

NOTICE OF INTENT
DOA/DOI Joint Fire Science Program (JFSP)
Funding Opportunity Notice (FON): October-November, 2013
Potential Topics
June 12, 2013

Background

The interagency Joint Fire Science Program (JFSP) intends to request proposals through one or more formal Funding Opportunity Notice (FON) announcements beginning approximately October 1, 2013 and remaining open through November 22, 2013. 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, 2013, 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

Potential topics are grouped below by Cohesive Strategy goal.

1. Cohesive Strategy goal: restore and maintain resilient landscapes

A. Fuels treatment effectiveness across landscapes

The Joint Fire Science Program is interested in research evaluating the effectiveness of prescribed fire and fuels treatments across landscapes (tens to hundreds of thousands of acres), including the effectiveness of alternative landscape management strategies intended to enhance resiliency. Studies are needed to determine how configuration of fuels treatments across landscapes affects wildfire size and severity, mitigate broad-scale fire effects, and provide opportunities for effective fire suppression strategies that minimize costs and maximize firefighter safety. Given limited fuels treatment budgets, how can fuel treatments be placed across landscapes to maximize their benefits and to facilitate management of wildfires as effective fuels treatments?

B. Fire and fuels treatments effects on sensitive bats

Bats provide important ecosystem services, such as insect and pest predation, pollination, and seed dispersal. Widespread decline in bat abundance has been observed for many species, and the role of changing fire regimes is a potentially significant factor. The Joint Fire Science Program is interested in research examining the effects of fuels treatments and changing fire regimes on federally listed Threatened, Endangered, or Candidate species of bats. Potential research topics include the effects of

fire frequency and severity on bat roosting, nesting, and foraging habitats, the effects of smoke on tree-roosting and cave-roosting bats, and the effectiveness of fuels treatments at mitigating fire effect risks to bats.

C. Wildfire effects on water supplies

High-quality water from source watersheds is a critical ecosystem service for communities across the United States. Burned watersheds are often prone to increased flooding and erosion, which can reduce water quality and impair water-supply reservoirs and drinking-water treatment processes. The Cohesive Strategy identifies the need to improve post-fire watershed conditions and enhance water quality recovery, but little is known about the post wildfire temporal changes to water quantity, quality and treatability. The Joint Fire Science Program is interested in research on wildfire effects to water quality, quantity, timing, and treatability, and the recovery of watersheds over time. JFSP is particularly interested in wildfire effects on water in watersheds with extensive prior fuels treatments.

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

The Joint Fire Science Program is interested in supporting re-measurement of long-term (greater than 20 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. Archival and meta-data of all datasets will be required.

2. Cohesive Strategy goal: create fire-adapted communities.

A. Smoke emissions contributing to secondary organic aerosols

The Joint Fire Science Program (JFSP) is interested in proposals to develop new science and knowledge that would support and define an accurate national wildland fire emissions inventory system. The focus of this topic is on improved methods of inventorying gaseous and aerosol emissions from wildland fire smoke to account for secondary organic aerosols that contribute to ambient PM_{2.5}. JFSP is interested in assessing the adequacy of emission factors used in current smoke emissions and modelling systems for determining the contributions of secondary organic aerosols. See the JFSP Smoke Science Plan for further information (http://www.firescience.gov/JFSP_Smoke.cfm).

B. Wildland fires impacts on large population centers

The Joint Fire Science Program is interested in proposals that assess the impact of wildland fire smoke on large urban centers in the US, and the effective use of public warning systems and evacuations. Research topics of possible interest include the extent of past observed adverse health effects using selected case studies, defining possible wildfire smoke concentration and exposure duration thresholds associated with public health concerns, the effectiveness of public warning and evacuation systems, and public perceptions related to justifications for warning or evacuation systems. See the JFSP Smoke Science Plan for further information (http://www.firescience.gov/JFSP_Smoke.cfm).

3. Cohesive Strategy goal: safe and effective wildfire response

A. Influence of past wildfires on wildfire management strategies and costs

The Joint Fire Science Program is interested in proposals that evaluate the influence of past wildfires on current wildfire management and costs. Wildfire managers have long used past fire locations to help manage wildfires, and opportunities to incorporate past fires into wildfire management strategy and tactics have increased as the annual area burned has increased over the last 20 years. JFSP is interested in how past wildfires could be used to more effectively manage wildfires, including reduction of costs

and risks to public safety and infrastructure, resource values, and firefighters. Potential research topics may include the characteristics of past wildfires that benefit current wildfire management, the effect of past wildfires on current wildfire costs, wildfire management strategies and tactics that effectively incorporate past wildfire locations, and the potential to manage wildfires as effective fuel management to facilitate future wildfire management.

4. Responds to multiple Cohesive Strategy goals

A. New science initiative – social science

The Joint Fire Science Program is interested in new research that advances innovative ideas in fire social sciences in two areas:

- Fire-adapted communities – preparation and mitigation
- Risk assessment for wildfire management – incentives and trade-offs

The goal is to push the frontiers of knowledge and understanding and to generate new ideas and concepts. The types of activities appropriate to this task statement are broad, and could include:

- Articulation of new concepts or frameworks
- A synthesis of information to generate new hypotheses
- Field activities involving diverse scientists, policy-makers, managers, and citizens
- Development of an experimental design to test an innovative hypothesis

Proposals should demonstrate how the proposed activities will advance innovative thinking. There is no requirement to demonstrate immediate relevance to land managers.

B. 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.

C. Fire Science Exchange – Washington DC, Mid-Atlantic and Northeast

The Joint Fire Science Program is considering expansion of the JFSP sponsored network of fire science exchanges to include two new areas: Washington, DC and a combined Mid-Atlantic and Northeast region. New fire exchanges will be part of an existing national network of fire science providers and managers dedicated to enhancing fire science exchange and adoption. Pre-proposals solicited for this purpose will be to initiate planning and assessment of management needs necessary to organize and initiate a new exchange. The expected product from funded pre-proposals is a full proposal for a two-year plan of activities and products. See www.firescience.gov for more information.

Note: Because of the new and unique nature of a potential Washington DC fire exchange, interested parties are encouraged to contact either John Cissel (JFSP Program Director) or Tim Swedberg (JFSP Communications Director). See www.firescience.gov for contact information.