



**UNITED STATES
DEPARTMENT OF THE INTERIOR**



**BUREAU OF LAND MANAGEMENT
Fire and Aviation Directorate
National Interagency Fire Center
Lead Agency for the Joint Fire Science Program**

Joint Fire Science Program

The Joint Fire Science Program provides funding for scientific studies to address problems associated with managing wildland fuels, fires, and fire-impacted ecosystems.

Department of the Interior and Related Agencies Appropriation Act for FY 1998 and subsequent years
(P.L. 105-83; H.R. Report 105-163)

**PROJECT ANNOUNCEMENT No. FA-FON0013-0001
Primary Announcement (6 Task Statements)**

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JFSP Funding Opportunity Notice (FON) 2013-1

CLOSING DATE & TIME

November 16, 2012 5:00 p.m. MST

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SECTION I. FUNDING OPPORTUNITY DESCRIPTION

- A. Legislative Authority:** Department of the Interior and Related Agencies Appropriation Act for FY 1998 and subsequent years (P.L. 05-83; H.R. Report 105-163).
- B. Project Background Information:** The Joint Fire Science Program (JFSP) is a partnership of six federal wildland management and research agencies with a need to address problems associated with managing wildland fuels, fires, and fire-impacted ecosystems. The partnering agencies include the U.S. Department of Agriculture, Forest Service and five bureaus in the U.S. Department of the Interior: Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, and the Geological Survey.
- For further background on the JFSP, those considering submitting proposals are encouraged to visit our website at www.firescience.gov
- C. Program/Project Objective:** The U.S. Congress directed the Department of the Interior and the USDA Forest Service to develop a Joint Fire Science Program and Plan to prioritize and provide sound scientific studies to support land management agencies. Current priorities are identified as task statements in the Funding Opportunity Notice (FON).
- D. Statement of Joint Objectives/Project Management Plan:** The JFSP Governing Board and Program Manager will establish an oversight relationship with the Principal Investigator on each funded project. Projects will be required, at a minimum, to provide a written progress report annually.
- E. Period of Project:** The JFSP Governing Board generally anticipates that individual projects can be accomplished within three years or less.

SECTION II. AWARD INFORMATION

- A. Expected Number of Awards:** Approximately 15-20
- B. Estimated Total Program Funding:** Approximately \$6,000,000
- C. Award Ceiling:** None
- D. Assistance Instrument:** To be determined at a later date by the JFSP

SECTION III. ELIGIBILITY INFORMATION

- A. Eligible Applicants:** The JFSP encourages proposals from all interested parties. All selected awardees must provide a valid Dun & Bradstreet number (D&B). You can reactivate or obtain this at <http://www.dnb.com> or by calling 800-333-0505. There is a federal agency link on the Central Contractor Registration system (CCR) at <http://www.ccr.gov>.

B. Funding Cooperator: JFSP will enter into only one agreement with the PI institution or the funding cooperator agency. Budgets must be reviewed by your budget contact and your grants and agreements contact prior to proposal submission.

Funds will be awarded through a federal agency, a university, or a non-governmental organization (NGO). Proposals that included budgeted funds to be spent by a federal agency and that do not have a federal PI must list a funding cooperator from the federal agency requesting funds. Similarly, proposals with a university or NGO PI that do not include funding for federal agencies do not need a funding cooperator and funds will route through the PI's institution.

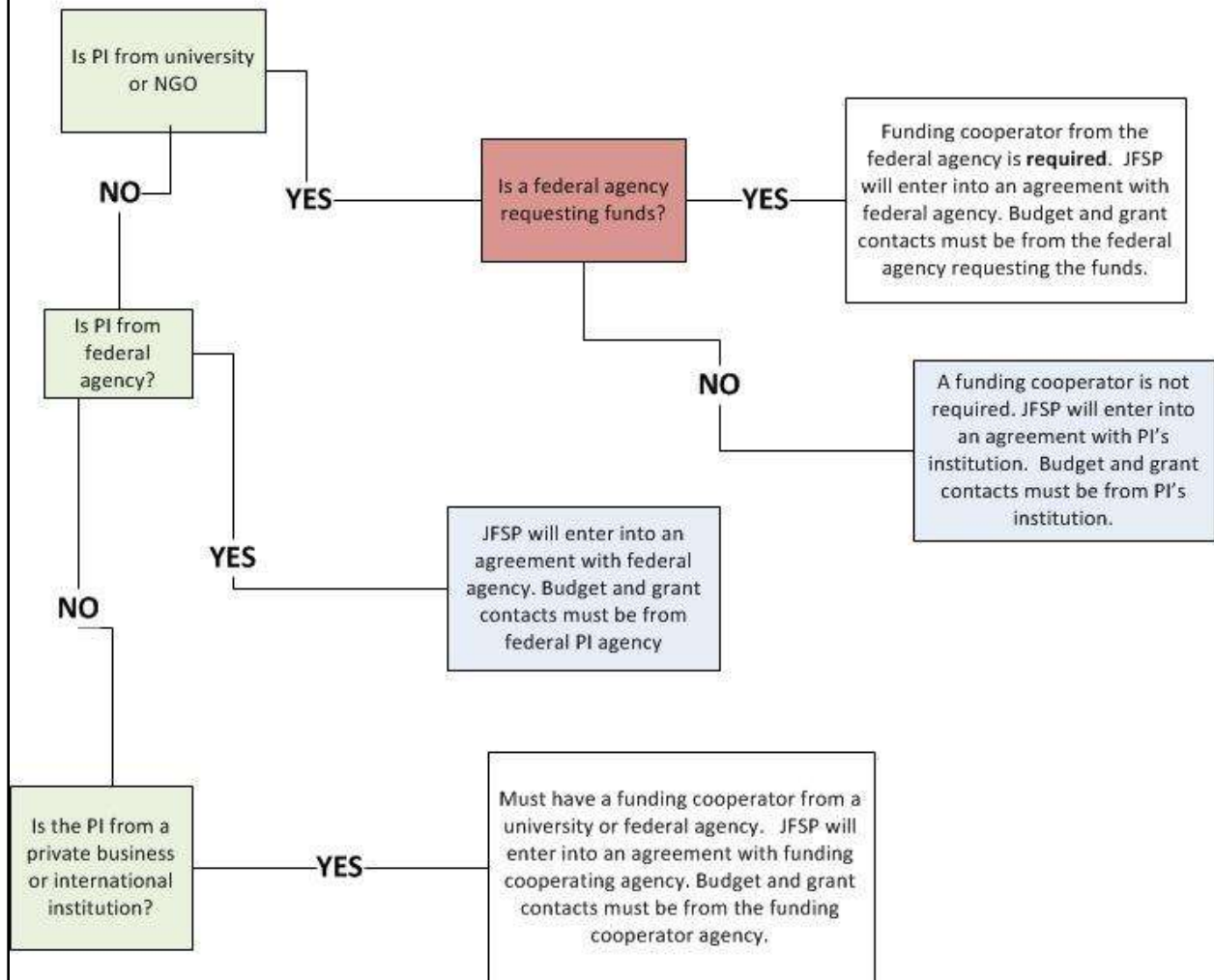
All proposals with a PI from other organizations, e.g., states or private business, or have any international funding, must also identify a funding cooperator to receive and process the funds. If the funding cooperator is from the Forest Service, the cooperator must be from a Forest Service research station. The grant contact and budget contact must be from the funding cooperator's institution.

Proposals where the PI or funding cooperator is an employee of a university or NGO will be funded directly by an award document (e.g., a cooperative agreement) between JFSP and the PI's institution. The institution will be required to respond to a second non-competitive posting on grants.gov to initiate funding.

Upon receipt of a fully executed award document, the institution receiving funds from JFSP will be responsible for all sub-award transactions to cooperators or contractors related to the project. The end date and indirect costs for all sub-awards must match the end date and indirect costs in the original funding award document.

(See funding cooperator flowchart below)

Funding Cooperator Flowchart



C. Cost Sharing or Matching: This program has no matching requirements. However, in-kind contributions are desired and are an evaluation factor.

SECTION IV. APPLICATION AND SUBMISSION INFORMATION

A. Proposal Submission and Agency Contact

All proposals must be submitted by 5:00 p.m. November 16, 2012, using the electronic submission process provided on the JFSP website (www.firescience.gov). Proposals should not be submitted in Grants.gov. There will be no exceptions to this closing date and time.

All proposals must meet all requirements in this FON (see especially Section IV. E below). Proposals that do not meet all requirements in this section will not be considered for funding. Proposals must be submitted for the appropriate task statement being addressed. The proposal will be reviewed and its merits judged in the context of this one task statement only.

Questions should be directed to:

Administrative questions:

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B. Task Statements

1. *Climate change and wildfire smoke at regional scale: Vegetation, fuels, fire regimes, and air quality impacts*

The Joint Fire Science Program (JFSP) is soliciting proposals to simulate fuels, wildfire regimes, and smoke impacts resulting from projected future scenarios of climate change and associated altered ecosystems. The primary intent is to highlight the potential impact of climate change on wildfire smoke and emissions. This project involves four distinct simulations with appropriate linkages and feedbacks among them:

1. Downscaled projections of climate for selected regions of the US (northeastern, southwestern, northwestern, southeastern, and Alaska) in the mid 21st century
2. Simulations of vegetation and fuels based on regional climate projections
3. Simulations of future wildland fire regimes based on climate and fuel scenarios
4. Projections of potential smoke emissions and air quality impacts to identify areas of concern for achieving air quality standards

Proposals must include deliverables from all four simulation stages.

Investigators are encouraged to use existing simulation results to meet the analysis criteria and requirements for these simulation stages where feasible, and to use existing models and modeling tools to create new simulations as needed. It is not the intent of this proposal solicitation to develop new models or modeling systems to accomplish this assessment. Proposals that include substantial new model development will not be reviewed.

Applicants may choose to propose analysis for any (or all) of the following regions, or propose and justify an alternative regional approach:

- Southwest: Southern California, Arizona, southern Nevada, southern Utah, New Mexico, southern Colorado and west/central Texas

- Northwest: Washington, Idaho, Oregon, Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, northern Colorado, northern Utah, northern California
- Northeast: Minnesota, Wisconsin, Michigan, Illinois, Ohio, Indiana, Missouri, Kentucky, Virginia, West Virginia, Pennsylvania, Rhode Island, New Jersey, Delaware, Maryland, Connecticut, New Hampshire, New York, Maine
- Southeast: North Carolina, South Carolina, Tennessee, Arkansas, Oklahoma, east/central Texas, Louisiana, Mississippi, Alabama, Georgia, Florida
- Alaska

Downscaled climate change projections

The Intergovernmental Panel on Climate Change (IPCC) in their latest published assessment (Assessment Report 4, 2007) reviewed various scenarios of anticipated global climate change through 2100 and regional climate change for the same time period. For the US, the North American Regional Climate Change Assessment Program (NARCCAP, <http://www.narccap.ucar.edu/>) produced 12 regional climate projections at 50 km horizontal resolution based on the IPCC A2 scenario for the period from 2041 – 2070 (Special Report on Emissions Scenarios, <http://www.ipcc.ch/pdf/special-reports/spm/sres-en.pdf>).

JFSP is requesting proposals that select and downscale at least three of the 12 NARCCAP climate projections for the period 2049-2051 to provide the climate input data needed for follow-up on vegetation, fuels, and fire regime modeling. Selected climate change scenarios should bracket the range of possible future fire regimes (i.e., from least to most future fires). Investigators may propose and justify use of alternatives to the NARCCAP climate change scenarios, if appropriate. Successful proposals will identify and justify the climate data selected, the methodology (dynamic, statistical, etc.) proposed to downscale these projections, and the final spatial resolution for downscaled climate data.

Simulation of vegetation and fuels

The objective of this simulation is to identify potential changes in vegetation and fuels in response to selected climate change scenarios. Projections for future fuels should support follow-on fire regime simulations. Since Landfire data are available and commonly used for modeling in the United States (<http://www.landfire.gov>), vegetation and fuels output data should be made available at compatible spatial scales. Several approaches have been used to simulate vegetation and fuel responses to projected climate change, including fully interactive dynamic process simulations, dynamic vegetation models, and statistical models. Successful proposals will specify and justify the specific modeling approaches and models to be used for this simulation.

Simulation of fire regimes and fuel consumption

The objective of this simulation is to identify potential changes in fire occurrence and severity in response to selected climate change scenarios. Results should include estimates of fuel consumption sufficient to support follow-on emissions and air quality simulations. Several models and modeling approaches have been used to simulate potential changes in fire and fire regimes in response to a climate change and altered vegetation and fuels. Successful proposals will specify and justify the specific modeling approaches and models to be used.

Smoke emissions and air quality projections

The purpose of these simulations is to project potential future climate impacts on mid 21st century air quality. Of particular interest are the wildfire emission consequences for particulates (including secondary organic aerosols), ozone, and black carbon. These emissions must be simulated for each county or sub-county unit in the analysis domain on an annual, seasonal and daily basis for the same time periods as the climate projections.

Proposals must include provisions for comparison of wildfire emissions to both primary and secondary US National Ambient Air Quality Standards (NAAQS) under projected future climates. Emissions from other sources, such as agricultural or prescribed wildland fires, should use the latest available EPA Emissions Inventory, or an alternative may be proposed and justified. Proposals must also identify urban centers and non-attainment areas likely to be smoke impacted, the nature of these impacts, and the time of year impacts are most likely to occur. Modeling must be conducted on a spatial scale that is adequate to accomplish these analyses. Successful proposals will specify and justify the specific modeling approaches, including the spatial scale and models planned for this activity.

JFSP has initiated a project (12-S-01-2) under the direction of Donald Z. McKenzie (USFS-PNW) that is intended to review alternative approaches and models capable of addressing the tasks in this FON. This project is scheduled for completion by March, 2013. Investigators of successful proposals may be asked to revise their proposals to ensure consistency with recommendations from this review paper.

This solicitation is a component of the JFSP Smoke Science Plan (SSP; http://www.firescience.gov/JFSP_Smoke.cfm) and, as such, investigators should plan to participate in various communication and coordination activities with other SSP investigators and smoke managers or regulators. For example, investigators may be asked to participate in conference calls, workshops or webinars to discuss or present interim results and planned activities.

2. Health impairment from exposure to fire smoke: Relationships among the National Ambient Air Quality Standards (NAAQS) and industrial health guidelines

The Joint Fire Science Program (JFSP) is soliciting proposals to assess the relationships among public health-based considerations of risk to vulnerable citizens, and industrial health-based considerations of risk to fire workers. The purpose of this solicitation is to improve our ability to assess risk for both the public and fire workers, and to better understand smoke atmospheric concentration health guidelines for both worker safety and public health.

Proposals must be based on a review of the literature and analysis of existing data sets. New data collection campaigns are not intended. New data collection will only be considered for funding if the proposal demonstrates that new data is necessary to address task statement questions.

Because the responsibility for measuring and tracking smoke for public health and for fire worker health lies with different organizations, different methodologies have been developed for public health and industrial health communities. For example, industrial health metrics are given for PM₄, while the NAAQS are specified for PM_{2.5} and PM₁₀. Reconciling these metrics and providing recommendations for public and fire worker health safety would be highly beneficial.

In addition, there are non-particulate chemicals in fire emissions that are suspected of posing public health and fire worker health risks. A comprehensive survey and synthesis of this information is desired.

Responsive proposals must address the following questions:

- *Health standards* - What are suggested guidelines for levels of ambient PM (total, 10 and 2.5) where members of the public should be restricted or removed from the smoke environment? What guidelines for fire workers would help maintain fire worker health? What are maximum recommended instantaneous, one-hour, and 24 hour exposure concentrations of smoke PM₄, PM_{2.5}, and PM₁₀? How should protection from exposure to individual or combined non-particulate or particulate/gas chemical constituents be factored into public and fire worker safety guidelines?
- *Hazardous chemicals* - Which specific chemicals in fire smoke, including trace chemical substances such as benzene and isocyanic acid, should be included in future indices, guidelines, or studies developed for smoke altered ambient air quality?
- *Particulate matter metrics* - How should particulate matter metrics used by public and industrial health communities be reconciled for an overall assessment of health risk from fire smoke? How do concentrations of PM₄ relate to the ambient air quality standard concentrations of PM_{2.5} and PM₁₀ for typical smoke particulate size distributions as measured from different fire intensities, periods of exposure and clean air recovery, and types of fire (wildfire, prescribed fire) in different ecosystems?

Recommendations to protect the health of fire workers should consider previous and new guidelines recommended by the National Wildfire Coordination Group (NWCG; <http://www.nwcg.gov/general/memos/nwcg-006-2012.html>). Guidelines should describe when and where such standards would be applicable (e.g., fire camps vs. areas of active fire suppression activities), with emphasis on chronic and/or cumulative exposure guidance such as impacts to lung function, cancer, and other risks.

Recommendations to protect public health should consider classification of individual sensitivities (e.g., age, health history, fitness level) and important related environmental factors (e.g., elevated temperatures, humidity, etc.). Recommendations should also consider appropriate averaging times (instantaneous, hourly or 24 hour) based on human health effects.

Industrial health work on fire smoke is currently being conducted by the USDA Forest Service Missoula Technology and Development Center and by the USDA Forest Service San Dimas Technology and Development Center. Investigators should review work from these centers for possible relevance to submitted proposals and use results from these centers as appropriate (see: http://www.fs.fed.us/fire/safety/ref_material/content/health_hazards_smoke.pdf; <http://www.fs.fed.us/t-d/pubs/htmlpubs/htm09512801/page05.htm>).

In addition, the Environmental Protection Agency (EPA) is charged with ongoing evaluation of public health risks from ambient air pollutants, and with setting standards to protect public health. The most recent EPA work on this topic should also be consulted and used as appropriate.

(<http://www.epa.gov/ttn/oarpg/naaqsfm/pmhealth.html>;
<http://nlquery.epa.gov/epasearch/epasearch?querytext=fire+smoke&fld>).

Applicants may also find the NWGC 2001 Smoke Management Guideline, section 3.4 on Smoke Exposure (<http://www.nwgc.gov/pms/pubs/SMG/SMG-72.pdf>) useful.

This solicitation is a component of the JFSP Smoke Science Plan (SSP; http://www.firescience.gov/JFSP_Smoke.cfm) and, as such, investigators should plan to participate in various communication and coordination activities with other SSP investigators and smoke managers or regulators. For example, investigators may be asked to participate in conference calls, workshops or webinars to discuss or present interim results and planned activities.

3. *Fuels treatment effectiveness: Economics*

The Joint Fire Science Program (JFSP) is soliciting proposals that assess the cost effectiveness of fuel treatments at multiple scales. Fuels treatments are implemented to reduce fire suppression costs, enhance safety of fire crews, augment protection of homes and infrastructure, and to meet a variety of ecosystem restoration and resource management objectives. This task statement focuses on quantification of economic trade-offs related to fuels treatment effectiveness.

Given that substantial resources are invested in fuel treatments, it is imperative that managers have confidence that fuel treatments are effective in meeting treatment objectives. JFSP expects that results from research funded in response to this task statement will help managers prioritize and evaluate the investment value of fuels treatments. This information is critical to future budget allocation decisions.

All proposals submitted under this task statement must directly address at least one of the following questions, and have a high likelihood of producing information useful to managers:

- *Treatment costs* - What are the costs associated with different treatment types and re-treatment intervals? What are the least-cost re-treatment intervals to meet fire behavior objectives?
- *Avoided wildfire costs* - Are fuel treatment costs justified on the basis of saved suppression costs? How do fuels treatments influence wildfire management and suppression decisions and costs? How do the costs of implementing various wildland fire suppression strategies compare to fuel treatment costs?
- *Influence of scale* - How do the temporal and spatial scales of fuels treatment implementation influence cost effectiveness? How do the effects of multiple treatments implemented over space and time influence cost effectiveness?

JFSP is interested in proposals that investigate the economics of fuel treatments at all scales from local sites to regional or national level investigations. Proposals should consider key variables that influence responses to the above questions, such as treatment type, intensity, frequency, size, number, and placement; fuel type; geography; or specific site conditions. Proposals should also consider the influence of fuel treatments on a range of wildfire sizes, including small wildfires.

JFSP is particularly interested in innovative proposals that evaluate trade-offs among fuels treatment costs and potentially avoided wildfire suppression costs. These proposals should include consideration of the likelihood of fire occurrence.

Proposals that examine a range of environmental conditions and vegetation types are desired, as are comparative studies of recent fires and re-measurement of previously installed field experiments.

Investigators are expected to demonstrate coordination with relevant consortia within the JFSP Knowledge Exchange Network to exchange and demonstrate research results (see www.firescience.gov).

4. *Fuels treatment effectiveness: Ecosystem restoration*

Vegetation management and fuels treatments are increasingly being used to meet both fire behavior and ecosystem restoration objectives. Expected beneficial effects include both the direct effects of treatments on ecosystems, and the indirect effects achieved by potential alteration of future fire behavior. Given that substantial resources are invested in joint vegetation management and fuels treatments, it is imperative that managers have confidence that these treatments are effective in meeting treatment objectives.

The Joint Fire Science Program (JFSP) is soliciting proposals that assess the effectiveness of joint vegetation management and fuels treatments in restoring ecosystem composition, structure, and function. JFSP expects that results from research funded in response to this task statement will help managers weigh the contributions of vegetation management and fuels treatments towards meeting ecosystem restoration objectives. Responsive proposals must evaluate treatments that have fuels reduction to achieve a specific desired range of future fire behavior as an explicit objective.

All proposals submitted under this task statement must directly address at least one of the following questions, and have a high likelihood of producing information useful to managers:

- *Metrics* - What metrics have been used to characterize the effectiveness of fuels treatments at meeting ecosystem restoration objectives? What are the characteristics of useful metrics? Which metrics have potential for effective and broad usage?
- *Scale* - How do vegetation management and fuels treatment effects on ecosystem restoration vary by spatial and temporal scale? At what scales can vegetation management and fuels treatments be effective at meeting ecosystem restoration objectives?
- *Wildfires* - How do fuels treatments affect the attainment of ecosystem restoration objectives by their influence on selection of wildland fire suppression strategies? Is this effect realized in the near term or the long term?

JFSP is interested in proposals at all scales from local sites to regional or national level investigations. Research should be proposed in fuel types where fuels treatments to meet ecosystem restoration objectives are common. Proposals may include a synthesis of existing information, retrospective field studies, re-measurement of existing field experiments,

observational studies, or modeling studies. JFSP is not interested in initiating new long-term field experiments with these funds. Proposals should consider key variables that influence responses to the above questions, such as treatment type, intensity, frequency, size, number, and location; fuel type; geography; or specific site or landscape conditions.

Proposals that examine a range of environmental conditions and vegetation types are desired, as are comparative studies of recent fires and re-measurement of previously installed field experiments.

Investigators are expected to demonstrate coordination with relevant consortia within the JFSP Knowledge Exchange Network to exchange and demonstrate research results (see www.firescience.gov).

5. Masticated fuelbeds effects on combustion and fire behavior

Mastication has become a widely used fuels 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.

The Joint Fire Science Program (JFSP) is soliciting proposals that assess the effects of mastication fuels treatments on combustion and fire behavior. JFSP is particularly interested in proposals that collect new field data of masticated fuelbeds and fire behavior. Proposals that include modeled fire behavior must include independent field data sets to evaluate model predictions.

All proposals submitted under this task statement must directly address the following topics, and have a high likelihood of producing information useful to managers:

- *Fuelbeds* - What are the effects of mastication treatments on fuelbeds? What are the effects of masticated fuel particle size and fuelbed depth on fuelbed moisture?
- *Combustion and fire behavior* - How do changes in masticated fuel particle size, fuelbed depth, and fuelbed moisture influence combustion processes, fire intensity, and fire spread? Do masticated fuel beds increase smoldering combustion and the possibility of holdover embers in complex fuelbeds?
- *Temporal changes* – How long does it take for masticated fuel beds to decompose, and how does this affect fire behavior? How are these results affected by depth of fuel bed, species, particle size, and geographic area?

Effective fire behavior fuel models for masticated fuels are desired products. Resulting descriptions of masticated fuelbeds should provide enough detail to develop custom fuel models for use in fuel characteristics and fire behavior modeling systems.

Research should be proposed in fuel types where mastication fuels treatments are common. Proposals should consider key variables that influence responses to the above questions, such as

treatment type, intensity, and frequency; fuel type; geography; machine characteristics; or specific site conditions.

Investigators are expected to demonstrate coordination with relevant consortia within the JFSP Knowledge Exchange Network to exchange and demonstrate research results (see www.firescience.gov).

6. Compatibility of fire, fuels and rehabilitation treatments with T&E gallinaceous birds

The Joint Fire Science Program (JFSP) is soliciting proposals that investigate the compatibility of fire, fuels and rehabilitation activities with habitat and population restoration of gallinaceous bird species that are federally listed as Candidate, Threatened, or Endangered. 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 species conservation and recovery plans. JFSP seeks research that investigates the compatibility of fire, fuels, and rehabilitation activities with species conservation needs, and produces results that could be used to improve the effectiveness of these activities.

Investigators should include provisions for collection of new data on specific treatment effects to federally listed gallinaceous bird habitat or populations. This research should use multiple lines of evidence and interdisciplinary analysis to illuminate which treatments, treatment parameters and/or associated environmental factors correlate with beneficial, harmful, or neutral outcomes with respect to species conservation.

Analyses can be proposed at local treatment unit scales, or across larger landscapes. The JFSP Governing Board is particularly interested in landscape assessments that evaluate trade-offs among short-term actions and long-term ecological responses, and illustrate how these relations vary over time and space. Evaluation of specific management scenarios is one technique that has been successfully used to address complex landscape management problems.

JFSP is particularly interested in proposals that examine recent large fires, or landscape scale treatments. JFSP will only review proposals that focus on one or more of the following 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>)	C
Attwater's Prairie Chicken	(<i>Tympanuchus cupido attwateri</i>)	E
Masked Bobwhite Quail	(<i>Colinus virginianus ridgwayi</i>)	E

All proposals submitted under this task statement must directly address the following questions, and have a high likelihood of producing information useful to managers:

- *Landscapes* - Where and when on the landscape should specific fuels or fire management activities be planned and utilized to maintain or improve key habitat features? What habitat features can be effectively managed with fuels treatments?

- *Prescriptions* - How can the season and other prescribed-burn parameters be planned and implemented to minimize negative effects or enhance positive effects to sensitive species habitats and populations? What specific prescription parameters and environmental factors result in better achievement of both fuels treatment and wildlife habitat objectives?
- *Resiliency* - How can habitats be enhanced and managed for resiliency across broad landscapes that are prone to frequent fire, particularly in areas that have experienced altered fuel loads from exotic or invasive species and/or long-term fire suppression?
- *Post-fire management* - What types of post-fire rehabilitation activities support habitat conservation of these species?

Investigators are expected to demonstrate coordination with relevant consortia within the JFSP Knowledge Exchange Network to exchange and demonstrate research results (see www.firescience.gov).

C. Budget and Funding Policy

1. Funding Cooperator

Proposal may require a funding cooperator. See Section III.B above.

2. Indirect Costs

The JFSP Governing Board recognizes the need of agencies and organizations participating in the program to recover reasonable indirect costs. However, cost effectiveness of the individual projects is a determining factor in the final selection process. Indirect rates for JFSP proposals are limited to a maximum of twenty (20) percent of the direct costs. The maximum indirect rate that a funding cooperating institution may charge for pass-through costs is ten (10) percent. Proposals with indirect rates higher than twenty (20) percent will not be considered. Proposal funding through a federal funding cooperator must reflect either the prevailing indirect rate for the cooperating federal agency or the JFSP maximum limit of twenty (20) percent, whichever is less.

Pass-through costs are charged only by the PI institution or funding cooperator institution for administrative costs associated with managing sub-agreements. Pass-through costs are limited to ten (10) percent of the sub-agreement direct charges.

Each institution is allowed to charge no more than twenty (20) percent indirect charges on their direct charges.

(See indirect cost example below)

Indirect costs example

Scenario

- The PI is from a university or federal agency (lead institution)
- Co-PI is from a cooperating university or NGO (cooperating institution)
- The calculated expenses in the budget for the lead institution are \$200,000 (salary, fringe benefits, travel, equipment, etc.)
- The calculated expenses in the budget for the cooperating institution are \$40,000

Calculation of indirect costs

1. Cooperating institution

Maximum allowed indirect costs (20%)

$$\$40,000 * 0.20 = \$8,000$$

Total budget for cooperating institution

$$\$40,000 + \$8,000 = \$48,000$$

Note: If there are multiple cooperating institutions this calculation would be performed for each institution.

2. Lead institution

Maximum allowed indirect costs (20%) on own budget

$$\$200,000 * 0.20 = \$40,000$$

Maximum allowed pass-through indirect costs (10%) on cooperating institution budget

$$\$48,000 * 0.10 = \$4,800$$

Total budget for lead institution

$$\$200,000 + \$40,000 + \$4,800 = \$244,800$$

$$3. \text{ Total budget} = \$244,800 + \$48,000 = \$292,800$$

Points of emphasis

- Lead institutions can include pass-through costs for each cooperating institution in their budget
 - Pass-through costs are calculated based on the total budget for each cooperating institution, including the indirect costs calculated by the cooperating institution
 - Cooperating institutions do not include pass-through costs in their budgets
 - Institutions should use their negotiated indirect cost rates with their cooperating institutions, but cannot exceed JFSP maximums
-

3. SBIR Costs

Certain proposals may be required to pay a percentage of the project's costs into the Small Business Innovation Research (SBIR) program. Proposals where the funds are transferred to a Forest Service institution and subsequently award a portion of the total budget to a non-federal entity through a sub-agreement or sub-contract may be required to pay 2.5% of the total funds awarded externally to the SBIR program. Check with your budget contact to determine if this applies to your proposal.

4. Salary Policy

Normally, salaries of permanent full-time federal employees are expected to be provided by their agencies. This is also true of university faculty on 12-month tenure-track appointments. These employees are already fully funded by their institutions. However, the Governing Board recognizes there can be unique situations where the Governing Board may agree to fund the salary of permanent employees.

A detailed justification for funding the salary of permanent employees must be included in the proposal to be considered for funding. The justification should indicate all sources of funding, including other pending projects and associated full-time equivalent (FTE) for the permanent position for which salary funding is requested. The justification must be signed by the supervisor of the individual requesting salary.

You must use the format found on the attachments tab for the certification. In addition, permanent employee salary costs must be explicitly identified in the project budget. The Governing Board requires no special justification (other than a brief description of the need for the position in the budget justification section of the proposal) for funding part-time, temporary, term employees, post-doctoral employees, graduate, or undergraduate students. Stipends are normally funded, but tuition fees will not be funded.

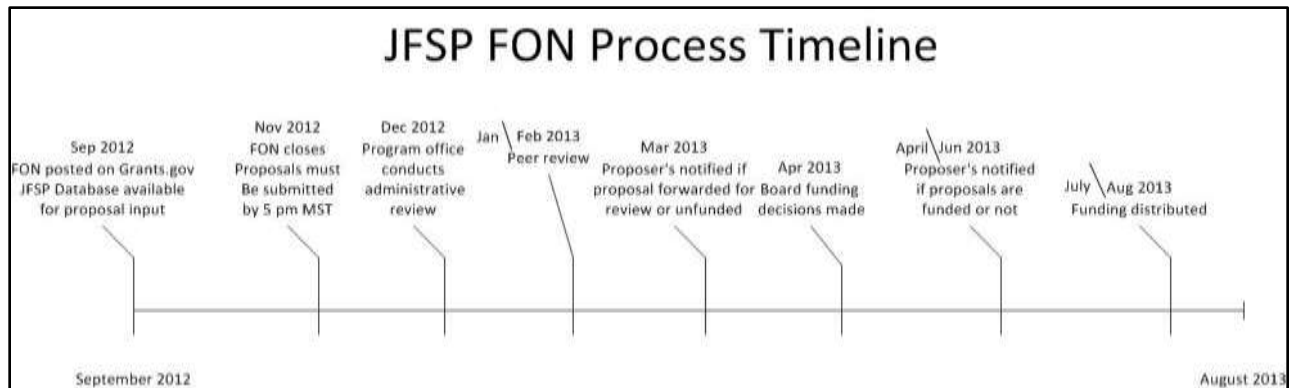
5. Budget

Budgets must be reviewed by your budget contact and your grants and agreements contact to ensure all costs have been included and the budget is correct. JFSP will not provide additional funds to cover errors discovered after the proposal submission deadline.

Proposals will be funded via Inter-agency agreement or cooperative agreement (with the exception of proposals with BLM PI's or funding cooperators).

Funding is usually distributed in late summer; please plan budgets accordingly

(See proposal timeline below).



D. Data Management Plan

It is the intent of JFSP that all data collected or generated through JFSP funds are of high quality and made freely available to others within a reasonable time period. JFSP recognizes that preparation of data and metadata for publication is a time consuming process. Adequate funds to support this work should be included in proposal budgets.

DMPs must be attached as a separate document and are limited to two pages maximum. DMPs will be considered in the proposal review process.

DMPs must contain the following (see DMP template and instructions for further detail):

- Description of data type, scale, resolution, and format for all data to be submitted to a data repository
- Steps used to process and quality assure the data
- Specific data repository intended for long-term data storage
- Metadata language used to describe the data
- Provisions for data access and necessary limitations to protect sensitive data
- For modeling studies, only data generated for model input should be included in the DMP.

All collected or generated data should be evaluated for errors, and subjected to data proofing and validation procedures.

Investigators must select a data repository well suited for long-term archival, publication, and data sharing of data collected or generated through JFSP funding. JFSP recommends use of the Forest Service R&D data archive (<http://www.fs.usda.gov/rds/archive/Default.aspx>). If you would like to discuss the archive's services, please contact archivist Dave Rugg (drugg@fs.fe.us) or associate archivist Laurie Porth (lporth@fs.fed.us).

Submission of data sets and metadata will be required at the time of final report submission. JFSP will review the data and metadata to ensure that all required information is provided (including a pointer in the metadata to the location of the data). After successful review, the metadata will be provided to the Forest Service R&D data archive (<http://www.fs.usda.gov/rds/archive/Default.aspx>), which will provide the central metadata catalog for all JFSP projects. The PI is responsible for keeping the metadata in the official catalog current over time.

PIs can limit release of data sets for up to two years following submission of the final report. At the end of this period, all data sets will be made publicly available. All extensions of this deadline require extenuating circumstances and approval by the JFSP Program Manager.

E. Additional Application Requirements

Proposals must meet all of the following requirements to be considered. Incomplete proposals will not be considered. There will be no exceptions to either the submission deadline or other submission requirements. If you have questions about these requirements, please contact the JFSP Program Office for clarification (Becky Jenison 208-387-5958, or John Cissel 208-387-5349).

1. Proposal Submission

Proposals must be submitted electronically via the JFSP website (www.firescience.gov). Proposals should not be submitted in Grants.gov. Hard copy, email, or facsimile proposals will not be accepted.

- Proposers must have a JFSP database login and password to submit a proposal. Requests for access will be processed in approximately 24 hours.
- Only the PI can submit the proposal.
- Proposals can be saved in the JFSP system and submitted prior to the closing date and time. Submitted proposals can be reverted back to final draft by the PI prior to the closing date. If you revert a proposal back to draft you must resubmit the proposal before the closing date and time.
- The JFSP proposal submittal system will not allow proposals to be submitted after the closing date and time.

2. Contacts

Proposals may be required to have the following contacts (see Section VI. Definitions to understand the role of each contact) assigned to a proposal:

- Principal Investigator (Required, only one Principal Investigator can be assigned)
- Funding Cooperator (may be required, see Section III.B. funding cooperator)
- Budget Contact (required)
- Grants and Agreements Contact (required)
- Co-PIs and Collaborators (options)

3. Confirmation Page

When you submit your proposal you will receive a confirmation page. We highly recommend that you save or print this page for your records.

You should receive an email from the JFSP Program Office letting you know that your proposal has either been forwarded for review, or rejected for not meeting administrative requirements. If you do not receive this confirmation page you have not submitted your proposal correctly. If you do not receive this email by the end of December, you should fax or email your confirmation to Becky Jenison at bjenison@blm.gov or fax: 208-387-5960.

4. Attachments

All required documents and required templates must be attached before the proposal is submitted. All attachments except the budget must be attached as a pdf document; the budget template is in an Excel format. Attachments over the page limit cannot be submitted. All information in a template must be included as part of that attachment and must be within the page limit. Extraneous materials (e.g., extra graphs and text) are not permitted and will not be reviewed.

Required attachments for all proposals:

- Proposal body
- C.V.s (PI: two-page maximum, Co-PI(s): one-page maximum)
- Budget spreadsheet (Excel spreadsheet, includes a separate worksheet for each institution requesting funding)
- Budget narrative (bullet statements explaining specific budget assumptions and costs)
- Data Management Plan (see below)

Additional attachments:

- Letter(s) of support (optional, but recommended)
- Salary justification (may be required, see below)
- Specific to a task statement (check the applicable task statement for additional requirements)

5. Data Management Plan

All proposals are required to submit a Data Management Plan (DMP) using the instructions, template, and example provided (See Section IV. D above).

6. Budget

Budget summary numbers must be input in the JFSP database on the budget tab. The budget detail must be attached on the attachments tab using the spreadsheet template provided. Proposals cannot be submitted without completing these required fields and attachments.

7. Task Statement Intent

Proposals that do not clearly and directly meet the intent of the task statement selected will not be considered for funding. Please make sure you are submitting your proposal for the correct task statement.

8. Format

Proposals not following the required template will not be considered. Proposals must use an 11 point font or larger. Additional guidance is included in the beginning of each template.

9. Page Limits

Attachments exceeding the page limit cannot be submitted. Page limits may vary by task statement and attachment; check the page limit in the template and JFSP database for each specific task statement. Everything in the template is included in the page limit.

10. Project Location

Project location fields must be completed on the location tab for a proposal to be successfully submitted. Instructions are listed on the project location tab.

11. Signatures

Handwritten signatures are not required. When Principal Investigators (PIs) submit proposals they will be prompted to input their password. By typing in the password and submitting a proposal, PIs are certifying that all contacts on the proposal have reviewed the proposal and understand what their role requires.

12. Indirect Costs

Proposals must follow JFSP indirect cost guidelines. (See Section III.B above)

13. In-Kind Contributions

See Section III.C above.

14. Support Letters

Support letters are encouraged, but not required. Support letters are useful if they show understanding of the proposed work and the author articulates how the work will benefit them. Support letters that appear to be ghost-written by the PI or are form letters are much less useful. If submitted, letters must be combined into one pdf document and attached on the attachments tab. Support letters sent by hard copy or email directly to JFSP will not be considered.

15. Salary Justifications

Salary justifications may be required (see Section IV. C above).

16. Past-Due Projects

No proposals will be considered if the work includes a PI or Co-PI who is a PI or Co-PI on a JFSP project that is past due as of the closing date of this announcement. See the JFSP website for the complete JFSP past-due and extension request policy.

SECTION V. APPLICATION REVIEW AND EVALUATION

Overview

Proposals will be reviewed in four stages:

1. JFSP Program Office – Administrative requirements and task statement intent
2. Peer Review – Relevancy, technical merit, products, and feasibility
3. Governing Board Review – funding decisions
4. Statistical Review (optional) – Adequacy of study design and analysis methods

Review Criteria

Note: Review criteria are not arithmetically scored or weighted. However, applicants should note that the technical merit criterion is given particular attention. Proposals that do not receive strong technical merit reviews are unlikely to be funded.

Relevancy

- Does the proposal directly address the relevant task statement?

- Will the proposed work lead to results that can be used by the fire, fuels, and resource management community?
- Is the proposal important to the science community?

Technical Merit

- Are objectives and hypotheses clearly articulated?
- Are methods appropriate for stated objectives?
- Can hypotheses be answered with the proposed design and analysis?
- Are the methods sufficiently rigorous to produce credible results?

Products, Deliverables and Science Application

- What is the final product and why is it important?
- Is there a sufficient plan to exchange results with relevant audiences?
- Who will deliver it and how will it be delivered?
- Where relevant, is there evidence that investigators have collaborated with the JFSP Knowledge Exchange Consortia to develop science delivery plans?

Feasibility

- Does the project team have the skills and qualifications to execute the proposed work?
- Is the requested budget reasonable for the scope and scale of the proposed work?
- Is the schedule reasonable?
- Have all likely barriers been identified and mitigated?
- Is the probability of success high?
- Is there evidence of collaboration and commitment of the management community?
- Does the proposal have in-kind contributions?

SECTION VI. DEFINITIONS

Funding Opportunity Notice (FON): The official label for the Joint Fire Science Program method of requesting project proposals. The FON includes task statements for which proposals are sought, instructions for proposal submission, and related information.

Principal Investigator (PI): The individual identified in a proposal who is the research lead for the project. This individual is responsible for coordinating all research related activities and will be the primary science contact for the project. In addition the PI is responsible for communicating and coordinating with Co-PIs and others on the research team. The PI is responsible to JFSP for completion of the project.

Funding Cooperator: The funding cooperator receives funds from JFSP and is responsible for distributing funds to other cooperators. A funding cooperator is only required if the PI is non-federal and a federal institution is requesting funding, or if the work is being completed through a private business, or requests international funding. The funding cooperator is responsible for coordinating with the PI, the grants and agreements contact, and the budget

contact on administrative activities for this project. The funding cooperator will be one of the primary contacts for the project and should stay informed and involved in project activities.

Budget Contact: Budget contact must be from the institution receiving funds from JFSP. This person is responsible for ensuring the budget details are correct prior to proposal being submitted and agrees to receive funds and facilitate the transfer of funds, if necessary. Budget contact must be from the institution receiving funds from JFSP. If a federal agency is requesting funds the budget contact must be from the federal cooperating agency.

Grants and Agreements Contact: Person from institution receiving funds from JFSP that is responsible for facilitating the receipt of funds and the execution of any agreements or contracts necessary for a proposal if it is selected for funding. If a federal agency is requesting funds the grants and agreements contact must be from the federal cooperating agency.

Co-Principal Investigator (Co-PI): The individual(s) identified in a proposal who will work with the research lead on the project and makes a substantial contribution to the project. Co-PIs are responsible for communicating and coordinating with the PI.

Indirect Costs: Those costs that are a percentage of the total cost used to pay for overhead/administrative costs attributable to a specific research project. Examples include the costs of operations and maintenance such as janitorial, phone, and clerical services. The Joint Fire Science Program recognizes two types of indirect costs: 1) “in-house” costs incurred by the agency, institution, or unit completing the research; and 2) “pass-through” costs associated with sub-awarding project funds to another agency, institution, or entity for the purpose of completing research or science delivery.

Joint Fire Science Program Governing Board: An appointed 10-person Board representing the JFSP partnering agencies. The Board provides strategic direction and oversight to JFSP, identifies important research questions, selects proposals for funding, supervises the JFSP Program Manager, and conducts related business.

Science Exchange and Application: The exchange of information, materials, models and other research deliverables to end users, along with adequate information and training to apply the deliverables. Examples of active methods include workshops, training sessions, guided field tours, conferences, meetings, and symposia. Examples of passive methods include published papers and websites. A combination of active and passive methods is preferred. Collaboration with the regional JFSP Knowledge Exchange Consortia is recommended.

Task Statement: A specific area of interest identified in the FON, for which project applications are sought.