**Fire and Smoke Model Evaluation Experiment (FASMEE)—Upcoming data collection campaigns and remote sensing needs**

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The overall goal of the Fire and Smoke Model Evaluation Experiment (FASMEE) is to gather observational data needed to evaluate and advance operational fire and smoke modeling systems and their underlying scientific models and frameworks. The project is partitioned into three phases:

* Phase 1—The analysis and planning process to review and assess the current state of fire-plume-smoke modeling and scientific understanding to determine the critical needs and realistic pathways to addressing these needs (completed 06/30/2018)
* Phase 2—Implementation of field campaigns to be completed over 2019-2022 to collect valuable date for model evaluation and improvement. Observational data collection teams will be identified through a Funding Opportunity Notice scheduled for release in the fall of 2017 administered by the Joint Fire Science Program.
* Phase 3—An identified set of analyses and improvements to models based on the data collected in Phase 2, to begin if appropriate funding sources are identified.

There will be 3 FASMEE field campaigns including a western wildfire campaign in 2019, a southwestern prescribed fire campaign in 2021, and the southeastern prescribed fire campaign in 2021 and 2022. The field campaigns will include data collection, archiving, and preliminary model development using the observational data collected from a combination of remote sensing and coordinated ground measurements, with significant potential to influence the fields of fuels, fire behavior, plume dynamics, and smoke chemistry for years to come. The field campaigns will provide a robust, integrated baseline dataset to not only evaluate fire models but also leverage data from other scientists and agencies to address additional questions. Furthermore, wildland vegetation and fuels, fire behavior, and fuel consumption will be characterized and mapped over space and time, allowing immediate fire effects to be co-located and directly related to the characterized fire. Immediate effects include the fire’s energy release, plume dynamics, smoke generation, and other effects such as soil heating and tree mortality measurements. Several federal agencies and science programs including USFS, JFSP, DoD, EPA, NASA, NOAA, and NSF are assisting in the planning and coordination.