1.4 WRF software: recent updates, news, and recommendations

Gill, David, National Center for Atmospheric Research (NCAR), John Michalakes, National Oceanic and Atmospheric Administration, Wei Huang, Universal Weather and Aviation, John Exby, NCAR

During the last year, quite a few improvements have been included in the WRF code. For I/O performance, development is still continuing to more fully support PIO-2. An optimized version of the RRTMG scheme for GPU and MIC as well as conventional processors has been completed. The WRF memory footprint has been reduced with a fairly thorough review of unpackaged 3d arrays in the various Registry files. A few small metadata changes added to the stream for the WRF model output have increased the CF compliancy. An effort is underway to port the WRF model so that the same WRF executable works on Linux, Windows, and Mac OS platforms. This portable code is also suitable for use with cloud computing services. A small group of core developers, along with software and hardware vendors, are reviving the WRF Architecture working group with the intent to keep the WRF model focused on targeted platforms for the next five to ten years. Lastly, in an effort to assist the user community, a short review of available WRF benchmarks and simple performance considerations will be discussed.