

Summary and Concluding Remarks

Prescribed fire data needs related to air quality and health

- For air quality regulators, the main priority is emissions data at sufficient temporal and spatial resolution, as well as information that can be used to improve speciated emissions estimates
- For health impacts, other necessary information is vulnerability data for exposed communities, fire-specific concentration response functions, and community response data
- There is a need to become comfortable with uncertainty in the data; large sources of uncertainty remain, but we cannot expect to be perfect
- The importance of fire in air quality is expected to grow; it would be helpful if the roles of land manager and air quality regulators in data collection are well defined

A unified prescribed fire record: Issues and opportunities

- Very large uncertainties and differences are present in available prescribed fire records
- An incentive for land owners, especially private, may be necessary to encourage participation in a unified database
- Some agencies' record-keeping may become limited by resources; automated systems could be necessary
- Fuel load/consumption pre-/post-burn evaluations would be useful
- Users of prescribed fire data need to understand the sources, how it was produced, and its limitations
- How to account for ground fuels is an important research need
- Rely on satellite data when no land-based info is available

Sustainability of a community prescribed fire information system

- Air quality forecasts are currently being used to inform land managers; additional information that can be used to constrain burning and avoid air quality/health impacts would help
- Fire data is being used by air regulators to analyze exceedances
- Additional developments that would aid air quality management include forecasted PM_{2.5} concentration fields, hindcasts based on recorded fire data, and routine modeling beyond exceedances to identify areas subjected to smaller but more frequent smoke impacts
- Efforts that help develop databases in states without a system and facilitate data calibration would be valuable
- There is a need for greater coordination across states and fire/air quality communities; need to sustain efforts to integrate data and tools (perhaps on single website/database)