Global Tropics Hazards And Benefits Outlook
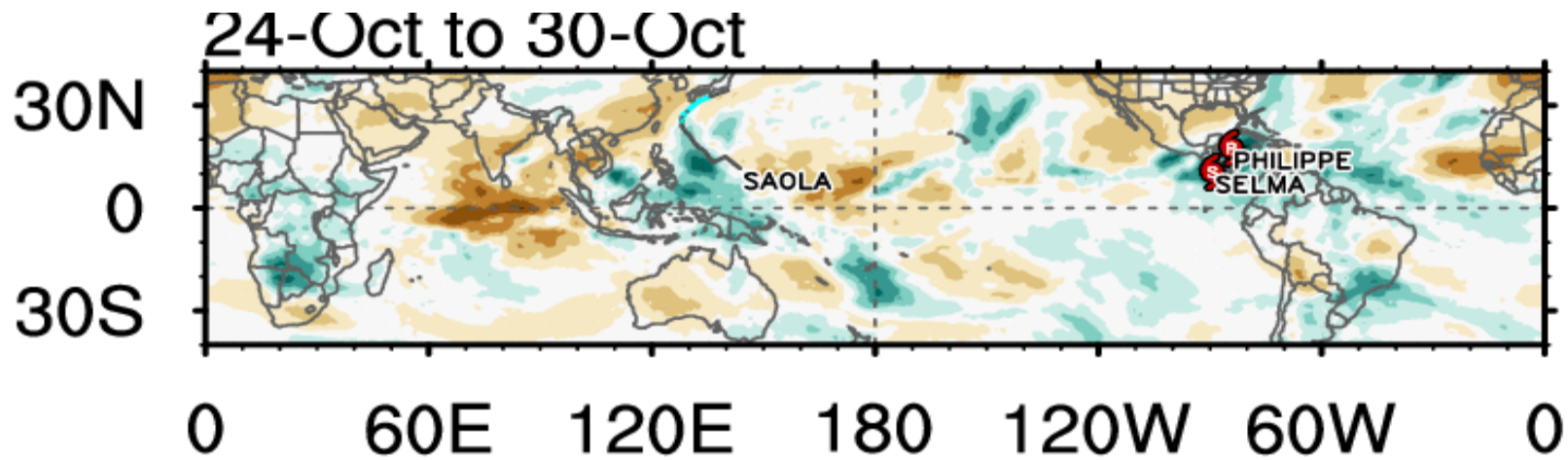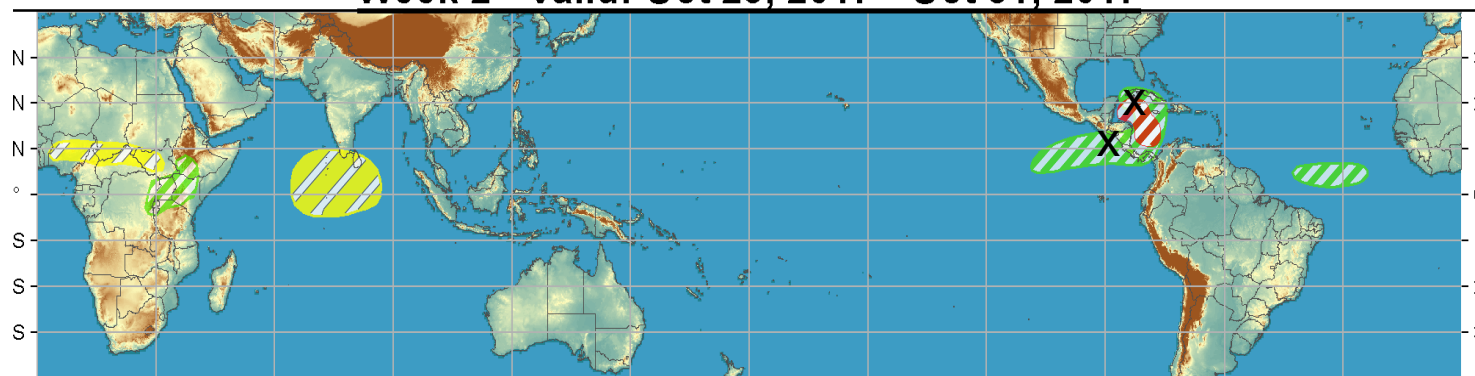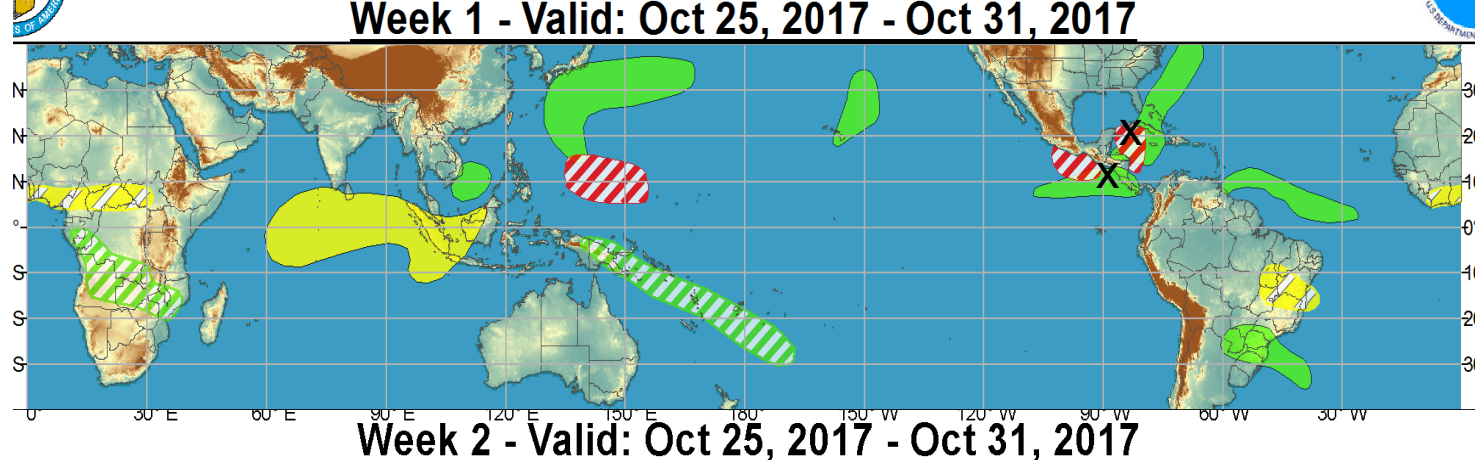## 10/31/2017

Matthew Rosencrans

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: Oct 25, 2017 - Oct 31, 2017

Week 2 - Valid: Oct 25, 2017 - Oct 31, 2017

24-Oct to 30-Oct

SAOLA

PHILIPPE
SELMA

Synopsis of Climate Modes

ENSO:
- ENSO Alert System Status: La Niña Watch

- La Niña conditions are favored (~55-65%) during the Northern Hemisphere fall and winter 2017-18

MJO and other subseasonal tropical variability:
• An active and moderate amplitude MJO event is ongoing, with the enhanced phase now over the Americas.

• Dynamical model forecasts indicate a continuing signal to the western Indian Ocean, then weakening signal as other modes of variability begin to interfere.

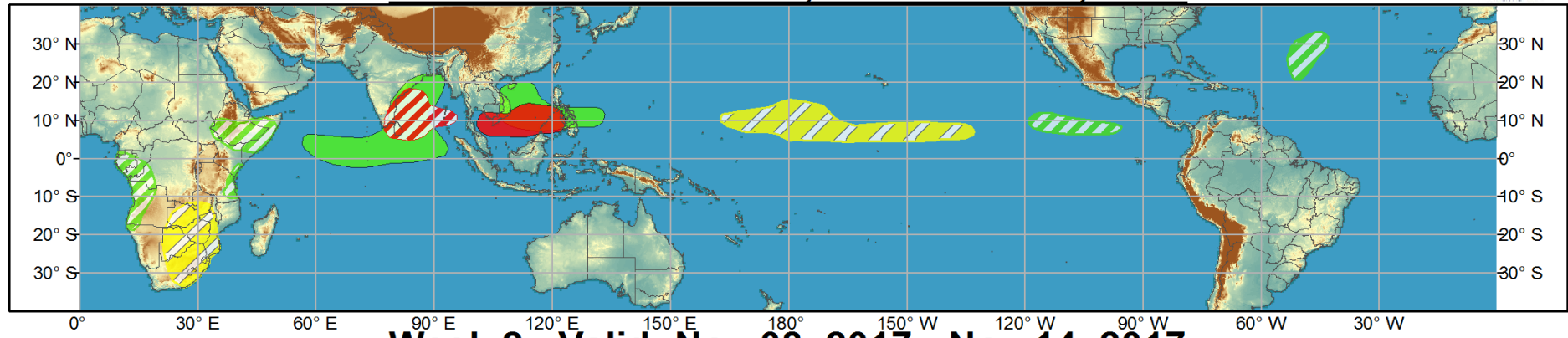• Tropical cyclone formation odds in the Bay of Bengal are enhanced.

Extratropics:
• The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity.
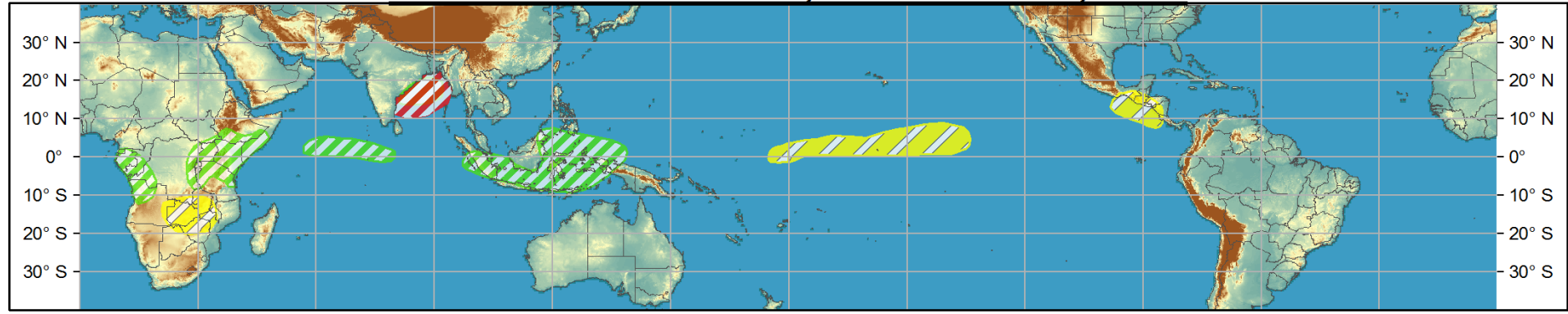
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Nov 01, 2017 - Nov 07, 2017

Week 2 - Valid: Nov 08, 2017 - Nov 14, 2017

Produced: 10/31/2017

Forecaster: Rosencrans

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.
Below-normal temperatures			7-day mean temperatures in the lower third of the historical range.

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.
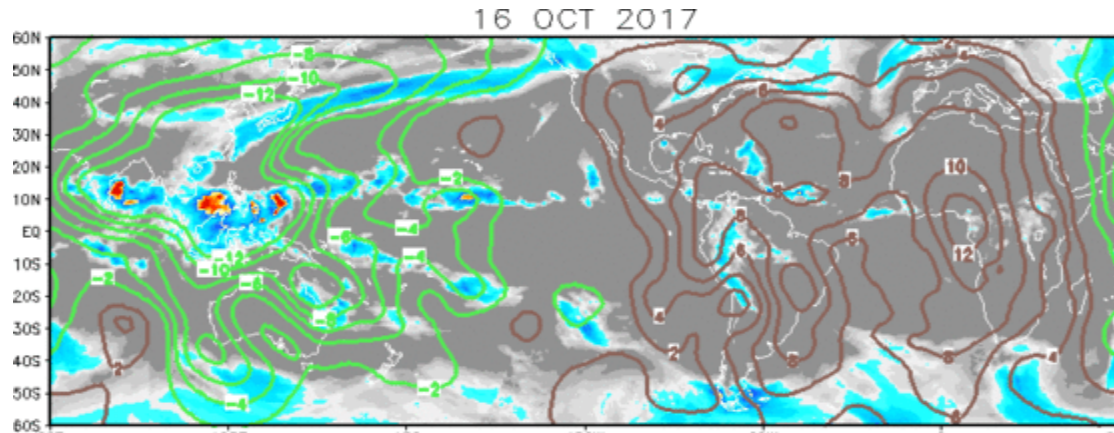
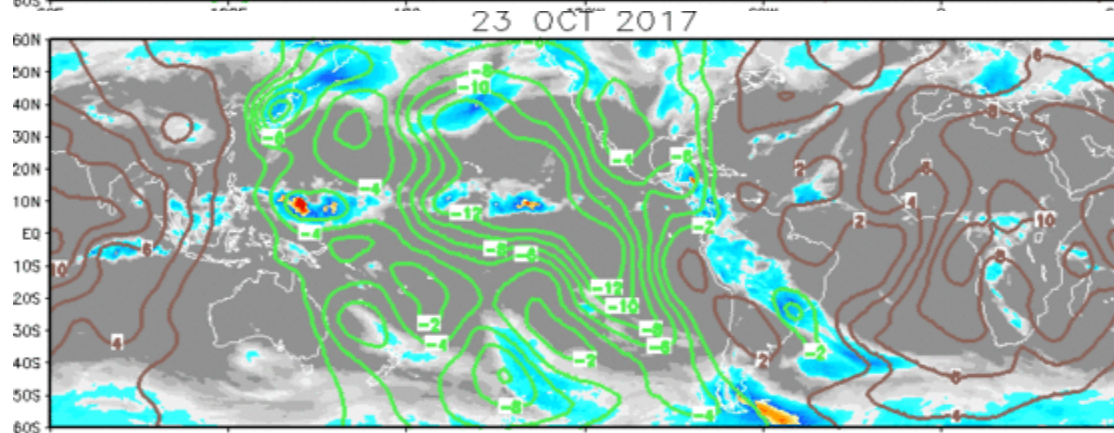# IR Satellite & 200-hpa Velocity Potential Anomalies

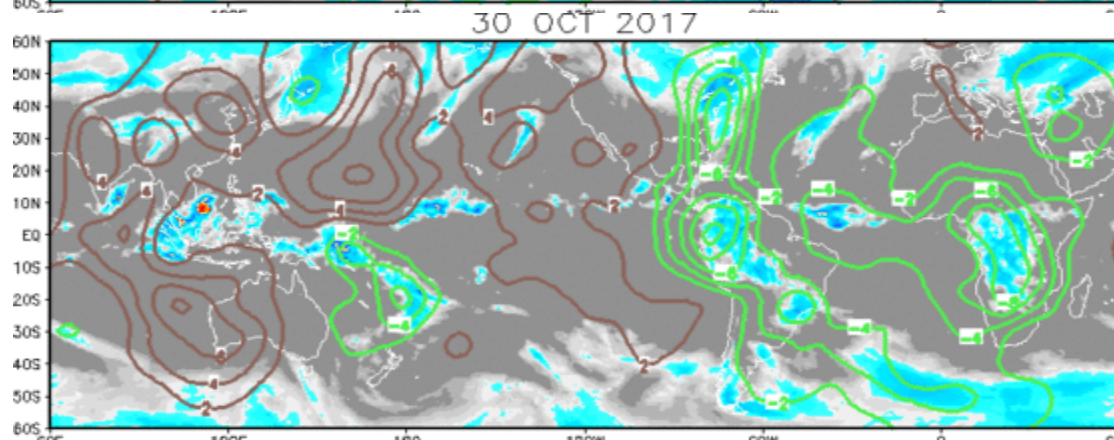**Green: Enhanced Divergence   Brown: Enhanced Convergence**
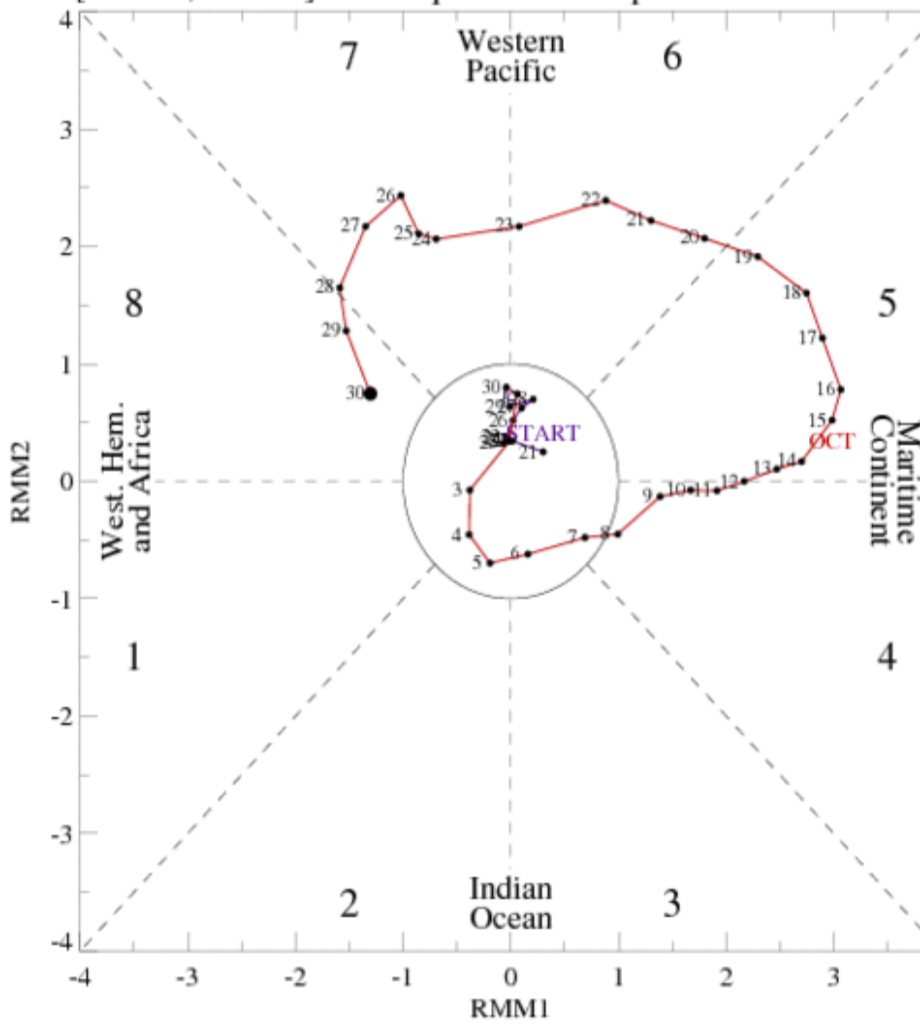
Wave-1 with a strong MJO projection.

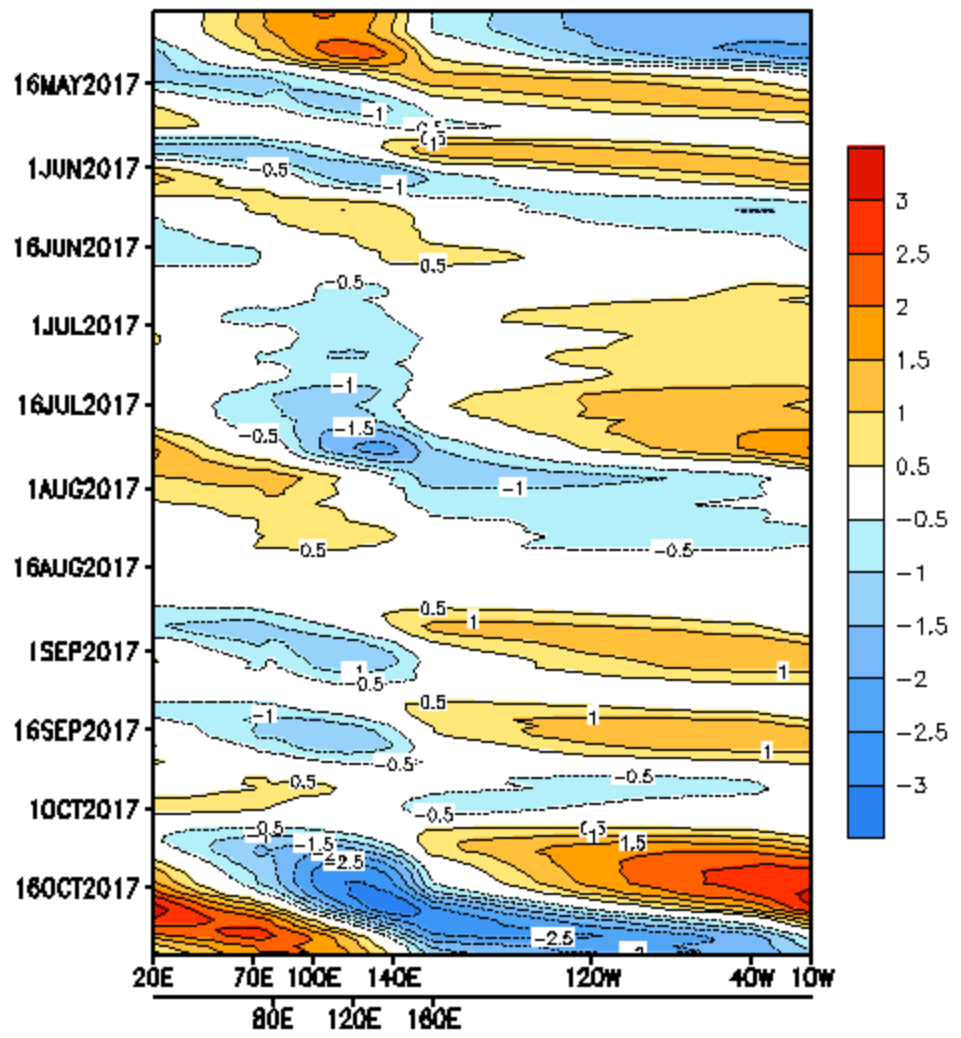Wave-1 with a moderate/strong MJO projection.

Wave-1 (but a minor competing secondary) center with a moderate MJO projection.

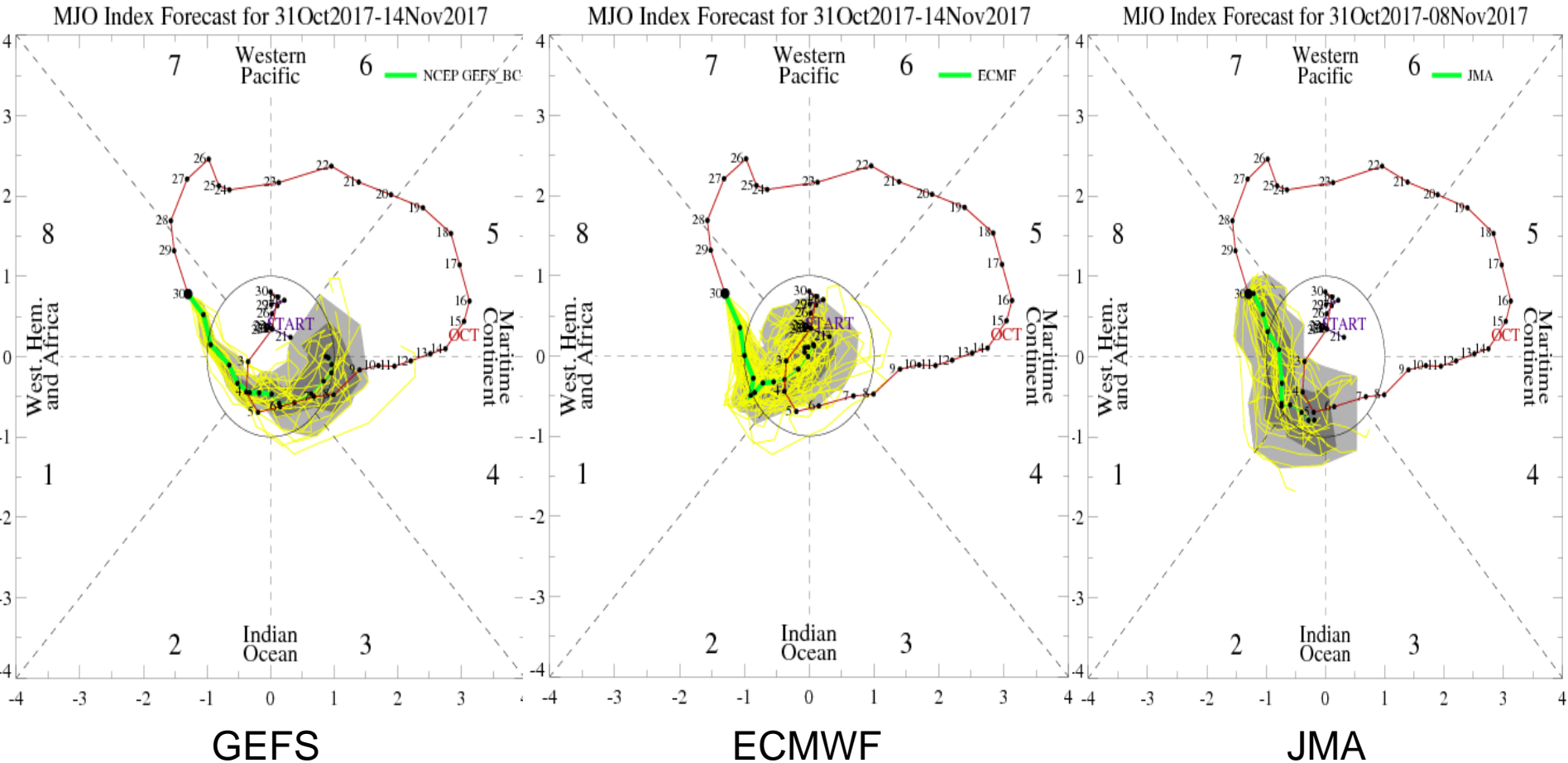[RMM1, RMM2] Phase Space for 21-Sep-2017 to 30-Oct-2017

5 -day Running Mean

Data updated through 31 Oct 2017

MJO Observation/Forecast

MJO Index Forecast for 31Oct2017-14Nov2017 — GEFS (NCEP GEFS_BC)

MJO Index Forecast for 31Oct2017-14Nov2017 — ECMWF (ECMF)

MJO Index Forecast for 31Oct2017-08Nov2017 — JMA (JMA)

Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Divergence in how the models handle interaction with westward moving modes.
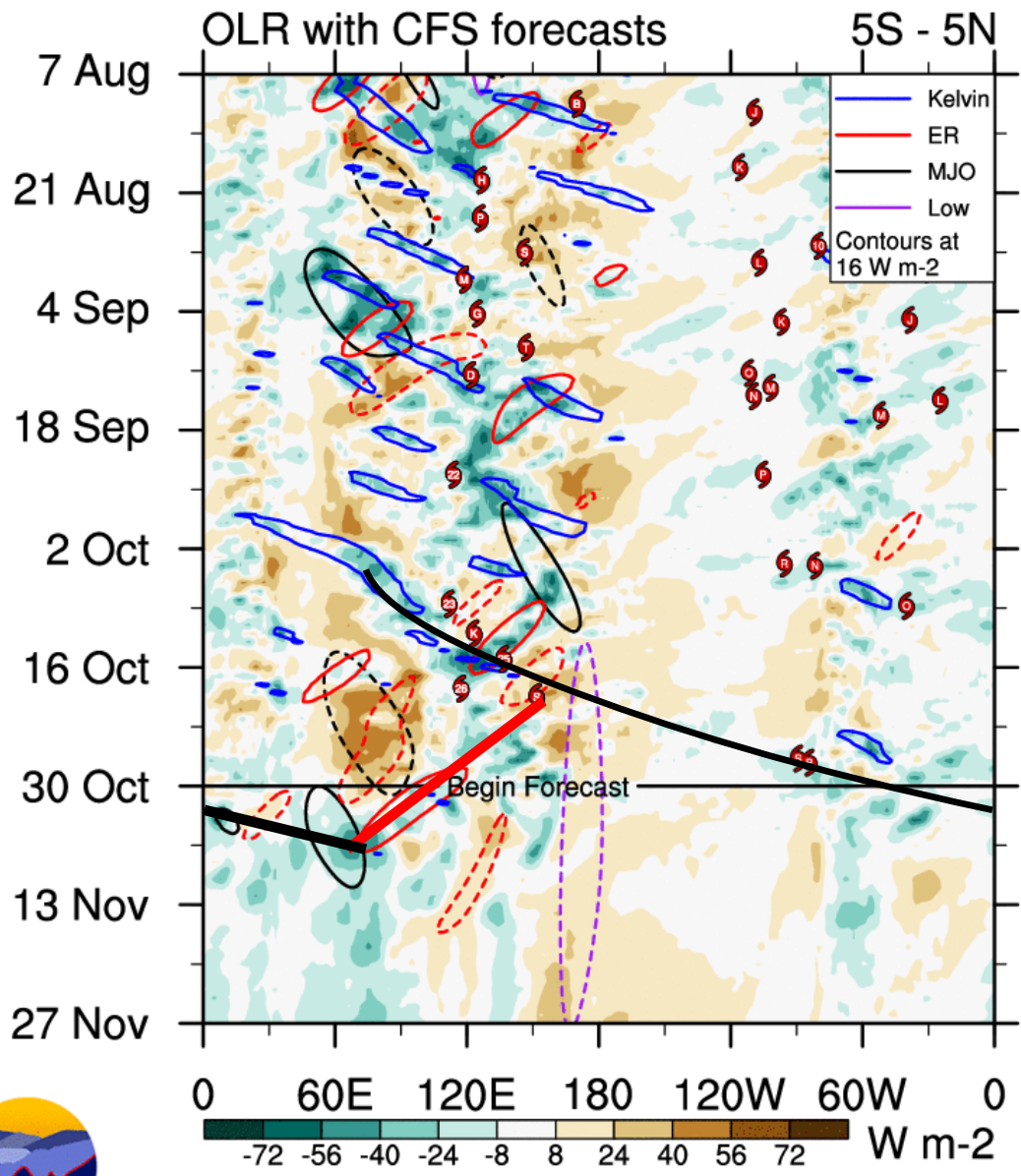
Average Conditions when the MJO is present

Phase 2

Phase 3

Phase 4

Phase 5

Phase 6

Phase 7

Phase 8

Phase 1
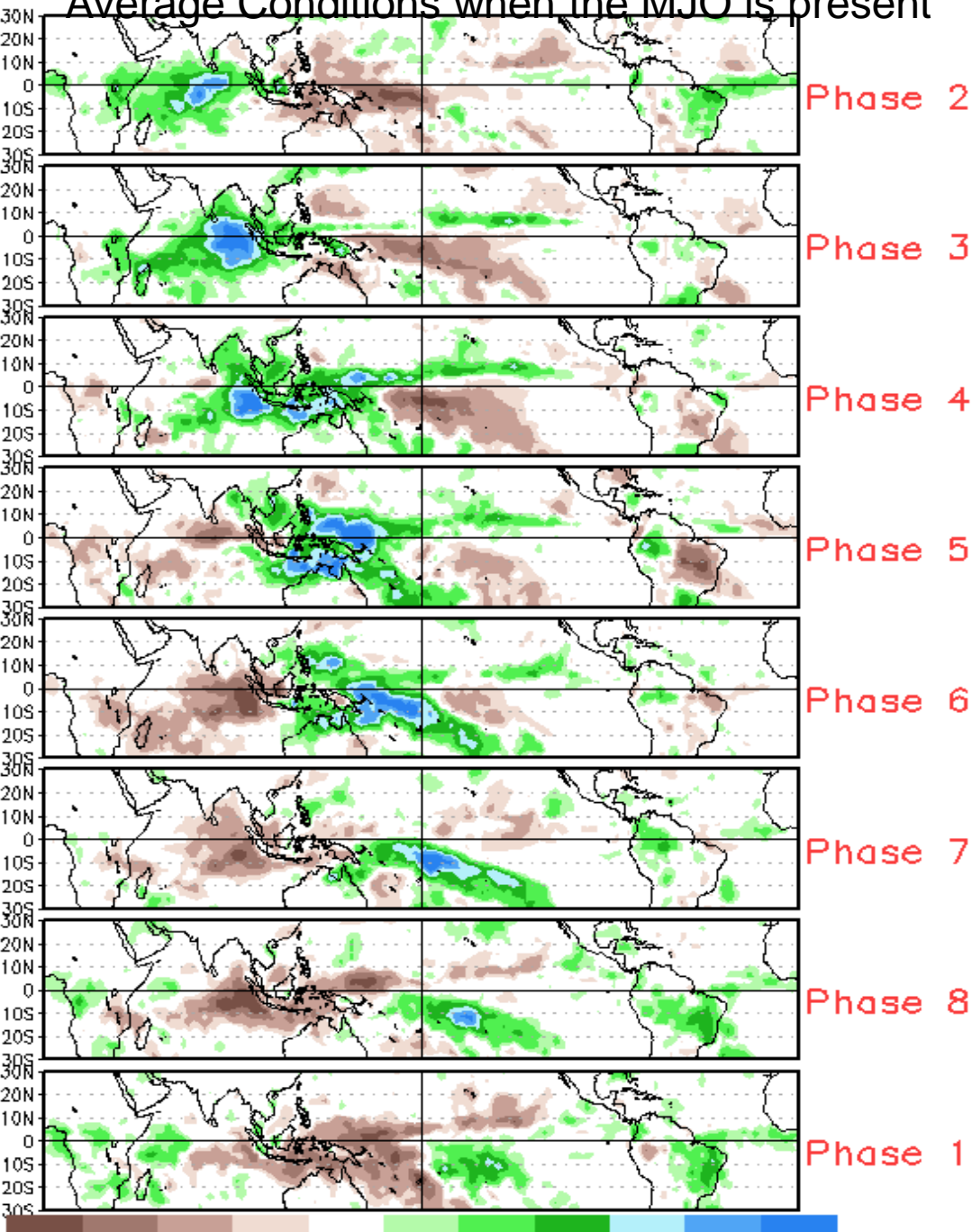
CAVEAT: These panels are representative of robust MJO events.

MJO, Rossby wave and Kelvin wave having an influence

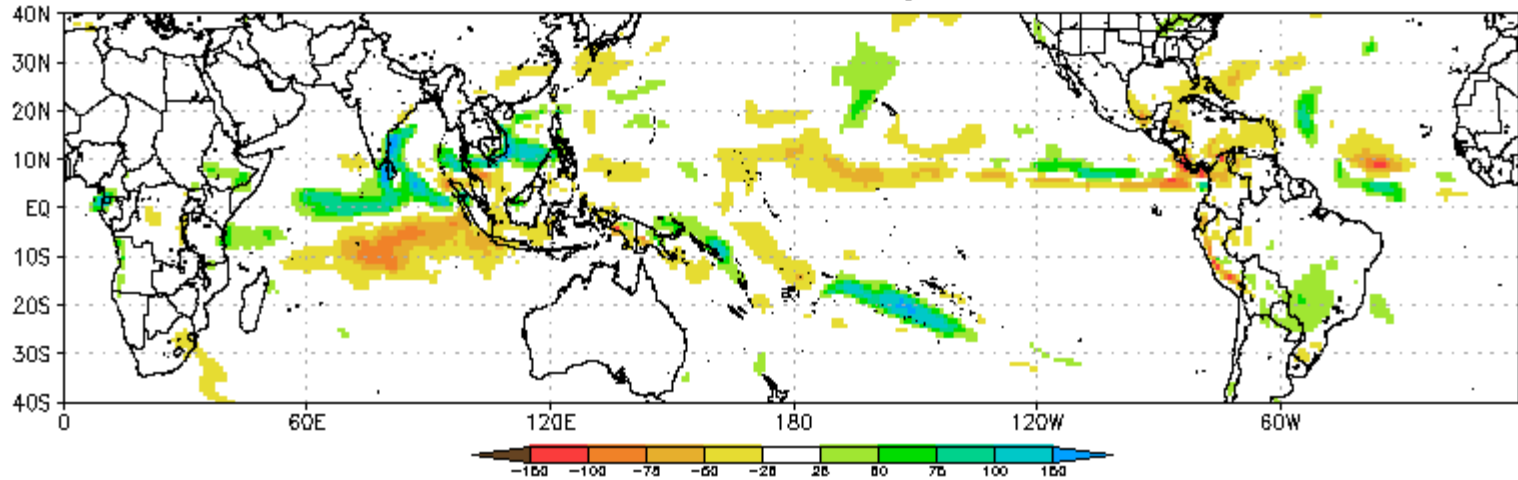**Low-frequency pattern** less of an influence

OLR with CFS forecasts   5S - 5N

Kelvin
ER
MJO
Low

Contours at 16 W m-2

Begin Forecast

W m-2
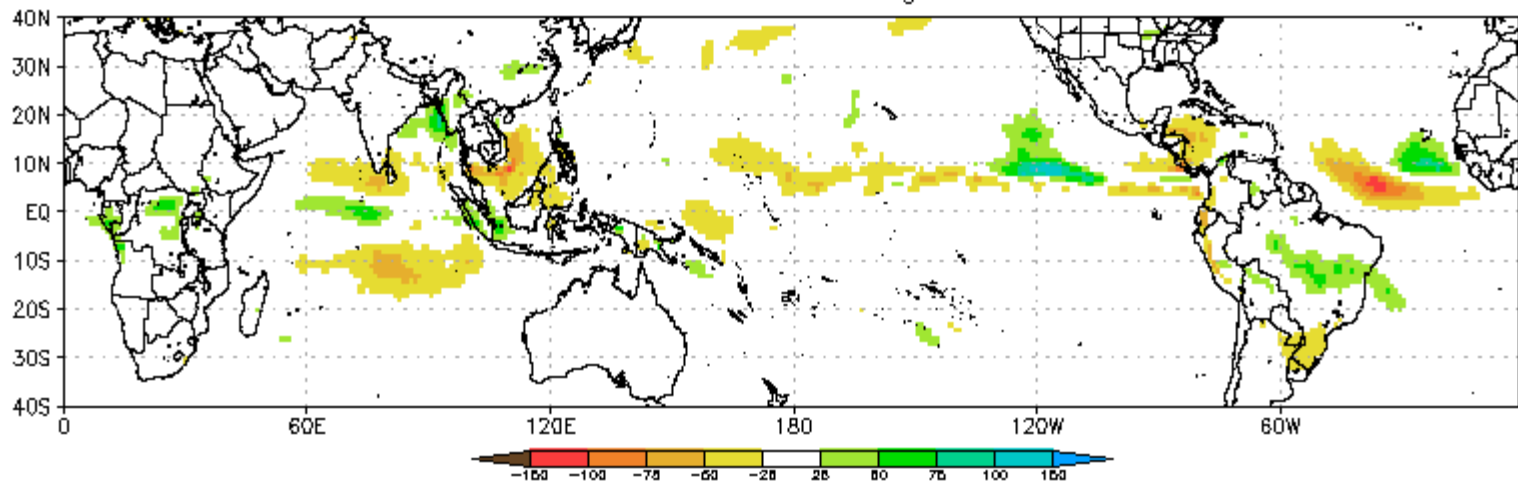-72 -56 -40 -24 -8 8 24 40 56 72

ncics.org/mjo   Tue 2017-10-31 1519 UTC   Carl Schreck (cjschrec@ncsu.edu)

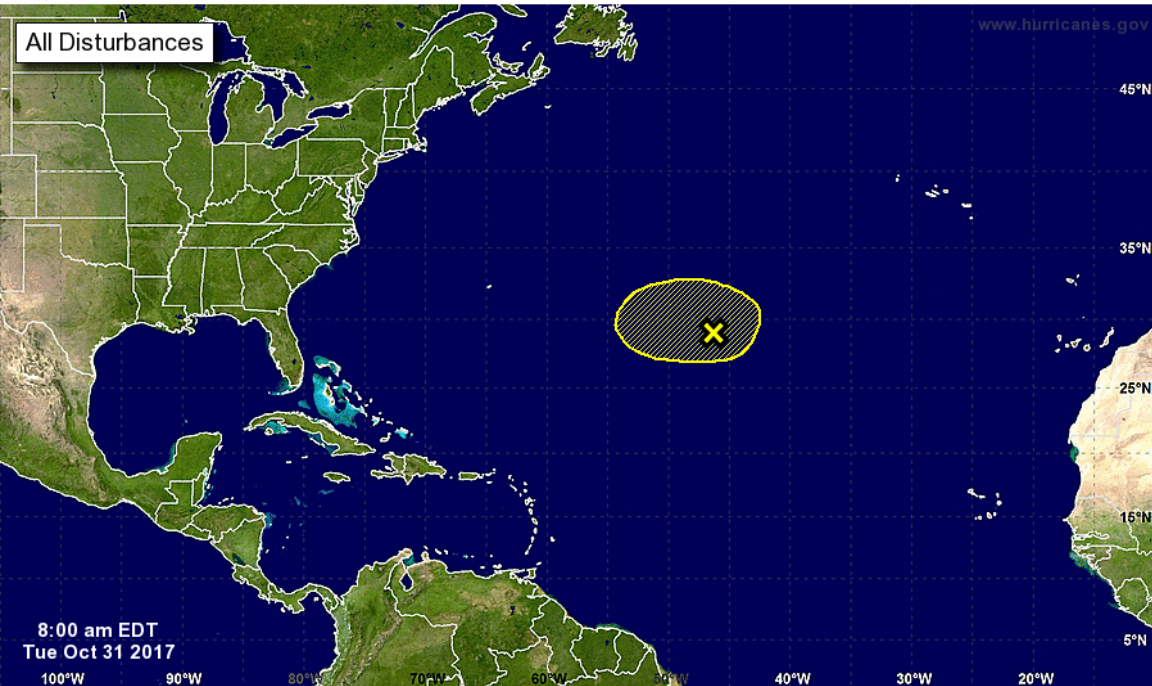CFS Precipitation Anomalies (mm) Issued 30Oct2017
Week-1 Forecast Ending 07Nov2017

CFS Precipitation Anomalies (mm) Issued 30Oct2017
Week-2 Forecast Ending 14Nov2017

Five-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida

All Disturbances

www.hurricanes.gov

8:00 am EDT
Tue Oct 31 2017

Current Disturbances and Five-Day Cyclone Formation Chance: ✗ < 40% ✗ 40-60% ✗ > 60%
Tropical or Sub-Tropical Cyclone: ◯ Depression 🌀 Storm 🌀 Hurricane
⊗ Post-Tropical Cyclone ✗ Remnants
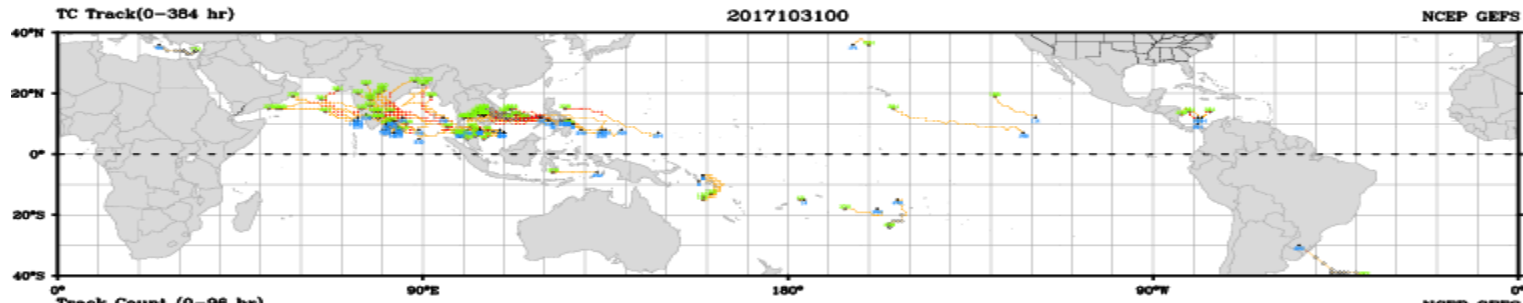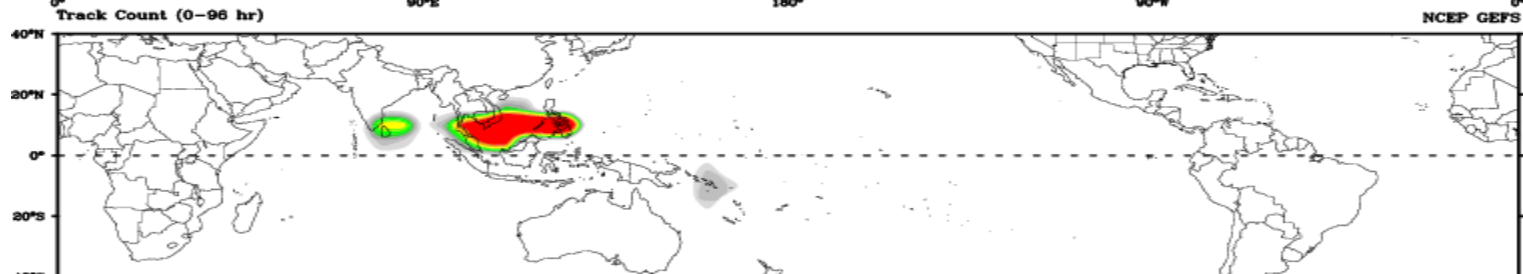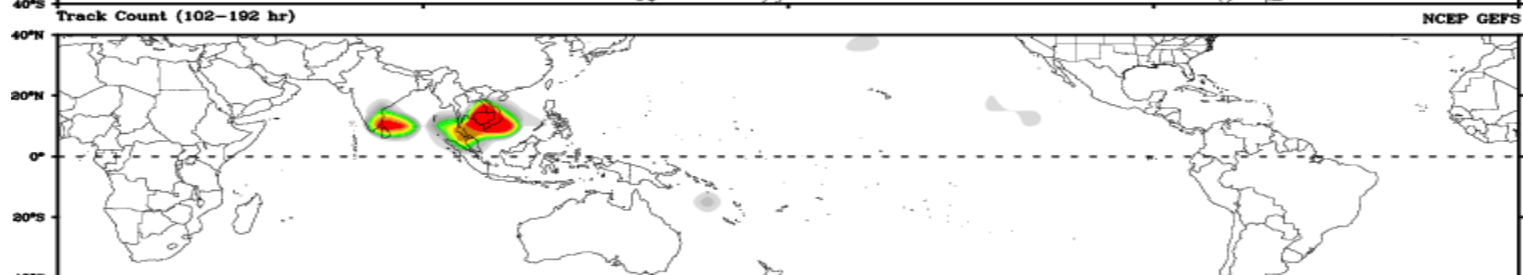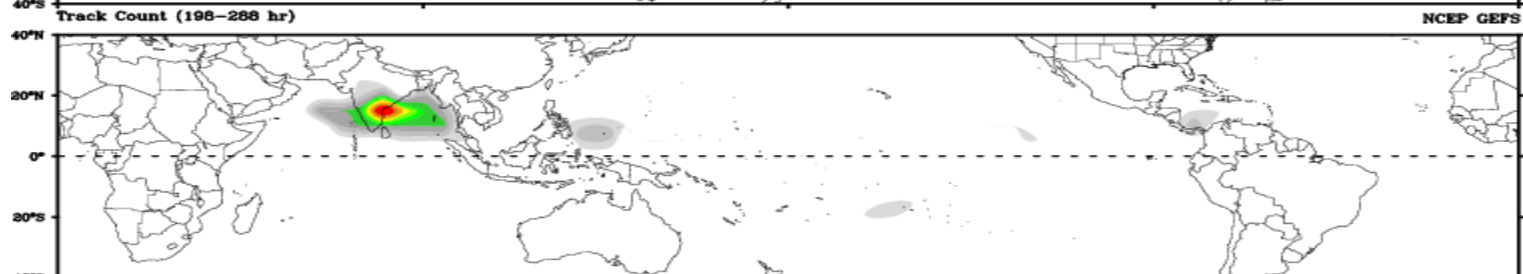
Graphical Tropical Weather Outlook
ional Hurricane Center Miami, Florida

No Disturbances

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

5:00 am PDT
Tue Oct 31 2017

www.hurricanes.gov

Current Disturbances and Five-Day Cyclone Formation Chance: ✗ < 40% ✗ 40-60% ✗ > 60%
Tropical or Sub-Tropical Cyclone: ◯ Depression 🌀 Storm 🌀 Hurricane
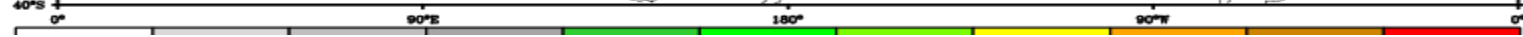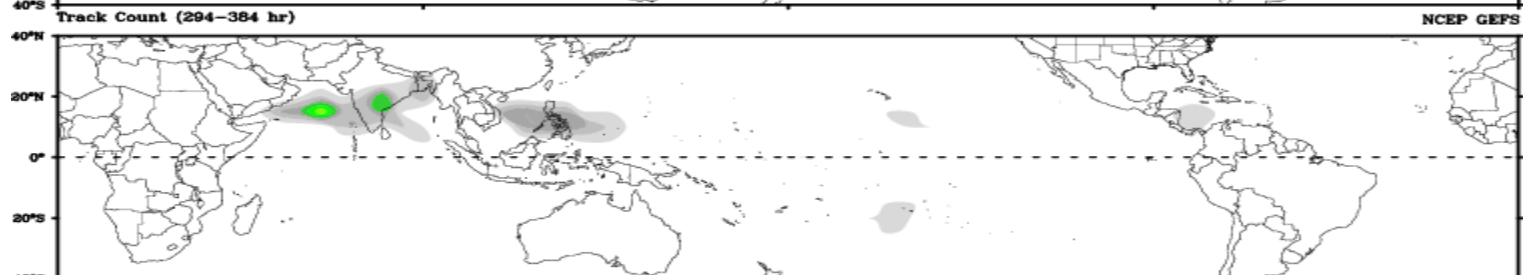⊗ Post-Tropical Cyclone ✗ Remnants

CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

TC Track(0–384 hr)   2017103100   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
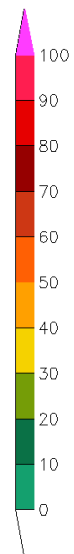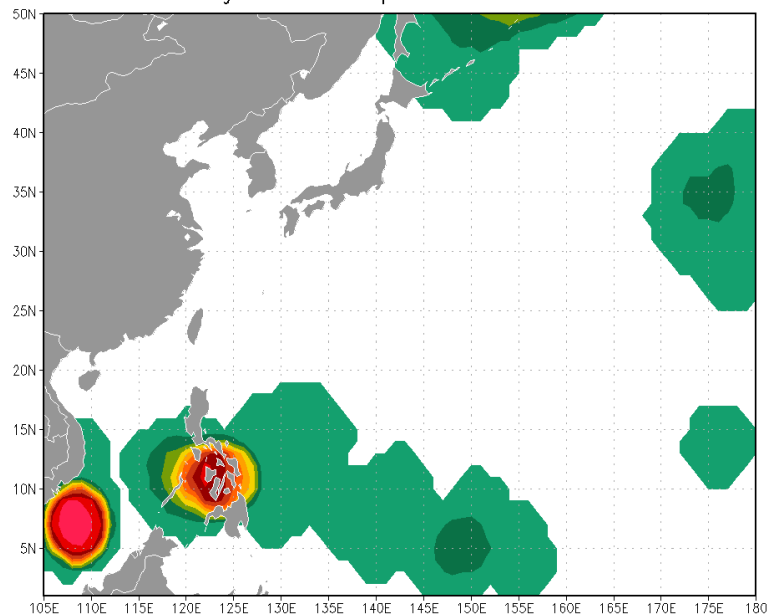
Day 13-15

Ensemble—based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF
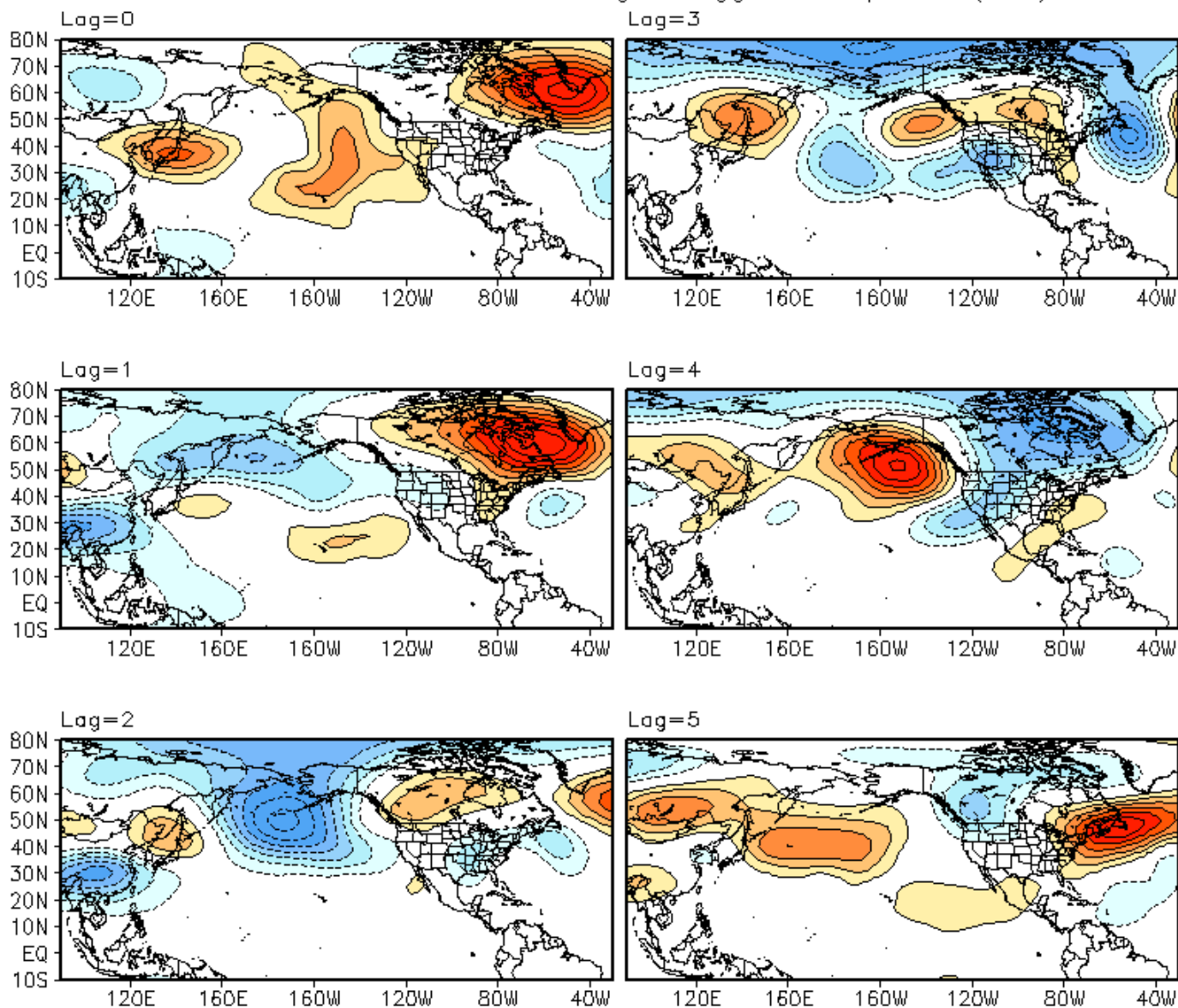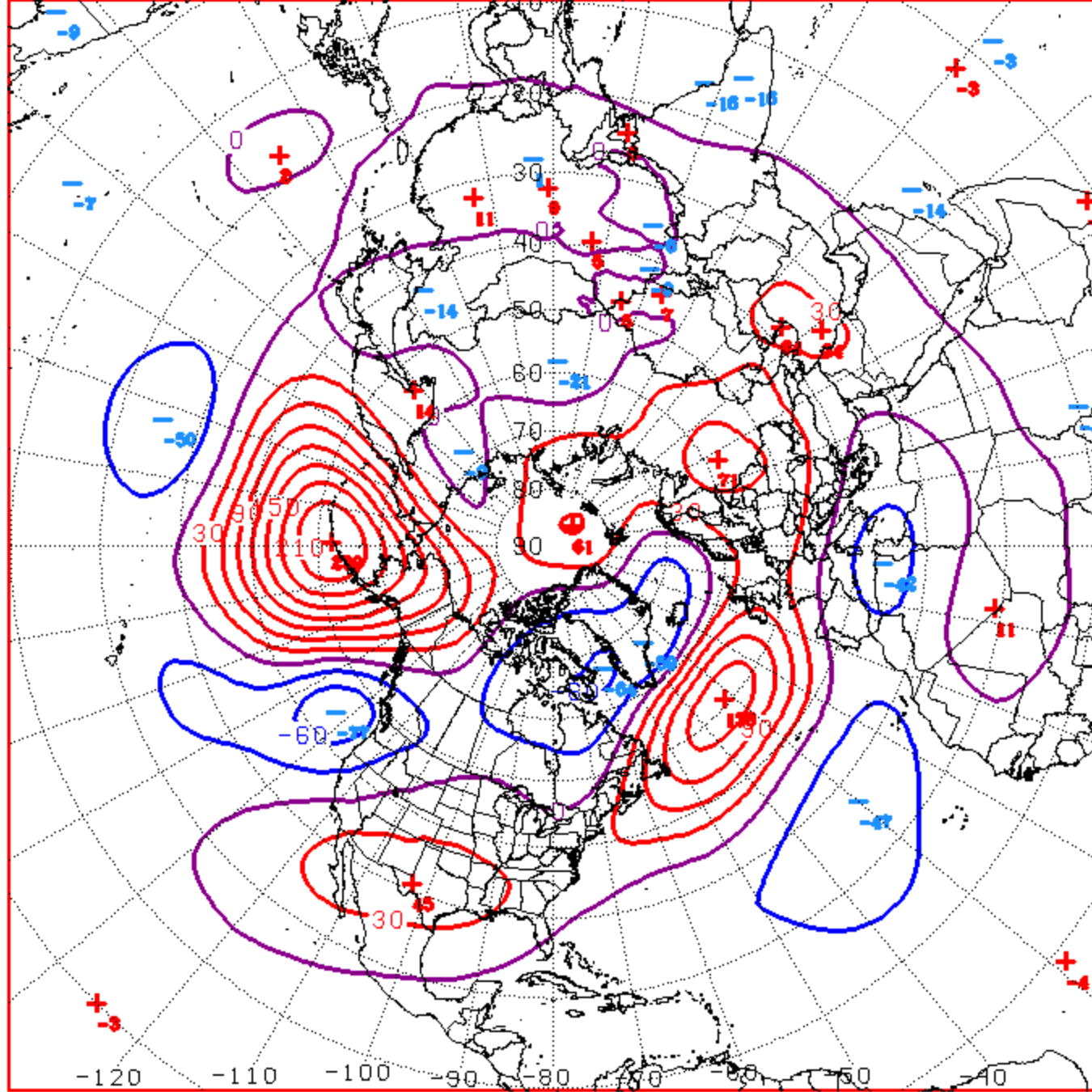For forecasts during the 00—120h period from initial time = 2017103100
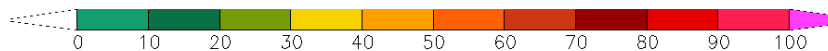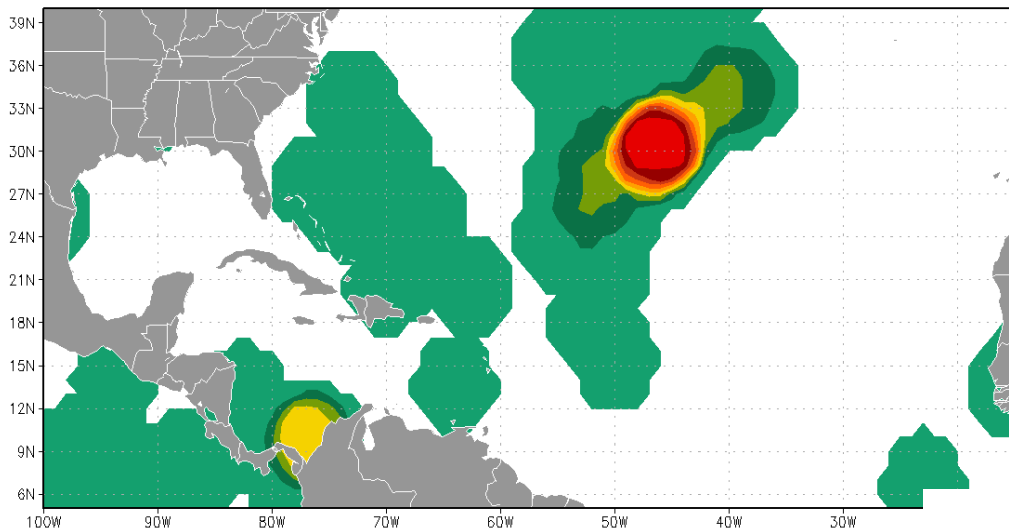
Ensemble—based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF
For forecasts during the 00—120h period from initial time = 2017103100
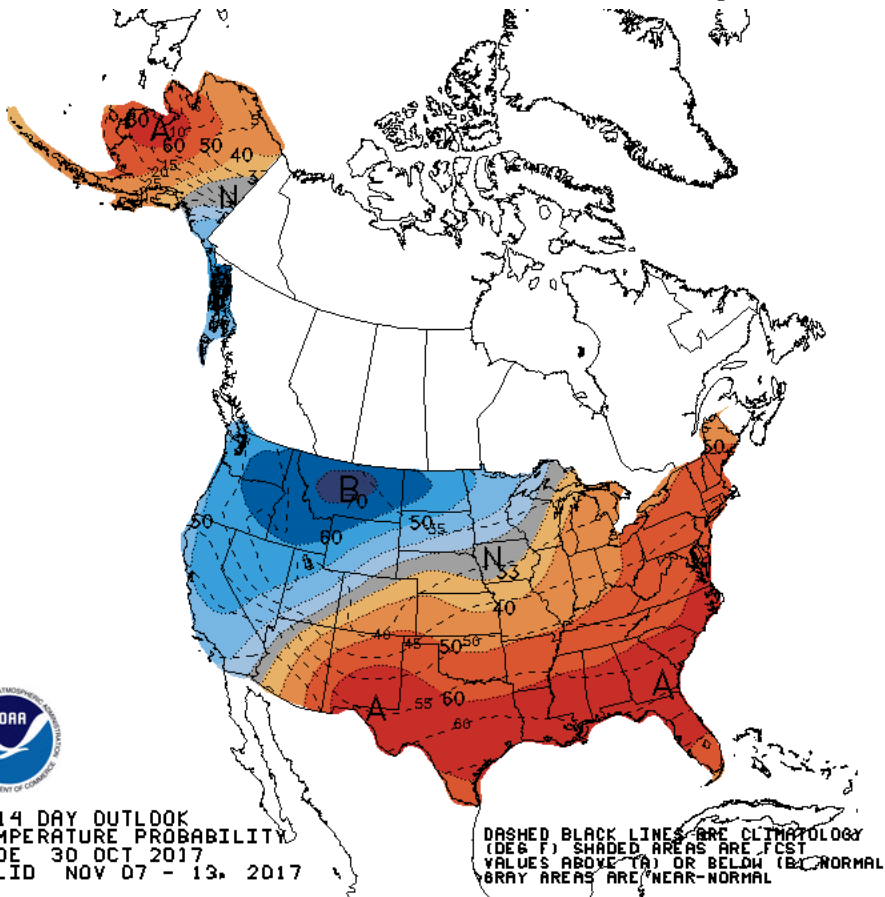
Connections to U.S. Impacts
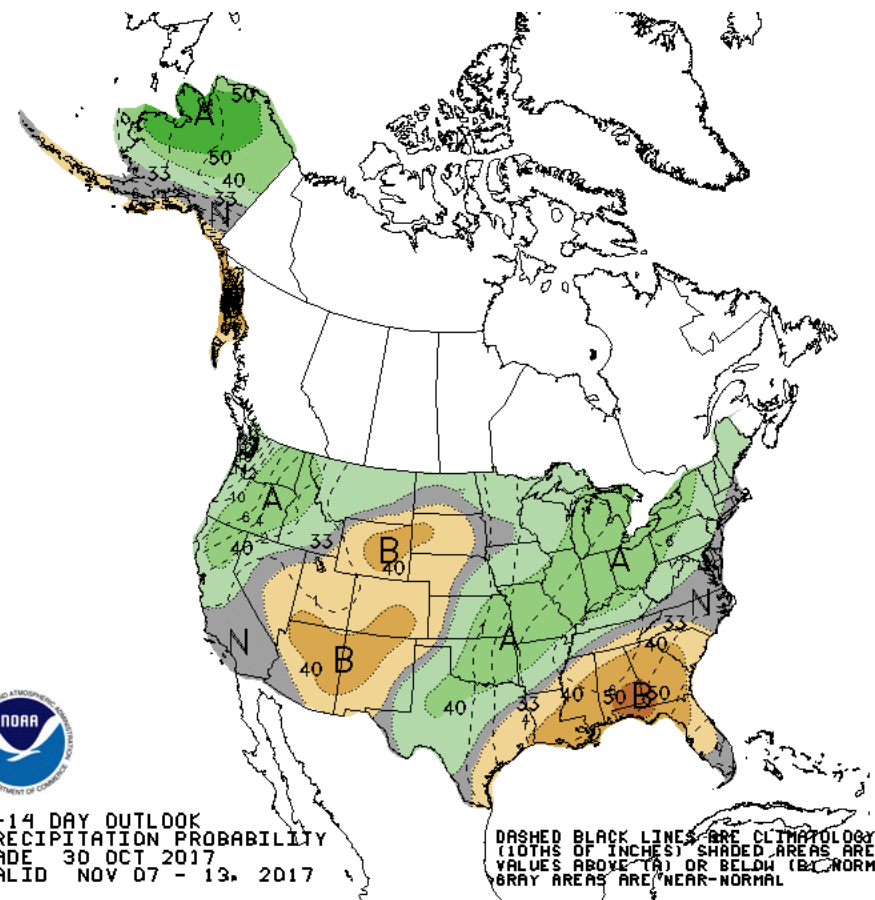
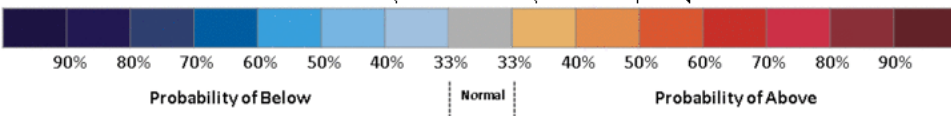RMM Phase 8 200-hPa Height Lagged Composite (ond)

D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE OCT 31 2017 1320 UTC CNTD NOV 11 2017

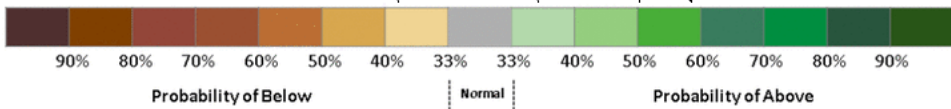# Week 2 – Temperature and Precipitation

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Nov 01, 2017 - Nov 07, 2017

Week 2 - Valid: Nov 08, 2017 - Nov 14, 2017

Produced: 10/31/2017

Forecaster: Rosencrans

Confidence
High Moderate

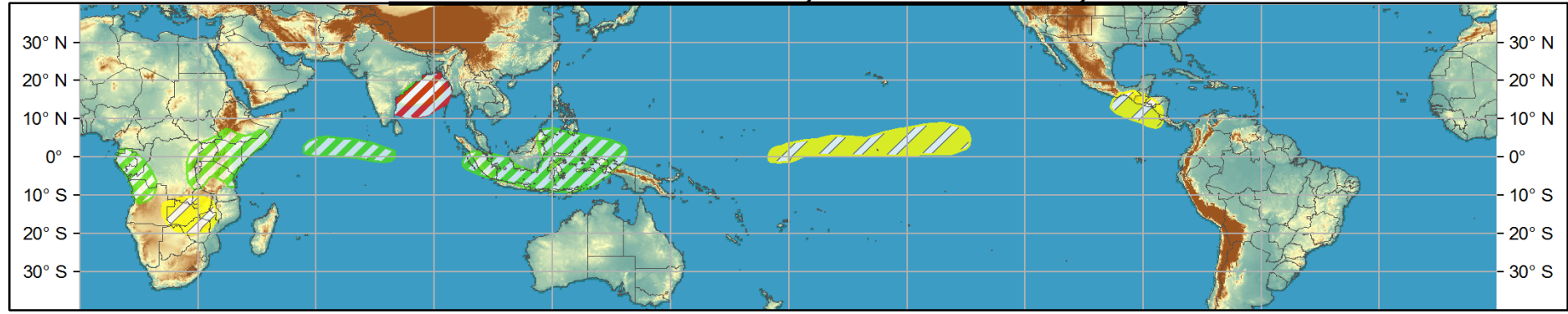|			
Tropical Cyclone Formation	(red)	(red hatch)	Development of a tropical cyclone (tropical depression - TD, or greater strength).
Above-average rainfall	(green)	(green hatch)	Weekly total rainfall in the upper third of the historical range.
Below-average rainfall	(yellow)	(yellow hatch)	Weekly total rainfall in the lower third of the historical range.
Above-normal temperatures	(orange)	(orange hatch)	7-day mean temperatures in the upper third of the historical range.
Below-normal temperatures	(blue)	(blue hatch)	7-day mean temperatures in the lower third of the historical range.

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