

Global Tropics Hazards And Benefits Outlook

9/1/2020

Nick Novella

Outline

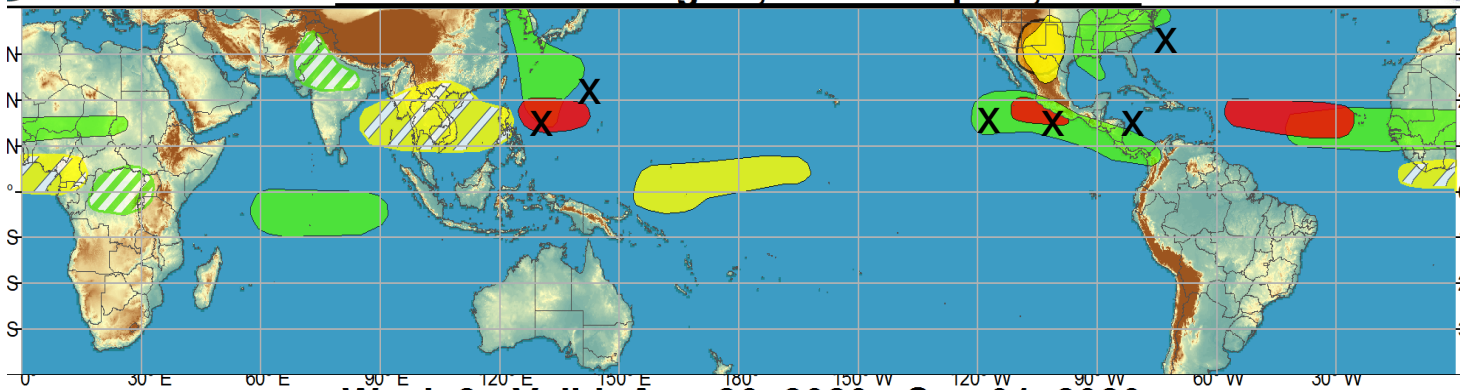
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

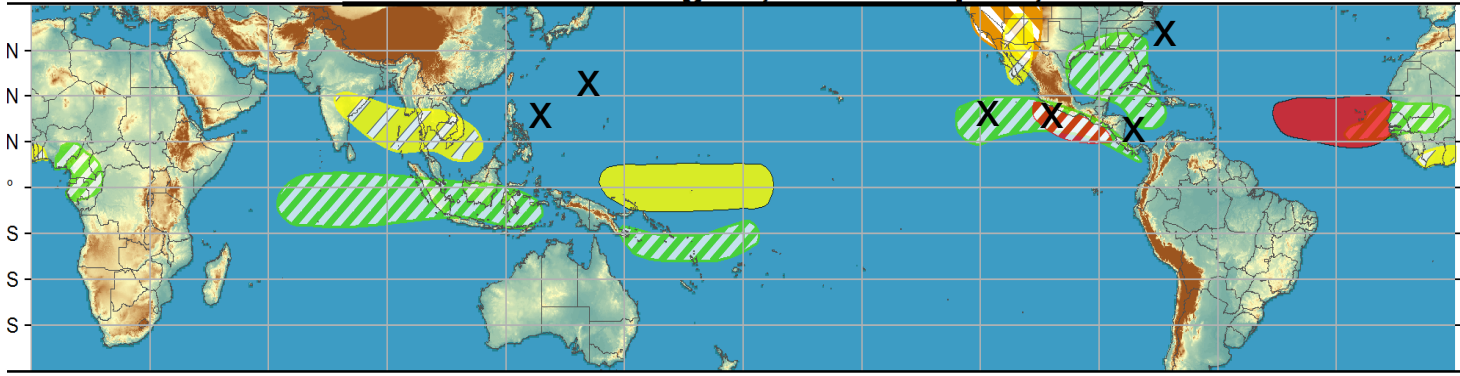
- Since 8/26:
- Maysak (8/28)
 - TD11 (8/31)
 - Hernan (8/26)
 - Iselle (8/26)
 - TD15 (8/31)
 - Nana (9/1)

No MDR TC's

Week 1 - Valid: Aug 26, 2020 - Sep 01, 2020

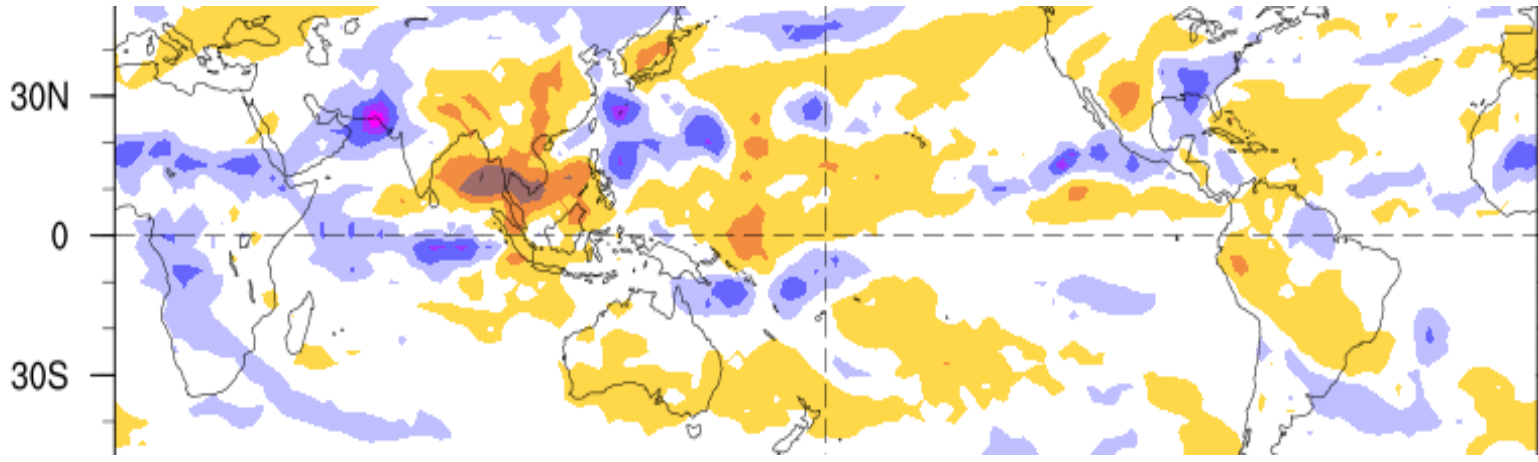


Week 2 - Valid: Aug 26, 2020 - Sep 01, 2020



Cool shading
More clouds/rain

Warm shading
Less clouds/rain



Synopsis of Climate Modes

ENSO: (August 13, 2020 Update)

- ENSO Alert System Status: [La Niña Watch](#) (next update **September 10**)
- There is a ~60% chance of La Niña development during Northern Hemisphere fall 2020 and continuing through winter 2020-21 (~55% chance).

MJO and other subseasonal tropical variability:

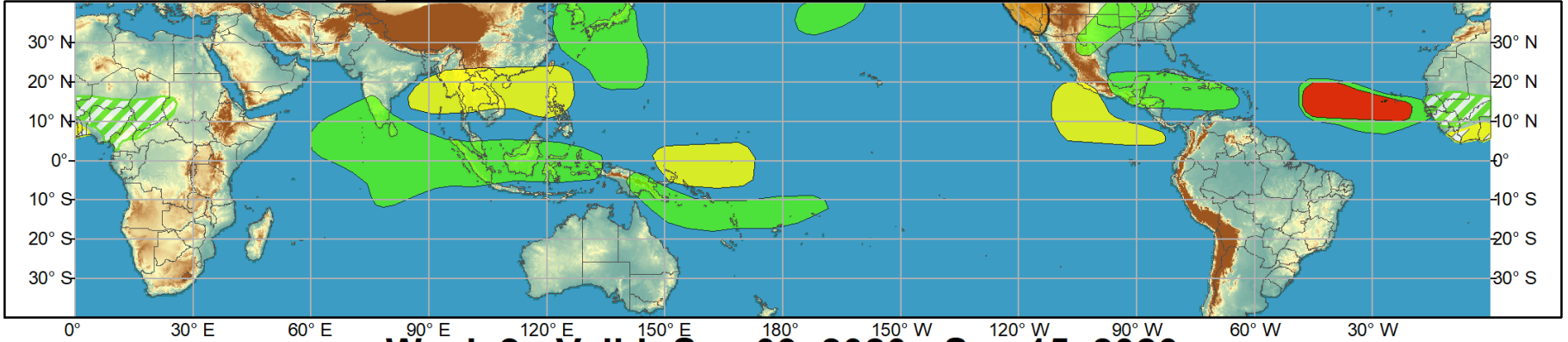
- The MJO continues to propagate eastward with its enhanced phase over the Indian Ocean.
- Dynamical models are in better agreement with a weakening MJO during the next two weeks, as the enhanced phase is still expected to shift east over the Indian Ocean and into the Maritime Continent.
- Tropical waves propagating from West Africa and climatology continue to support an active Atlantic basin through at least early September. Conversely, much of the Pacific looks to be quiet.



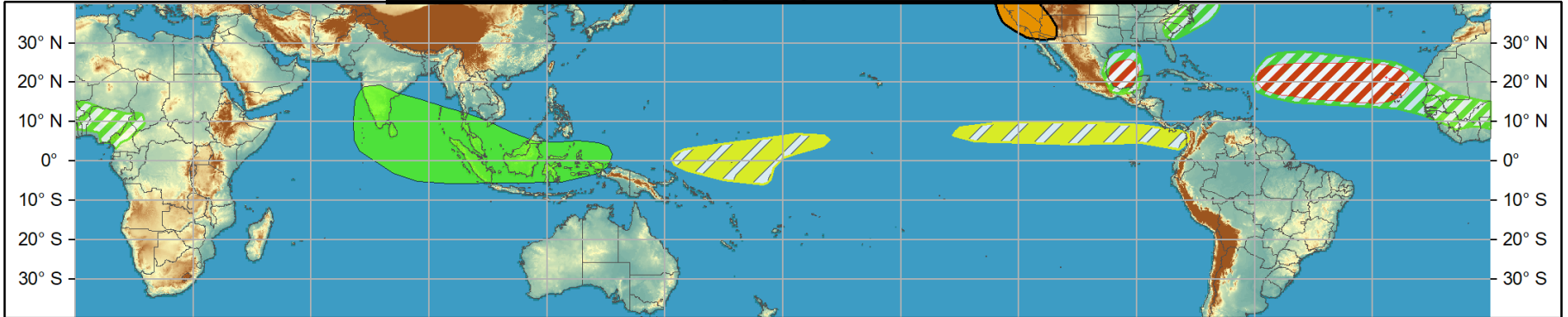
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 02, 2020 - Sep 08, 2020



Week 2 - Valid: Sep 09, 2020 - Sep 15, 2020



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.

Produced: 09/01/2020
Forecaster: Novella

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

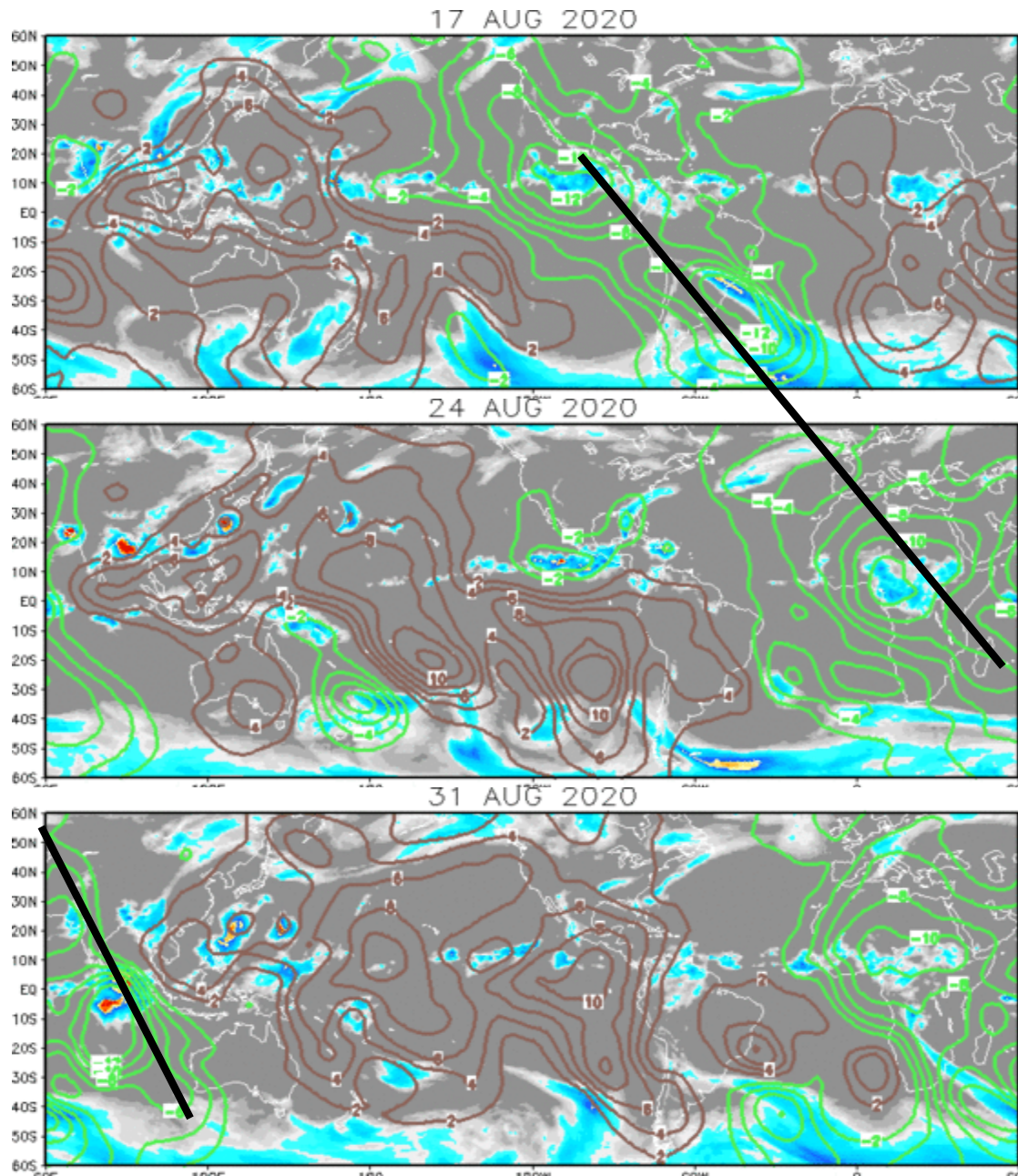
Green: Enhanced Divergence

Brown: Enhanced Convergence

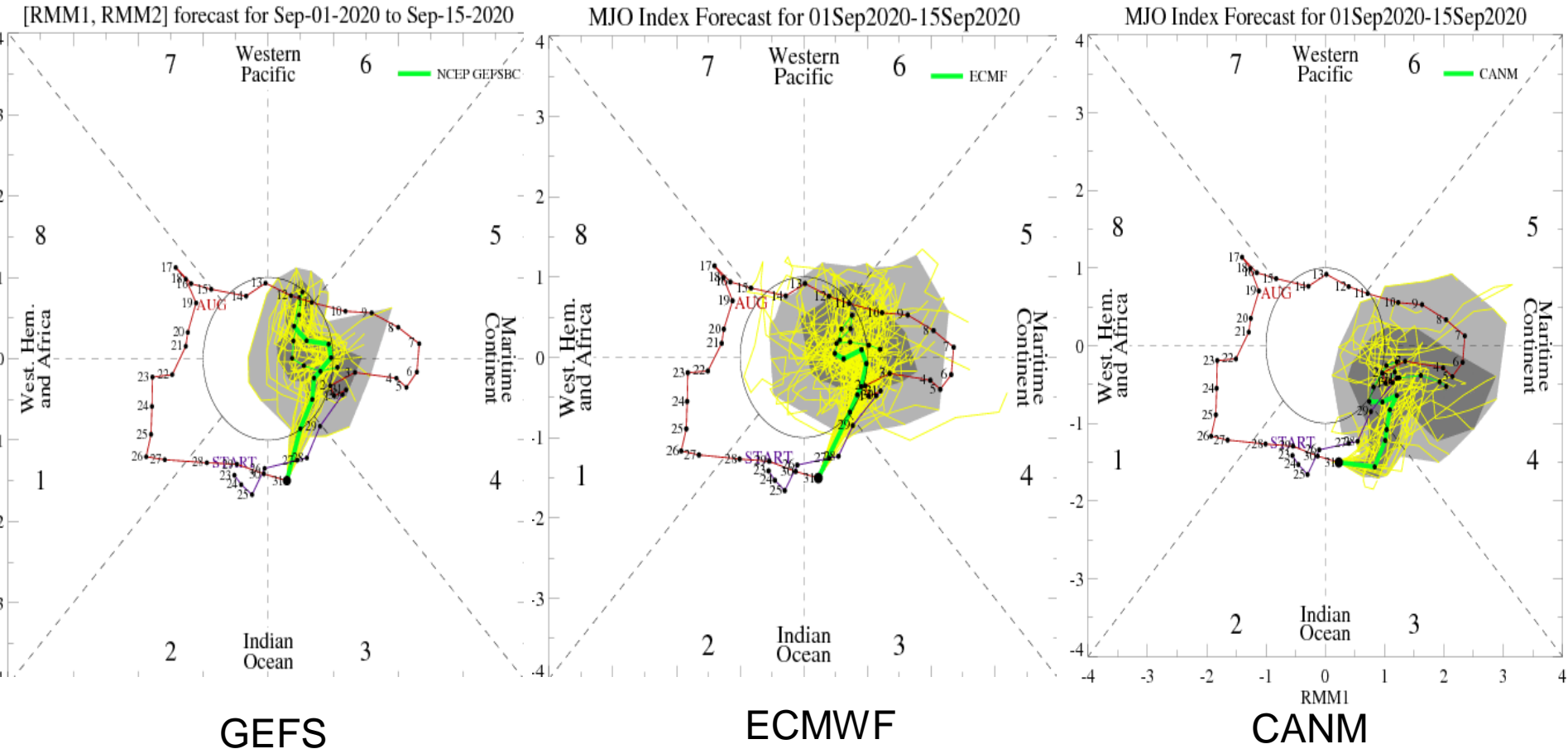
Coherent Wave-1 spatial pattern since mid-August

Enhanced phase shifted east from the Americas to Africa

Enhanced phase extending east over the Indian Ocean, with the suppressed envelope covering much of the Pacific.



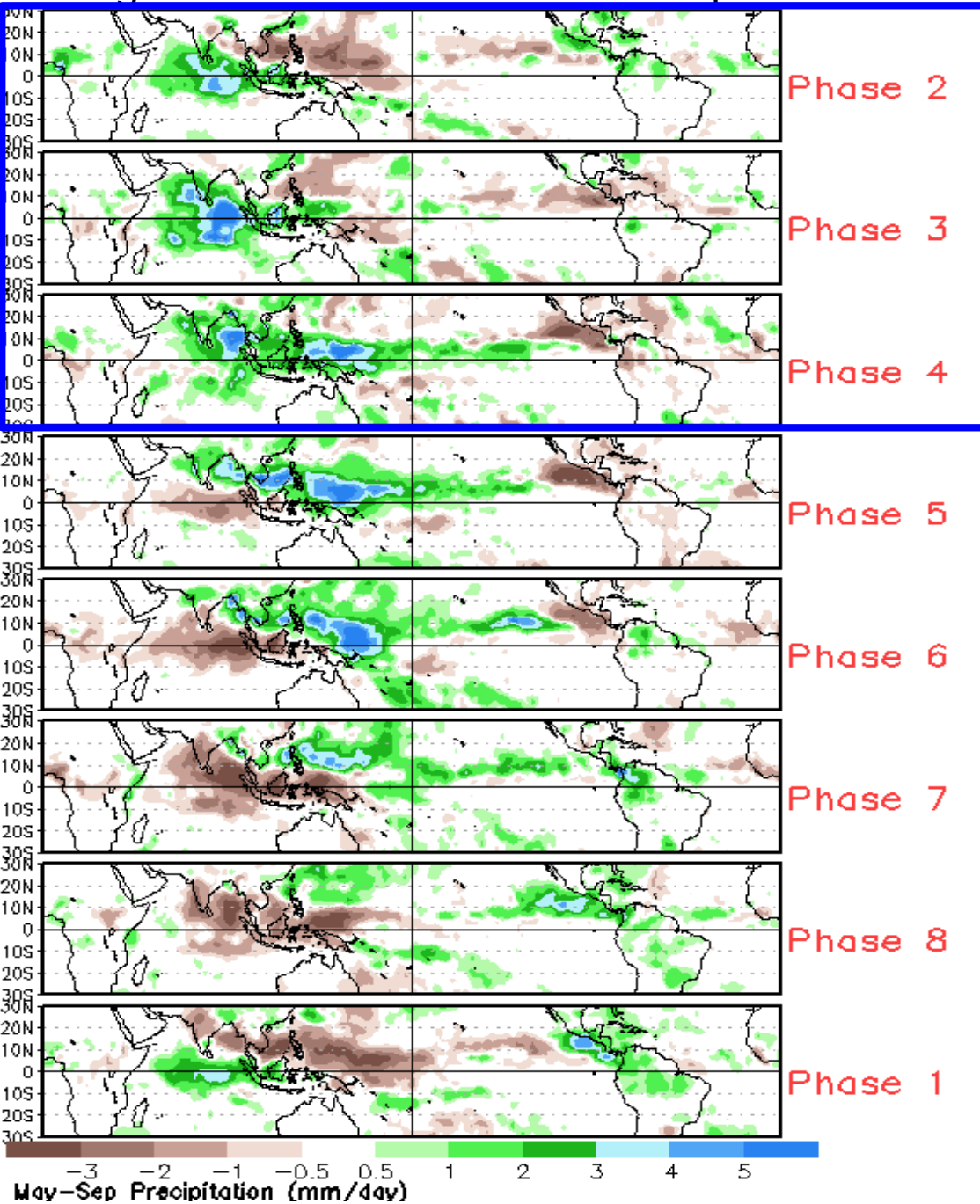
MJO Observation/Forecast



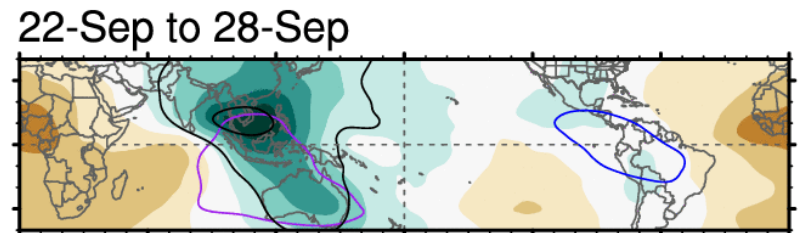
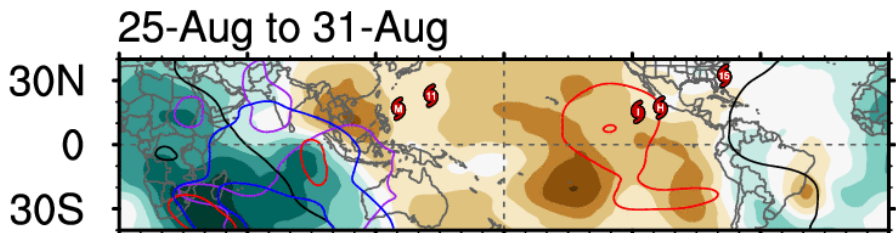
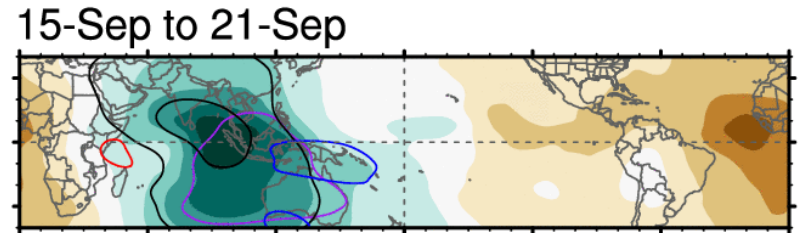
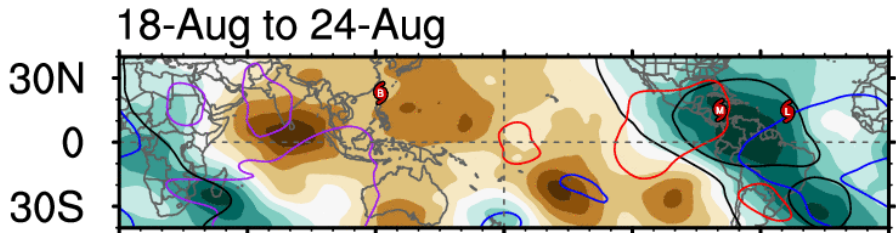
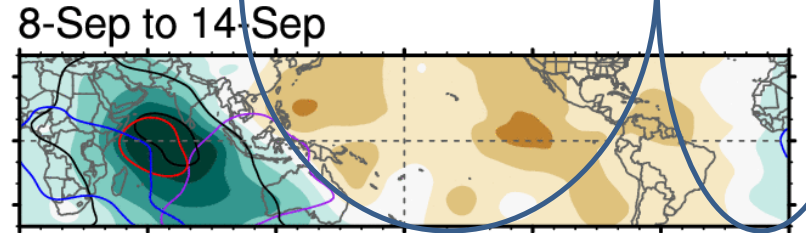
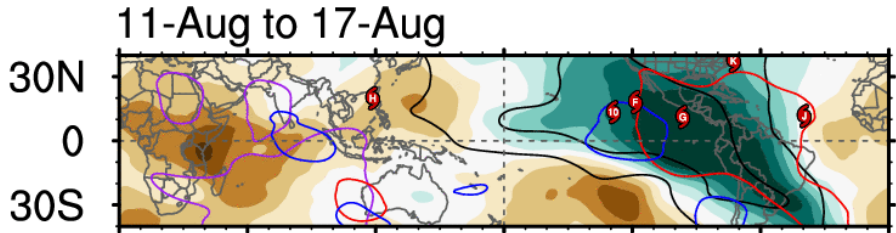
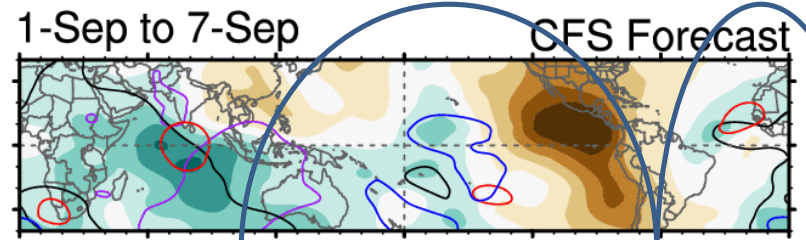
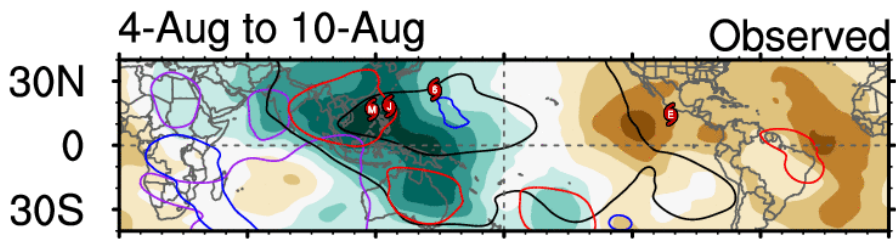
Compared to RMM forecasts last week, there is better agreement in the models in weakening the intraseasonal signal.

The ECMWF appears to be most progressive suggesting some re-strengthening over the Maritime Continent in week-2

Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.



0 60E 120E 180 120W 60W 0

0 60E 120E 180 120W 60W 0



7-day CHI200 with CFS forecasts

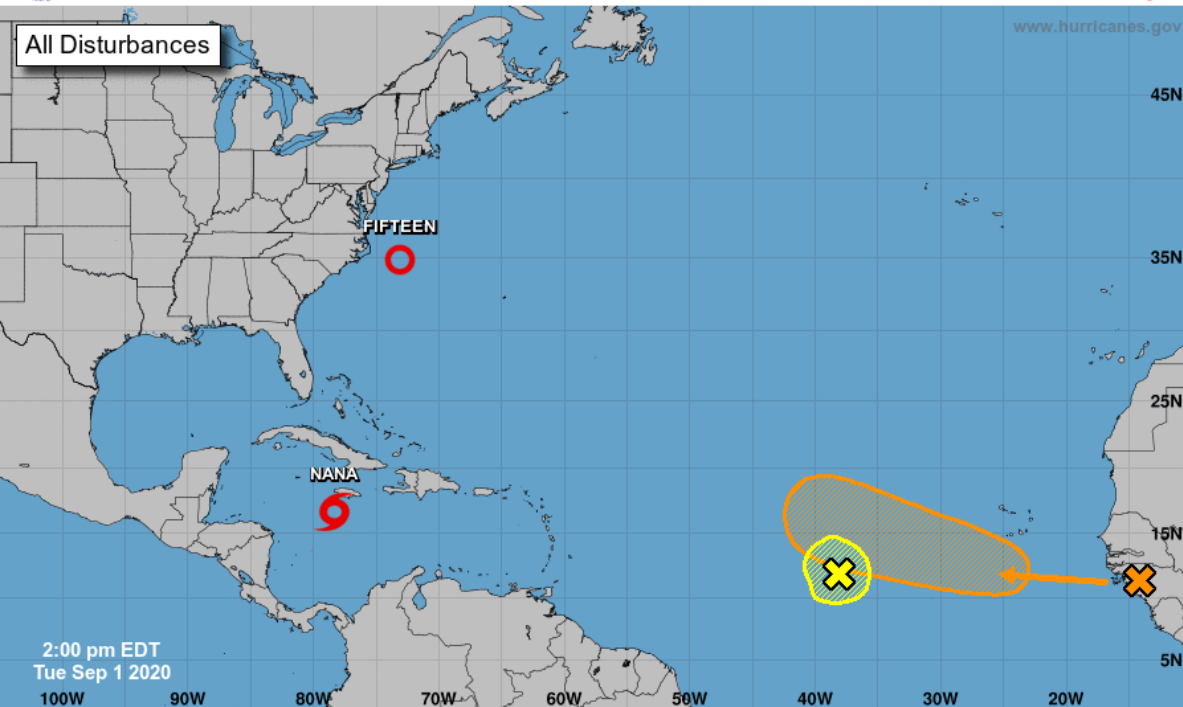
- MJO
- Kelvin x2
- Low
- ER

Contours at $-2, -6 \times 10^6 \text{ m}^2 \text{ s}^{-1}$



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



2:00 pm EDT
Tue Sep 1 2020

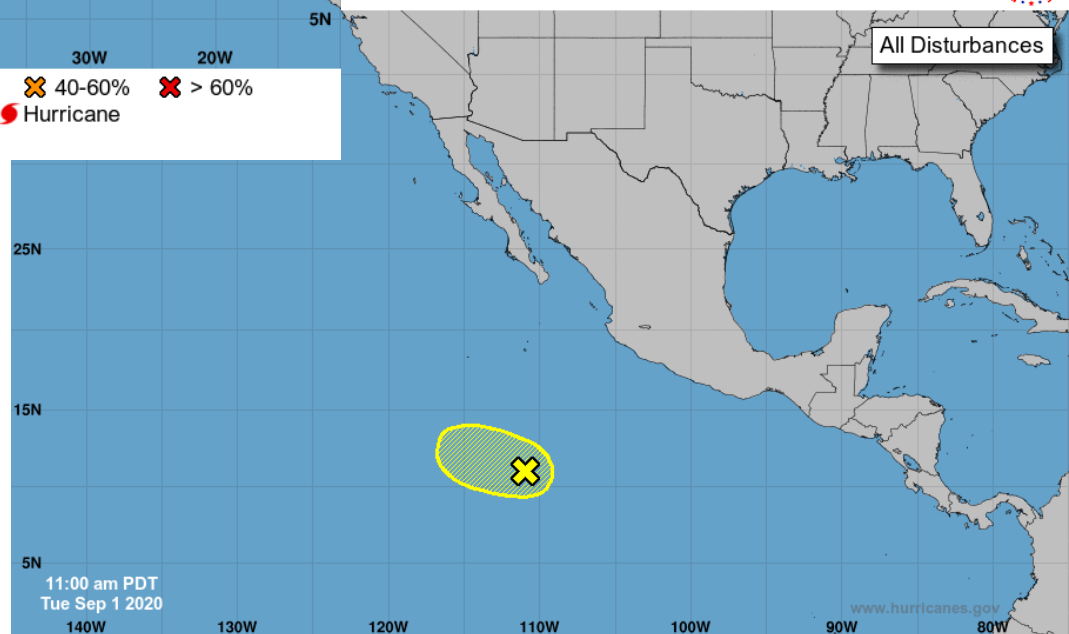
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

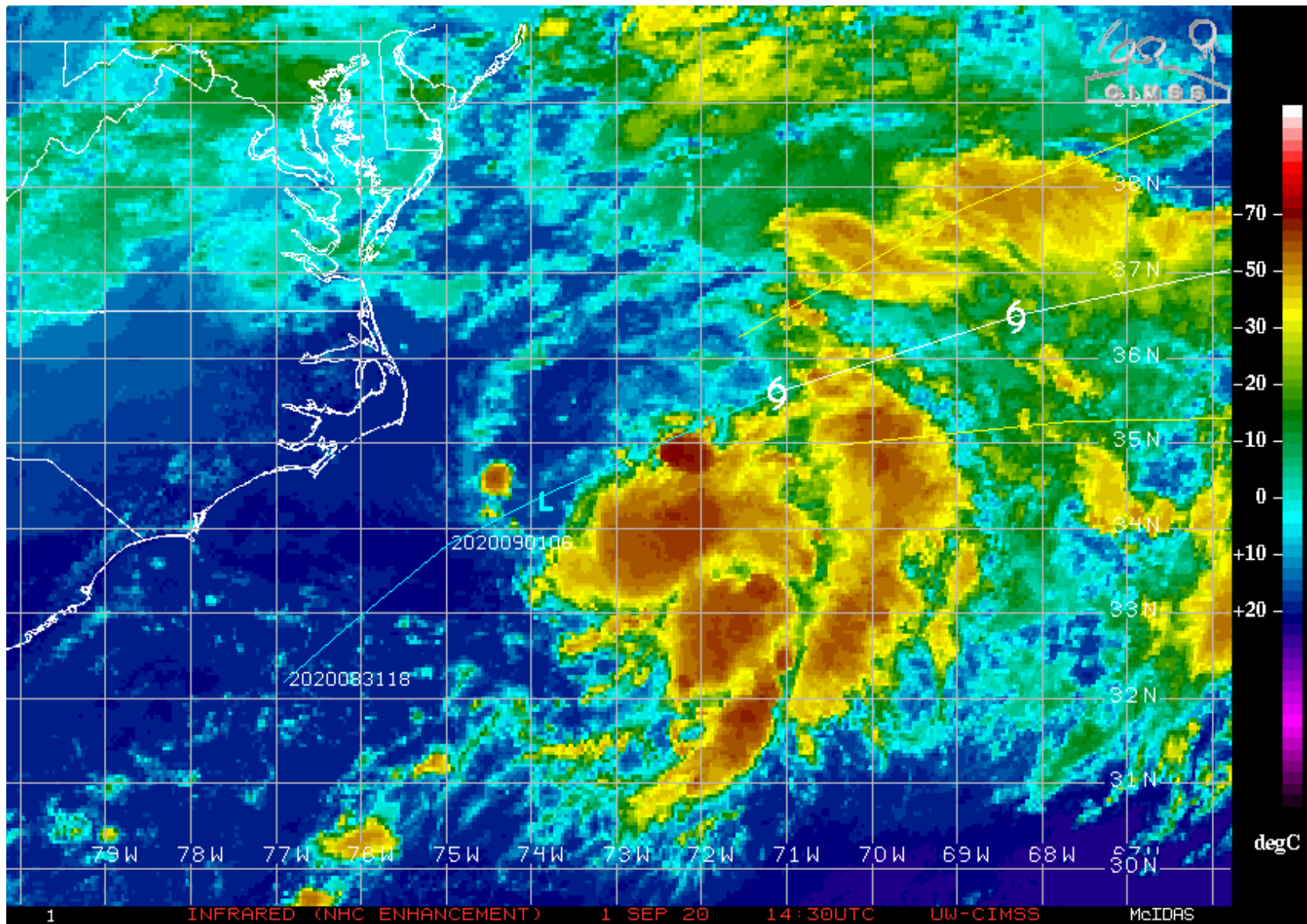


11:00 am PDT
Tue Sep 1 2020

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

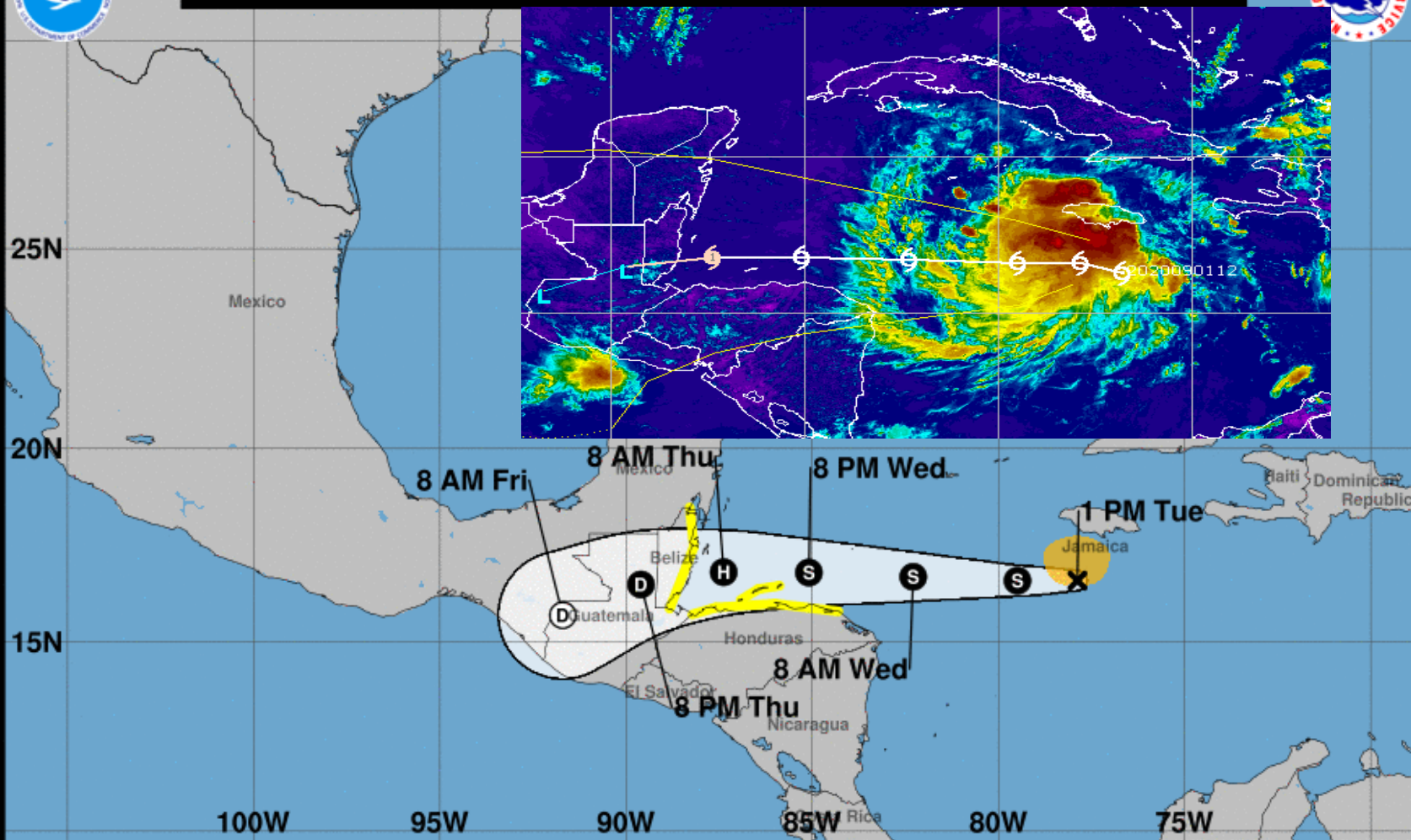


- | | | | |
|---|---------------|----------|-----------------------|
| — | LDH/NAVE | I | - Invest Area |
| — | Tropical Depr | L | - Tropical Depression |
| — | Tropical Strm | 6 | - Tropical Storm |
| — | Category 1 | 6 | - Hurricane/Typhoon |
| — | Category 2 | | (w/ category) |
| — | Category 3 | | |
| — | Category 4 | | |
| — | Category 5 | | |

1 INFRARED (NHC ENHANCEMENT) 1 SEP 20 14:30UTC UW-CIMSS McIDAS



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Storm Nana

Tuesday September 01, 2020
 1 PM EDT Advisory 2
 NWS National Hurricane Center

Current information: x

Center location 16.6 N 77.9 W
 Maximum sustained wind 50 mph
 Movement W at 16 mph

Forecast positions:

● Tropical Cyclone ○ Post/Potential TC
 Sustained winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110 mph

Potential track area:

Day 1-3 Day 4-5

Watches:

Hurricane Trop Stm

Warnings:

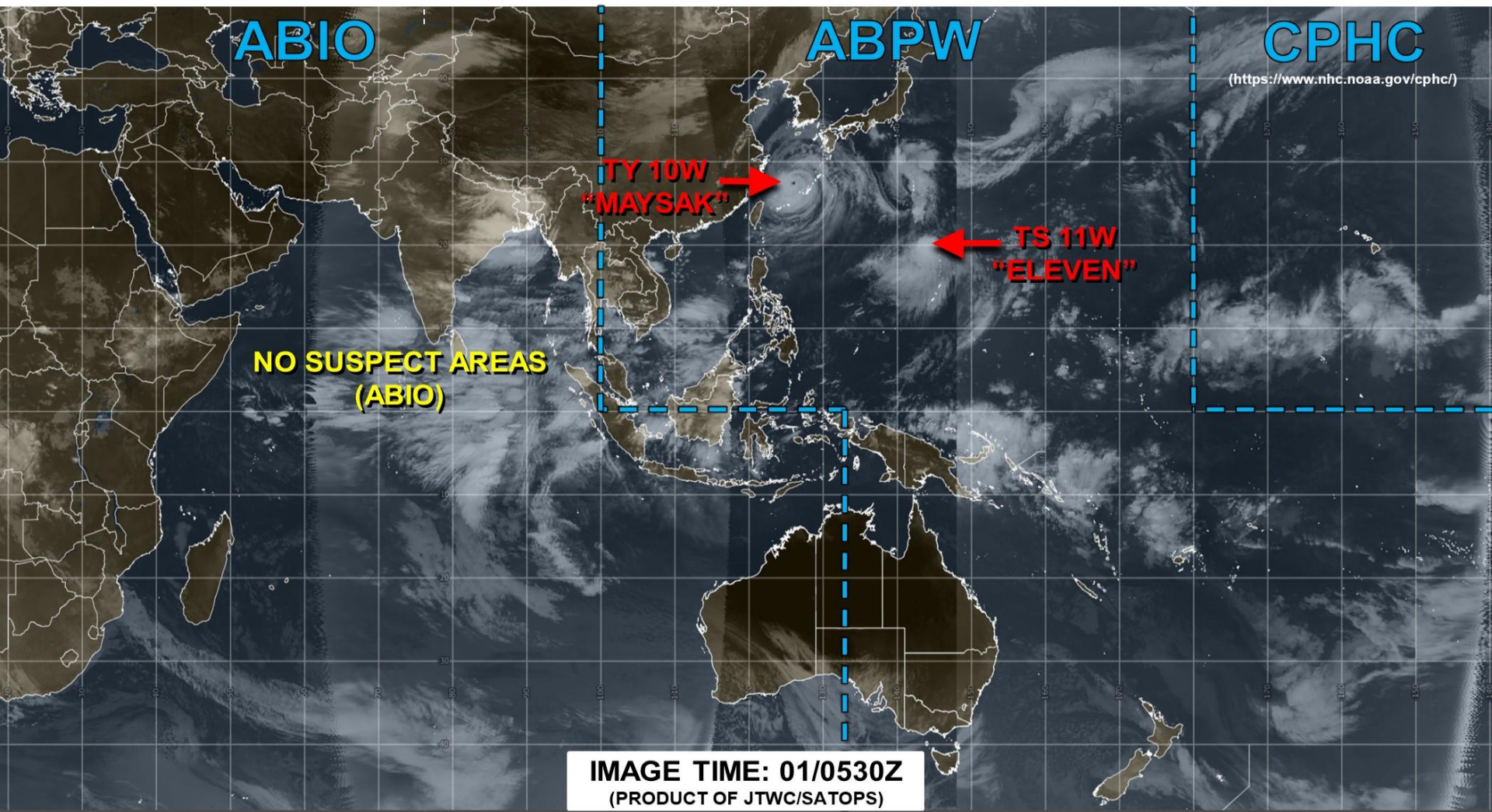
Hurricane Trop Stm

Current wind extent:

Hurricane Trop Stm



JOINT TYPHOON WARNING CENTER



LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

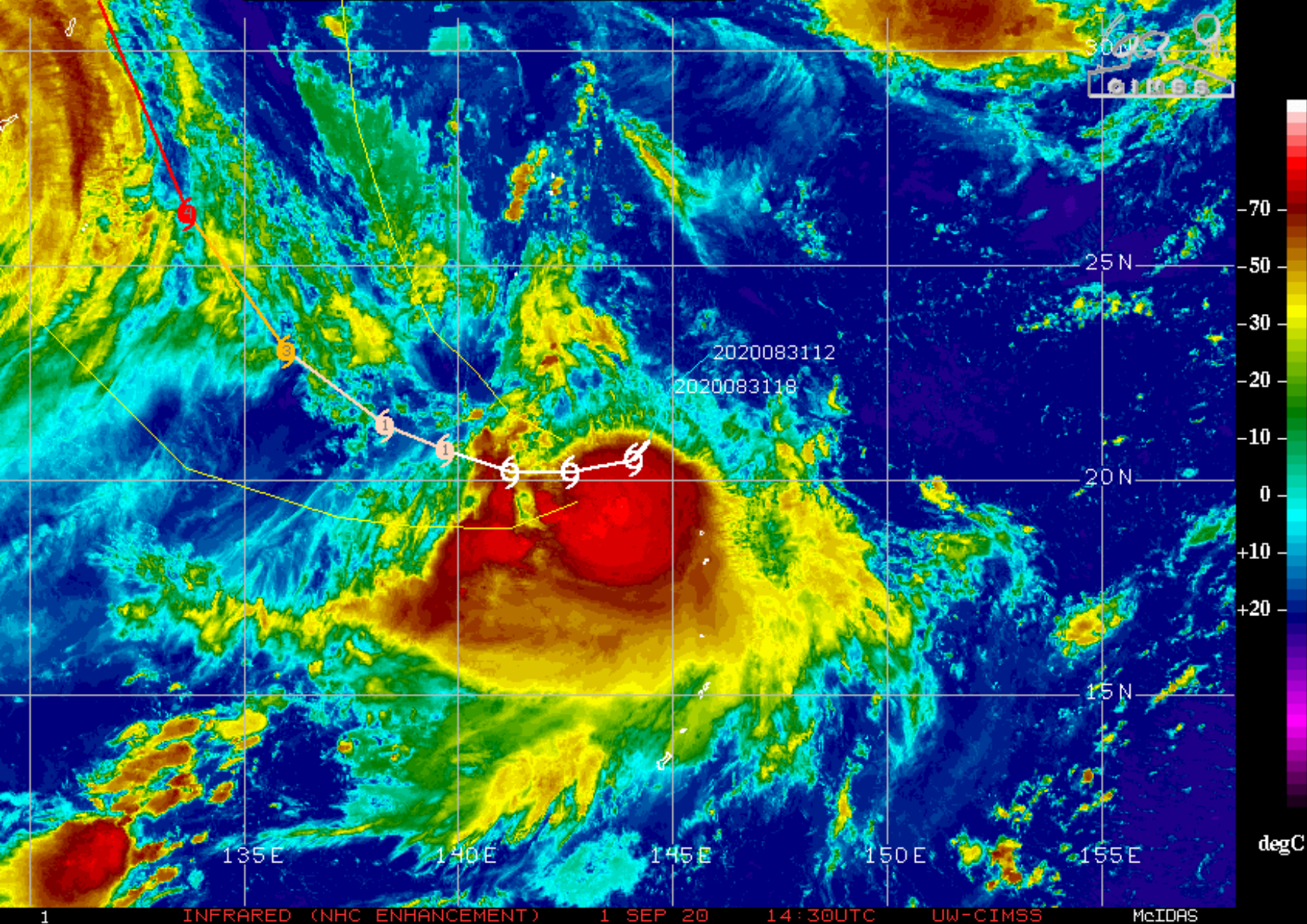
HIGH

TC development likely within 24 hours (Reference TCFA)

SUB TROPICAL

Monitoring for potential transition to TC. Invest color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)



1 INFRARED (NHC ENHANCEMENT)

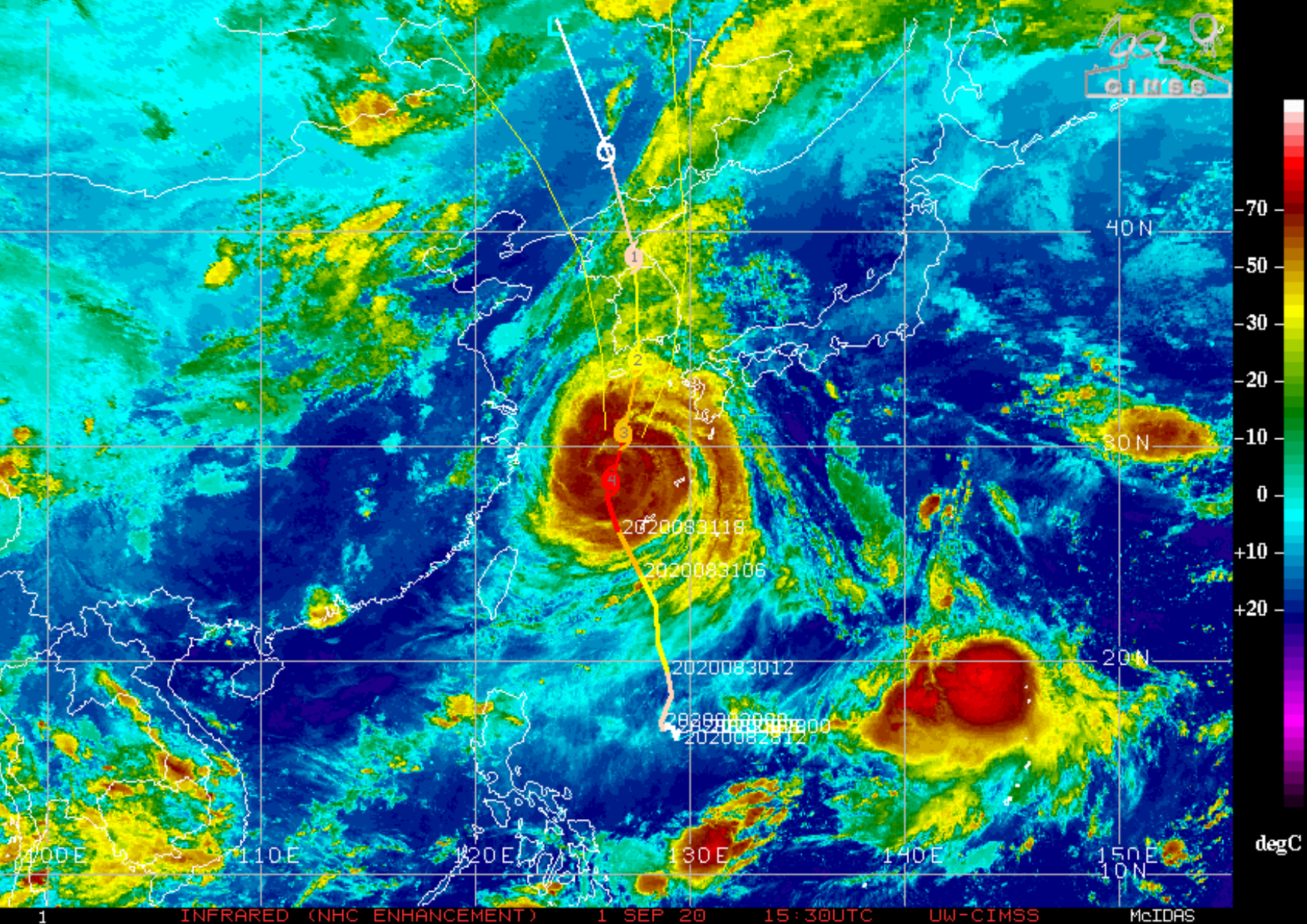
1 SEP 20

14:30UTC

UW-CIMSS

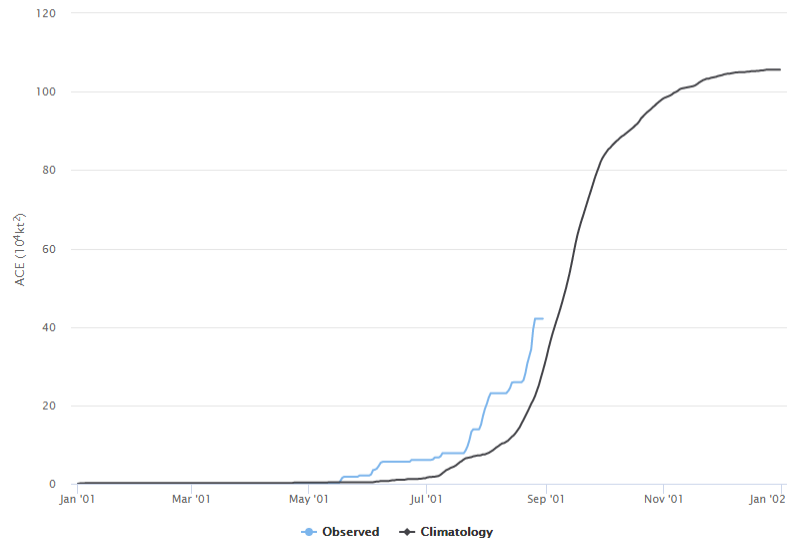
McIDAS

- | | | | |
|---|---------------|----------|-----------------------|
| — | LDN/NAVE | I | - Invest Area |
| — | Tropical Depr | L | - Tropical Depression |
| — | Tropical Strm | 6 | - Tropical Storm |
| — | Category 1 | 6 | - Hurricane/Typhoon |
| — | Category 2 | | (w/ category) |
| — | Category 3 | | |
| — | Category 4 | | |
| — | Category 5 | | |

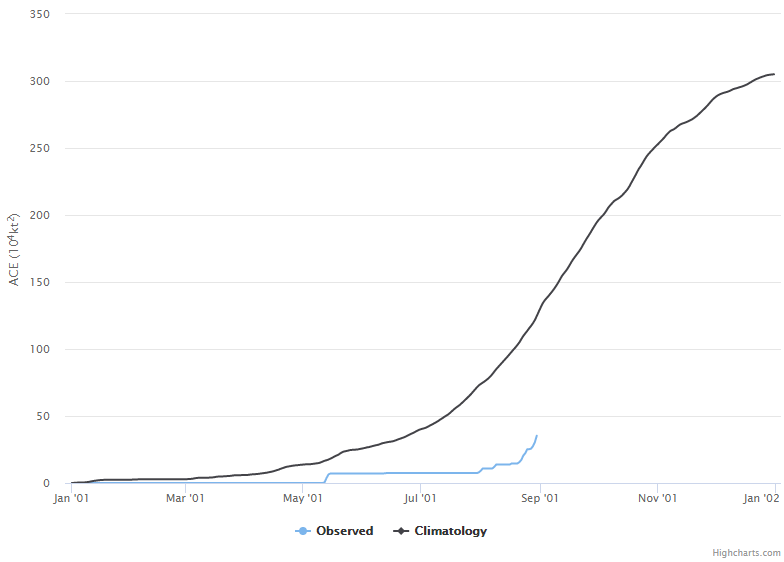


- | | | | |
|---|---------------|----------|-----------------------|
| — | LDN/NAVE | I | - Invest Area |
| — | Tropical Depr | L | - Tropical Depression |
| — | Tropical Strm | 6 | - Tropical Storm |
| — | Category 1 | 6 | - Hurricane/Typhoon |
| — | Category 2 | | (w/ category) |
| — | Category 3 | | |
| — | Category 4 | | |
| — | Category 5 | | |

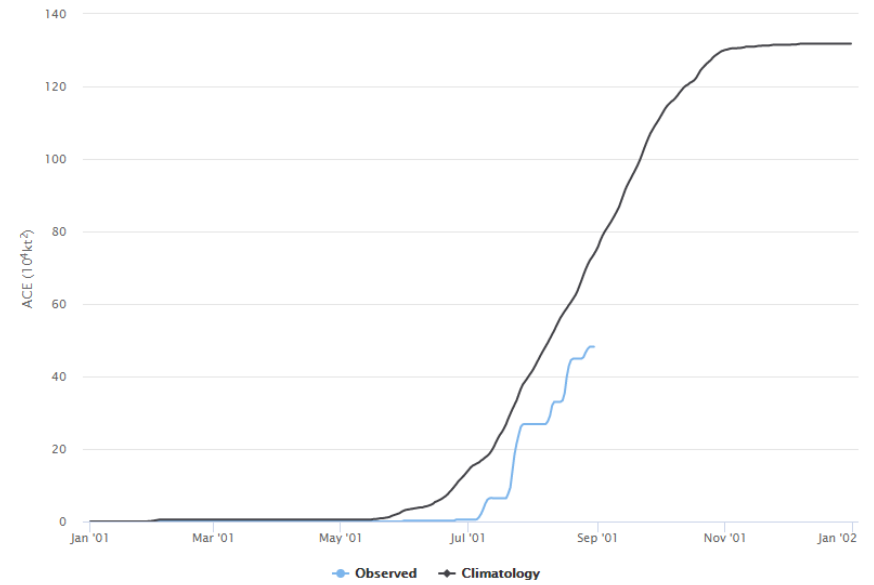
Current Season North Atlantic Ocean ACE (1981–2010 Climo)



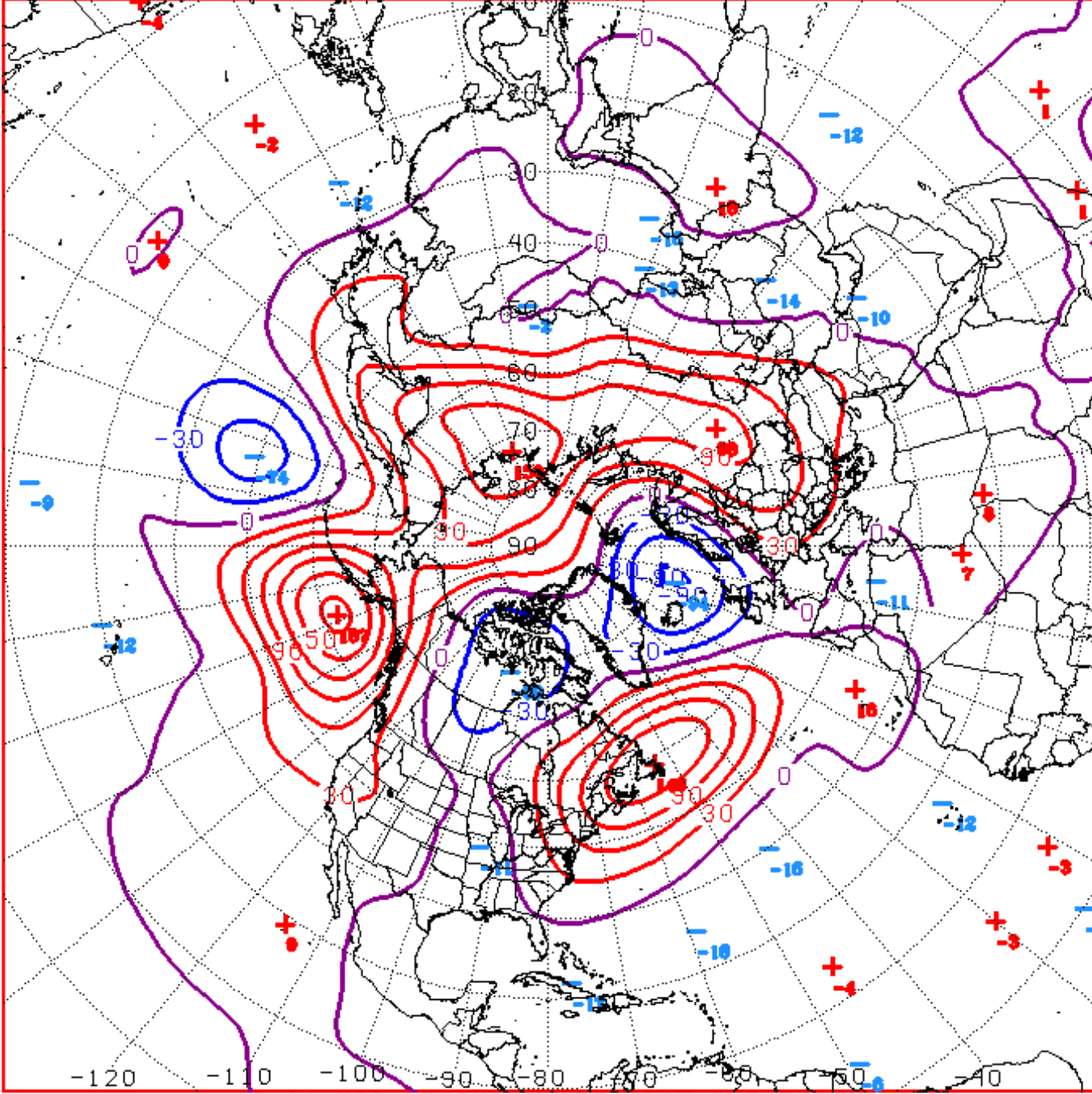
Current Season Northwest Pacific Ocean ACE (1981–2010 Climo)



Current Season Northeast Pacific Ocean ACE (1981–2010 Climo)

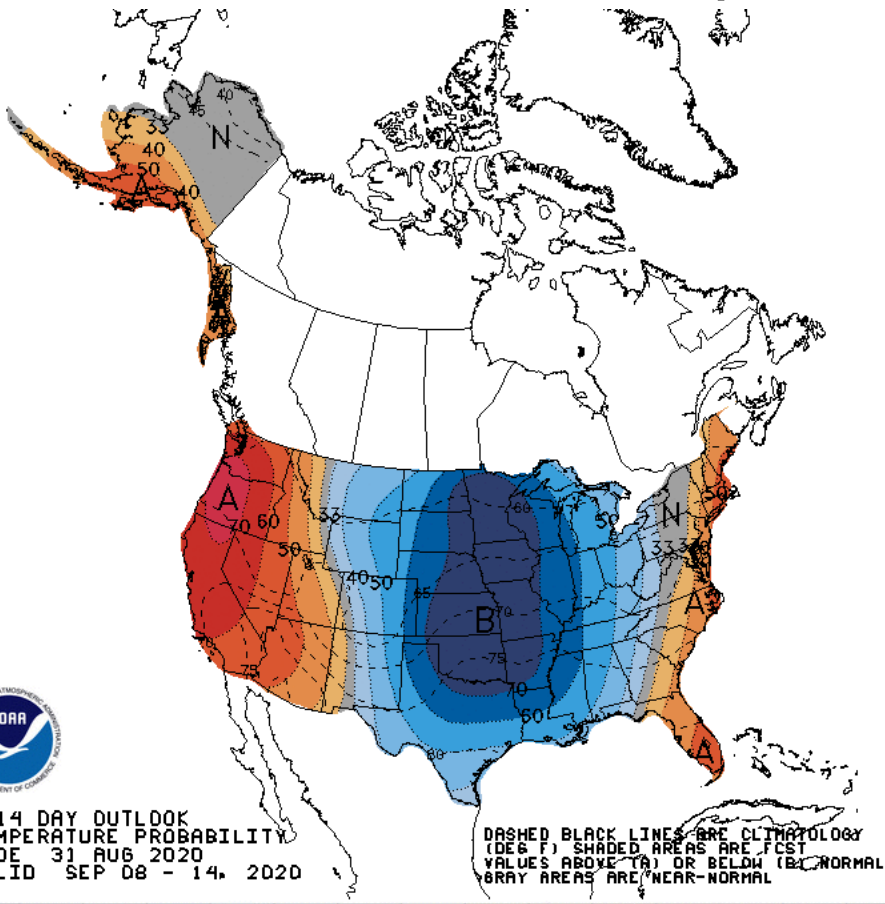


Connections to U.S. Impacts



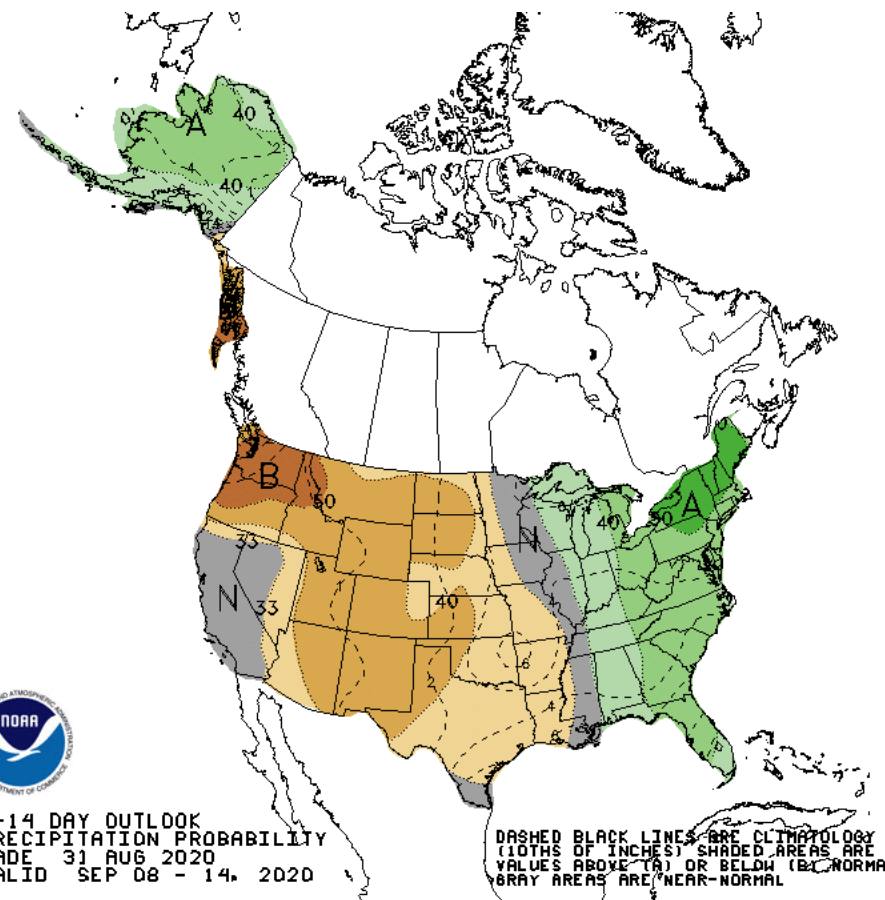
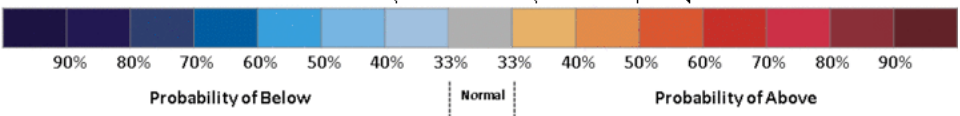
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE SEP 01 2020 1252 UTC CNTD SEP 12 2020

Week 2 – Temperature and Precipitation



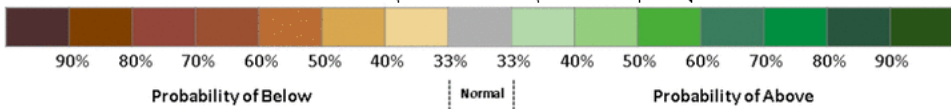
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 31 AUG 2020
VALID SEP 08 - 14, 2020

DASHED BLACK LINES ARE CLIMATE
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 31 AUG 2020
VALID SEP 08 - 14, 2020

DASHED BLACK LINES ARE CLIMATE
(10THS OF INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL

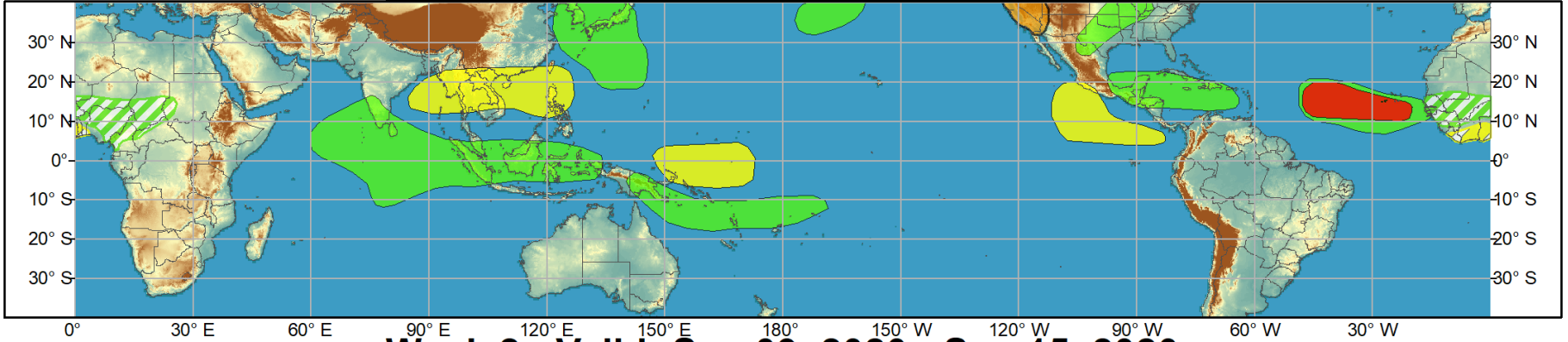




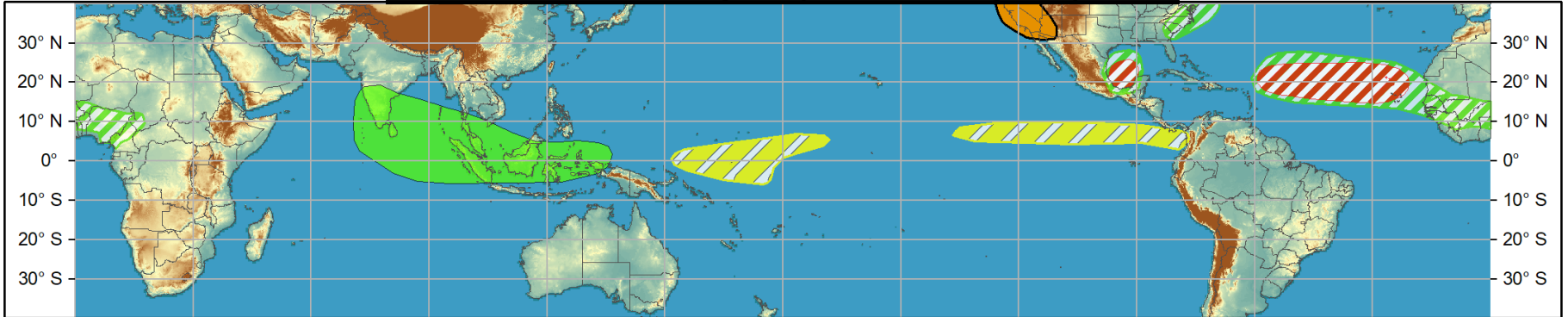
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 02, 2020 - Sep 08, 2020



Week 2 - Valid: Sep 09, 2020 - Sep 15, 2020



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.

Produced: 09/01/2020
Forecaster: Novella

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.

