

FDSE - Grid Monitor

What is FDSE?

National Weather Service (NWS) forecasters must sift through large volumes of 4-dimensional data then efficiently generate forecasts based on that information. The ever-increasing volume of information challenges forecasters to view data pertinent to the given weather scenario. The Forecaster Decision Support Environment (FDSE) project explores new data management and processing capabilities to enhance situational awareness, allow forecasters to work more efficiently, and improve model ensemble capabilities in order to explore probabilistic forecast products. Efficiency improvements will allow forecasters to spend more time providing their customers Impact-based Decision Support Services.

FDSE - Grid Monitor

The Grid Monitor addresses the FDSE objective of enhanced situational awareness by comparing gridded forecasts analyses of observations and summary of forecast quality. easy to interpret graphical information about the current quality such as: accurate leave alone, one or two elements need adjustment, or differences require major



The Grid Monitor user interface. In this example, green indicates the proportion of the forecast area where the accuracy is good (green), marginal (yellow), and poor (red).

Designed with built-in the monitor allows forecasters the summary algorithms and graphics so that forecast can be viewed using a variety techniques. A framework within the monitor lets forecasters devise and customize their own summary algorithms. The monitor can also compare one forecast to another, so forecasters can better understand how models differ in order to help them determine the best corrective action. Using the Grid Monitor, forecasters may plot histograms, scatterplots, and grid difference images to more closely investigate where and how and to what extent forecast grids deviate over areas they choose. One monitor configuration ranks forecasts best to worst when compared to observations, providing valuable real-time feedback on short-term model performance.

with gridded depicting a Simple, objects forecasters forecast enough to weather substantial changes. flexibility, to change resulting accuracy of

Goals and Impacts

- Enhance situational awareness by validating forecast quality and identifying weather elements, time periods and areas where corrections are warranted
- Provide real-time feedback on numerical model forecast short-term performance
- Improve gridded forecast maintenance efficiency while improving short-term accuracy

- Allow forecasters more time for Impact-base Decision Support Services