**This is entry #4 for the PMG. Attached you will find the figure for this entry:***Please note the figure has been saved as a .png and should be able to be adjusted for size.***Figure caption:**Various domains used throughout the development of Polar WRF.

**Entry Title: PMG Development of Polar WRF Begins – 2006**

**Text for this entry:**

With evidence of polar amplification—*the exceptional warming occurring in the Arctic compared to the rest of the globe*— becoming clear over the last decade as well as the need for a mesoscale model suitable for Arctic applications including as the primary model used in ASR, an enhanced polar version of the Weather Research and Forecasting model (Polar WRF) was created by the PMG at the BPRC. Development of Polar WRF has included the optimization of the land surface, snow and sea-ice characteristics, as well as a myriad of changes to the representation of physics in the model. Improvements to Polar WRF have been made through several simulations including over the Greenland Ice Sheet (version 2.1.1), the Western Arctic Ocean (version 2.2), and the North Slope of Alaska (version 3.0.1.1). In September 2009, the use of Polar WRF (3.1.1) on the ASR domain as well as benchmarking in Antarctica began, adding variable sea-ice thickness and continued improvements to the land surface model. By November 2011, Polar WRF 3.3.1 was used in the first complete ASR simulation with a 30 km horizontal grid. While officially becoming a publically available resource in August of 2008, the latest version of Polar WRF (3.3.1) has garnered the attention of 15 countries including the U.S. and 41 international users since November 2011. The development of Polar WRF is on-going, with the next version of Polar WRF (3.4.1) becoming available in October 2012.

**Link for more information:** <http://polarmet.osu.edu/PolarMet/pwrf.html>