P46 The Model Evaluation Tools: recent advances.

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The Model Evaluation Tools (MET) has become an internationally recognized software package used for the verification of Numerical Weather Prediction (NWP). It is supported to the community via the Developmental Testbed Center (DTC) and is the core of the DTC testing and evaluation of innovations for Research-to-Operations transition. MET was originally developed to replicate the National Center for Environmental Prediction (NCEP) mesoscale verification system with a package that could be supported to the community and extended. The intention was to make verification reproducible across institutions. MET has been engineered to be highly configurable and hence spatially and temporally agnostic. It has been applied to NWP model output from decadal climate simulations down to convection allowing mesoscale runs. Since the first public release, many capabilities have been added to MET beyond traditional statistics including object-based, neighborhood and wavelet decomposition methods.

Recently, National Oceanic and Atmospheric Administration (NOAA) chose to unify their verification efforts into a single system. This system must handle a variety of spatial scales and evaluate individual earth system component models (including atmosphere, atmospheric composition, land, ocean, ice and waves) and the entire earth system model, including coupling among system components and linkages with assimilation of observations. MET was chosen as the core of this unified verification system and a set of python wrappers is currently being developed to automate it. This suite of tools, MET+, includes MET, the METViewer database and display system, and the python wrapper scripts.

This poster will highlight the core capabilities of MET as well as recent enhancements to MET that have been added to support NOAA's operational requirements.