

DRAFT
Notice of Intent
DOA/DOI Joint Fire Science Program (JFSP) FY 13
Funding Opportunity Notice (FON)
Potential Topics for Fall JFSP FON
June 2012

The interagency Joint Fire Science Program (JFSP) intends to request proposals through one or more formal FON announcements approximately October 1, 2012 through November 16, 2012. The intent of this notice is to provide an early alert to investigators interested in the topics listed here so that investigators can begin considering their interest in submitting a proposal(s), and can begin discussing responsive ideas with potential partners and collaborators.

Investigators should recognize that final decisions regarding topic selection will not be made until September, 2012, 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 Program Office or Governing Board seeking further information on these topics. No further information will be known or released until the FONs are formally posted.

Potential Topics

1. Develop a fire smoke health risk assessment framework

The Joint Fire Science Program is interested in proposals to develop a risk assessment framework that includes both the relationships between ambient air quality standards to protect the health of the general (most vulnerable) public, and the industrial health based standards determined to protect work place health, particularly fire worker's health. This risk assessment will help fire managers evaluate decisions, including health aspects of fire camp location, road closures, and both public and fire personnel access, deployment & evacuation. Responsive proposals may include an evaluation of alternative methods to reconcile public and industrial health risks from particulate matter from different types of fire burning under differing environmental conditions to support public health advisories and fire worker health. Proposals may also be solicited that assess the potential for other hazardous airborne chemicals that may be contained in fire smoke that should be included in the smoke health risk assessment framework.

2. Determine fire smoke consequences of projected future climate and ecosystems in the United States

The Joint Fire Science Program is interested in proposals that will determine US fire smoke consequences resulting from downscaled IPCC projected future climate change scenarios across large regions of the United States. Of particular interest are the fire emissions consequences under potential changed climates for particulates, ozone, regional haze and black carbon, and their relation to the US National Ambient Air Quality Standards (NAAQS). Such consequences should be projected at a county level on an annual and seasonal basis for multiple years for mid

and end of the 21st century. JFSP has commissioned a review paper to summarize guidelines for downscaling IPCC scenarios and conducting regional assessments which should be available in time to guide this regional assessment.

3.A. Fuels treatment effectiveness: Economics

The Joint Fire Science Program is interested in proposals that assess the cost effectiveness of fuel treatments intended to meet specific fire behavior objectives at multiple scales. JFSP is interested in the lifecycle costs of alternative treatment regimes, and how those costs are influenced by treatment (type, intensity and frequency), fuel type, and by the scale of application. JFSP is especially interested in proposals that compare fuel treatment costs to avoided fire suppression costs at local, regional, and national scales.

3.B. Fuels treatment effectiveness: Restoration

The Joint Fire Science Program is interested in proposals that assess the effectiveness of fuel treatments intended to meet specific habitat and ecosystem restoration objectives. Fuel treatments are increasingly being used to meet restoration objectives, but are often questioned solely on financial considerations. Potential topics of interest include the extent to which fuel treatments are used to meet restoration objectives; the effectiveness of treatments at meeting those objectives; the importance of spatial and temporal scale of fuel treatments at meeting restoration objectives; and how fuels treatments affect the attainment of ecological objectives by their influence in selection of wildland fire suppression strategies.

4. Masticated fuelbeds effects on combustion and fire behavior

Mastication has become a widely used fuel treatment to alter fuelbed characteristics and reduce potential fire severity, especially in the wildland-urban interface where mechanical fuel manipulation may pose less risk than use of prescribed fire. Masticated fuels vary widely in particle size, arrangement, and compaction. Greater understanding of fuelbed characteristics and potential wild- and prescribed fire behavior in masticated fuels is necessary to analyze effectiveness of treatments and to anticipate changes in fire behavior and fire effects. Topics of potential interest include the influences of specific fuelbed characteristics on fuel moisture and fire behavior, and the effects of masticated fuels on smoldering combustion and possible holdover embers. Resulting descriptions of fuelbeds should provide enough detail to be incorporated into fuel characteristics and fire behavior prediction models.

5. Fire effects on soil and water

A better understanding of the effects of fire on soil and water is needed to inform post-fire rehabilitation assessments and the use of fire for restoration and fuels reduction. Studies are particularly needed on the effects of fire within riparian areas and their associated uplands. Studies that link fire effects on soil to potential effects on water at watershed scales are currently lacking. Improved models of soil heating are needed to link fuel consumption to potential vegetation recovery, water runoff and erosion, soil biology and chemistry, and subsequent effects to aquatic ecosystems. The integration of fuel characteristics, fire regime and environmental factors to influence the formation, maintenance, and recovery of aquatic processes and habitat is of particular interest.

6. Fuel treatments and conservation of sensitive species of gallinaceous birds

The Joint Fire Science Program (JFSP) is interested in research that investigates the compatibility of fire and fuels management activities with habitat and population restoration of the following gallinaceous bird species:

Common Name	Scientific Name	Conservation Status
Greater sage-grouse	(<i>Centrocercus urophasianus</i>)	C
Gunnison sage-grouse	(<i>Centrocercus minimus</i>)	C
Sharp-tailed Grouse	(<i>Tympanuchus phasianellus</i>)	C
Columbian Sharp-tailed Grouse	(<i>Tympanuchus phasianellus columbianus</i>)	C
Lesser Prairie-Chicken	(<i>Tympanuchus pallidicinctus</i>)	T
Greater Prairie Chicken	(<i>Tympanuchus cupido</i>)	States T
Attwater's Prairie Chicken	(<i>Tympanuchus cupido attwateri</i>)	E
Masked Bobwhite Quail	(<i>Colinus virginianus ridgwayi</i>)	E

These species frequently occur in areas intended for fuels management or in areas affected by wildfire, necessitating close coordination of fuels and fire management activities with T&E conservation and recovery plans. JFSP seeks research that could be used to improve the effectiveness of fire and fuels management activities, and wildfire response activities, and their compatibility with T&E conservation guidelines. Research could be conducted at local treatment unit scales or across larger landscapes to address fuel treatment effects, or wildfire tactical responses (e.g., retardant, heavy equipment, fuels breaks) that have perceived conflicts but may indeed provide benefits based on treatment location, scale, timing, or intensity. Where and when on the landscape should specific fuel or fire management activities be planned and utilized to maintain or improve key habitat features? Landscape assessments should evaluate trade-offs among short-term actions and long-term ecological responses, and illustrate how these relationships vary over time and space.

7. 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, or social issues and fire.

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

8. Dataset archival

The Joint Fire Science Program (JFSP) will likely invite proposals for new or supplemental funds to document and submit datasets relevant to the mission of JFSP to an actively managed

data repository. The purpose of this activity is to make high quality datasets available to the research community for future research. Investigators will be required to submit a data management plan (DMP) that describes the selected data repository, metadata language(s) and other pertinent details.

9. Conference support

The Joint Fire Science Program (JFSP) will likely invite proposals for co-sponsorship of regional, national, or international conferences. Proposals must identify how the planned conference will support the JFSP mission. Investigators should note that the total pool of funds for JFSP conference support is tightly limited. Proposals that show a substantial commitment of funds from other partners will be favored.