

# EarthSat 2015 Summer Outlook



April 7, 2015

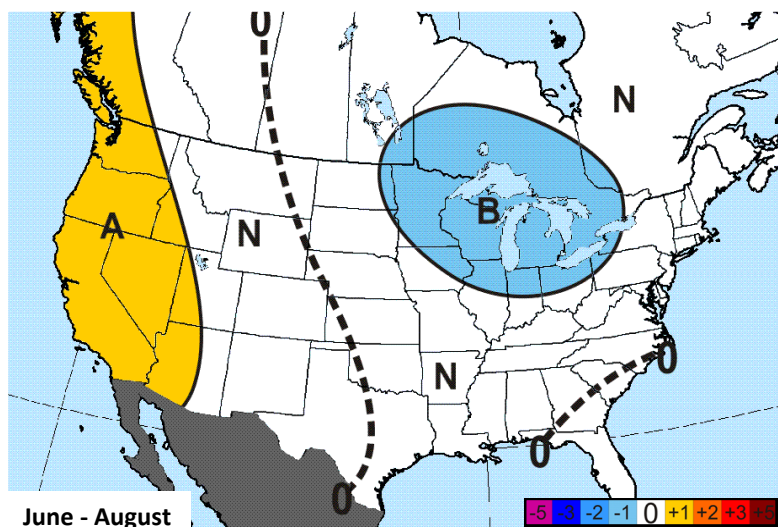
Forecasters: Bob Haas & Bradley Harvey

WEATHER SERVICES

Cool Midwest

Hottest Along West Coast

Below 30Y Normal PWCDDs June - August



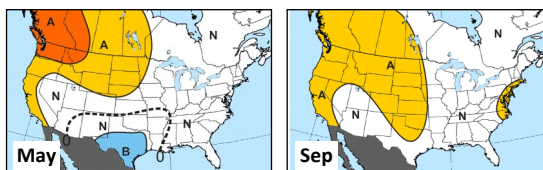
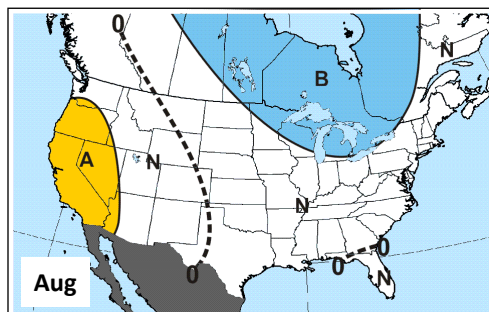
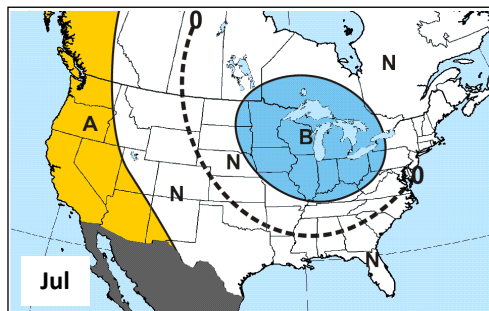
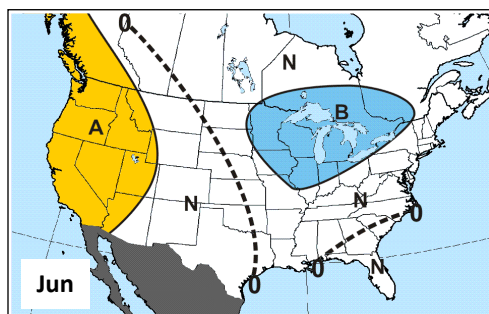
## Summer Forecast Discussion:

The official summer 2015 forecast is for a cooler than normal season with 860 PWCDDs. This is 2.4% below the 30 year normal (1981-2010) and 9.2% cooler than the 10 year normal (2005-2014). Last year's PWCDD total was at the 30 year normal—slightly warmer than this year's expectation. As been the case for the past several months, the +PDO is expected to continue to play a significant role on weather patterns over North America, which when combined with El Niño promotes below normal temperatures focused in the Midwest. Long term trends and drought concerns factor into keeping most areas west of the Rockies warmer than normal this summer.

As with any forecast in this lead time, there are plenty of risks. Within the month by month details, June tends to carry a more mixed to warm risk relative to the other months, which lean cooler with their risks. In the bigger picture, a net warm risk comes from downstream in the Atlantic, where a hotter response to a +AMO is possible in the Eastern US. This risk is notable in the most recent update from the Climate Prediction Center (CPC). An AMO/PDO analysis, however, suggests the Pacific influence will still outweigh impacts from the Atlantic, providing a limiting factor to this risk. In looking at our analogs, the net risk is to the cooler side yet in the Midwest & Northeast.

-Bob Haas/Bradley Harvey

## Month-By Month Outlooks / Population-Weighted CDDs



PERIOD	30Y	10Y	2014	FORECAST
May	109	120	128	110
Jun	231	255	251	225
Jul	338	359	315	330
Aug	312	333	315	305
Sep	173	187	197	180
Jun-Aug	881	947	881	860

## Summer CDDs—Past 10 Years

Jun-Aug	PWCDDs	Jun-Aug	PWCDDs
2011	1038	2013	911
2010	1030	2008	908
2012	1002	30Y Norm	881
2005	969	2014	881
2006	965	FORECAST	860
10Y Norm	947	2009	829
2007	936	2004	771

## 2015 Atlantic Tropical Outlook

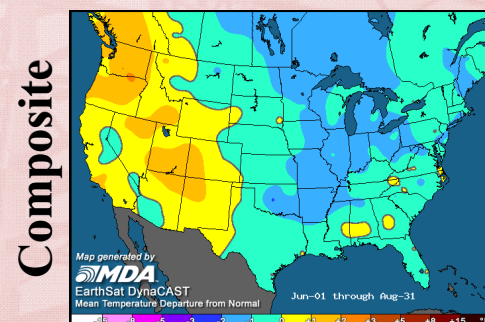
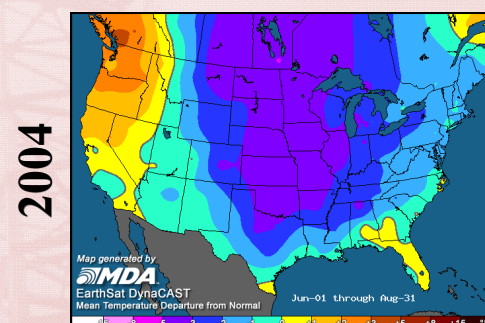
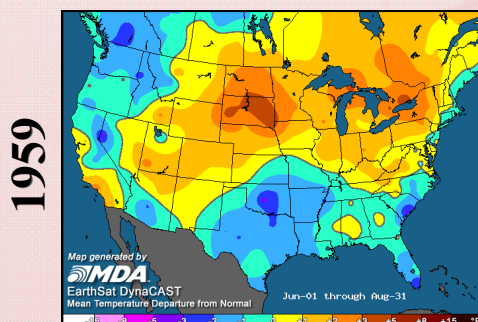
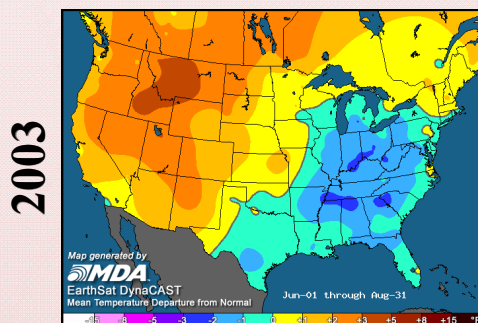
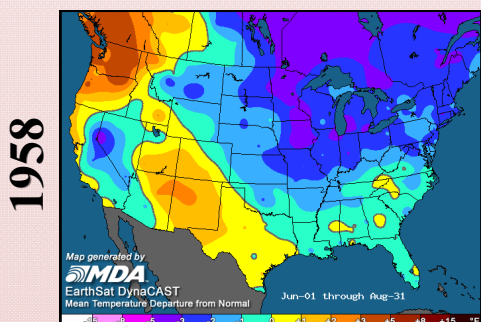
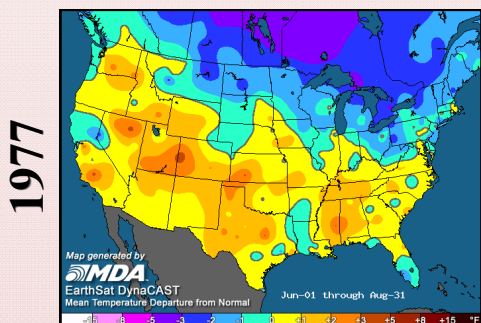
Much like each of the past two years, we are expecting this year's Atlantic Hurricane Season to be fairly uneventful. Last year saw just 8 named storms, and though six became hurricanes, none posed a major threat to North America. That followed a 2013 season that saw only two hurricanes, neither of which became a threat. This year we're forecasting a slight uptick over the 2014 numbers, which should bring the seasonal totals close to the 30y normal. The risk to storm numbers remains more to the downside given the likely continuance of the shear-inducing El Niño, which should sufficiently counter warm water influences of the +AMO. The favored storm track points to more out to sea potential than Gulf of Mexico threats this season, much like has been the case the past several years. None of these factors rule out one sneaky cyclone impacting the Gulf or East Coast, but the season as a whole appears less threatening than average. -Bob Haas

	30Y	10Y	2014	FORECAST
Named	12	16	8	12
Hurricane	6	7	6	7
Major	3	3	2	2



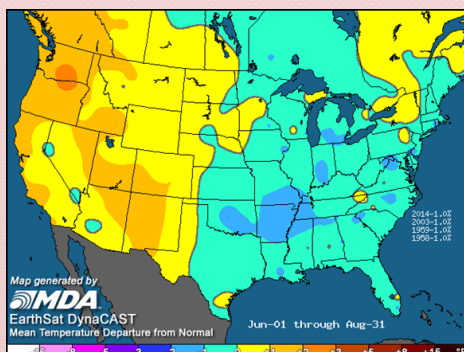
# Preferred Analog Years

	1977	2003	2004	1958	1959	Average
# Of Forecasters	8 of 16	8 of 16	6 of 16	6 of 16	5 of 16	
PWCDDs	893	859	771	813	898	847

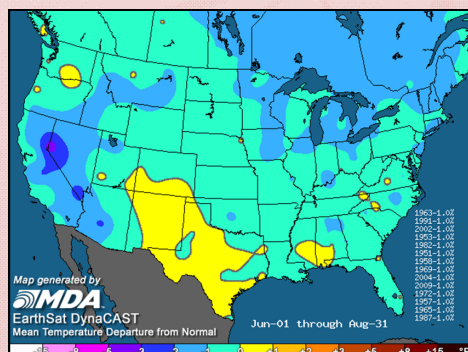


## Favored Teleconnections

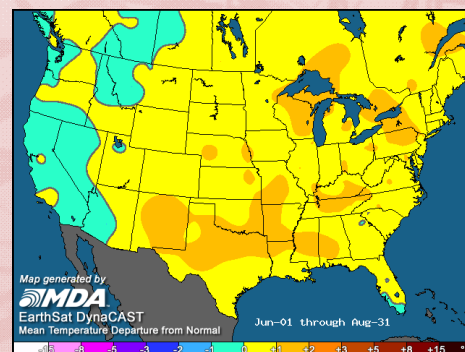
+PDO years in -PDO cycle



Weak/Moderate El Niño

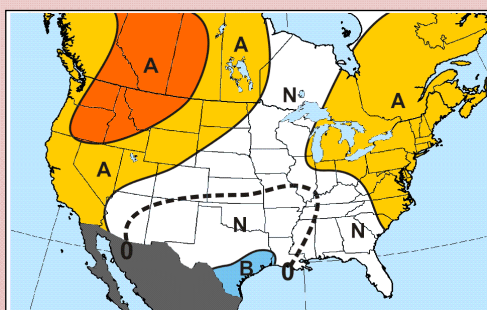


+AMO

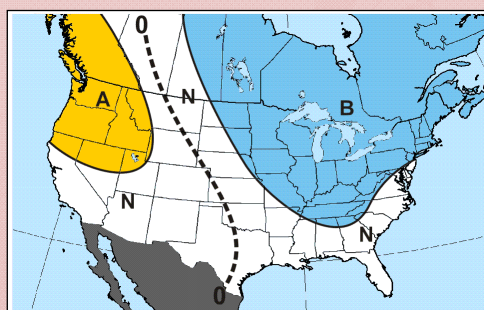


## Alternate Outlooks

Warmest Individual Forecast



Coldest Individual Forecast



CPC (NOAA) Outlook

