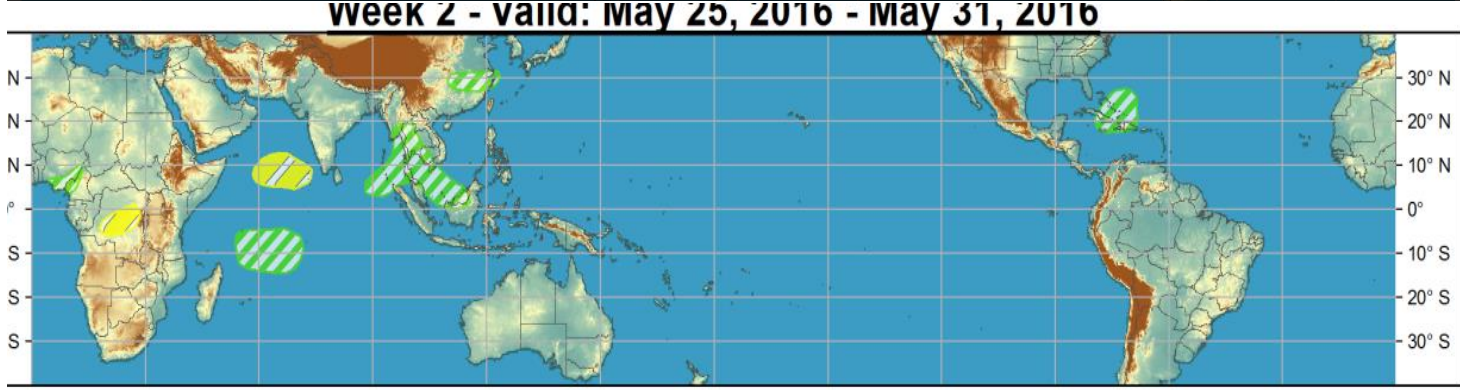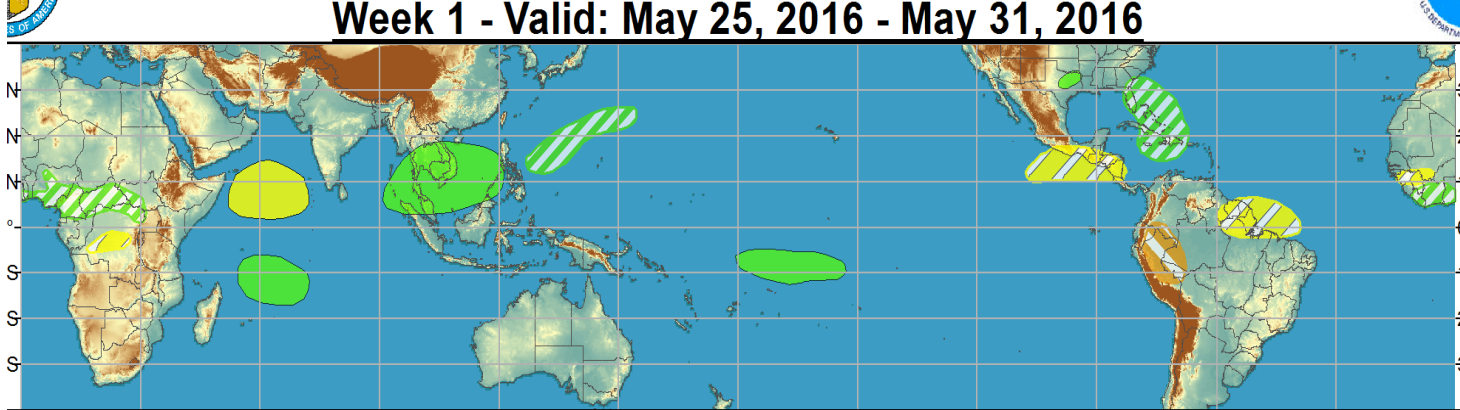# Global Tropics Hazards And Benefits Outlook
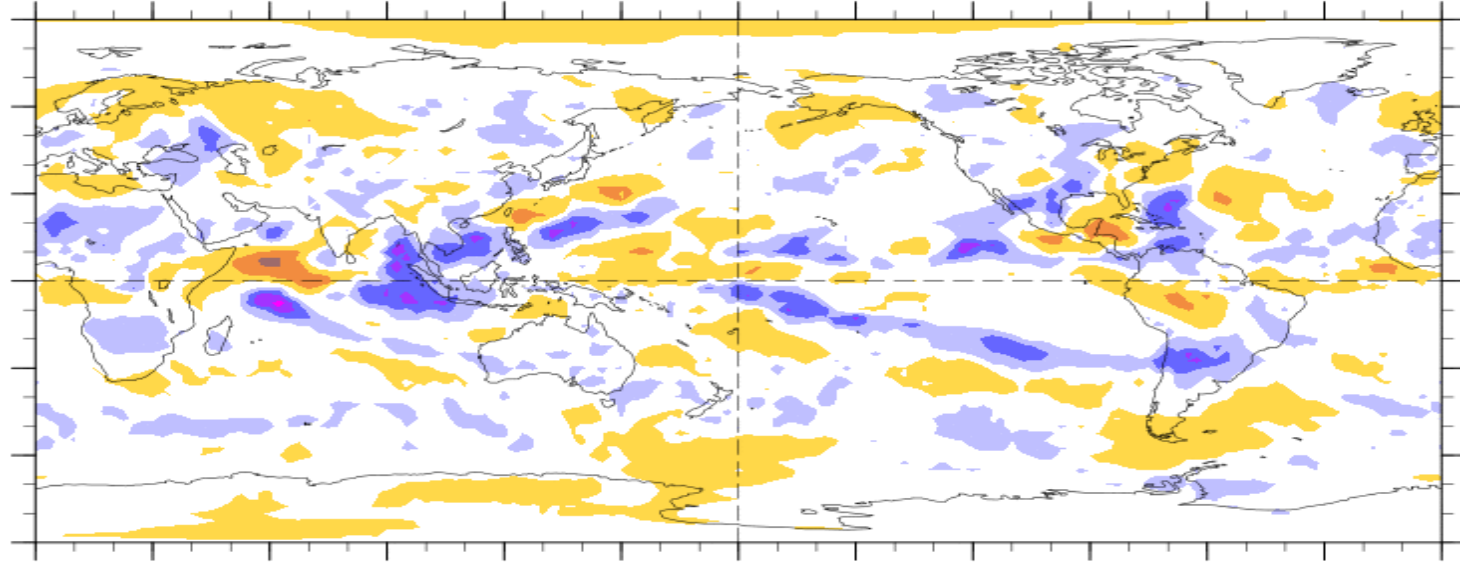## May 31, 2016

Stephen Baxter

Outline

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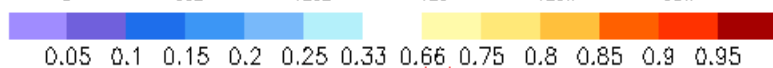4. Connections to U.S. Impacts
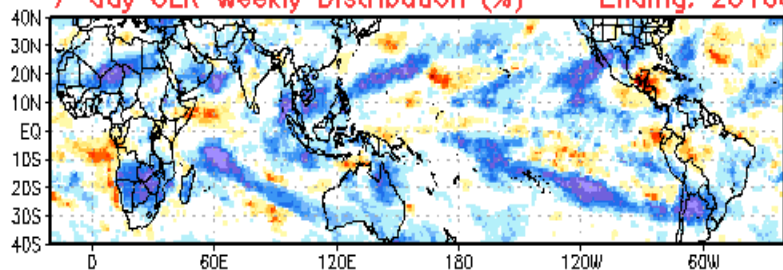
Outlook Review

Week 1 - Valid: May 25, 2016 - May 31, 2016

Week 2 - Valid: May 25, 2016 - May 31, 2016

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

7-Day Average OLR Anomaly   2016/05/23 - 2016/05/29

7-day OLR Weekly Distribution (%) -- Ending: 20160531
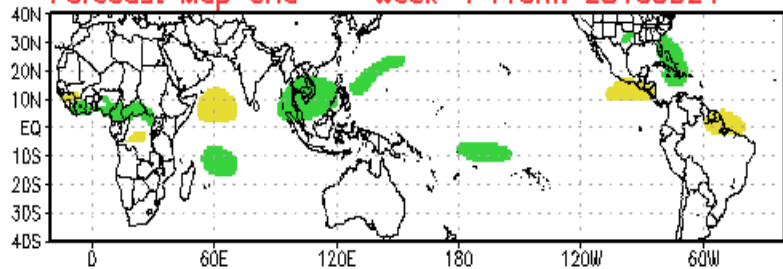
7-day OLR Weekly Distribution (%) -- Ending: 20160531

Categorization of 7-Day OLR (#) -- Ending: 20160531
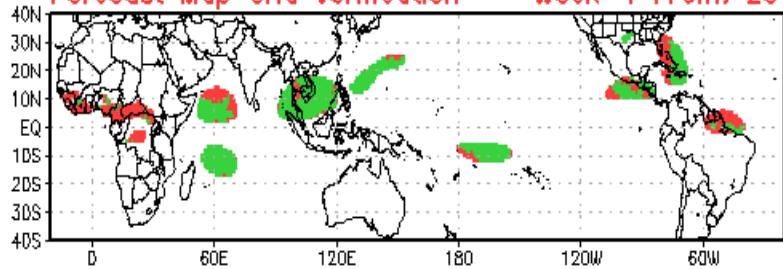
Categorization of 7-Day OLR (#) -- Ending: 20160531

Forecast Map Grid -- Week-1 From: 20160524

Forecast Map Grid -- Week-2 From: 20160517
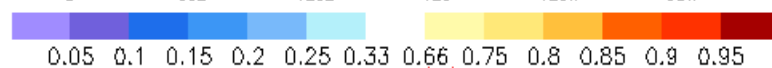
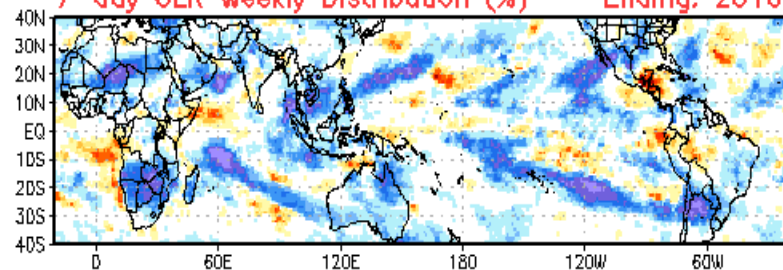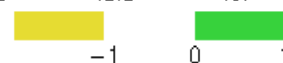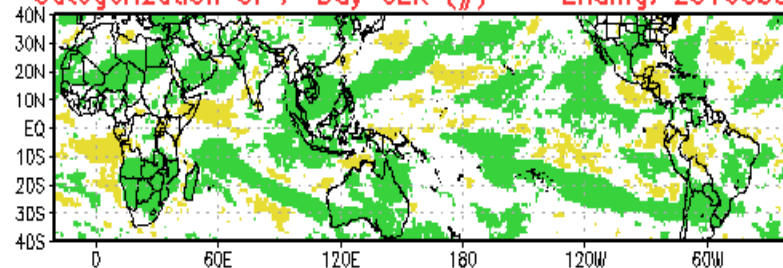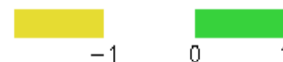Forecast Map Grid Verification -- Week-1 From: 20160524

Forecast Map Grid Verification -- Week-2 From: 20160517
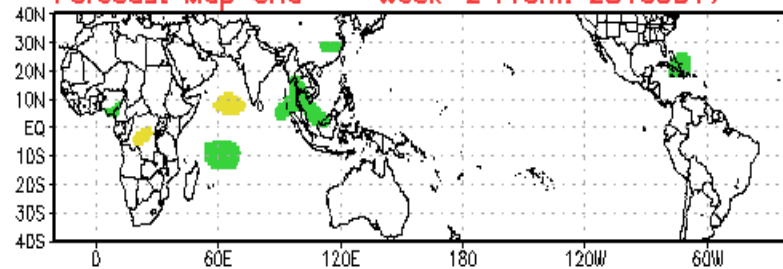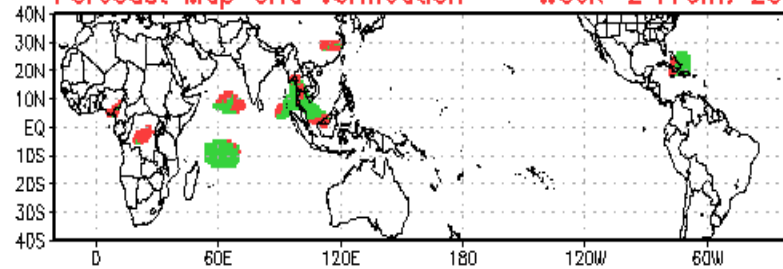
Hit: Green, Miss: Red
Heidke Skill Score: 46.7762

Hit: Green, Miss: Red
Heidke Skill Score: 43.9156

Synopsis of Climate Modes

ENSO:

•La Niña Watch in effect as of 14 April 2016

ENSO Neutral likely during late spring/early summer 2016; possible La Niña conditions to develop by late summer/early fall. El Niño is weakening, though large area of 30°C SSTs still exists over central South Pacific (0-15S, DL-150W). More than sufficient to sustain convection.

MJO and other subseasonal tropical variability:

• MJO weak in RMM index last week. Velocity potential index indicates enhanced phase over the Western Hemisphere.

• Most dynamical model MJO index forecasts depict the MJO signal to remain weak early in Week-1, followed by redevelopment over the Indian Ocean during Week-2. **High uncertainty.**
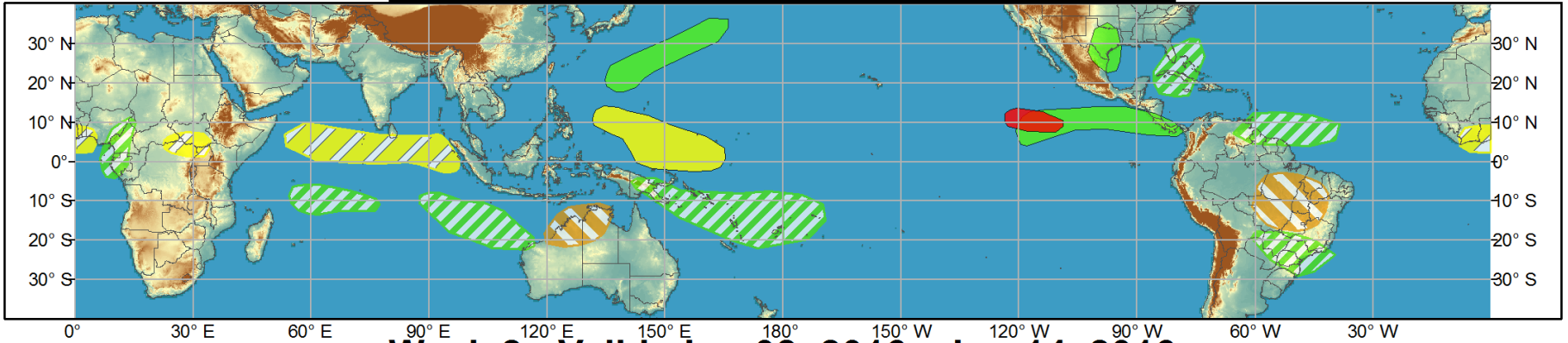
Extratropics:

• The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO or the decaying El Niño, but more likely impacted by mid-latitude frontal/cyclonic activity.
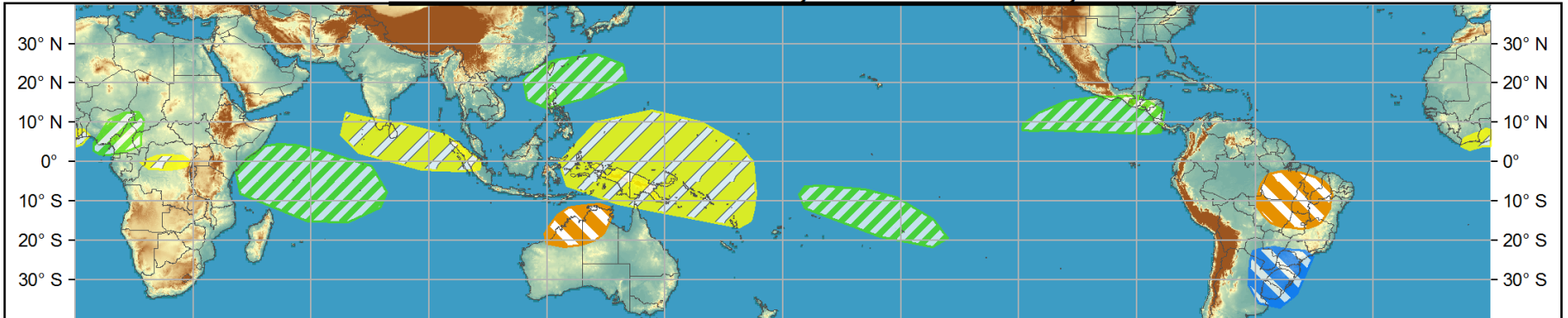
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jun 01, 2016 - Jun 07, 2016

Week 2 - Valid: Jun 08, 2016 - Jun 14, 2016

Produced: 05/31/2016
Forecaster: Baxter

Confidence
High — 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.
Above-normal temperatures		7-day mean temperatures in the upper third of the historical range.
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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.
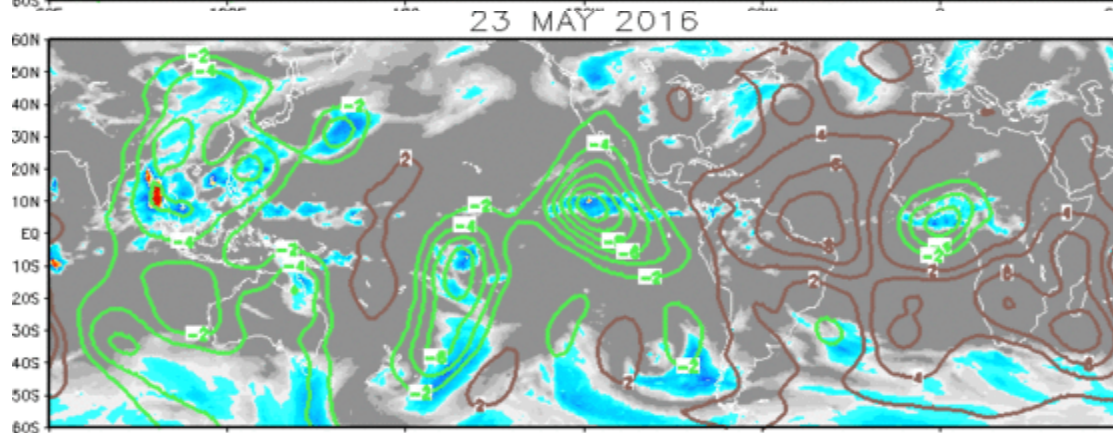
IR Satellite & 200-hpa Velocity Potential Anomalies

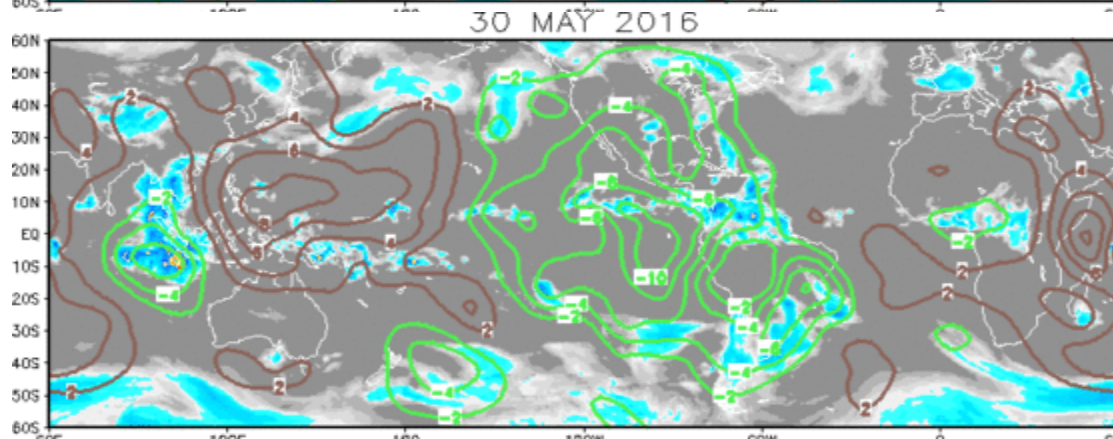Green: Enhanced Divergence   Brown: Enhanced Convergence
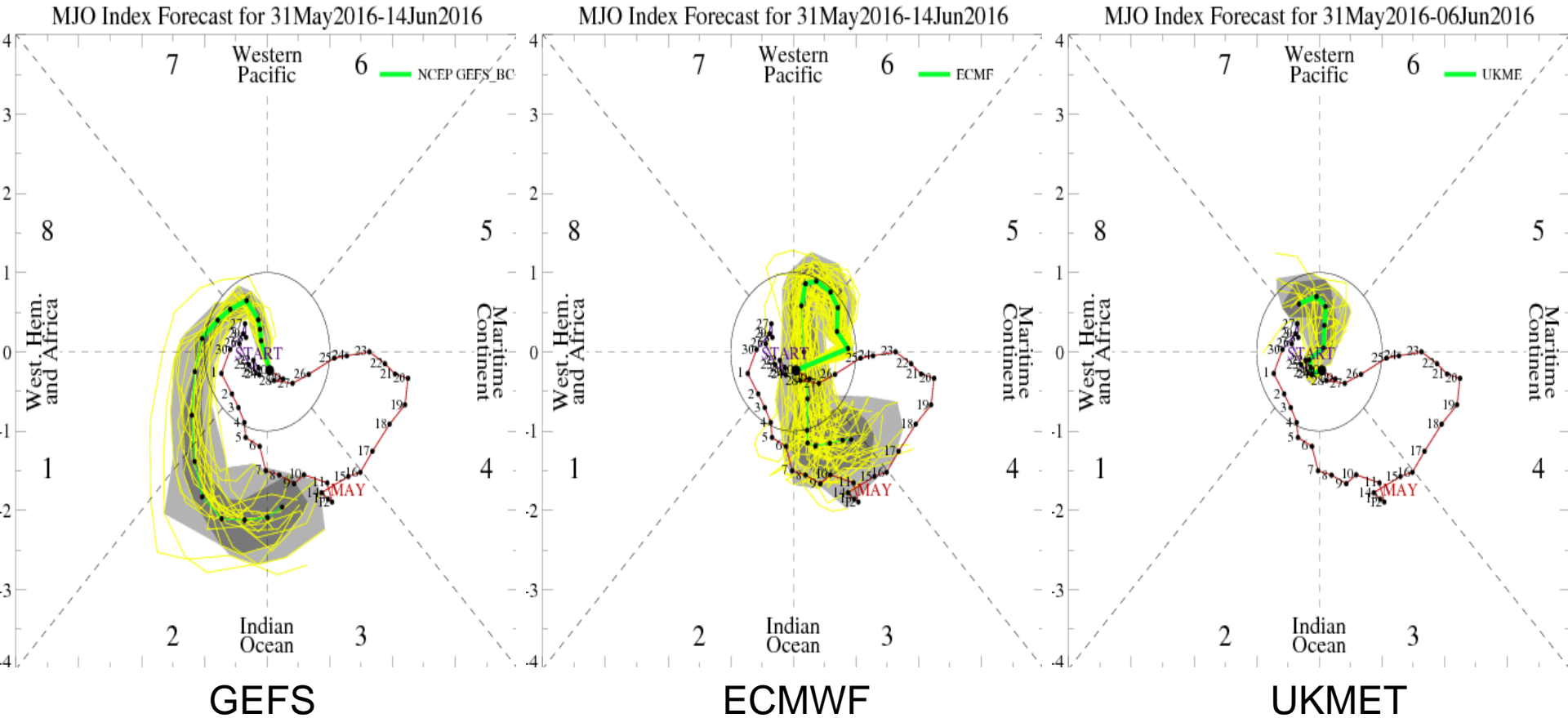
Wave-2 pattern.
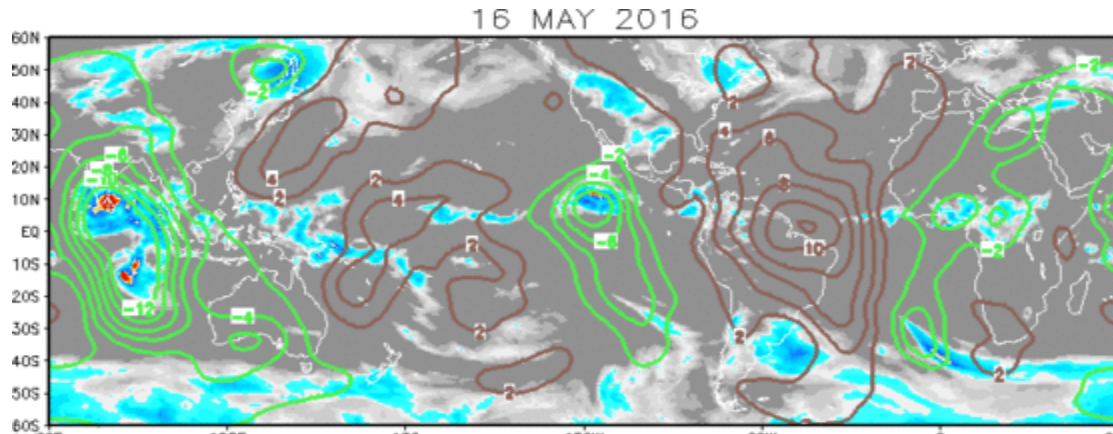
Eastward propagation of pattern from prior week.
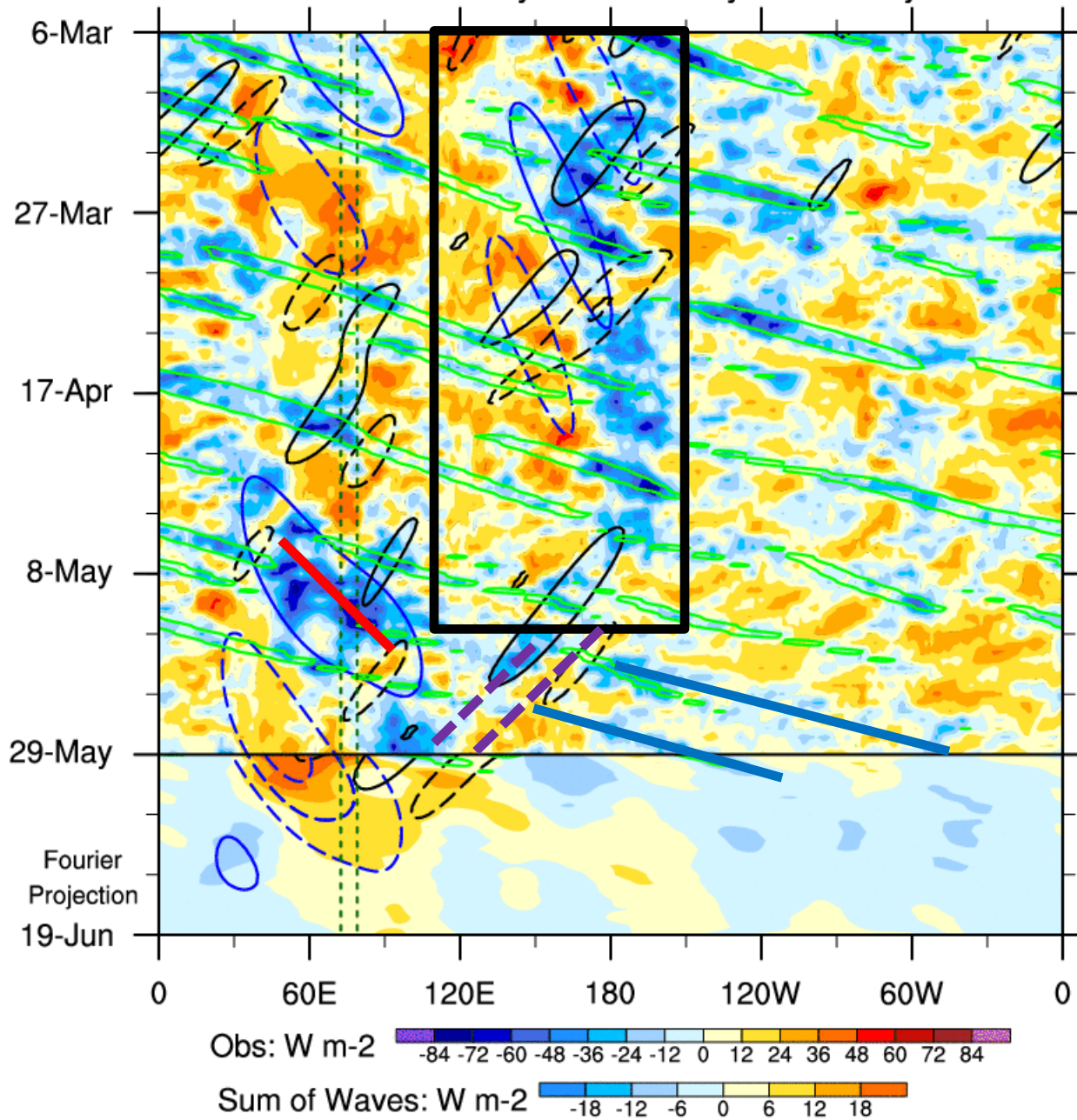
More coherent wave-1 pattern.

MJO Observation/Forecast

Wheeler-Hendon based analyses of model forecasts indicate a weak signal during Week-1, with an emerging signal over the Indian Ocean later in Week-2.

NOAA CDR HIRS OLR anomalies: 7.5°S - 7.5°N

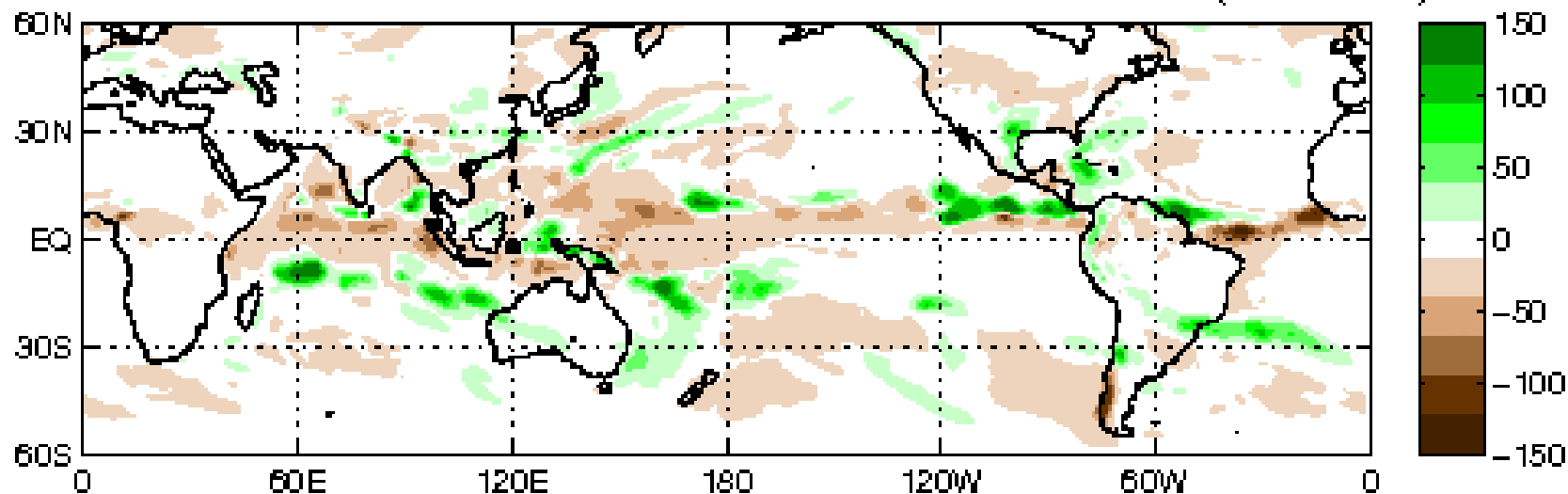6-Mar-2016 to 29-May-2016 + 21-day Fourier Projection

El Niño appearance suppressed relative to earlier this year.

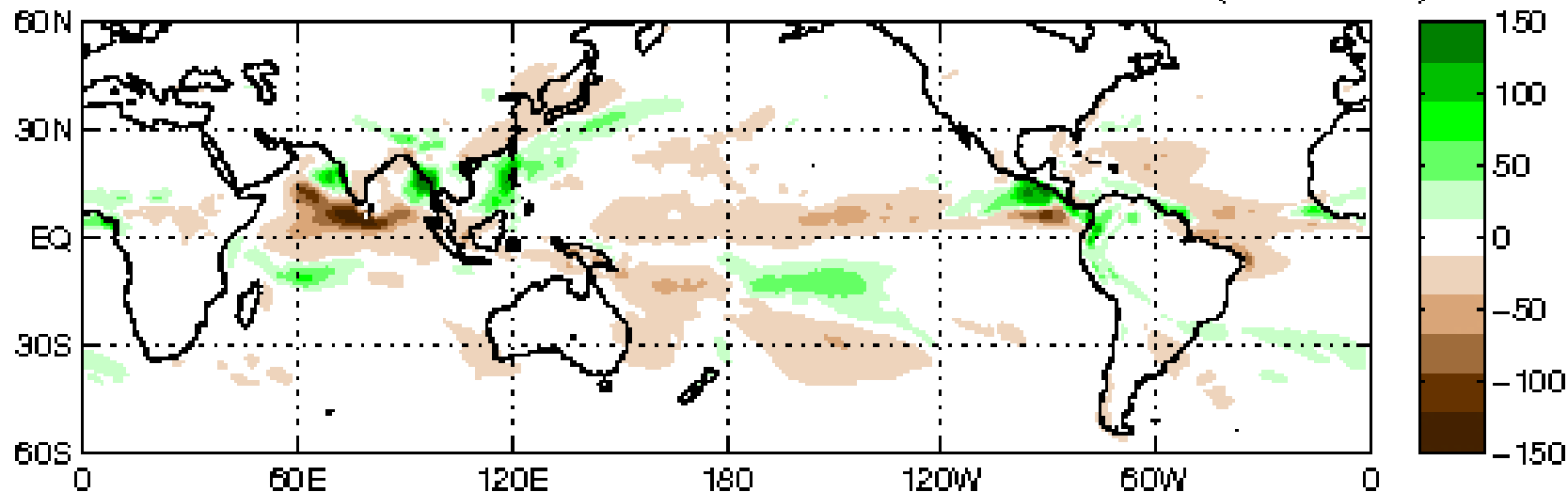Complicated pattern with **MJO**, multiple **Kelvin waves**, and equatorial **Rossby wave** influences.

Obs: W m-2   -84 -72 -60 -48 -36 -24 -12 0 12 24 36 48 60 72 84

Sum of Waves: W m-2   -18 -12 -6 0 6 12 18

MJO (blue, CINT=12); ER (black, CINT=12); Kelvin (green, CINT=12)

CFS: Anom. PREC Week: 1: 01-Jun-2016 to 07-Jun-2016 (mm/week)

CFS: Anom. PREC Week: 2: 08-Jun-2016 to 14-Jun-2016 (mm/week)

Five-Day Graphical Tropical Weather Outlook
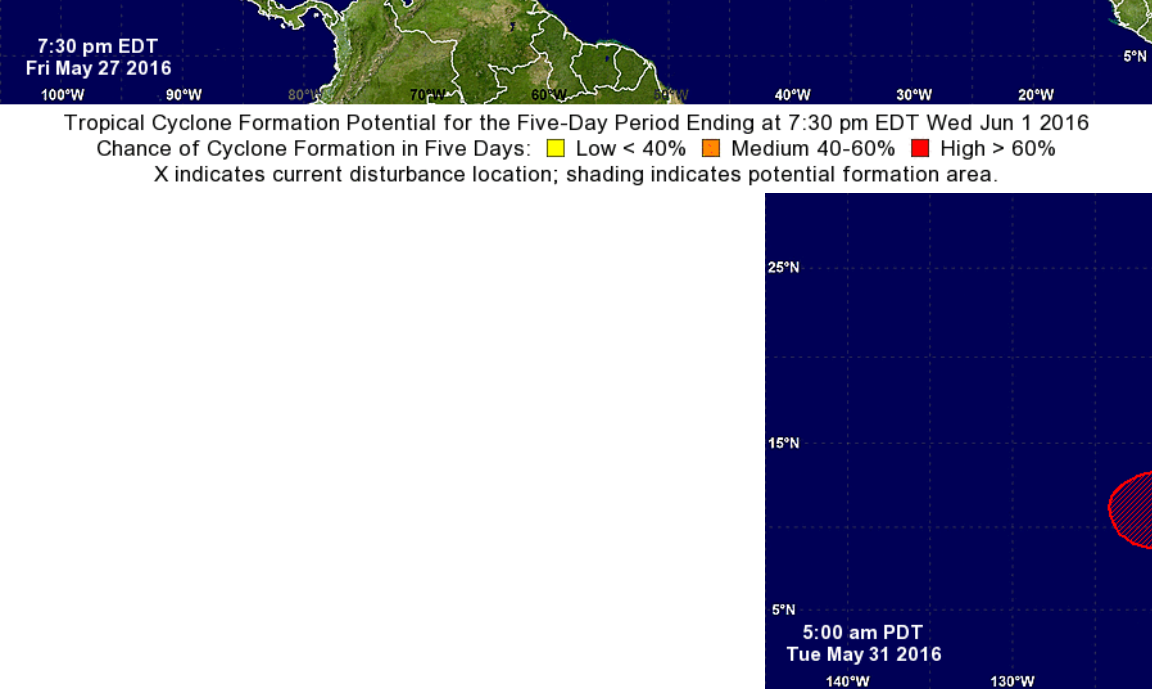## National Weather Service Miami, Florida

No Disturbances

No new tropical cyclones are expected during the next five days.

7:30 pm EDT
Fri May 27 2016

Tropical Cyclone Formation Potential for the Five-Day Period Ending at 7:30 pm EDT Wed Jun 1 2016
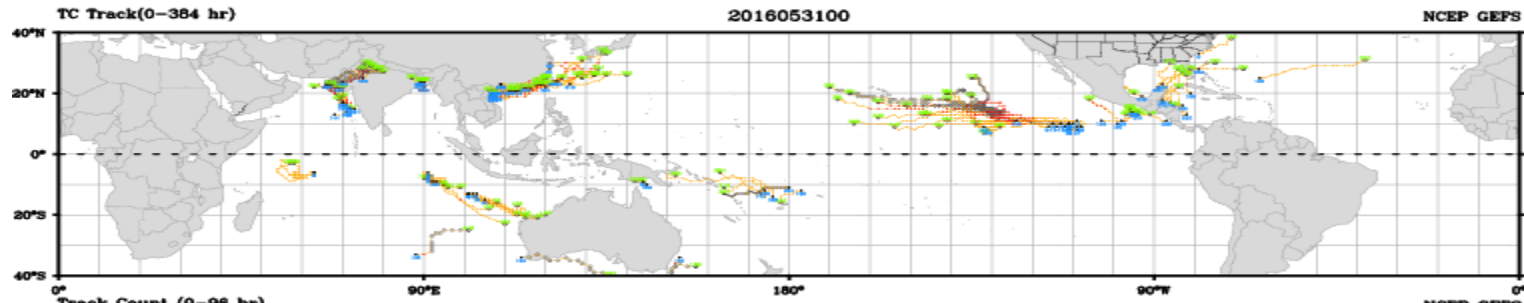Chance of Cyclone Formation in Five Days: ☐ Low < 40% ☐ Medium 40-60% ☐ High > 60%
X indicates current disturbance location; shading indicates potential formation area.

Graphical Tropical Weather Outlooks

Graphical Tropical Weather Outlook
ional Hurricane Center Miami, Florida

All Disturbances

5:00 am PDT
Tue May 31 2016

Tropical Cyclone Formation Potential for the Five-Day Period Ending at 5:00 am PDT Sun Jun 5 2016
Chance of Cyclone Formation in Five Days: ☐ Low < 40% ☐ Medium 40-60% ☐ High > 60%
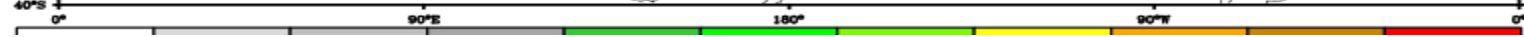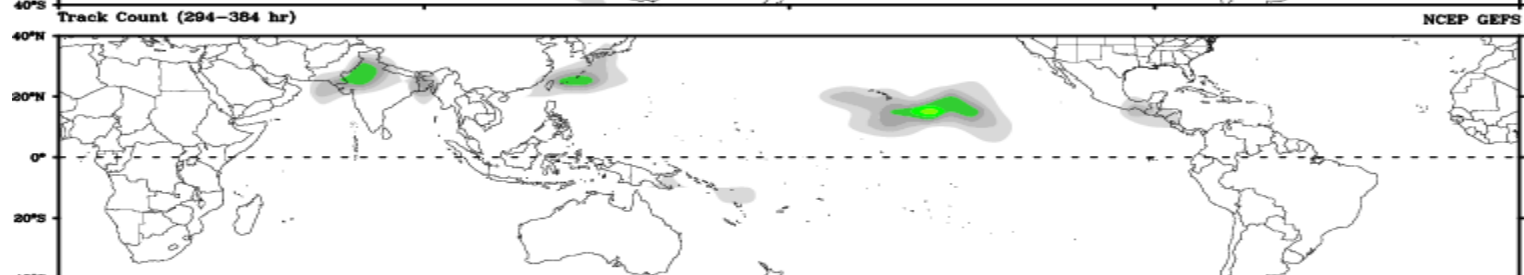X indicates current disturbance location; shading indicates potential formation area.
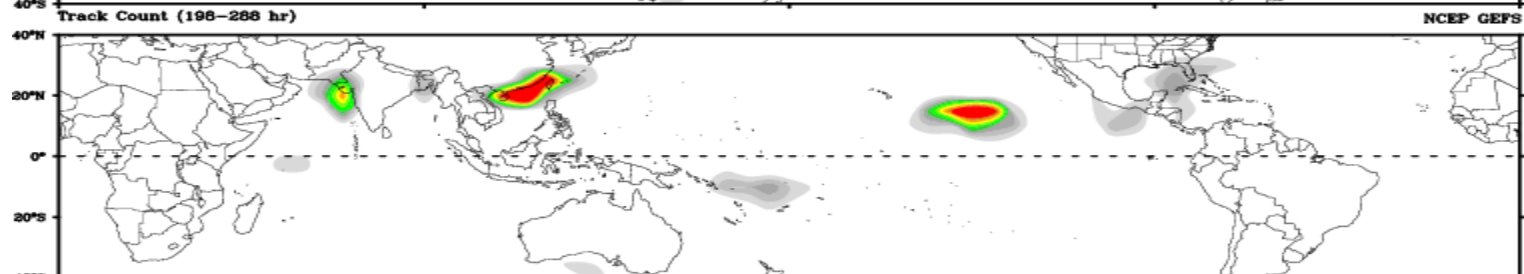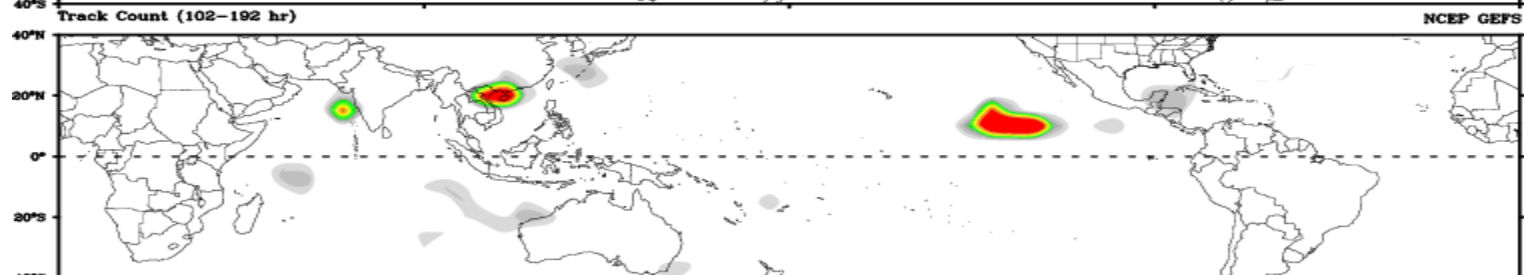
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

TC Track(0–384 hr)   2016053100   NCEP GEFS

Track Count (0–96 hr)   NCEP GEFS

Days 1-4

Track Count (102–192 hr)   NCEP GEFS

Day 5-8

Track Count (198–288 hr)   NCEP GEFS

Day 9-12

Track Count (294–384 hr)   NCEP GEFS
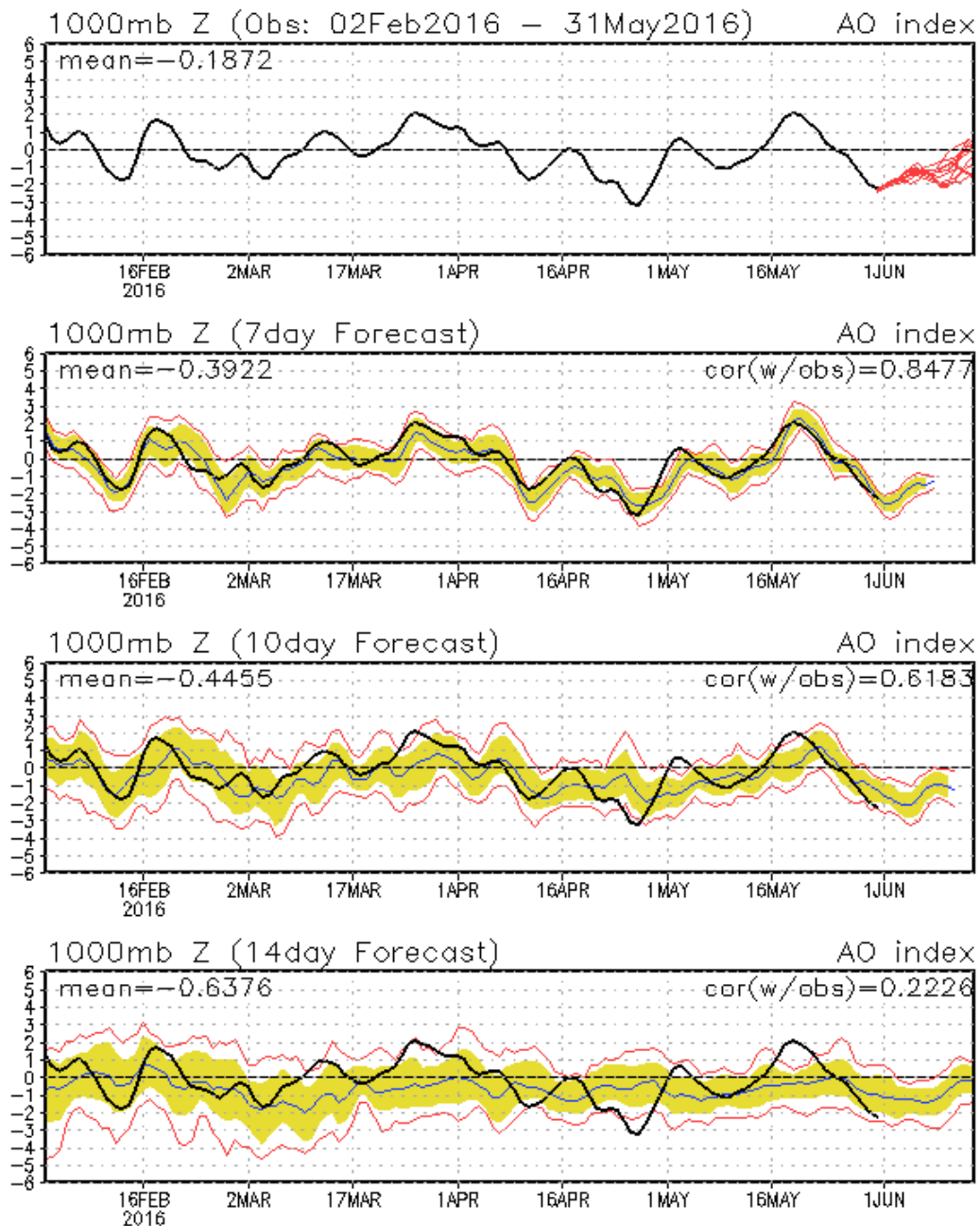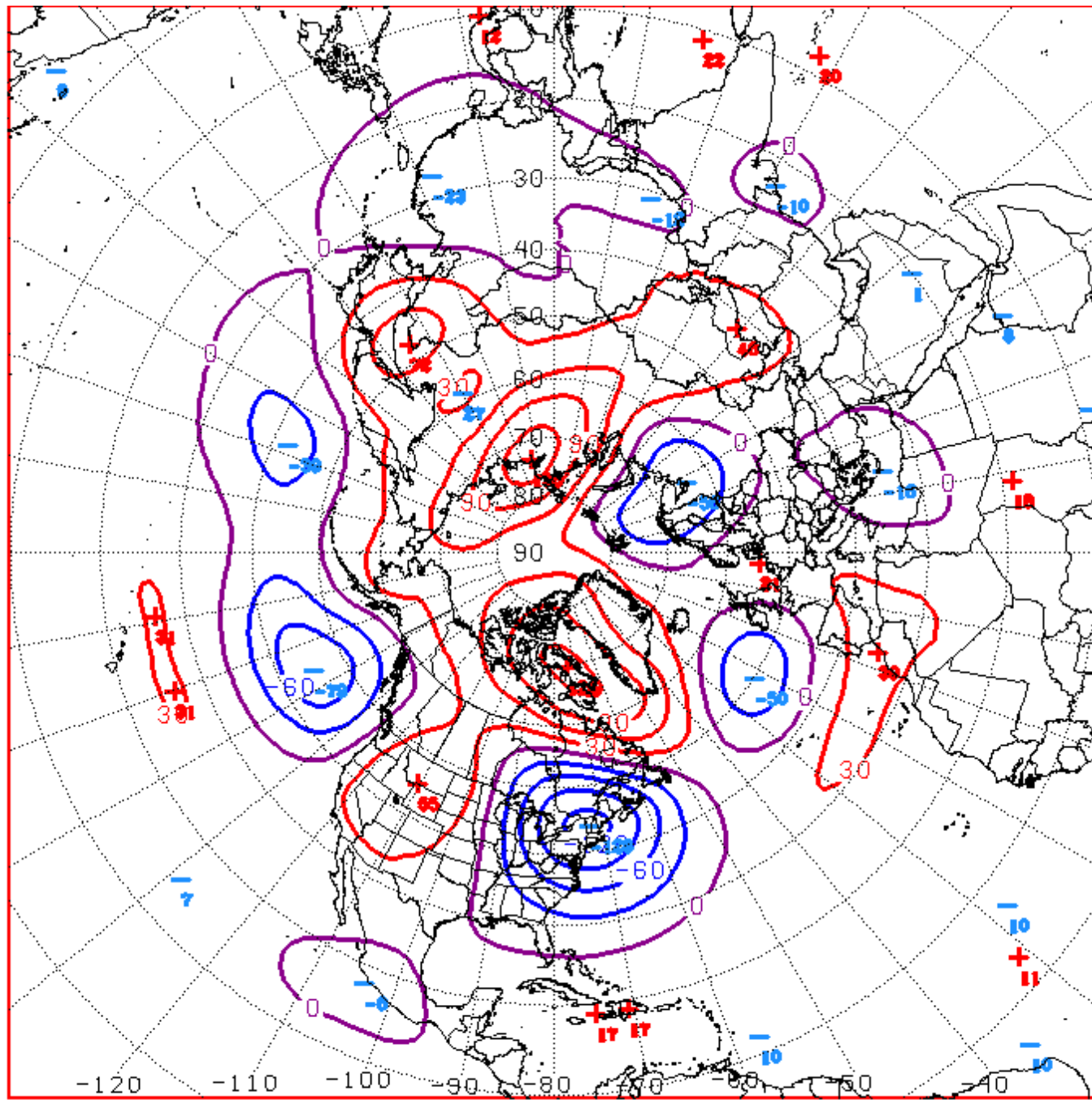
Day 13-15
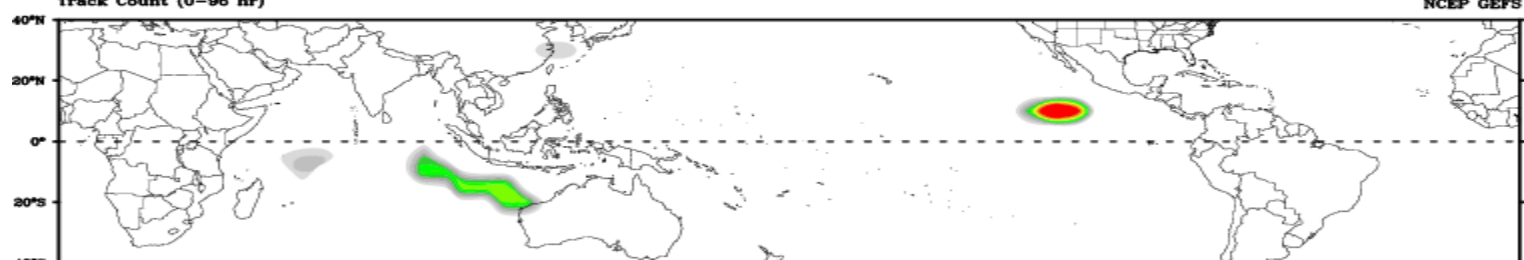
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

1000mb Z (Obs: 02Feb2016 — 31May2016)   AO index
mean=−0.1872

1000mb Z (7day Forecast)   AO index
mean=−0.3922   cor(w/obs)=0.8477

1000mb Z (10day Forecast)   AO index
mean=−0.4455   cor(w/obs)=0.6183

1000mb Z (14day Forecast)   AO index
mean=−0.6376   cor(w/obs)=0.2226
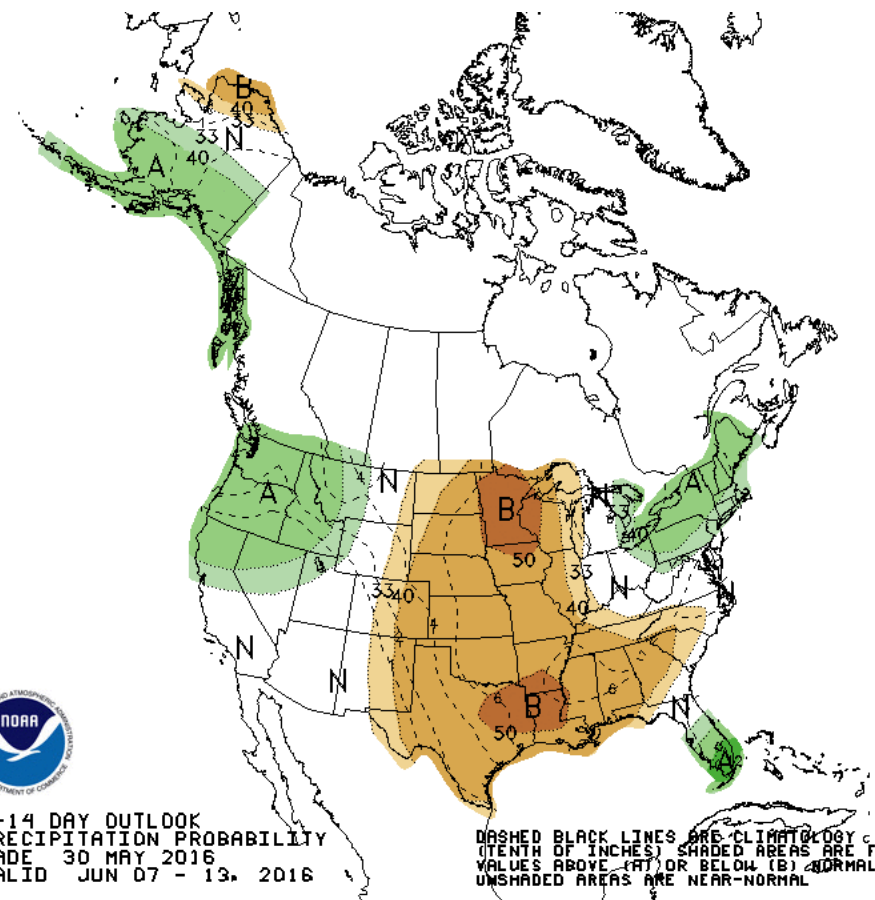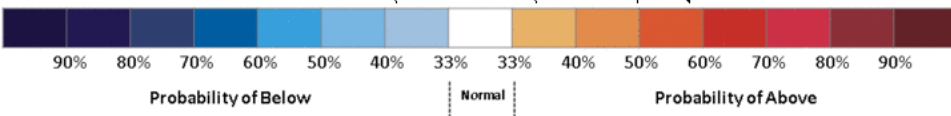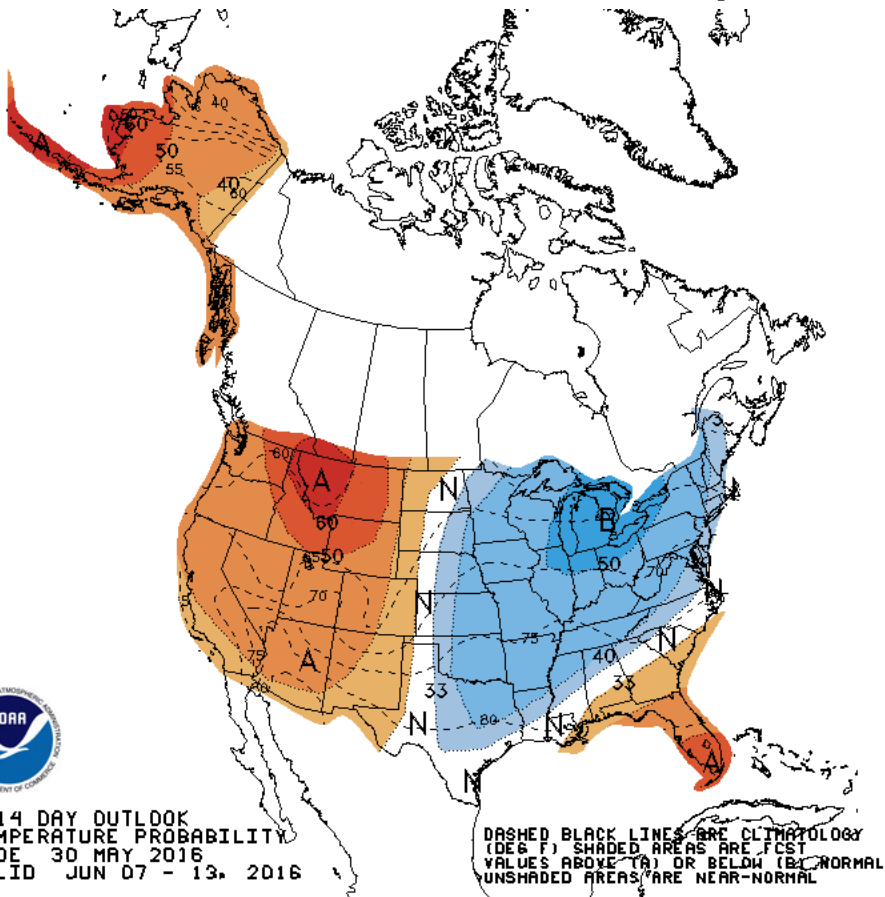
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 31 2016 1330 UTC CNTD JUN 11 2016

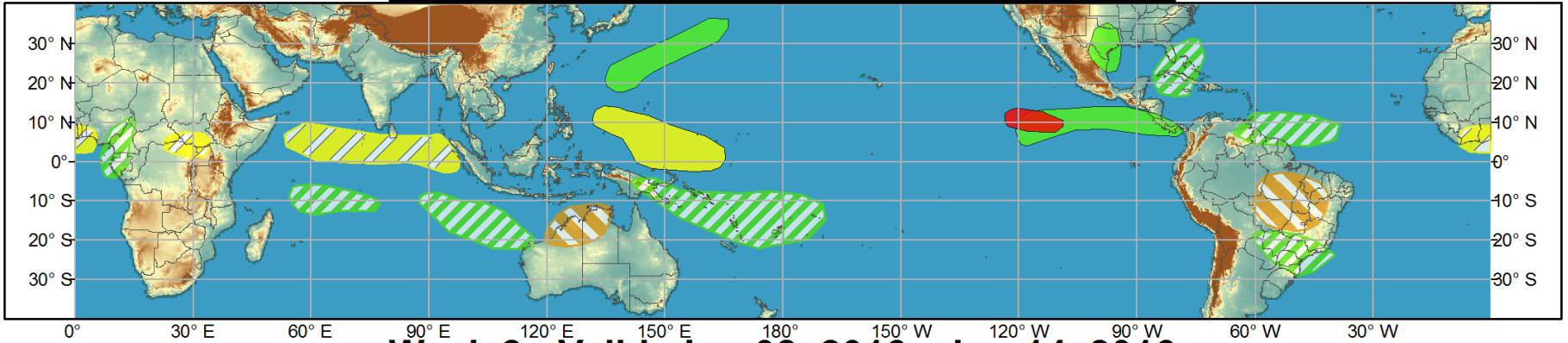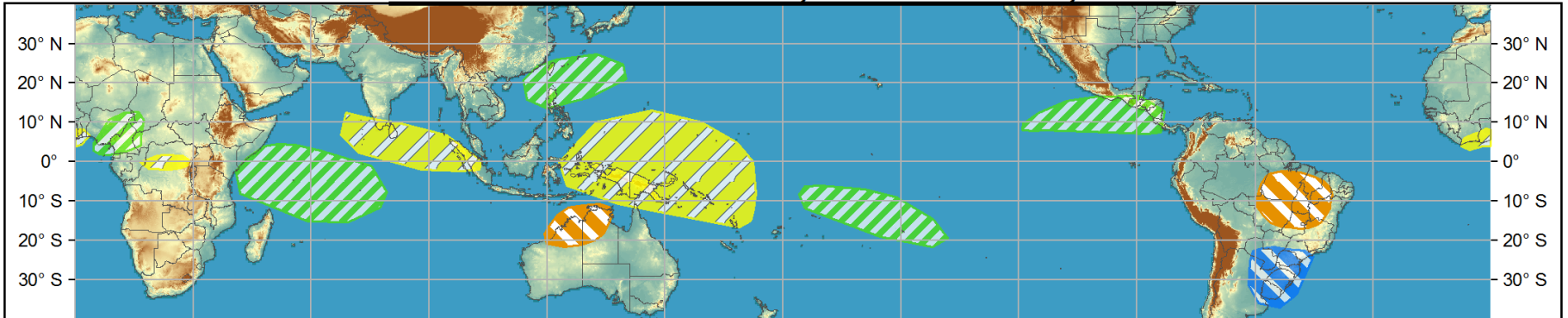# Week 2 – Temperature and Precipitation

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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Produced: 05/31/2016
Forecaster: Baxter

Confidence
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