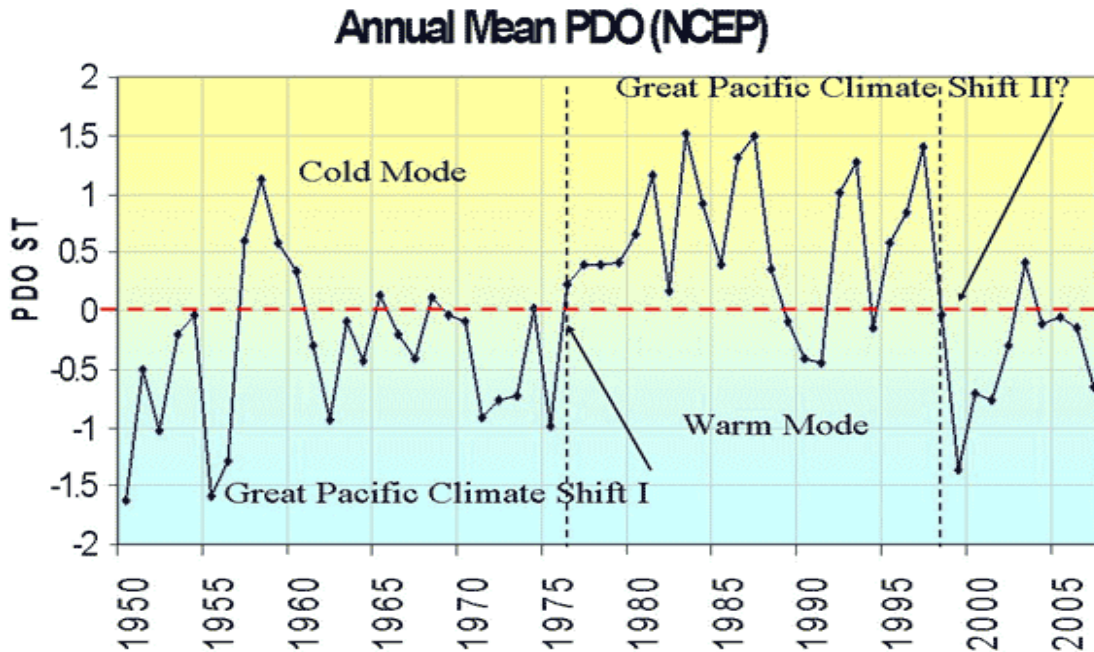
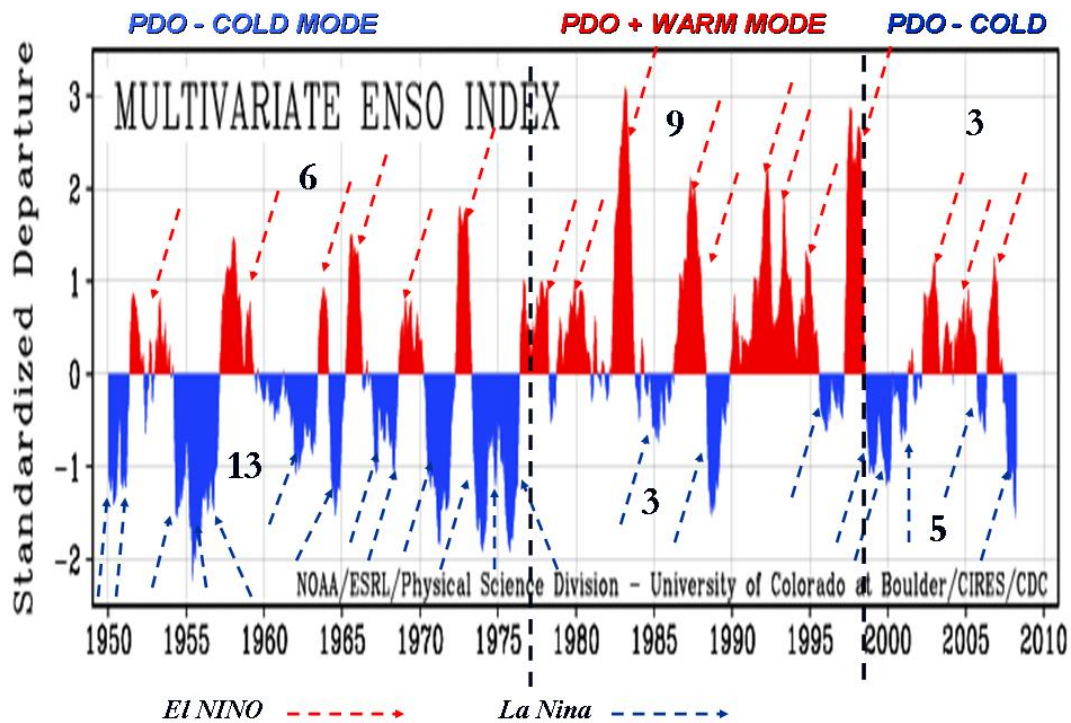


## ENSO AND MONTHLY GLOBAL TEMPERATURES

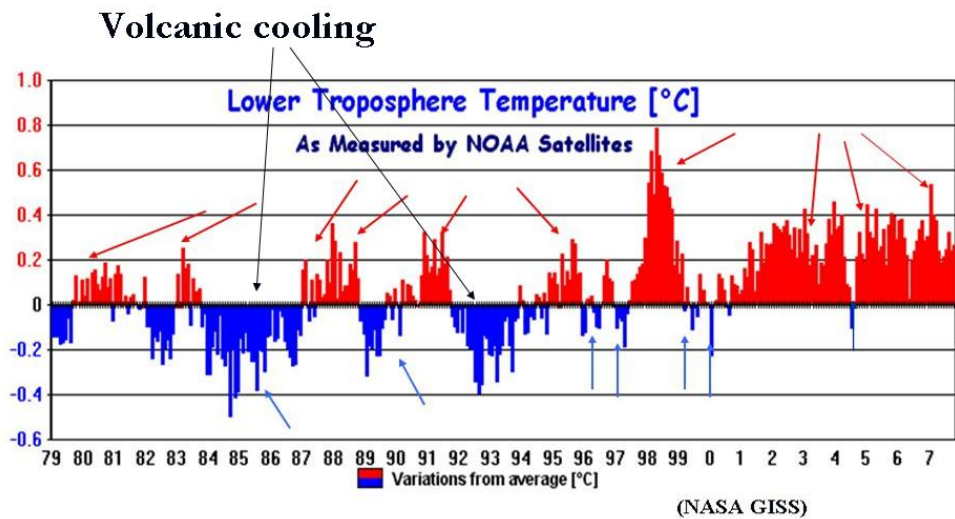
In a recent story we showed how the PDO cycle related to the relative frequency of El Ninos and La Ninas and through that, global temperatures. This is the case because El Ninos lead to global warmth and La Ninas a cooling.



You can clearly see on the chart of Wolter's Multivariate ENSO Index (explained [here](#)) the predisposition for more and stronger La Ninas and fewer weaker El Ninos during the cold phase of the PDO and more and stronger El Ninos and fewer cooler La Ninas. I have chosen the MEI because it is relatively stable more steady month-to-month because it includes a combination of the ocean and atmospheric parameters. The SOI (Southern Oscillation Index) measure the atmospheric pressure differences (Darwin to Tahiti) which are subject to both the ENSO state and the Madden Julian Oscillation and thus bounces around more week-to-week, even day-to-day.



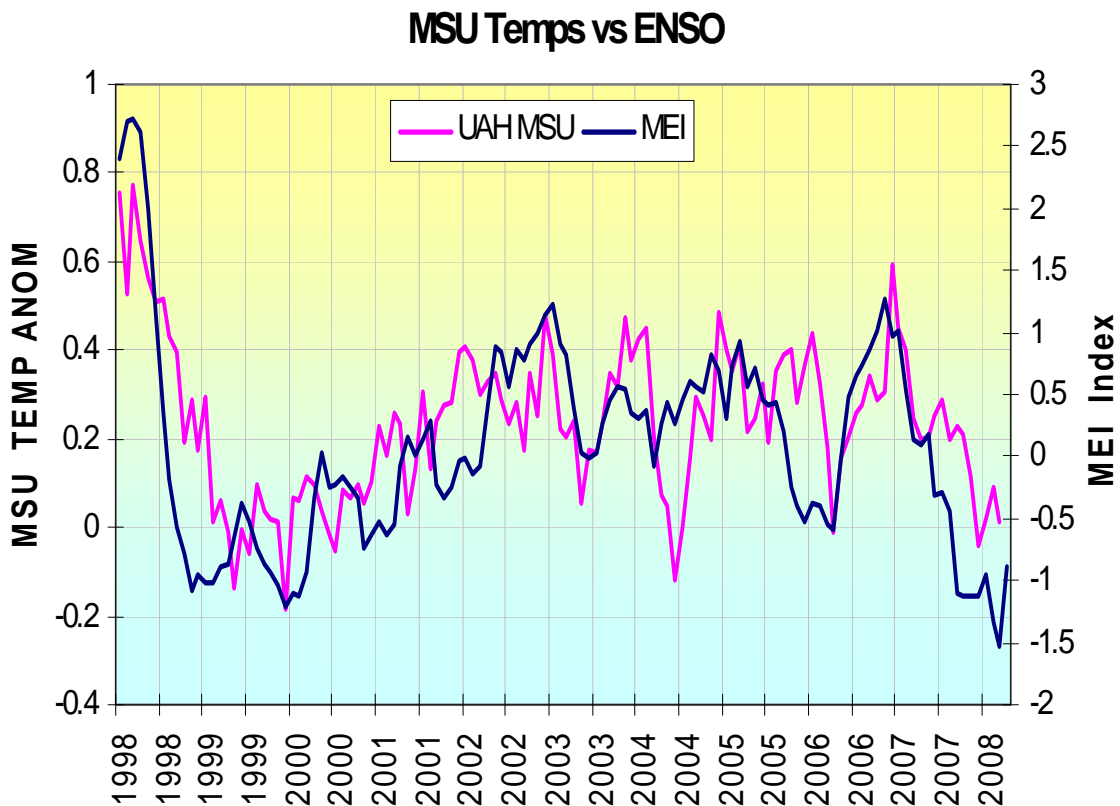
You can see how the ENSO state affects global temperatures (as determined from satellite) here.



*El Ninos lead to global warming and La Ninas to cooling*

*MSU data Spencer Christy*

The last decade, we see how well the monthly MEI correlated with the global temperatures. The correlation (Pearson coefficient) is 0.60. There appears to be a lag of a few months from the diagram and indeed if we lag temperatures 3 months to MEI, the correlation jumps to 0.68.



### *Summary*

The PDO is clearly a driver in global climate affecting the relative frequency of El Nino and La Nina and through that, global temperatures (and as we will show in a future blog storm track and precipitation).

ENSO clearly correlates with global temperatures.