

# **A WRF-based System for Forecasting High-Impact Weather for a Northern California Power Utility**

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## **ABSTRACT**

We describe a WRF-based system for the prediction of high-impact weather events affecting power utilities, including conditions conducive to wildfires. The system was developed for Pacific Gas and Electric Corporation (PG&E) to operationally forecast conditions in Northern and Central California. It was established in 2014 and has been periodically improved since then. WRF forecasts are routinely performed multiple times each day on a 2-km grid, and the results are used as input to fuel moisture and wildfire spread models. Components of the system include a stochastically perturbed ensemble; an annually updated reanalysis covering more than 30 years; the capability to launch on-demand regional forecasts on a 0.67-km grid; and validation against PG&E's extensive mesonet and other observations. We describe the development and testing of the next operational edition, which will use WRF version 4.5 and include an ensemble-based approach with intelligently sub-selected Global Ensemble Forecast System (GEFS) members.

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