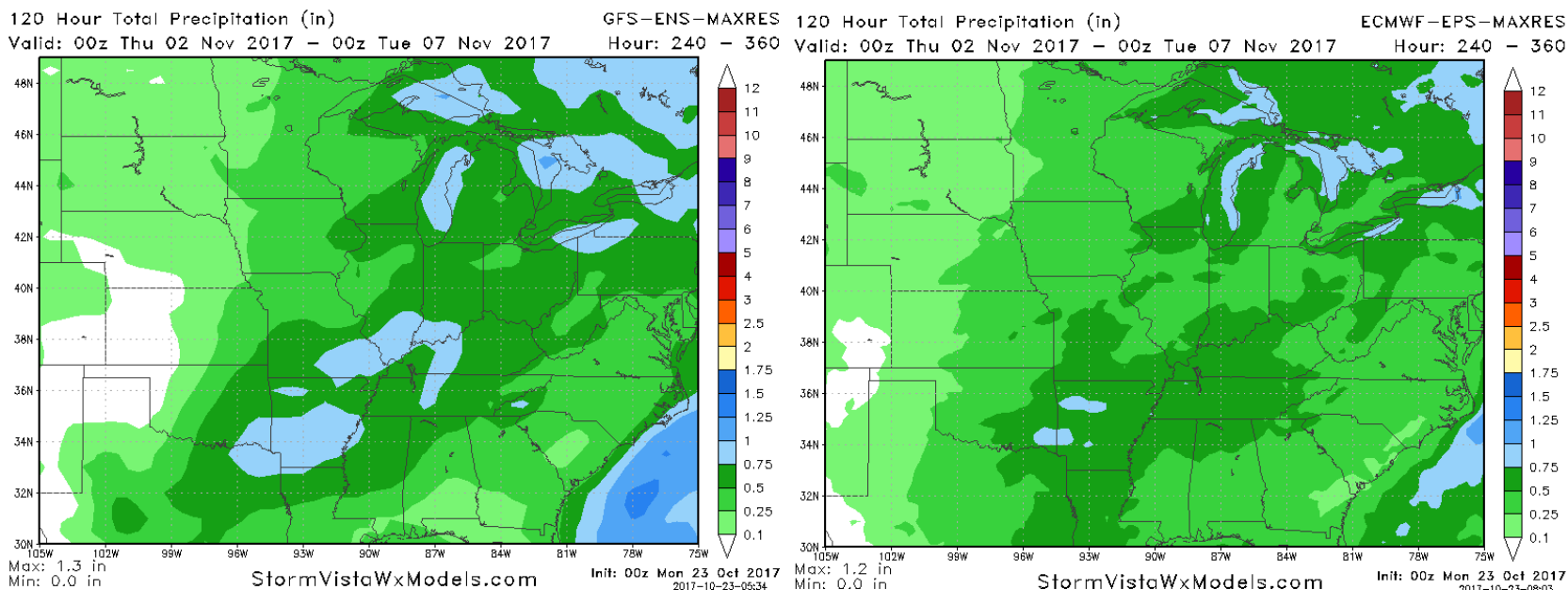
In the 11 to 15 DAY the pattern doesn't change much. On November 1 the deep mean trough remains in position over the Midwest and the eastern third of the country with a strong blocking ridge over southern Greenland VOL the trough and weakens a somewhat is still quite noticeable as of them are six and this implies that much of the plains the Midwest and eventually the East Coast will see a chilly start for the month of November .



This service is based on data and products of the European Centre for Medium-range Weather Forecasts (ECMWF)

This image shows the surface temperature anomalies for the 11 to 15 day and as you can see most of Midwest and the deep south with a pretty colder than normal

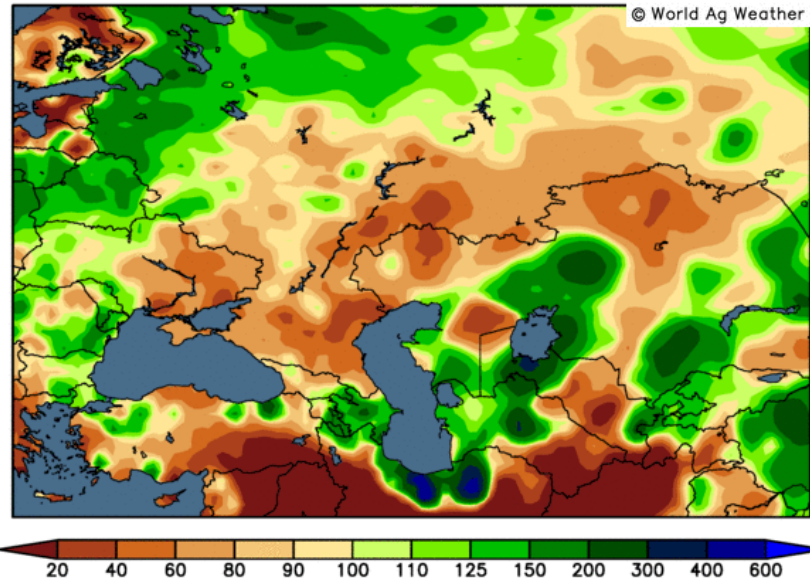
In the 11 to 15 day rainfall maps we do see we turn to some rain moisture over the upper Delta and the Tennessee Valley. The GFS also has some rain getting into the ECB and the European is trending this one as well.



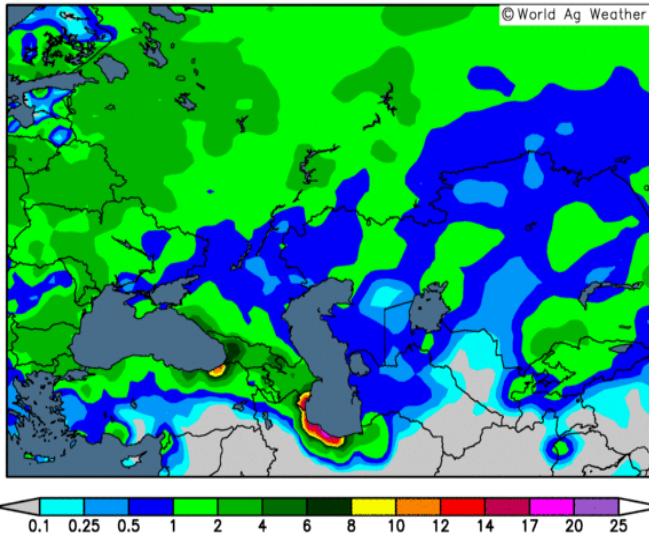
UKRAINE WESTERN RUSSIA

The winter wheat season in the Ukraine and southwest Russia is off to a difficult start. Rainfall been Below Normal and/ or Much Below Normal over large portions of the central and eastern Ukraine the SOUTHERN district and most of the VOLGA district into western Kazakhstan . This is been the case over the past 90 days and the past 30 days... although there has been some minor improvement over the last 14 days. As yo will see from the various crop stress and drought conditions ...things are not in the best shape going into beginning of the winter wheat season and could become a problem if the weather pattern does not develop into a more favorable situation.

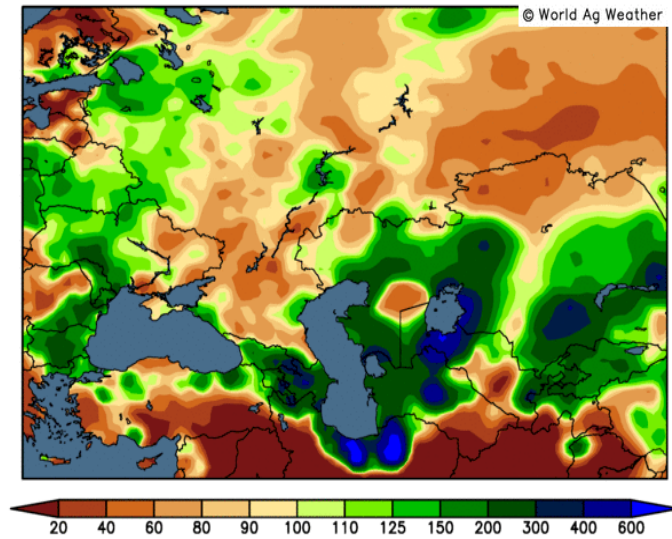
90-day Precipitation Analysis
Percent of normal through 12 UTC 21 Oct 2017



30-day Precipitation Analysis
Observed precipitation (inches) through 12 UTC 21 Oct 2017

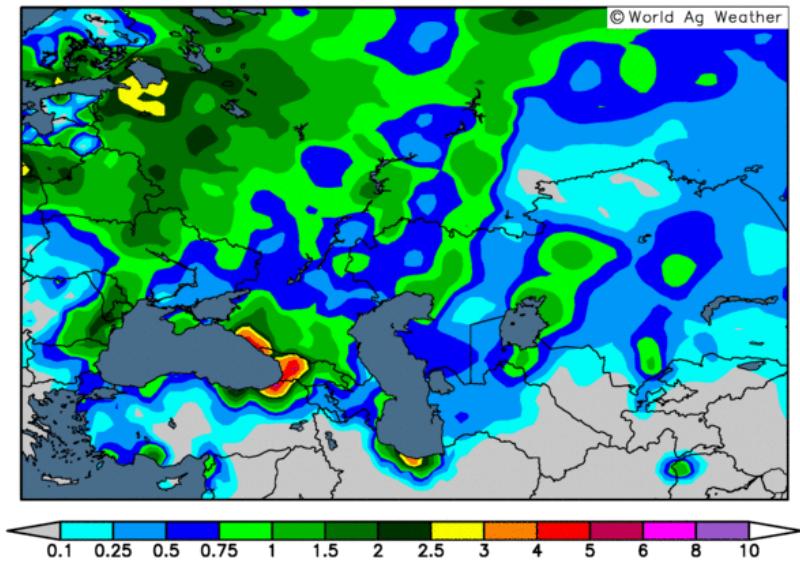


30-day Precipitation Analysis
Percent of normal through 12 UTC 21 Oct 2017



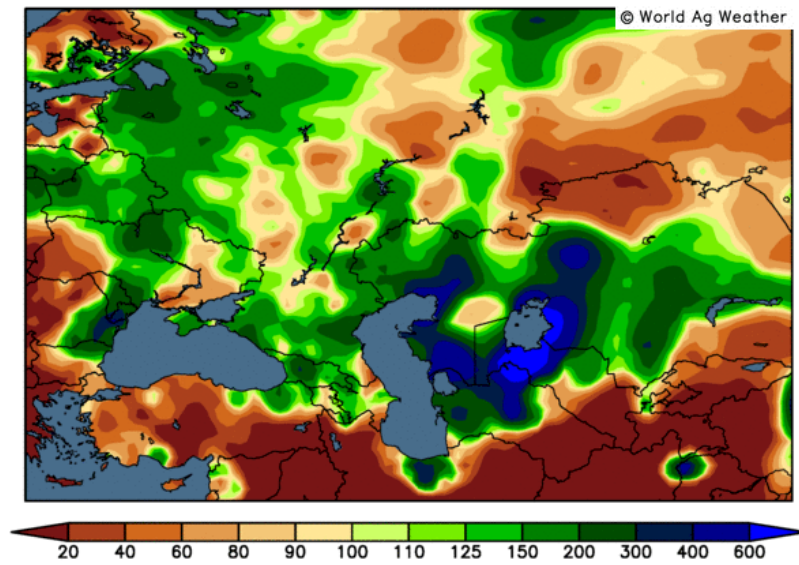
14-day Precipitation Analysis

Observed precipitation (inches) through 12 UTC 21 Oct 2017



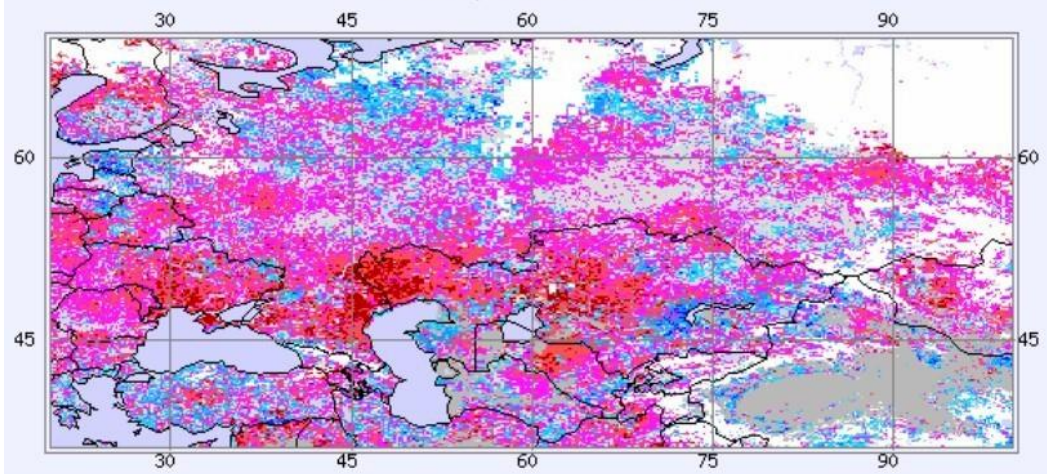
14-day Precipitation Analysis

Percent of normal through 12 UTC 21 Oct 2017



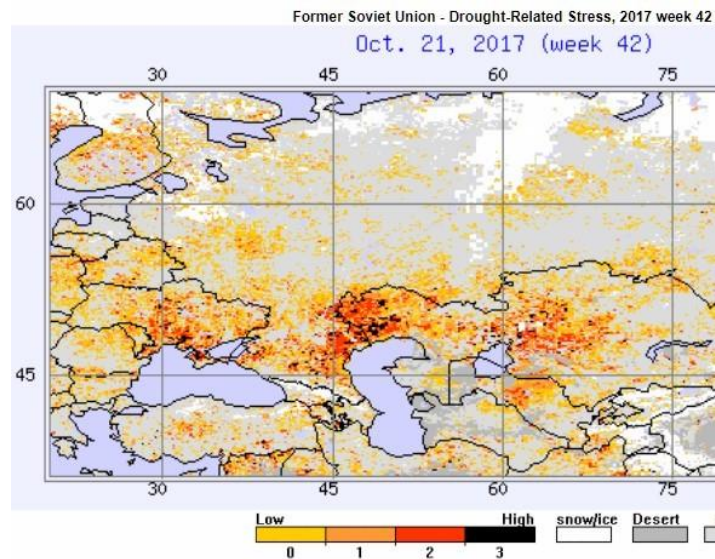
Former Soviet Union - Stressed And Healthy Vegetation, 2017 week 42

Oct. 21, 2017 (week 42)

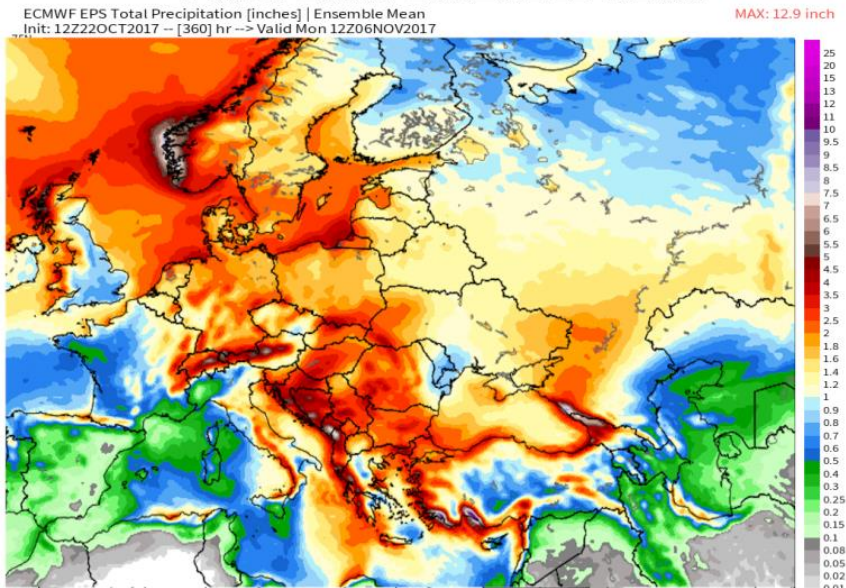


This image on the LEFT shows the Vegetative Stress Health index and as you can see much of Western Kazakhstan are on the Caspian Sea th th as well as the southern district and the eastern portions of the Ukraine are in significant crop stress because of lack of rain. This is also a problem for the western and central portions of the VOL the district.

Indeed if we compare this to last week's will see conditions at worsened significantly all these areas but a specially over the southern district and Western Kazakhstan.

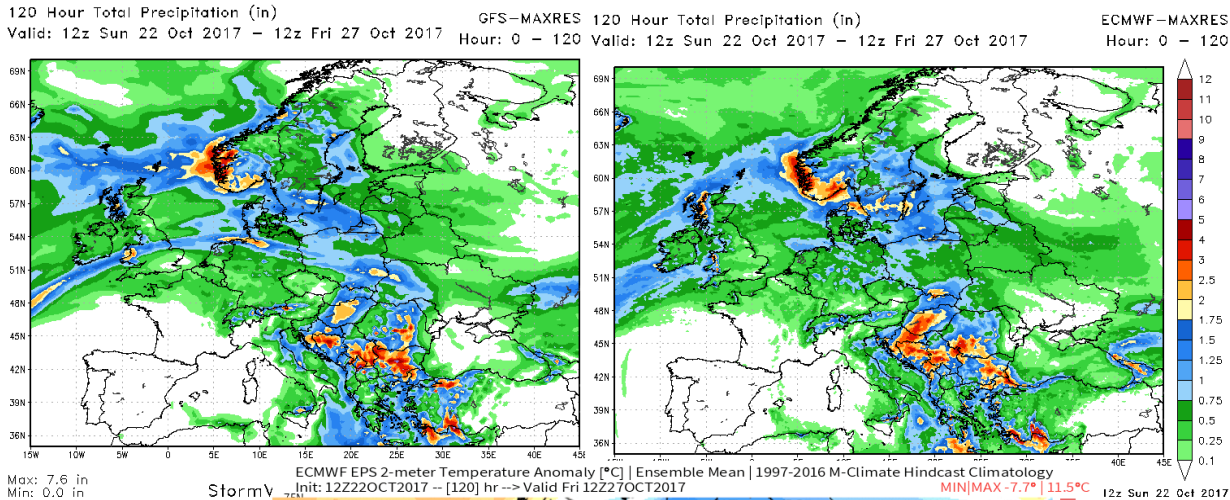


RAINFALL NEXT 15 DAYS FROM EURO ENSEMBLE MEAN



Things don't look to be improving much all the next 15 days. A series of major troughs moving through western and central Europe but these troughs will generally slide to the north of the Ukraine and western Russia as they come eastward. This image shows the total rainfall from the European ensemble for next 15 days as you can see there's going to be significant rain over Germany Poland much of the southeastern European area but that is not the case for the winter we areas. The Western Ukraine looks pretty dry while the Eastern Ukraine and the northern portions of the southern district will see up to about 1.5 inches all the next 15 days. As better than nothing but it's not significant rain and as you can see Northern Kazakhstan and the western portions of the VOL the district look pretty dry.

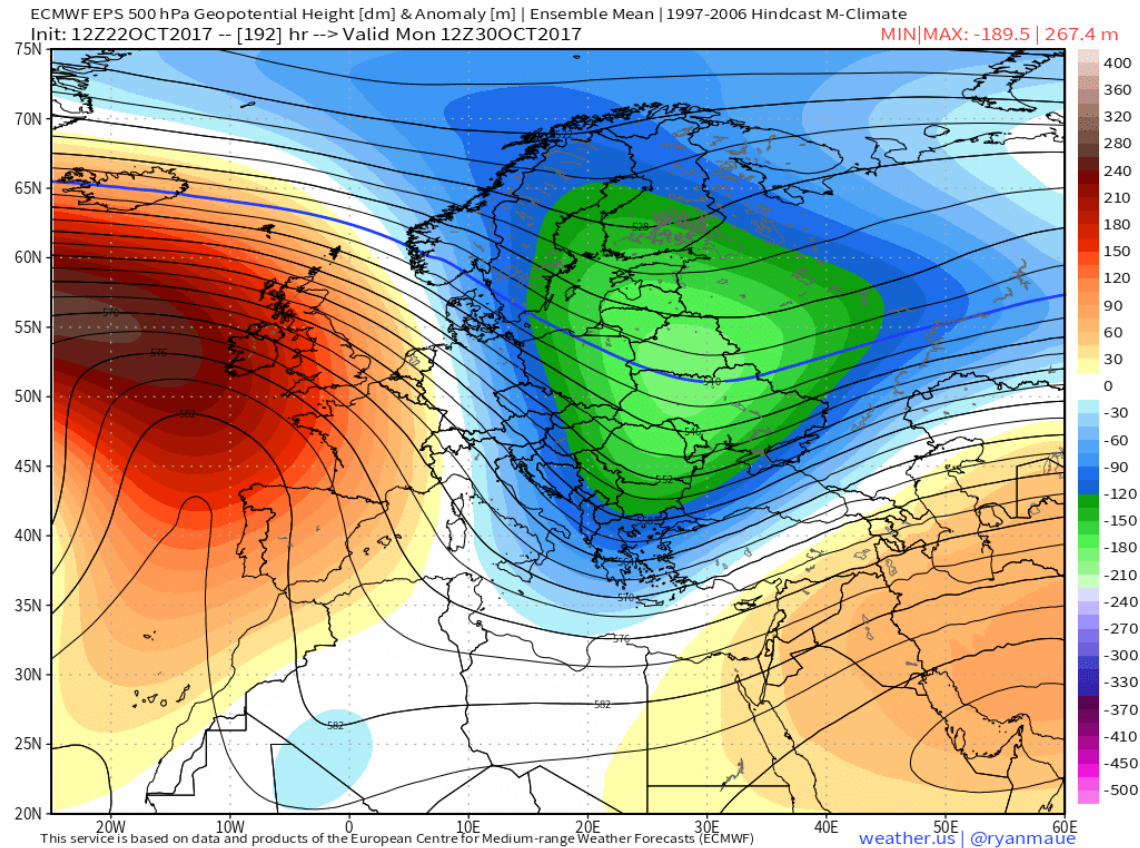
1-5 DAY



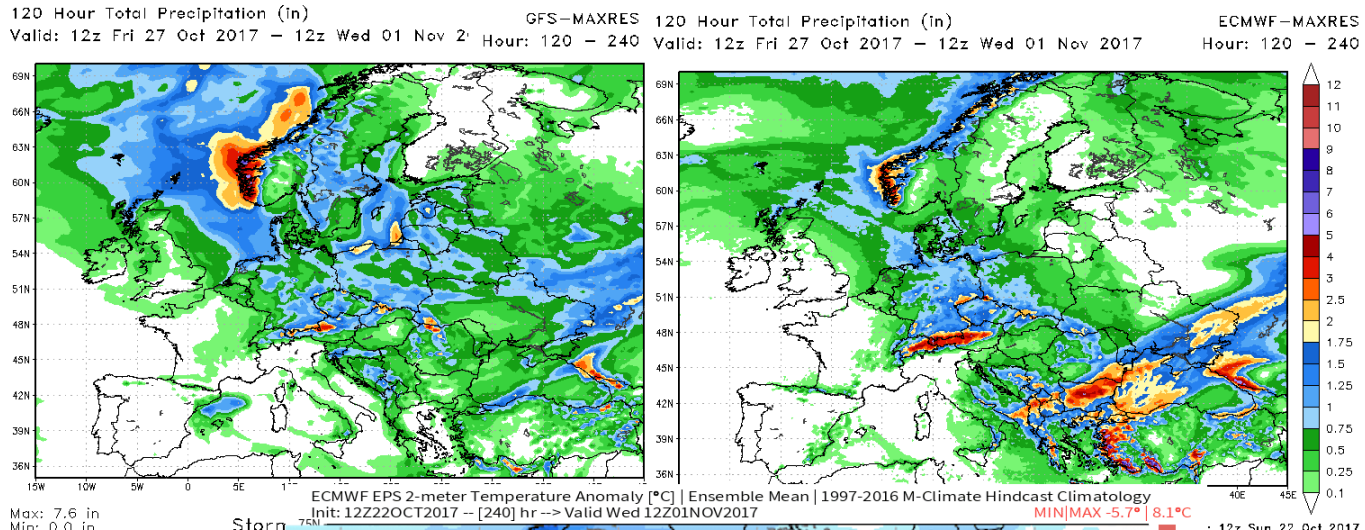
Looking at this in more detail we can see all the next 5 days not much rain falls over the Ukraine the SOUTHERN district or the western Volga District. Most of the rain next 5 e days appears to fall over the Balkans and across northern Germany ...Poland ...and the Baltic region. As you can see temperatures are generally below normal over much of central Russia into the VOLGA district and western Kazakhstan.

6 - 10 DAY

in the 6-10 DAY the dark green area represents a deep trough relative to normal. This is located mostly over Belarus and eastern Europe and the northern Ukraine. This is a bit too far to the north to help the Ukraine ... Southwest Russia regions or western Kazakhstan and the VOLGA district. This trough at the surface will have a fairly strong area of LOW pressure which will bring some rain to eastern Europe but it looks like most of this rain will miss the Ukraine and the SOUTHERN district of western Russia.



looking 6-10 DAY European model ,... we can see it has a bit more rain over eastern Ukraine and into the SOUTHERN district than the GFS does. Both models show anywhere from 0.50-1.5"/ 12-38mm but the European model shows a few areas of 2"/ 50mm rains in the SOUTHERN district. Notice that temperatures continue to run even normal or below normal over all areas in the winter wheat areas Ukraine and Western Russia ..and for all of central and eastern Europe for that matter

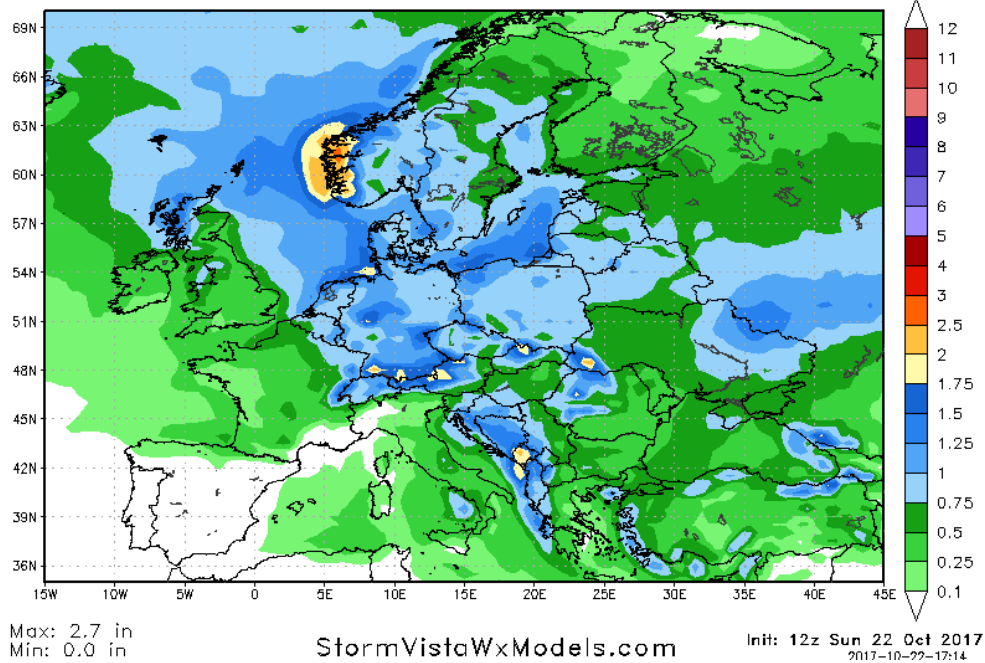


Interesting the ensembles in the 6-10DAY do show some moderate rains in both the GFS and the European for the eastern half of Ukraine ...portions of the SOUTHERN district and southwest VOLGA district. Rainfall amounts here look to be generally in the 05-1.5 "/>

12-38mm with good coverage of 60 to 70

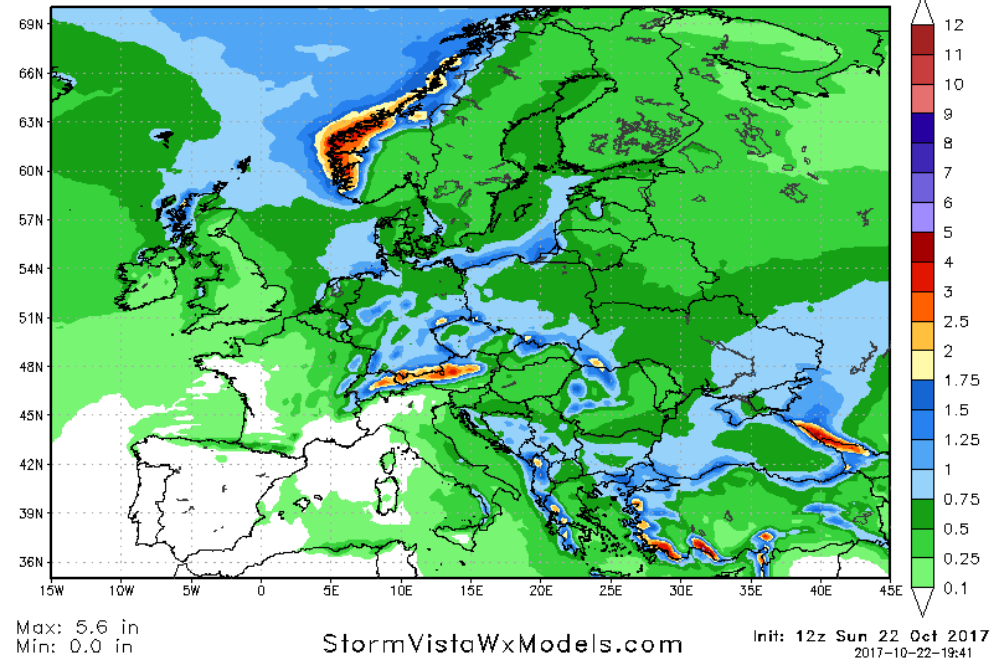
120 Hour Total Precipitation (in)
Valid: 12z Fri 27 Oct 2017 - 12z Wed 01 Nov 2017

GFS-ENS-MAXRES
Hour: 120 - 240



120 Hour Total Precipitation (in)
Valid: 12z Fri 27 Oct 2017 - 12z Wed 01 Nov 2017

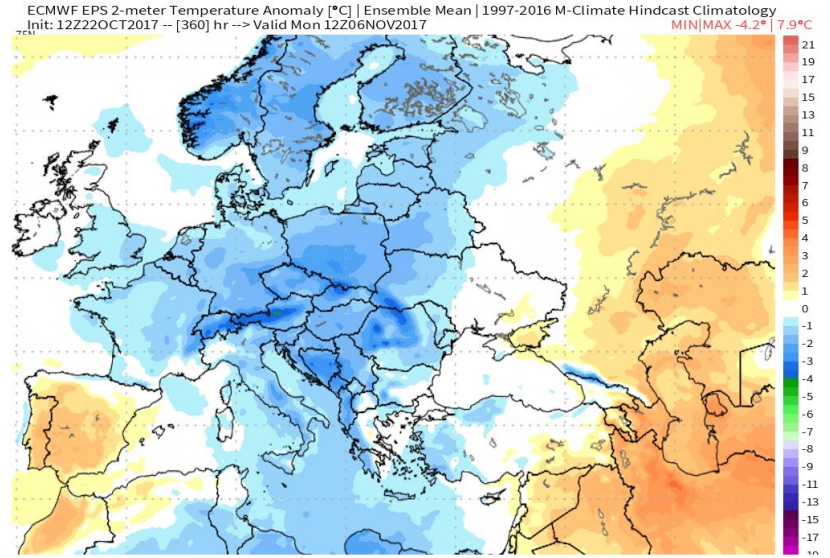
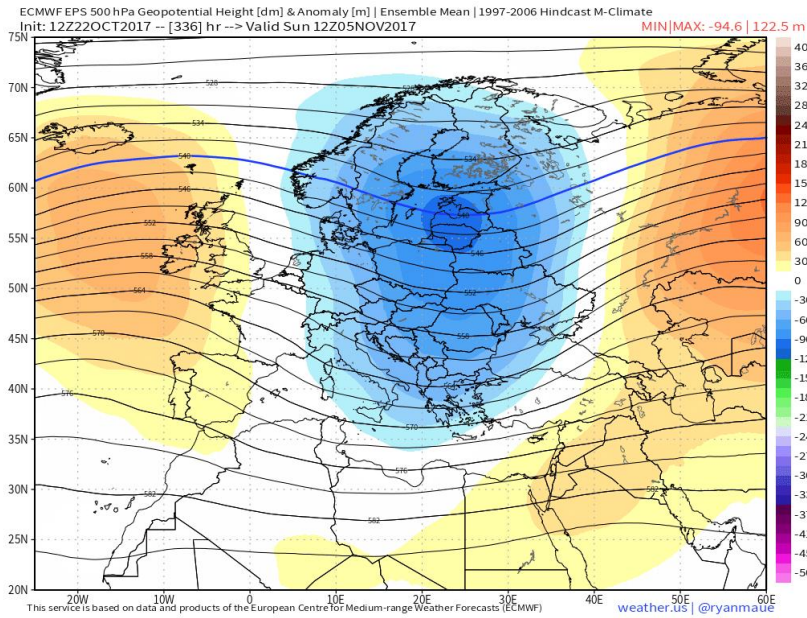
ECMWF-EPS-MAXRES
Hour: 120 - 240



11 - 15 DAY

The cool pattern comes to an end with the development of a moderately strong trough over central and eastern EUROPE . This ends up producing a ridge over the VOLGA district in Kazakhstan and brings about somewhat warmer temperatures to those areas. Having the trough over central and northern EUROPE will keep temperatures over most of Europe rather chilly for this time of year and keep the rain over western and central Europe but these rains will not reach in the Ukraine or southwest Russia.

In words these rain showing up on the 6-10 DAY over the Eastern Ukraine the SOUTHERN District and Southern VOLGA better show up -- otherwise things could turn much worse.



120 Hour Total Precipitation (in)

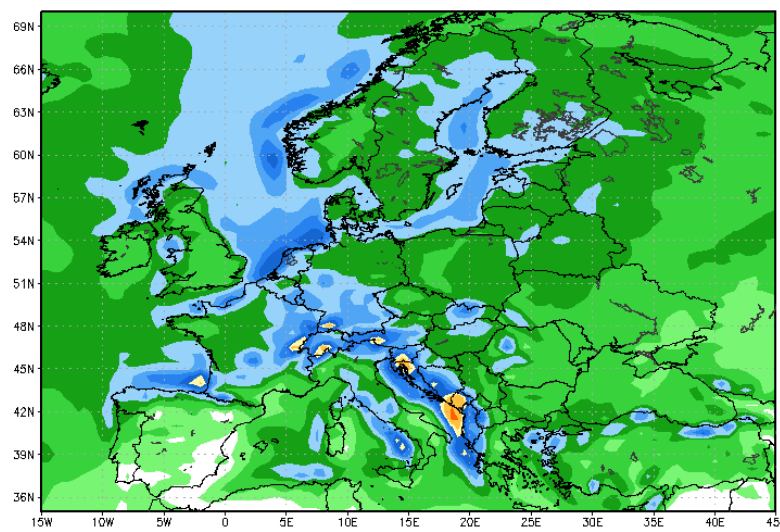
Valid: 12z Wed 01 Nov 2017 - 12z Mon 06 Nov 2017

GFS-ENS-MAXRES 120 Hour Total Precipitation (in)

Hour: 240 - 360 Valid: 12z Wed 01 Nov 2017 - 12z Mon 06 Nov 2017

ECMWF-EPS-MAXRES

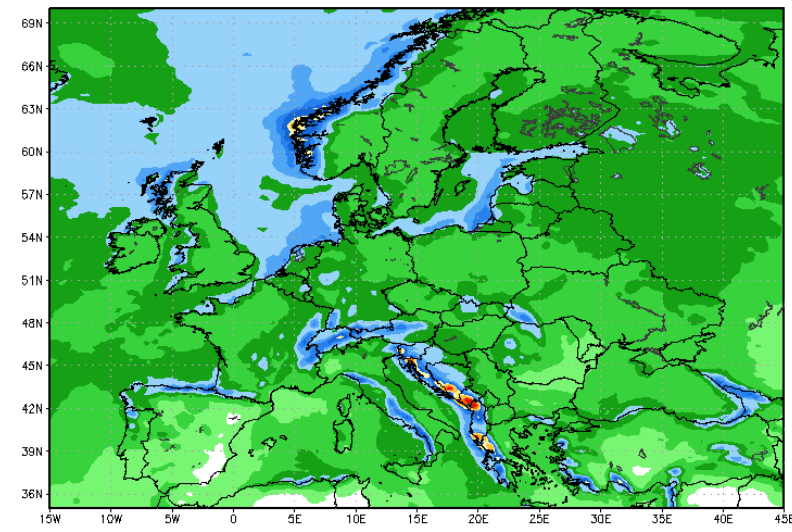
Hour: 240 - 360



Max: 2.6 in
 Min: 0.0 in

StormVistaWxModels.com

Init: 12z Sun 22 Oct 2017
 2017-10-22-17:33



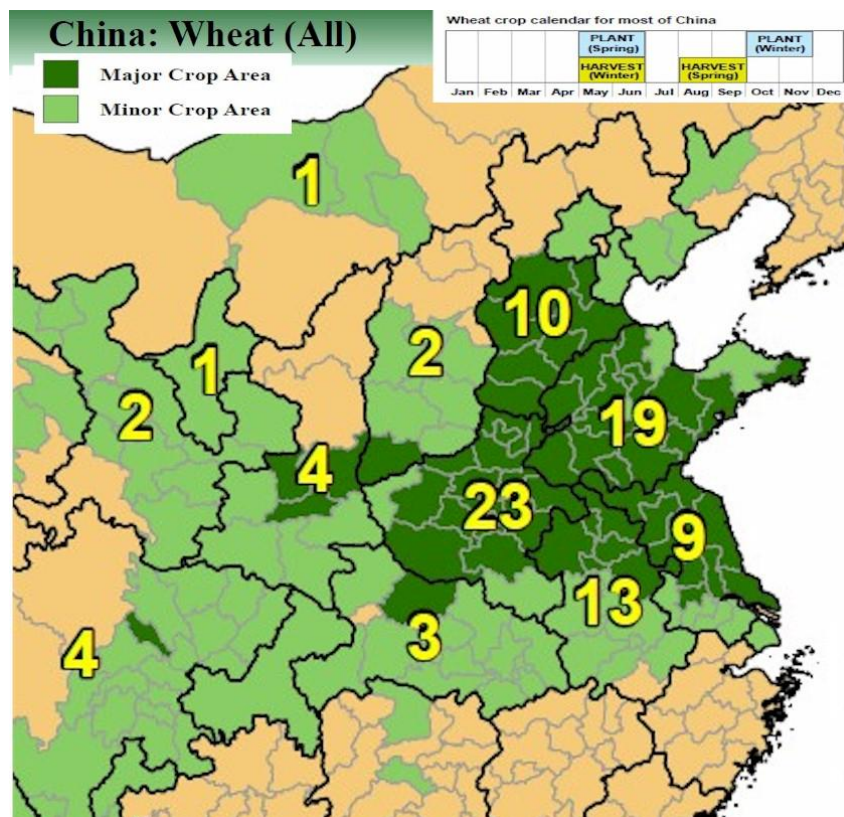
Max: 3.8 in
 Min: 0.0 in

StormVistaWxModels.com

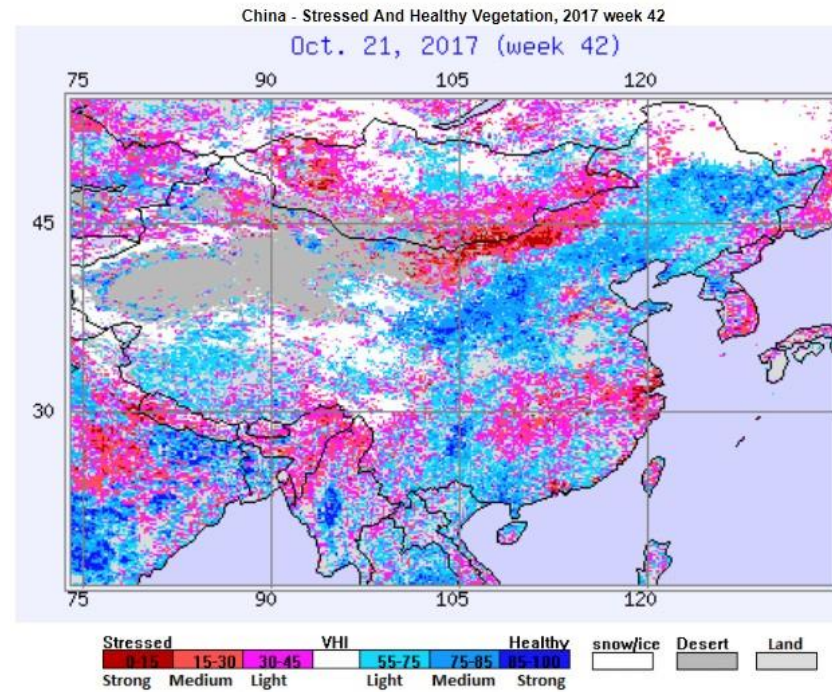
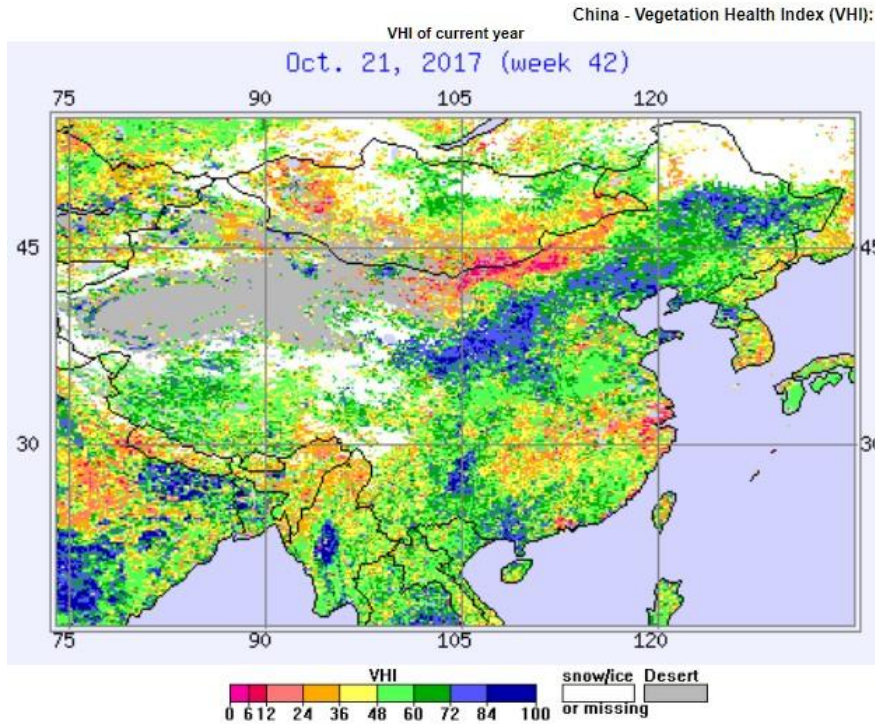
Init: 12z Sun 22 Oct 20
 2017-10-22-20:00

WINTER WHEAT CHINA

As bad as the conditions are in the Ukraine and southwest Russia with respect to the beginning of the winter wheat season.... soil moisture... and stress the opposite is true for most of china's winter we areas. China's season begins with excellent soil moisture conditions over the last 30 and 60 days over all of the North China Plains as well as East Central China into the Yangtze river valley. For those not familiar with the winter wheat areas of China we have presented the winter and wheat map from the Chinese Provinces which produced their winter wheat insignificant amounts.



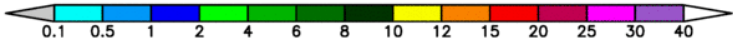
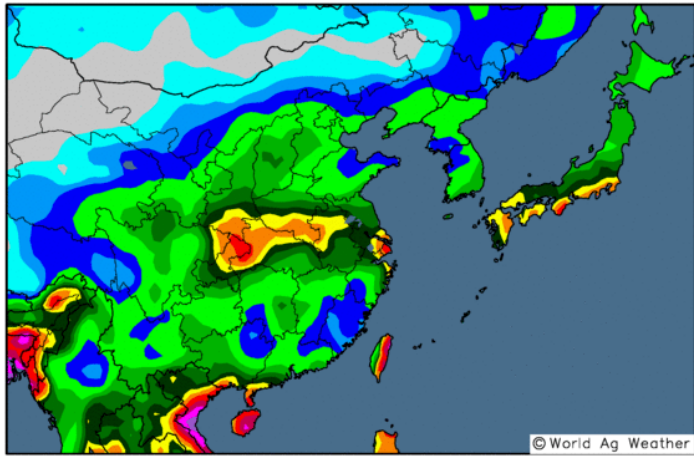
Conditions over most of NCP east central areas look ideal. The vegetative health Index (LEFT) shows pretty good conditions over most of the NCP but conditions are somewhat more stressful along the Yangtze River Valley. We can see this in the stress index image as well (RIGHT) -- note again that the stress appears to show all of the Yangtze Valley but areas north of the Yangtze River are much better condition.



As we stated above as much trouble as the Ukraine and western and southwestern Russia is in with respect to the moisture and soil conditions for the start of the winter league season most of the Central China is in excellent shape. They had a great summer in the last 30 days has seen either normal or much above normal rainfall over JIAGSU HENAN northern ANNUI southern SHAANXI eastern SICHUAN and northern HUNEI . Over the past 30 days those areas have seen as much as 10 -20"/ th th 250-500mm of rain. Th not surprisingly this is 400 to 600% above normal.

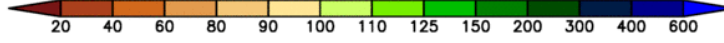
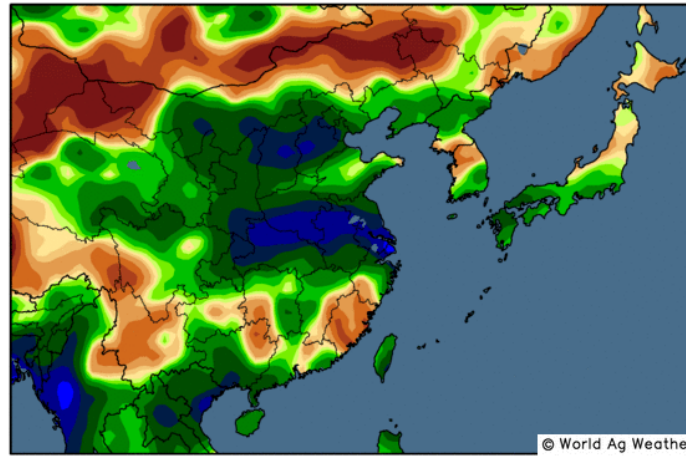
30-day Precipitation Analysis

Observed precipitation (inches) through 12 UTC 21 Oct 2017



30-day Precipitation Analysis

Percent of normal through 12 UTC 21 Oct 2017

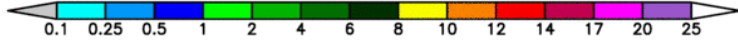
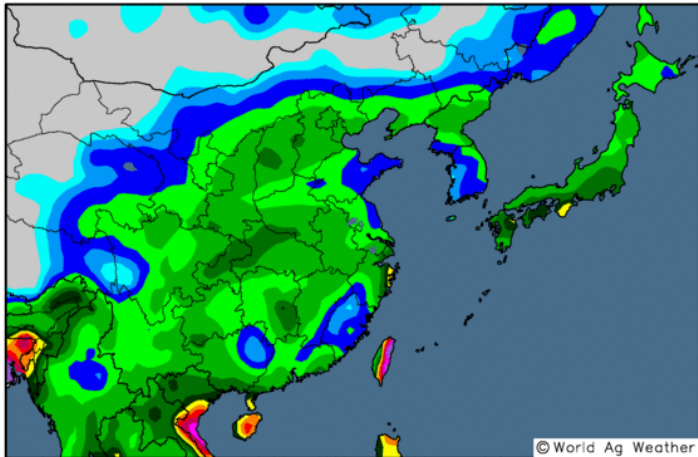


Over the last 14 days rainfall has been much more uniform but persistent across all of the Central China and the winter heat areas with amounts ranging

from 1-4"/ 25-100mm . This continues to be much above normal rainfall for all of the central ... east central and the NCP -- North China Plains.

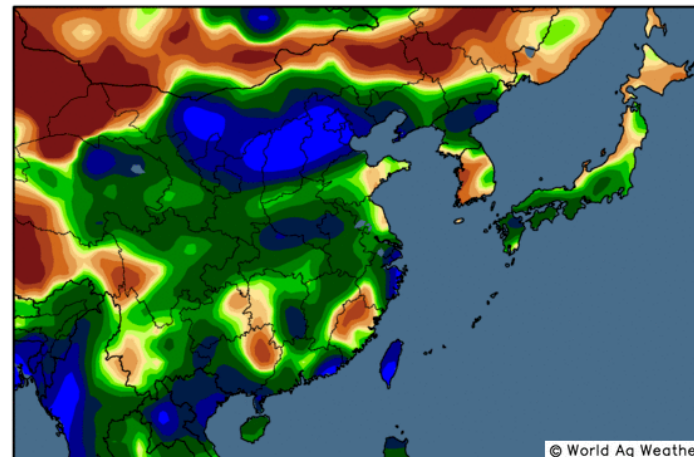
14-day Precipitation Analysis

Observed precipitation (inches) through 12 UTC 21 Oct 2017



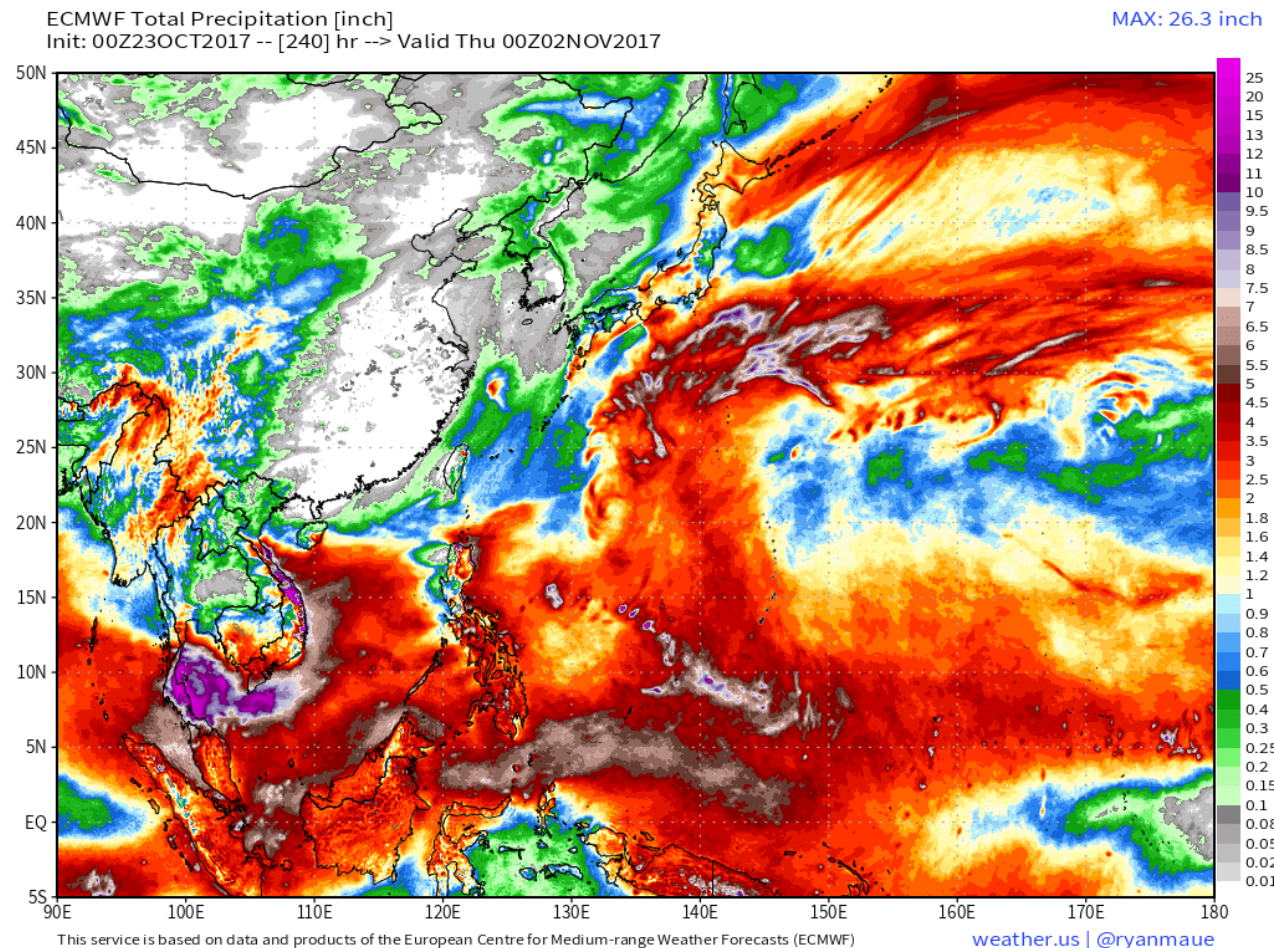
14-day Precipitation Analysis

Percent of normal through 12 UTC 21 Oct 2017



RAINFALL NEXT 10 DAY FROM THE EUROPEAN ENSEMBLES –

As you can see most of the winter we areas and East Central China are dry all the next 10 days. Not only does the European ensemble show this but the GFS ensemble shows th this trend as well. Of course based upon the data above it looks like most of the Central China can go 10 days and that a rain and such a dry spell may actually be a little beneficial



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