

NASA products to enhance energy utility load forecasting

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Existing energy load forecasting tools rely upon historical load and forecasted weather to predict load within energy company service areas. The shortcomings of load forecasts are often the result of weather forecasts that are not at a fine enough spatial or temporal resolution to capture local-scale weather events. This project aims to improve the performance of load forecasting tools through the integration of high-resolution, weather-related NASA Earth Science Data, such as temperature, relative humidity, and wind speed. Three companies are participating in operational testing — one natural gas company, and two electric providers. Operational results comparing load forecasts with and without NASA weather forecasts have been generated since March 2010. We have worked with end users at the three companies to refine selection of weather forecast information and optimize load forecast model performance. The project will conclude in 2012 with transitioning documented improvements from the inclusion of NASA forecasts for sustained use by energy utilities nationwide in a variety of load forecasting tools. In addition, Battelle has consulted with energy companies nationwide to document their information needs for long-term planning, in light of climate change and regulatory impacts.

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