Global Tropics Hazards And Benefits Outlook

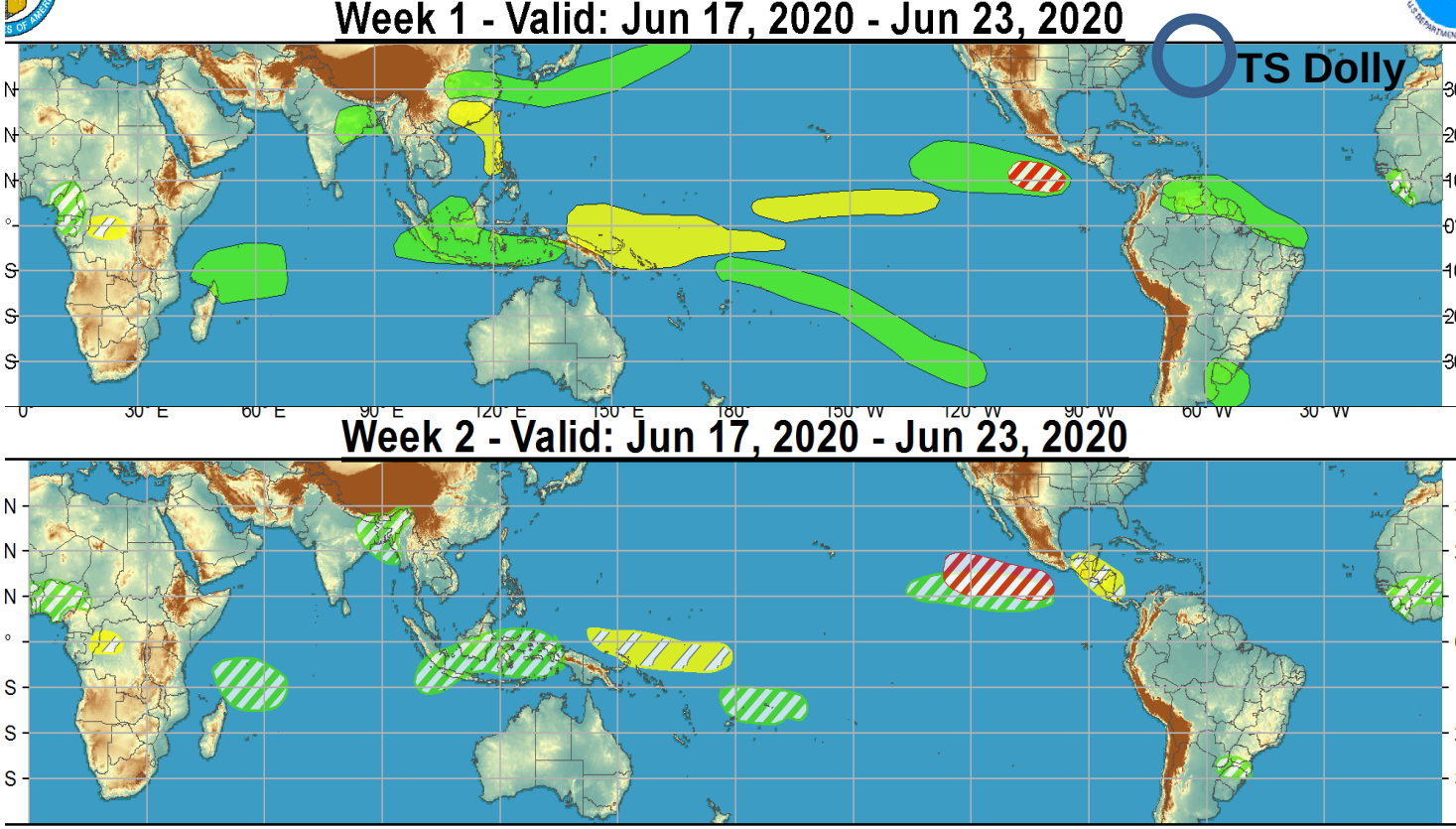
6/23/2020

Kyle MacRitchie

Outline

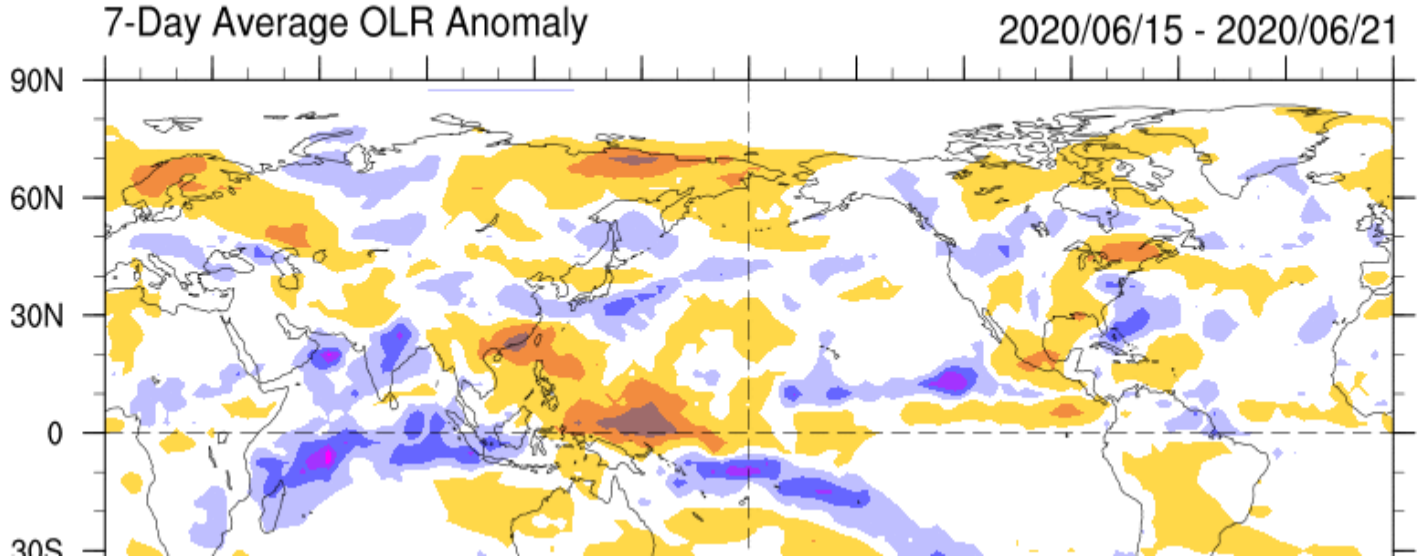
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review



Cool shading
More clouds/rain

Warm shading
Less clouds/rain



Synopsis of Climate Modes

ENSO: (June 11, 2020 Update)

- ENSO Alert System Status: Not Active

- There is a ~60% (from 65%) chance of ENSO-neutral during Northern Hemisphere summer 2020, with roughly equal chances (~40-50%) of La Nina or ENSO-neutral during the autumn and winter 2020-2021.

MJO and other subseasonal tropical variability:

- There is no coherent MJO signal at this time. Model forecasts suggest that the MJO will remain weak throughout the forecast period.

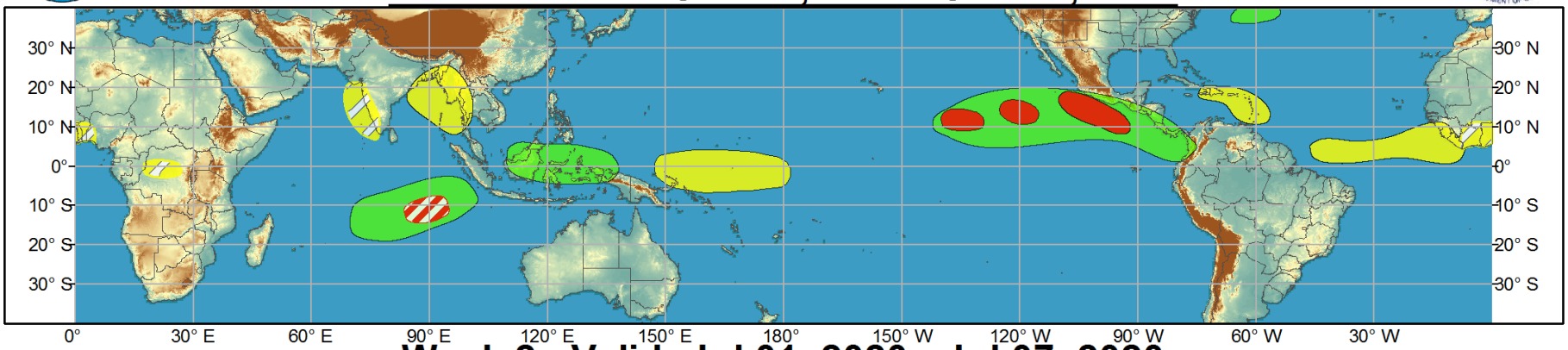
- A convectively coupled Kelvin Wave is currently over the East Pacific and is forecast to continue propagating eastward during the next two weeks.

- Large scale convection associated with this Kelvin Wave is expected to enhance the probabilities for tropical cyclone formation in the East Pacific.

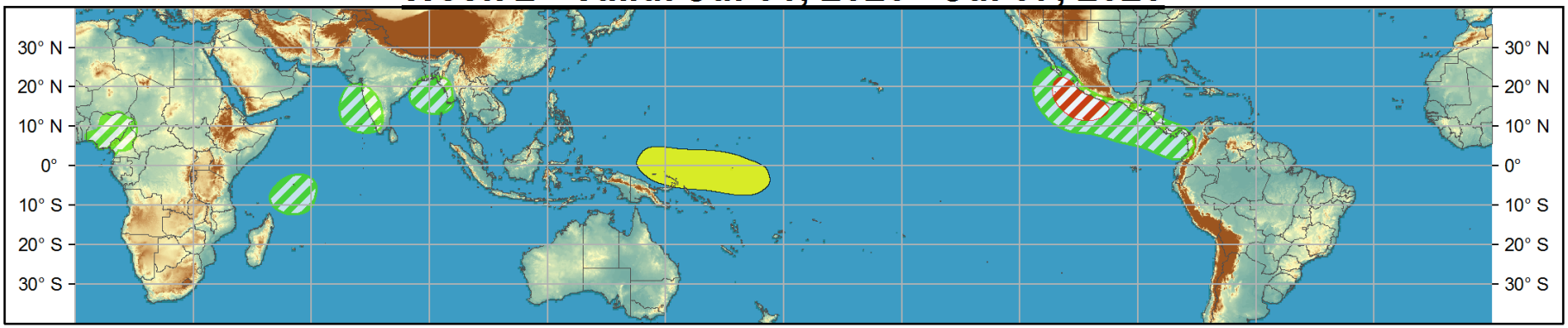
- The large scale convection is forecast to shift eastward during Week-2 and may help to offset some of the dryness associated with Saharan dust over the Atlantic.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jun 24, 2020 - Jun 30, 2020



Week 2 - Valid: Jul 01, 2020 - Jul 07, 2020



Produced: 06/23/2020

Forecaster: MacRitchie

	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.
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.

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

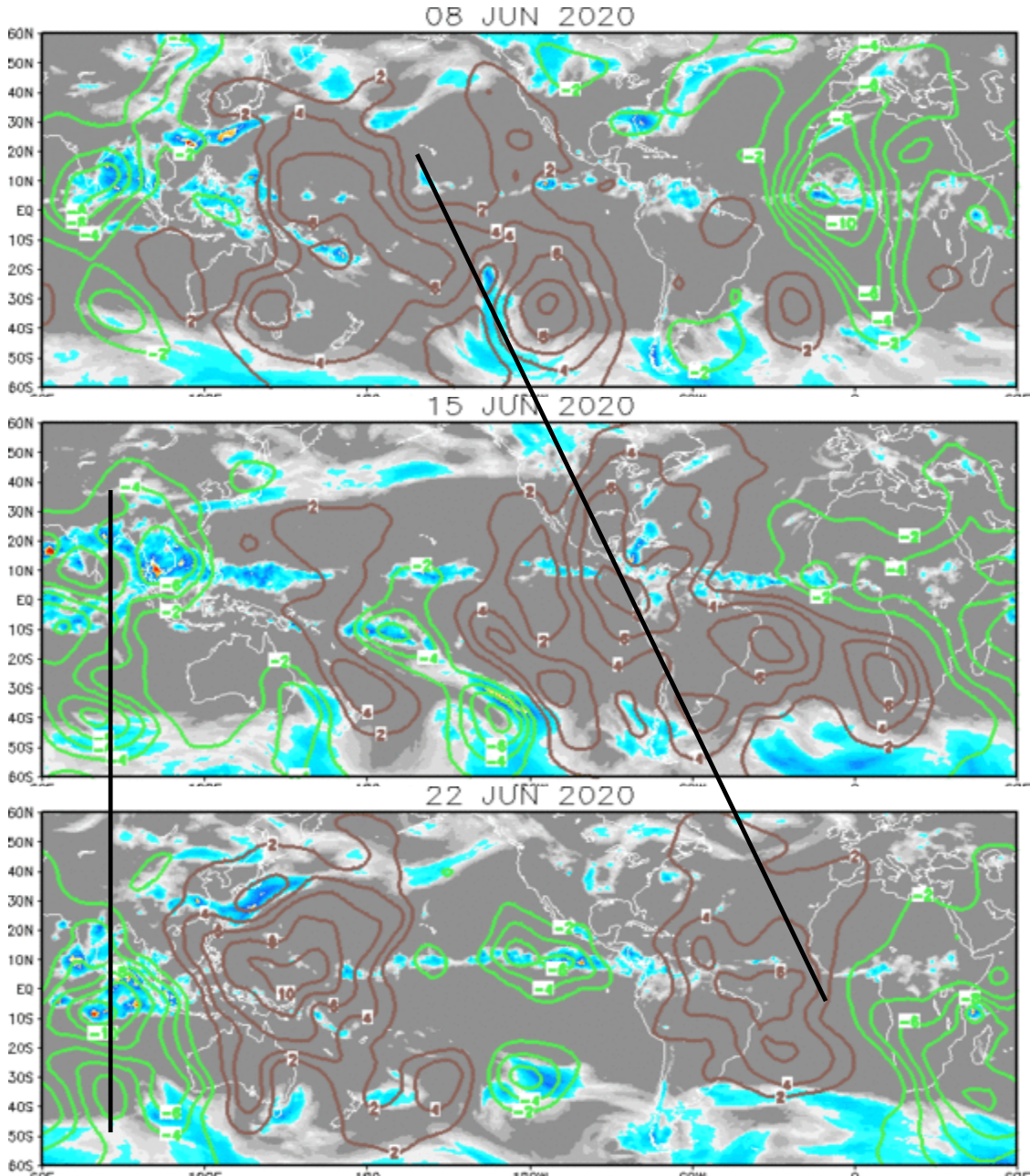
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

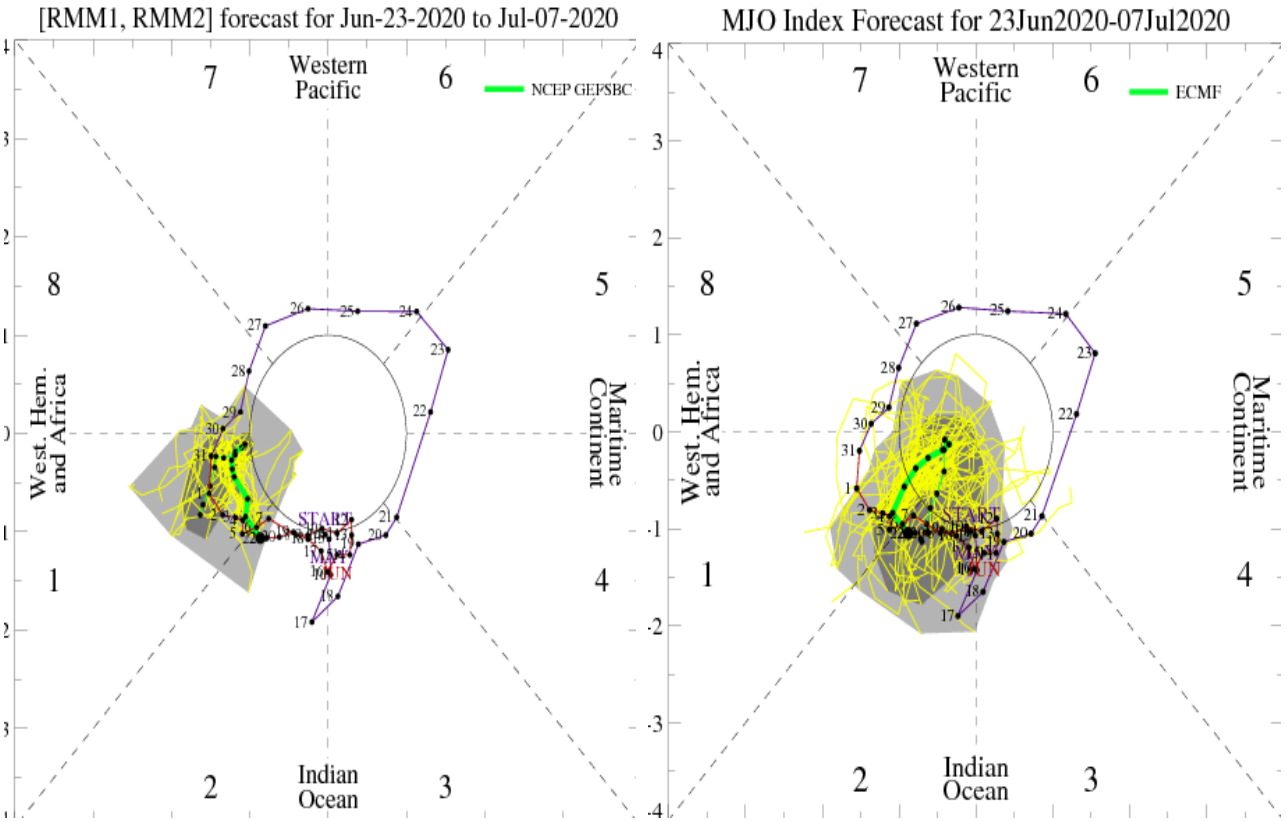
Enhanced convection over Africa and eastern Indian Ocean.

Noisy Wave-1 pattern primarily due to Kelvin Wave.

Convection over eastern Indian Ocean is quasi-stationary.



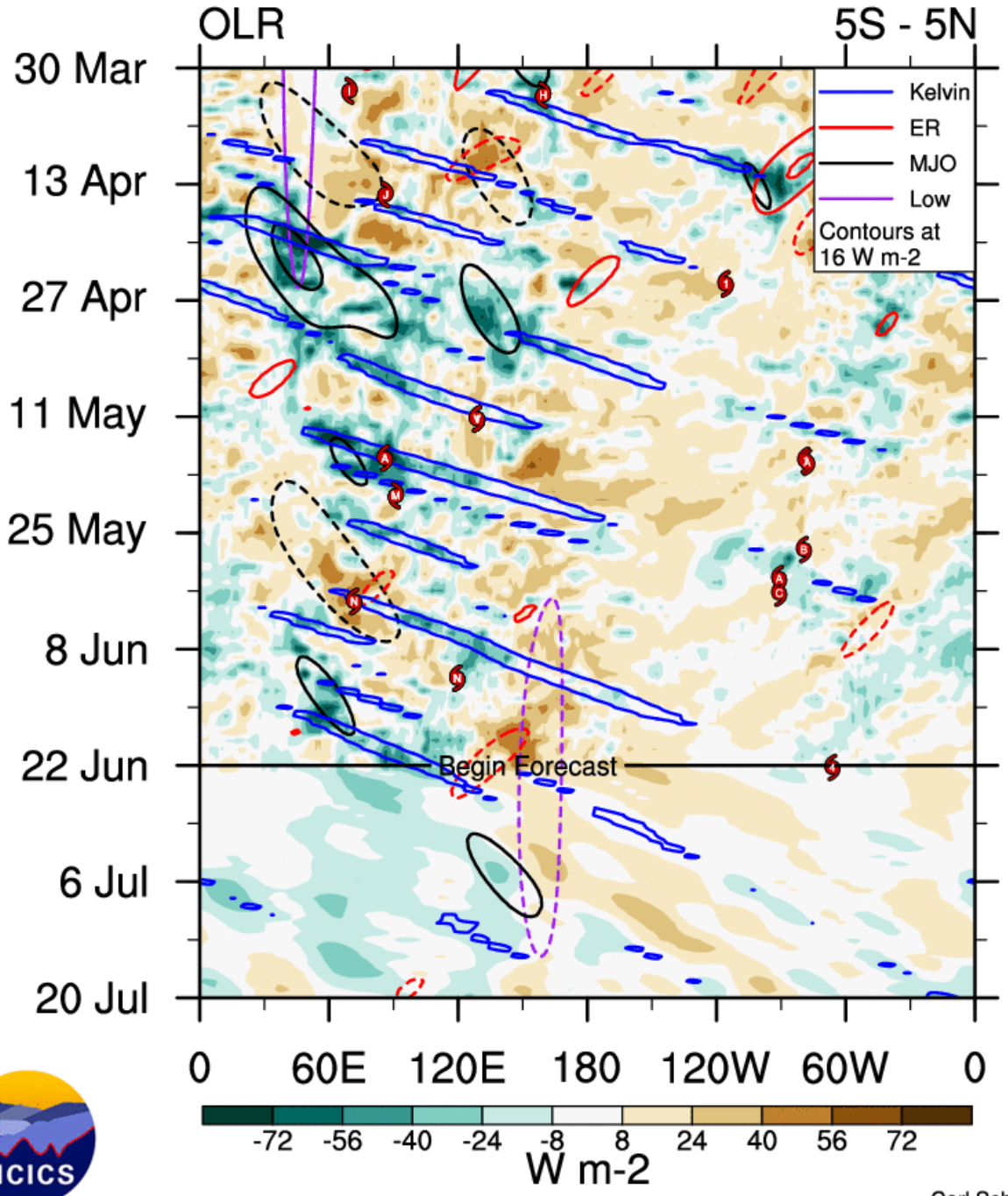
MJO Observation/Forecast



GEFS and ECMWF do not forecast a coherent RMM signal during the next two weeks.

Kelvin wave signal in the OLR field.

Rossby wave activity in Eastern Hemisphere appears to be dominant mode of subseasonal variability recently.



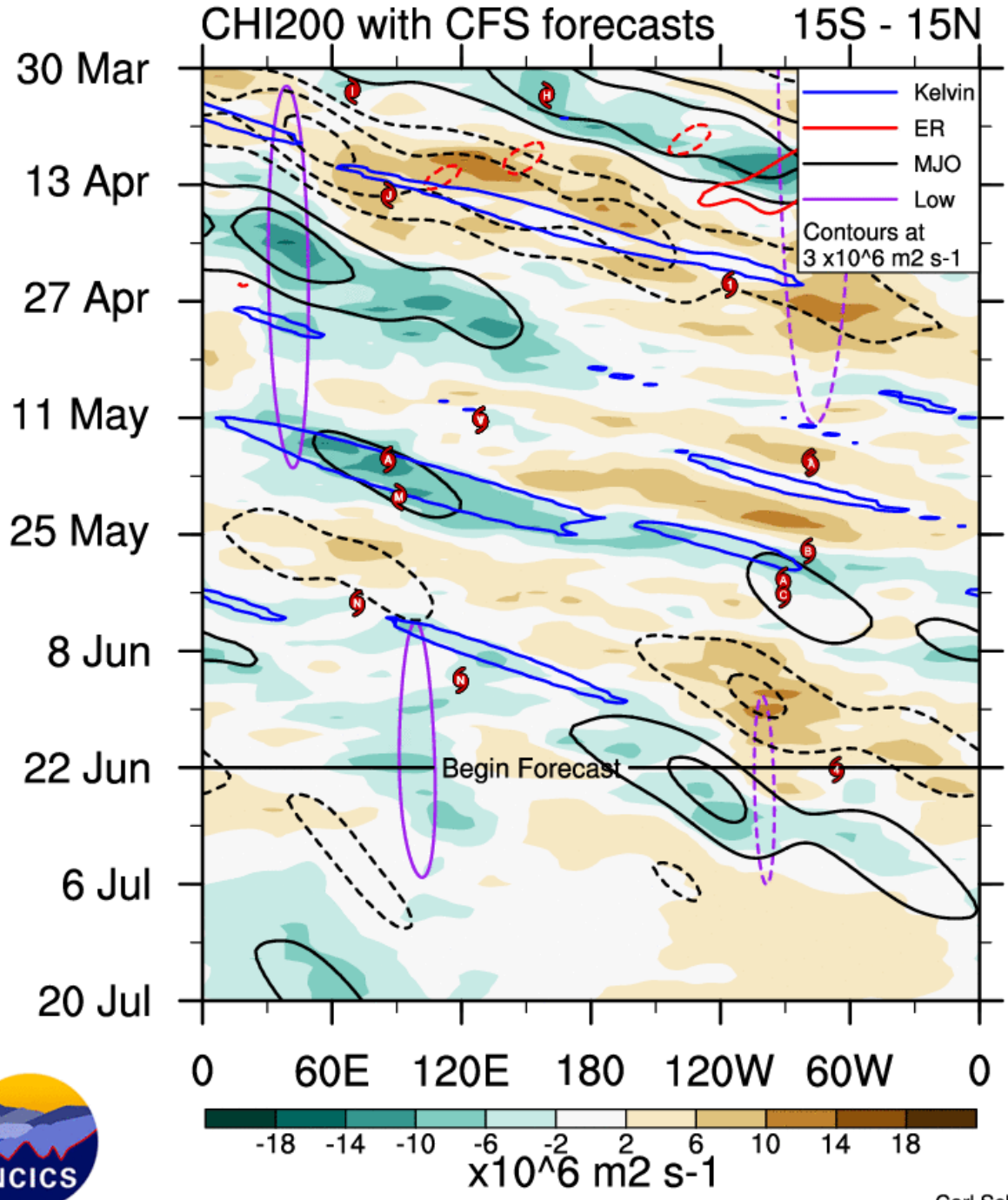
ncics.org/mjo

Tue 2020-06-23 1512 UTC

Carl Schreck
carl_schreck@ncsu.edu

Kelvin wave signal in the velocity potential field projects onto the MJO band as it moves over the East Pacific and Atlantic.

This may be due to it speeding up as it decouples from convection.

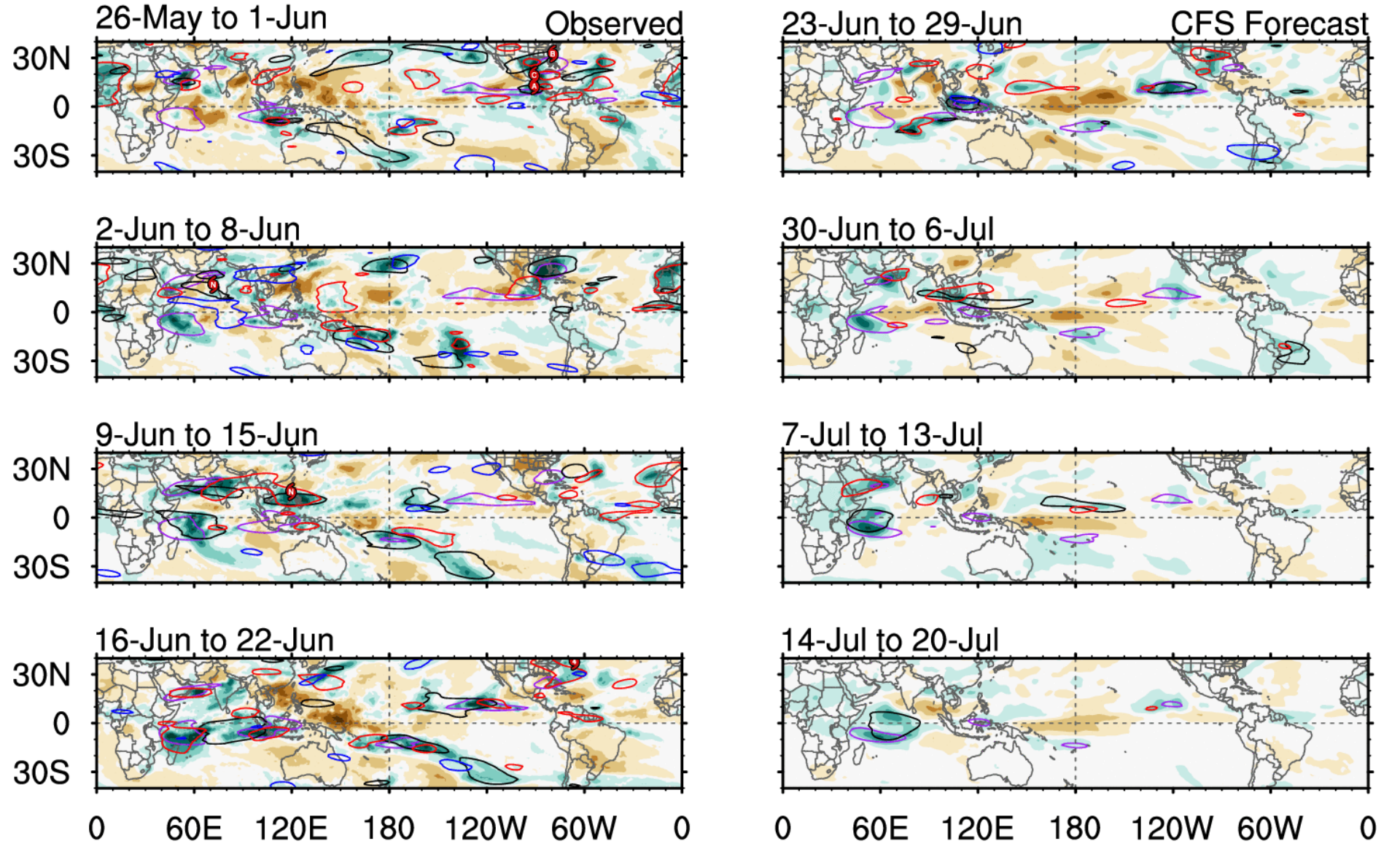


NCICS

ncics.org/mjo

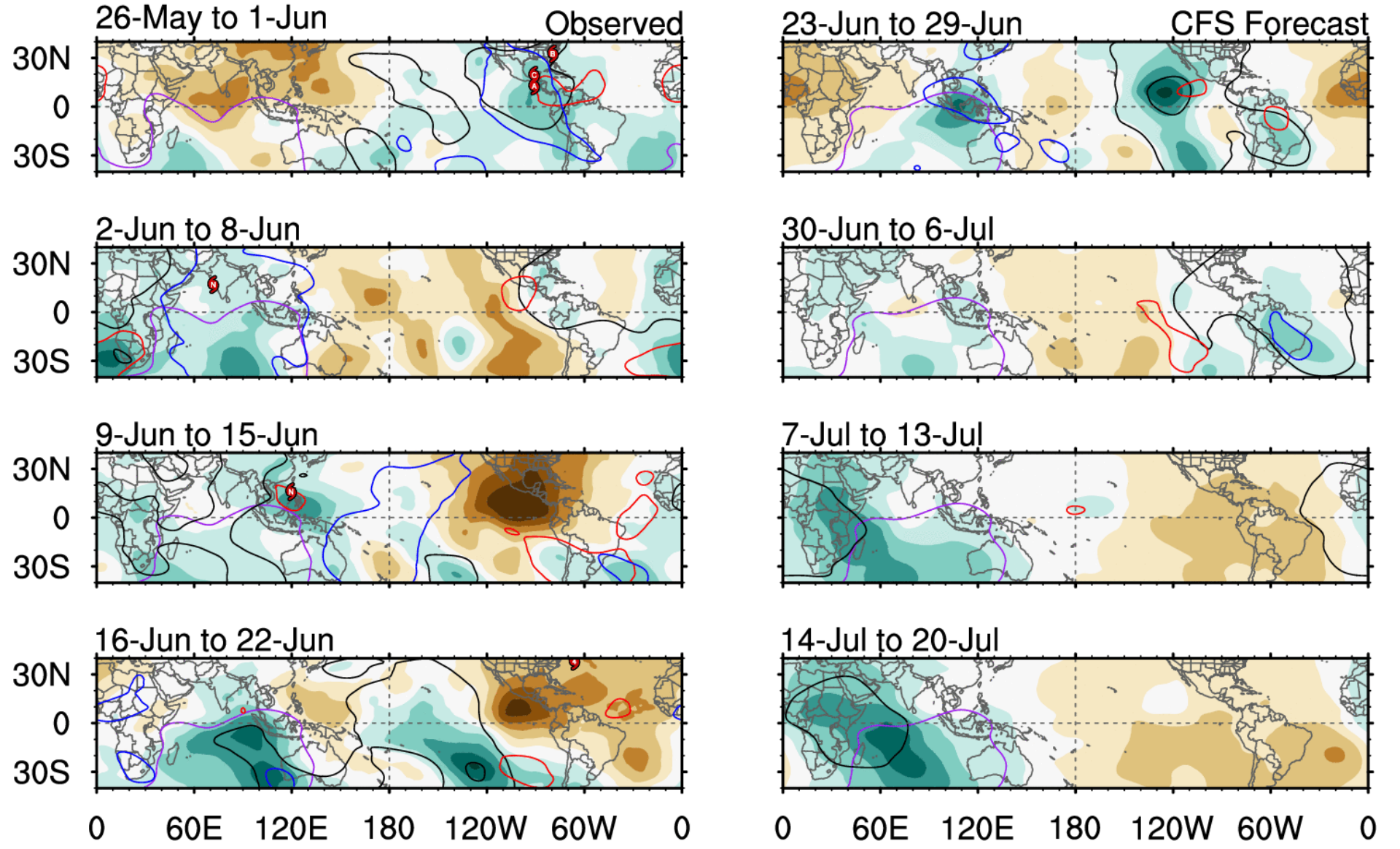
Tue 2020-06-23 1015 UTC

Carl Schreck
carl_schreck@ncsu.edu



7-day OLR with CFS forecasts

Carl Schreck
carl_schreck@ncsu.edu



7-day CHI200 with CFS forecasts

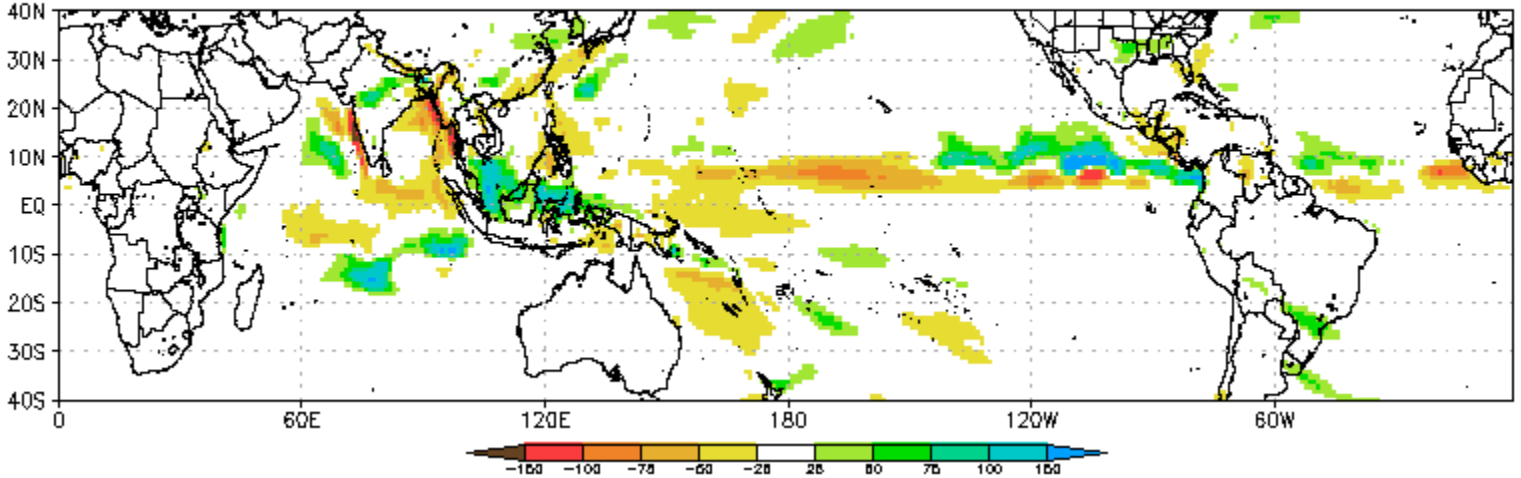
Contours at -2, -6 x10^6 m2 s-1

Carl Schreck
carl_schreck@ncsu.edu

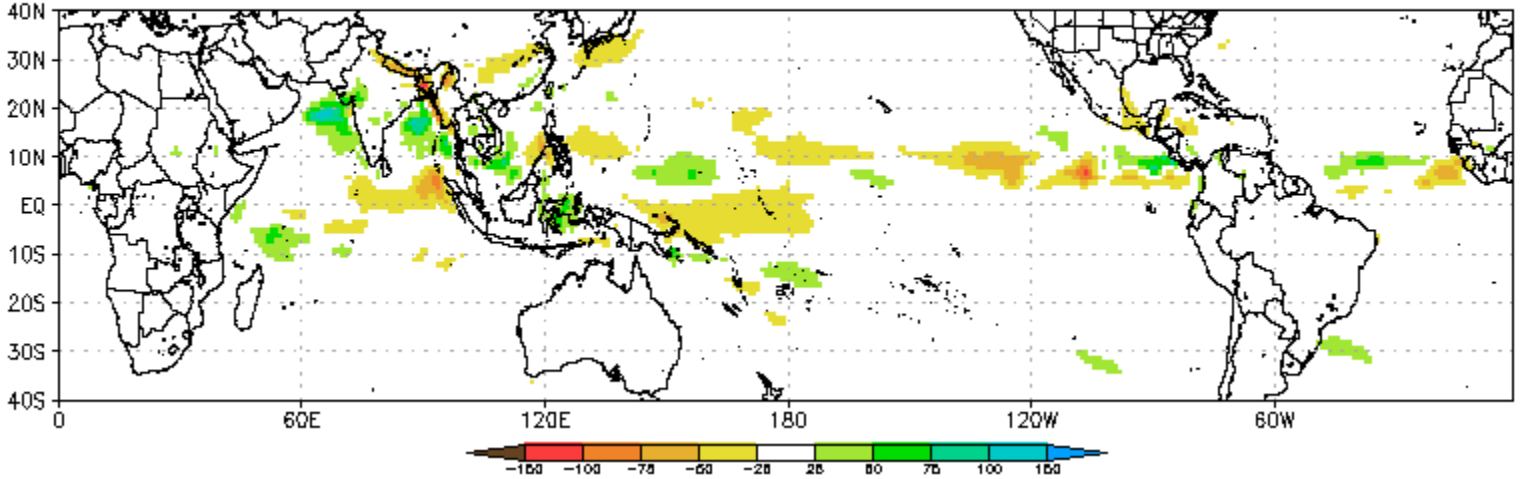
ncics.org/mjo

Tue 2020-06-23 1029 UTC

CFS Precipitation Anomalies (mm) Issued 22Jun2020
Week-1 Forecast Ending 30Jun2020

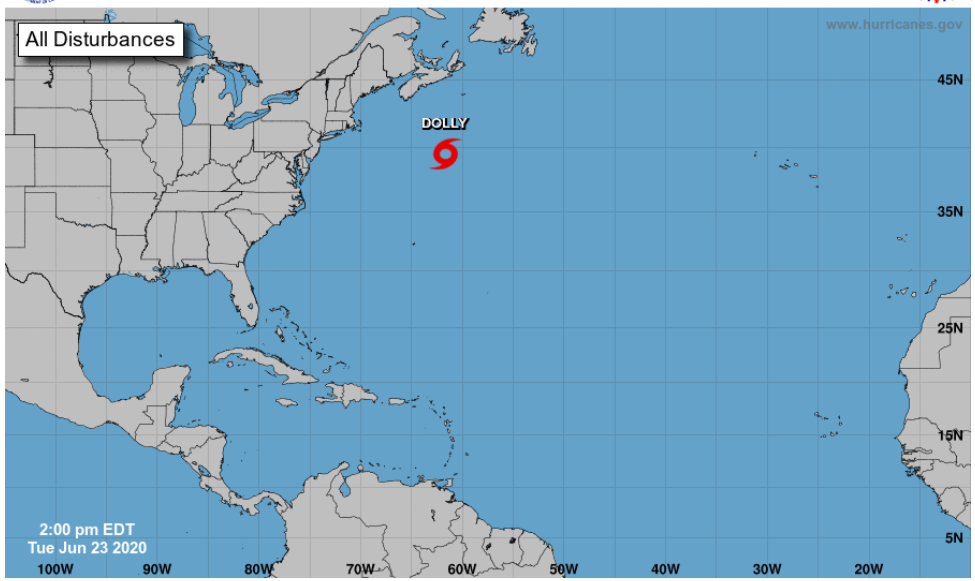


CFS Precipitation Anomalies (mm) Issued 22Jun2020
Week-2 Forecast Ending 07Jul2020



Five-Day Graphical Tropical Weather Outlook

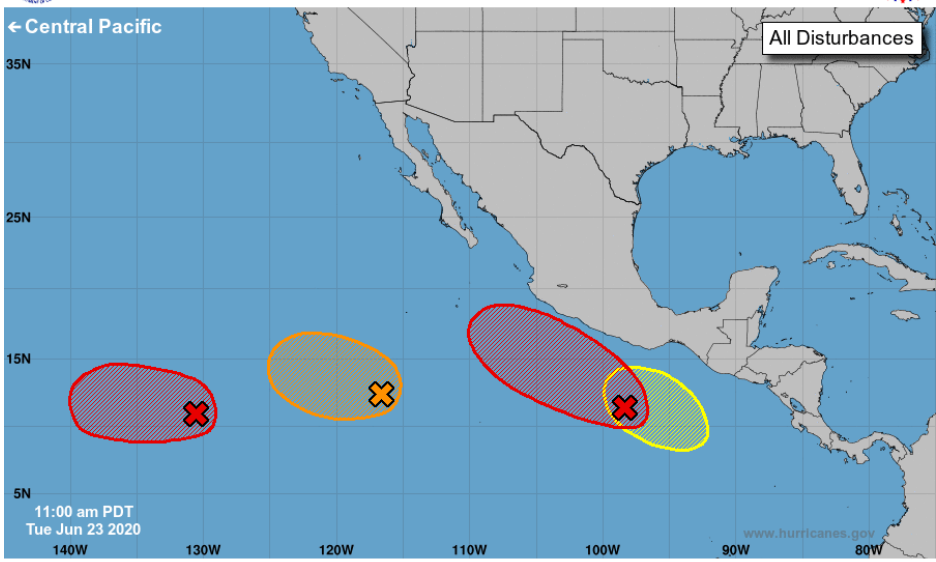
National Hurricane Center Miami, Florida



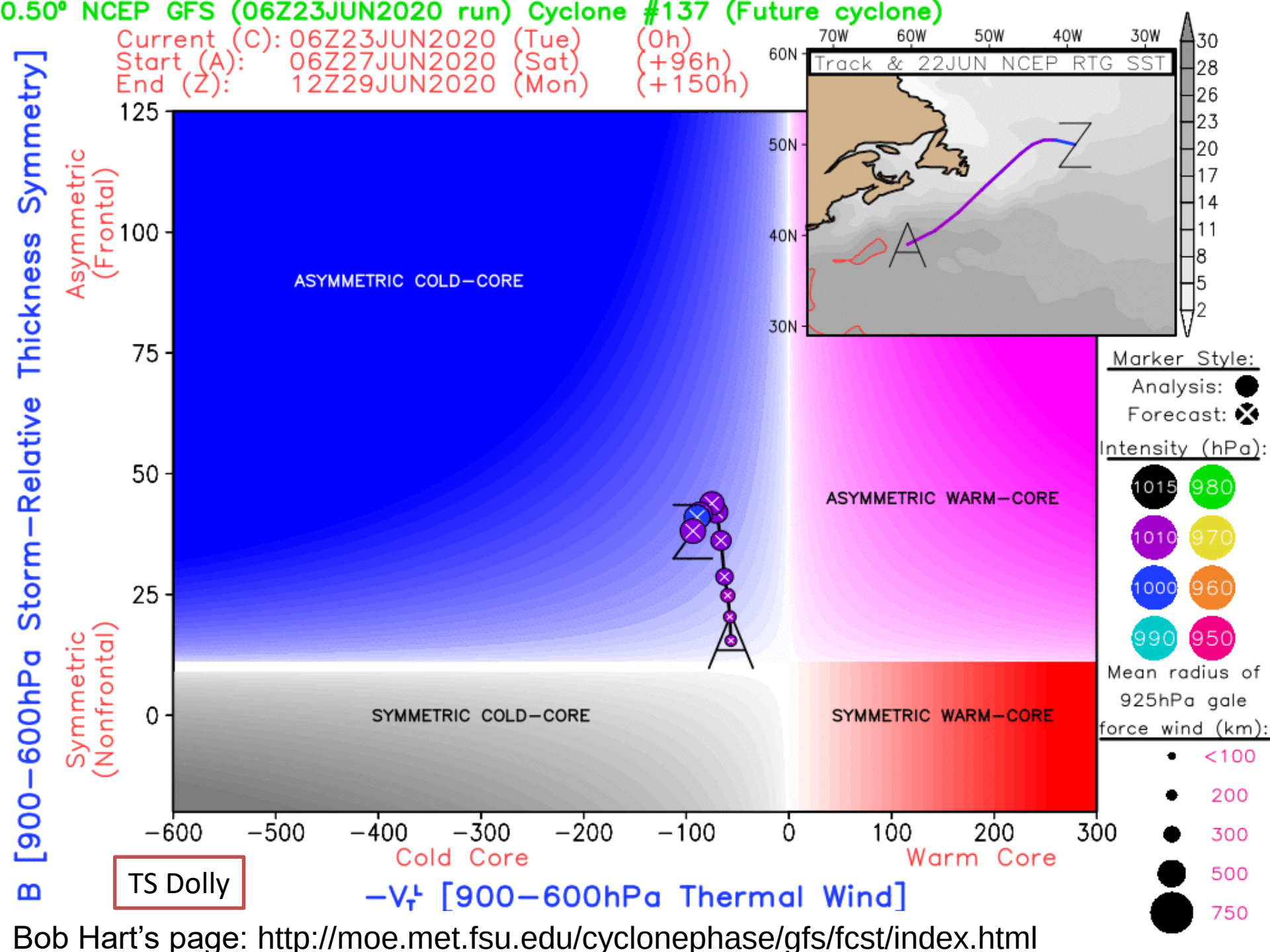
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
Post-Tropical Cyclone or Remnants

Five-Day Graphical Tropical Weather Outlook

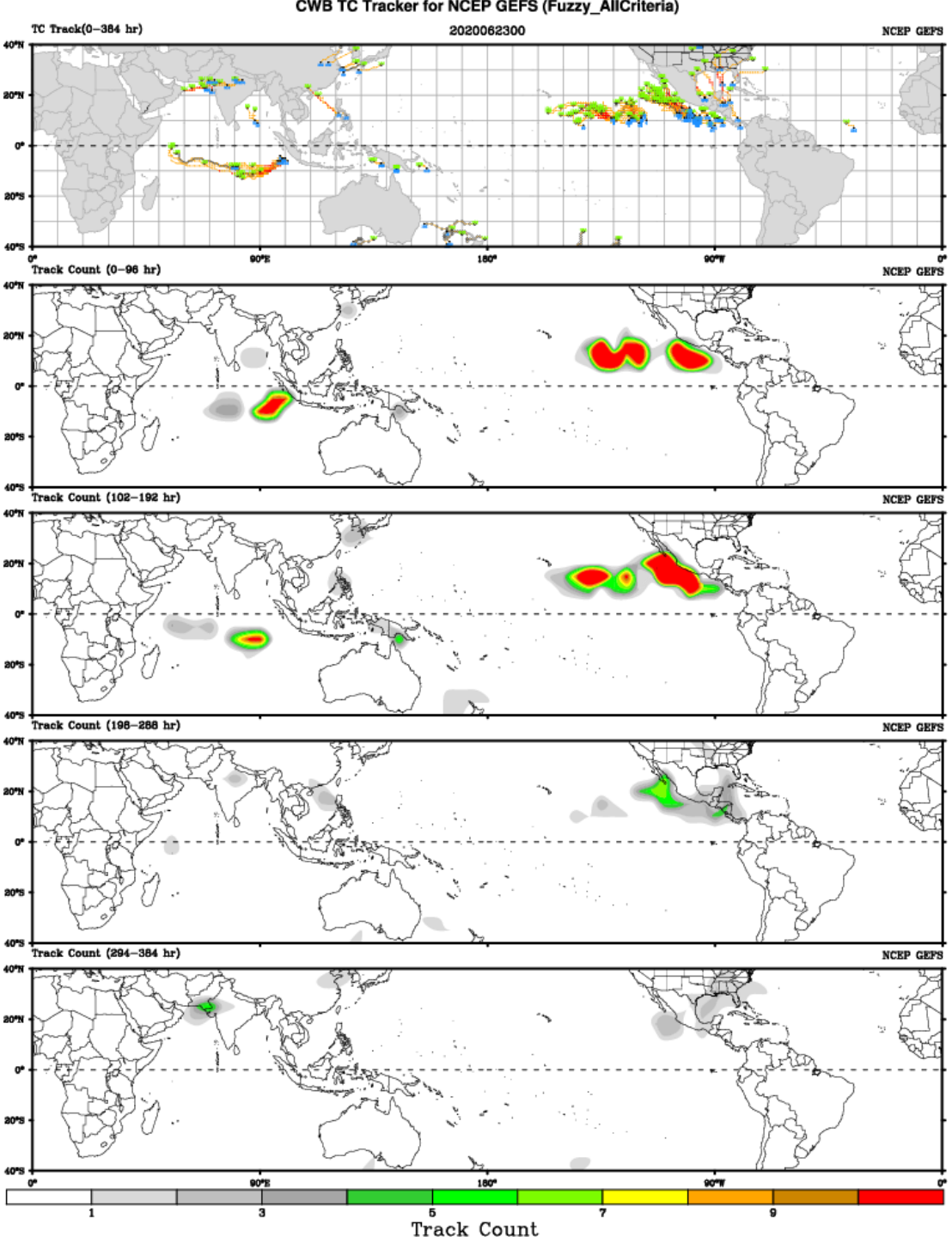
National Hurricane Center Miami, Florida



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



Bob Hart's page: http://moe.met.fsu.edu/cyclonephase/gfs/fcst/index.html



Days 1-4

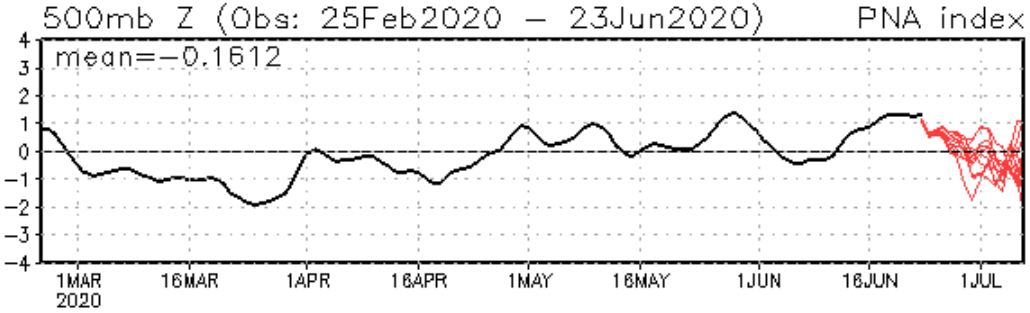
Day 5-8

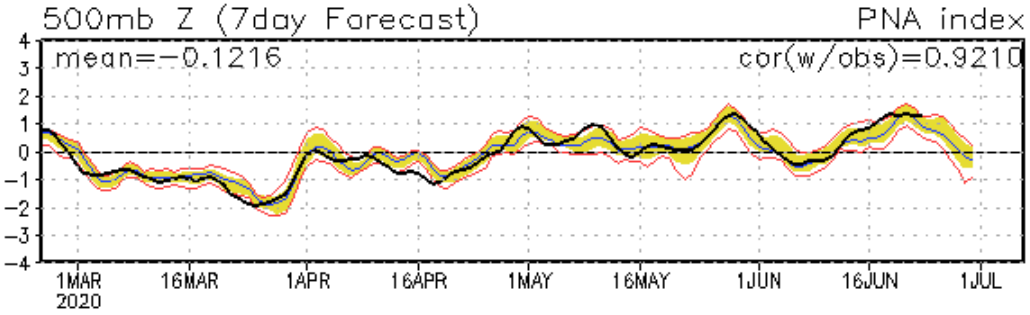
Day 9-12

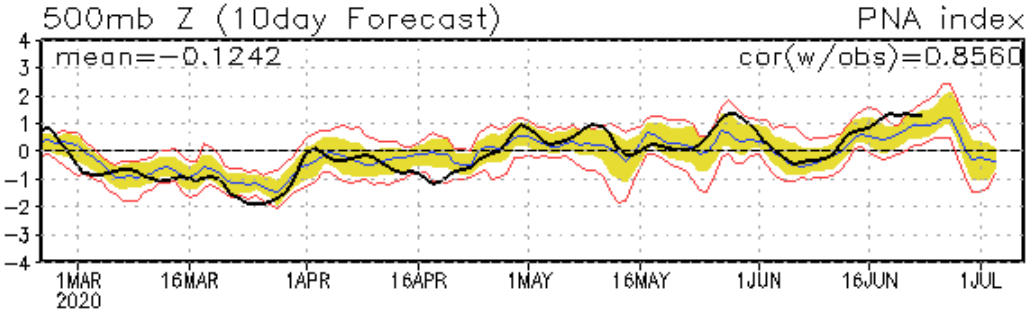
Day 13-15

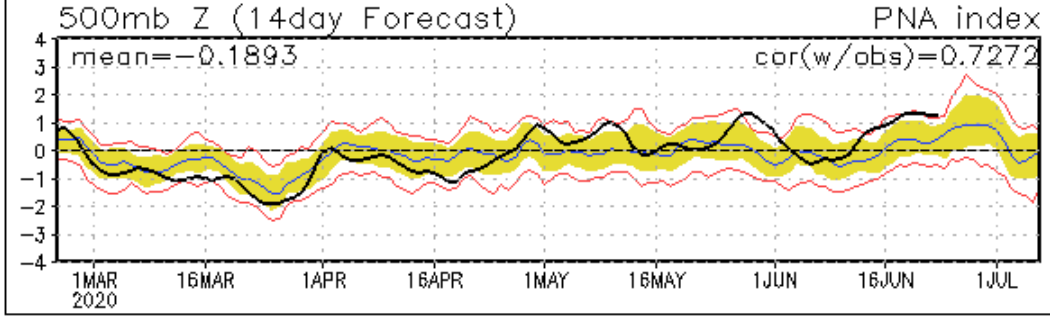
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts

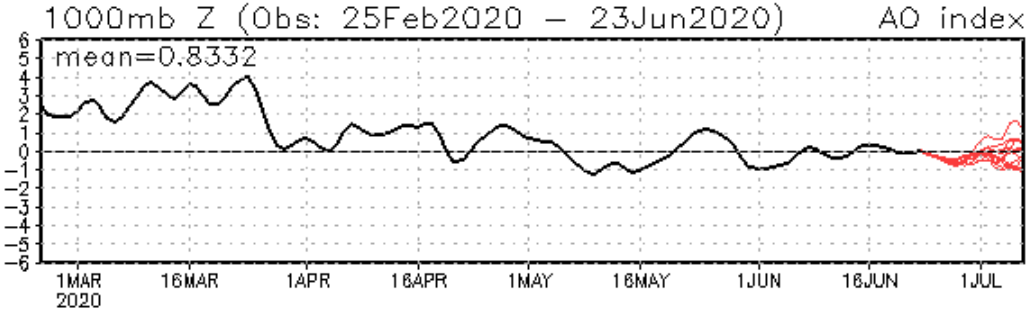


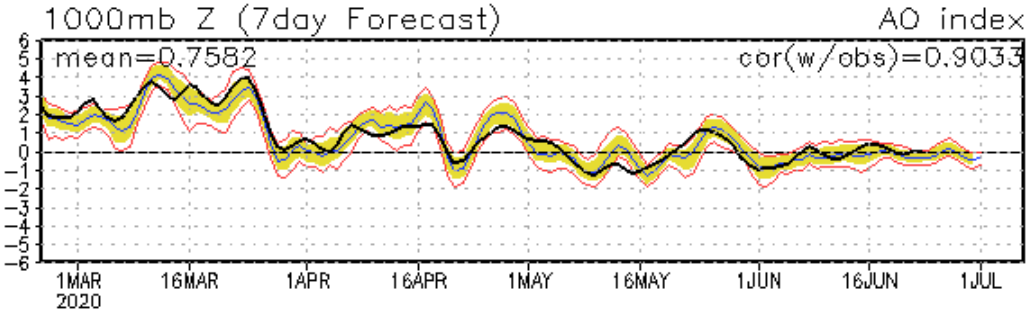


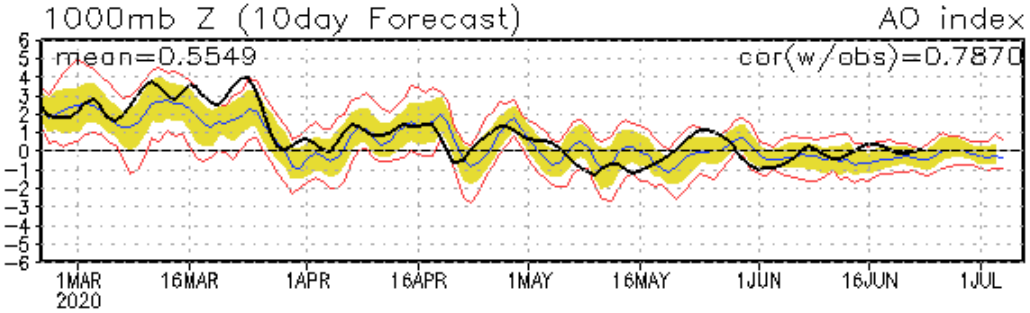


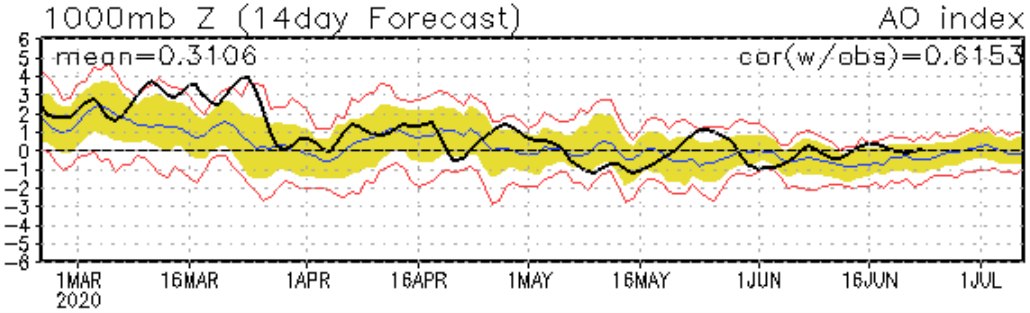


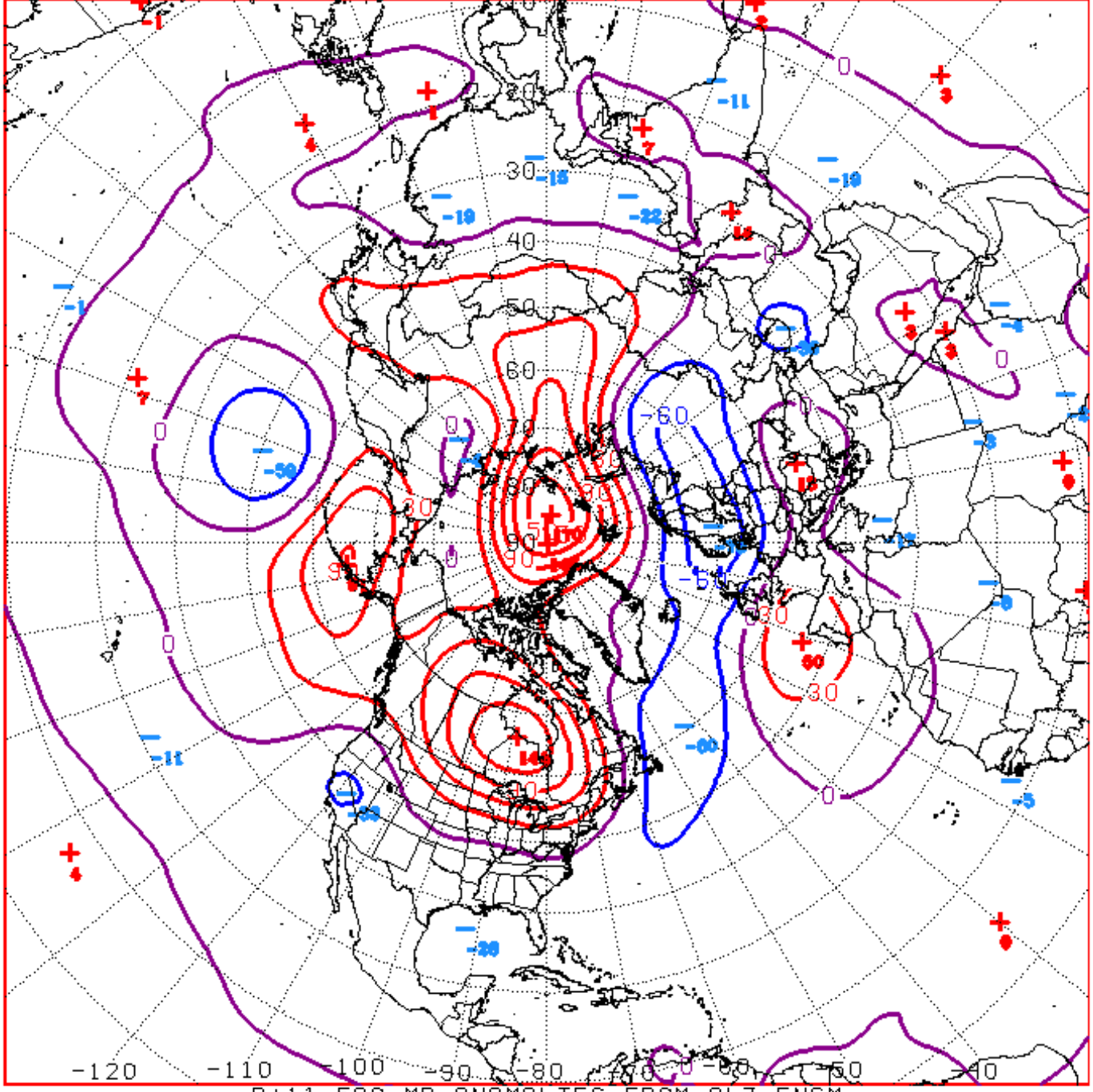
AO: Observed & ENSM forecasts





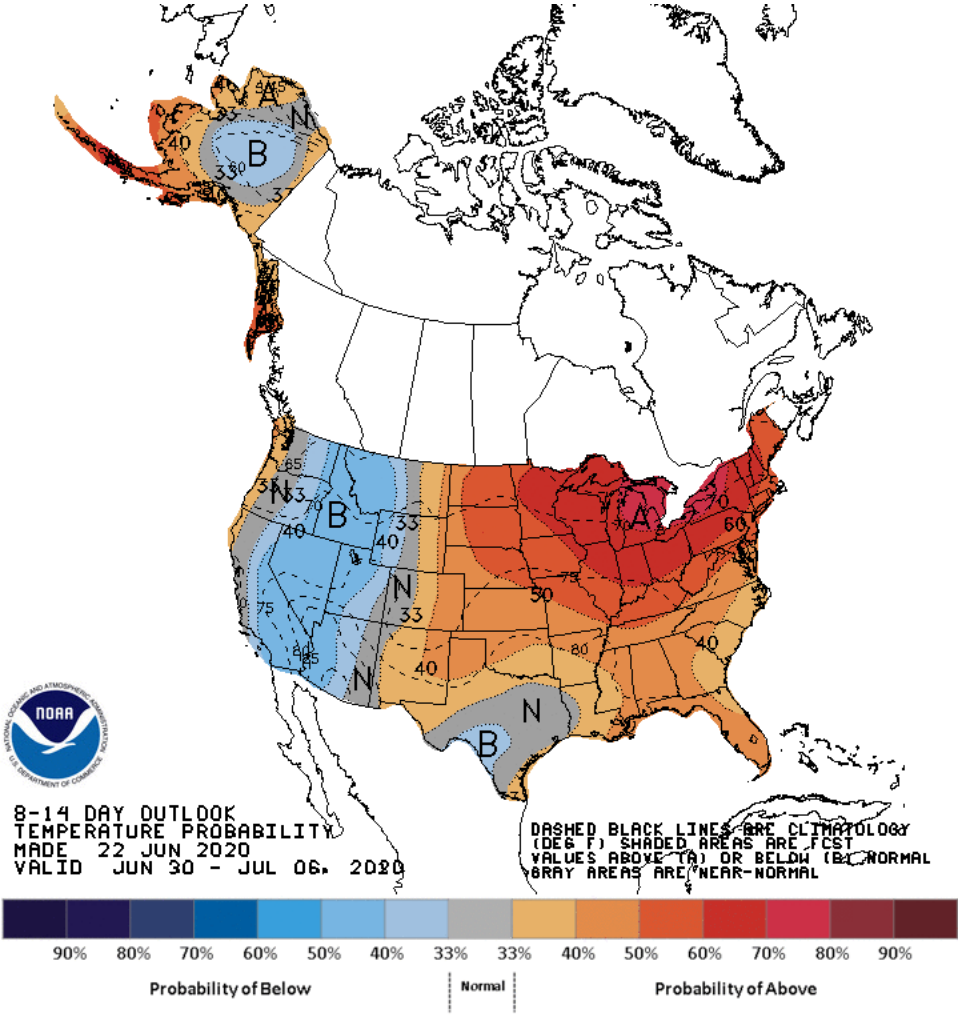


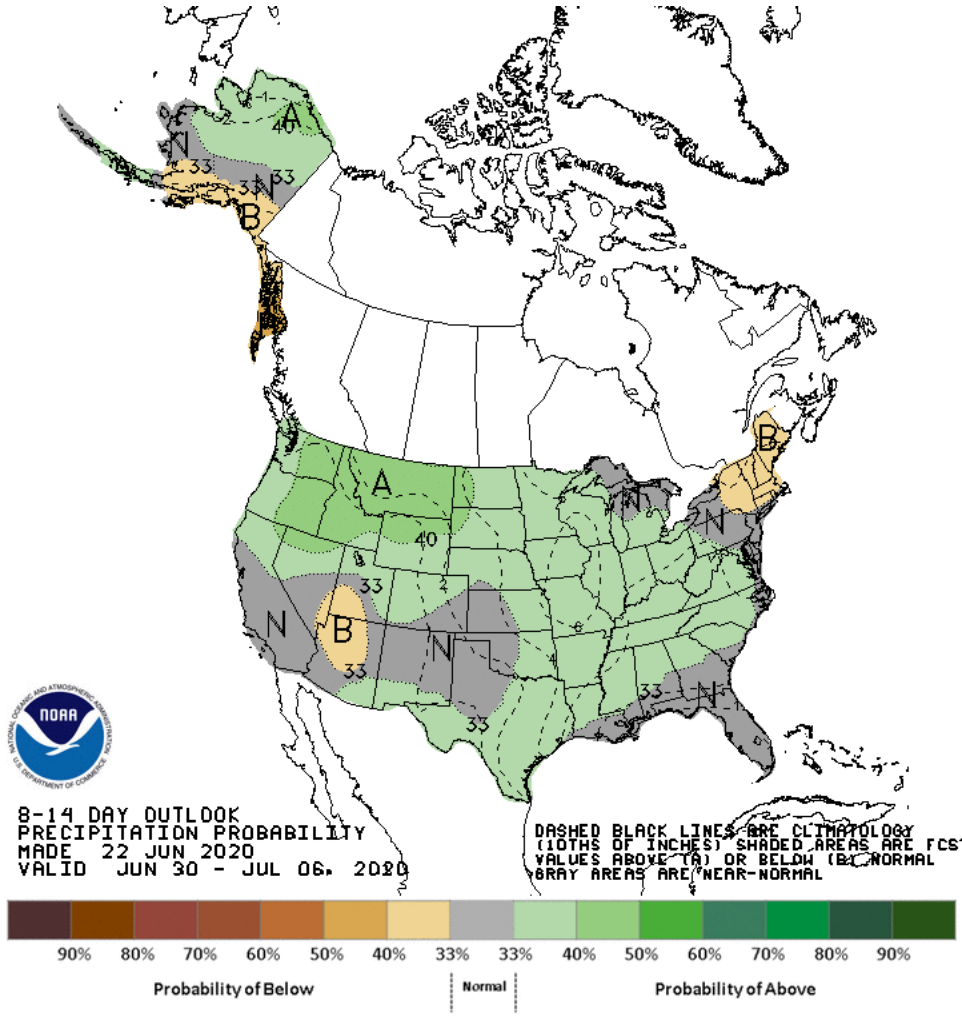




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JUN 23 2020 1302 UTC CNTD JUL 04 2020

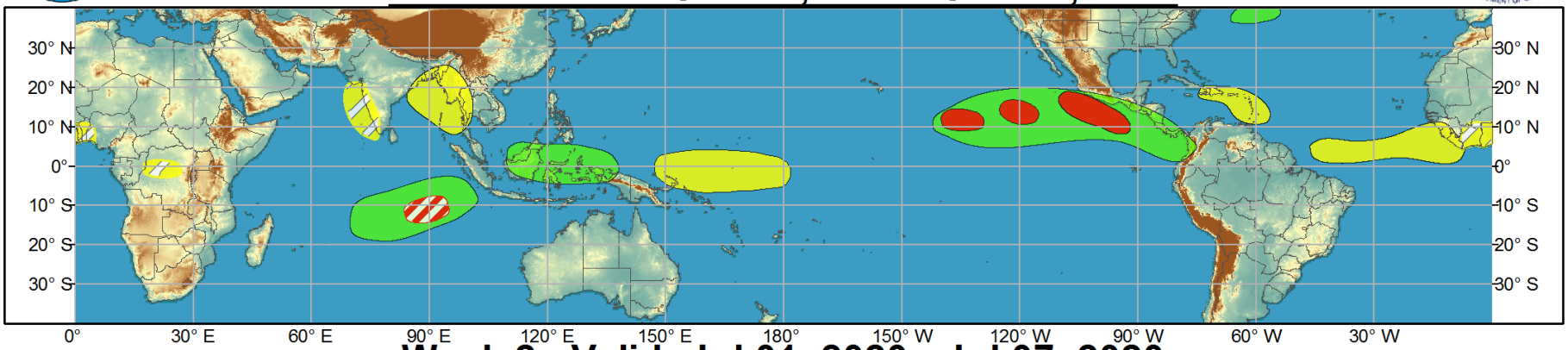
Week 2 – Temperature and Precipitation



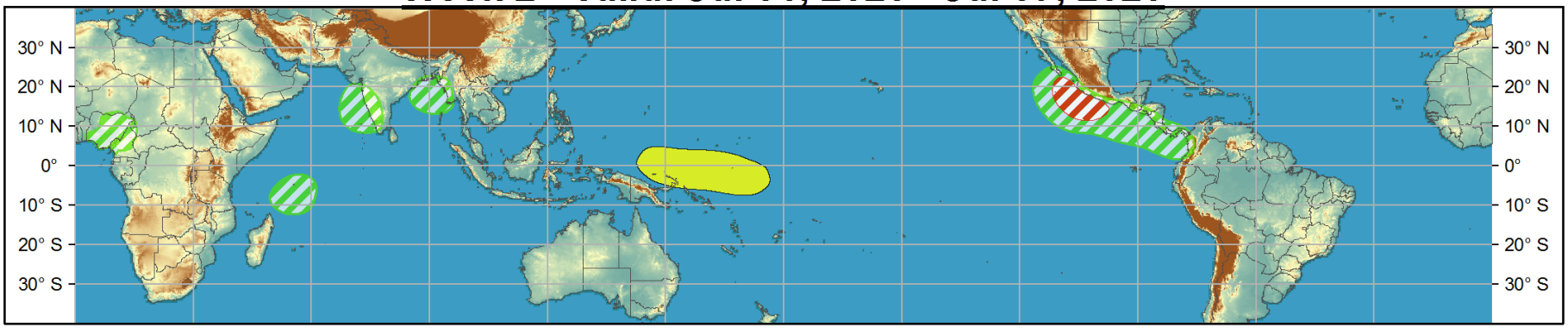


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jun 24, 2020 - Jun 30, 2020



Week 2 - Valid: Jul 01, 2020 - Jul 07, 2020



Produced: 06/23/2020

Forecaster: MacRitchie

	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.
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.

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