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Abstract for Presenting

When it comes to winter time in the Great Lakes, the weather is often said to be unpredictable and often long term forecasts are proven to be erroneous. Despite this, the weather does offer signals and patterns that may be overlooked if you are unsure of what you are looking for. While perfecting long range forecasts for the Great Lakes is still a long way out, there are events easily predictable that can offer a great insight on what to expect down to a week in a region. These events, which are becoming more known and understood: El Nino Southern Oscillation, North Atlantic and Atlantic Oscillation. Surprisingly, thorough review of the seasons with specific categories that will be presented reveal a surprising pattern in the temperature and precipitation that can, with the aid of statistical analysis, help to create a better long range forecast model, and so far statistical analysis has provided strong correlations within the findings and trends between the predictions and actual events of the seasons.

Like the Model Output Statistics (MOS) which help local forecasters with the surface aspects of a daily forecast, this research hopes to yield a model which forecasters at all levels can use to get insight on what is to be expected over a month in advance. How detailed is the research? Incredibly detailed; with new ways of looking at long term weather systems, and new ways to categorize each winter season and its associated events. With statistical analysis and thorough review; a blizzard in January can be predicted down to the week before the Thanksgiving season even arrives! Cold snaps in February may be easily detected as early as December. Depending on the characteristics of the oscillations, that alone can be enough to help long range forecasters predict potential blizzards at least two months in advance, cold snaps and late season snow storms before the winter even begins.

I guess for clarification: I would like to show other meteorologists my findings so far, which may allow them to potentially add to the research and help expand upon it. I intend to summarize what has been done as well as how the data has been analyzed so far. The research will help to improve long-range forecasts, and has already given positive results through statistics and testing. Once completed, long term forecasts for the Great Lakes region could improve enough to give confidence in what type of winter season to expect in terms of precipitation and temperature.