



Item 5: Hurricane Weather Forecast

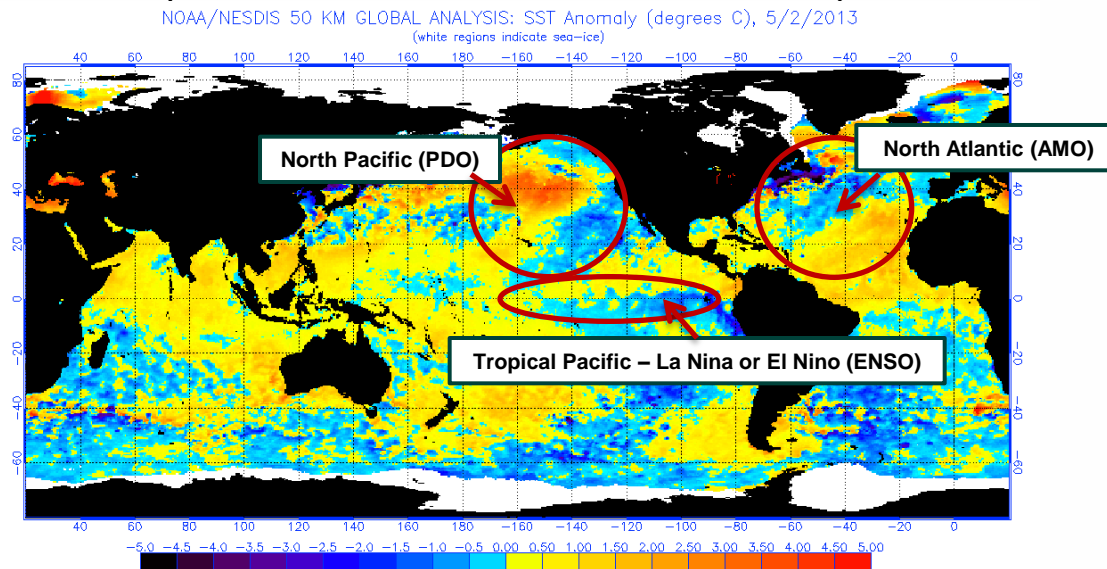
Chris Coleman
Meteorologist

Board of Directors Meeting
ERCOT Public
May 14, 2013

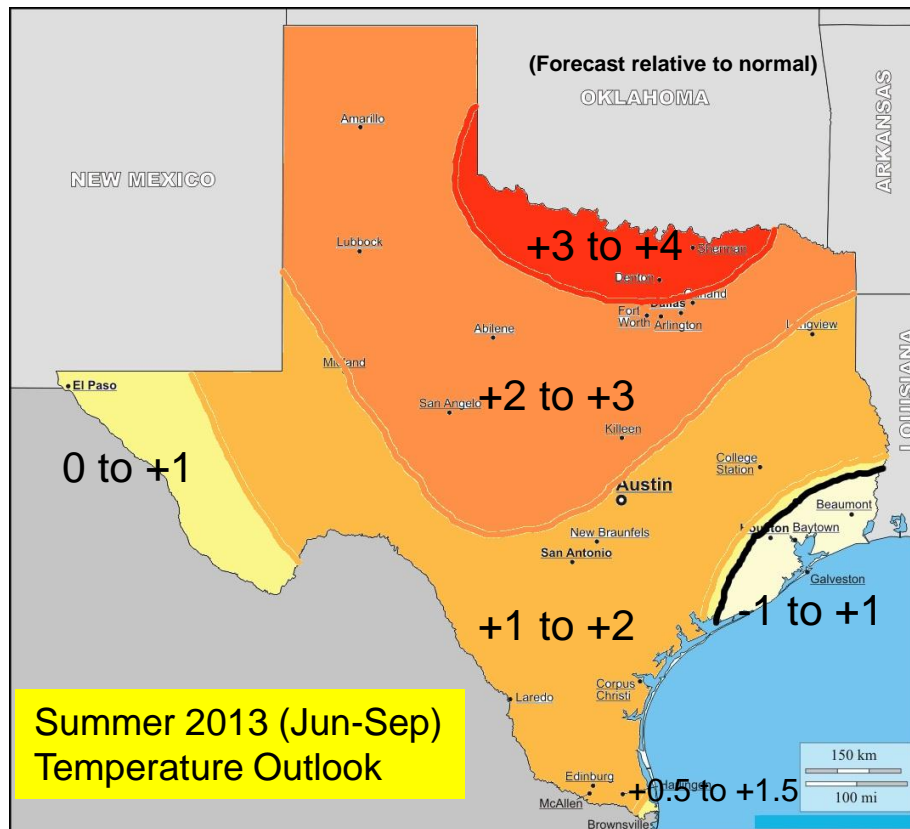
Building the Forecast

- PDO – negative (cool) episode
- AMO – positive (warm) episode
- 200mb anomaly pattern (very basically, jet stream dipped anomalously low West and high East)
- ENSO – Neutral phase with a lean toward La Nina, though not officially La Nina
- Drought – many similarities with 1950s
- Winter temperature pattern
- Winter precipitation pattern

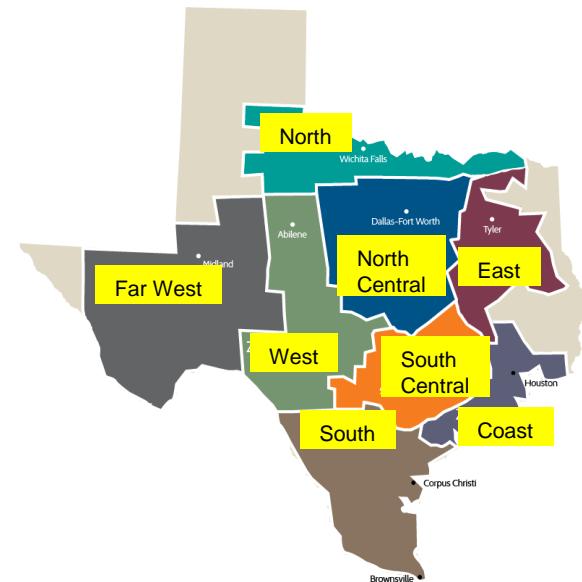
The past three summers have each ranked in the top 15 hottest summers since 1895 for Texas (2012: 14th, 2011: 1st, 2010: 13th).



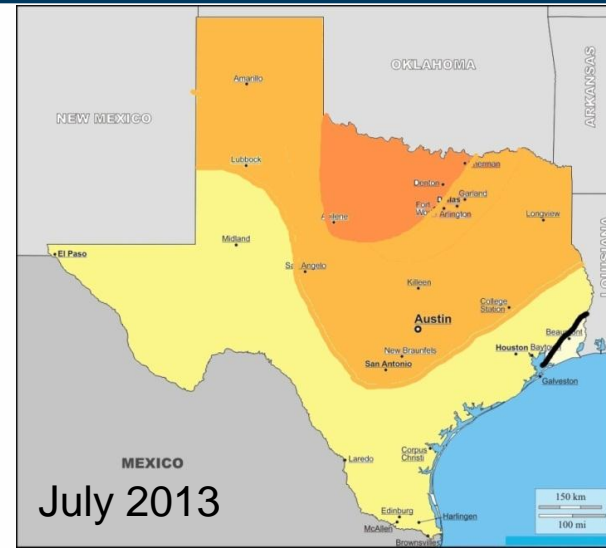
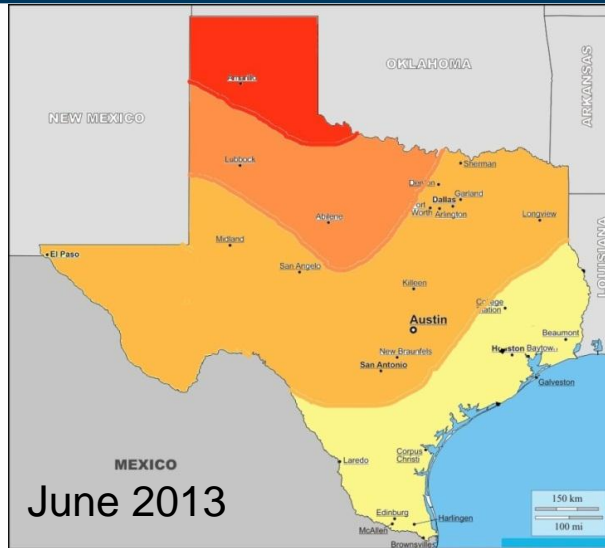
ERCOT Summer Temperature Forecast



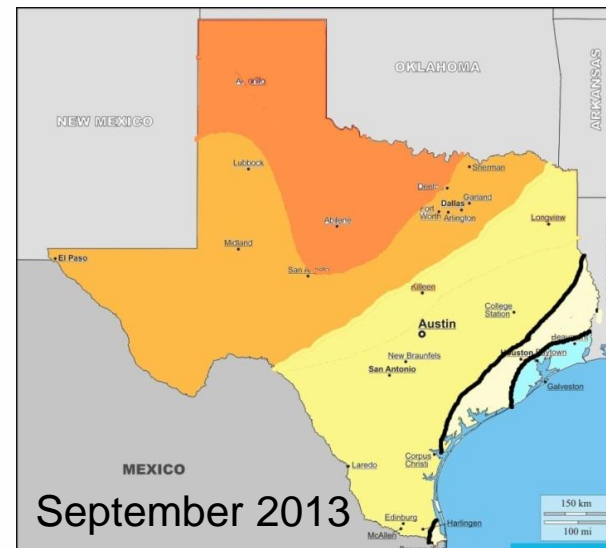
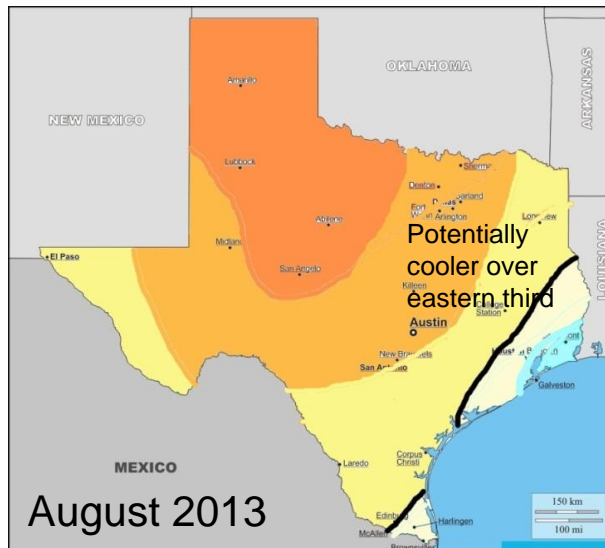
- **1952, 1953, 1954, 1955, 1956, 1962, 1963, 2008, 2009, and 2011** were the top historical matches.
- 2012 is the best match from recent years for load purposes.
- Best opportunity for extreme above normal temperatures will be over North, North Central (including Dallas-Fort Worth), and West zones.
- The Coast zone (including Houston) shows more of a lean toward a less hot (near normal) summer.
- Portions of the South zone – especially east – suggest a milder summer than shown, but current extreme drought in that region should limit the cooler potential. Chance for slightly milder temperatures.



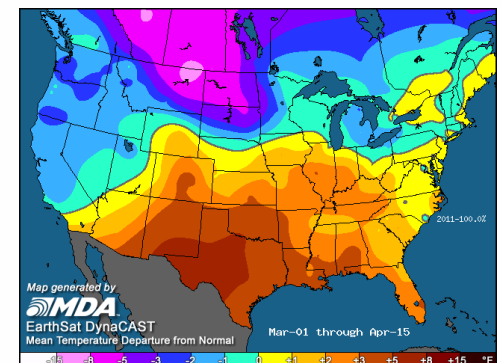
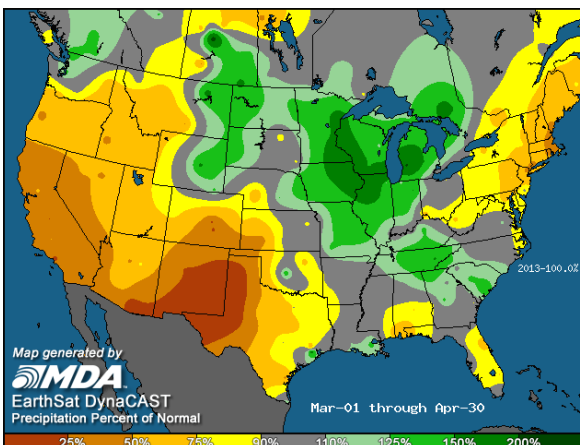
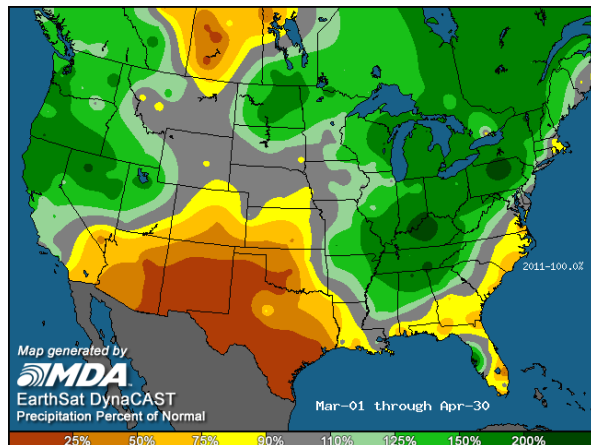
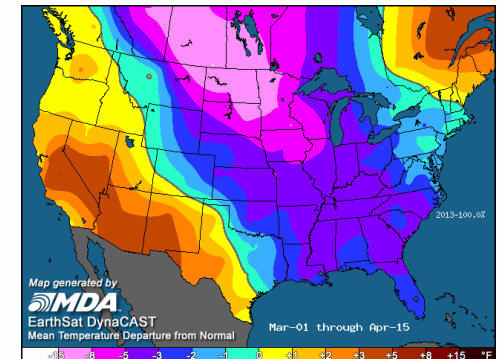
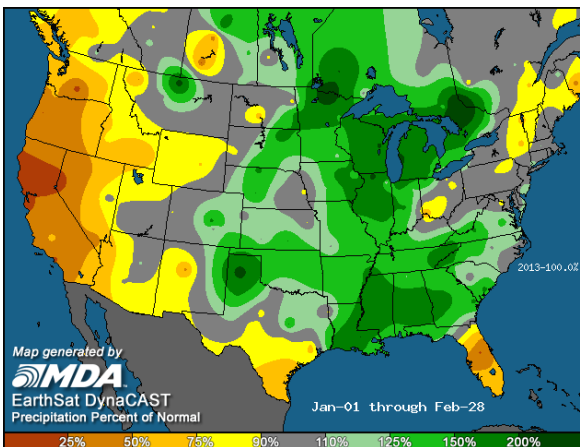
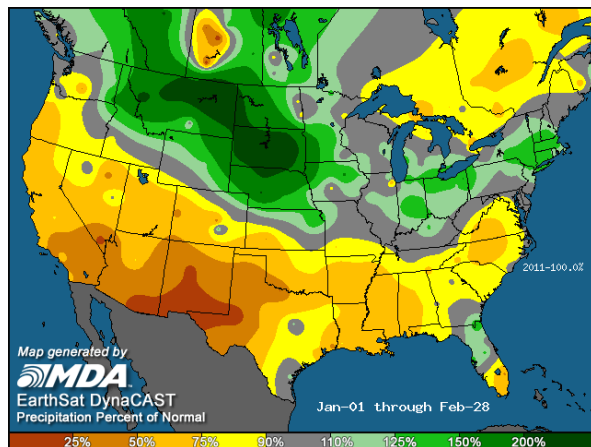
ERCOT Monthly Summer Temperature Forecast



Summer patterns persist month-to-month much more commonly than any other season.



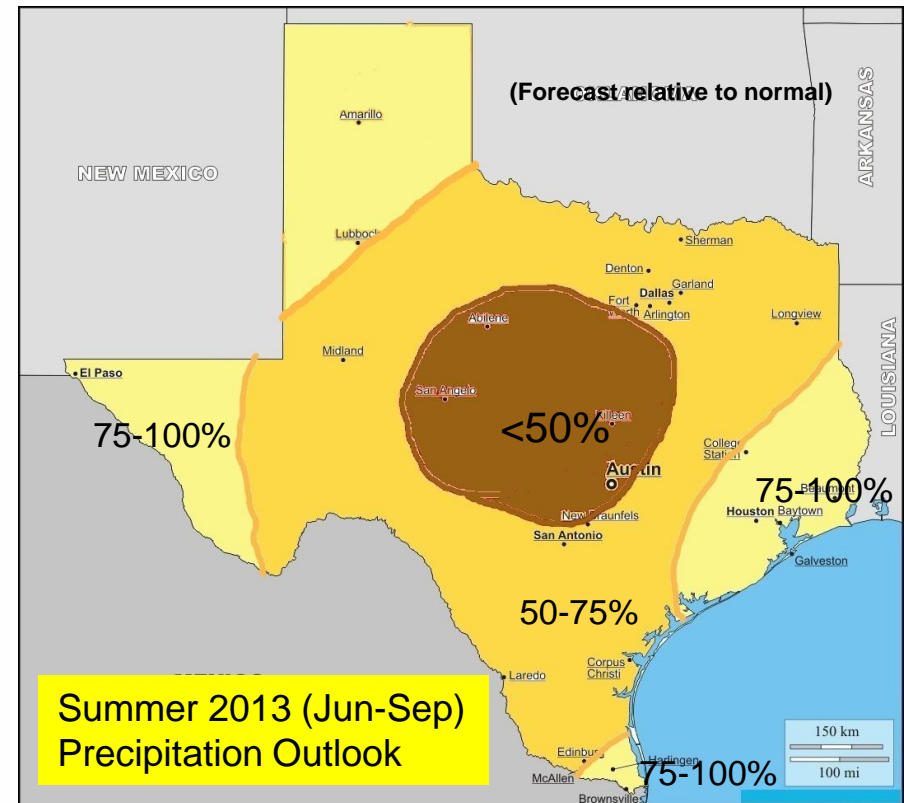
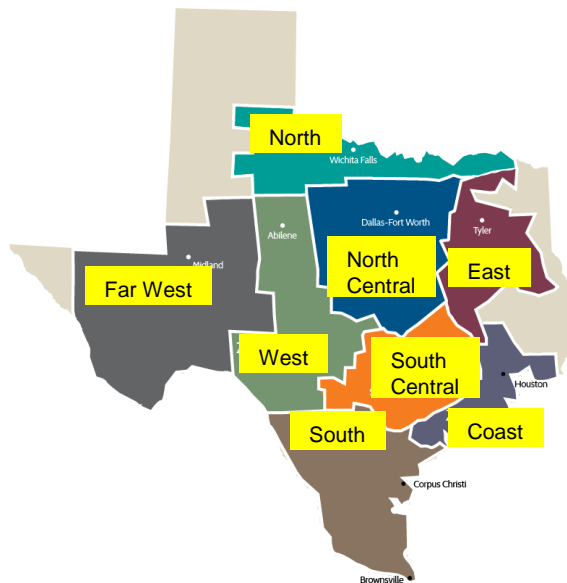
Why Not a Repeat of 2011?



2011 was much drier in the months leading up to summer

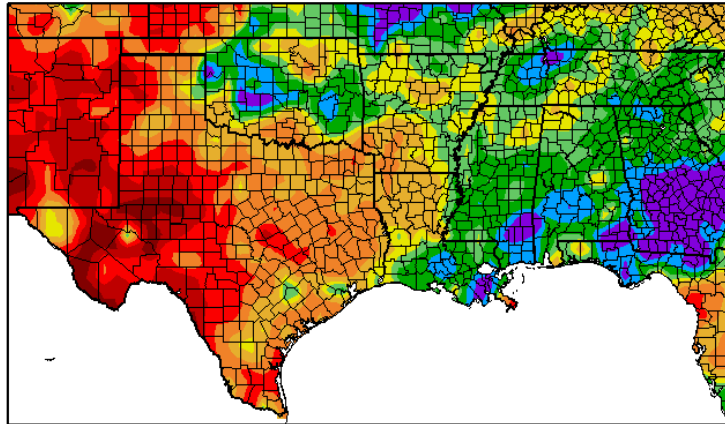
ERCOT Summer Precipitation Forecast

- The PDO-/AMO+ combination continues in place. This supports a long-term drought with strong similarities to the 1950s “drought of record.”
- Potentially drier over the South zone due to the influence of the ongoing extreme to exceptional drought.
- Much in line with the temperature extremes, the strongest dry signatures appear over the North Central, South Central, and West zones.



Drought

Percent of Normal Precipitation (%)
2/1/2013 – 5/1/2013

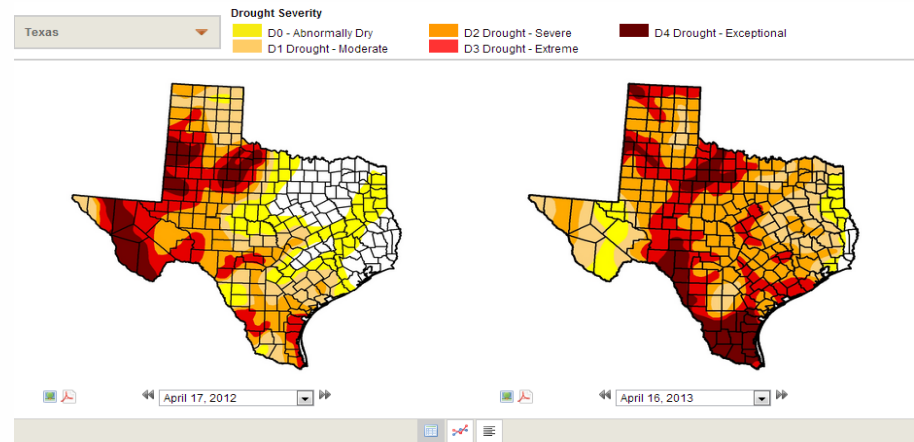


Generated 5/2/2013 at HPRCC using provisional data.

Regional Climate Centers

Past 90 days shows nearly all of Texas with below normal precipitation

Drought 2012 versus 2013



Week	Nothing	D0-D4	D1-D4	D2-D4	D3-D4	D4
April 17, 2012	18.19	81.81	63.82	46.70	26.80	9.64
April 16, 2013						

Hurricane Info and Climatology

Average Hurricane Season:

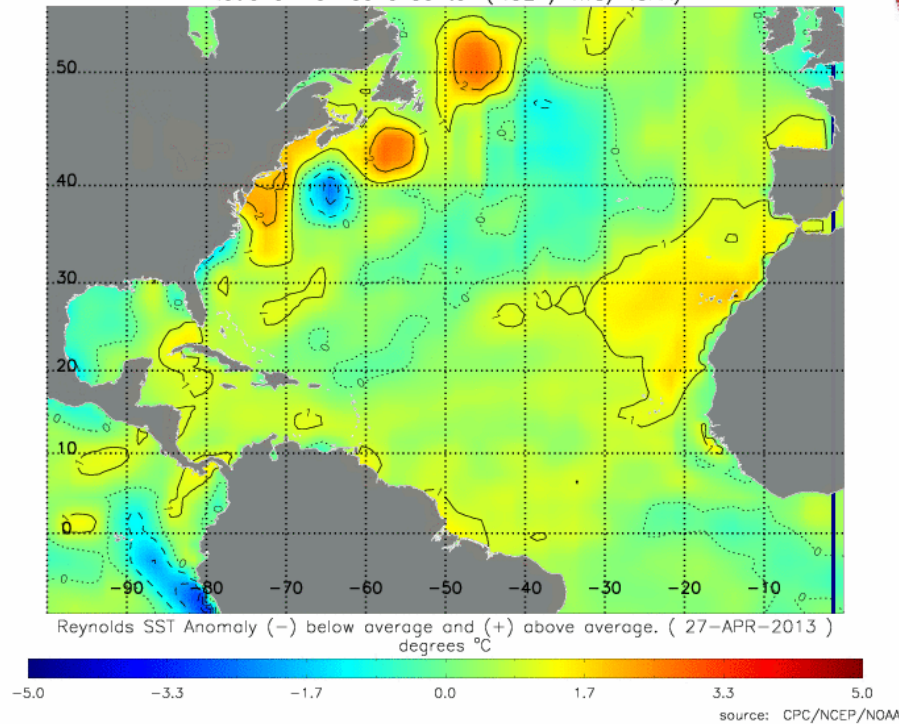
11.3 Named Storms

6.2 Hurricanes

2.3 Major Hurricanes



National Hurricane Center (NCEP/NWS/NOAA)



Storm Names:

2013

Andrea
Barry
Chantal
Dorian
Erin
Fernand
Gabrielle
Humberto
Ingrid
Jerry
Karen
Lorenzo
Melissa
Nestor
Olga
Pablo
Rebekah
Sebastien
Tanya
Van
Wendy

Saffir-Simpson Scale:

Category	Sustained Winds
1	74-95 mph 64-82 kt 119-153 km/h
2	96-110 mph 83-95 kt 154-177 km/h
3 (major)	111-129 mph 96-112 kt 178-208 km/h
4 (major)	130-156 mph 113-136 kt 209-251 km/h
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher

Past three seasons have each had 19 named storms.

Past three seasons have each had a La Nina influence.

2013 Hurricane Forecast

Preferred analogs: 1952, 1962, 2008, 2011

All negative PDO.

'52, '08, '11 positive AMO; '62 neutral AMO (in positive long-term phase)

'52 and '62 ENSO Neutral

'08 and '11 ENSO Neutral mixed with La Nina

A La Nina influence would suggest a more active hurricane season.

At this point, neutral winter → neutral spring → likely neutral summer,
Which is most like '52 and '62 (if La Nina develops, adjustment upward
to forecast needed).

Total Named Storms: 10

Total Hurricanes: 5

Major Hurricanes: 2

Named Storms in Gulf: 1-3

Named Storms in Western Gulf: 0-1

Hurricane in Gulf: 1

Major Hurricane in Gulf: 0 or 1

Named Storms with Texas Landfall: 0 or 1

Hurricanes with Texas Landfall: 0 or 1