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The Structure and Evolution of Extreme Winter Storms over Baffin Island

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Extreme storms affect all regions of the Canadian Arctic. Little research has been conducted on the detailed structure and evolution of extreme winter storms over Baffin Island.

To begin to address this issue a small pilot project was conducted between 17 October and 28 November 2005 in Iqaluit, Nunavut during which detailed observations of several winter storms were made. Weather balloons were launched into the storm systems at 3-4 hourly intervals in order to document the frontal and upper air properties of the storm. In addition, detailed precipitation measurements (including the photographic identification of ice particle sizes and types, snow temperature, and snow density) were made. The analysis of the upper air and surface data collected during the pilot project provided detailed information concerning the storms' thermodynamic, kinematic and moisture characteristics.