Global Tropics Hazards And Benefits Outlook

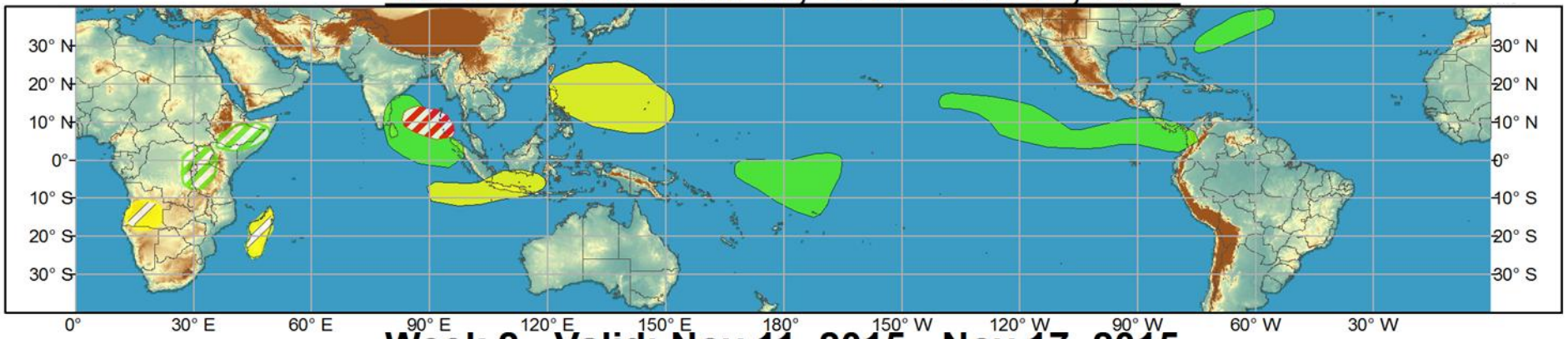
November 17, 2015

Adam Allgood

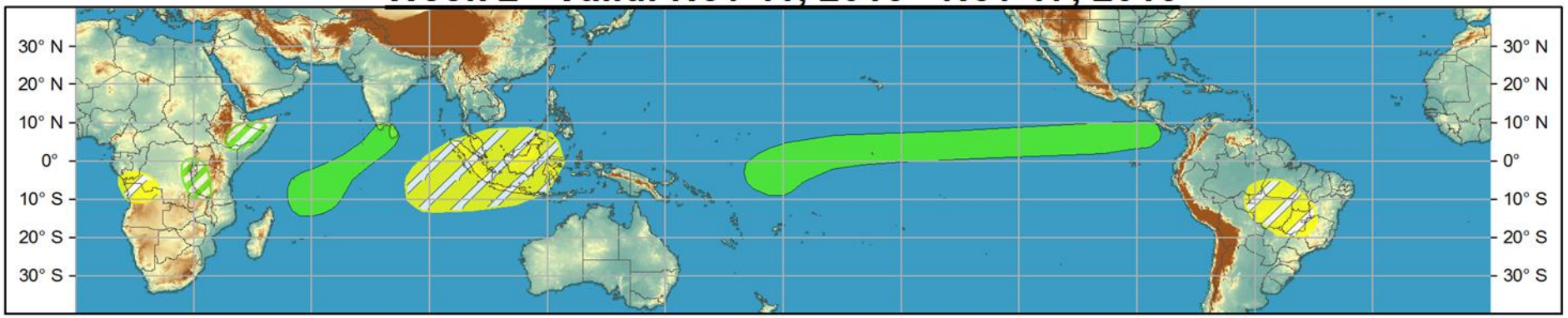
Outline

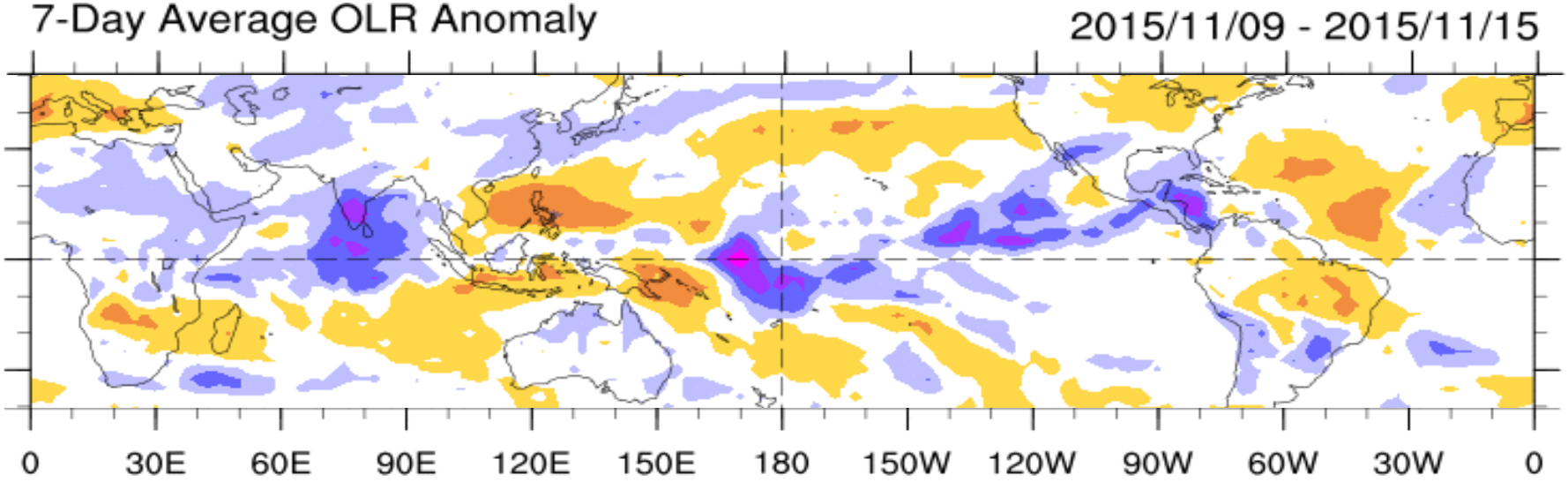
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Week 1 - Valid: Nov 11, 2015 - Nov 17, 2015

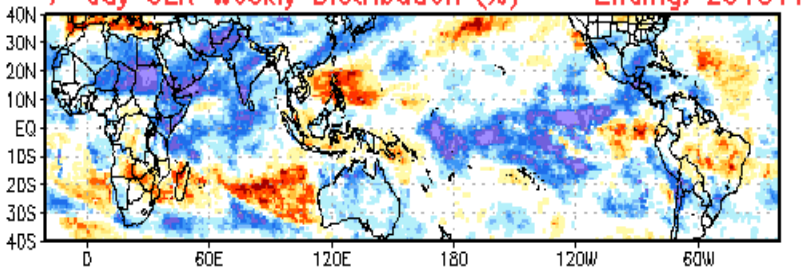


Week 2 - Valid: Nov 11, 2015 - Nov 17, 2015

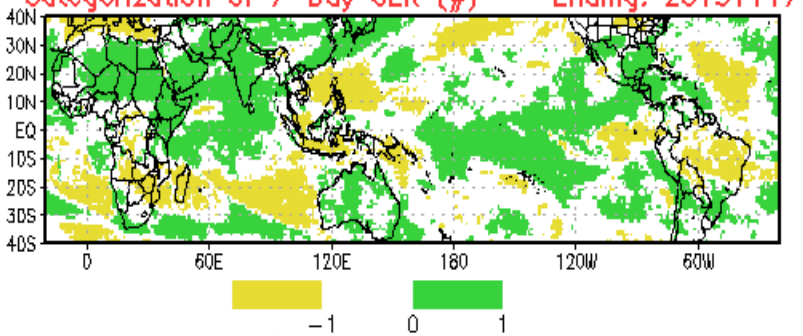




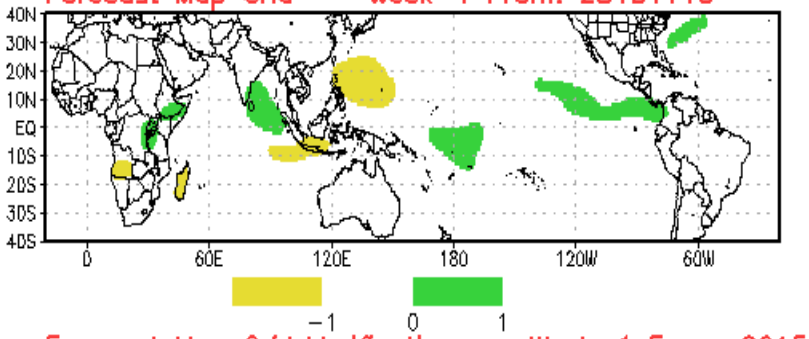
7-day OLR Weekly Distribution (%) -- Ending: 20151117



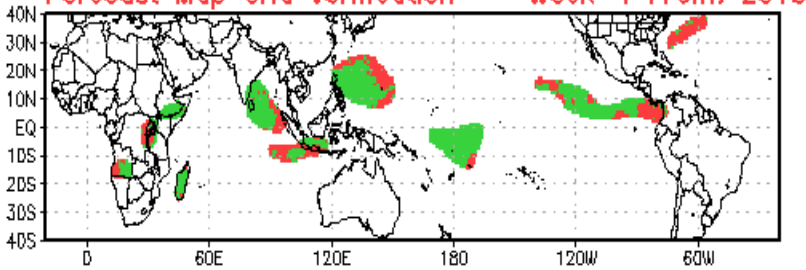
Categorization of 7-Day OLR (#) -- Ending: 20151117



Forecast Map Grid -- Week-1 From: 20151110

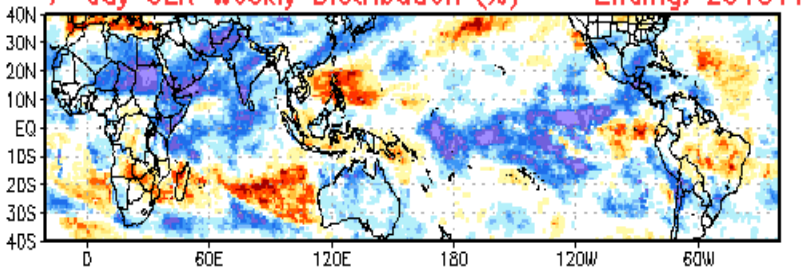


Forecast Map Grid Verification -- Week-1 From: 20151110

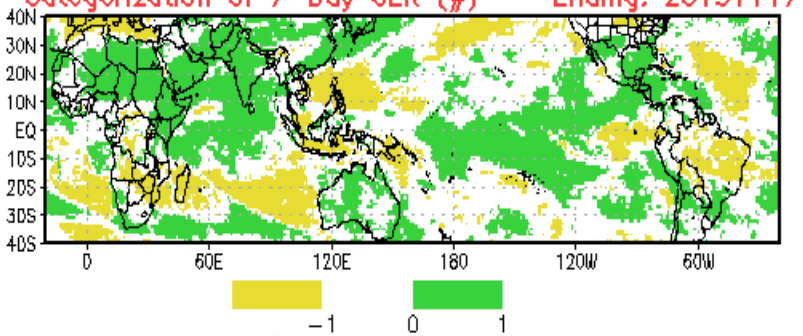


Hit: Green, Miss: Red
Heidke Skill Score: 49.5476

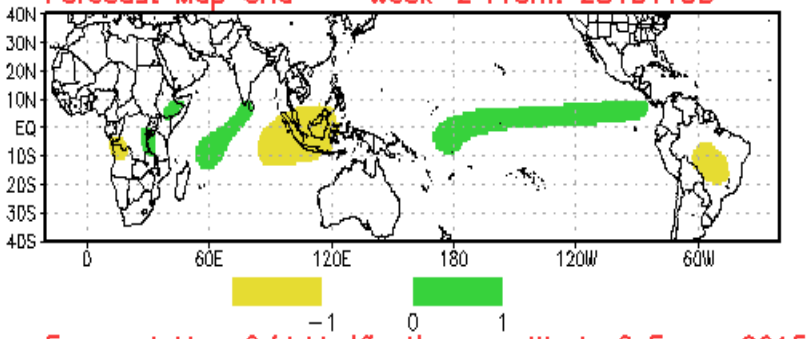
7-day OLR Weekly Distribution (%) -- Ending: 20151117



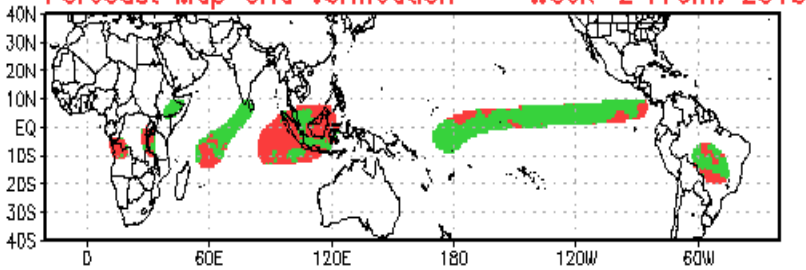
Categorization of 7-Day OLR (#) -- Ending: 20151117



Forecast Map Grid -- Week-2 From: 20151103



Forecast Map Grid Verification -- Week-2 From: 20151103



Hit: Green, Miss: Red
Heidke Skill Score: 38.6120

Synopsis of Climate Modes

ENSO:

• Current: **El Niño Advisory**

• Outlook: El Niño will likely peak during the Northern Hemisphere winter 2015-16, with a transition to ENSO-neutral anticipated during the late spring or early summer 2016.

MJO and other subseasonal tropical variability:

• The MJO Index broke down during the past week.

• A resurgence of the ENSO atmospheric response, Equatorial Rossby Wave activity west of the Date Line, and a stationary convective signal over the central Indian Ocean all contributed to the weakened intraseasonal signal.

• Some remnant MJO signal (or Kelvin Wave activity) is apparent over the east-central Pacific.

• Most dynamical model MJO index forecasts depict little MJO activity during the next two weeks, although projections of the RMM Index over the Indian Ocean are anticipated to continue.

Extratropics:

• MJO activity will not play a significant role.

• The El Niño based atmospheric response is currently very robust in the Northern Hemisphere.

• Long range outlooks place the enhanced southerly jet generally south of California with a strong trough over the northeastern Pacific.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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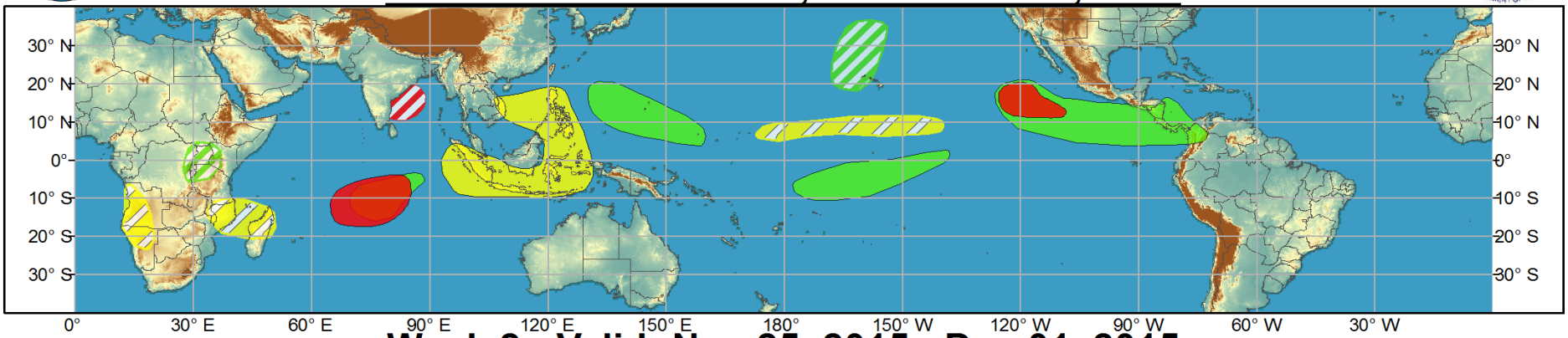

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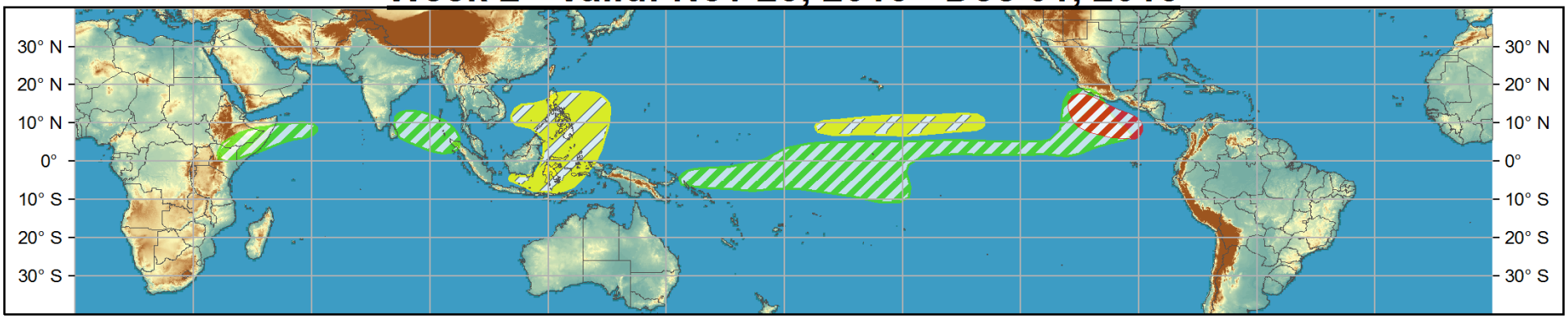

Produced: 11/17/2015

Forecaster: Allgood

	Confidence: High	Confidence: Moderate	
Tropical Cyclone Formation			Development of a tropical cyclone (tropical depression - TD, or greater strength).
Above-average rainfall			Weekly total rainfall in the upper third of the historical range.
Below-average rainfall			Weekly total rainfall in the lower third of the historical range.
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中央氣象局 Central Weather Bureau

UNIVERSITY AT ALBANY State University of New York

EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

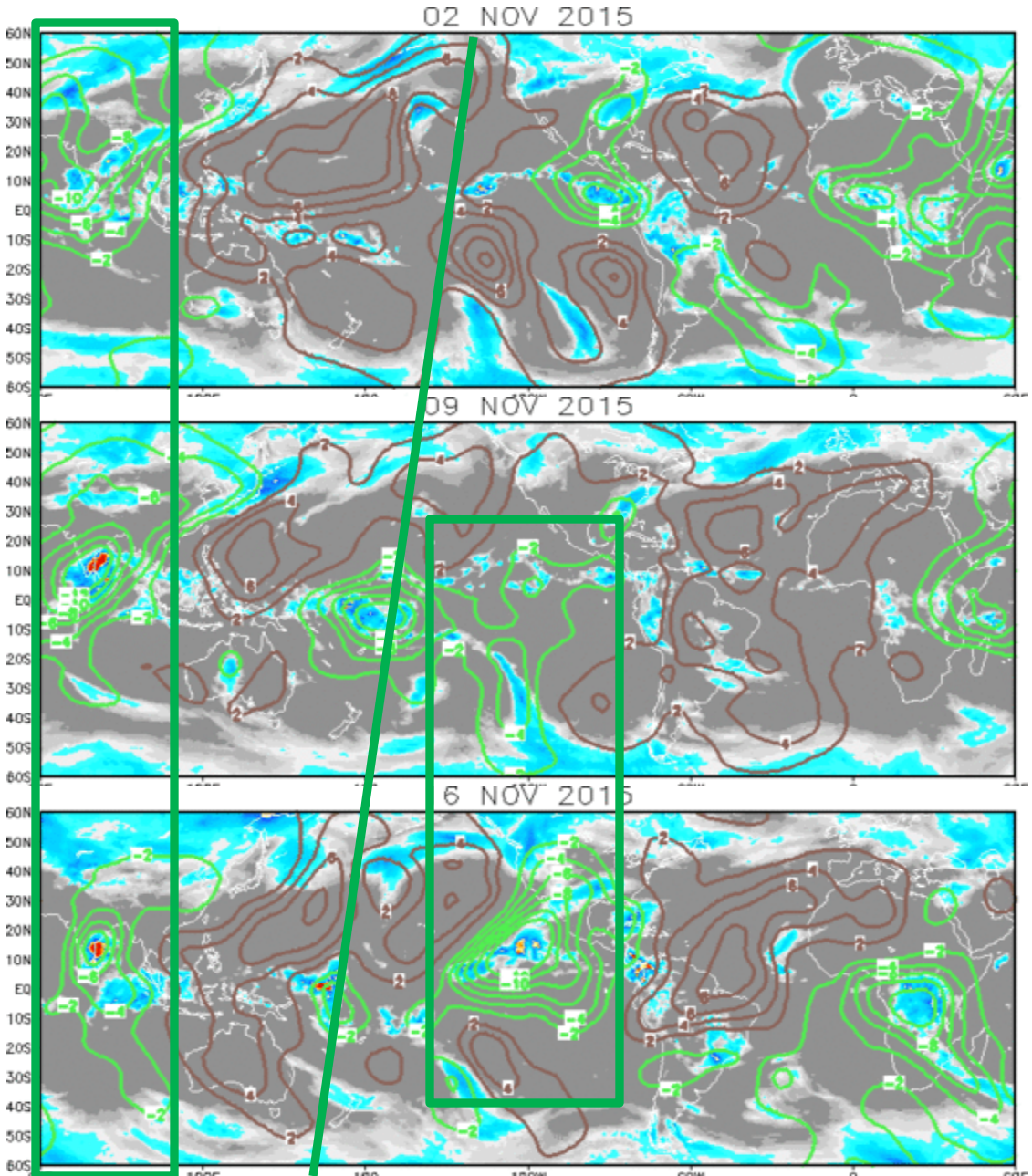
Australian Government Bureau of Meteorology

cics.nc

NPS PRAESTANTIA PER SCIENTIAM

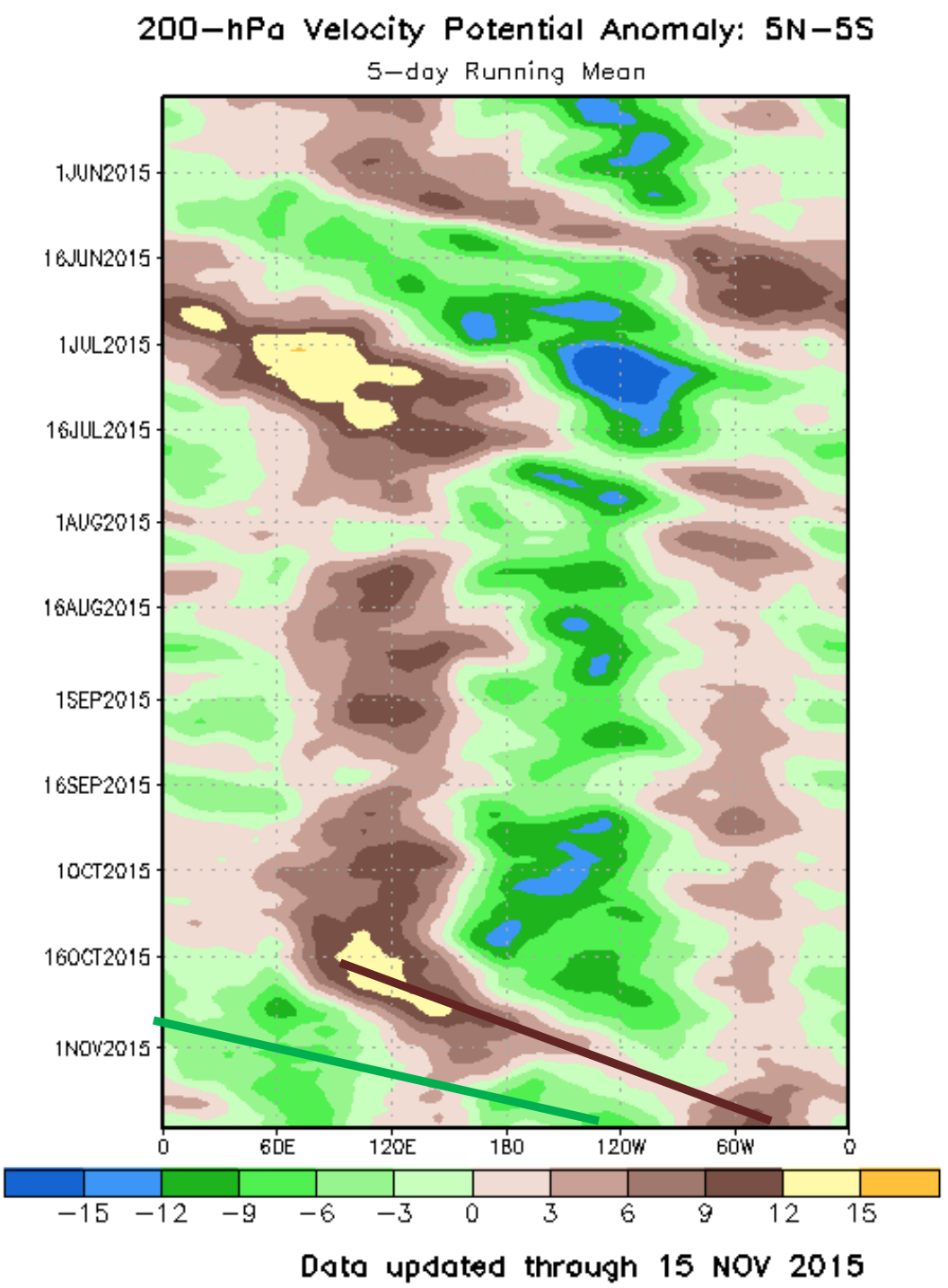
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence



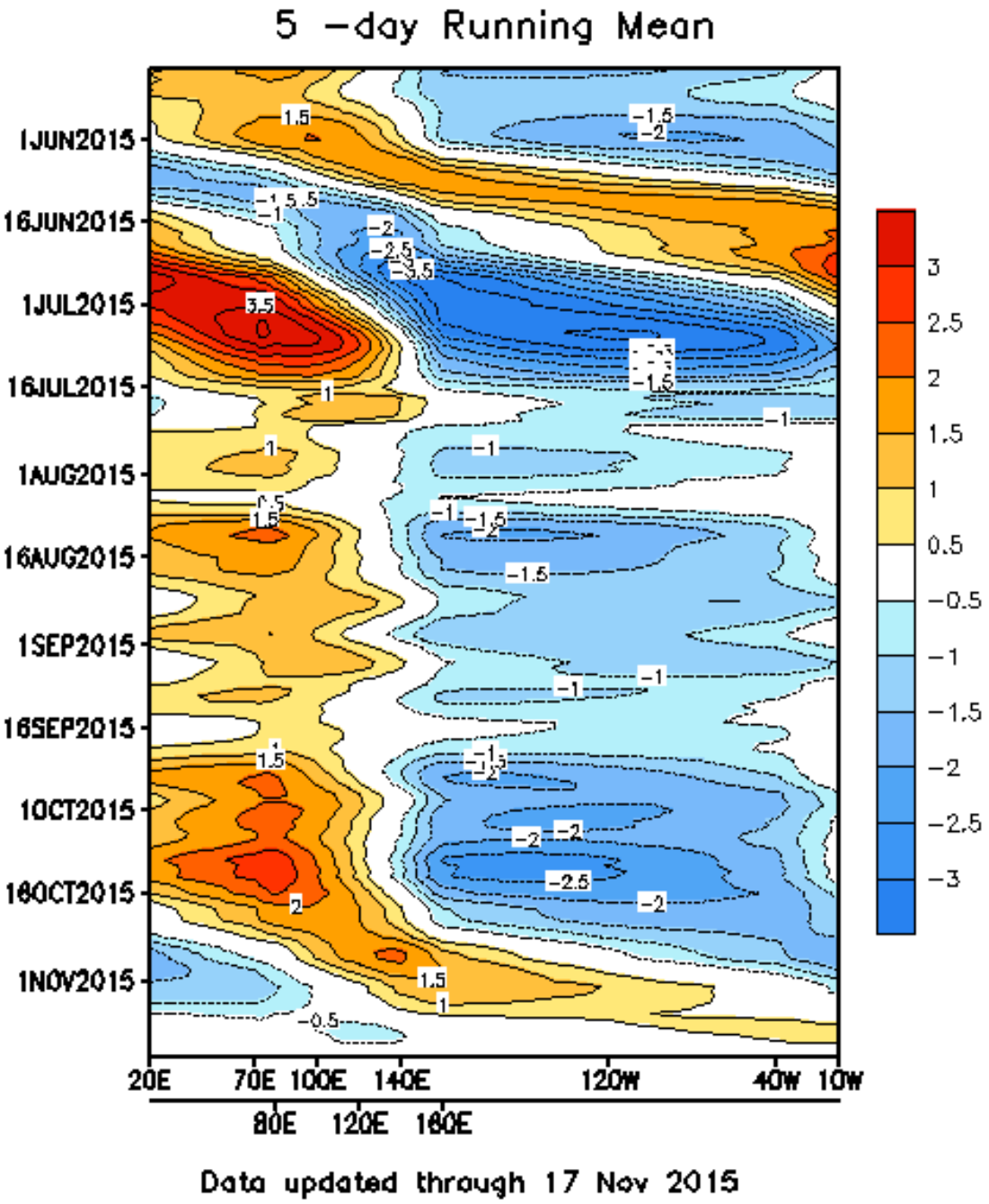
Eastward propagation of an intraseasonal signal was observed during late October and early November.

More recently, the signal has broken down, with a Wave-2 pattern globally.

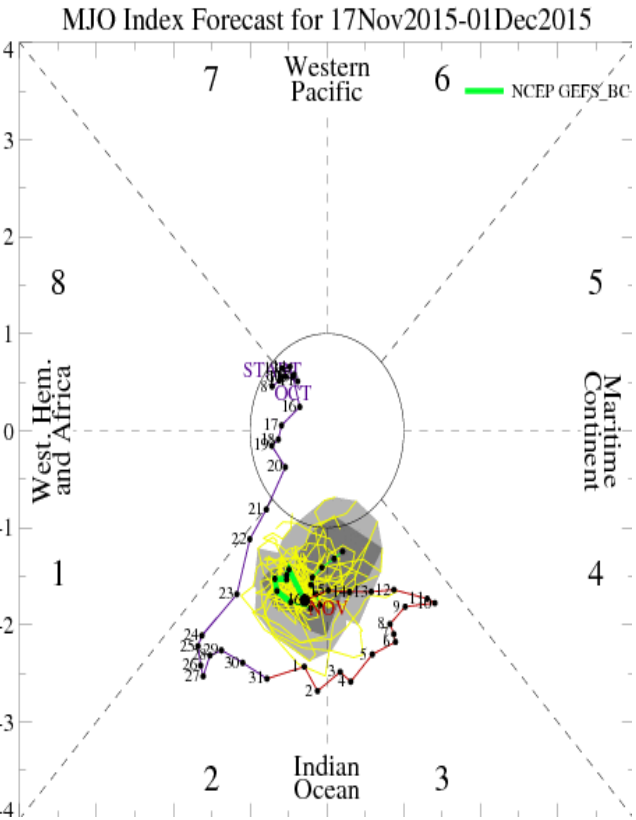


The CPC velocity potential index showed fast propagation of the signal through early November (strong Kelvin Wave?).

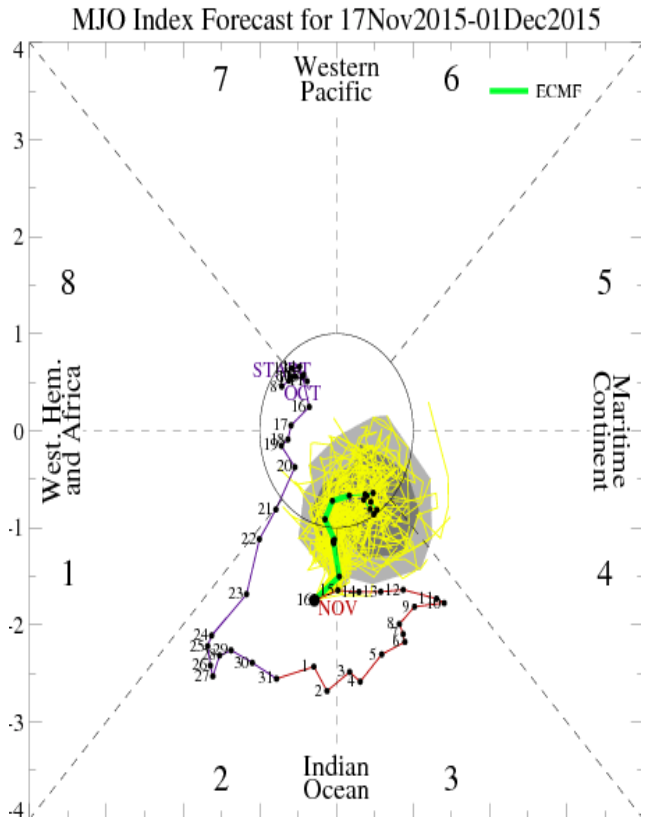
More recently, the intraseasonal signal has broken down.



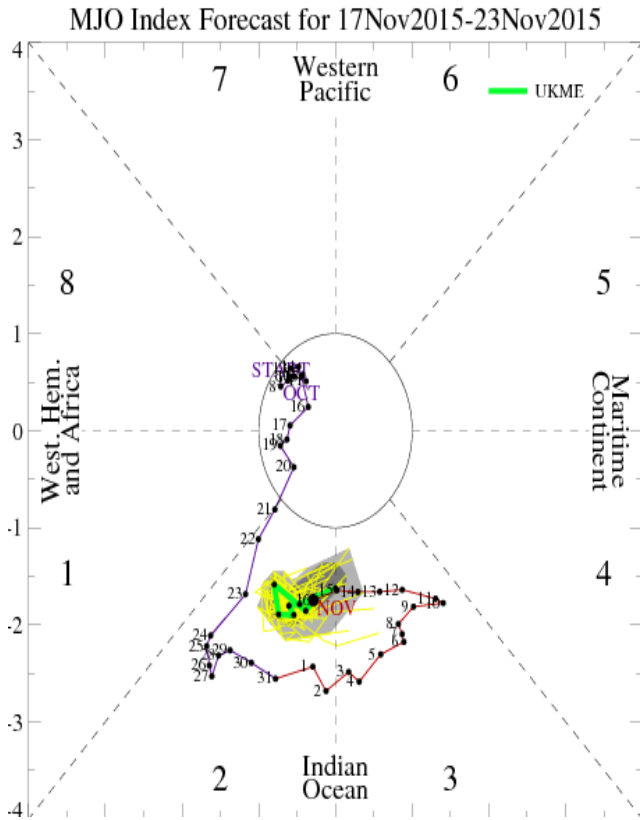
MJO Observation/Forecast



GFS



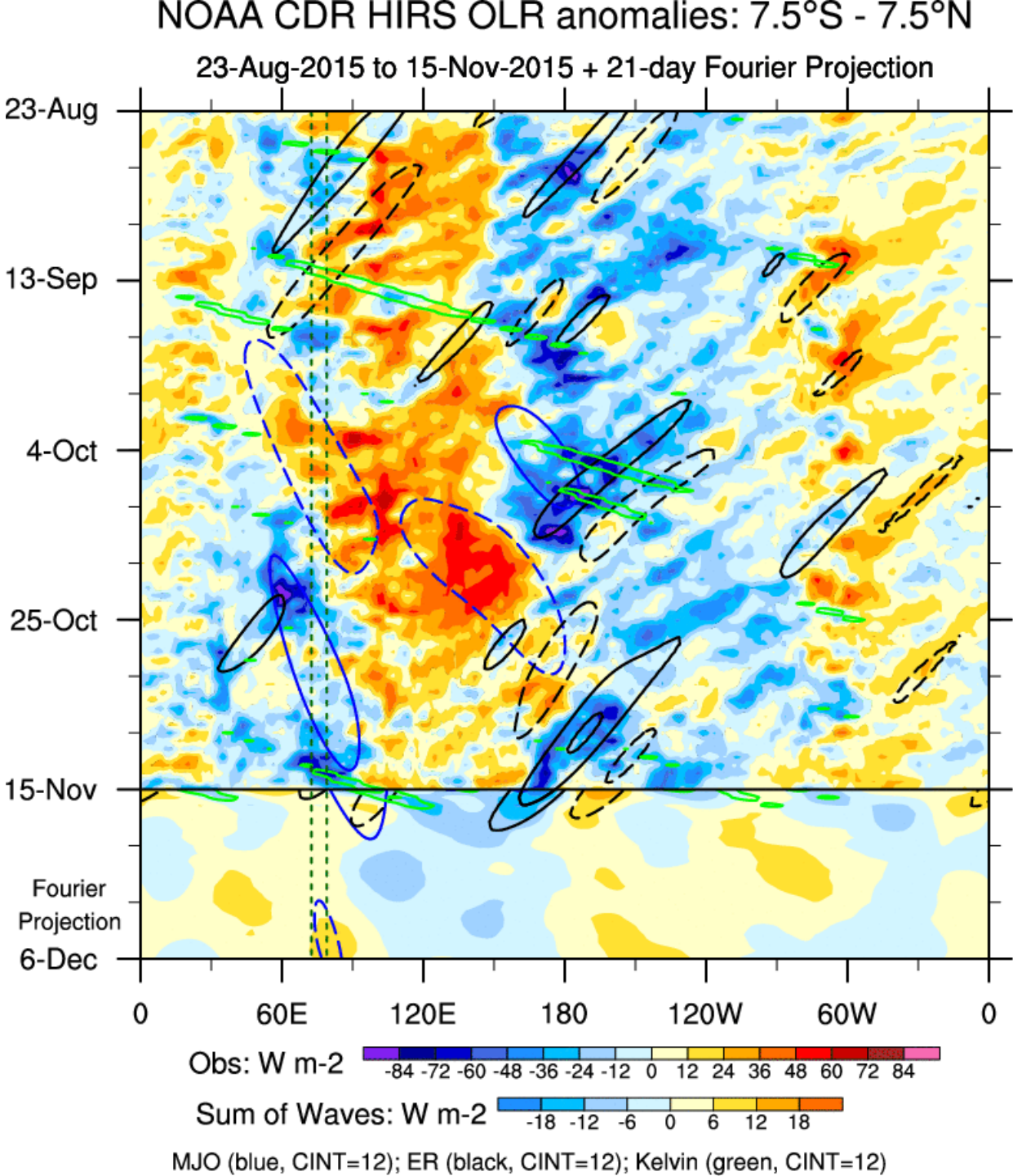
ECMWF



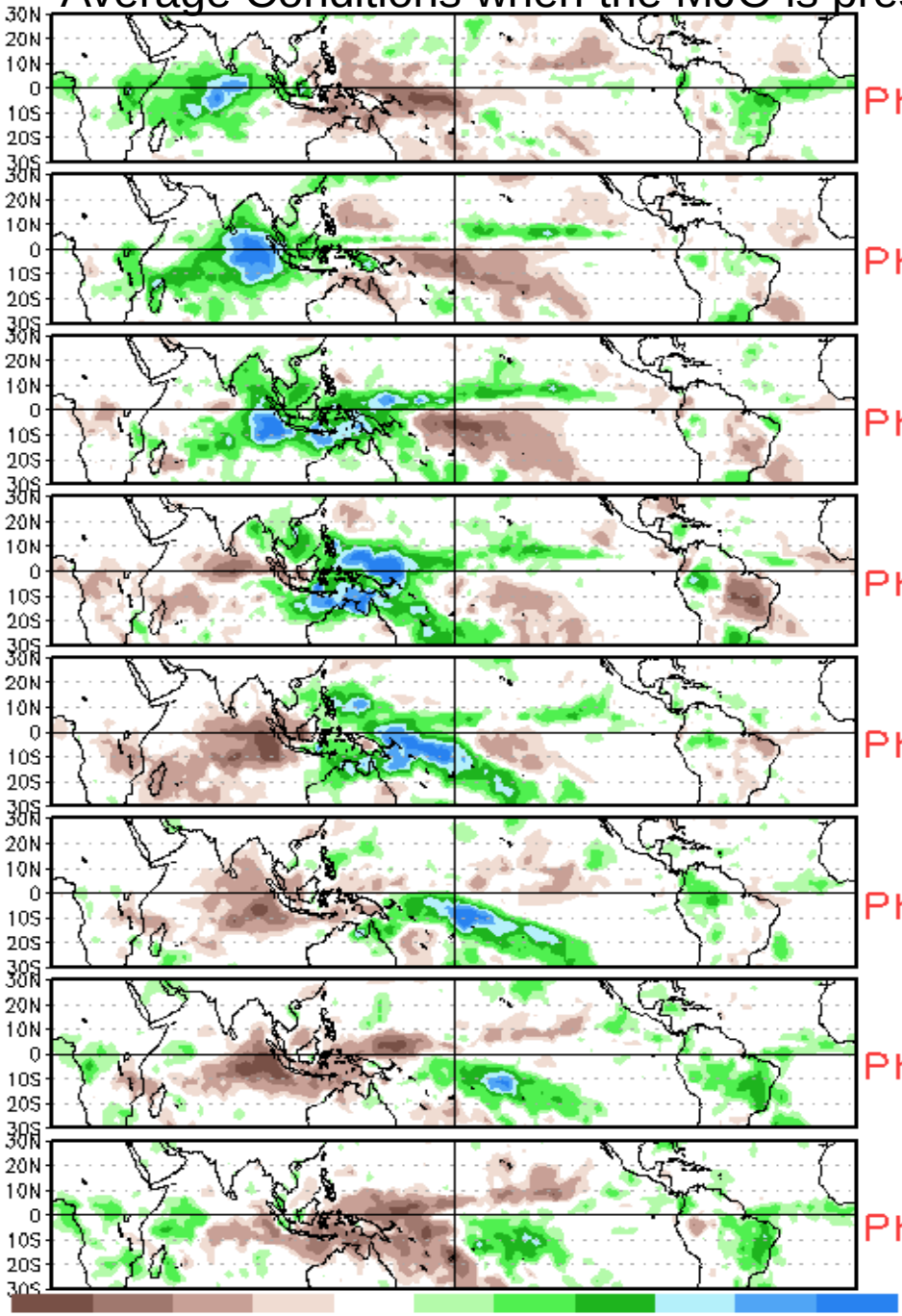
UKMET

MJO activity is not anticipated during the next two weeks.

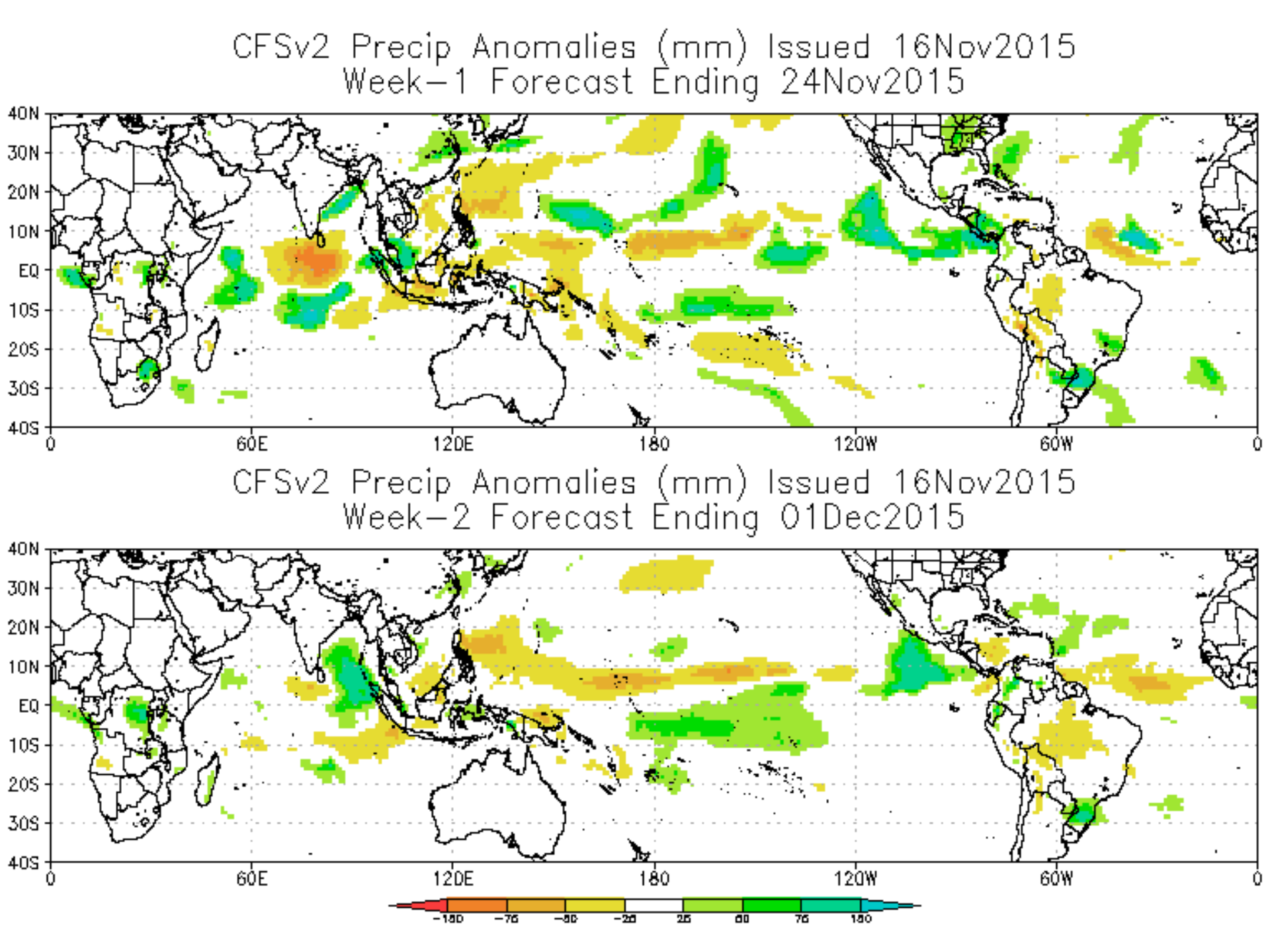
Equatorial Rossby Wave apparent on OLR field crossing the Date Line during early November.



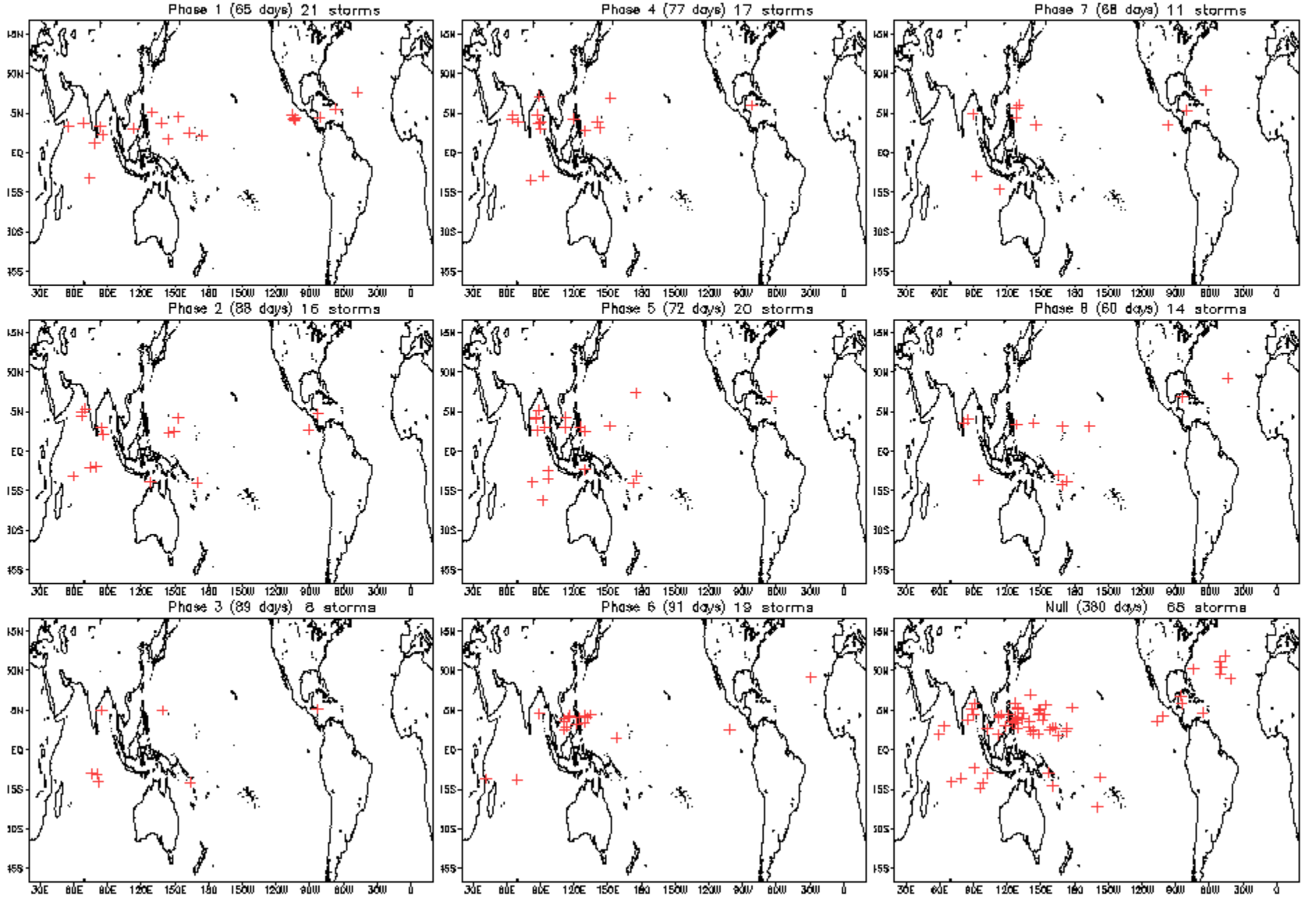
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

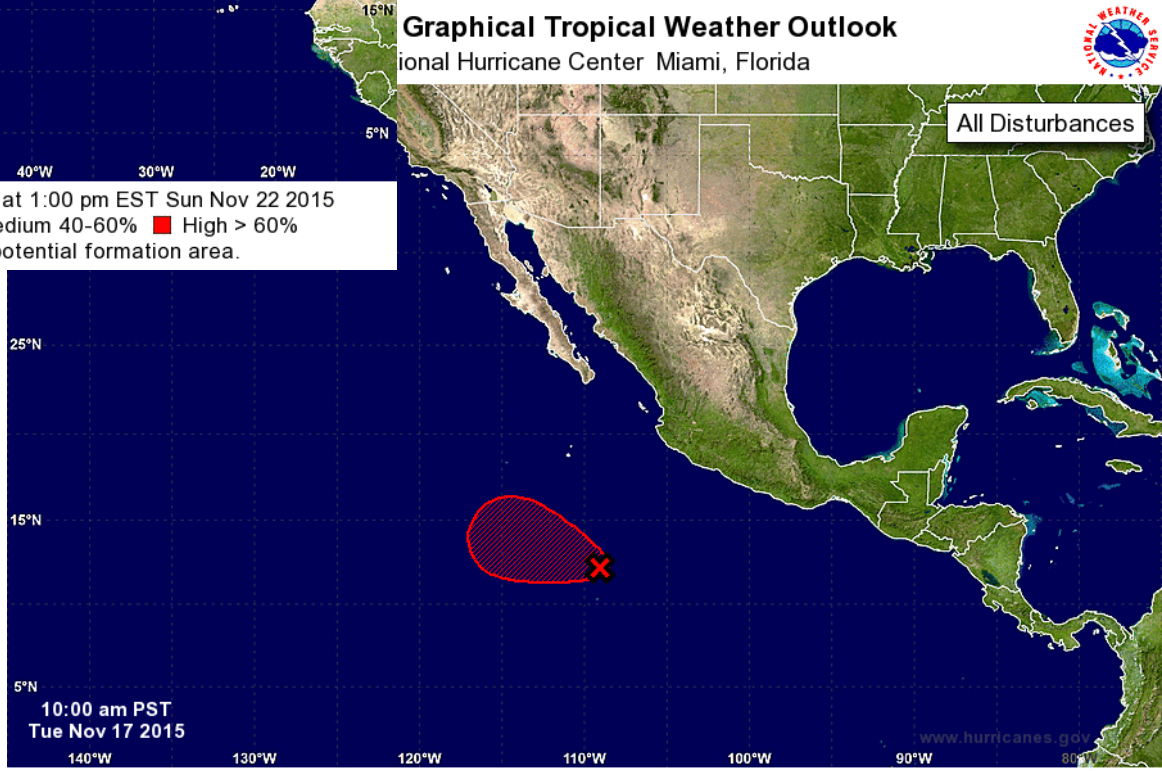

CFSv2 Precip Anomalies (mm) Issued 16Nov2015
Week-1 Forecast Ending 24Nov2015
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
0
CFSv2 Precip Anomalies (mm) Issued 16Nov2015
Week-2 Forecast Ending 01Dec2015
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
0
-150
-75
-50
-25
25
50
75
150

November Tropical Storm Formation by MJO phase



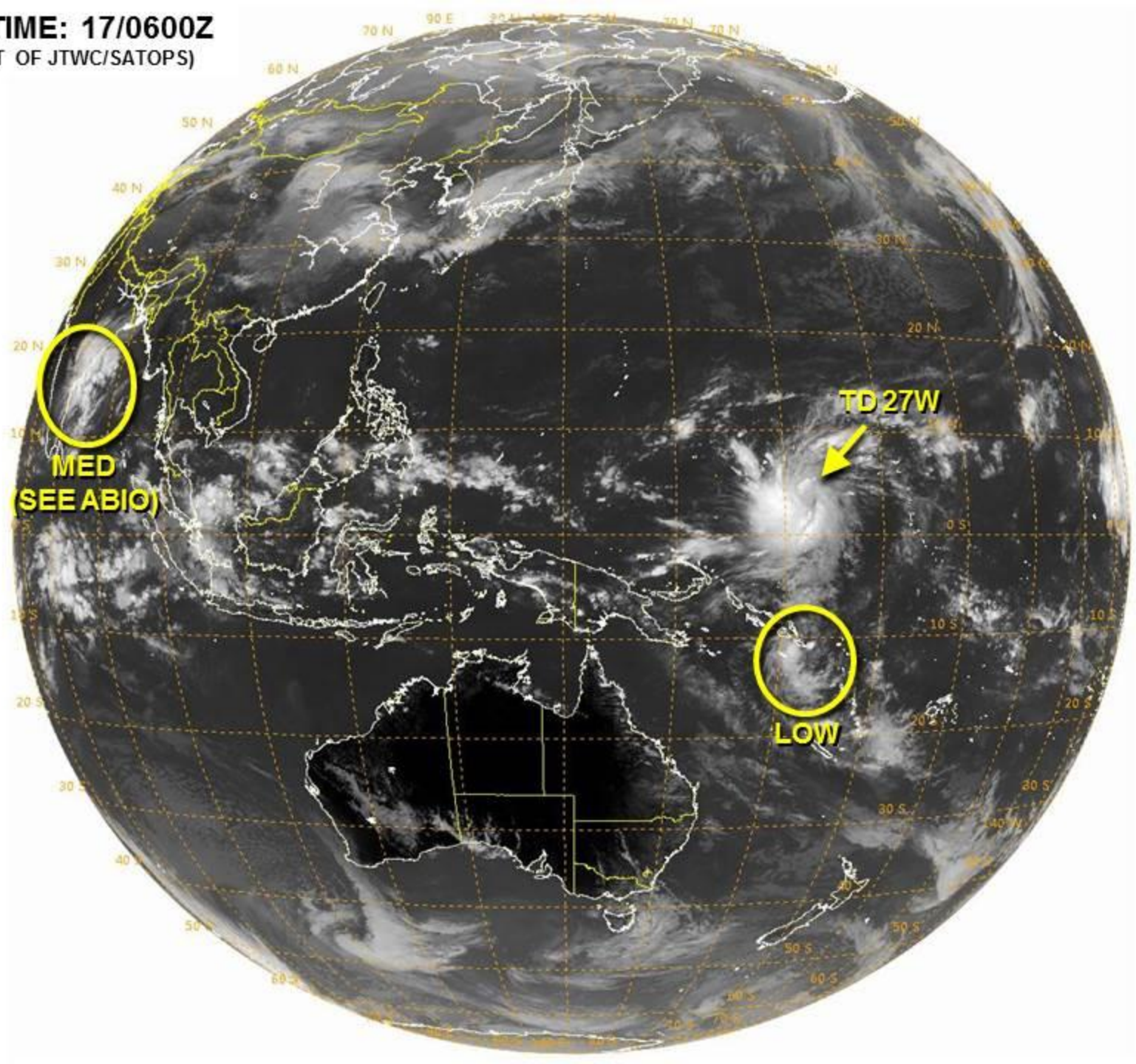
Graphical Tropical Weather Outlooks

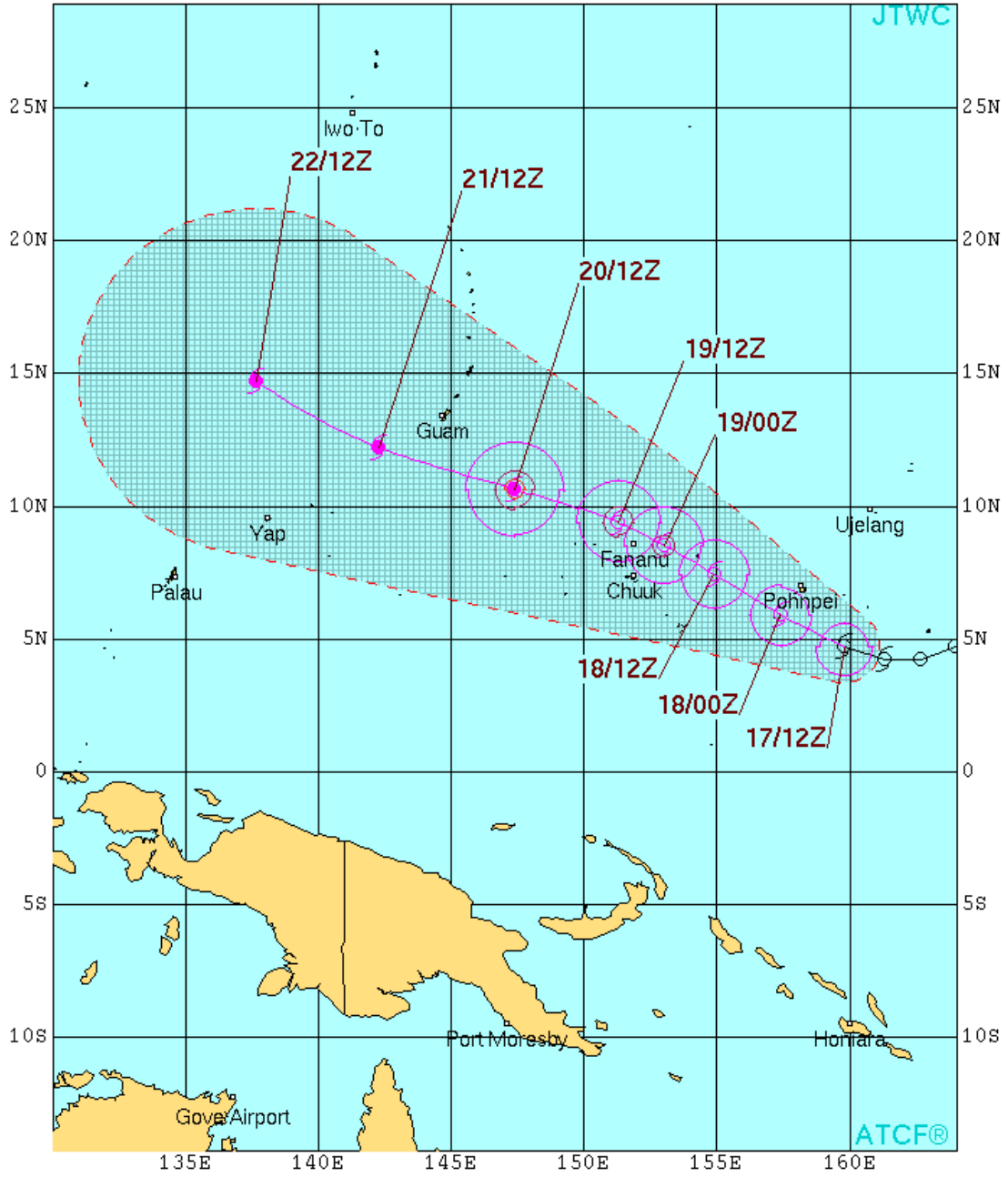
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 1:00 pm EST Sun Nov 22 2015
Chance of Cyclone Formation in Five Days: Low < 40% Medium 40-60% High > 60%
X indicates current disturbance location; shading indicates potential formation area.



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 10:00 am PST Sun Nov 22 2015
Chance of Cyclone Formation in Five Days: Low < 40% Medium 40-60% High > 60%
X indicates current disturbance location; shading indicates potential formation area.

VALID TIME: 17/0600Z
(PRODUCT OF JTWC/SATOPS)



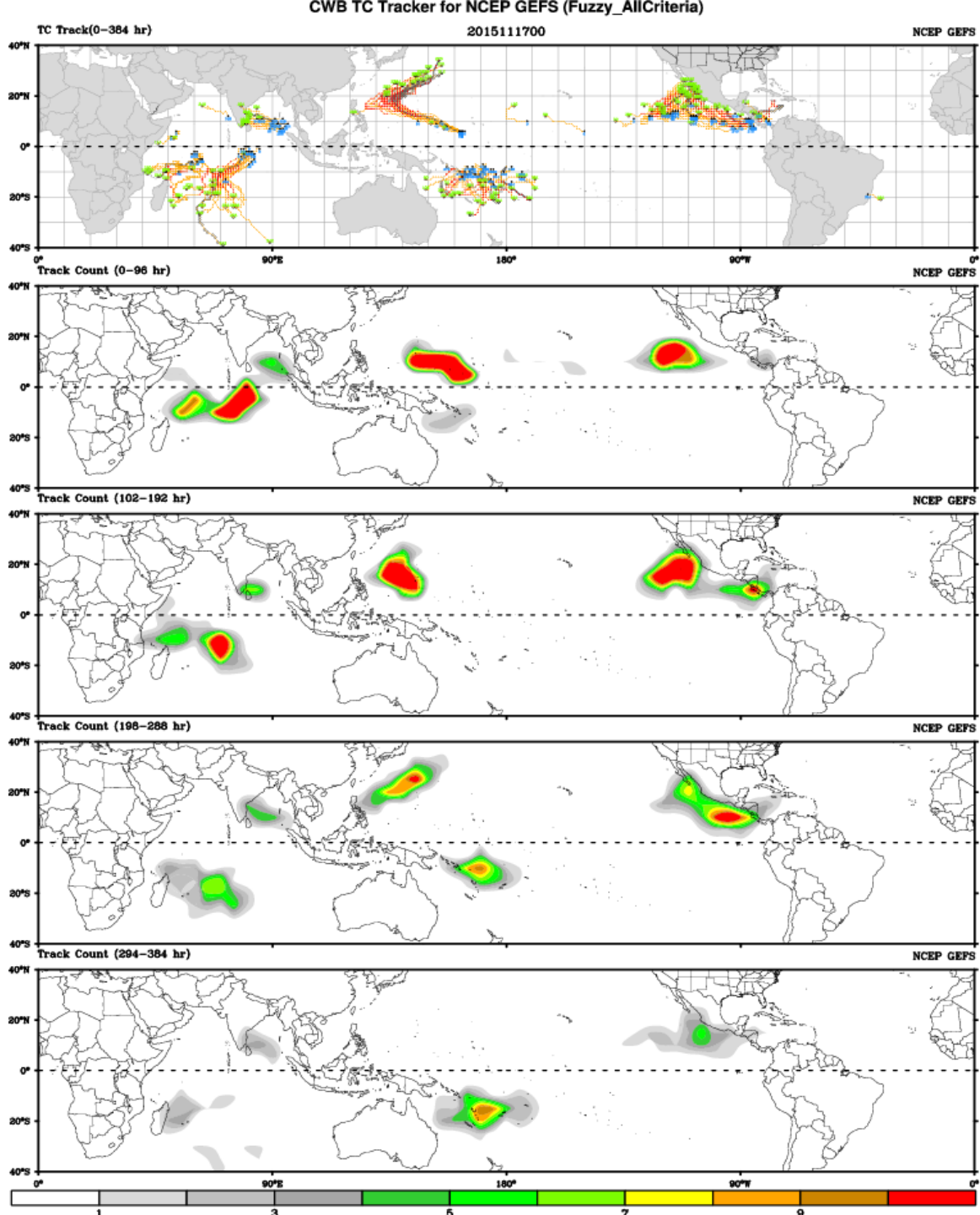


TROPICAL STORM 27W (IN-FA) WARNING #3
WTPN31 PGTW 171500
171200Z POSIT: NEAR 4.7N 159.8E
MOVING 290 DEGREES TRUE AT 16 KNOTS
MAXIMUM SIGNIFICANT WAVE HEIGHT: 14 FEET
17/12Z, WINDS 040 KTS, GUSTS TO 050 KTS
18/00Z, WINDS 045 KTS, GUSTS TO 055 KTS
18/12Z, WINDS 050 KTS, GUSTS TO 065 KTS
19/00Z, WINDS 055 KTS, GUSTS TO 070 KTS
19/12Z, WINDS 060 KTS, GUSTS TO 075 KTS
20/12Z, WINDS 070 KTS, GUSTS TO 085 KTS
21/12Z, WINDS 090 KTS, GUSTS TO 110 KTS
22/12Z, WINDS 100 KTS, GUSTS TO 125 KTS

CPA TO:	NM	DTG
MOKIL	113	17/16Z
POHNPEI	76	17/23Z
SAPWUAFIK	8	18/00Z
PAKIN	74	18/01Z
NUKUORO	181	18/04Z
LUKUNOR	120	18/11Z
OROLUK	25	18/12Z
CHUUK	85	19/03Z
PULUWAT	175	19/22Z
SATAWAL	189	20/09Z
LAMOTREK	195	20/12Z
IFALIK	240	20/21Z
FARAULEP	163	20/22Z
WOLEAI	242	20/23Z
SAIPAN	238	21/01Z
ROTA	165	21/02Z
TINIAN	223	21/02Z
ANDERSEN_AFB	131	21/03Z
HAGATNA	112	21/03Z
WFO_GUAM	124	21/03Z
NAVSTA_GUAM	114	21/04Z
FAIS	175	21/15Z
ULITHI	192	21/18Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
CHUUK	092	179	24
LUKUNOR	026	121	24
NUKUORO	358	216	24
OROLUK	225	25	24
PAKIN	276	174	24
POHNPEI	279	199	24
SAPWUAFIK	304	172	24

o LESS THAN 34 KNOTS
6 34-63 KNOTS
9 MORE THAN 63 KNOTS
PAST 6 HOURLY CYCLONE POSITS IN BLACK
FORECAST CYCLONE POSITS IN COLOR



Days 1-4

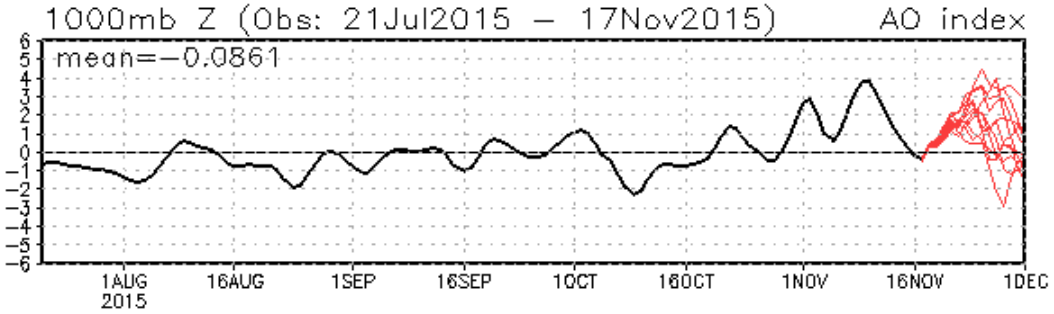
Day 5-8

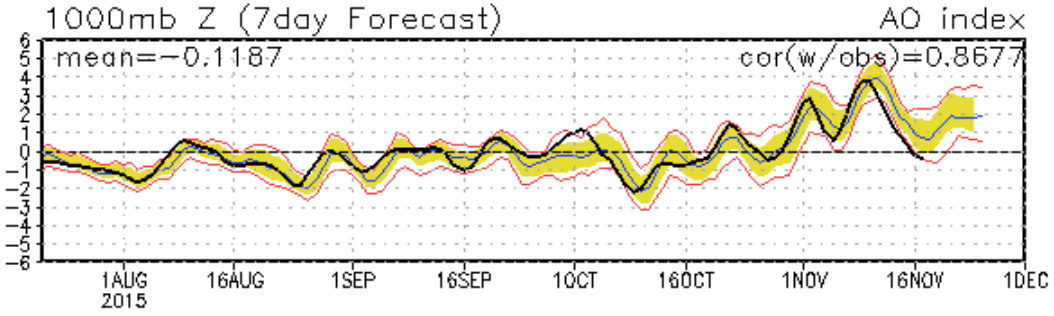
Day 9-12

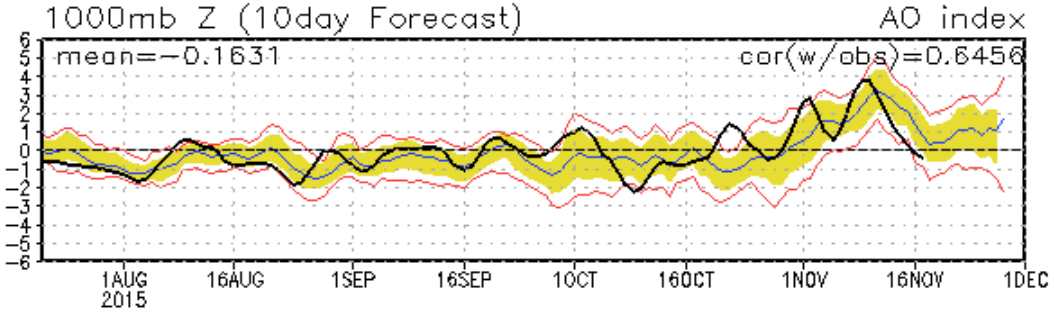
Day 13-15

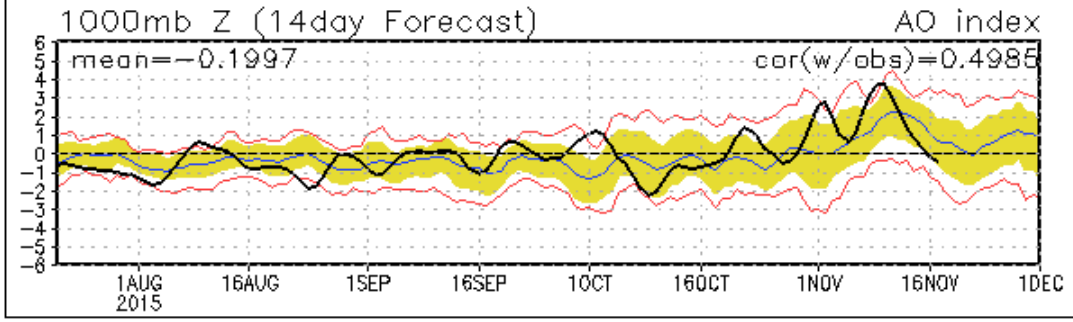
Connections to U.S. Impacts

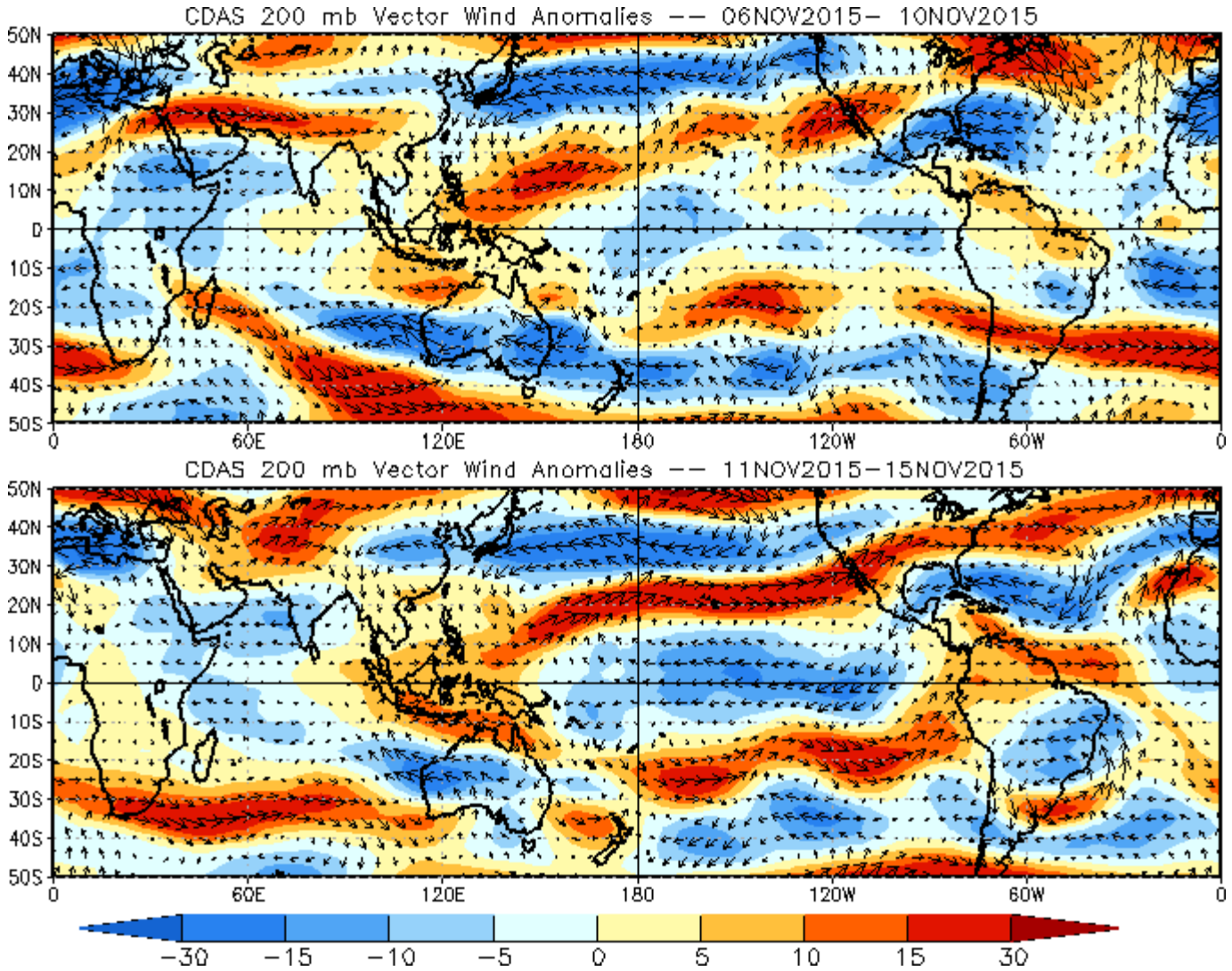
AO: Observed & ENSM forecasts



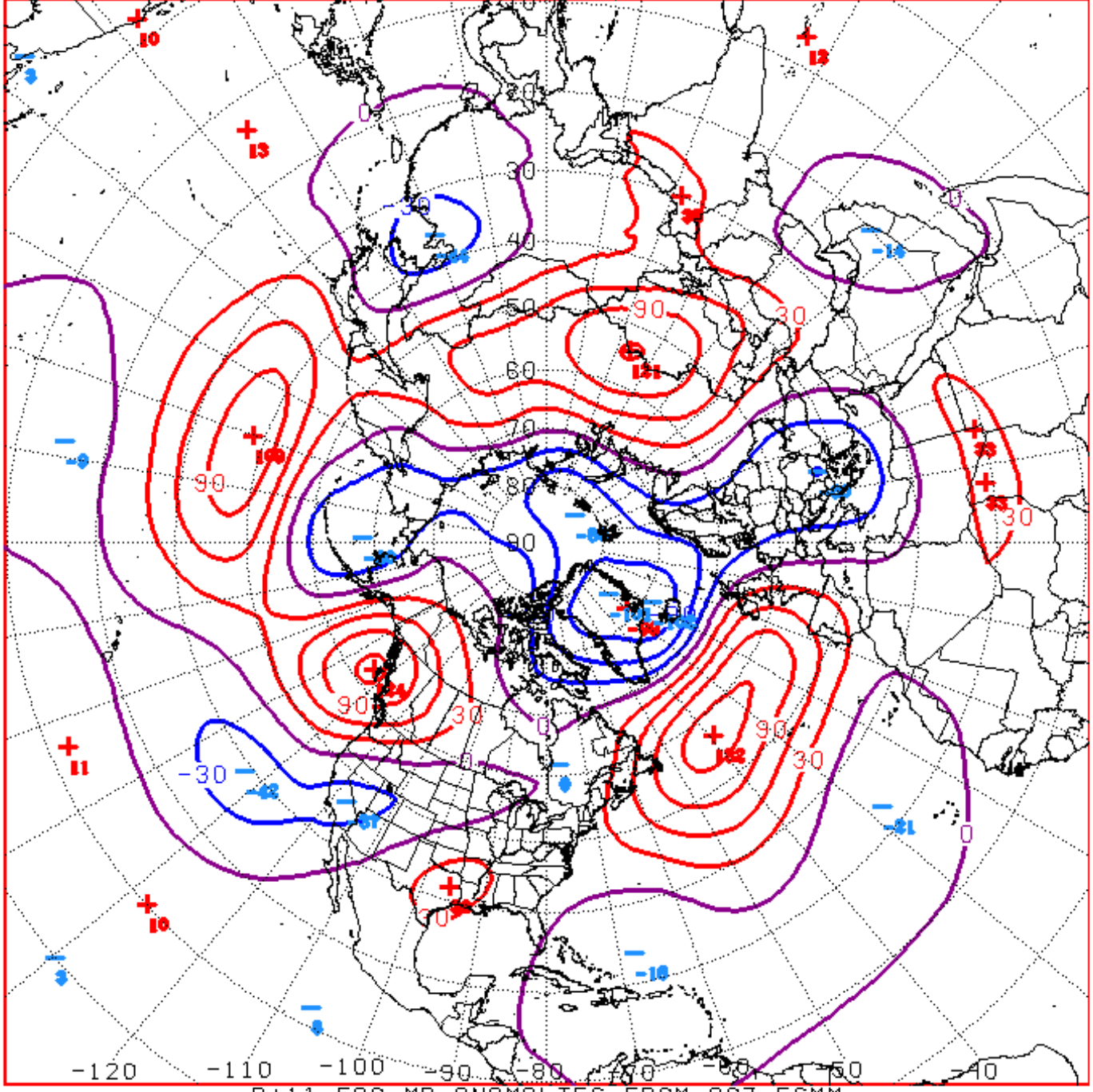






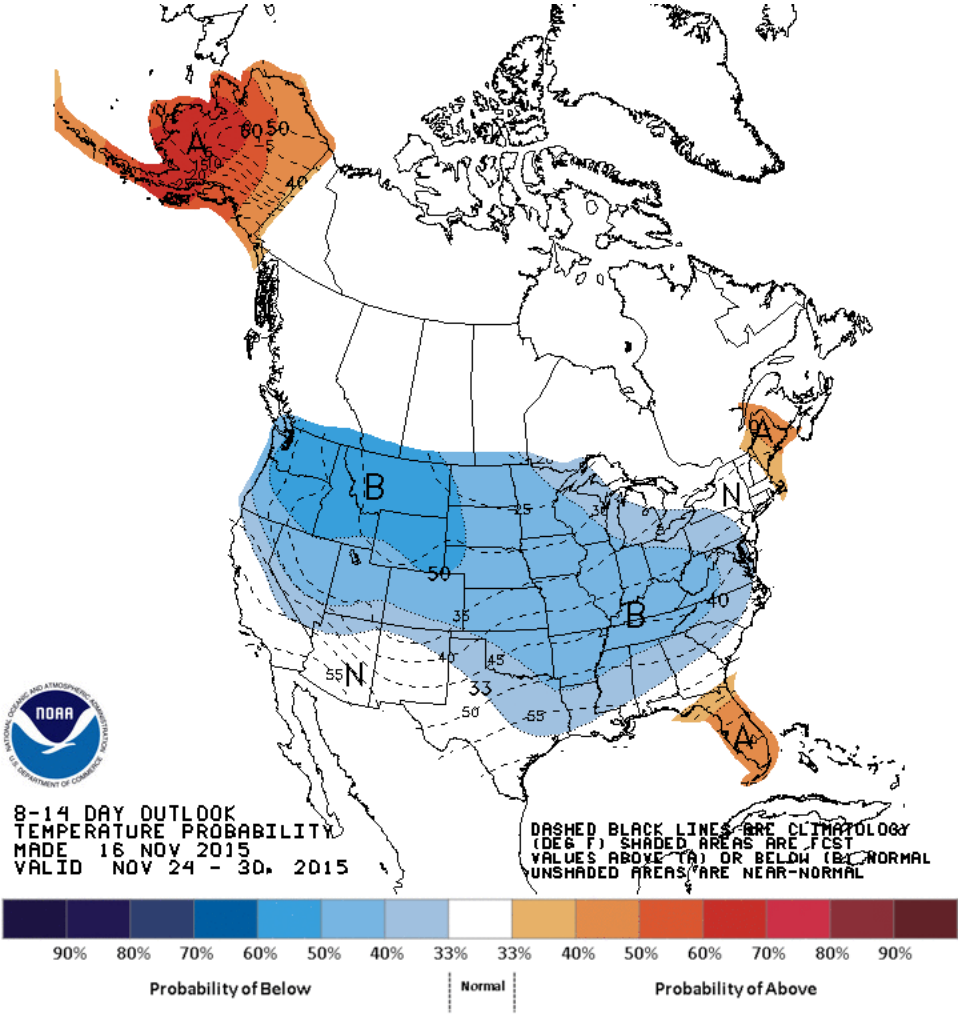


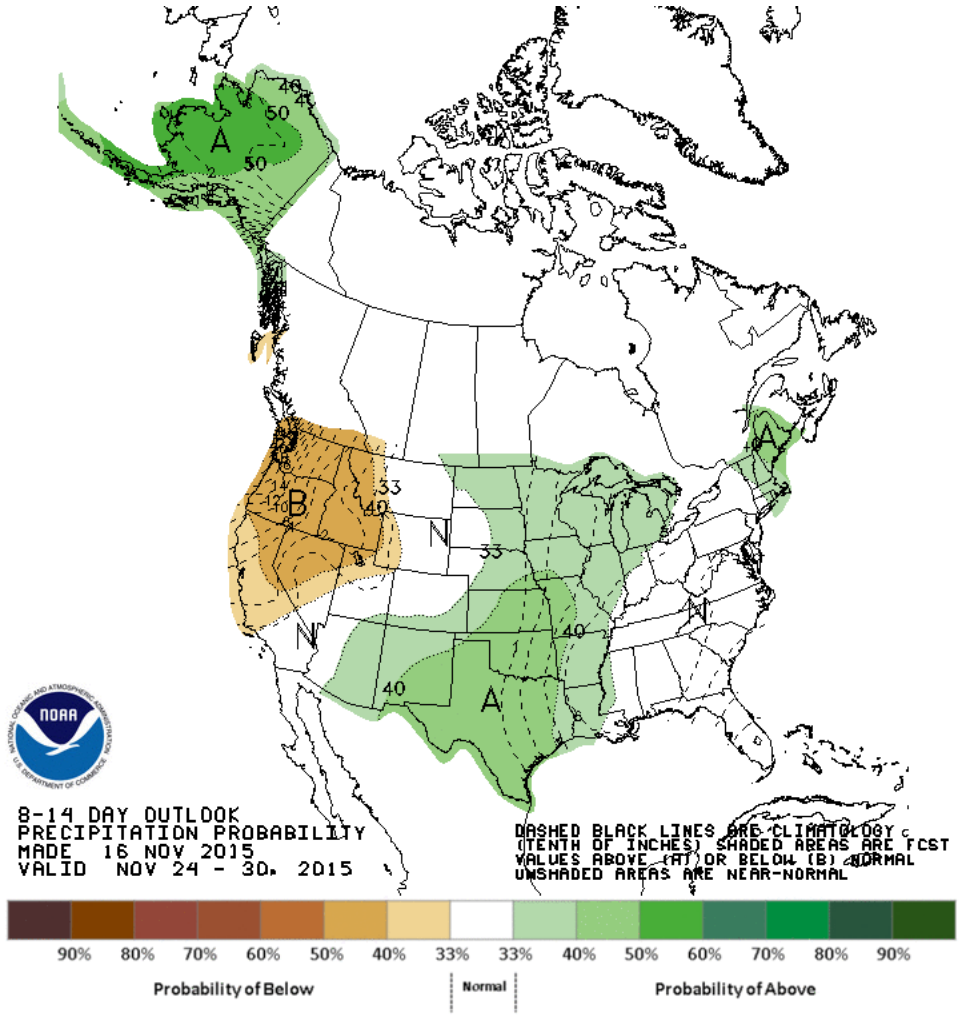
The El Niño atmospheric response (e.g., easterlies along equator, enhanced southerly jets) has become very pronounced during the latest pendad.



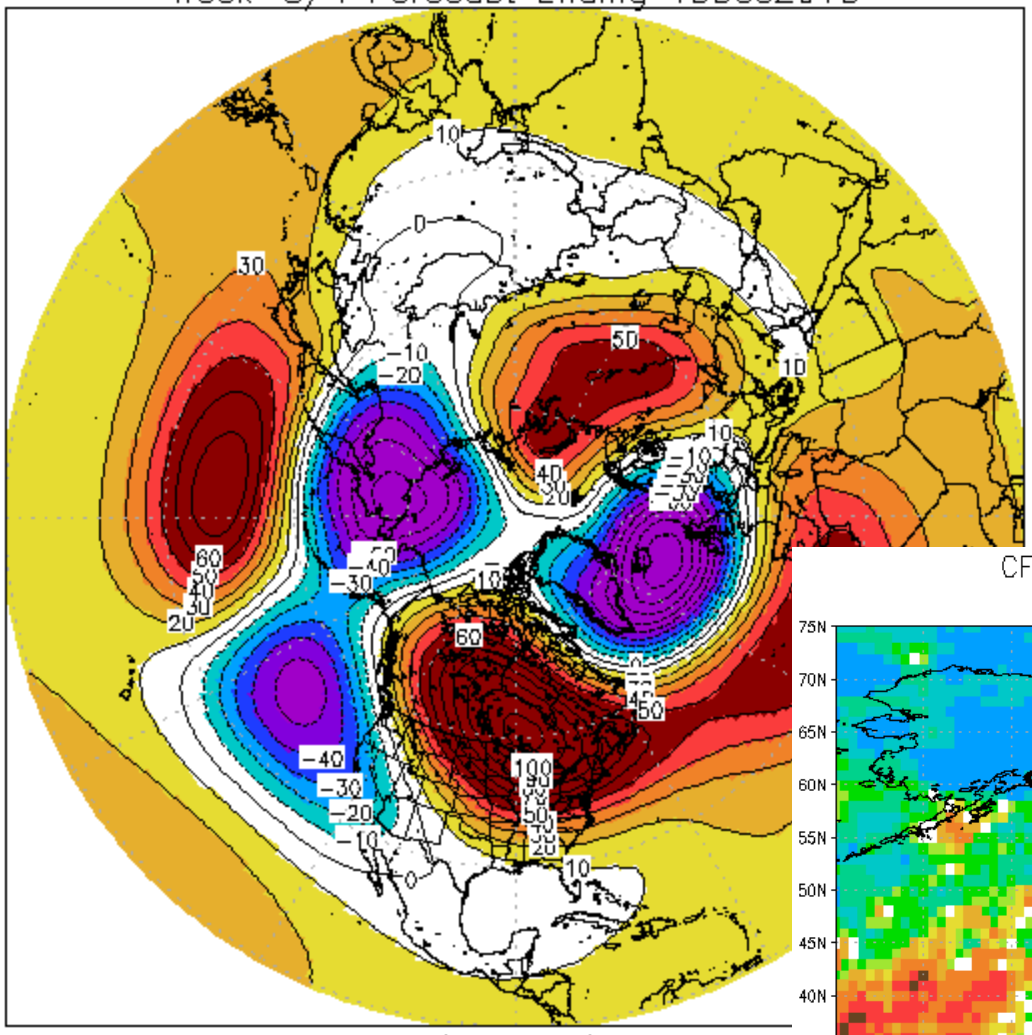
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE NOV 17 2015 1003 UTC CNTD NOV 28 2015

Week 2 – Temperature and Precipitation

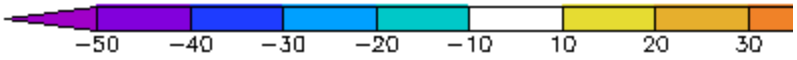




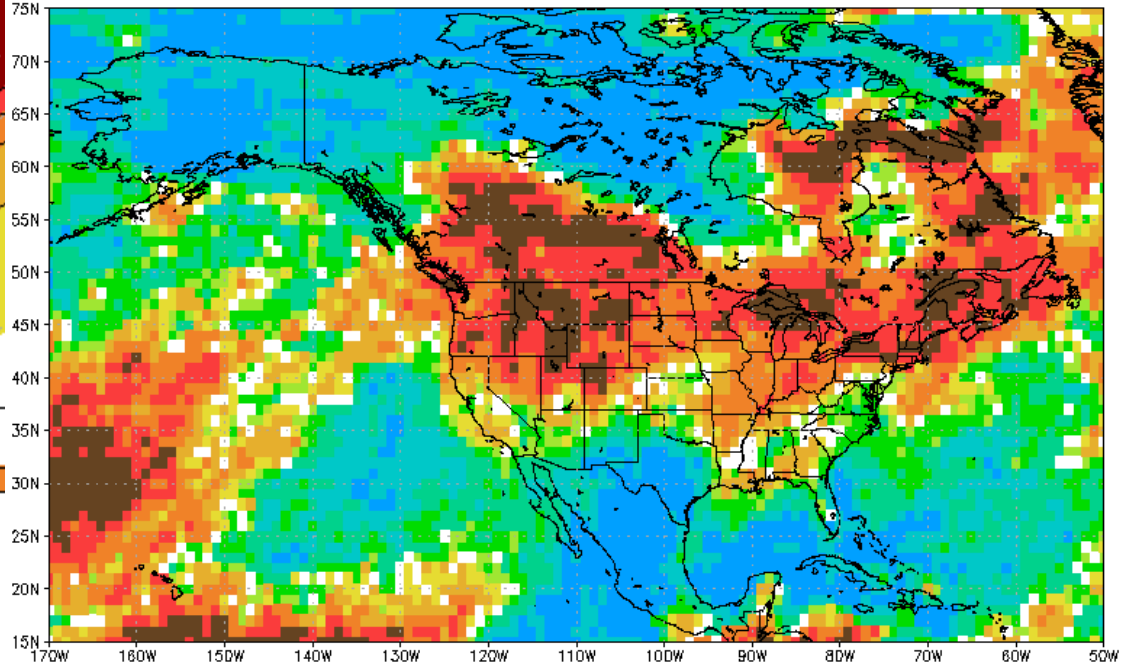
CFS 500hPa Height Anomalies Issued 16Nov2015
Week-3/4 Forecast Ending 15Dec2015



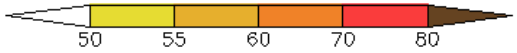
(meters)



CFS Precipitation Probabilities Issued 16Nov2015
Week-3/4 Forecast Ending 15Dec2015



Prob Below



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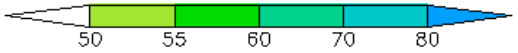
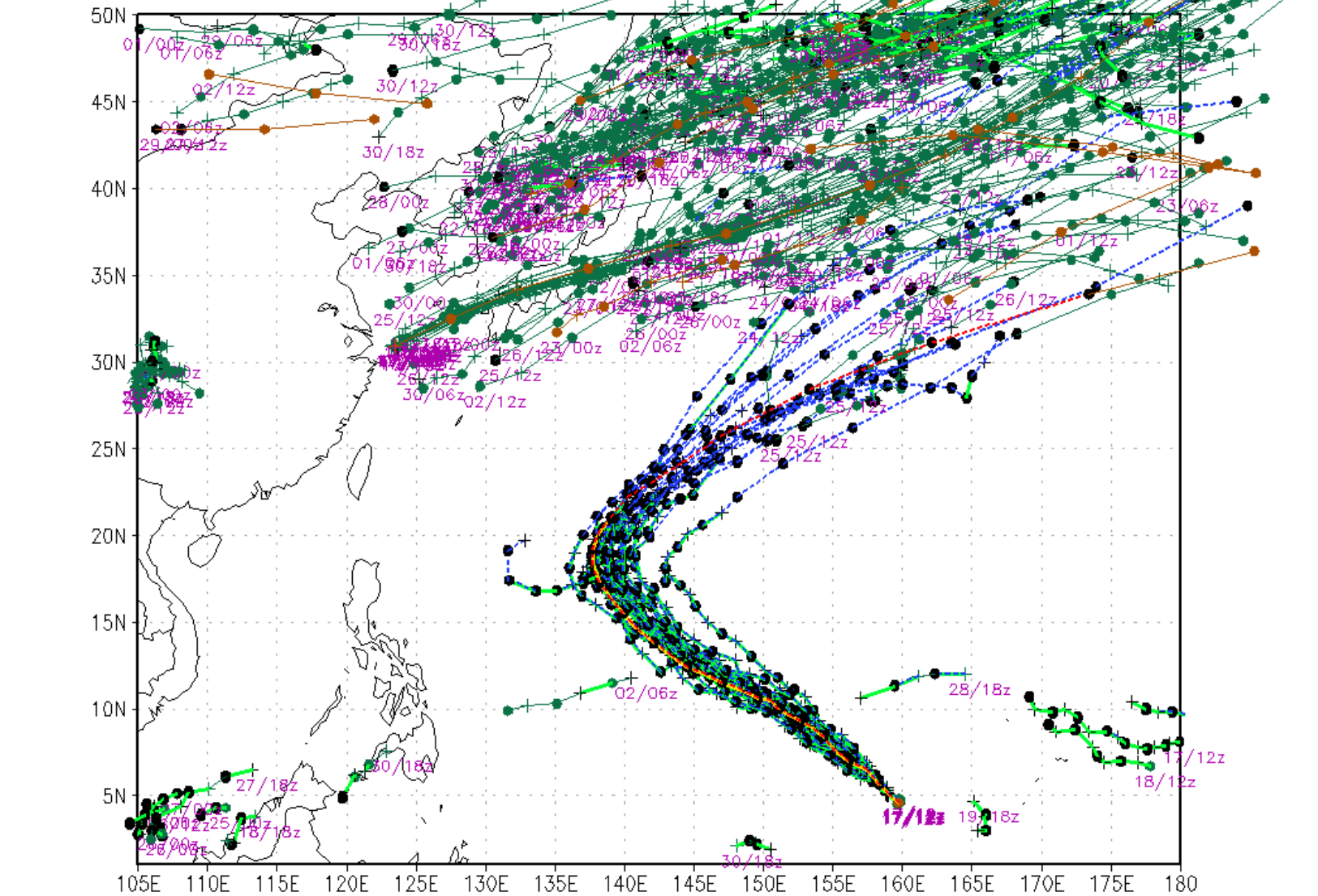


NCEP Ensemble Perturbation Forecast Storm Tracks

For forecast with initial time = 2015111712



GFS hi-res: CPS parameter B < 10 and VtL > 0

GFS hi-res: 1°K closed contour warm core in 300-500 mb layer

GFS hi-res: a low without full TC characteristics

NCEP ens pert: CPS parameter B < 10 and VtL > 0

NCEP ens pert: 1°K closed contour warm core in 300-500 mb layer

NCEP ens pert: a low without full TC characteristics

● = position at 00 or 12 UTC

+ = position at 06 or 18 UTC

Date (dd/hhz) = first time storm was tracked in model

NOAA/GFDL

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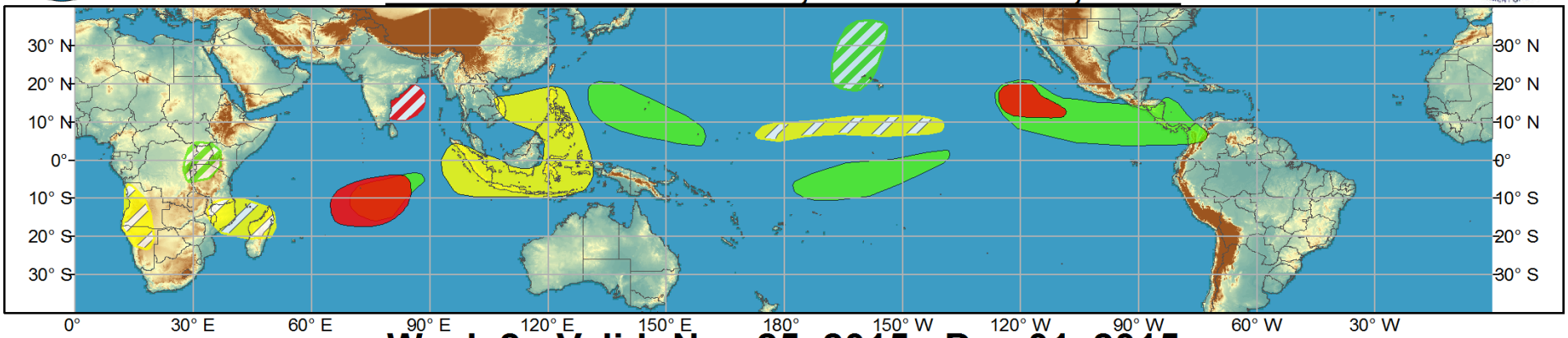

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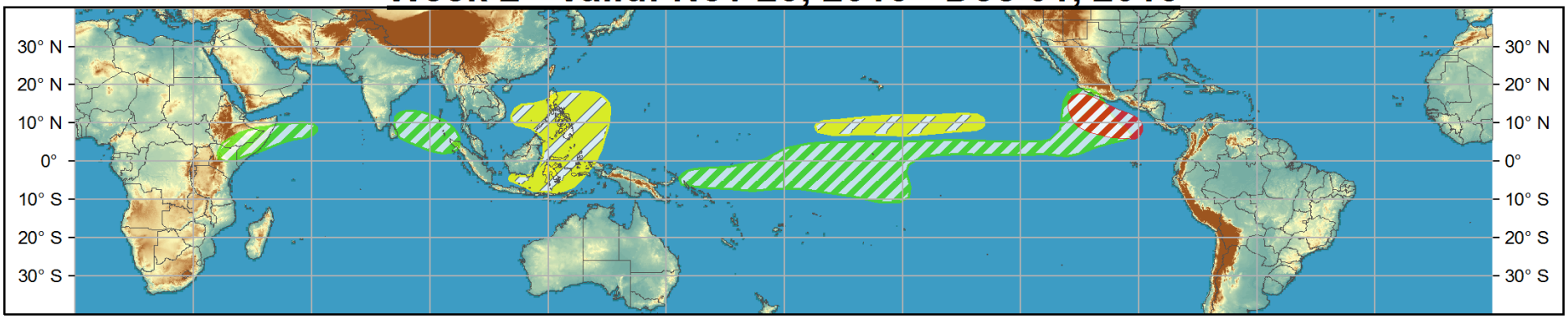

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Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

中央氣象局 Central Weather Bureau

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