Winter Outlook 2017-18

Peeps,

The one you all wait for and want to read about well the time has come!! Are you ready? I am so let's get to it.

Well it I my favorite time of year and season. Holidays are ramping up and soon we'll be with friends and family breaking bread. This year's winter outlook is going to be like the last three I have put together with explanation of the multi variables that will have some type of effect of our winter season.

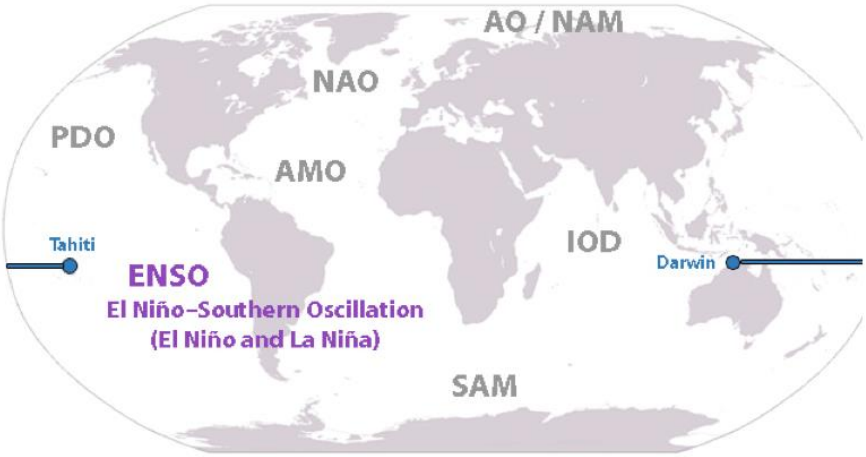
First things first the Godzilla El Nino from two years ago has FINALLY faded this past spring and summer so this is something we don't have to worry about. Why? Because it drove our last two winters one was a fire storm and the other a mini fire storm to put it plainly. Yes, we had a few stretched of cold but amazingly we finished above normal for snowfall those two years and four years in the running for the NYC, NNJ areas. Long Island you have jackpotted so the envy of snow weeniesm comes out and faget abut youts!!

Will this winter be different than the last two? Yes, and no. Please don't say that is will be a torch like the last two overall and we'll be putting the AC on at xmas? No that isn't going to happen and the yes is that we will be above normal in snowfall when all is said and done. The no being it be colder and as I write the arctic front that I said changes are a coming last week well they are a comin' and in a BIG WAY!!

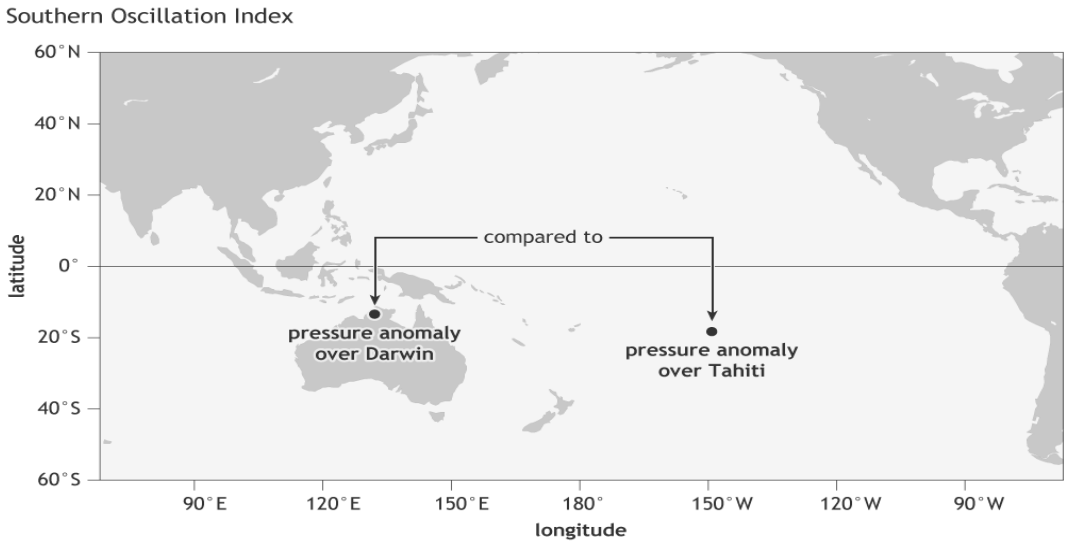
The factors:

Mountain Torque – don't know too much about this but this is a meteorological phenomenon that takes place in Asia, Nepal region that affects the downstream pattern out into the Far East region of the Pacific. My weather weenie friend Tom Stavola is the expert on this and when I read his outlook next week I will be sure to share. The Snow maps at the bottom are compliments of this great young mind!!

OCEAN REGIONS MAP that will be discussed:



SOI – Southern Oscillation Index – the area between Western Aussie land (Darwin) and Tahiti in the Sothern Pacific



If it is negative that usually means a trough along the east coast which in terms means colder and snowier conditions. It was insanely positive in mid Sept through midish October which helped caused our ridiculous warmth that stretch of time. It has retreated to a Negative phase with the pressure difference between the two areas resulting in a Negative Oscillation = Good News

SST – Sea Surface Temperatures

Pacific

The La Nina albeit weak is in the works and better yet it is east based like we had in 2003-04 1995-96 and 1966-67. This means the waters off eh coast of Equatorial South America, Ecuador, Peru region are colder than the waters in the central and ester pacific equatorial regions. Why is this important – cause last winter those same waters off the South American coast were warmer and pumped all that warmth towards us! This time if we can get this to

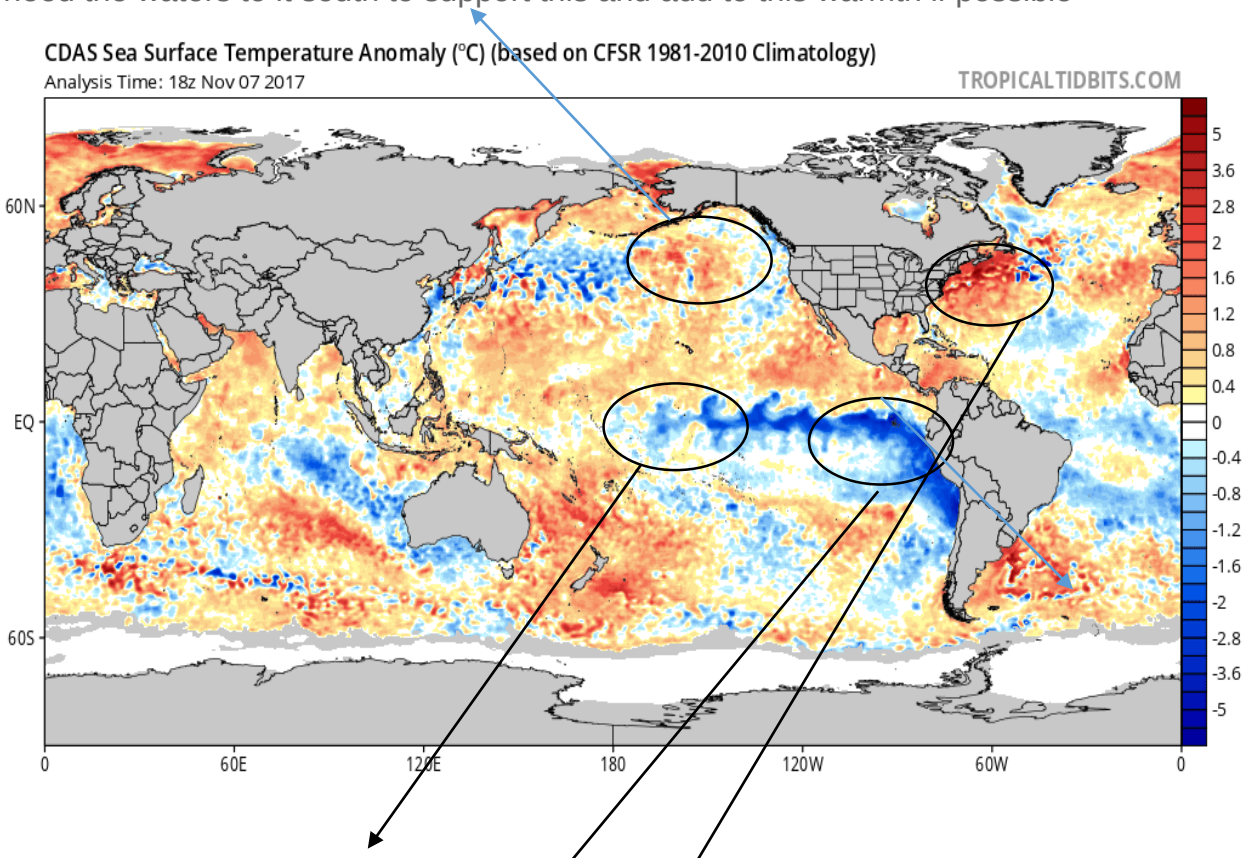
love this poster!!! If we get the cold waters to stay put and we can keep the waters at the same temp or even warm them a bit, then bazinga baby we'll be in 1995-96 type business this winter – that is the mecca of winters – 75" for NYC and 90" for NNJ with 9 days off from school = DOH!!!!!!

PDO – Pacific Decadal Oscillation

These waters are the North pacific off the coast of Alaska down the west coast of North America. Currently we are in a neutral/negative state. But a warm tongue of water that has been pushing or sloshing North East since late September is starting to have an effect on these waters and warm them a bit. If this were the case, then it would help promote a Negative EPO (Eastern Pacific Oscillation – this ain't made up stuff peeps but aren't ya'll impressed so far?? More to come!) This Negative EPO would set up over Alaska region and help drive the cold air from that region and west down into the Midwest and into the Mid-Atlantic and northeast quadrant of this great country. This will help keep us cold for when wetness comes along it will be white!

The blue is the cold waters

EPO (Eastern Pacific Oscillation) region that is warming – very good sign need the waters to it south to support this and add to this warmth if possible



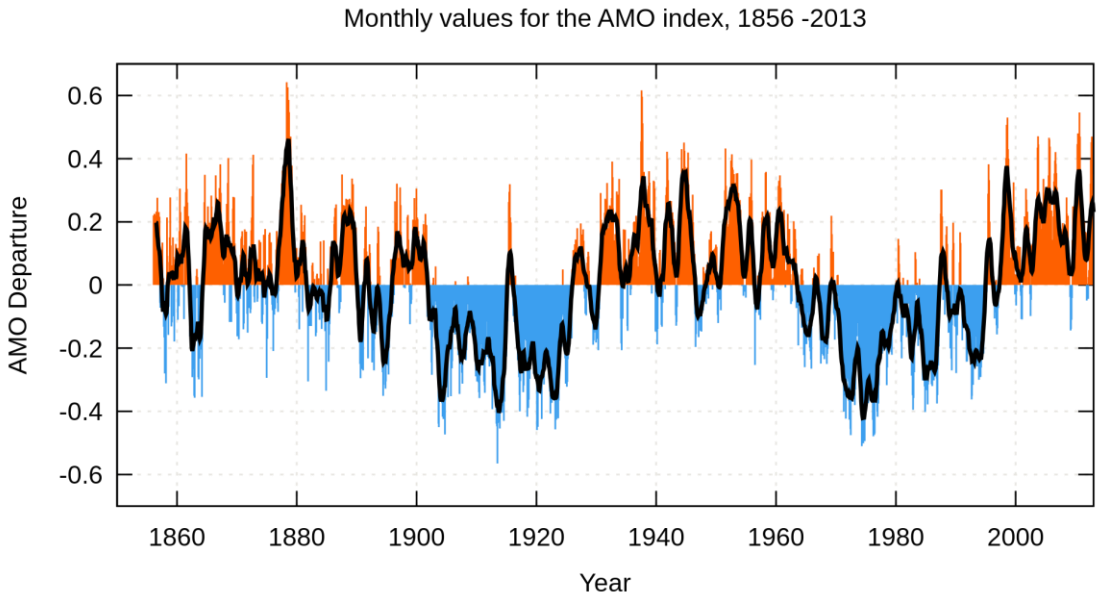
Region 4 and 3.4 of the Equatorial Pacific need to keep this warmer than 1.2

Region 1.2 of the pacific and this is very cold waters – need this to hold and from the looks it will so as to not flood us with warm air.

This is the AMO (Atlantic Multidecadel Oscillation) that is positive that will bring and enhanced the precipitation and moisture in our storms. This warm water will help I

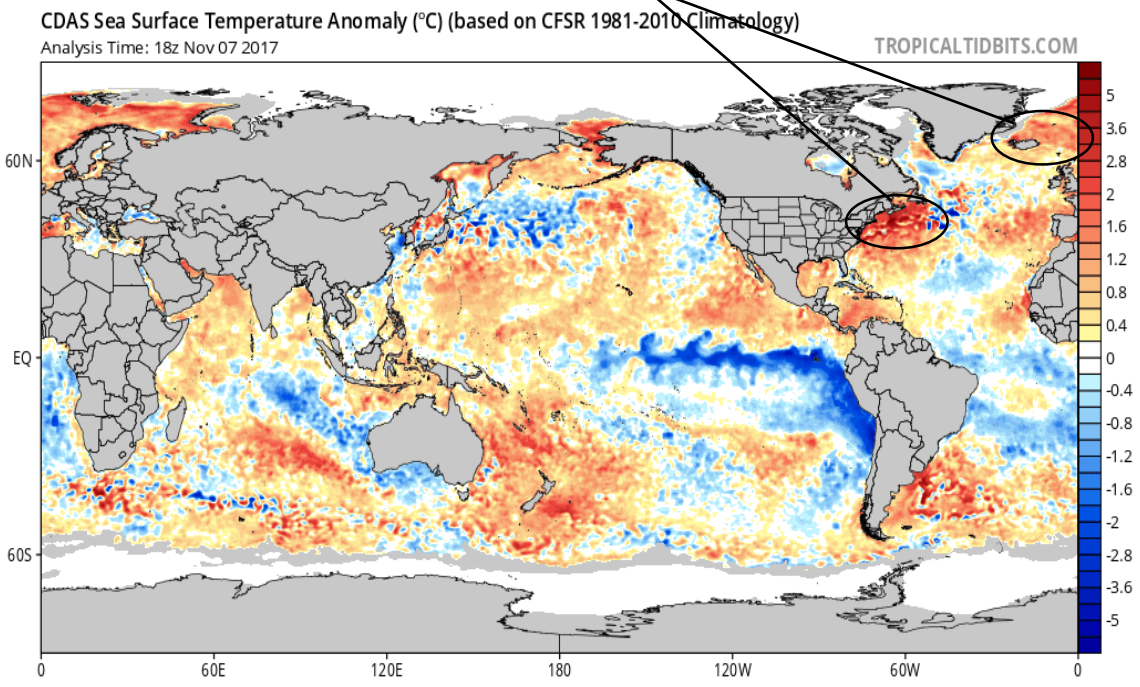
making our storms stronger and explode when they hit this region as a coastal or even an Alberta Clipper as it hits the coast.

Here is the chart on this



NAO = North Atlantic Oscillation – this is very important to locking in cold air and slowing down coastal storms and allowing them to bomb out and mature. This means the water temperature sin the North Atlantic.

This area allows for an east based block and these warmer waters usually will promote such a block



Solar – the sun.

QBO - The **quasi-biennial oscillation** (**QBO**) is a quasiperiodic oscillation of the equatorial zonal wind between easterlies and westerlies in the tropical stratosphere. So what does this mean.

Well we had a strong westerly QBO which meant the winds blew westerly in the high altitude above the earth's surface. This allowed for low Atlantic Blocking and a stronger Polar Vortex. This is what we usually get during an El Niño to help enhance the warmth base state of the air that blows over our land mass called North America.

Now this oscillation has reversed from a +14 last winter to a – 13 presently. A negative QBO usually promotes Atlantic Blocking that helps lock in the cold air and storms along the east coast.

When Solar I slow lots of things are happening on planet earth. One such thing is that geomagnetic events take place such as earthquakes, volcanic eruptions. There is a direct link to such and we have seen this happening with much more frequency as of late. Solar is moving to what is referred to as solar minimum. This means less solar flares and coronal holes which heat up the earth's atmosphere and this propagate down to the surface. So far this year

Spotless Days
Current Stretch: 6 days
2017 total: 74 days (23%)
2016 total: 32 days (9%)
2015 total: 0 days (0%)
2014 total: 1 day (<1%)
2013 total: 0 days (0%)
2012 total: 0 days (0%)
2011 total: 2 days (<1%)
2010 total: 51 days (14%)
2009 total: 260 days (71%)
Updated 07 Nov 2017

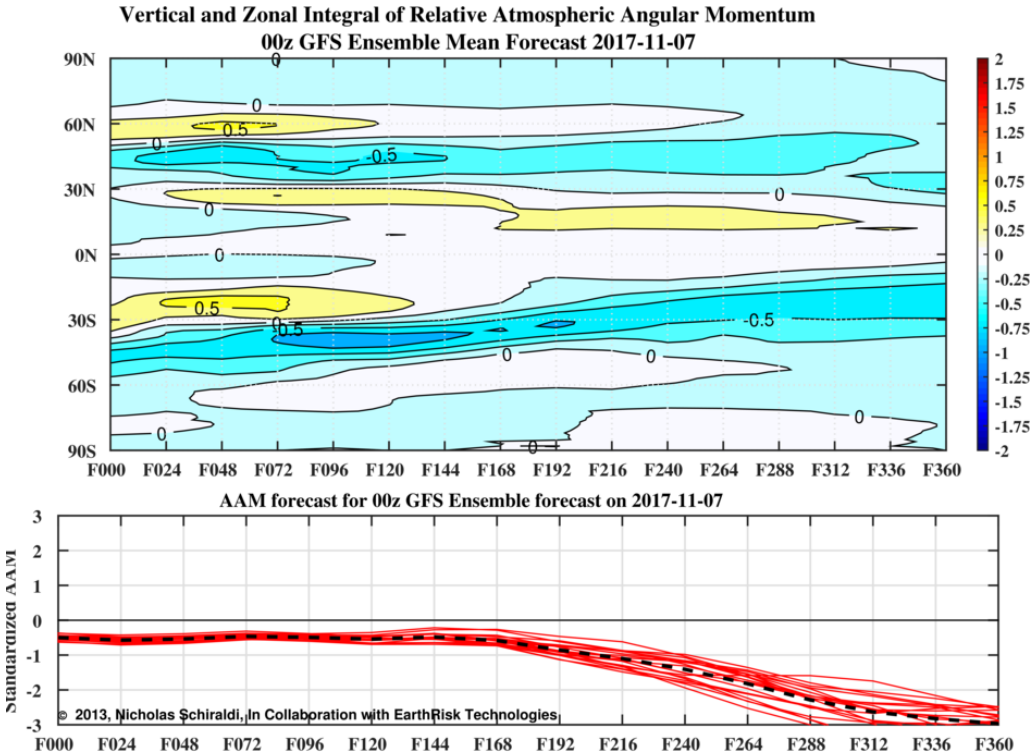
This is big because low solar and less activity of the sun helps promote what is called high latitude blocking – Greenland block, Scandinavian Block or a Davis Straits Block.

Now how long will this solar minimum last you ask? Great question – right now scientists are thinking until about 2021 some have argued till 2028 - 11 years!! But 11 years is the average age of the solar cycle so only time will tell. If we have this for 11 years, the earth no doubt will cool remarkably to present temps like we did in the late 60's through late 70's. Anyone remember time magazine front covers in 1977 and 1978 – they actually pulled them (we know what they support now)

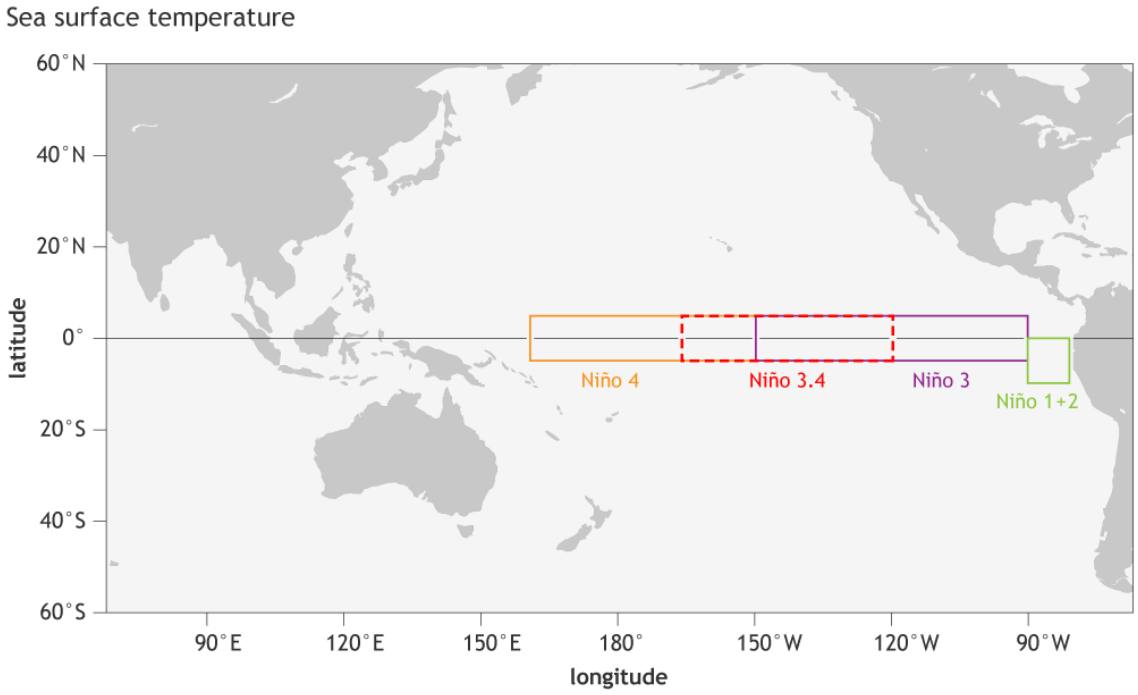
AAM = Atmospheric Angular Momentum

"a measure of how fast the atmosphere is spinning relative to the Earth's rotation, is a complex variable that can offer insight to particular flow configurations within the atmosphere. "

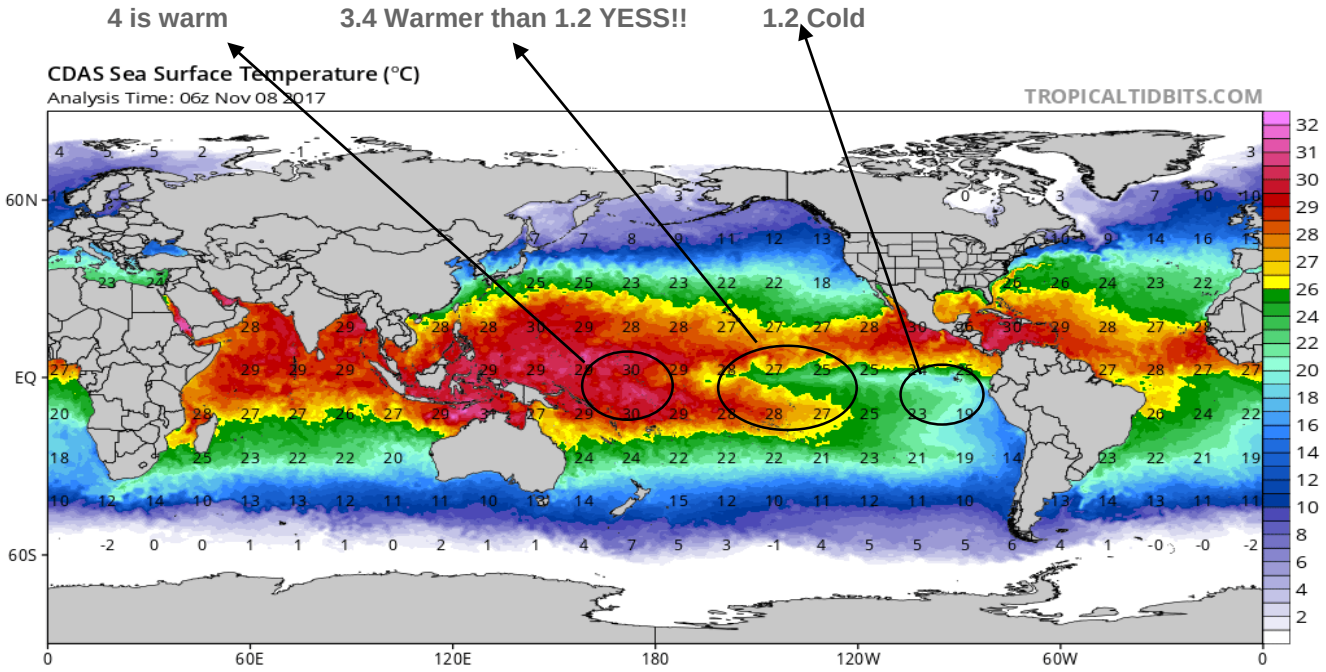
It has been negative lately causing a buckle in the Pacific Jet that has allow2ed colder air from Siberia and the North Pole to move southward. It is forecasted to move to stay negative state which should help keep our neighbors to our North cold and a deep snowpack which in turn will help our cold flow of air when the winds come from the N, NE and West. See the red line go down below -



ENSO Regions – these regions on this map have a direct influence on our weather patterns for the fall, winter and spring. If one region is warmer or colder than another region it will “drive” the pattern. Last year’s driver was region 1.2 as it warmed considerably with the QBO state being strongly positive. This year as I mentioned the QBO state is strong Negatively so the warm waters is being blown away from the coast thus allowing the colder waters that sit underneath this surface water to rise up and promote cold air and SST. Here is the ENSO chart of the regions. Ideally for a good winter driver we want region 1.2 to be the coldest and region 3.4 and 4 to be warmer than 1.2 so as to get convections (thunderstorms) and lift in the atmosphere to help bring us the goods – COLD and WHITE GOLD!!



Current Water Temps and Charts – dateline is 180 and you see all the warm water around to the east of that region in Region 4 and 3.4 is a VERY GOOD SIGN!

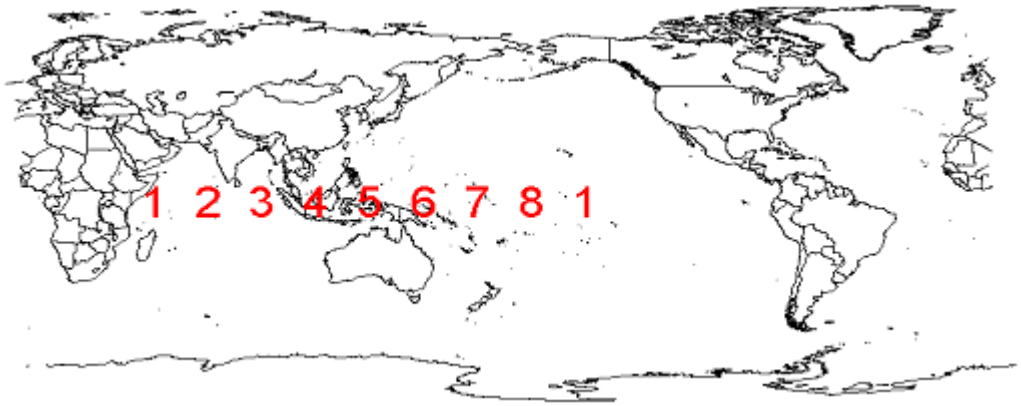


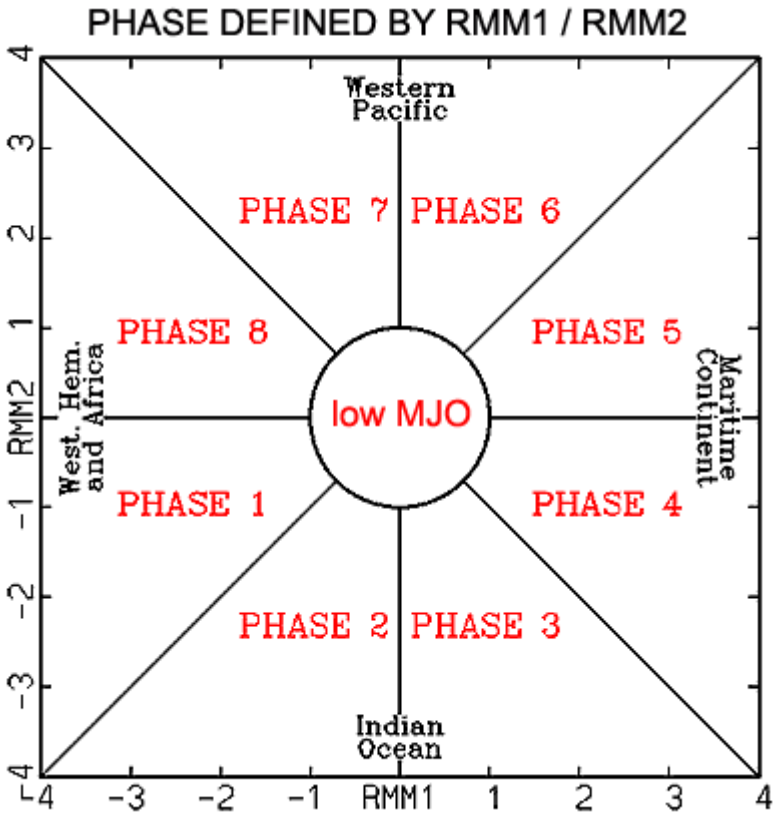
Depth of the water temperature

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/sstanim.gif

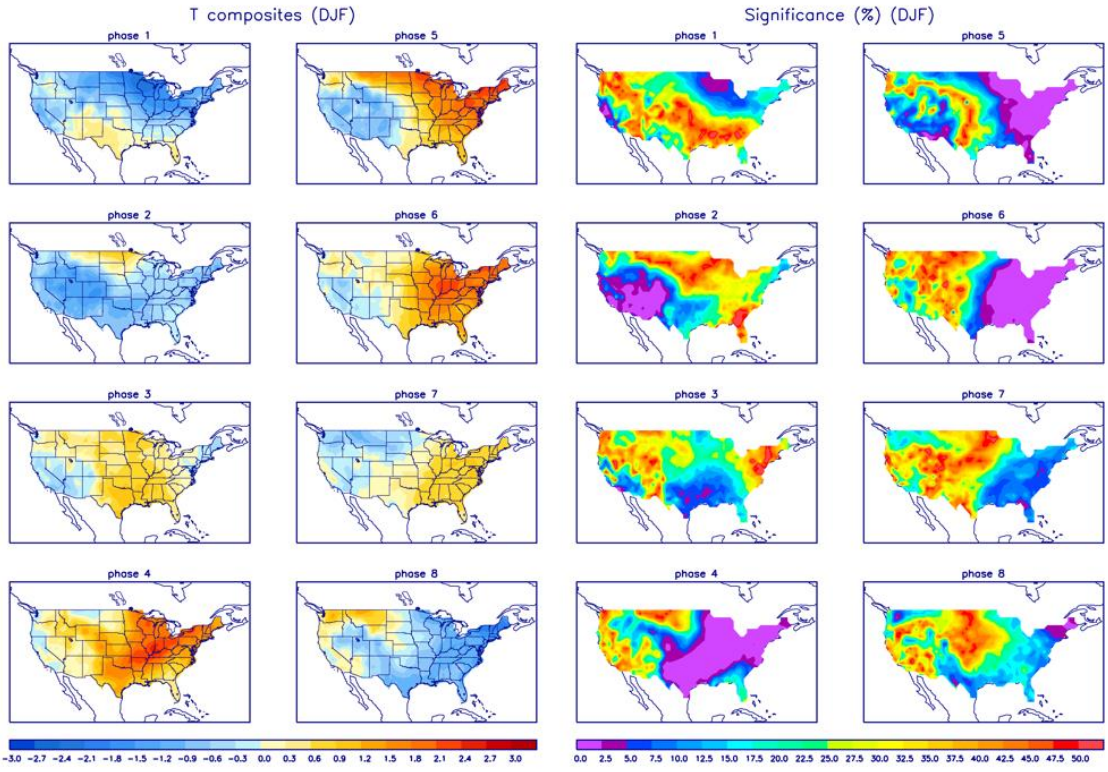
MJO = Madden–Julian oscillation

It is mostly the winter we look at the MJO to see if we have strong pulses or waves that influence whether we 'll have arctic outbreaks, coastal storms, cutters or warmth. Here is a link that discusses this weather phenomenon.



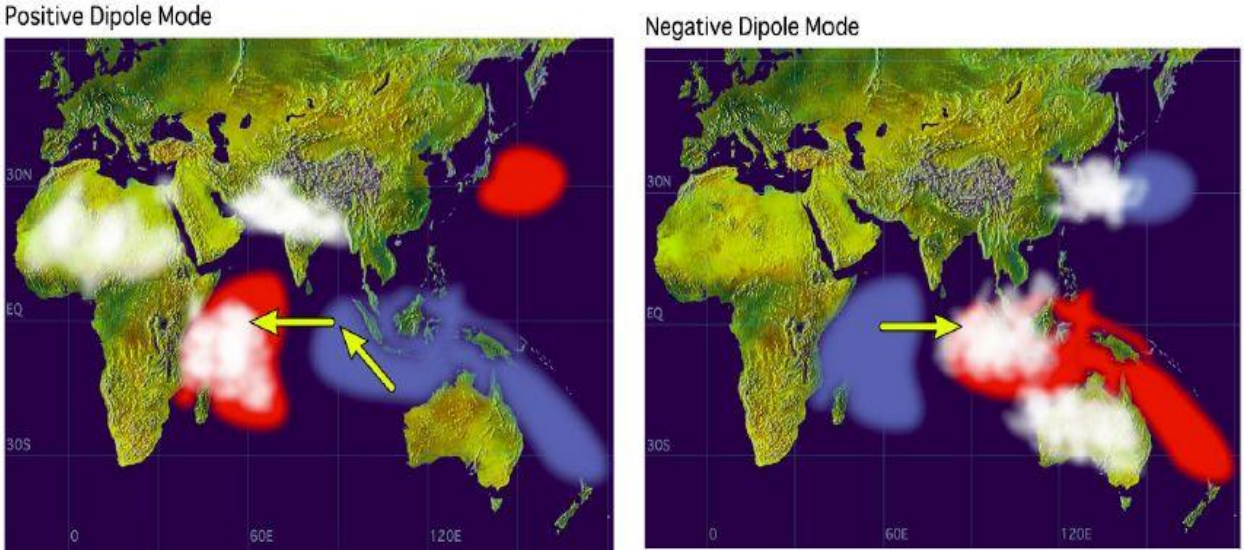


Phases of MJO in term of temperatures for our area for December, January and February – PAHSES 1,2 ,8 BABY!!

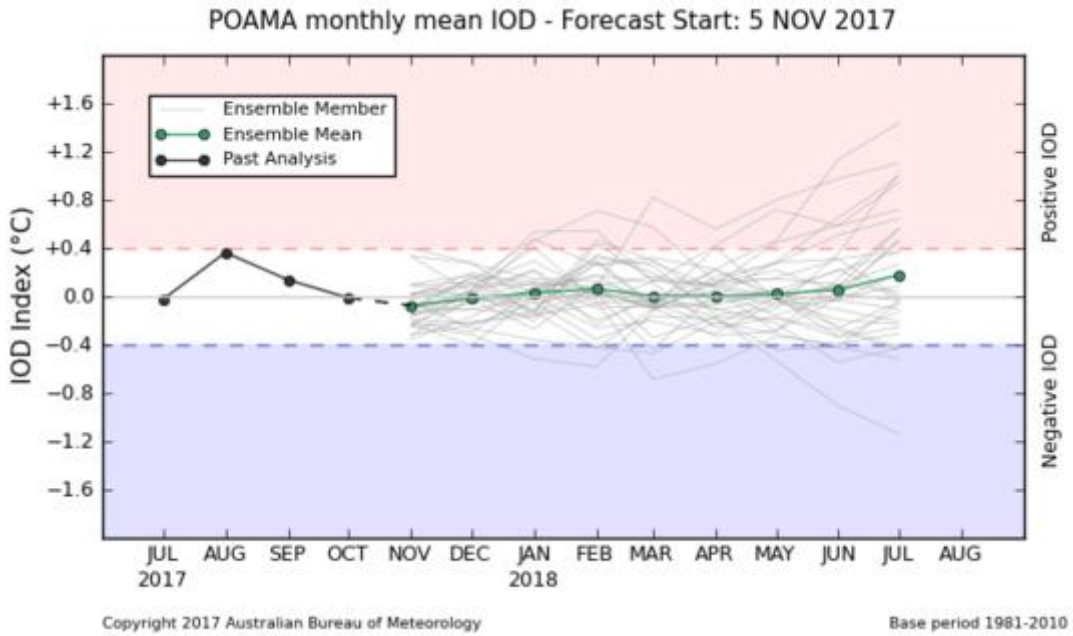


IO – Dipole

Indian Ocean Dipole – the 2 phases



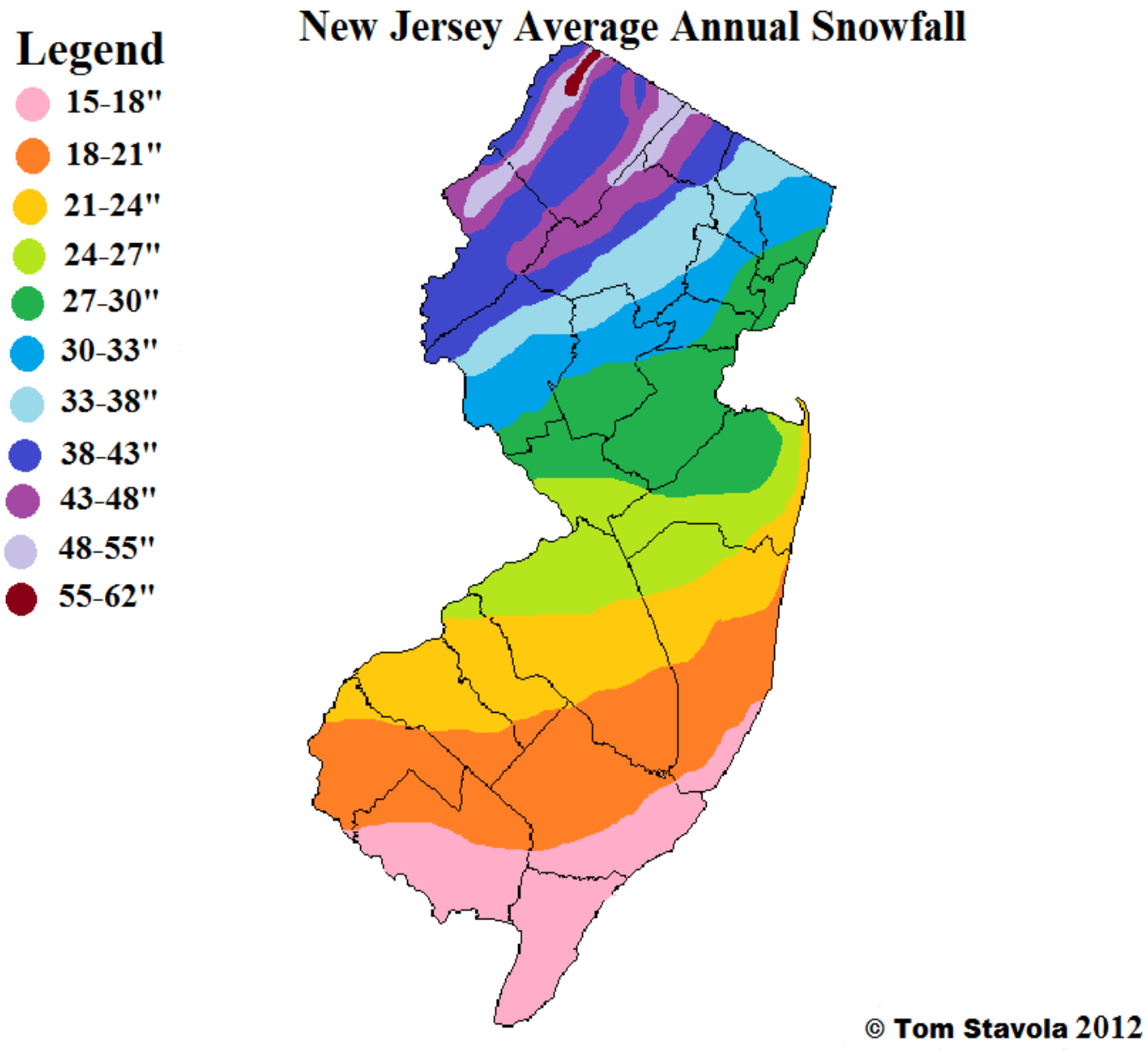
FORECAST is to be Neutral which will help with whatever MJO phase and La Nina phase we have since it will not override these but yet let them enhance the pattern. In 2016 the IO phase very positive which in turn enhanced Nino even more and it was a driver last year as well.



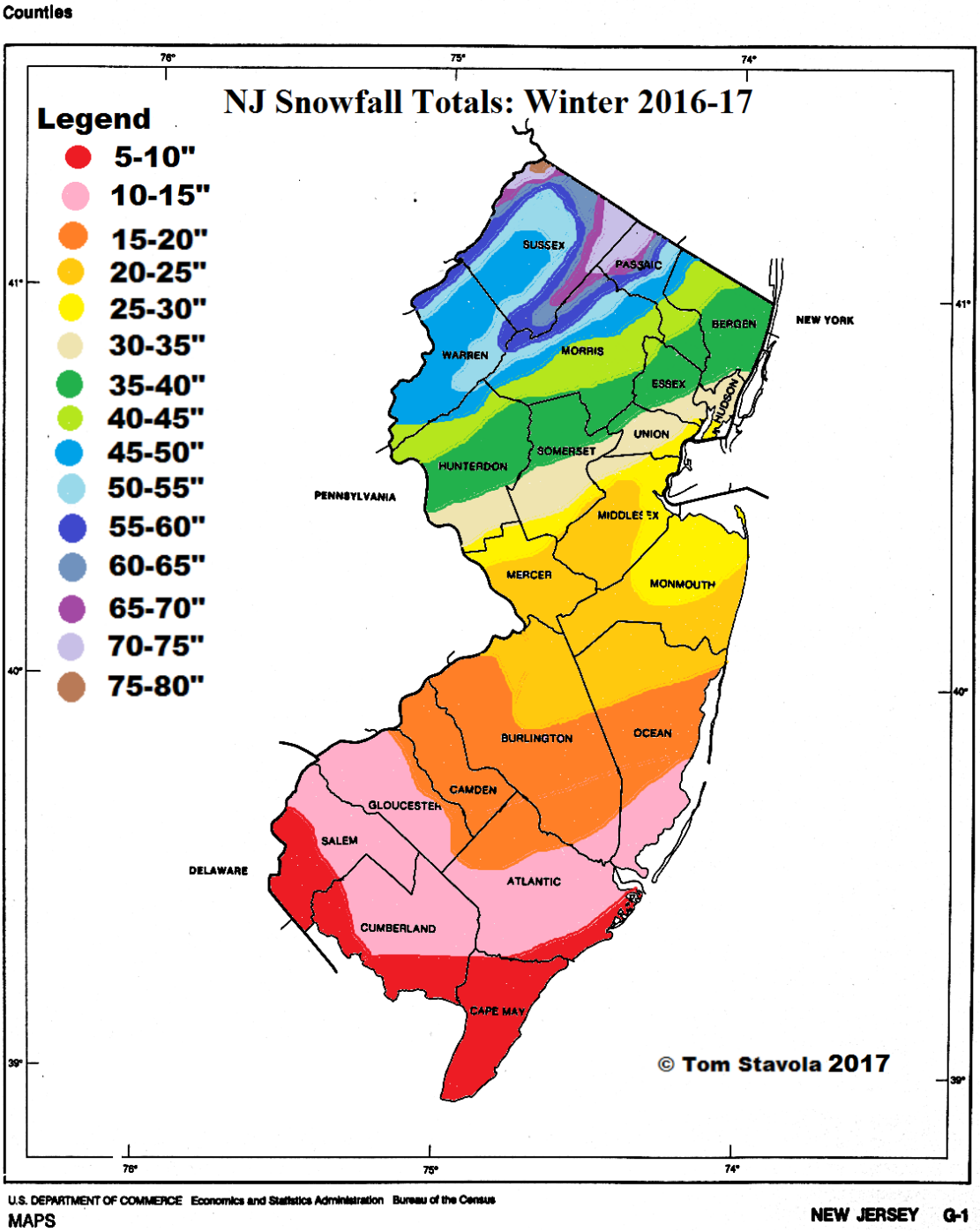
Analogs Maps

1950, 1995-96, 1966-67,2002-03

Snowfall maps – Tom Stavola site average snowfall – he does an awesome job thanks Tom for allowing me to use this document!



Last year – Above Normal Snowfall



Month by Month call

December

BN by 1 – 3 degrees possibly

Snow - Above Normal – (8-12”)

Dec 2-4 Time Frame +/- 2 days – Snowstorm potential

Dec 21-23 Time Frame +/- 2 days – Snowstorm potential

January

N – BN range for 1 to -1 degrees

Snow - Normal to Slightly Above Normal (8-12”)

January 17-19 – BIG STORM POTENTIAL

February

Normal temps

Snow - Normal (8-12”)

Feb 3-4 Time Frame – East Coast Snowstorm Potential – could be the end of winter soon after this possibly

We may flip to spring mid-February if the pattern relaxes BUT if it doesn’t then I think we flip after the first 1/3 of March

March

– We flip to spring after the first third time frame possibly

Normal to AN Temps

Snow – if we can get a well-timed storm or two maybe = Normal to AN

Overall Winter December to early March

I think it is more snowfall and cold North and West of the coast and they FINALLY go back to normal amounts like the Jersey Shore and Long Island – grrrrrrrr!!

Temperatures about Normal to BN (-2) overall

Snowfall Amounts – this is tough to call as it is every winter so here is my thought on this

NNJ – 38-48”

NYC Metro 30-36”

LHV – 42 – 52”

In a nutshell the East QBO along with Low Solar and a weak La Nina with colder waters (if they hold) off the Equator of South America will produce a winter that MAY go down as one to remember. If the waters cool too much in regions 3.4 or waters warm in region 1.2 then it may wind up a dud – CYA here folks LOL!! I believe in the first part (I am a frickin’ winter weenie what would you expect!!)

If I need to update this forecast, I shall.

I certainly hope you enjoyed this analysis and write up and fingers crossed that it comes to fruition or even better not worse!!

AL Q