

## Destroying A Hurricane and Simulating Downslope Flow with WRF: Lessons from the 2023 Maui Wildfire Event

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This talk will describe a new technique for removing tropical storms in WRF simulations: cooling the sea surface temperatures immediately around the storm to 25°C (75°F). To illustrate the effectiveness of this approach, a case study will be shown for Hurricane Dora, which passed south of Hawaii during the August 2023 Maui wildfires. It is shown that this approach can remove the tropical storm without significantly modifying the synoptic environment. This talk will also discuss the use of WRF for simulating downslope windstorm events, such as the one associated with the August 2023 wildfire that led to the loss of Lahaina, Maui. It is shown that differing boundary-layer schemes result in a range of outcomes, from shallow shooting flow to the development of a high-amplitude mountain wave. The effects of varying horizontal resolution on simulation fidelity are also discussed.