P41   Using SURFRAD and CERES datasets to evaluate physics parameterizations.

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The Global Model Test Bed (GMTB), within the DTC, has an overarching goal of making the R2O pipeline more efficient, which includes providing the research and operational communities with tools to test and evaluate physics innovations. A common testing infrastructure, aimed at enabling in-depth investigation of advanced physics suites through the use of a simple-to-complex test harness, is under active development in the GMTB. As part of the GMTB's testing infrastructure, tools are actively being developed and made available to the modeling community to facilitate the development and testing of operational and advanced physics parameterizations.

An area of active research is the assessment of radiative fluxes due to the downstream impacts on clouds, surface energy budgets, and interactions with other aspects of the model physics. To help in the evaluation of radiative fluxes and clouds, the GMTB has created scripts for processing, evaluating, and plotting model output against observation datasets. Initial capabilities include using NOAA's SURFRAD Network and NASA's CERES datasets. SURFRAD data provides an excellent way to evaluate radiative fluxes at individual stations spanning the CONUS. The gridded, satellite-based CERES data allows for global evaluations of radiative flux and cloud fields. This poster will highlight and show examples of the capabilities GMTB has developed for using SURFRAD and CERES datasets in evaluating physics parameterizations.