

SOUTH AMERICA GRAIN WEATHER

12/26/17 OVERVIEW

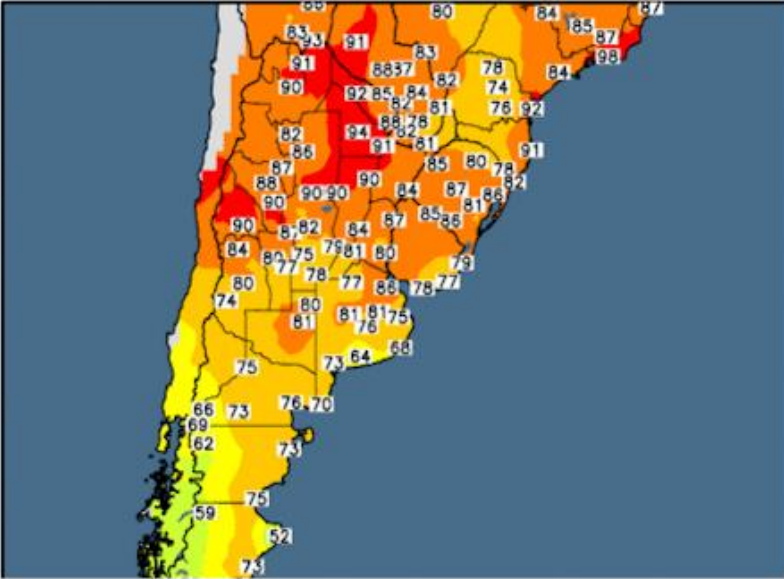
SUMMARY

The data/ models are clearly turns substantially drier over the past few days for Argentina but continue show excellent rains for large portions of southwestern southeast and east central Brazil. This sort of rainfall configuration is fairly common for La Nina conditions. The week 2 forecast is also substantially drier than what the data showing late last week. In addition the heat developing during the next 7 days - which really began on December 25 - will be significant and not really break until after the New Year at the earliest. There are indications that the MJO was going to swing around into phase 2 and 3 which is the wet cycle for Argentina and the dry cycle for much of Brazil ...but if that happens it won't be until after January 5

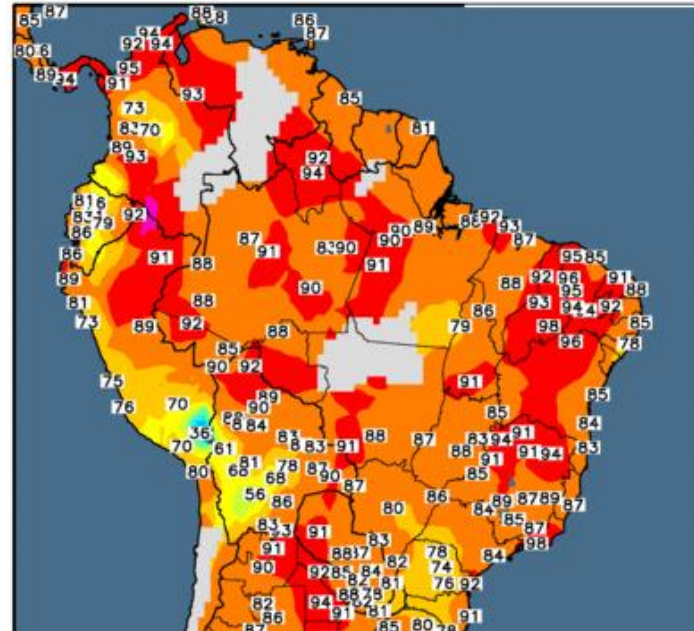
S.AMERICAN MAX TEMPS DEC 23

Temperatures were near Normal over most of Argentina and Brazil—there were some readings in the Mid 90s over Bahia

Observed Maximum Temperature (°F)
23 Dec 2017



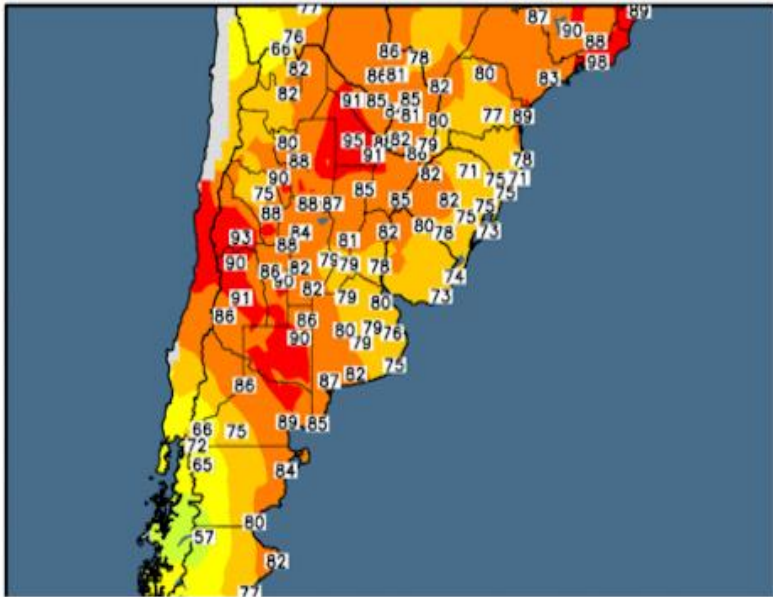
Observed Maximum Temperature (°F)
23 Dec 2017



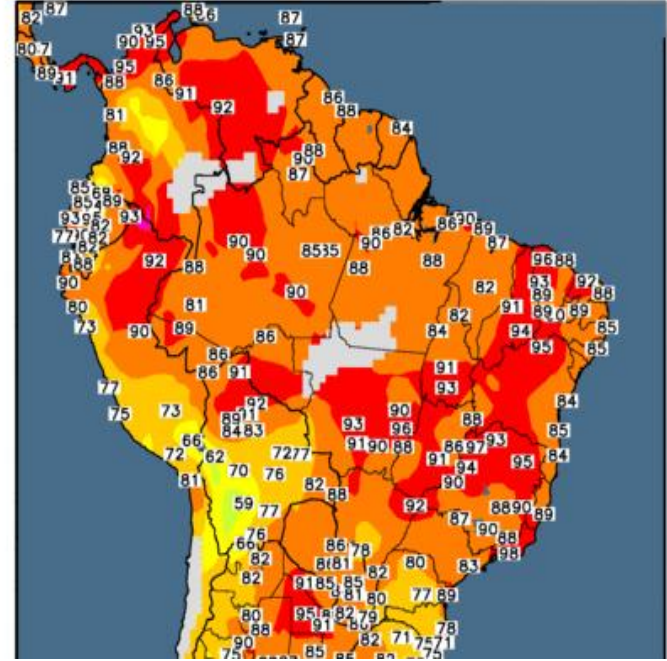
S.AMERICA MAX TEMPS DEC 24

Max temperatures on the 24th Temperatures were near Normal over most of Argentina and Brazil but there were some temps into Low 90s/ 32c over La Pampa and Mid 90s/ 35c in Bahia

Observed Maximum Temperature (°F) 24 Dec 2017



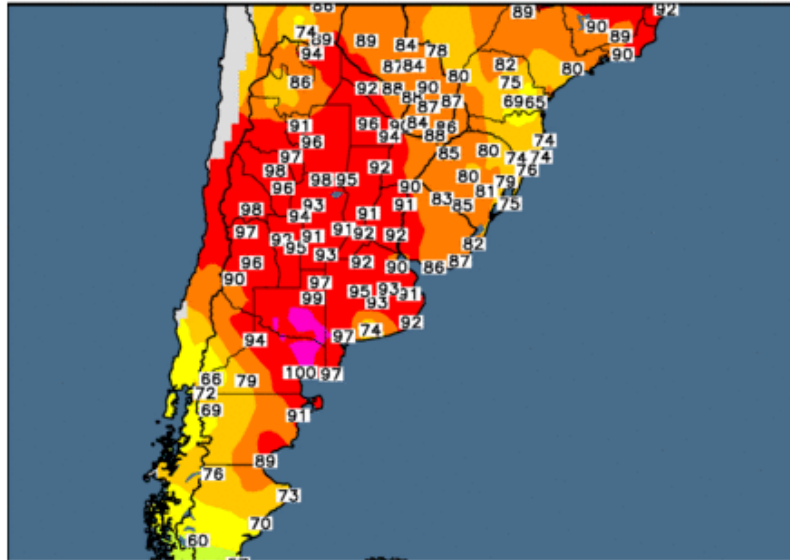
Observed Maximum Temperature (°F) 24 Dec 2017



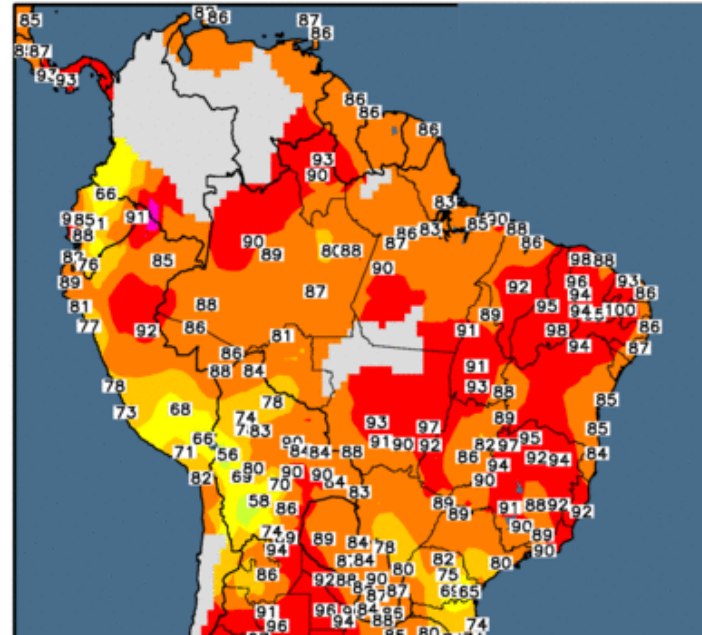
S.AMERICA MAX TEMPS DEC 25

Max temperatures on the 25th turned VERY hot over most of Argentina with readings in the Mid 90s and upper 90s/ 33-378c with hottest temps over La Pampa and Cordoba . In Brazil central and east central areas aw readings in Mid 90s.

Observed Maximum Temperature (°F),
25 Dec 2017

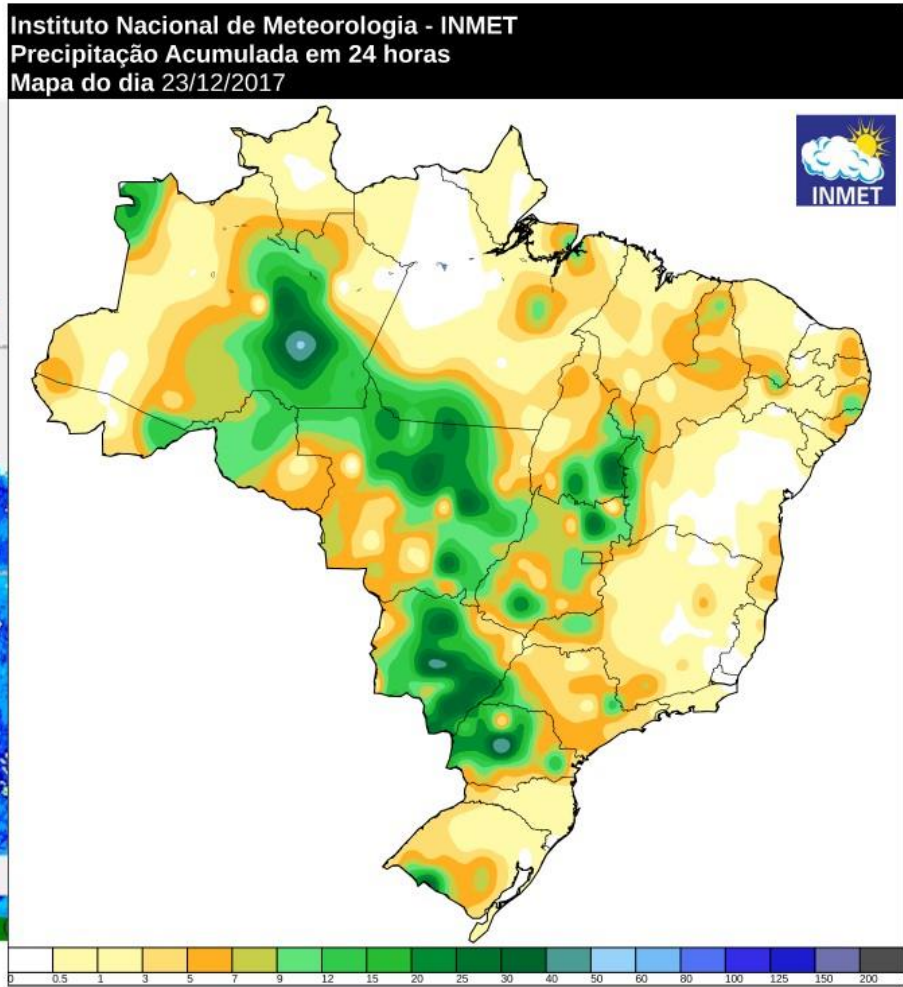
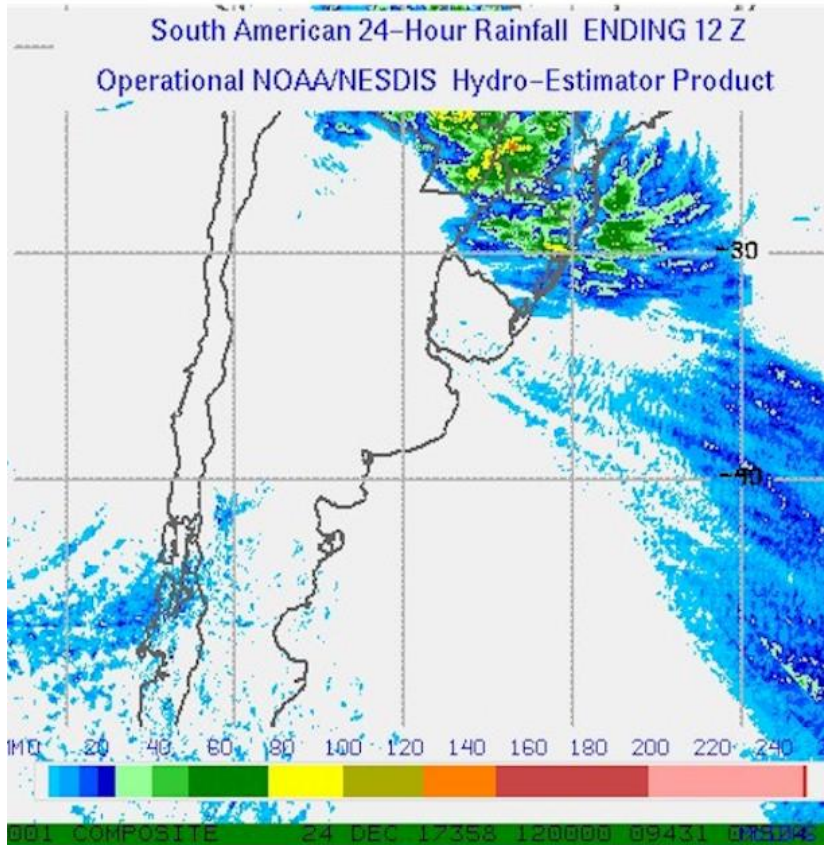


Observed Maximum Temperature (°F),
25 Dec 2017



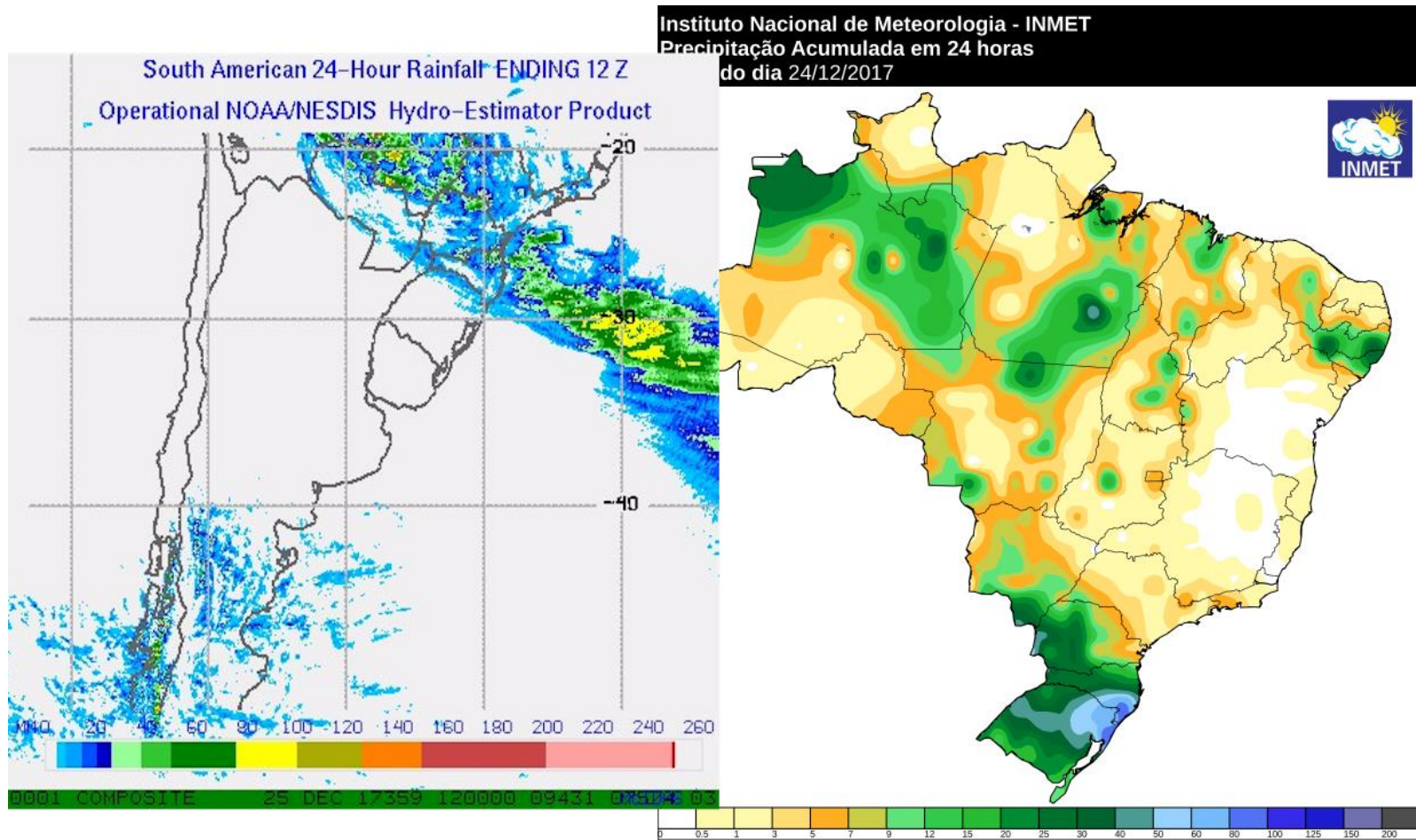
S.AMERICA RAINFALL DEC 23 Ending 0000 UTC

Rainfall December 23 was 100% dry in Argentina. In Brazil rainfall amounts of 10-35mm/ 0.40-1.5" were common over 50% of Mato Grosso... 70% of MGDS 50% of Parana and lighter rains fell over 40% of Goias and Tocantins with amounts under 12mm/ 0.50"



S.AMERICA RAINFALL DEC 24

Again Argentina was 100% but In Brazil rainfall amounts of 12-50mm/ 0.50-2.0" were common over 70% of RGDS and Santa Catarina and 50% of western Parana and southern MGDS

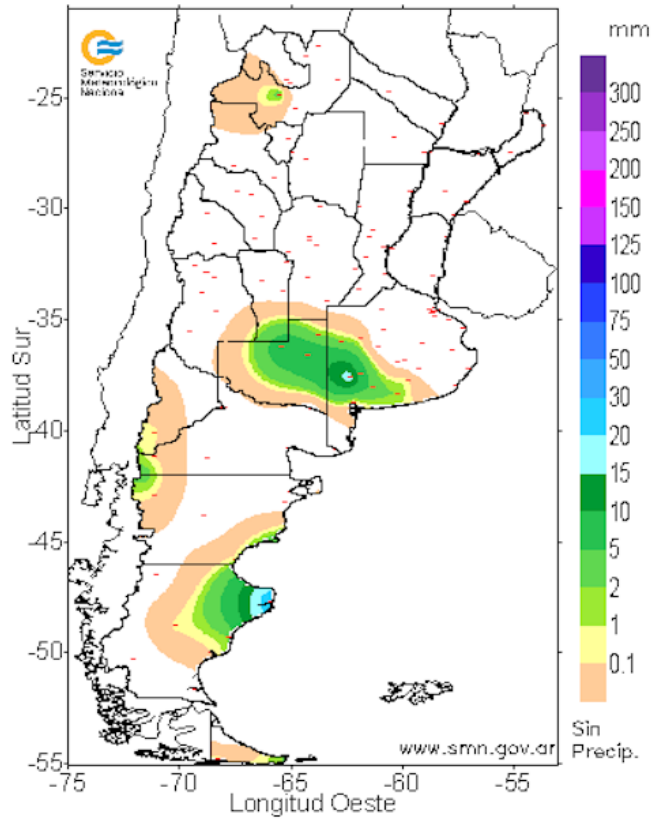


S.AMERICA RAINFALL DEC 25

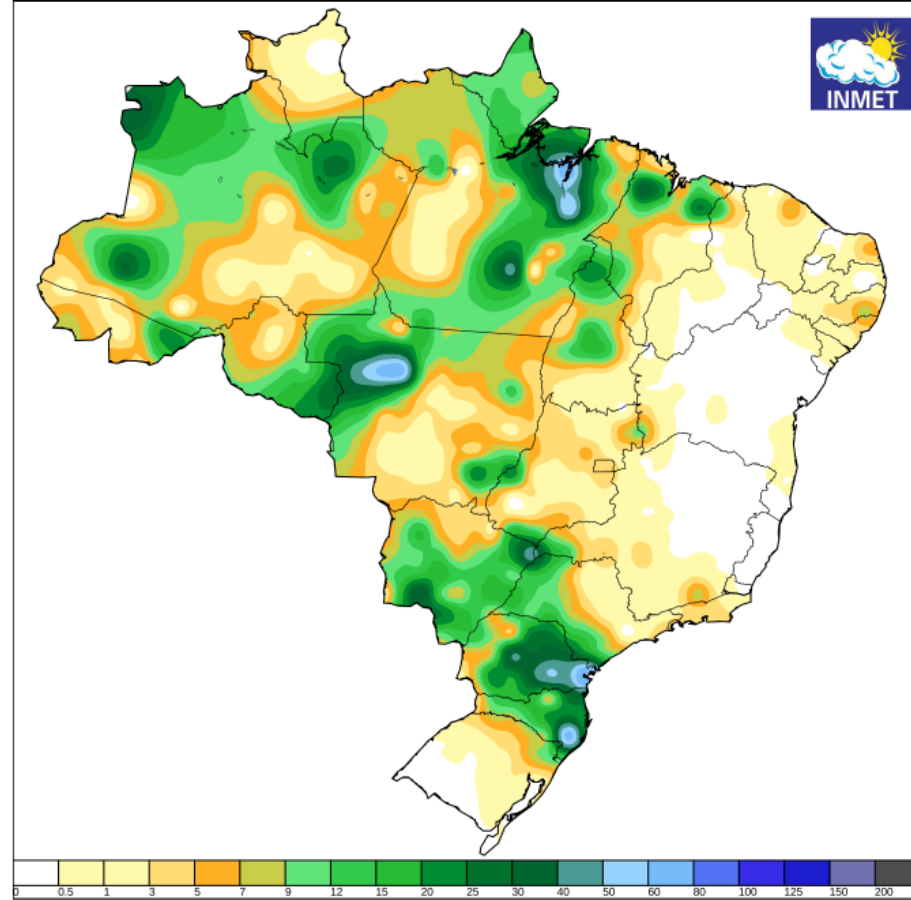
Again Argentina was 100% dry in Argentina. In Brazil rainfall amounts of 12-50mm/ 0.50-2.0" were common over 70% of Parana and Santa Catarina and 650% of MGDS and far western Mato Grosso

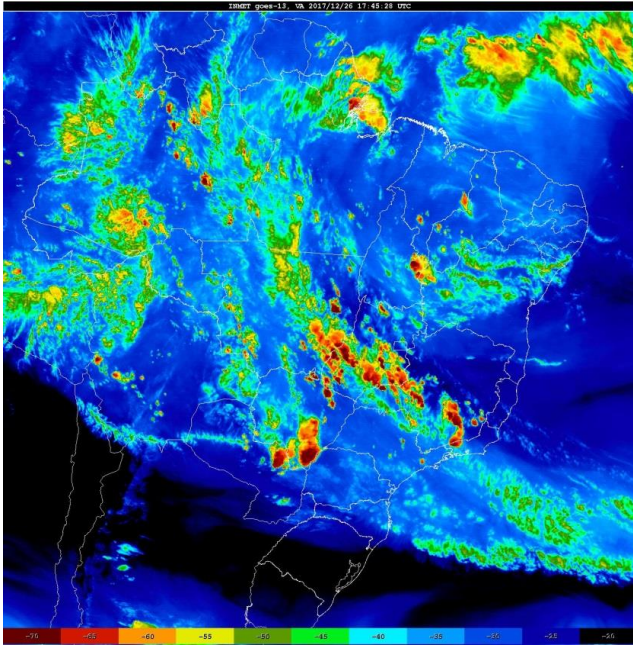
Servicio Meteorológico Nacional

PRECIPITACION (EN MILIMETROS) ACUMULADA EN 24 HORAS
Los valores corresponden al periodo comprendido entre las
9 hs. del 25 /12 /2017 y las 9 hs. del 26 /12 /2017



Instituto Nacional de Meteorologia - INMET Precipitação Acumulada em 24 horas Mapa do dia 25/12/2017





The midday satellite picture heavy storms over southern MGDS southeast Mato Grosso into Goiás and southern Minas Gerais

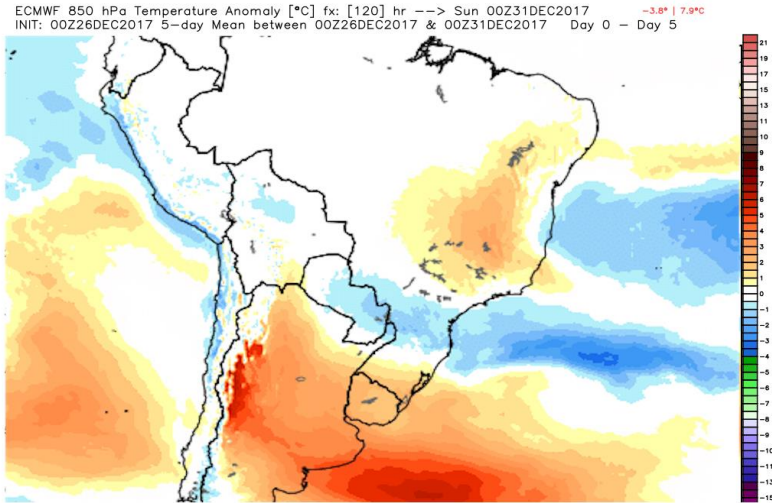
DISCUSSION

Most of the weather forecast and last Thursday and Friday showed significant rain developing in the 6-10 DAY and in the 11 -15 DAY forecasts for good portions of Argentina. Not great rains but decent rains. That forecast has clearly changed over the holiday and the model data is significantly hotter and drier over most of Argentina for the next two weeks.

The first thing to notice is not only will be dry over the next seven days to most of Argentina with rainfall amounts significantly below normal but also the temperatures will turn quite hot. Christmas Day was quite hot and Argentina and that trend is going to continue and we can see that on the model data.

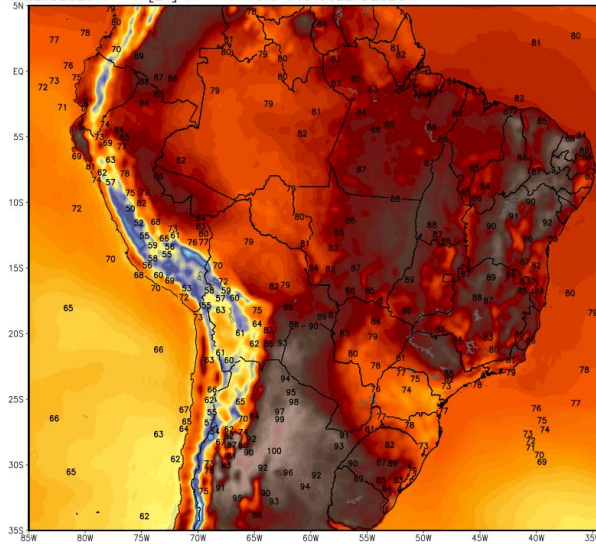
This first image shows the temperature anomalies expected for next 7 days and as you can see they are well above normal over central Argentina. Next we present a series of temperature maps and the European models showing the Max temperatures for Tuesday afternoon and Wednesday afternoon The heat shows a brief break on the heat on Thursday and then the Max temperatures for Friday Saturday and

Sunday turn very hot again. This combined the lack of rain is obviously going to cause some significant stress increases the next several days.



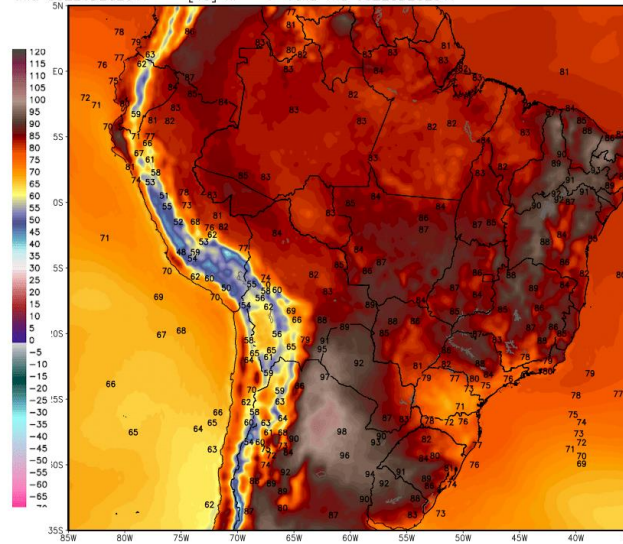
TUES MAX

ECMWF EPS Ensemble Mean 6-hourly Max 2-meter Temp [°F] Domain Min/Max 33
nit: 00Z26DEC2017 -- [24] hr --> Valid Wed 00Z27DEC2017



WED MAX

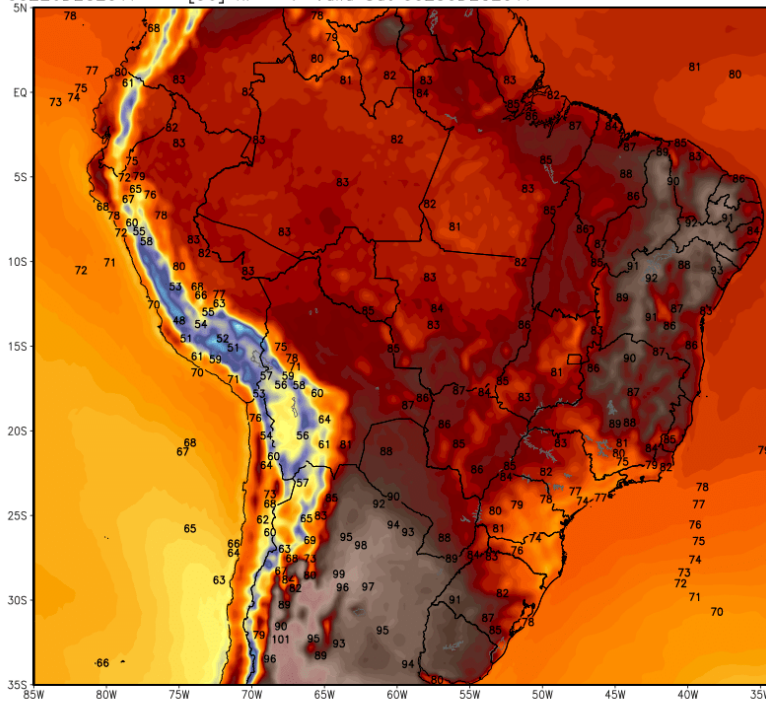
ECMWF EPS Ensemble Mean 6-hourly Max 2-meter Temp [°F] Domain Min/Max 33
nit: 00Z26DEC2017 -- [48] hr --> Valid Thu 00Z28DEC2017



FRI MAX

ECMWF EPS Ensemble Mean 6-hourly Max 2-meter Temp [°F]
Init: 00Z26DEC2017 -- [96] hr --> Valid Sat 00Z30DEC2017

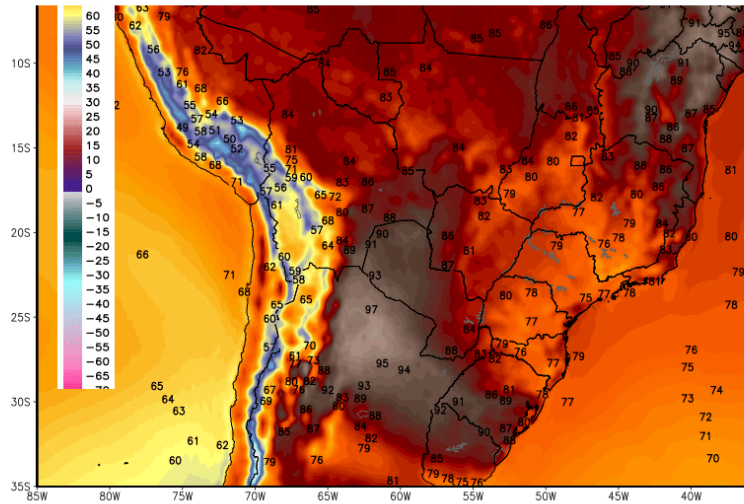
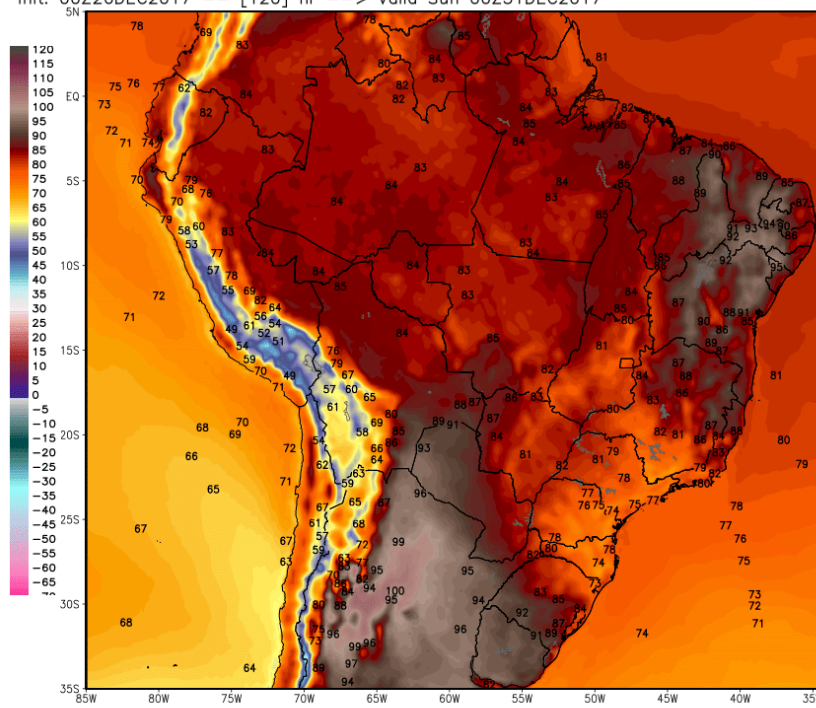
Domain Min/Max 3



SAT MAX

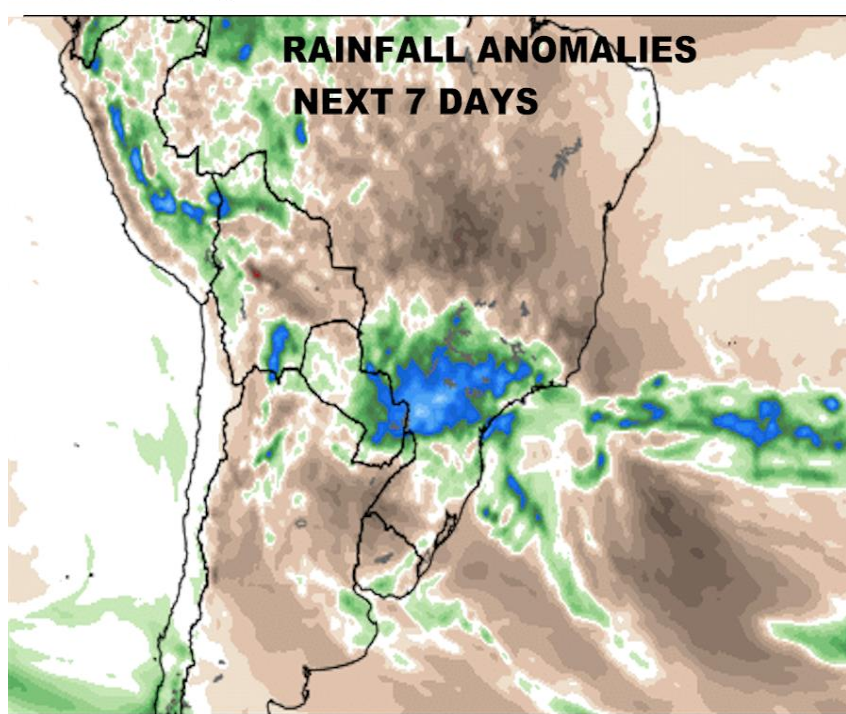
ECMWF EPS Ensemble Mean 6-hourly Max 2-meter Temp [°F]
Init: 00Z26DEC2017 -- [120] hr --> Valid Sun 00Z31DEC2017

Domain Min/Max 36

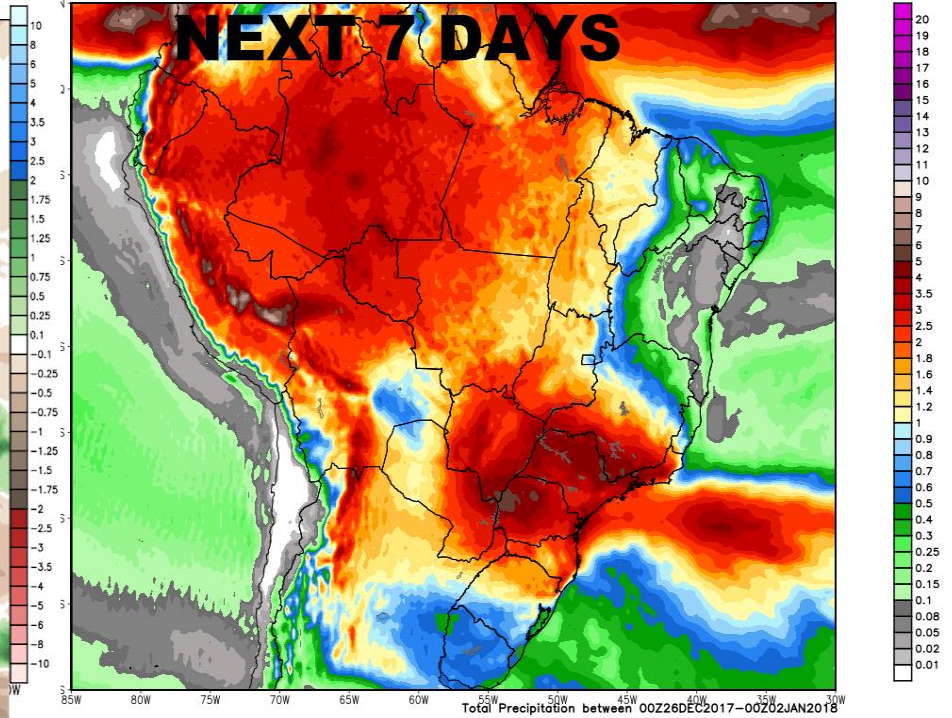


With respect to the actual rainfall forecast amount... the European model that we present the rainfall anomalies on the left and the actual rainfall over the next 7 days on the right. Areas in Brazil such as MGDS Sao Paulo Parana southern Minas Gerais are likely see anywhere between 3-7"/ 75-175mm rain with 75% coverage or higher. However the rainfall amounts over most of central ...eastern ...and northern Argentina will be under inch total for the next 7 days.

ECMWF Total Precip Anomaly [inch] between 00Z26DEC2017 -- 00Z02JAN2018
 INIT: 00Z26DEC2017 fx: [168] hr --> Tue 00Z02JAN2018

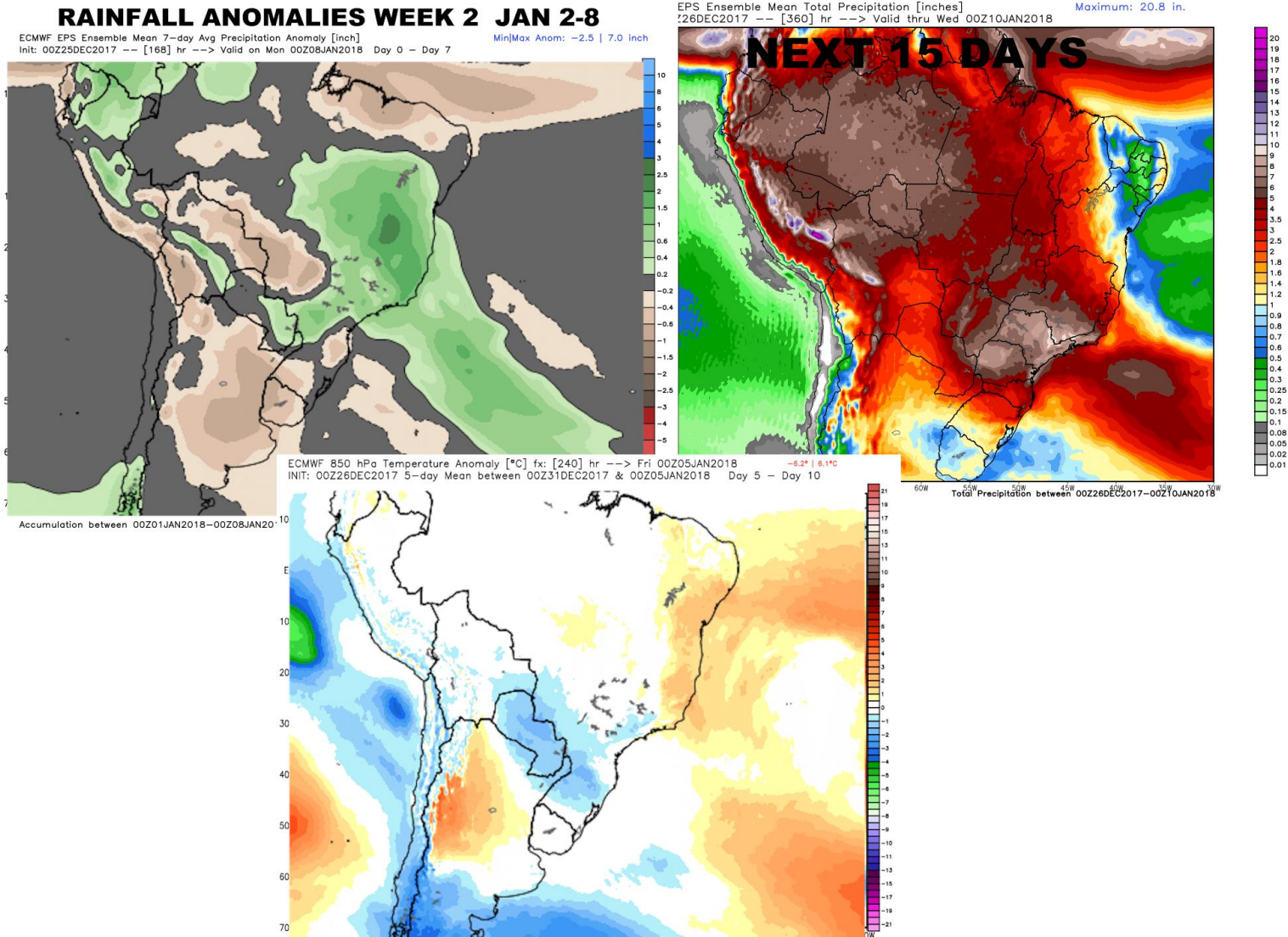


EPS Ensemble Mean Total Precipitation [inches] Maximum: 10.4 in.
 00Z26DEC2017 -- [168] hr --> Valid thru Tue 00Z02JAN2018



In the week 2 forecast we see more the same with a strong signal for Above Normal rainfall in terms of actual amounts and anomalies relative to normal over most of central and east central Brazil. All the model data -not just the European but the GFS as well show widespread 2-4"/ 50-100mm .. with isolated 5"/ 125mm rain amounts over much of the same areas of Brazil. But the rainfall anomalies do not increase nor the rainfall amounts over central ...eastern ...and northern Argentina.

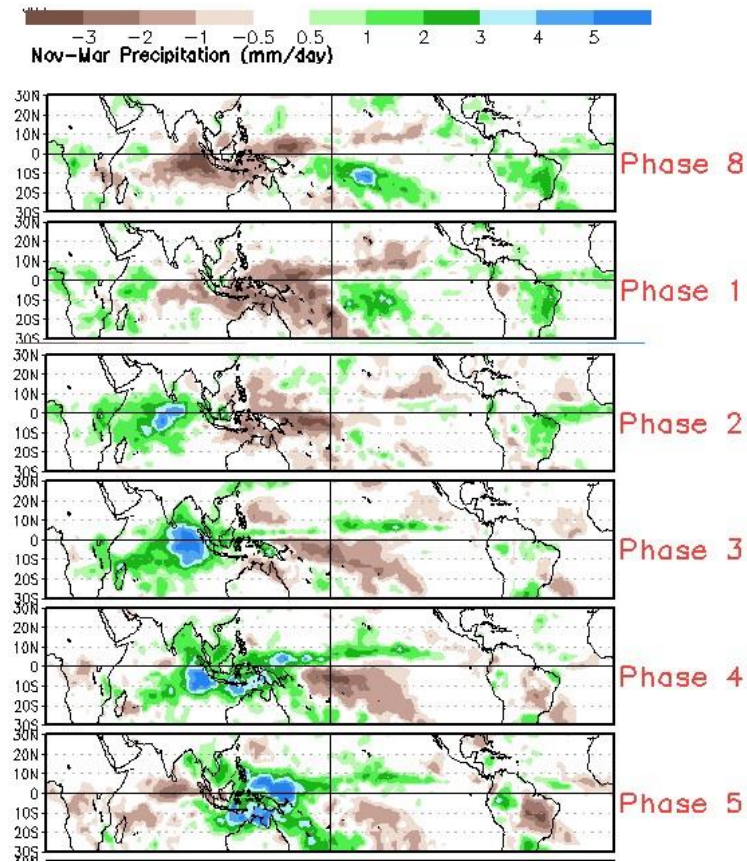
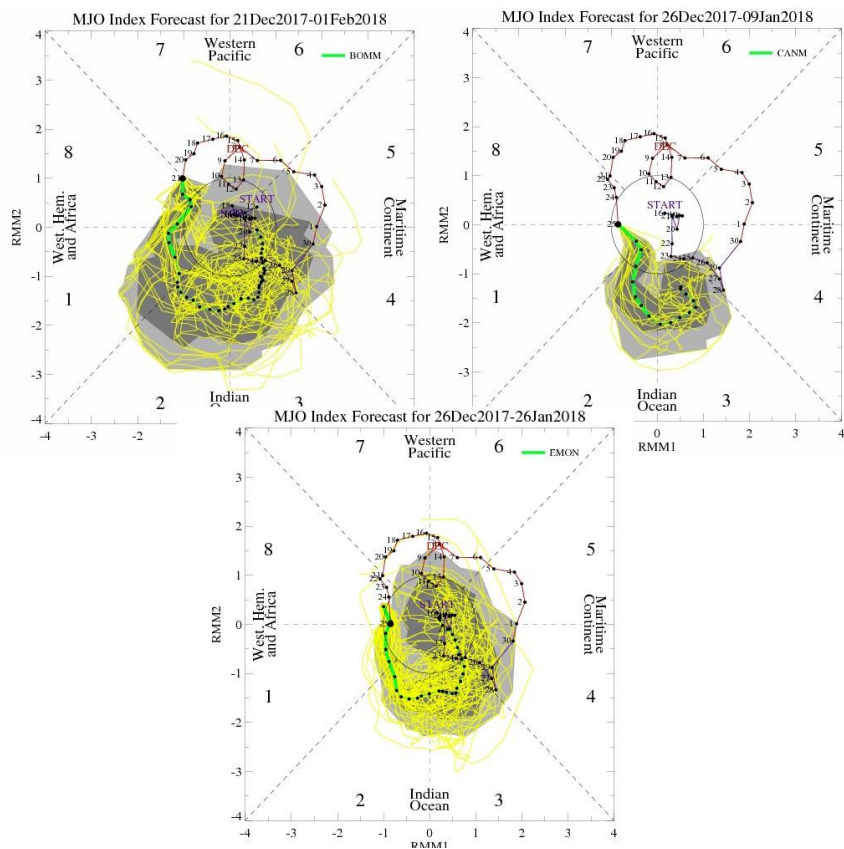
The temperature anomalies also remain somewhat above normal in week 2 although not the same degree Brazil.



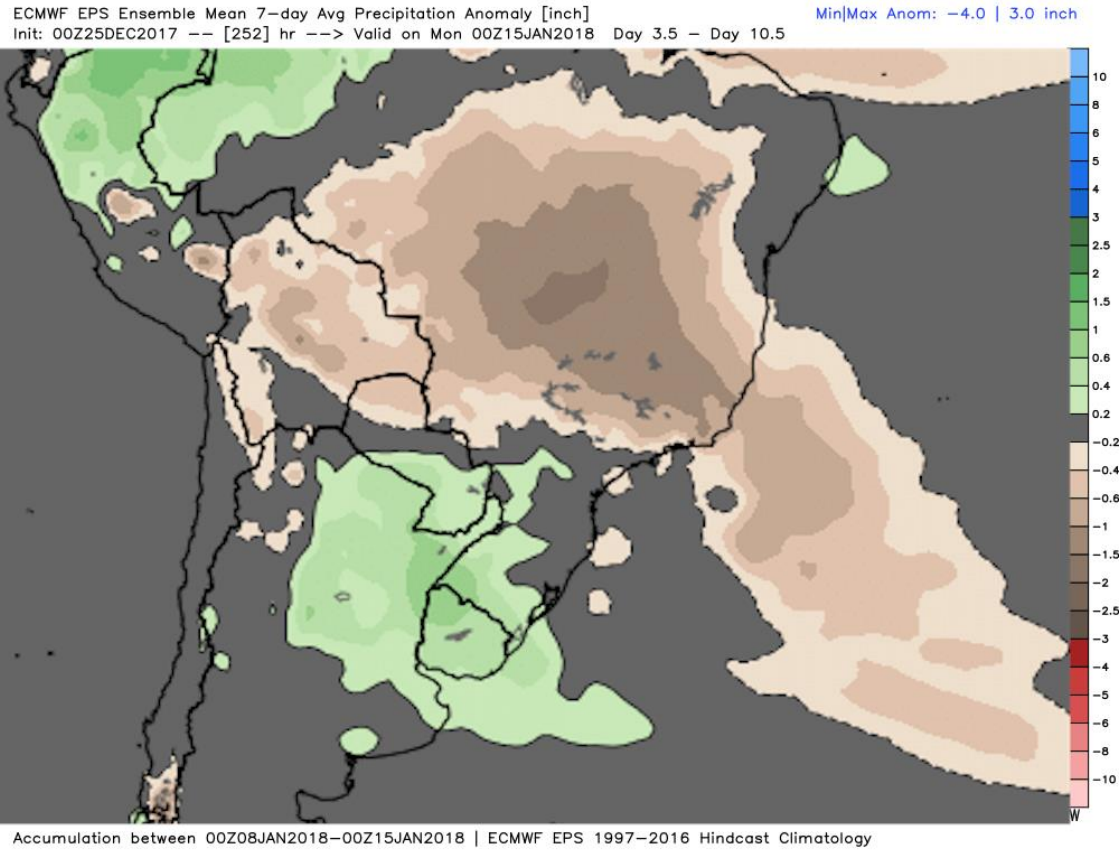
WEEK / MJO

As you can see the recent track of the MJO has moved from phase 8 into the neutral circle. This indicates that the current MJO pulse has broken down or weakened to some degree. But as you can see from the various weather models... most of them show the current impulse Re-energize and move back into phase 2 and phase 3 with moderate intensity after the New Year into the first week of January.

This has significant implications because the rainfall anomaly MJO maps clearly show in phase 2 and phase 3 Argentina turns significantly wetter than normal while Brazil begins to turn drier than normal



Significantly the European weekly model from Monday night also shows Argentina turning significantly wetter than normal while most of western ...central ...and east central Brazil turns drier than normal. This leads to increased confidence and the idea that significant rains could show up during the middle and second half of January over Argentina



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