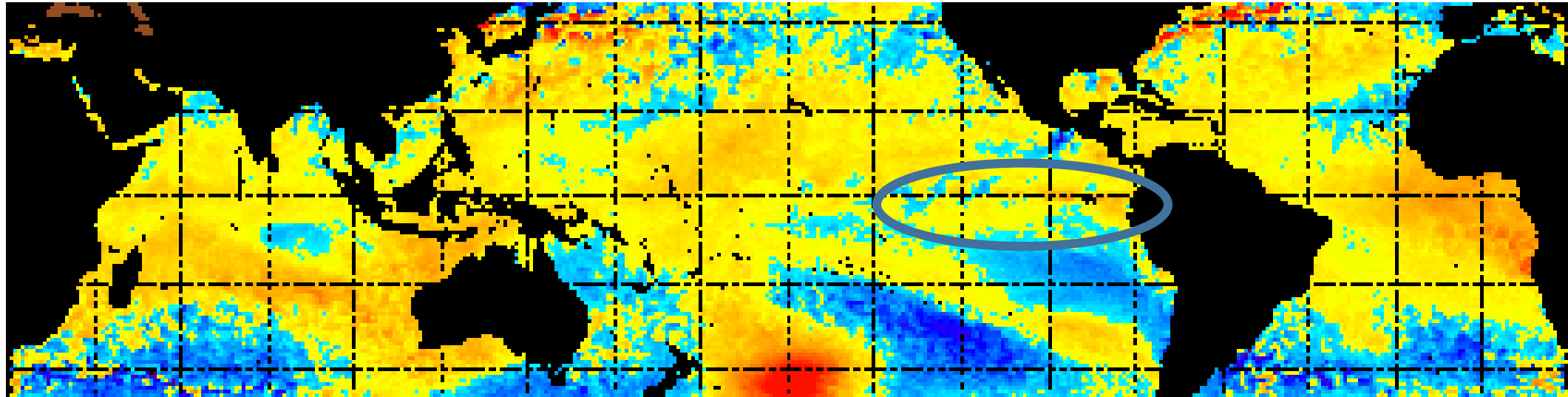



15 Oct 2020 TX

S E Taylor

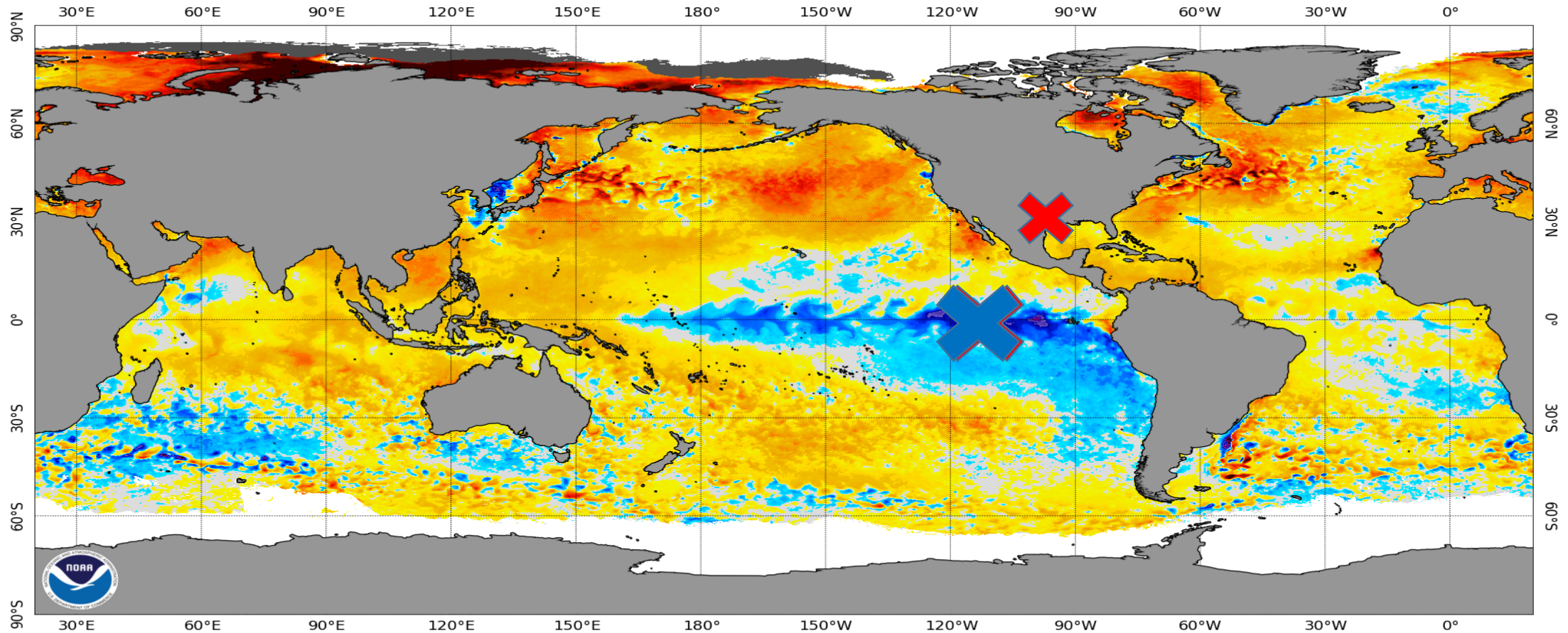
setaylor@iastate.edu

NOAA/NESDIS SST Anomaly (degrees C), 12/26/2019



An “annual” (although weak) El Niño showed up for Christmas (the name celebrates Christmas).  The “Christmas present” is often the only significant precipitation for the year in some areas of Ecuador & Peru.

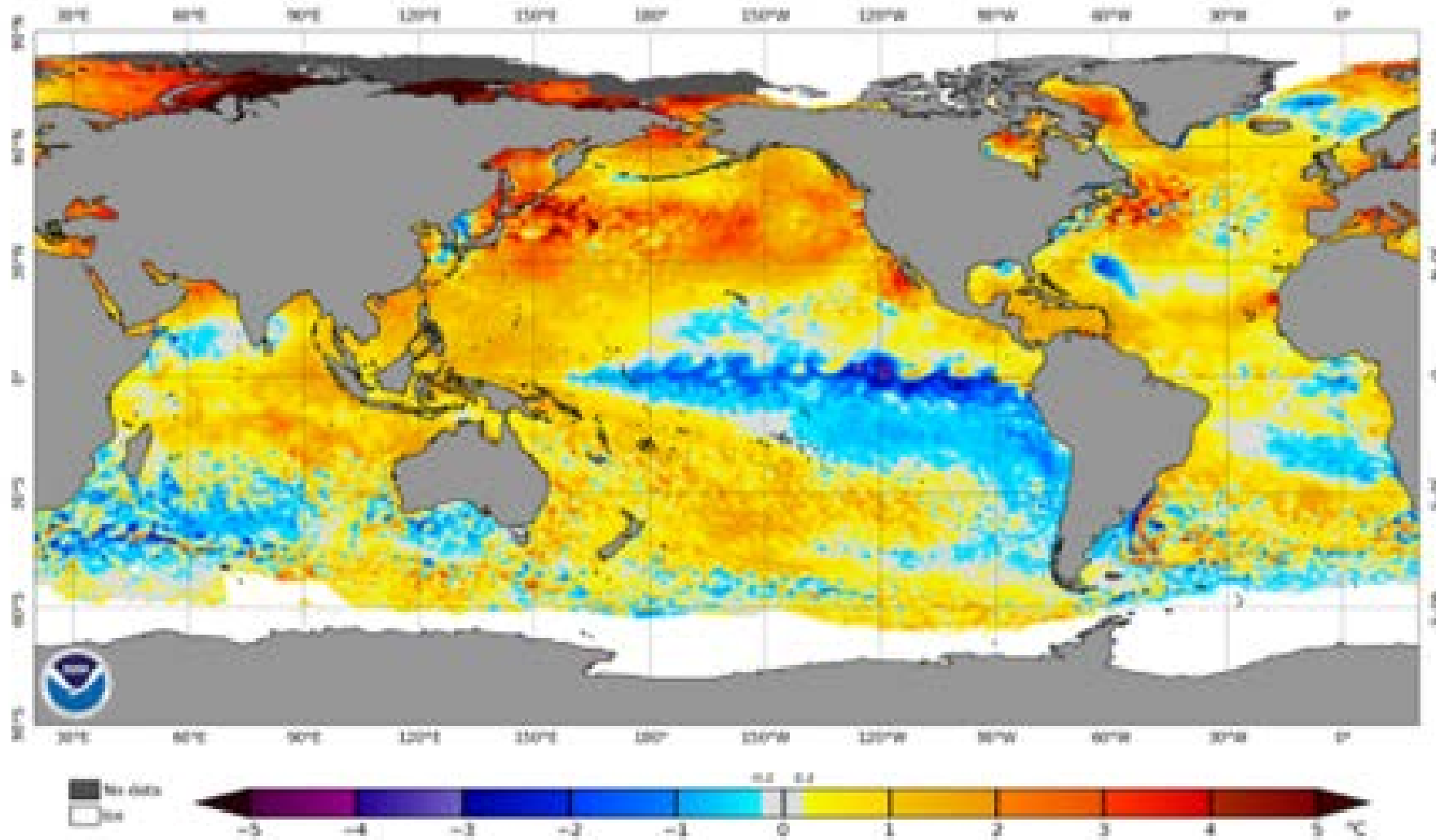
NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 15 Sep 2020



Colder than usual **X** (La Nina) **→** threat of extremes on the USA Gulf Coast **X**

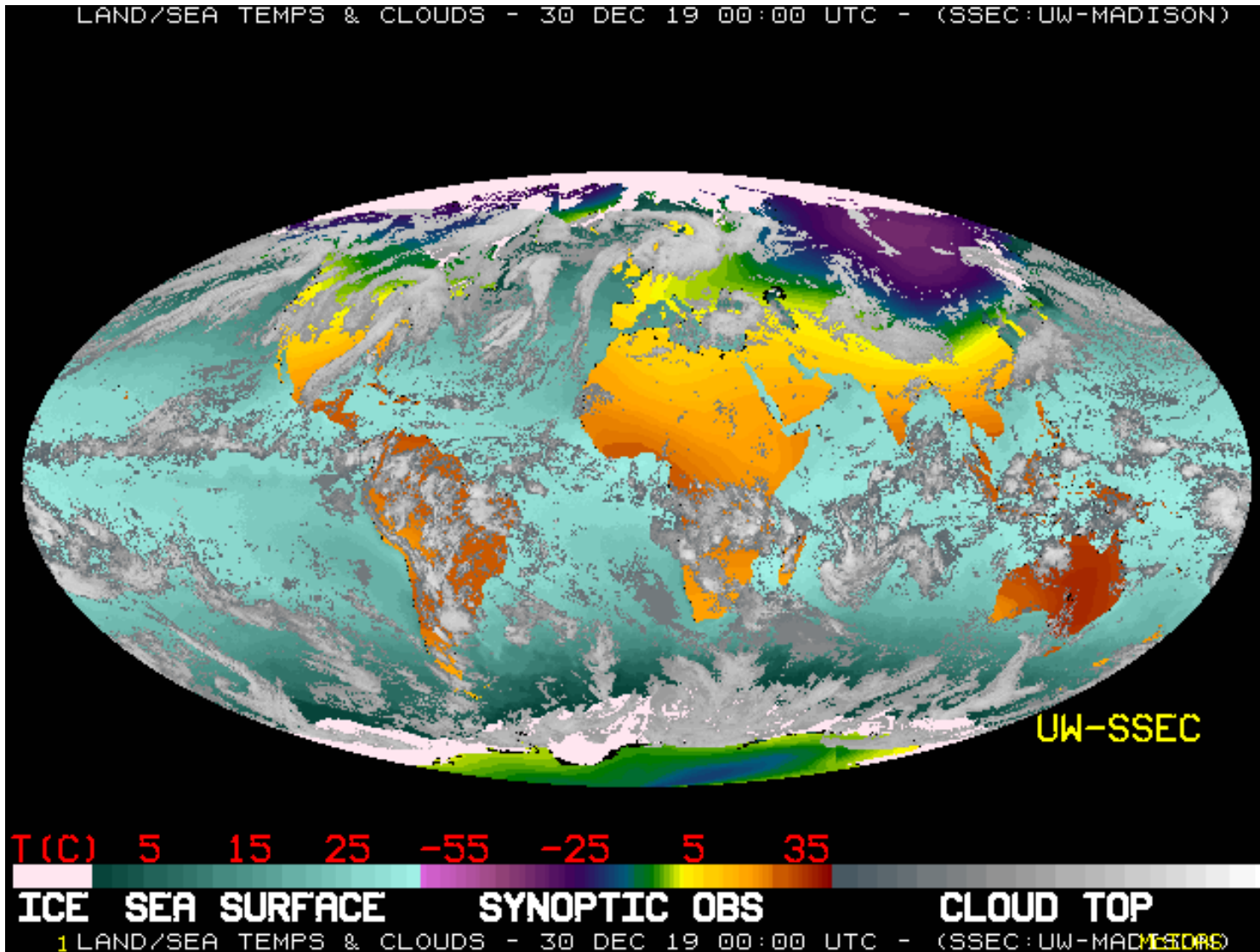
<https://www.ospo.noaa.gov/Products/ocean/sst/anomaly/index.html>

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 23 Sep 2020



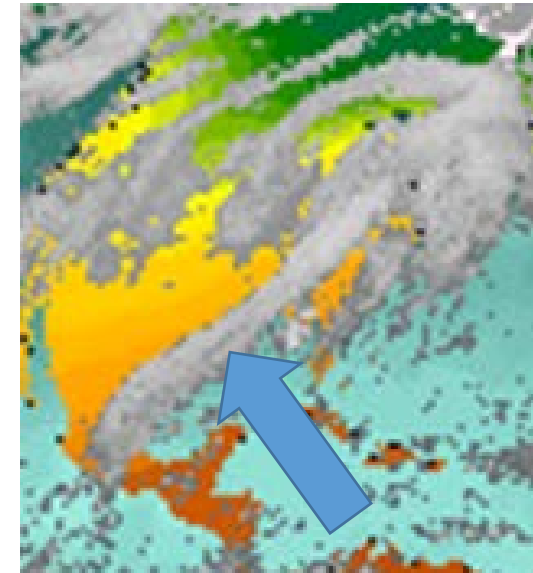
www.ospo.noaa.gov/Products/ocean/sst/anomaly/

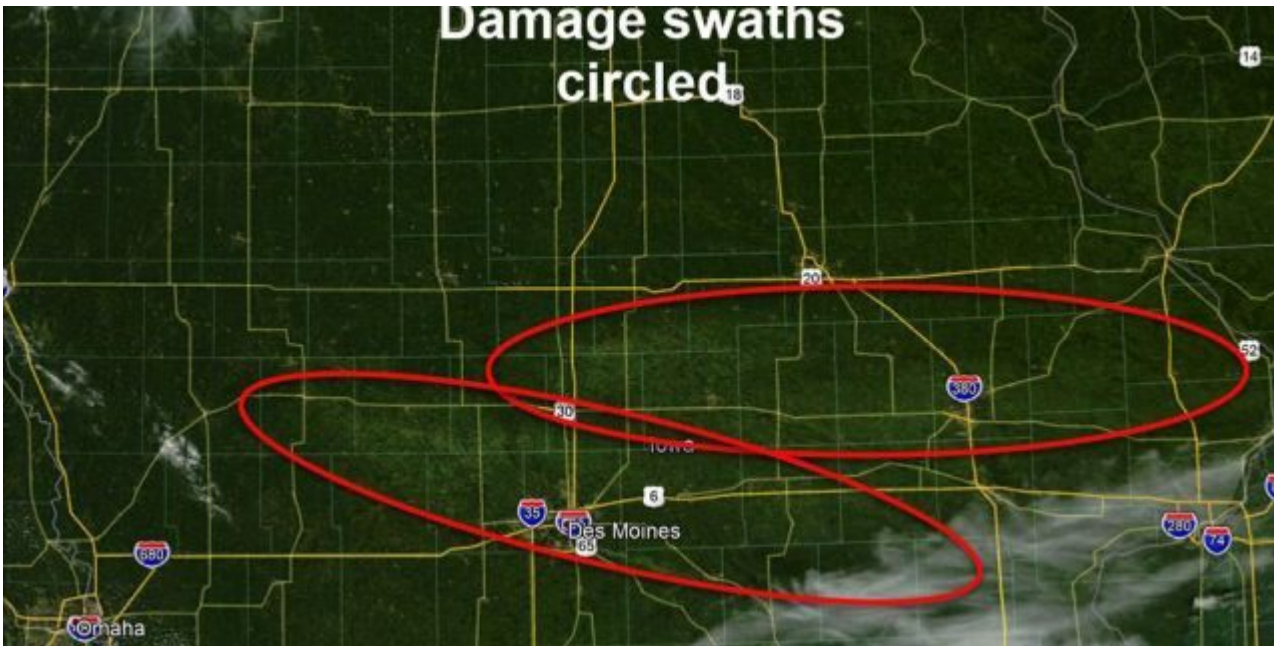
Occasionally use the "url" above to note major changes in sea temperature (that may impact Midwest weather).



4 fronts + Arctic flow

The year 2019 ended with a cold front from Texas to New England





Derecho, 10 Aug 2020

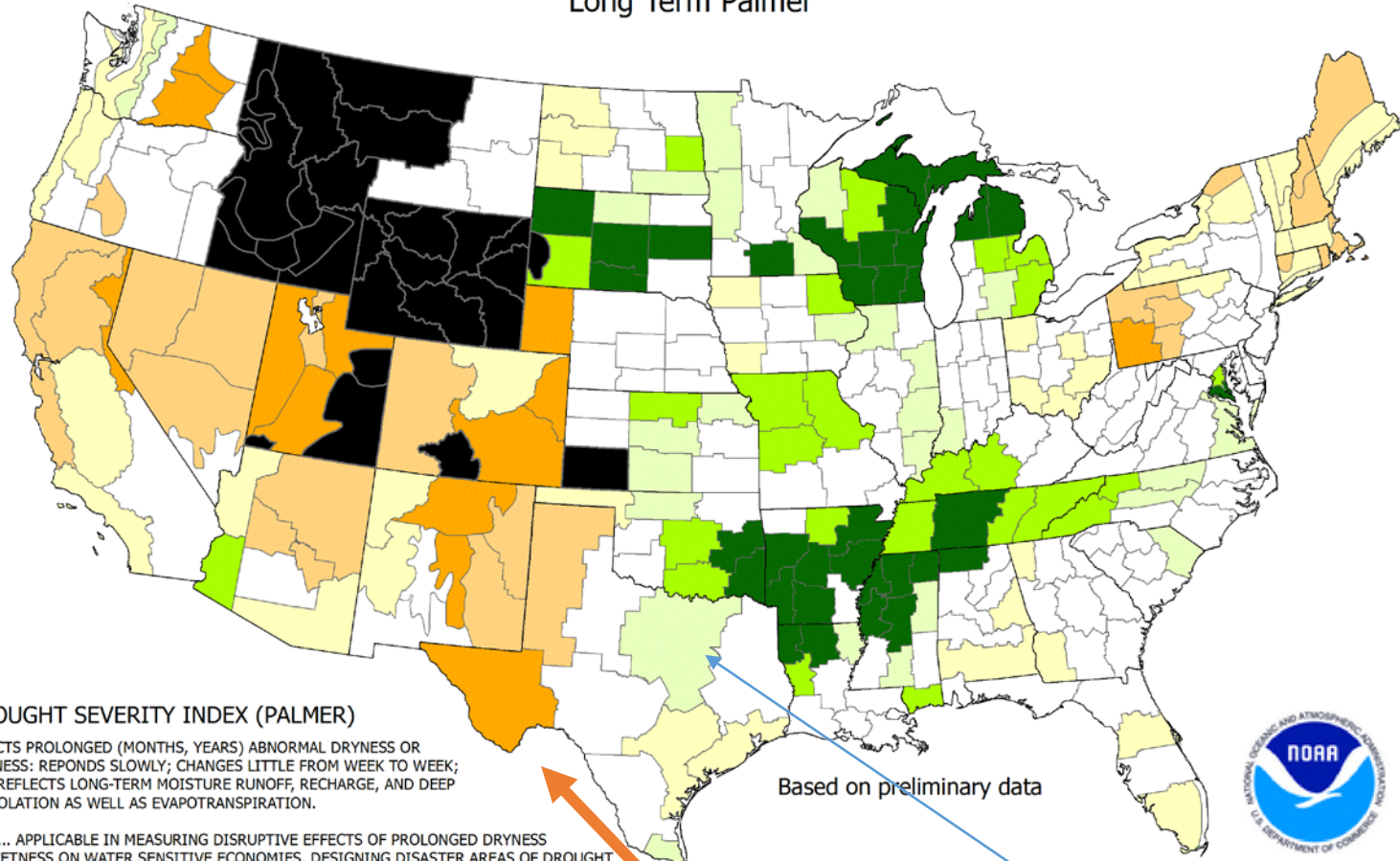
Numerous fields "0" yield

The highest official wind gust measured was 99 mph at the Marshalltown Airport with an unofficial wind gust of 106 mph.



Derecho results in extensive lodging in the center of the Corn Belt.

Drought Severity Index by Division
 Weekly Value for Period Ending Sep 12, 2020
 Long Term Palmer



DROUGHT SEVERITY INDEX (PALMER)

DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; REponds SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.

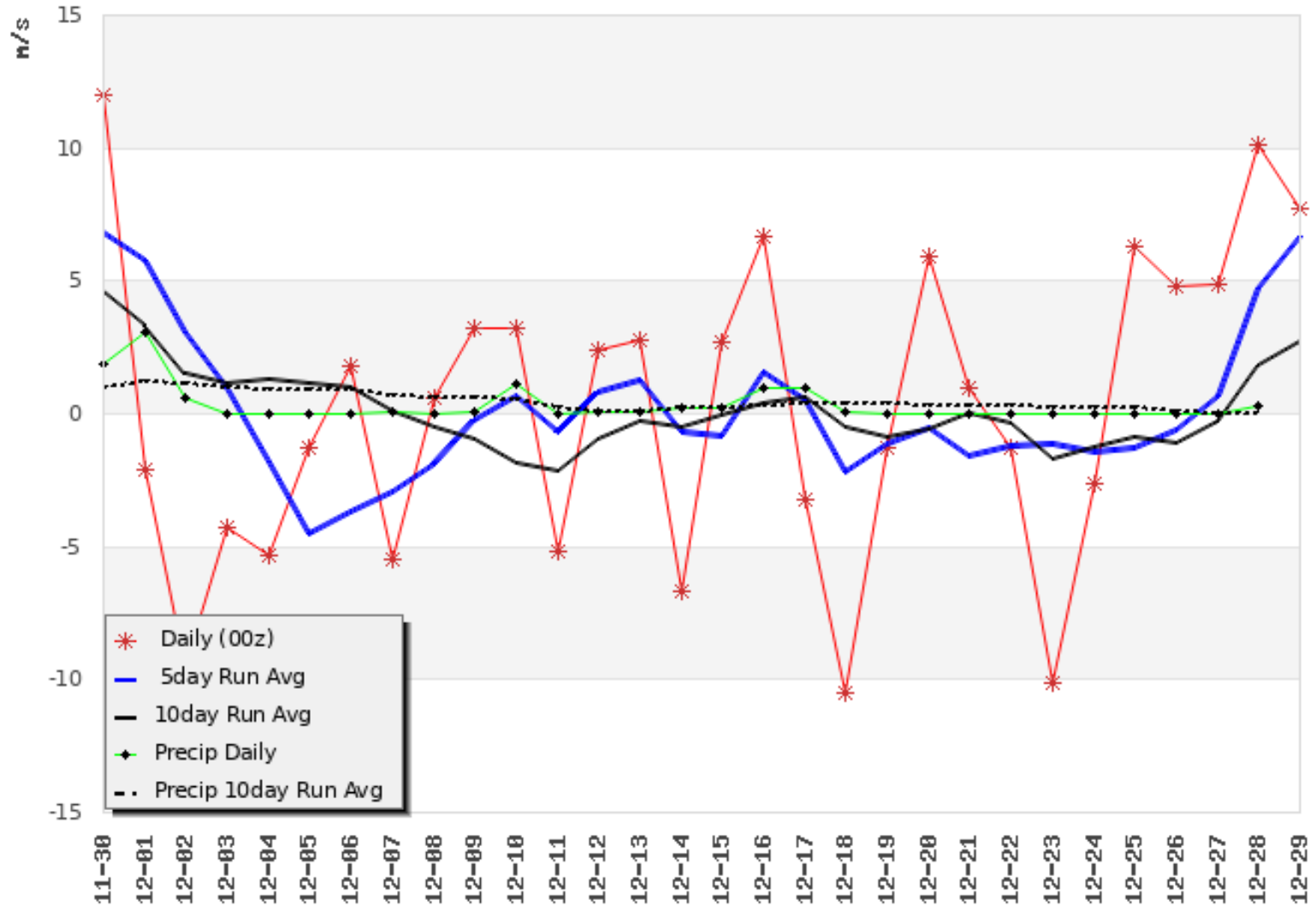
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

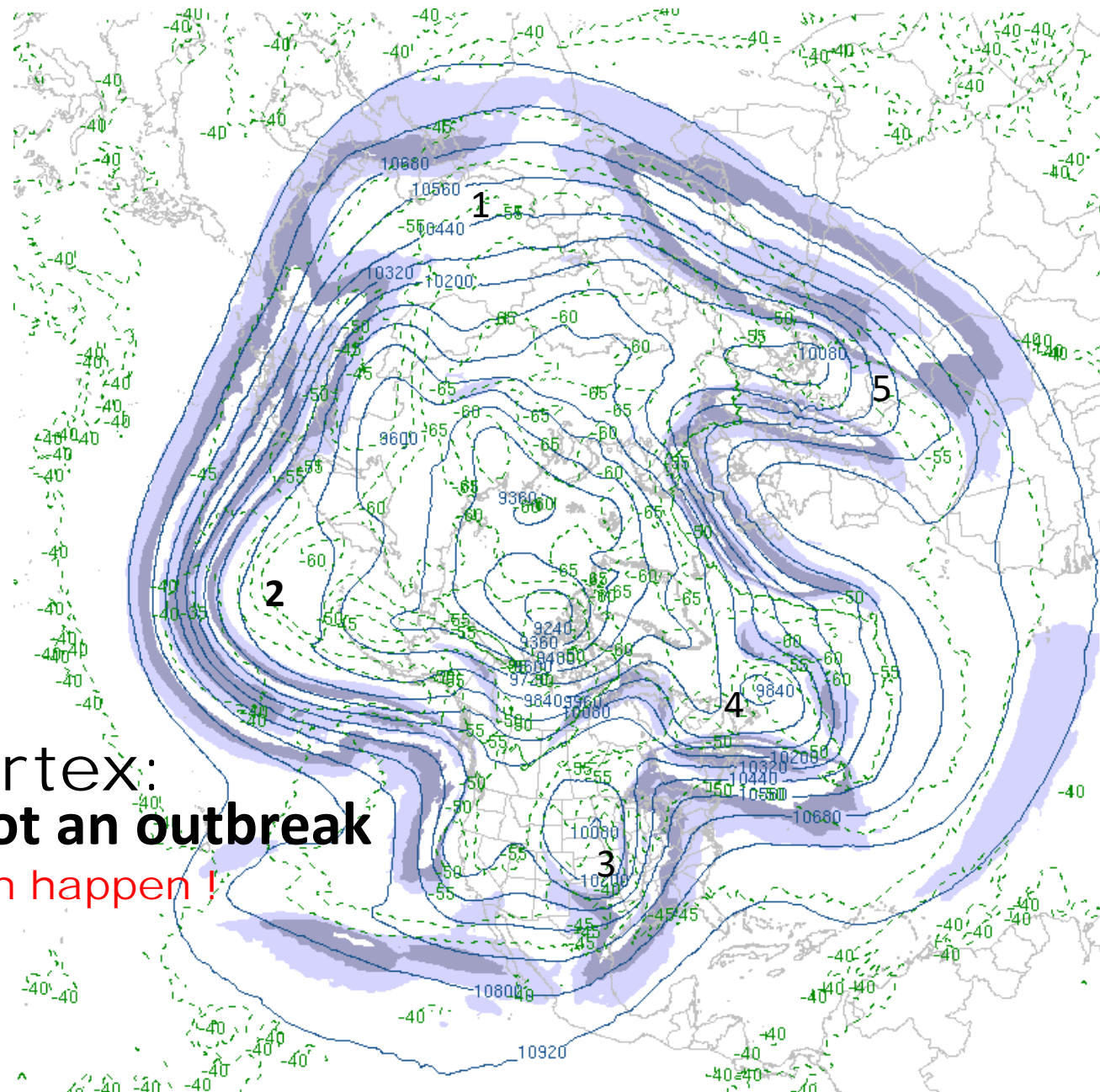
Based on preliminary data

- 4.0 or less (Extreme Drought)
- 3.0 to -3.9 (Severe Drought)
- 2.0 to -2.9 (Moderate Drought)
- 1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)
- Missing/Incomplete

RI
Avg 850 Vg over TX



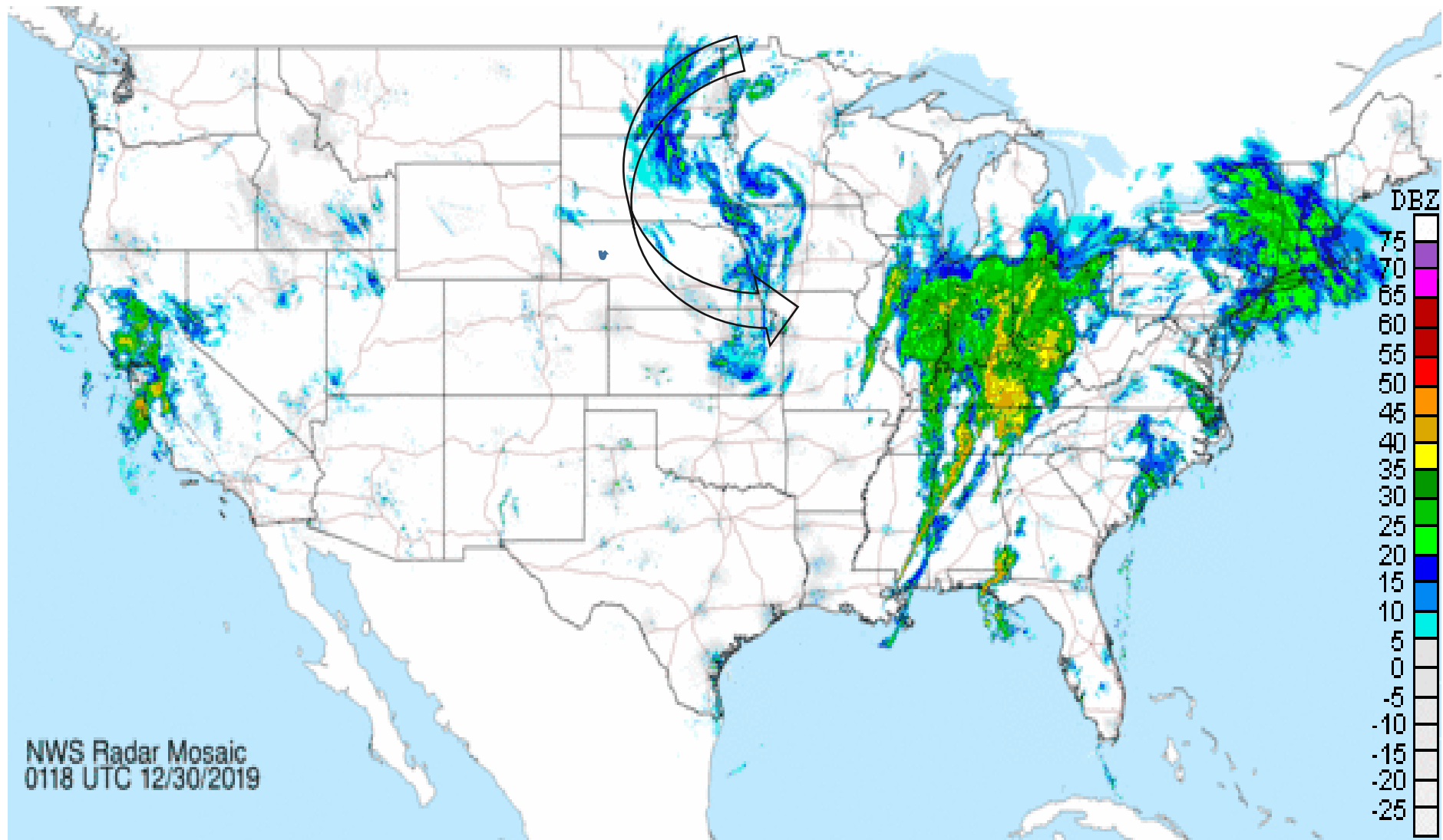
The "RI" indicates moisture flow from the "Gulf" ... when RI is + for consecutive days.



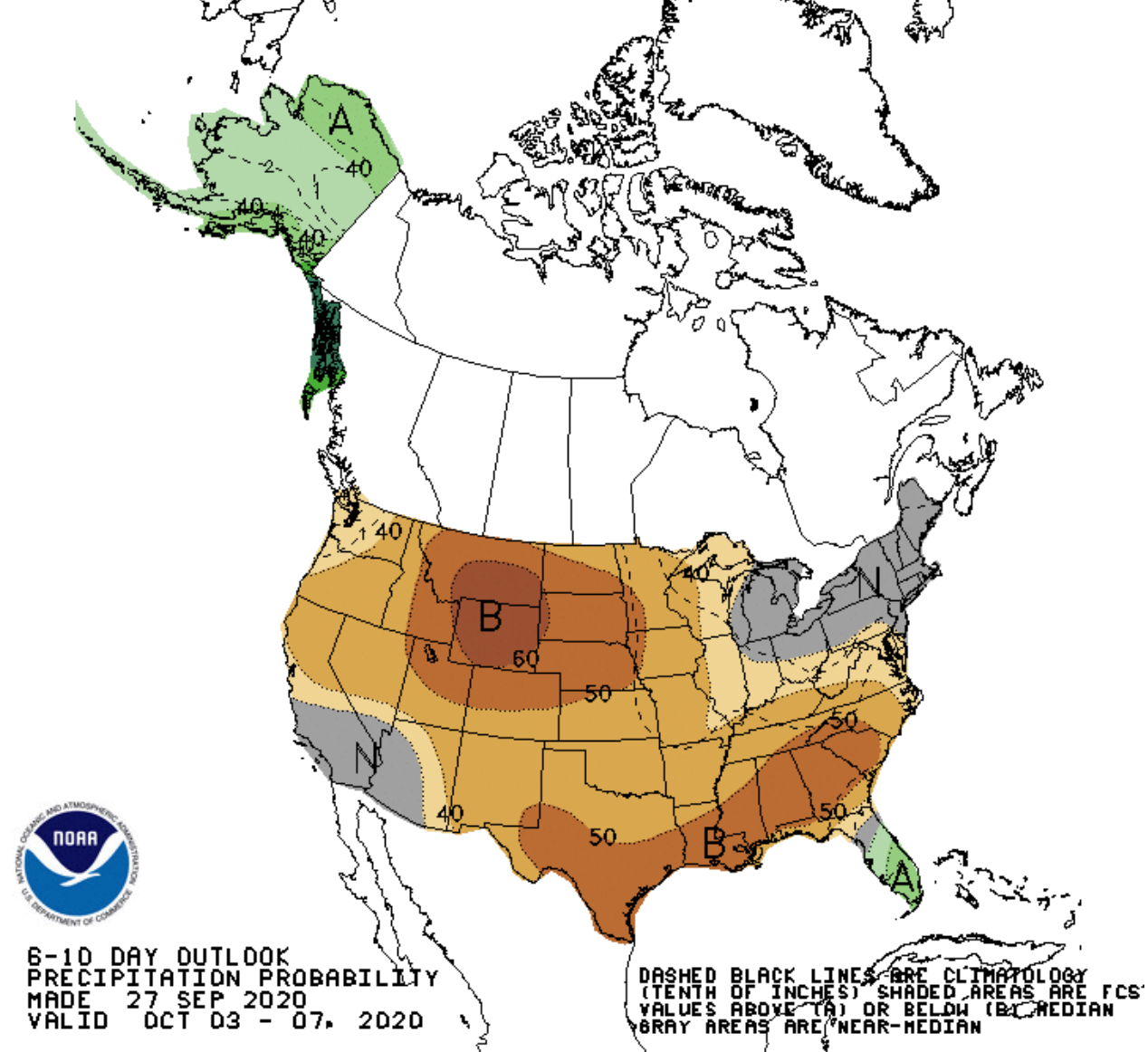
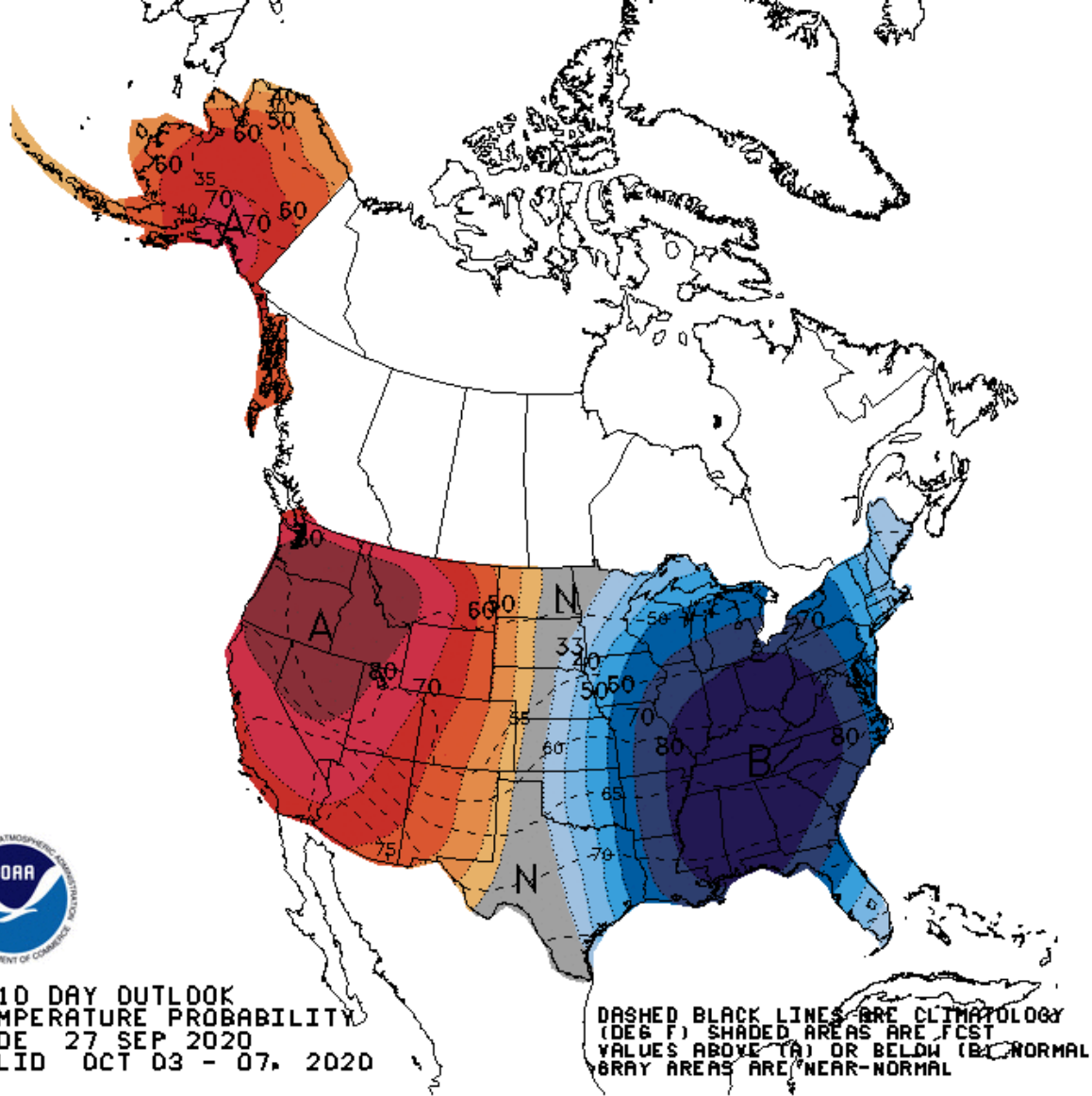
**Polar Vortex:
5 Lobe... Not an outbreak**
Any thing can happen !

00Z 30 Dec 2019 250 hPa

University of Wyoming



Moisture from the Gulf brought precipitation to the Eastern Corn Belt.
Cold air entered the U. S. through N & S Dakota



90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below

Normal

Probability of Above

90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

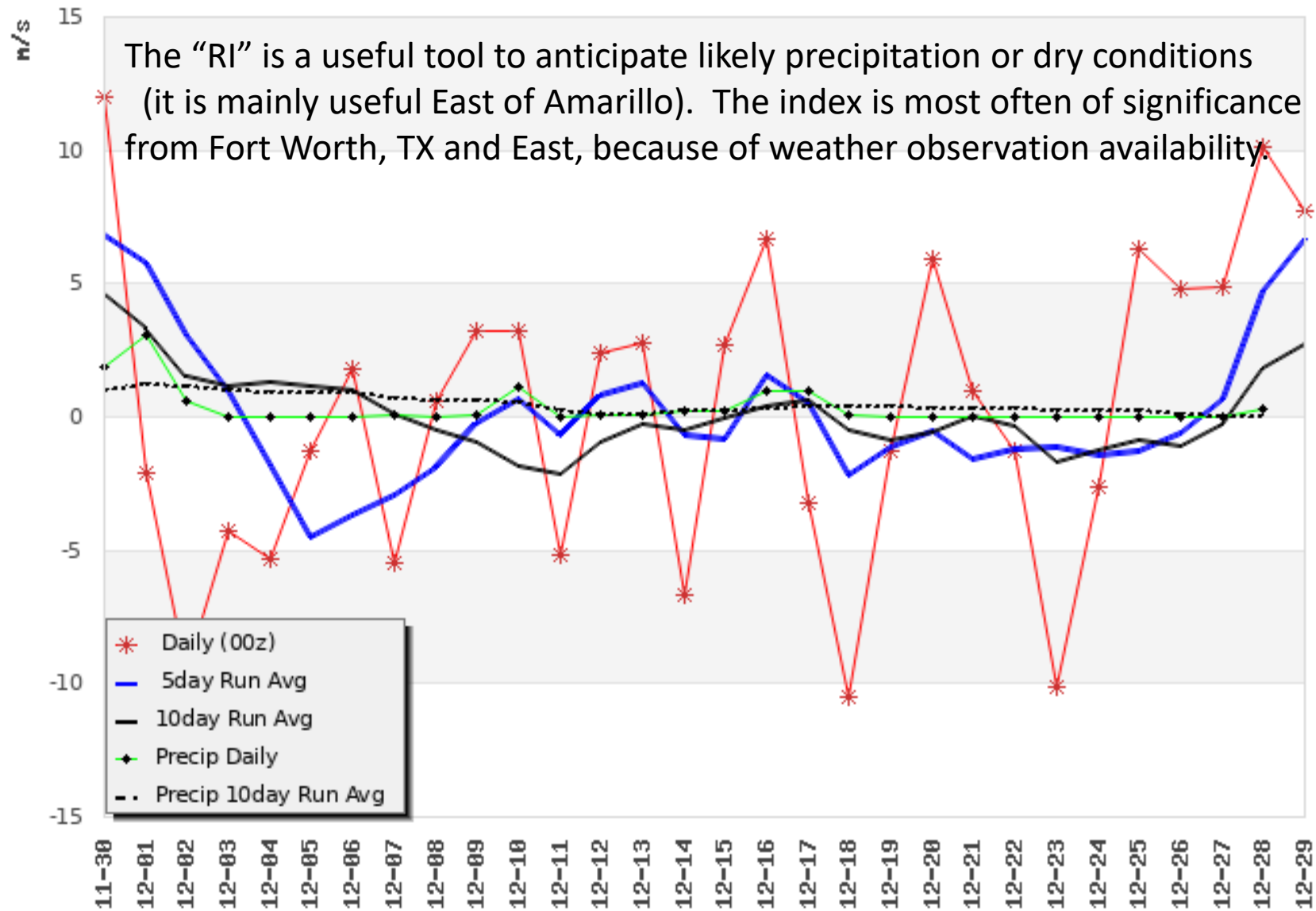
Probability of Below

Normal

Probability of Above

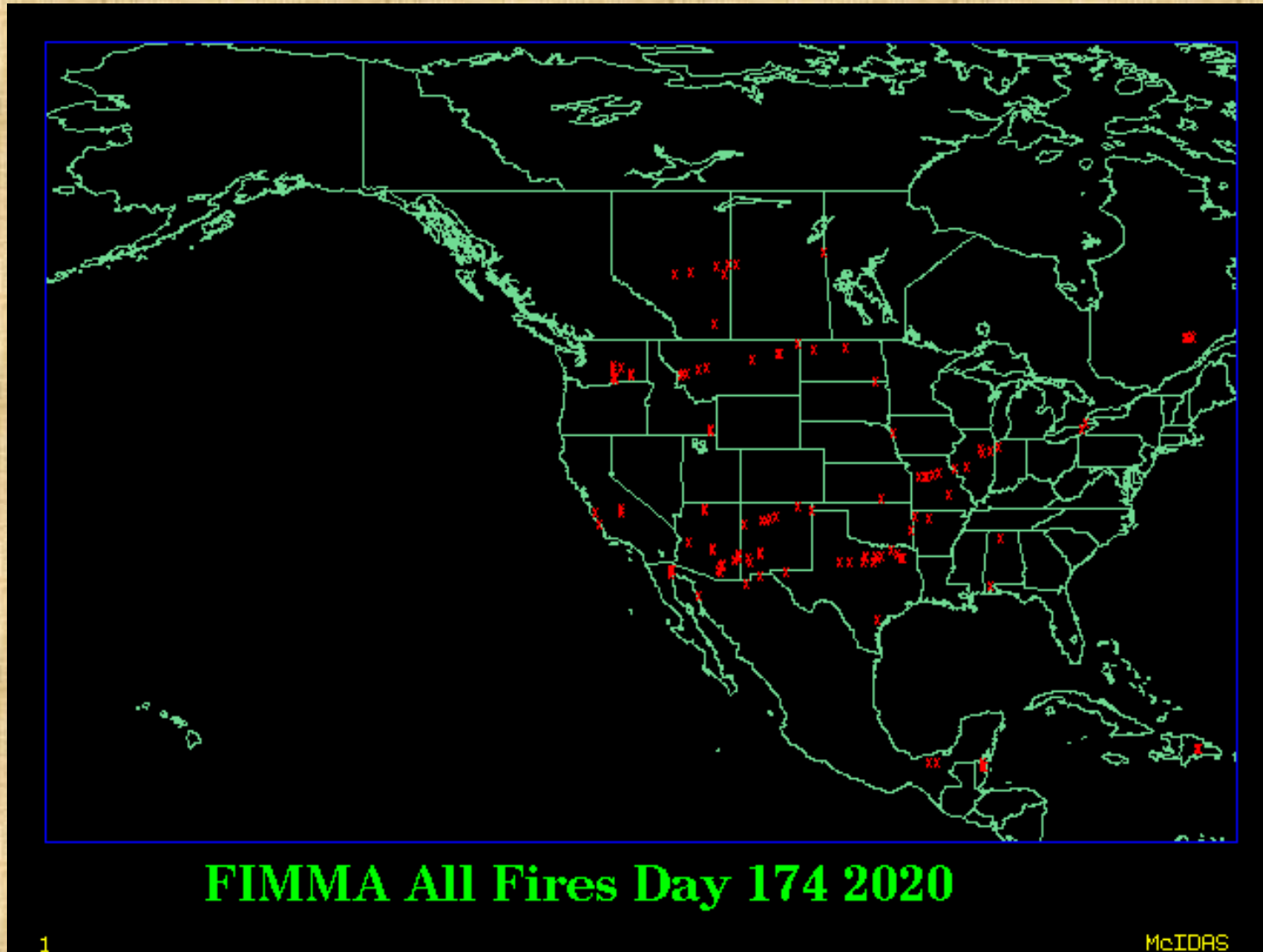
RI

RI
Avg 850 Vg over TX



Gulf Storms Impact More than the Coast !

Most Corn Belt moisture
is a result of
Gulf Coast conditions.



<https://www.ssd.noaa.gov/PS/FIRE/Layers/FIMMA/fimma.html>

17th of April 2020 brings numerous range fires.

END •

