

Oral Presentation Abstract for International Smoke Symposium 2 (ISS2), sponsored by the International Association of Wildland Fire, Long Beach, CA, November 14-17, 2016, <https://iawf.submittable.com/submit/53819>

“Aerial sampling of emissions from biomass pile burns in Oregon”

Aurell, J.¹; Gullett, B.²; Tabor, D.²; Yonker, N.³

¹University of Dayton Research Institute, Dayton, OH

²U.S. Environmental Protection Agency, Research Triangle Park, NC

³Oregon Department of Forestry, Salem, OR

Emissions from burning piles of post-harvest timber slash in Grande Ronde, Oregon were sampled using an instrument platform lofted into the plume using a tether-controlled aerostat or balloon. Emissions of carbon monoxide, carbon dioxide, methane, particulate matter (PM_{2.5} µm), black carbon, ultraviolet absorbing PM, elemental/organic carbon, semi-volatile organics (polycyclic aromatic hydrocarbons and polychlorinated dibenzodioxins/dibenzofurans), filter-based metals, and volatile organics were sampled for determination of emission factors. The effect on emissions from covering or not covering piles with polyethylene sheets to prevent fuel wetting was determined. Results showed that the uncovered (“wet”) piles burned with lower combustion efficiency and higher emissions of volatile organic compounds. Results for other pollutants will also be discussed.