Comparison of AMPS MM5 and AMPS WRF Forecasts Using Self-Organizing Maps

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Efforts to develop and validate a polar version of the Weather Research and Forecasting (WRF) model are on-going in several research groups in the United States. The Polar Climate and Meteorology Group at the University of Colorado has interests in developing a Polar WRF for use in both operational weather forecasting applications and for use as a regional climate model. WRF simulations are being evaluated over a variety of polar surface types (ice sheet, sea ice, ocean, and non-ice covered land areas). Results from Polar WRF simulations over the Arctic Ocean for January 1998 and June 1998 will be presented. The model results are compared to observations made during the Surface Heat Budget of The Arctic (SHEBA) experiment. Based on these simulations model physical parameterizations which are not appropriate for use in polar regions are identified and a "preferred" suite of model physical parameterizations are suggested for future polar simulations.