1.3 WRF-Chem V3.8: A summary of status and updates.

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We will describe recent updates as well as ongoing work as part of the Weather Research and Forecasting (WRF) model as it is coupled with chemistry. WRF-Chem V3.8 includes new additional features such as a new chemistry option to simulate direct and indirect aerosol effects (including the volatility basis set approach for secondary organic aerosols), inline mixing for chemical species within the updated MYNN boundary layer scheme and significant changes to dust packages. New links to meteorological physics parameterizations have also been added to expand capabilities to simulate the aerosol direct and indirect effects. Other new features include further improvements for the global emissions preprocessor. Ongoing work is related to using Fire Radiative Power (FRP) as input for the fire emissions preprocessor and the plumerise model. Another ongoing development is related to implementation of heterogeneous chemistry and the aerosol thermodynamics module ISORROPIA II in the RACM_SOA_VBS chemistry option to improve treatment of gas and aerosol chemistry. An overview of the current status of this modeling system and ongoing as well as future development will be discussed. In addition, some evaluation results will be presented.