

Coupling the Community Fire Behavior Model to WRF

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The Community Fire Behavior model is a fire behavior model designed to facilitate its connection to other atmospheric models to simulate fire-atmosphere interactions. The model makes use of the Earth System Modeling Framework (ESMF) library to communicate between the fire and the atmosphere. The model started from WRF-Fire modules which have been completely reorganized and modernized. After ensuring consistency with WRF-Fire, the model is being developed further to increase the realism of the fire spread simulations. Currently, the Community Fire Behavior model is coupled to the Unified Forecasting System. It can also be run offline using an existing WRF simulation. We are now in the process of coupling the Community Fire Behavior model online to WRF. This presentation will provide an overview of the Community Fire Behavior model and the strategy we are using to couple it to WRF. Looking further into the future, the Community Fire Behavior model can be couple it to MPAS which should be straightforward if one can rely on the ESMF infrastructure.