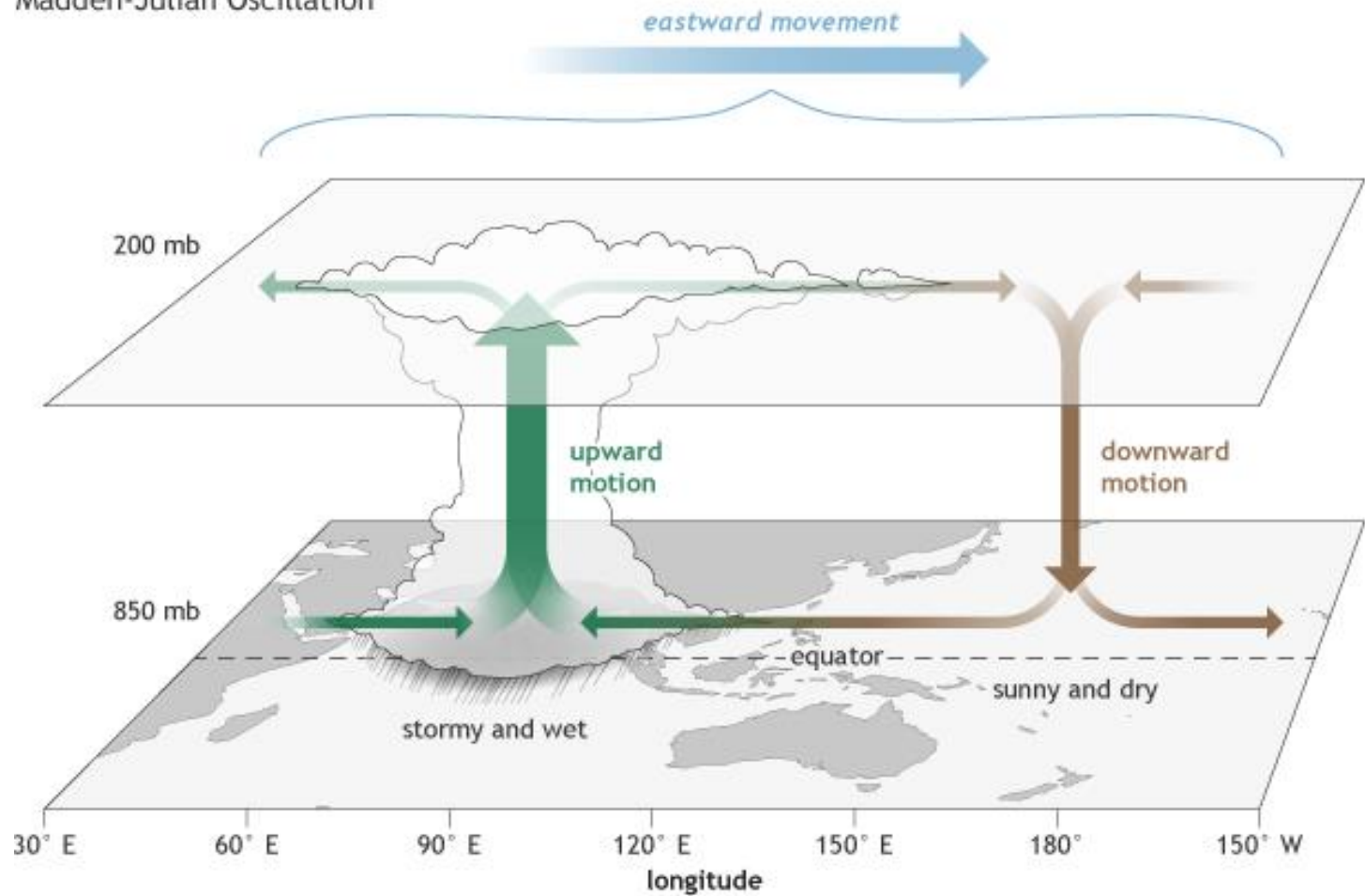


**S.AMERICA GRAIN
WEATHER ISSUES**

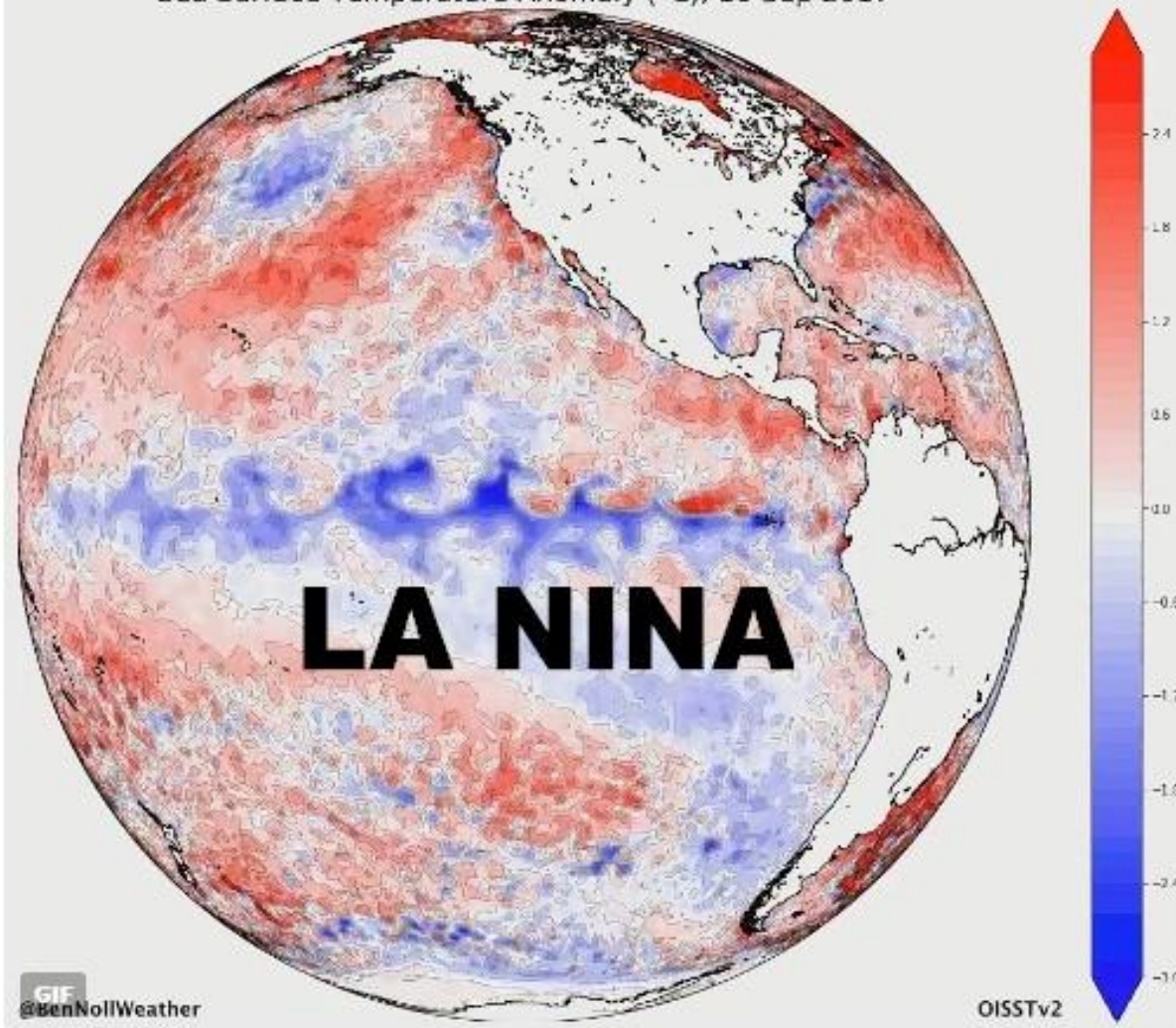
**as of FRIDAY
23 FEBRUARY 2018**

LETS TALK MJO/ENSO

Madden-Julian Oscillation

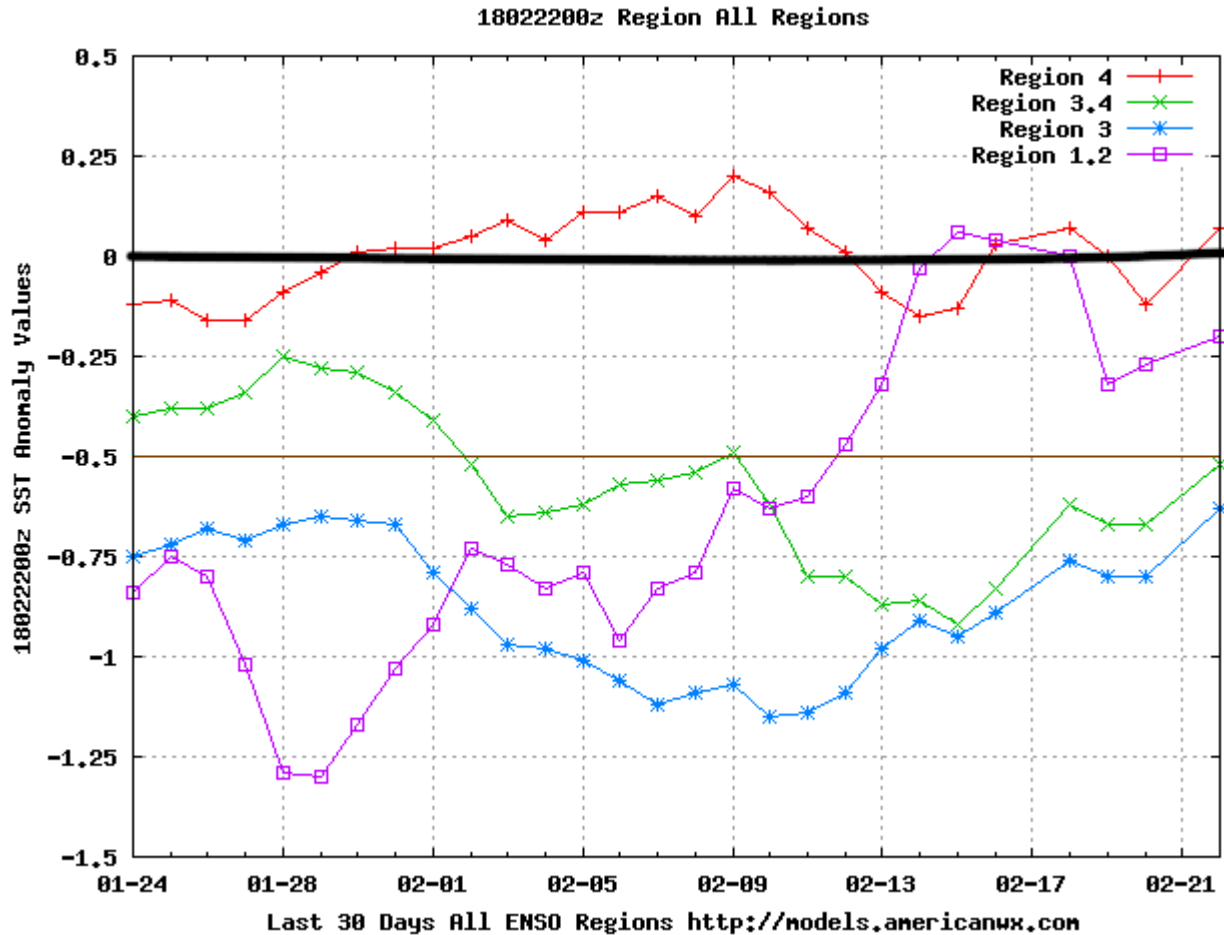


Sea Surface Temperature Anomaly (°C), 10 Sep 2017



6:29 AM - 13 Sep 2017

ACTUAL SEA SURFACE TEMP ANOMALIES – of all 4 regions.. **LA NINA NOW HOLDING**



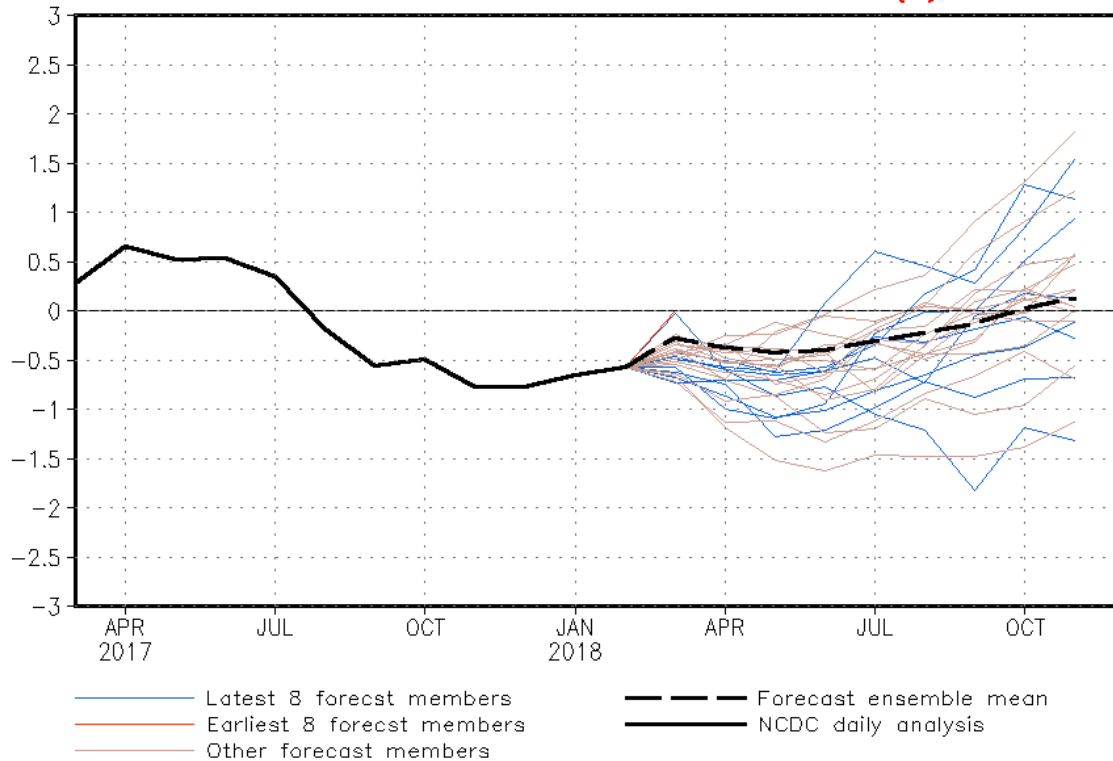
LATEST CFS MODEL PROJECTION = ** La Nina WEAKENING BY APRIL



NWS/NCEP/CPC

Last update: Thu Feb 22 2018
Initial conditions: 23Jan2018-1Feb2018

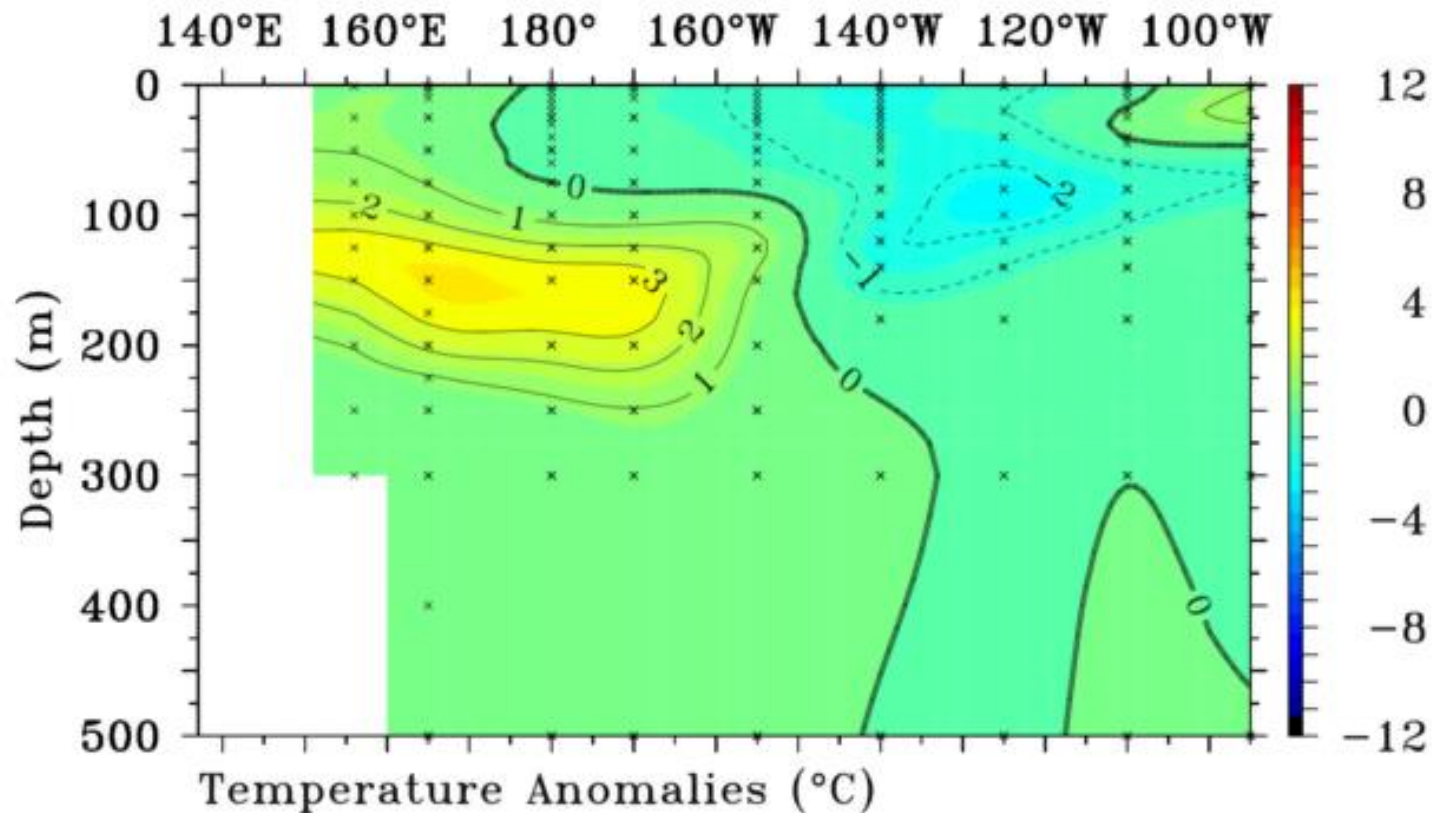
CFSv2 forecast Nino3.4 SST anomalies (K)



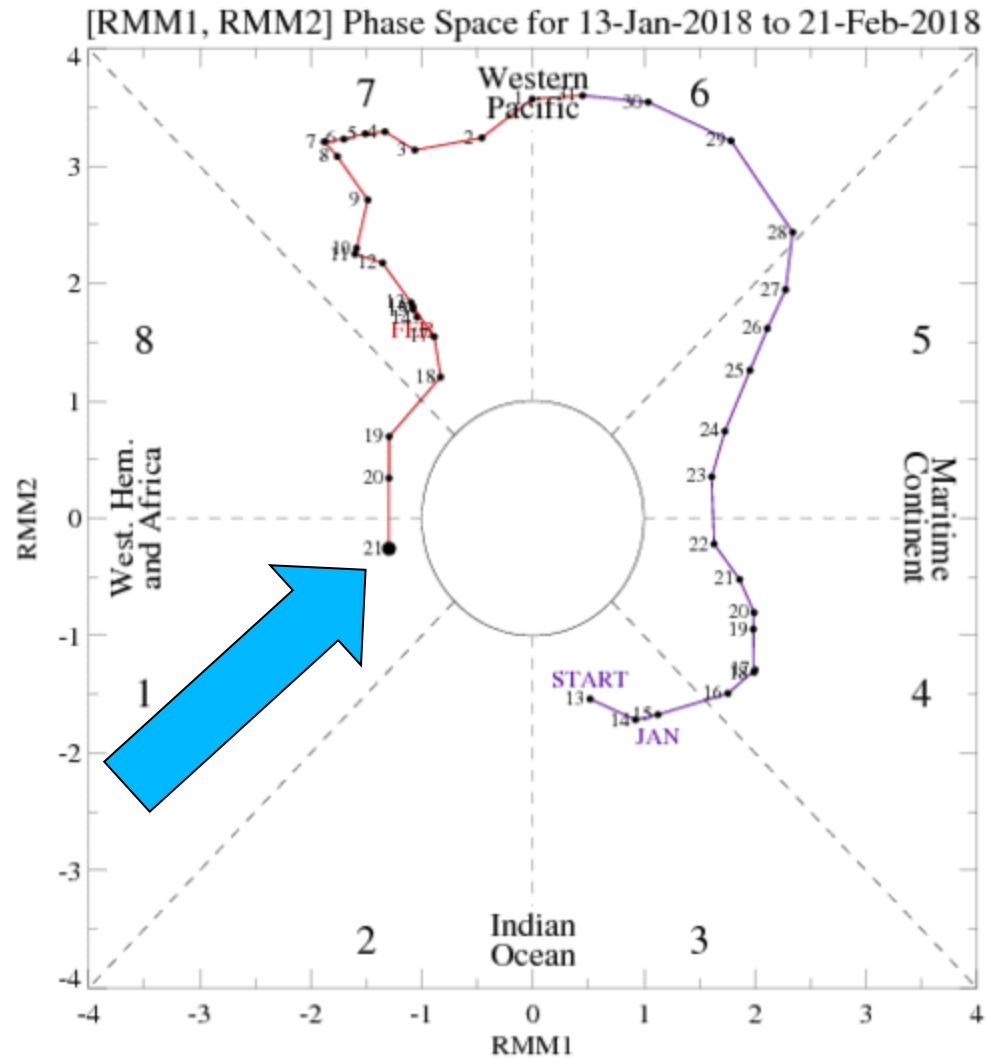
LOOKING BENEATH THE SURFACE ALONG EQUATORIAL PACIFIC ...WEAK LA NINA HOLDING ON

Five-Day Data

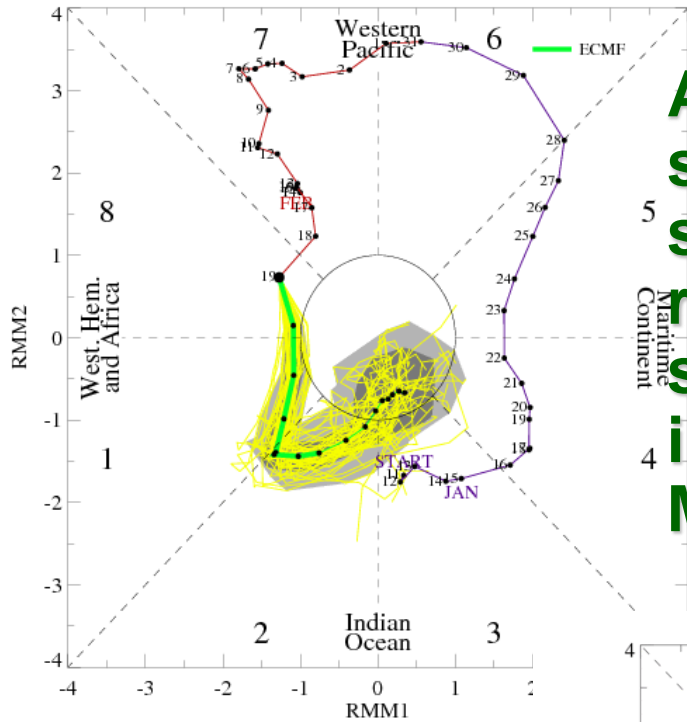
Ending On February 21 2018 2°S to 2°N Average



MJO IS IN PHASE 8/1

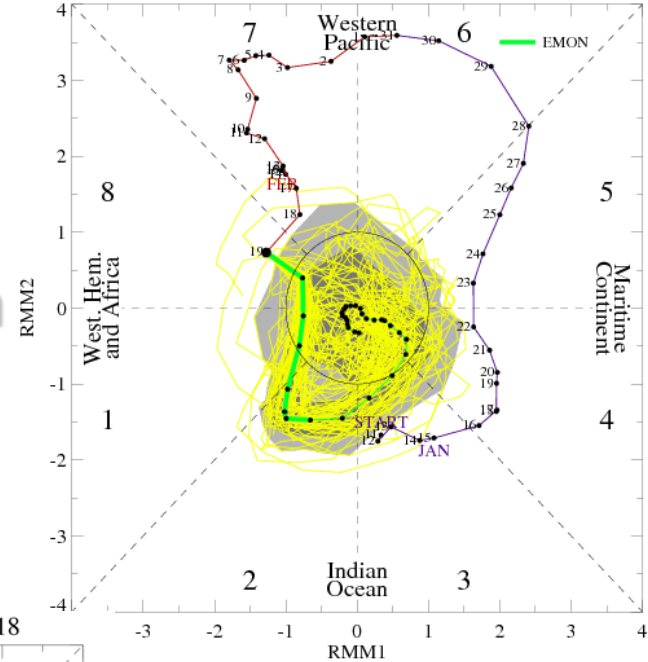


MJO Index Forecast for 20Feb2018-06Mar2018

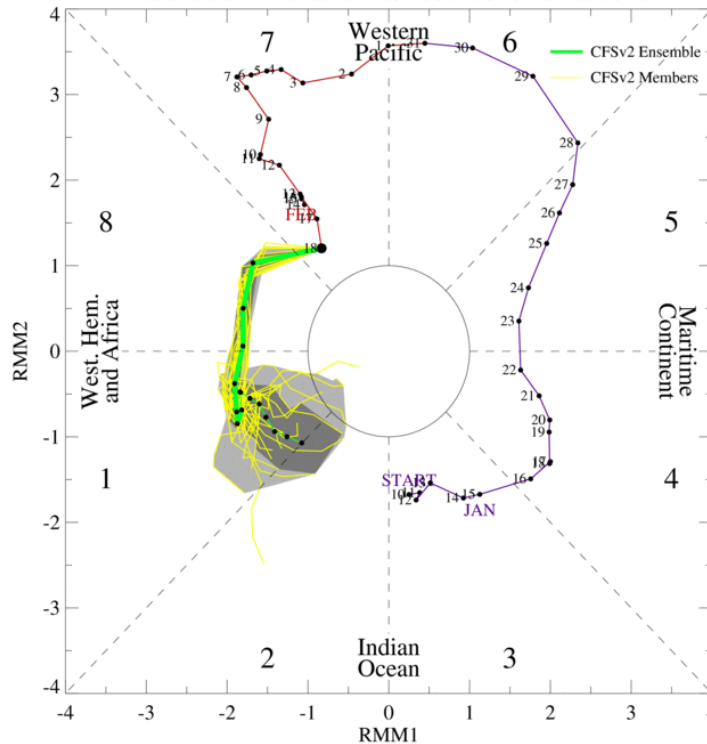


ALL MODELS
shows Moderate
string Phase 8
rest of FEB with
some weakening
in Phase 1 in
March

MJO Index Forecast for 20Feb2018-23Mar2018



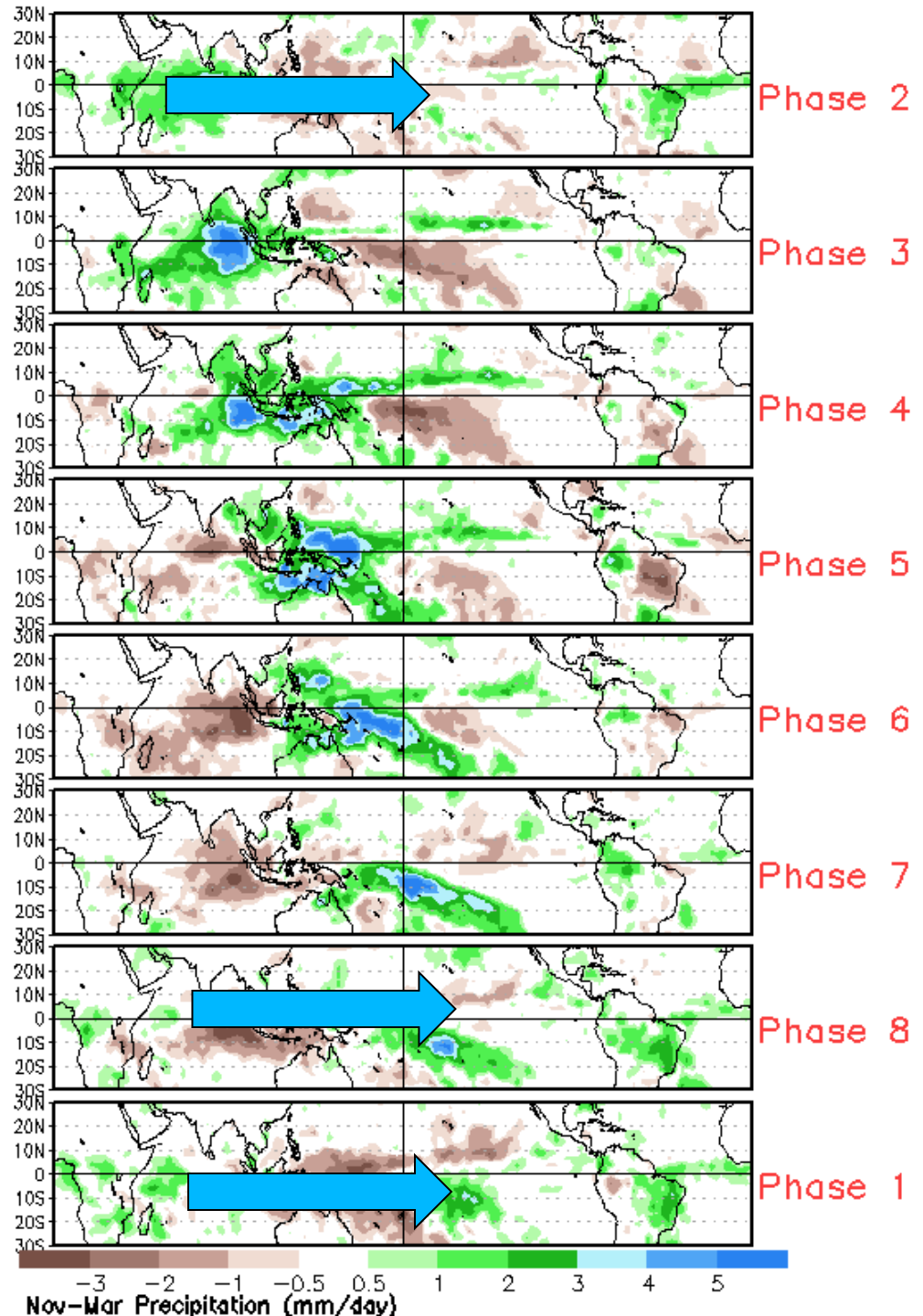
MJO Index Forecast for 19Feb2018 to 05Mar2018



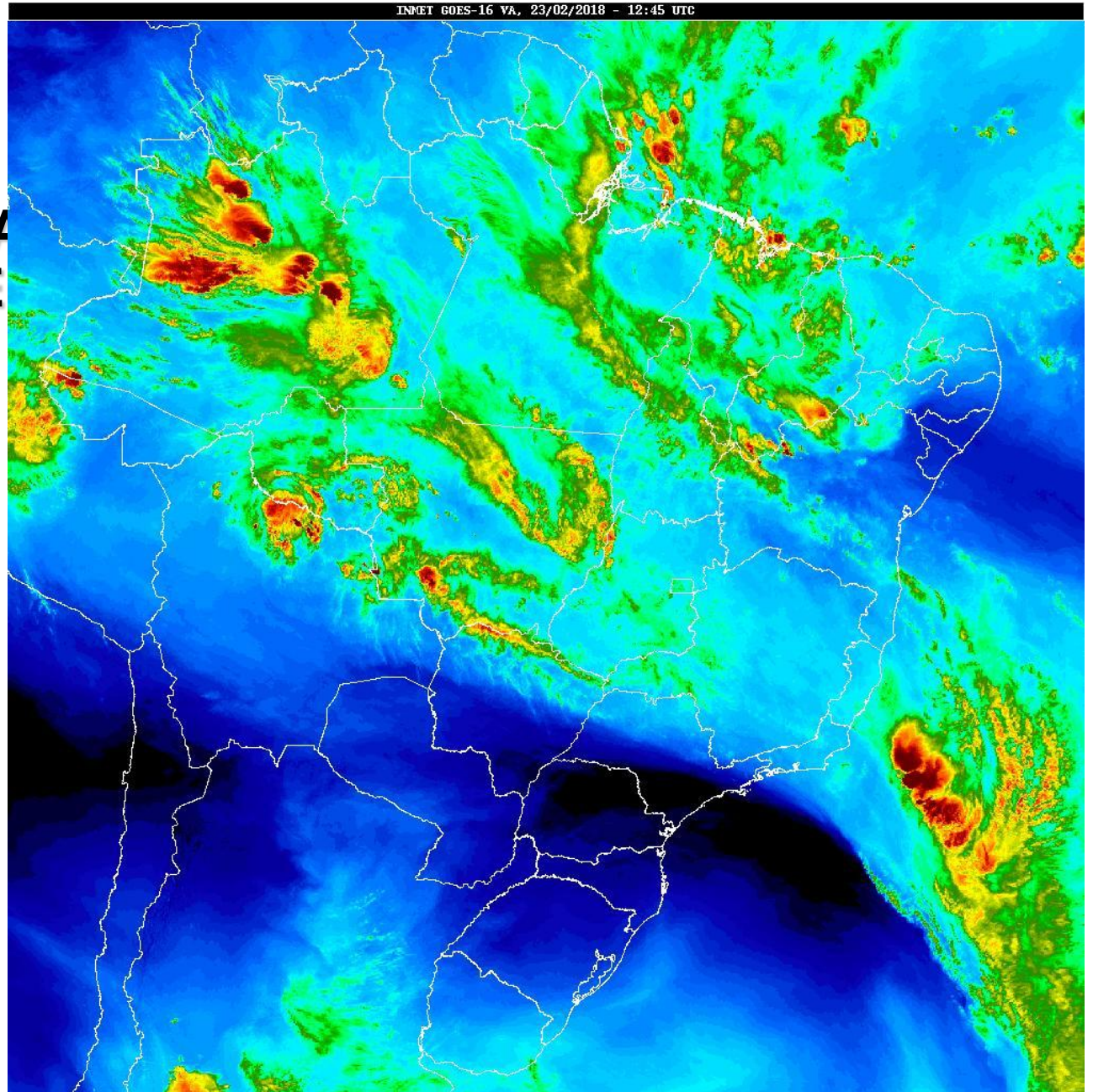
**PHASE 8 BRAZIL
TURNS WET
BELOW NORMAL
RAINS OVER
ARG**

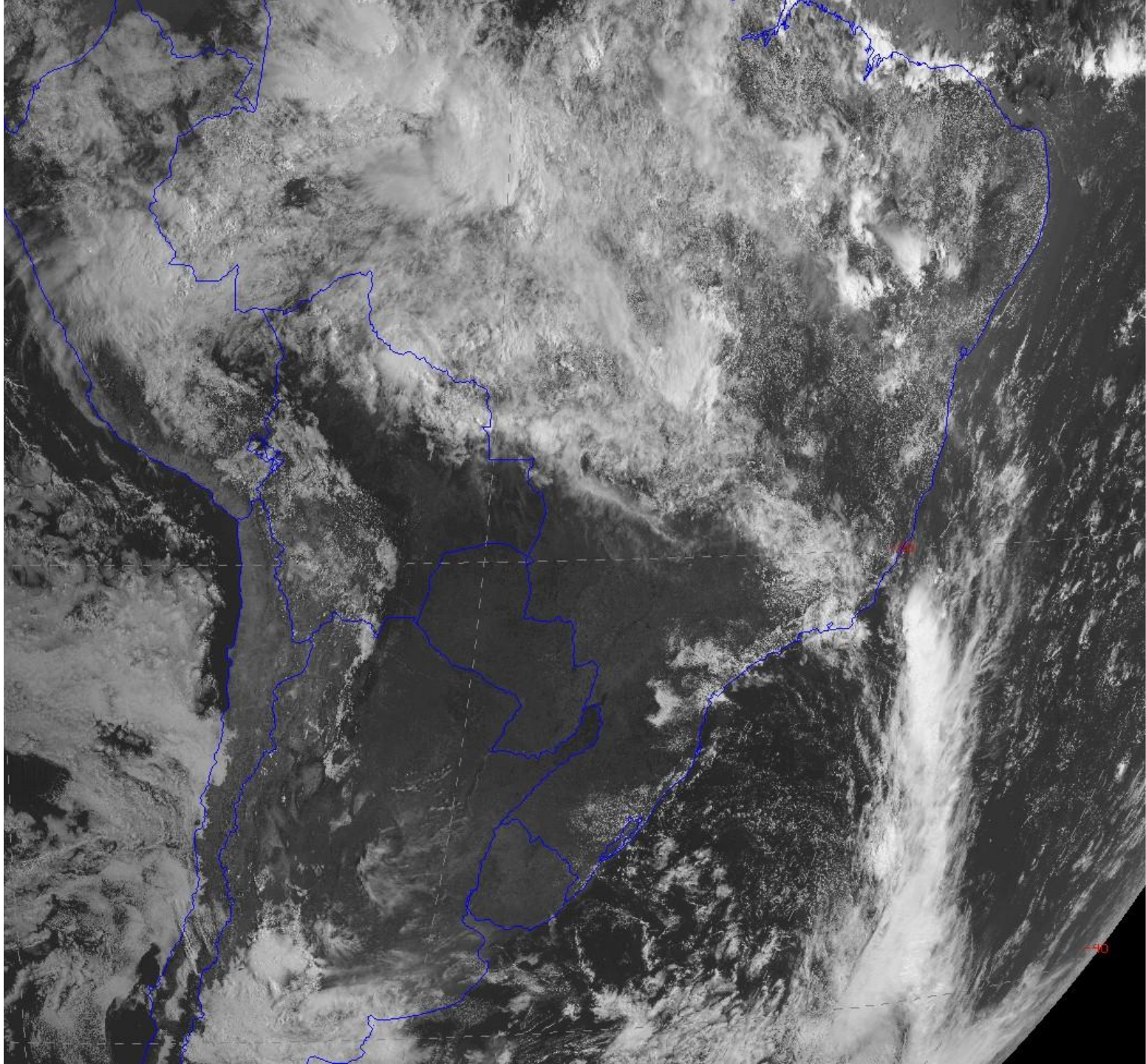
SAME PHASE 1

SAME PHASE 2

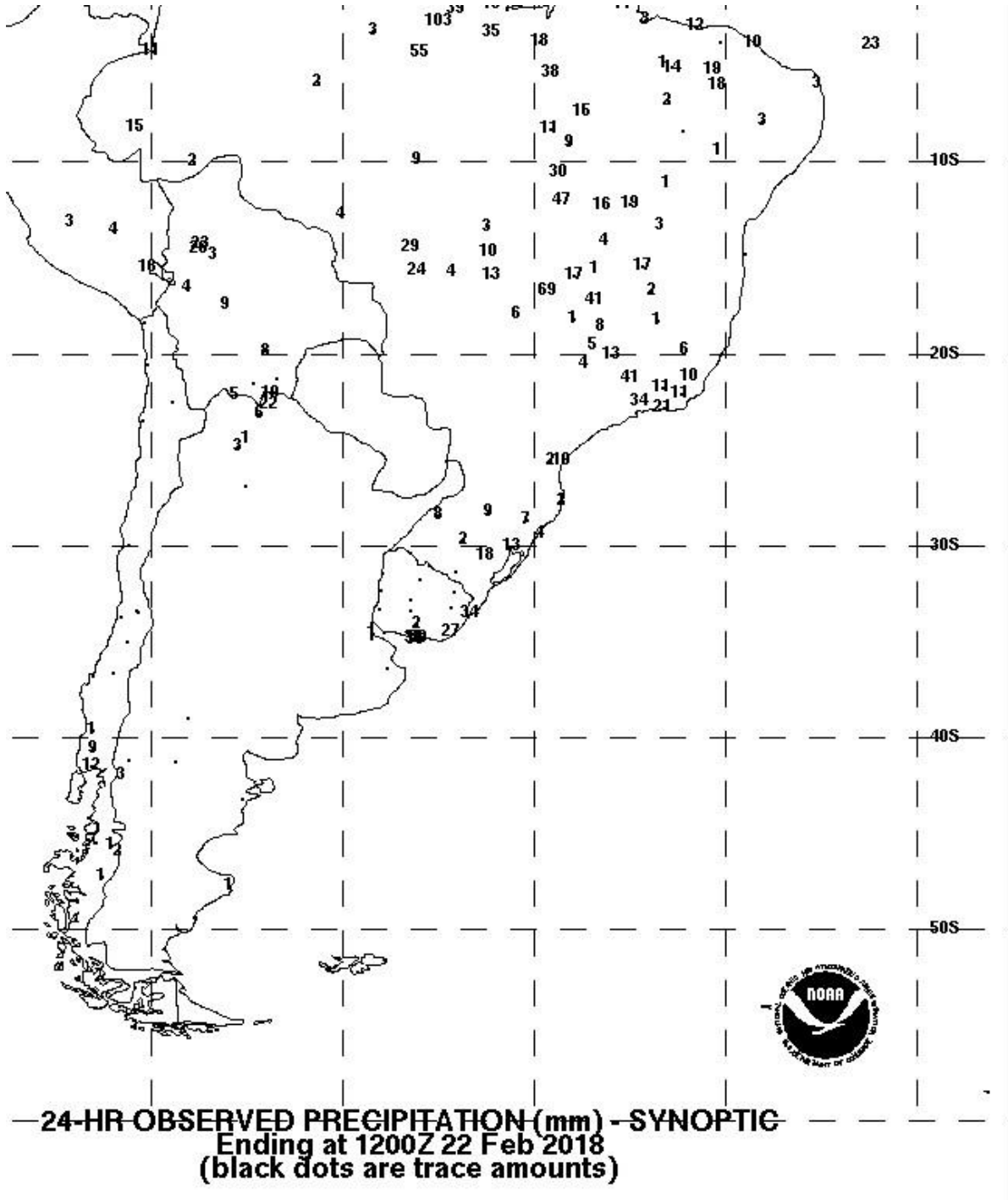


**MID FRI
MORNING INFRA
RED SATELLITE**





RAINFALL FEB 21-22



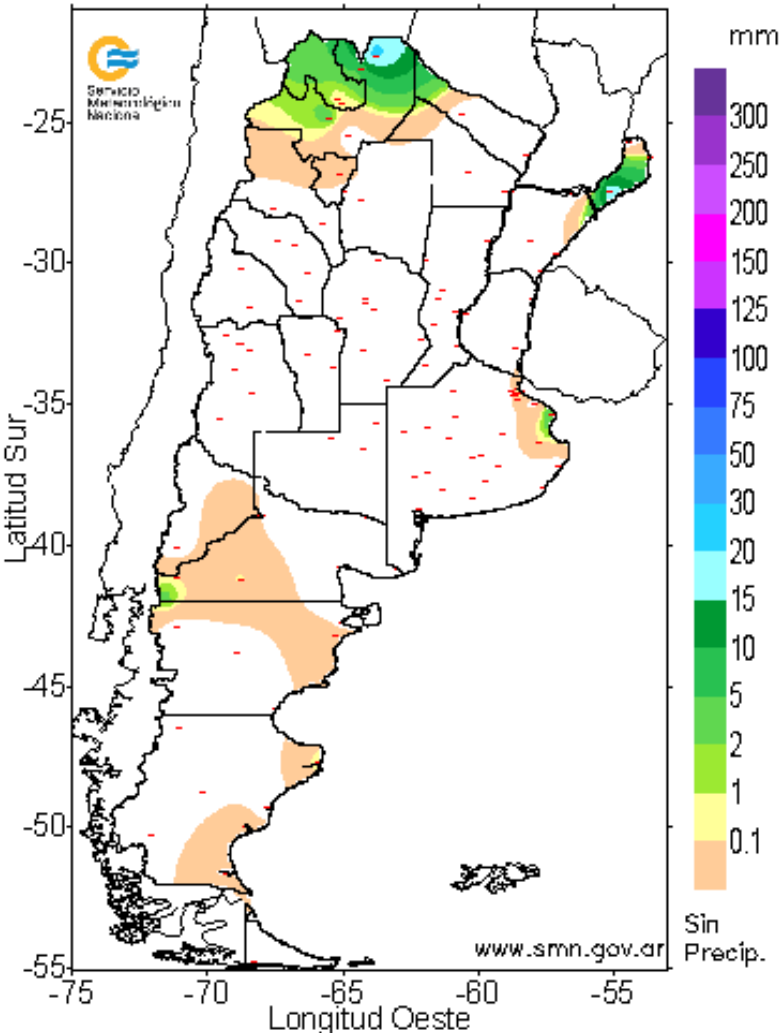
— 24-HR OBSERVED PRECIPITATION (mm) — SYNOPTIC
Ending at 1200Z 22 Feb 2018
(black dots are trace amounts)

PRECIP FEB 22-23 DRY ALL OF AG ... 10-50mm over central Minas much of Goiás Mato Grosso Tocantins

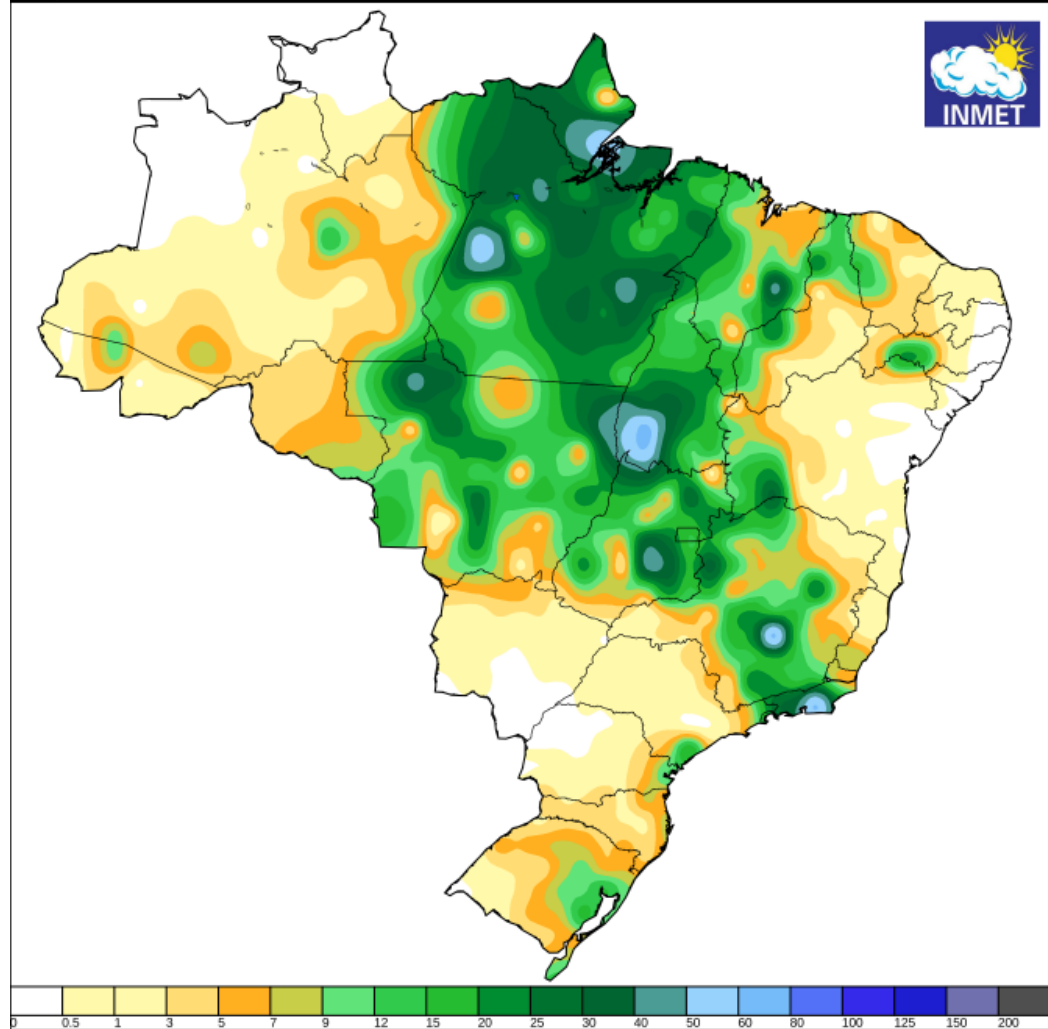
Servicio Meteorológico Nacional

PRECIPITACION (EN MILIMETROS) ACUMULADA EN 24 HORAS

Los valores corresponden al periodo comprendido entre las 9 hs. del 21 / 02 / 2018 y las 9 hs. del 22 / 02 / 2018

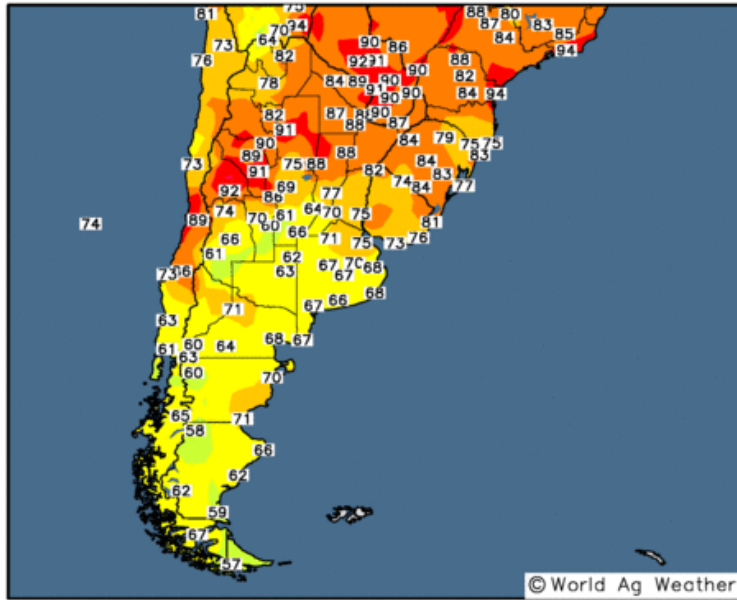


Instituto Nacional de Meteorologia - INMET
Precipitação Acumulada em 24 horas
Mapa do dia 22/02/2018



Observed Maximum Temperature (°F)

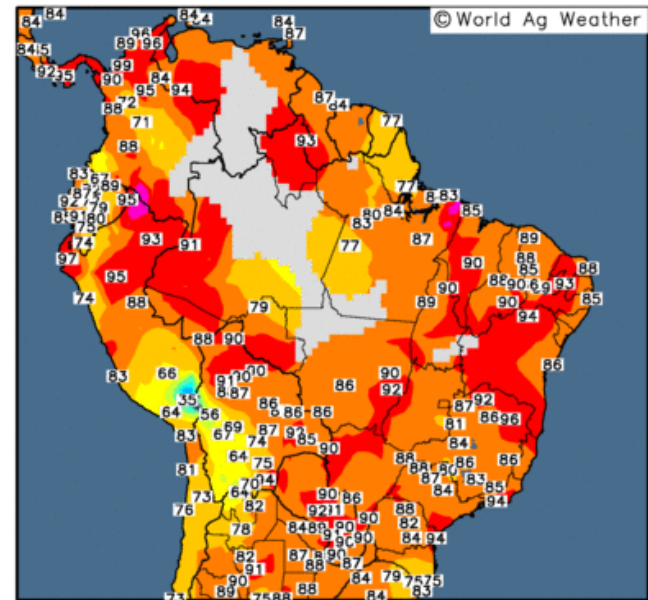
21 Feb 2018



FEB 21 MAX TEMPS ARG

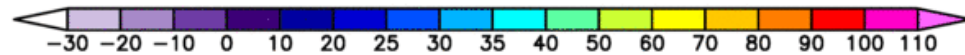
Observed Maximum Temperature (°F)

21 Feb 2018



Map updates daily by approximately 16:00 UTC

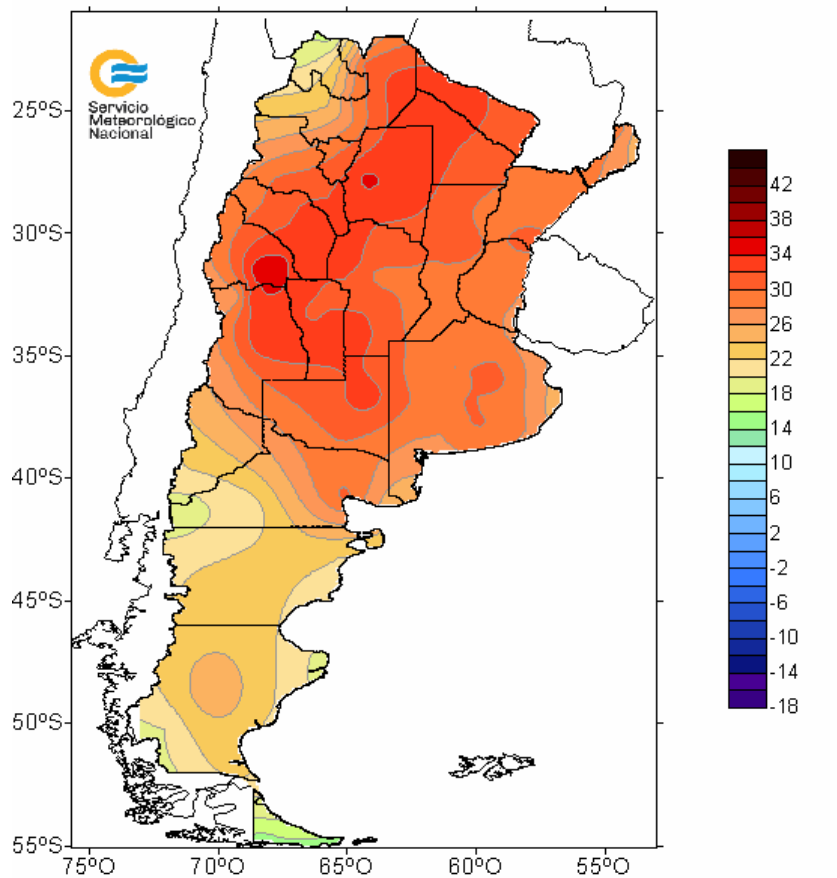
FEB 21 MAX TEMPS Brazil



Map updates daily by approximately 16:00 UTC

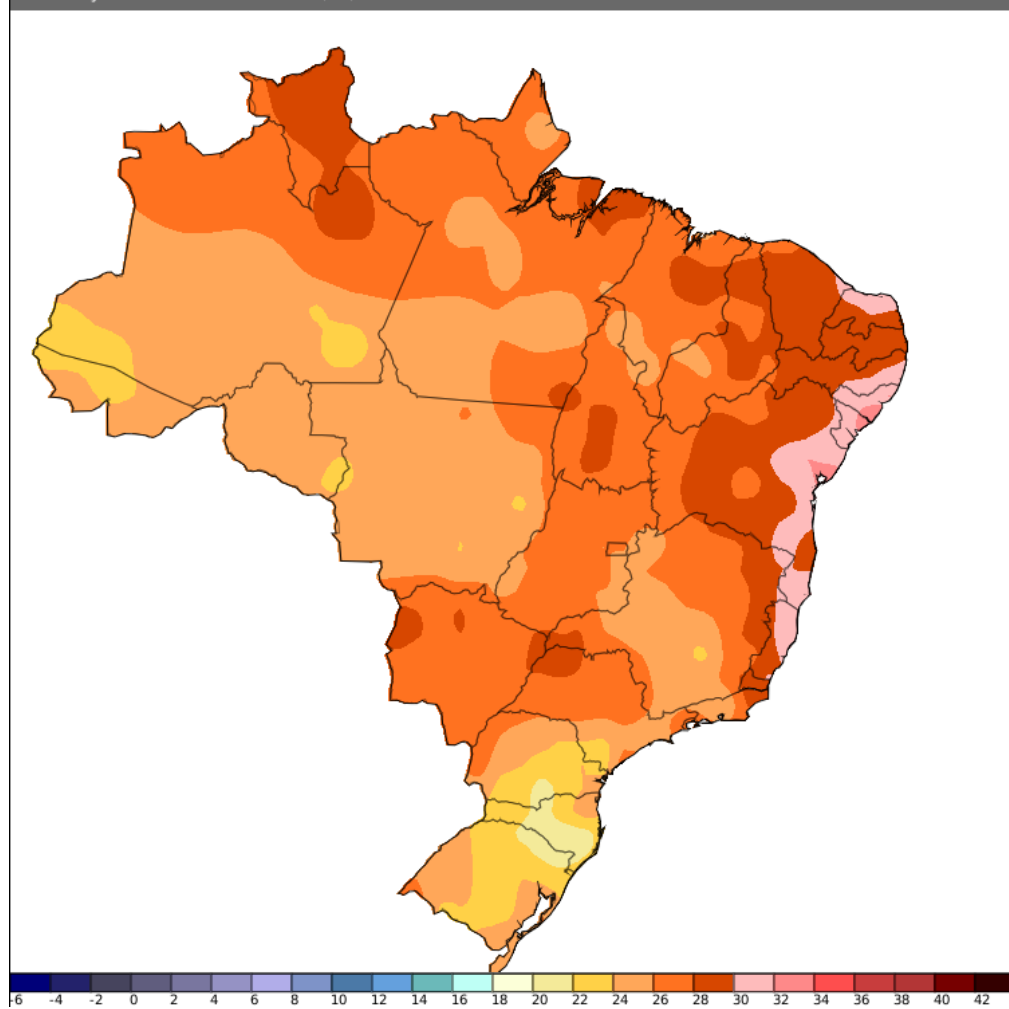
MAZ TEMP FEB 22 IN AG & BRAZIL

TEMPERATURAS MAXIMAS 22 de Febrero de 2018



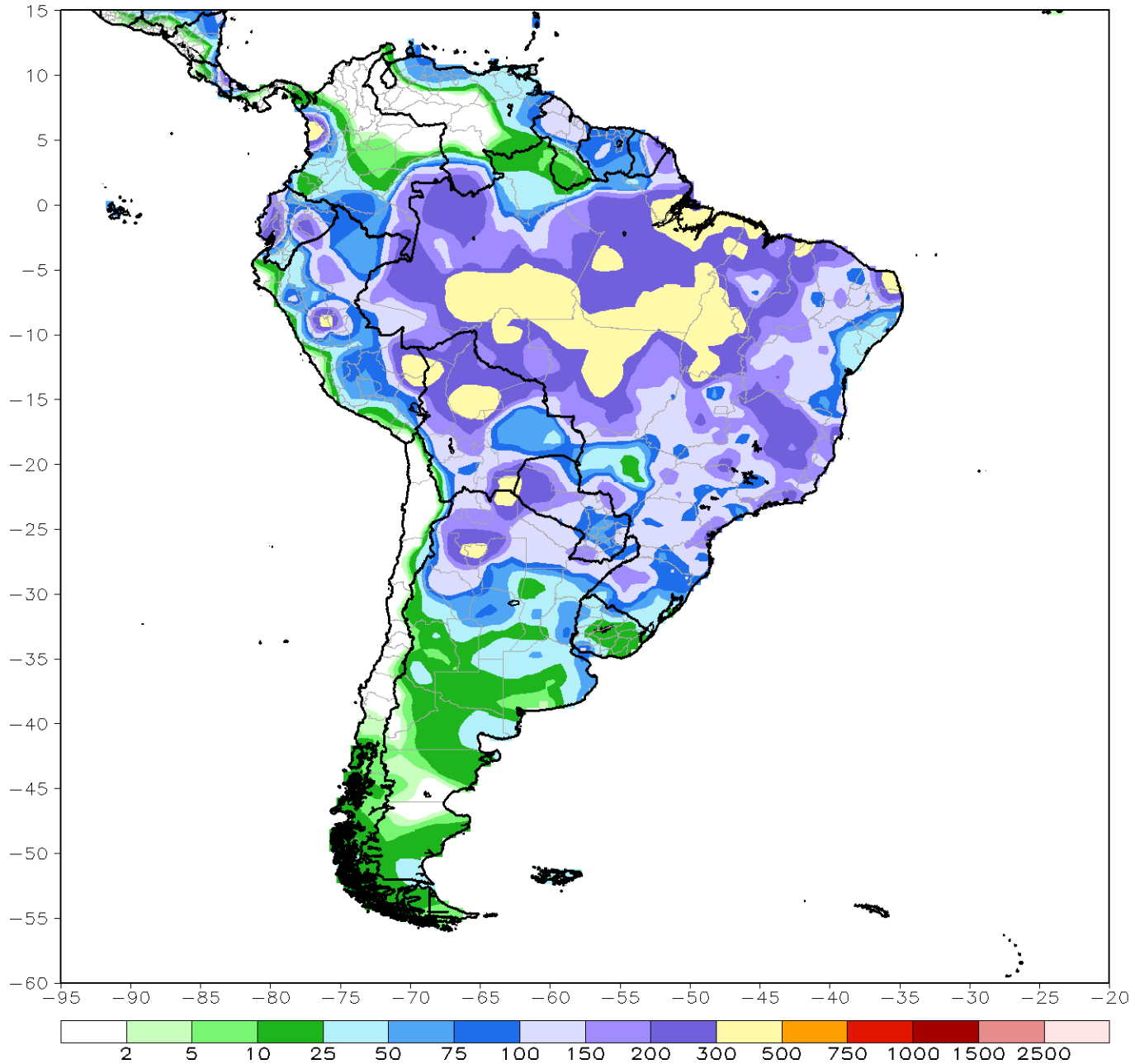
Servicio Meteorológico Nacional

Instituto Nacional de Meteorologia - INMET
Temperatura Máxima (°C)
Informações Sinóticas do dia 23/02/2018 às 13:00 UTC



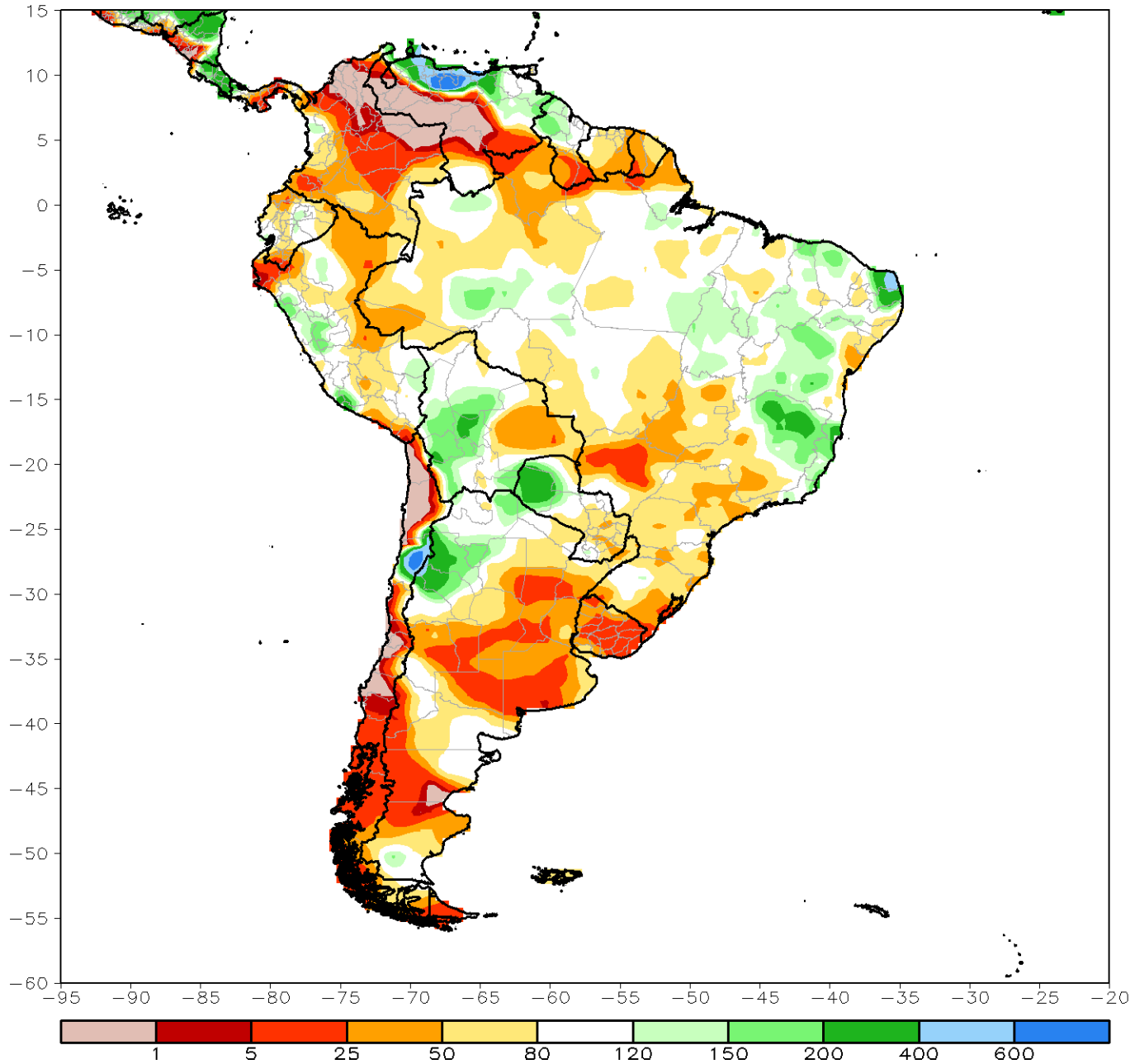
CPC Unified Gauge 30-Day Total Rainfall (mm)

Period: 23Jan2018 - 21Feb2018



CPC Unified Gauge 30-Day Percent of Normal Rainfall (%)

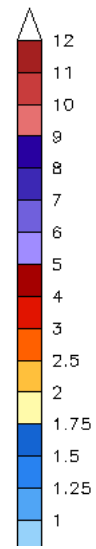
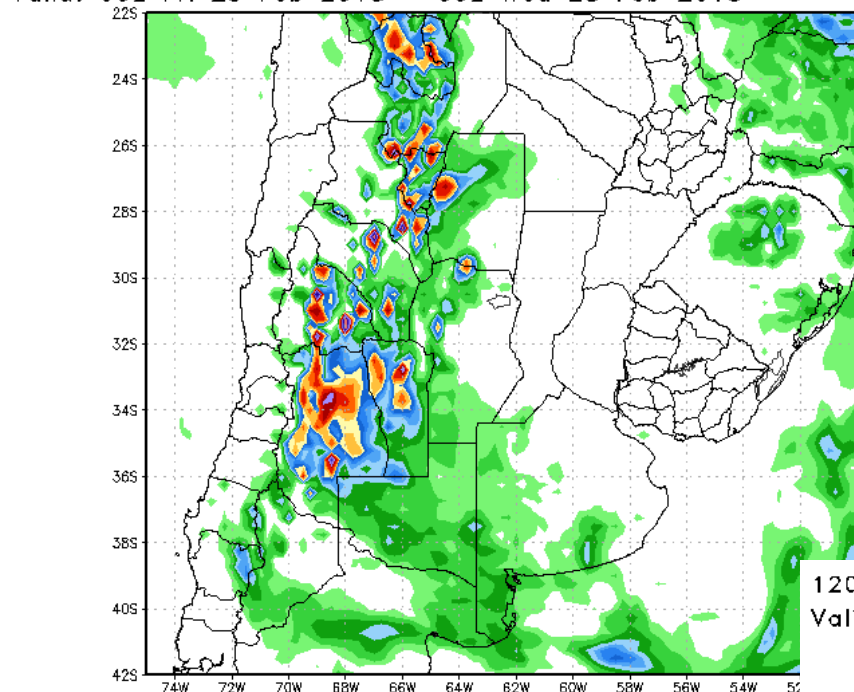
Period: 23Jan2018 - 21Feb2018



120 Hour Total Precipitation (in)
Valid: 00z Fri 23 Feb 2018 - 00z Wed 28 Feb 2018

GFS-MAXRES
Hour: 0 - 120

ARGENTINA RAINFALL NEXT 5 DAYS

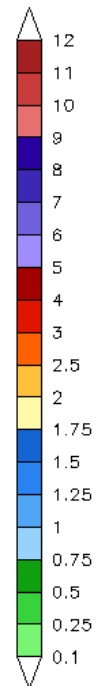
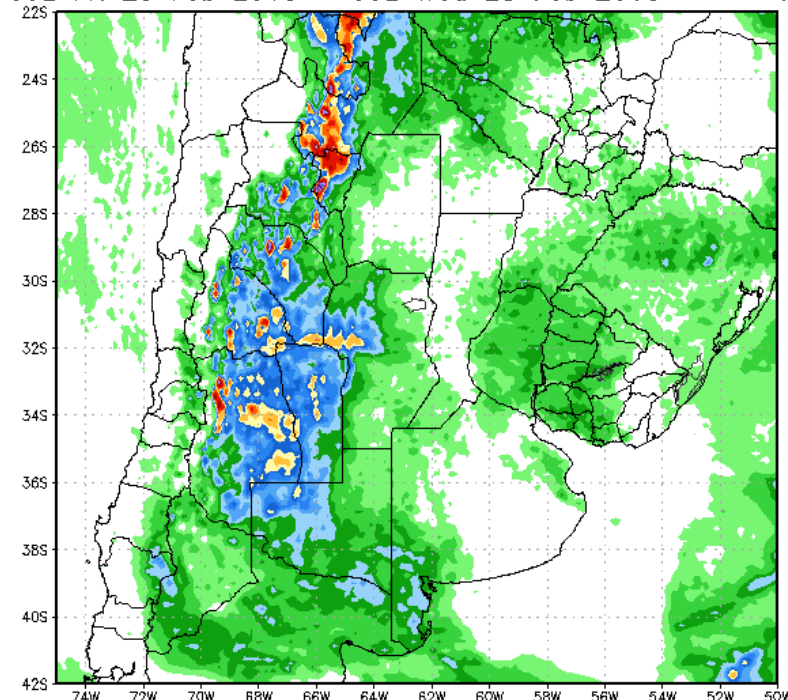


Max: 10.2 in
Min: 0.0 in

StormVistaWxModels.com

120 Hour Total Precipitation (in)
Valid: 00z Fri 23 Feb 2018 - 00z Wed 28 Feb 2018

ECMWF-MAXRES
Hour: 0 - 120



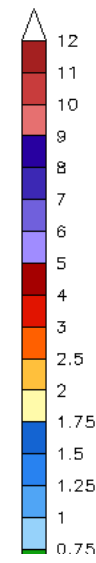
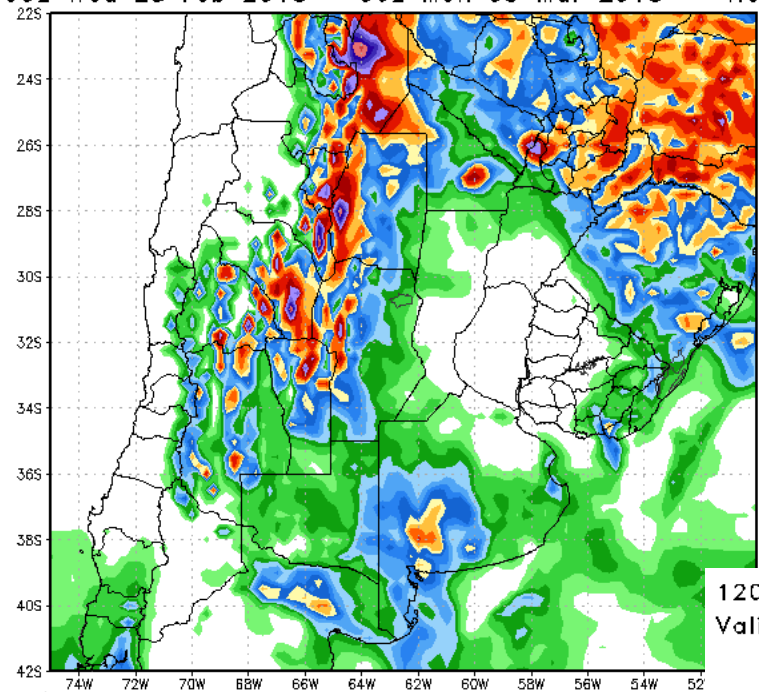
Max: 9.3 in
Min: 0.0 in

StormVistaWxModels.com

Init: 00z Fri 23 Feb 2018
2018-02-23-06:20

120 Hour Total Precipitation (in) GFS-MAXRES
 Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018 Hour: 120 - 240

ARGENTINA RAINFALL 6-10 DAY

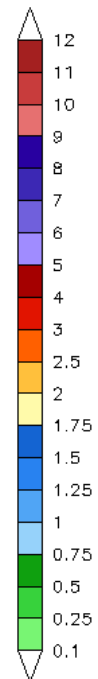
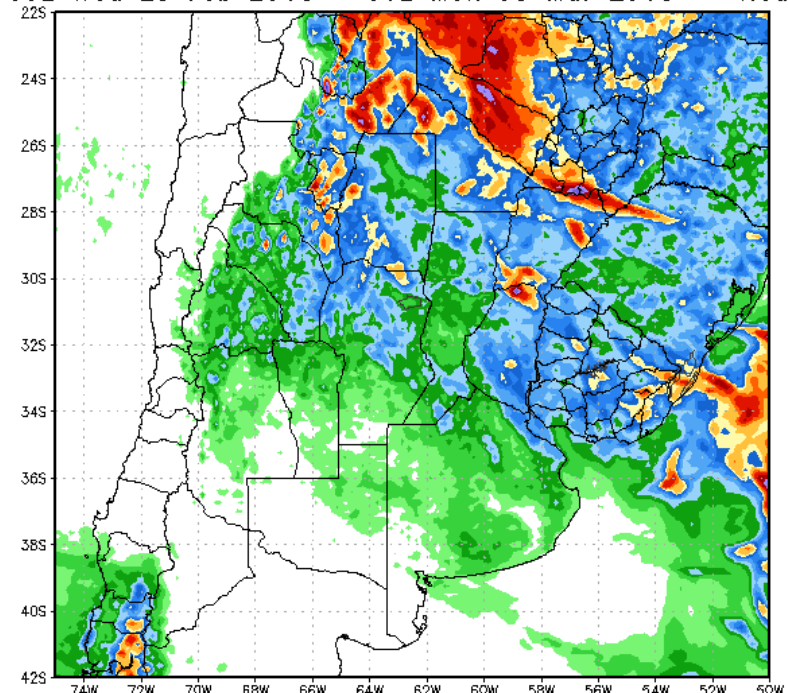


120 Hour Total Precipitation (in) ECMWF-MAXRES
 Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018 Hour: 120 - 240

Max: 10.7 in
 Min: 0.0 in

StormVistaWxModels.com

GFS 1-3"/25-75mm over western Buenos Aires 1-4"/25-100mm over west Cordoba. EURO very different with 1-3"/25-75mm over Entre Rios Corrientes 1-2"/25-50mm over north Cordoba North Santa Fe

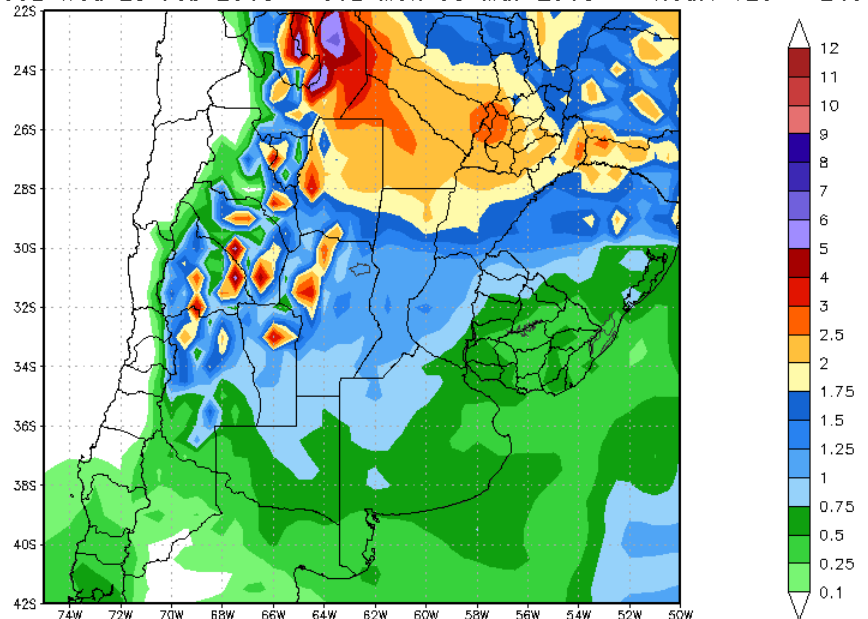


Max: 7.2 in
 Min: 0.0 in

StormVistaWxModels.com

Init: 00z Fri 23 Feb 2018
 2018-02-23-06:55

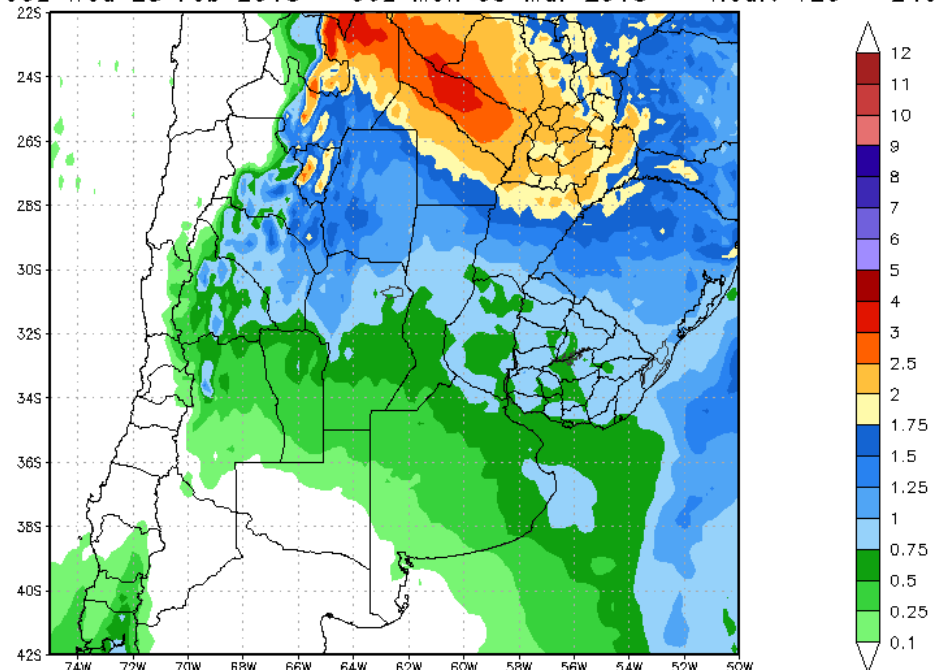
120 Hour Total Precipitation (in) GFS-ENS-MAXRES
Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018 Hour: 120 - 240



Max: 6.4 in
Min: 0.0 in
StormVistaWxModels.com
Init: 00z Fri 23 Feb 2018 2018-02-23-05:17

ARGENTINA RAINFALL 6-10D ENSEMBLES

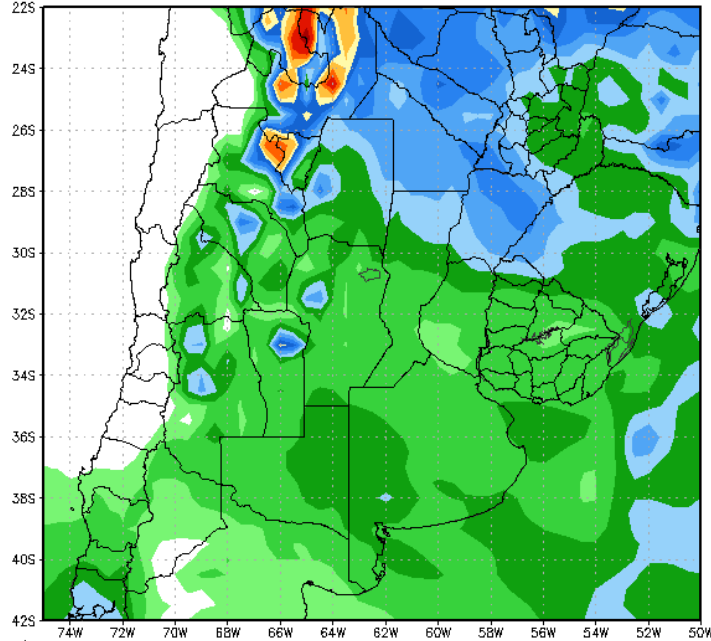
hour Total Precipitation (in) ECMWF-EPS-MAXRES
00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018 Hour: 120 - 240



Max: 3.7 in
Min: -0.0 in
StormVistaWxModels.com
Init: 00z Fri 23 Feb 2018 2018-02-23-07:43

**GFS ENSEMBLE is WETTER over
all of ARG and closer to EURO
ensemble**

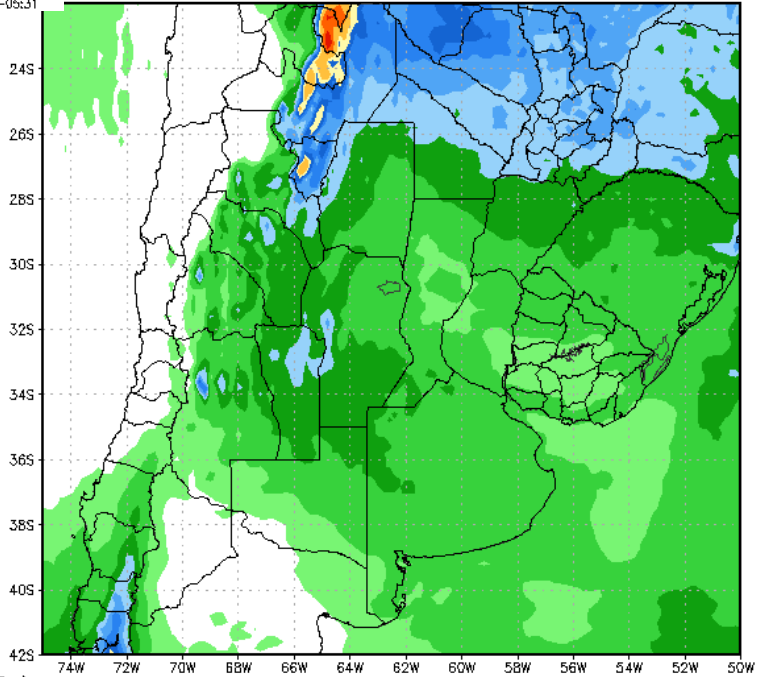
120 Hour Total Precipitation (in) GFS-ENS-MAXRES
Valid: 00z Mon 05 Mar 2018 - 00z Sat 10 Mar 2018 Hour: 240 - 360



Max: 4.6 in
Min: 0.0 in
StormVistaWxModels.com
Init: 00z Fri 23 Feb 2018 2018-02-23-05:31

ARGENTINA RAINFALL 11-15D ENSEMBLES

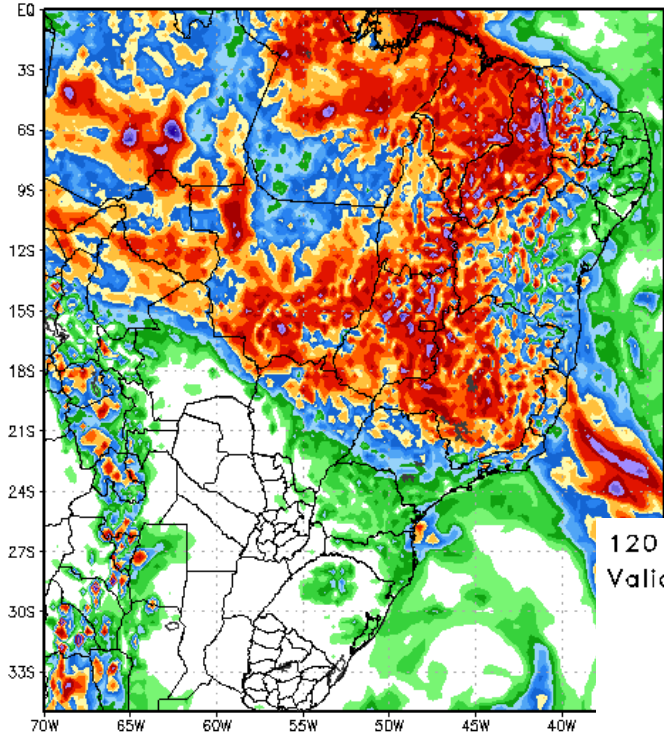
ECMWF-EPS-MAXRES
Total Precipitation (in)
Mon 05 Mar 2018 - 00z Sat 10 Mar 2018 Hour: 240 - 360



Max: 3.5 in
Min: -0.0 in
StormVistaWxModels.com
Init: 00z Fri 23 Feb 2018 2018-02-23-08:02

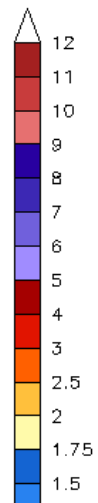
**Both ENSEMBLE 'MOSTLY DRY'
for MOST of ARG ... GFS a bit
wetter over northern ARG**

120 Hour Total Precipitation (in)
Valid: 00z Fri 23 Feb 2018 - 00z Wed 28 Feb 2018



GFS-MAXRES
Hour: 0 - 120

BRAZIL RAINFALL 1-5D

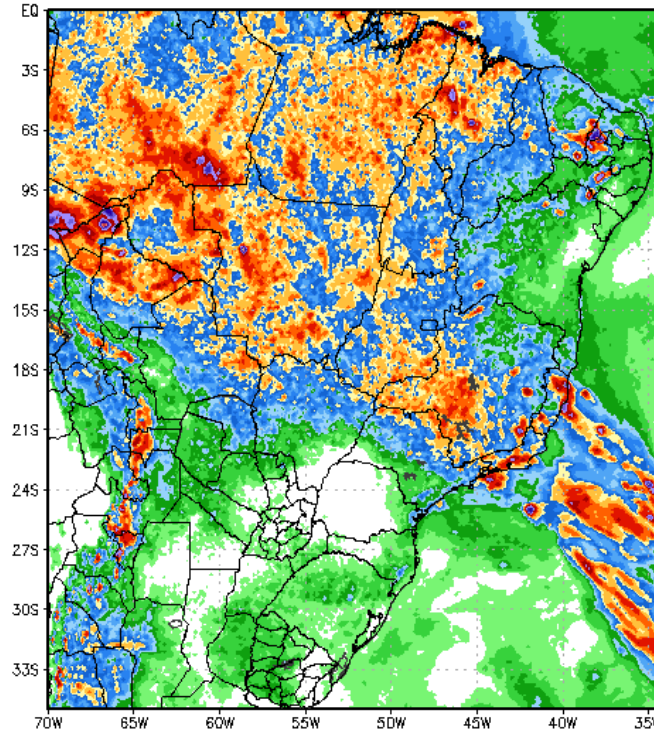


Max: 13.8 in
Min: 0.0 in

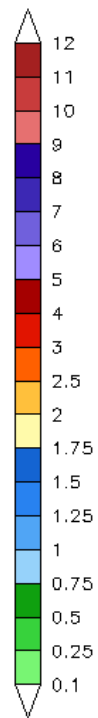
StormVistaWxModels.com

**Models AGREE sw & se
BRAZIL = DRY as is Parag
GFS super wet with 2-7"/50-
175mm 75%+ coverage Minas
Gerais Goias Tocantins East
Mato Grosso EURO same
area nut much less rains 1-3"/
25-75mm**

120 Hour Total Precipitation (in)
Valid: 00z Fri 23 Feb 2018 - 00z Wed 28 Feb 2018



ECMWF-MAXRES
Hour: 0 - 120



Max: 11.6 in
Min: 0.0 in

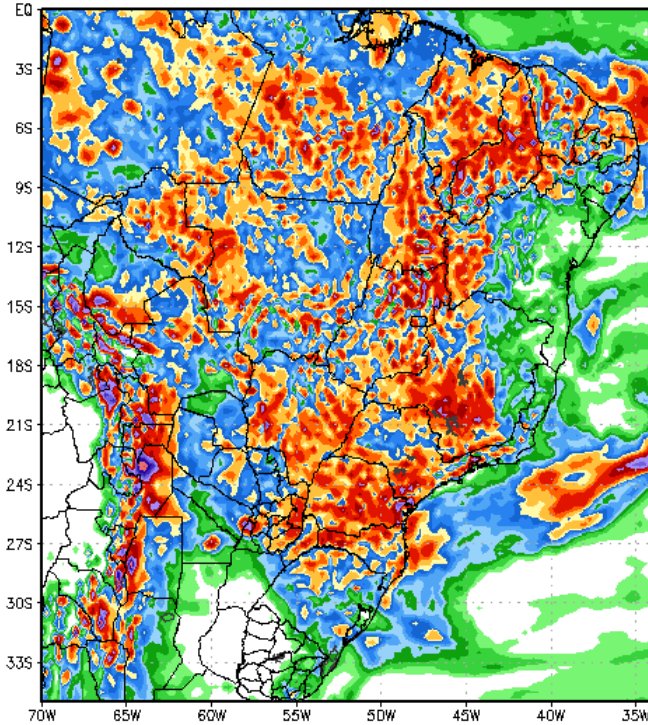
StormVistaWxModels.com

Init: 00z Fri 23 Feb 2018
2018-02-23-0620

120 Hour Total Precipitation (in)
Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018

GFS-MAXRES
Hour: 120 - 240

BRAZIL RAINFALL 6-10D



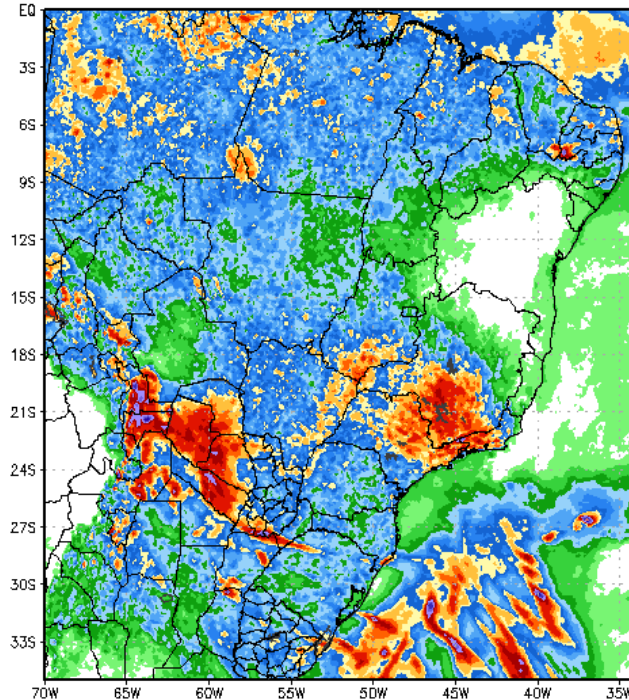
Max: 10.7 in
Min: 0.0 in

StormVistaWxModels.com

GFS again wetter than EURO showing 1-4"/25-100mm over 75% all of SE & SW Brazil Parg most of Brazil -- EURO 1-3"/ 25-75mm over southern Minas Gerais Sao Paulo MGDS south Goias 1-2"/25-50mm 50-60% coverage over Mato Grosso North Goias & se Brazil

120 Hour Total Precipitation (in)
Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018

ECMWF-MAXRES
Hour: 120 - 240



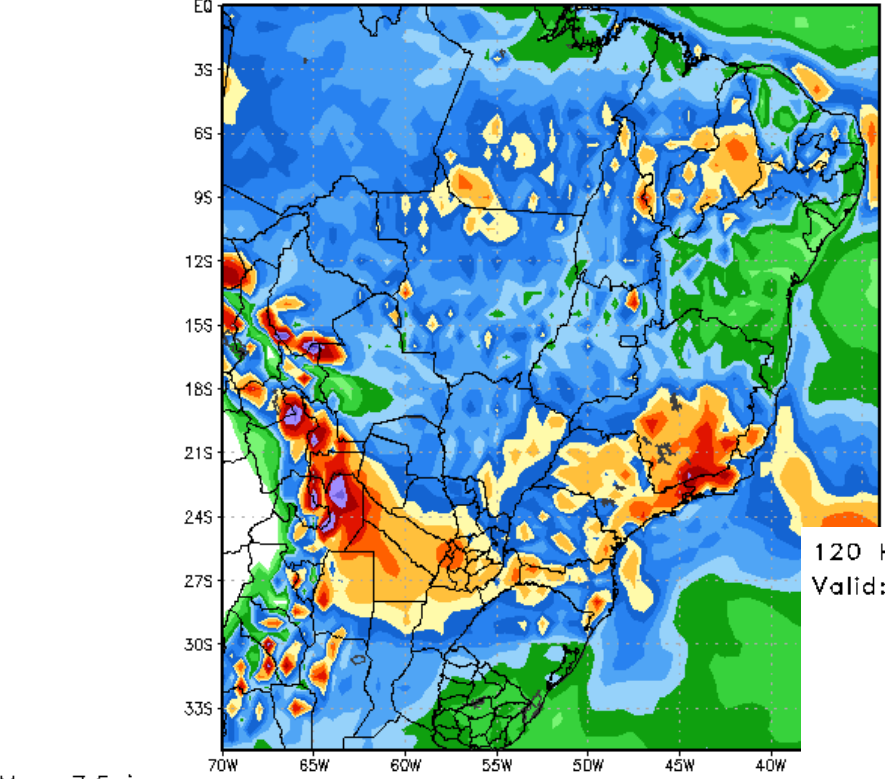
Max: 10.3 in
Min: 0.0 in

StormVistaWxModels.com

Init: 00z Fri 23 Feb 2018
2018-02-23-06:55

120 Hour Total Precipitation (in)

Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018



Max: 7.5 in
Min: 0.0 in

StormVistaWxModels.com

GFS-ENS-MAXRES

Hour: 120 - 240

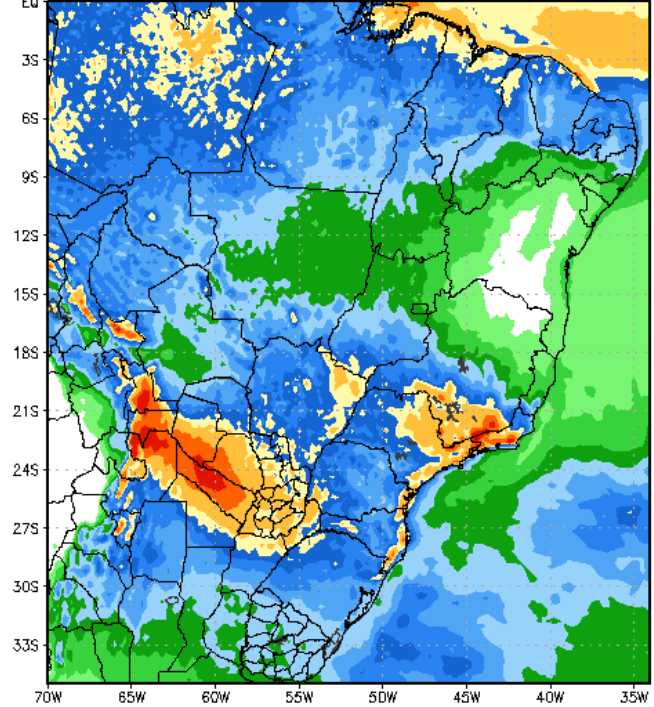
BRAZIL RAINFALL 6-10D ENSEMBLES

120 Hour Total Precipitation (in)

Valid: 00z Wed 28 Feb 2018 - 00z Mon 05 Mar 2018

ECMWF-EPS-MAXRES

Hour: 120 - 240



Max: 4.1 in
Min: -0.0 in

StormVistaWxModels.com

Init: 00z Fri 23 Feb 2018
2018-02-23-07:43

**Models in decent agreement
BOTH models shows 1-3"/25-75mm southern Minas Gerais
Sao Paulo Parana Paraguay MGDS
Santa Catarina EURO drier than
GFS over Mato Grosso Tocatis
Bahia**

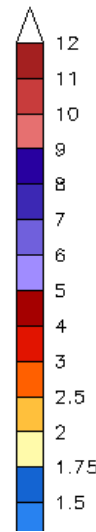
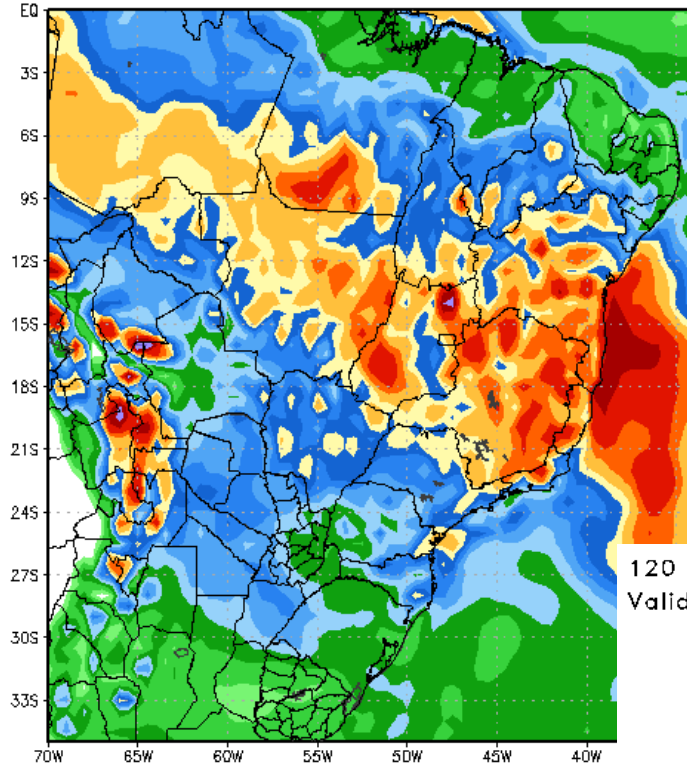
120 Hour Total Precipitation (in)

Valid: 06z Mon 05 Mar 2018 - 06z Sat 10 Mar 2018

GFS-ENS-MAXRES

Hour: 246 - 366

BRAZIL RAINFALL 11-15D ENSEMBLES



Max: 6.7 in
Min: 0.0 in

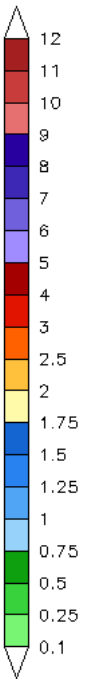
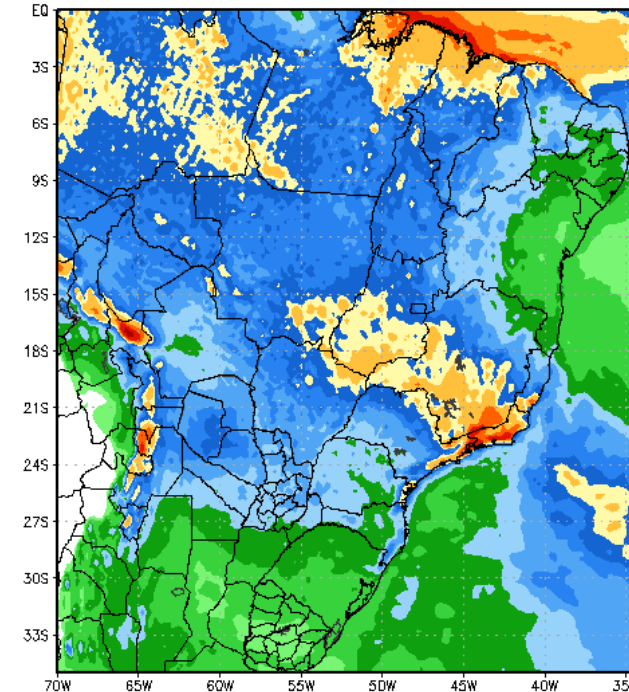
StormVistaWxModels.com

120 Hour Total Precipitation (in)

Valid: 00z Mon 05 Mar 2018 - 00z Sat 10 Mar 2018

ECMWF-EPS-MAXRES

Hour: 240 - 360

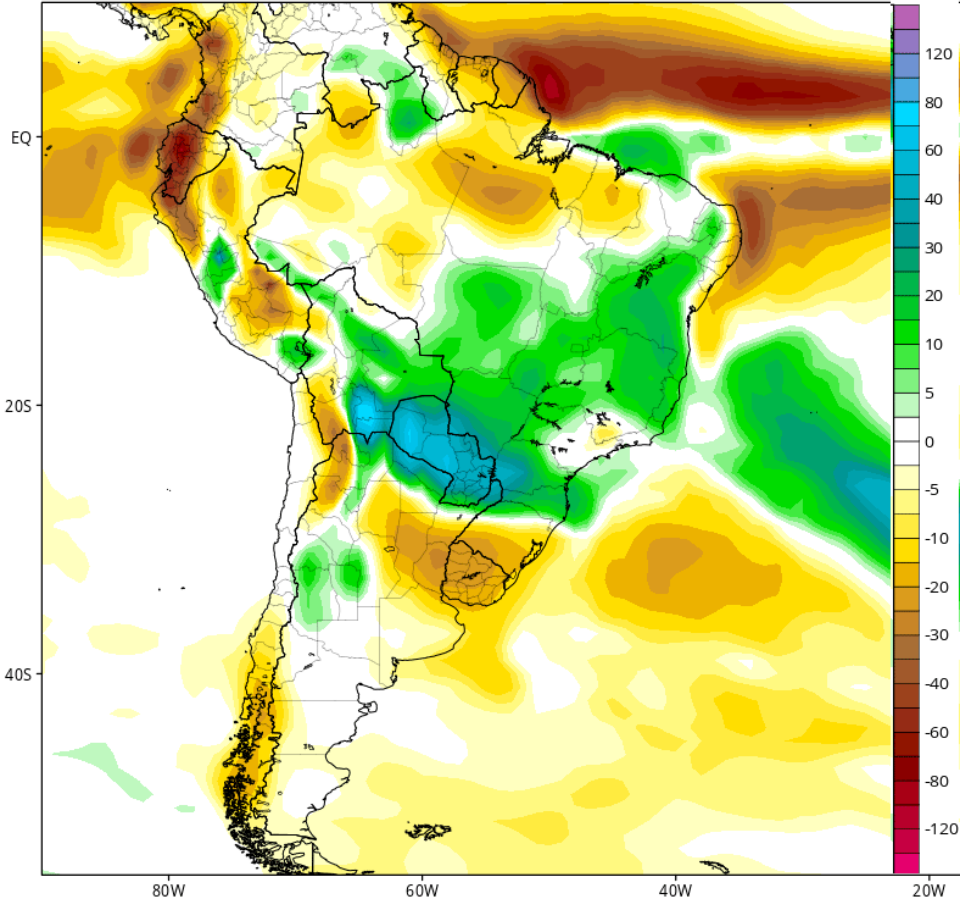


Max: 4.5 in
Min: -0.0 in

StormVistaWxModels.com

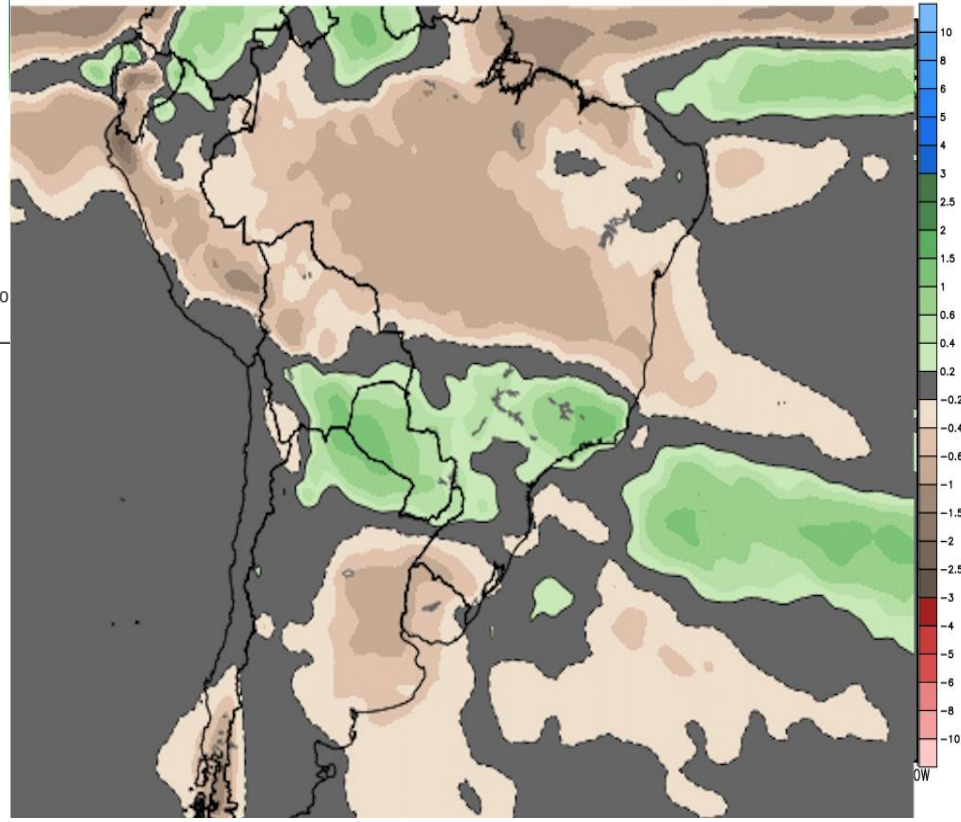
Init: 00z Fri 23 Feb 2018
2018-02-23-08:02

CFSv2 Accumulated Precip. Anomaly (mm) from 00z02mar2018 to 00z09mar2018 (Days 8-14)
Average of last 48 forecasts (12 runs x 4 members)
Init: 06z Feb 20 2018 through 00z Feb 23 2018



WEEK 2 RAINFALL ANOMALIES

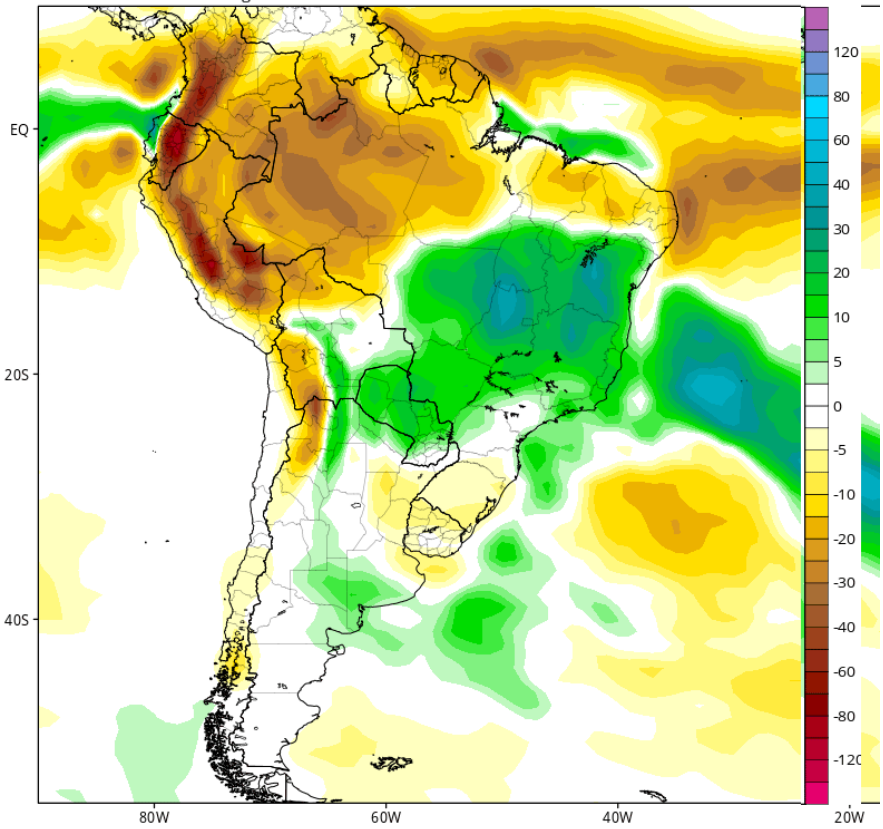
ECMWF EPS Ensemble Mean 7-day Avg Precipitation Anomaly [inch]
Init: 00Z22FEB2018 -- [168] hr --> Valid on Thu 00Z08MAR2018 Day 0 - Day 7
Min|Max Anom: -3.2 | 6.7 inch



CFSv2 Accumulated Precip. Anomaly (mm) from 00z09Mar2018 to 00z16Mar2018 (Days 15-21)

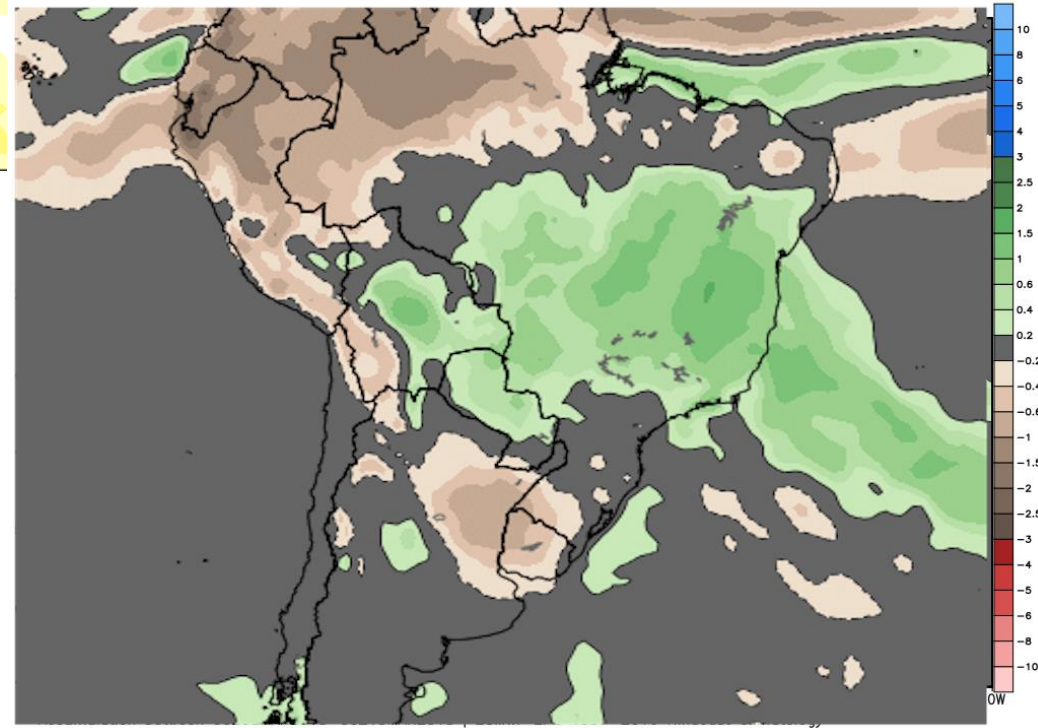
Average of last 48 forecasts (12 runs x 4 members)

Init: 06z Feb 20 2018 through 00z Feb 23 2018



WEEK 3 RAINFALL ANOMALIES

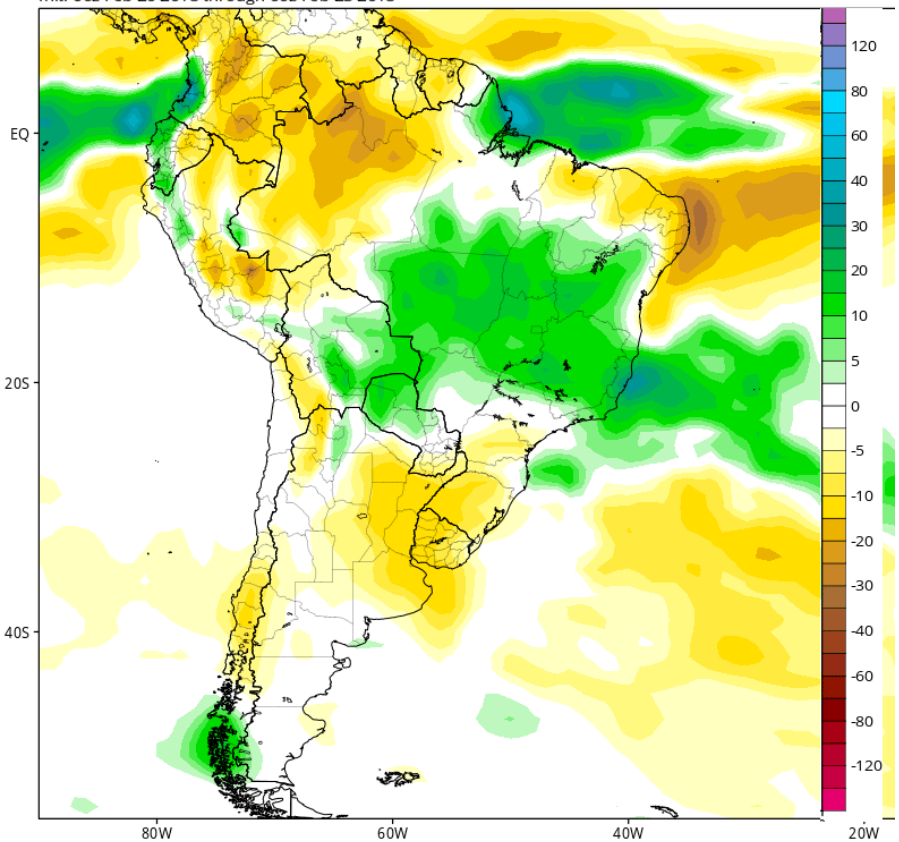
ECMWF EPS Ensemble Mean 7-day Avg Precipitation Anomaly [inch]
Init: 00Z22FEB2018 -- [252] hr --> Valid on Thu 00Z15MAR2018 Day 3.5 - Day 10.5
Min|Max Anom: -5.5 | 2.4 inch



CFSv2 Accumulated Precip. Anomaly (mm) from 00z16Mar2018 to 00z23Mar2018 (Days 22-28)

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

Init: 06z Feb 20 2018 through 00z Feb 23 2018

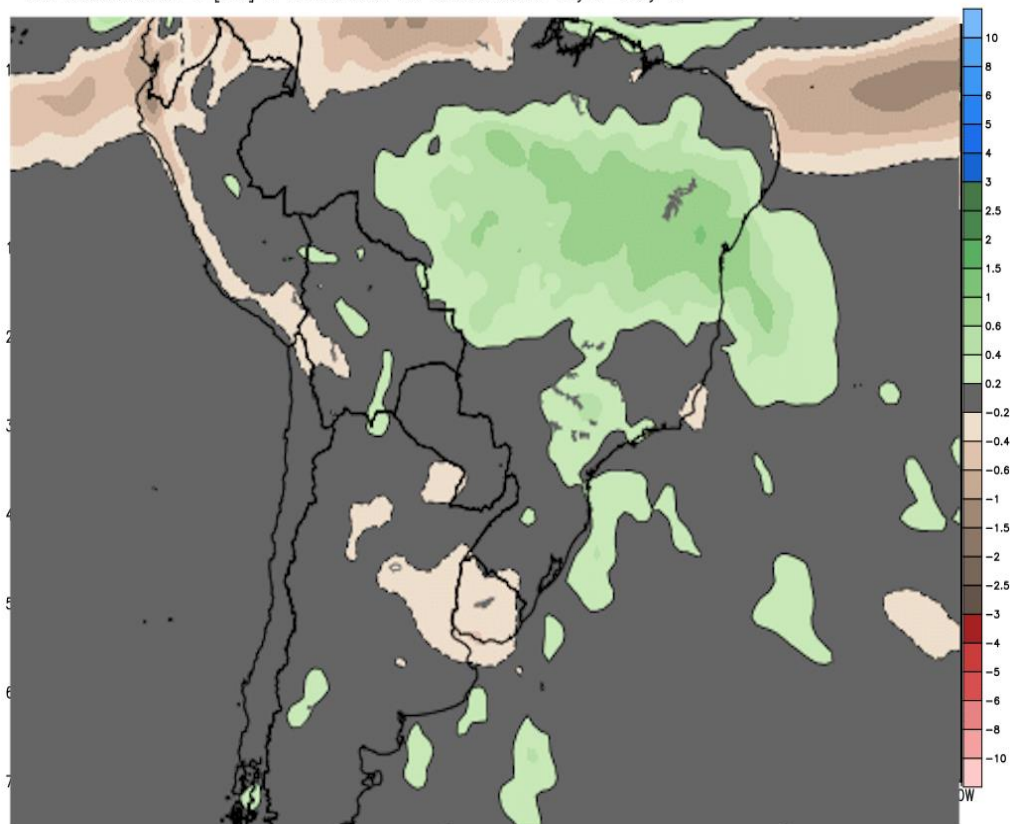


WEEK 4 RAINFALL ANOMALIES

ECMWF EPS Ensemble Mean 7-day Avg Precipitation Anomaly [inch]

Init: 00Z22FEB2018 -- [336] hr --> Valid on Thu 00Z22MAR2018 Day 7 - Day 14

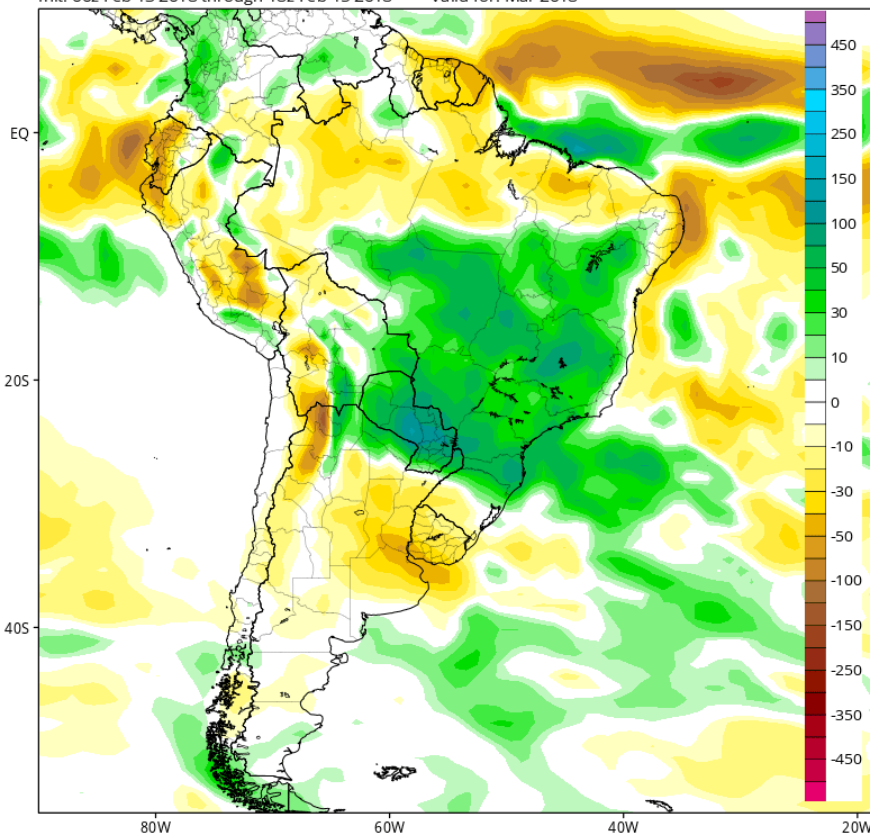
Min|Max Anom: -2.5 | 2.0 inch



CFSv2 Total Accumulated Precipitation Anomaly (mm)

Average of last 12 forecasts (12 runs x 1 members)

Init: 00z Feb 13 2018 through 18z Feb 15 2018 Valid for: Mar 2018



CFS

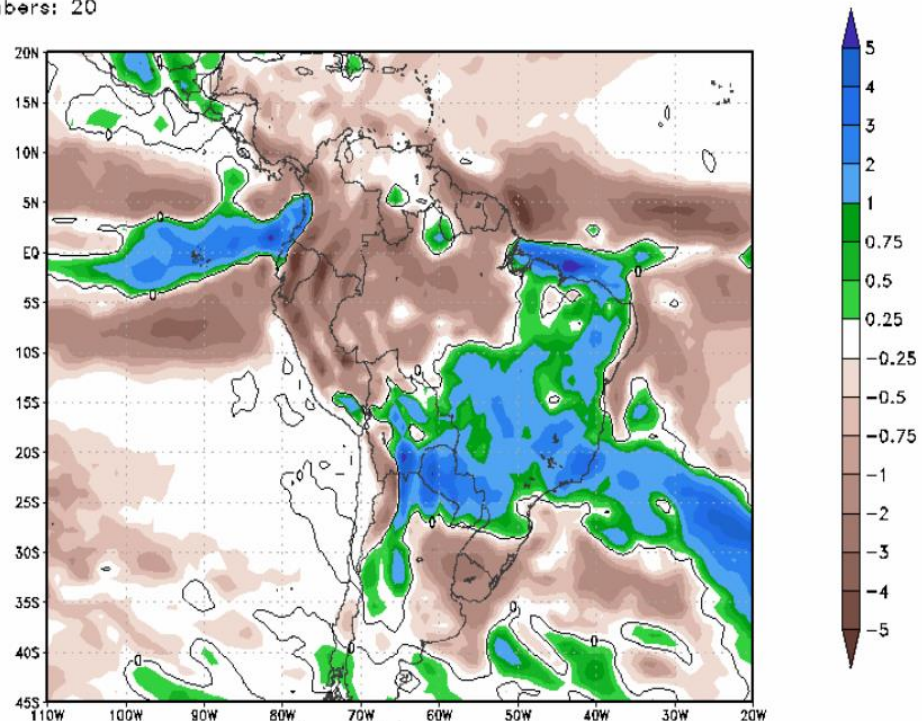
Monthly Precipitation Anom. (in)

Month: 01

Init: 12z Sat 17 Feb 2018 to 06z Thu 22 Feb 2018

Valid: Mar 2018

Members: 20



CFS

Monthly Precipitation Anom. (in)

Month: 02

Init: 12z Sat 17 Feb 2018 to 06z Thu 22 Feb 2018

Valld: Apr 2018

Members: 20

