

NOTICE OF INTENT
DOA/DOI Joint Fire Science Program (JFSP)
Funding Opportunity Notice (FON): October-November, 2014
Potential Topics
July 15, 2014

Background

The interagency Joint Fire Science Program (JFSP) intends to request proposals through one or more formal Funding Opportunity Notice (FON) announcements beginning approximately September 29, 2014 and remaining open through November 21, 2014. The intent of this notice is to provide an early alert to investigators interested in the topics listed below so that investigators can begin considering responsive ideas with potential partners and collaborators.

Investigators should recognize that final decisions regarding topic selection will not be made until September, 2014, and that final topic selection is likely to differ from that posted here. One or more topics could be dropped or added, and the specific focus of individual topics may be altered. Investigators should recognize this uncertainty and not invest substantial time or resources working on proposals until the FONs are formally posted.

Investigators should not contact the JFSP Program Office or Governing Board seeking further information on these topics. No further information will be released until the FONs are formally posted.

Potential Topics

Potential topics respond to the three goals of the National Cohesive Wildland Fire Management Strategy (“Cohesive Strategy”):

- Restore and maintain resilient landscapes
- Create fire-adapted communities.
- Safe and effective wildfire response

Implications of changing ecosystems

Evidence is abundant that ecosystems are shifting due to climate change, invasive species, and changing disturbance regimes and land use. Although the science is unsettled on many important details of these changes, the Joint Fire Science Program (JFSP) Governing Board believes that existing and developing science is sufficient to broadly describe potential future ecosystems and their implications for fire management. This task will focus on interdisciplinary proposals that evaluate alternative future scenarios of ecosystem change and estimate indicators of fuel, fire regime, and fire effects on a regional basis (e.g., 100,000s to 1,000,000 of hectares).

This task will likely consist of two related components. The first component will include a science assessment, which could include either research aimed at producing new knowledge, or a synthesis of existing knowledge. For example, research questions may focus on the extent and magnitude of likely changes in fire regime or fire effects. The second component will include an integration and interpretation of this information in some form of operational scenario analysis depicting possible management options and their implications. Investigators are highly encouraged to directly involve fire, fuels, land, or resource managers on their team.

Fire effects on soil heating

The Joint Fire Science Program is interested in research on fire effects on soil heating. Empirical data on soil heating across a range of ecosystems, conditions, and soil types is needed to improve soil heating models. Specifically, research should lead to or contribute towards calibration or validation of soil heating models to expand their utility in fire management applications.

Ember production, dispersion and role in fire spread in the wildland urban interface

Burning structures in the wildland urban interface are often ignited by embers originating from wildland fuels or other structures. The Joint Fire Science Program is interested in research on ember production and transport from wildland and structural fuels to better understand the threat to structures in different settings. There is a particular need for studies that quantify ember production from actual wildfires or prescribed fires in order to improve fire behavior models. The role of ember dispersion in fire spread in the wildland urban interface is also of interest.

Fire weather and decision making: a social and modelling analysis

Weather data are important for many fire and fuels management decisions since fire weather is a critical control on fire behavior and smoke dispersion. But how important is it? How do managers use fire weather information to make decisions? Will managers make different decisions if weather information has less uncertainty, or more uncertainty? If forecasts have a greater degree of confidence, will managers perceive that they have greater flexibility and make different decisions?

This task focuses on the decision-making environment. Sensitivity analyses of fire behavior, fire danger, or smoke dispersion models may be appropriate to this task, but should be framed within the context of decision-making environments. Investigators will need to connect results of model sensitivity analyses to sensitivity analyses of manager's decisions.

Re-measurement - long term effects on vegetation, fuels, and soil

The Joint Fire Science Program is interested in supporting re-measurement and analysis of long-term (greater than 15 years post-fire) studies of wildfire or prescribed fire effects on vegetation, fuels, and soils. These data are needed to better understand and integrate fire, vegetation, fuels and soils management. Proposals will need to describe prior datasets in sufficient detail, e.g., QA/QC procedures used and metadata quality, to ensure that a re-measurement will provide statistically robust results.

Fuels characterization for emissions inventories

The Joint Fire Science Program will likely solicit proposals to reconcile currently used national fuel characterization tools and emissions calculations. The objective of this task is to determine what might be considered the best practice combination of fuel characterization and emissions calculation tools for the purpose of developing national or regional wildland fire emissions inventories for both wild and prescribed fires (e.g., what are the advantages and disadvantages of each combination). Responsive research may include assessments of the differences and similarities between fuel characterization tools, trade-offs among characterization tools when used for different purposes, sensitivity analyses, or field tests of tool accuracy and applicability.

Graduate Research Innovation (GRIN) award

In partnership with the Association for Fire Ecology, the Joint Fire Science Program (JFSP) will likely continue the Graduate Research Innovation (GRIN) program for current MS and PhD. students in the fields of wildland fire and related disciplines. JFSP recognizes that graduate students of today are the managers, scientists, and leaders of tomorrow.

These awards allow graduate students to conduct research that will supplement and enhance the quality, scope, or applicability of their thesis or dissertation, and to build skills needed for independent inquiry.

Proposals must describe new, unfunded work that extends ongoing or planned research that is the subject of a thesis or dissertation that has been approved by the graduate student's advisory committee. Proposals must be directly related to the mission and goals of JFSP to be considered, and must address management questions related to climate change, fire behavior, fire effects, fuel treatments, smoke or emissions, fire weather, or social issues and fire.

Note: the specific topics eligible for GRIN proposals may change.