Frontal Evolution of the January 2011 North Pacific Monster Cyclone

- Use of 925 mb theta gradient from GFS35_PAC
- Evolution of frontal zones
- Key points in frontal evolution
- Rapid intensification in IR and WV imagery
2100 UTC Jan 16, 2011
0000 UTC Jan 18, 2011
1032 UTC Jan 16, 2011
1800 UTC Jan 16, 2011
0000 UTC Jan 17, 2011
0000 UTC Jan 17, 2011
0000 UTC 17 Jan 2011
0600 UTC Jan 17, 2011
0600 UTC Jan 17, 2011
1200 UTC Jan 17, 2011
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Summary

Demonstrated application of 925 mb Theta gradient to deep fronts

Evolution of frontal zones – in some ways 3 hourly output is too coarse to follow all features

Key points in frontal evolution

- Strength of bent back – THE MOST INTENSE FRONT
- Cold frontal fracture routine, multiple warm fronts

Rapid intensification in IR and WV imagery

- WV shows rapid drying / descent at time of rapid intensification
- Comma develops commensurate with bent back wrapping around
- Divergence maximized and concentrated during rapid development over warm frontal region