

A Near Real-Time AIRS Processing and Distribution System: Current Products and Future Plans

W. Wolf², T. King², M. Goldberg¹, and L. Zhou²

¹NOAA/NESDIS/ORA

²QSS Group Inc

A near real-time AIRS processing and distribution system has been fully operational at NOAA/NESDIS/ORA for over two years. This system was developed to distribute AIRS data to the Numerical Weather Prediction Centers for data assimilation. Due to the large volume of AIRS data, the full data set could not be distributed; therefore, the data set had to be spatially and spectrally subset. Current AIRS subset products include brightness temperatures and principal component scores for one field of view selected from every other collocated AMSU field of regard. Although the AIRS data have shown positive model impact, this subset scheme may not be the optimal set for assimilation since the selection of the data on a fixed grid was arbitrary. To determine the effectiveness of this AIRS subset scheme, NOAA/NESDIS/ORA has created two new AIRS data subsets for distribution. The first new dataset only uses AIRS data to determine the clearest footprints to be distributed. The second data set uses MODIS data, in conjunction with the AIRS data, to determine the highest quality footprints to be distributed. Both of these new subset methods will be presented.

The AIRS system developed at NOAA/NESDIS/ORA is being used as a baseline to prepare for the processing and distribution of both IASI data from MetOP and CrIS data from NPP and NPOESS. Both IASI data and CrIS data orbits will be simulated and their radiances will be produced using model forecast data and fast radiative transfer programs. The simulated data will then be subset and placed into BUFR format for distribution. These systems will be implemented the same way that the AIRS simulation system was run prior the launch of AQUA. The details of these future systems will be discussed.

Proceedings of the Fourteenth International TOVS Study Conference

Beijing, China
25-31 May 2005

