

Donald,

Enclosed is the study on the **NORLUN INSTABILITY TROUGH** I worked on some 8 years ago. The study was done based on NGM data, but I have found that ETA data works just as well. I also enclosed my study entitled “ **A METHOD TO FORECAST WINTERTIME INSTABILITY AND NON-LAKE EFFECT SNOW SQUALLS ACROSS NORTHERN NEW ENGLAND**” also known as **WINDEX**. This initial study I did was the foundation I worked with on identifying NORLUN Instability Troughs. You will notice one of the criteria of a Norlun Trough was a NGM T1-T5 temperature spread of 14 C or greater. I have since found that 10 C is sufficient to produce 1-2 inch snowfall rates an hour. I have found a Norlun Trough with a T1-T5 temperature spread of 14C are more infrequent, but when they do occur they have produced 2-4 inch snowfall rates an hour.

It was interesting to note a Norlun Trough did form over downeast Maine on February 4th. It produced 6-10 inches of snow when the model QPF's were forecasting less than a quarter inch of liquid water equivalent. The WFO in Caribou did a good job in forecasting the event and has a snowfall distribution map of this event on their website.

Hope this is all some helpful information for you.

Any questions or comments please feel free to E-mail me.

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