

Hom, John, Warren Heilman, Matthew Patterson, Kenneth Clark, Nicholas Skowronski, Michael Gallagher, Xindi Bian, Tara Strand, Craig Clements, Daisuke Seto, and Steve Roberts. 2010. Smoke Modeling and Validation Field Design: CO, PM_{2.5}, CO₂ and Smoke Monitoring. International Association of Wildland Fire. **3rd Fire Behavior and Fuels Conference.** Spokane, Washington, October 25-29, 2010.

The purpose of this study is to monitor low level smoke from prescribed burns: wind turbulence, temperature profiles, PM_{2.5} monitoring for validation of smoke transport models. The approach is a three year modeling and field validation study using tall towers (10m, 20m, 30m), and short towers (3m) inside and outside the fire perimeter equipped with smoke, temperature, RH sensors and sonic anemometers. We will give preliminary results from field tests, comparing the performance of low cost CO monitors, modified smoke monitors, and CO₂ analyzers against reference PM_{2.5} monitors at prescribed fires in Calloway Forest, NC and Brendan Byrne State Forest, NJ this winter.