2.5 Enhancing community collaborations through NWP software containers.

Kavulich, Michael J., J. H. Gotway, M. Harrold, J. K. Wolff, K. Fossell, *National Center for Atmospheric Research, Research Applications Laboratory*

A frequent stumbling block when first running an atmospheric modeling system is properly setting up all of the necessary code components. In addition to running a forecast model, users often need pre- and post-processing software, as well as a means to visualize and verify output from their model runs, and most of these components depend on additional external software libraries. To ease the burden on new users, the concept of "containers" has been gaining traction in the Numerical Weather Prediction (NWP) community. Containers allow for end-to-end software systems to be bundled and provided to users, including the operating system, libraries, and code. Containers also enable experiments to be easily rerun and shared, facilitating collaboration.

Developmental Testbed Center (DTC) staff will present a short course on the use of NWP containers on Friday. NCAR colleagues have established containers to run a subset of an end-to-end NWP system, including the WRF model, the WRF Pre-Processing System (WPS), and the NCAR Command Language (NCL). To provide additional capabilities, the DTC has developed containers for the Unified Post-Processor (UPP), the Model Evaluation Tools (MET), and the METViewer database and display software systems.

This presentation outlines the motivation behind containers and provides a brief review of Friday's short course material.