
USDA Forest Service R&D

Research Linkages to U.S. Joint Fire Services

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USDA Forestry Research Advisory Council
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Research Linkages to U.S. Joint Fire Services

- Research — from basic to applied
- Stakeholders & customers — “joint fire services”
- USFS Fire and Fuels R&D Strategic Plan
- The Cohesive Strategy
- USFS R&D Capacity, strengths, weaknesses

Fire Management Actions*



* Fire as a natural process is both a stressor and a mitigator

Basic
Research



Applied
Research
& Development



Technology
Transfer



Application &
Operation

Support and Maintenance

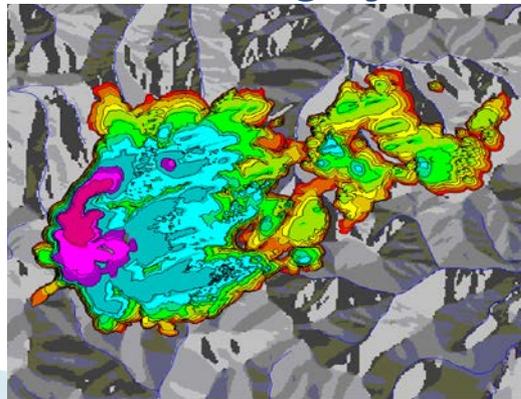
Experiments



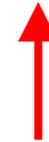
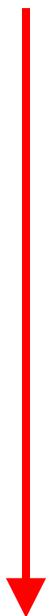
Models

$$R = \frac{I_R \xi (1 + \phi_w + \phi_s)}{\rho_b \epsilon Q_{ig}}$$

Fire Modeling Systems



Fire Management



Basic Research



Applied Research & Development

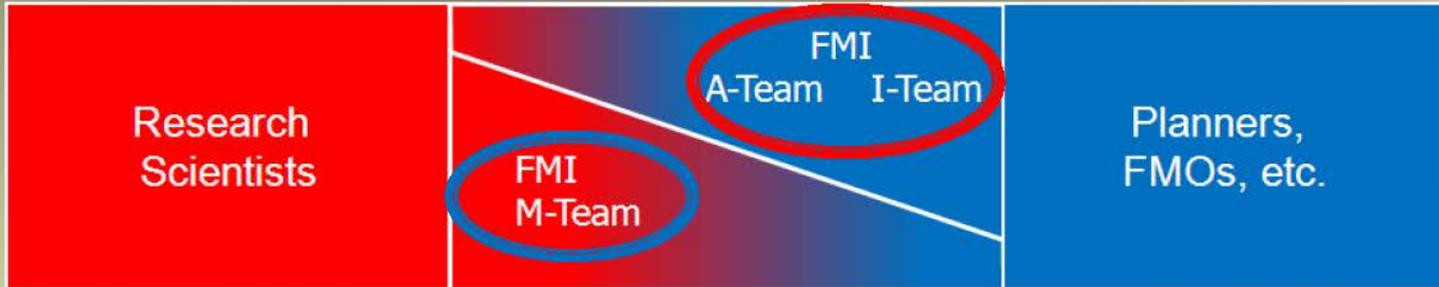


Technology Transfer



Application & Operation

Support and Maintenance



RESPONSIBILITY:

shared



FS R&D



Land Management Organizations





NATIONAL WILDFIRE COORDINATING GROUP

The National Wildfire Coordinating Group (NWCG) provides leadership to the wildland fire community regarding training, standards, equipment, firefighting qualifications, and other wildland fire functions.

NWCG Members List

| | | | |
|---|--------------------------------|---|--|
|  | Bureau of Indian Affairs |  | US Forest Service, Fire & Aviation Management |
|  | Bureau of Land Management |  | Federal Emergency Management Agency, U. S. Fire Administration |
|  | U.S. Fish and Wildlife Service |  | National Association of State Foresters |
|  | National Park Service | | Fire Systems Research, U. S. Forest Service |
| | | | Intertribal Timber Council |



Three Branches with Committees:

Policy, Planning, and Management

- Fire policy
- Interagency fire planning
- Fuels management
- Communication, education,
and prevention
- Smoke
- WUI mitigation

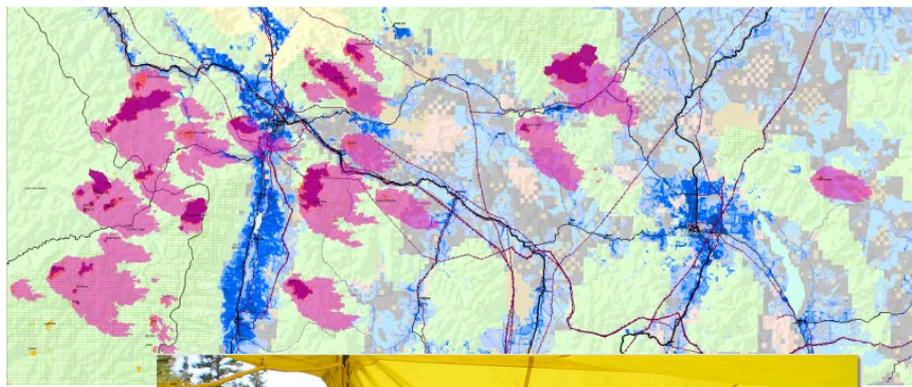
Equipment and Technology

- Information technology
- Equipment technology
- Fire environment
- National interagency aviation

Preparedness

- Incident business
- Nat'l Response Framework/
Nat'l Incident Mgt. Systems
- Risk management
- Operations and workforce
development

Decision Support—Models, Tools, Systems



Nationally-Adopted “Corporate” Systems

- BehavePlus
- WFAS (Wildland Fire Assessment System)
- FireFamilyPlus
- *FARSITE*
- FlamMap
- FFE-FVS (fire and fuels)

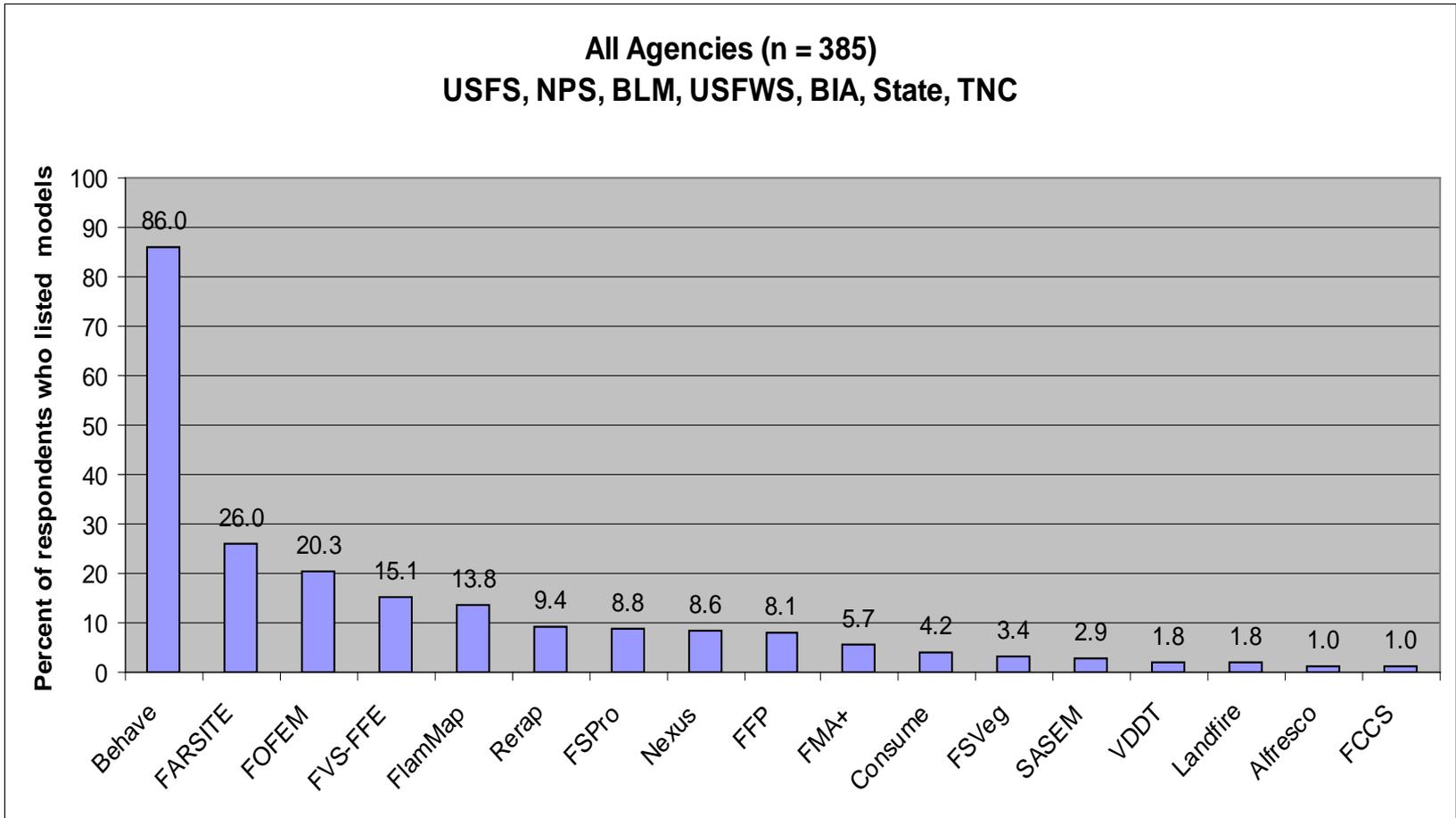
Other National Systems

- FOFEM (fire effects)
- FEIS (fire effects information)
- FIREMON (fire monitoring)

And Contributions to:

- LANDFIRE
- FPA
- WFDSS

Application and Implementation – – Who Cares?!





G A C C

Geographic Area Coordination Centers

Welcome to the National GACC Portal

[HOME](#) [ABOUT US](#) [DISCLAIMER](#) [PRIVACY POLICY](#) [CONTACT US](#)

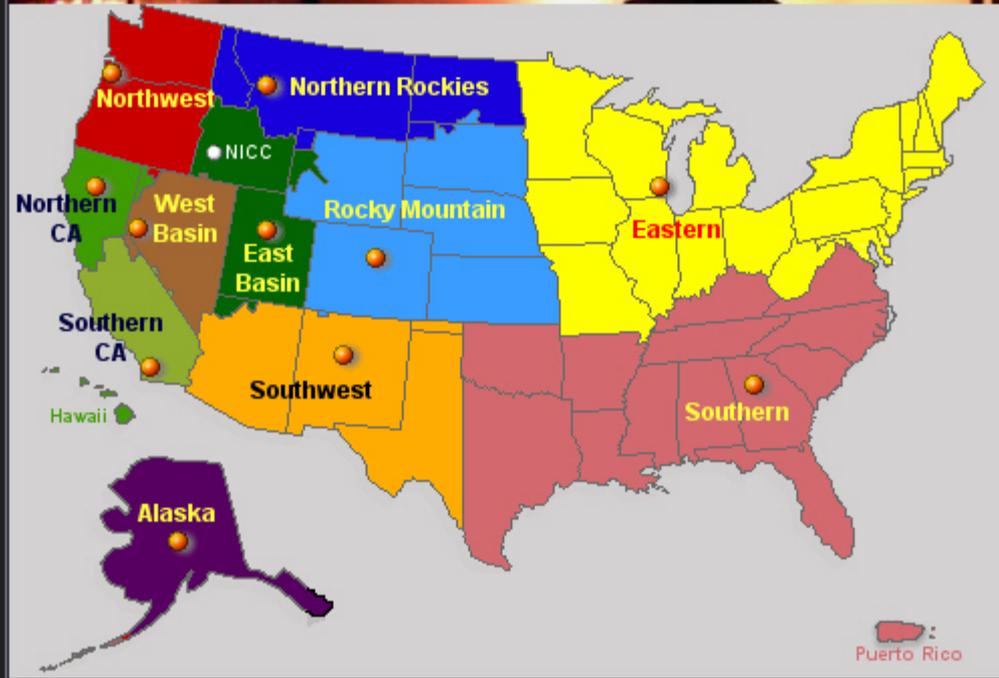
Search By Google

GEOGRAPHIC AREA COORDINATION CENTERS

- Alaska
- Eastern Area
- East Great Basin
- Northern California
- Northern Rockies
- Northwest
- Rocky Mountain
- Southern Area
- Southern California
- Southwest
- Western Great Basin

- AICC
- EACC
- EGBC
- ONCC
- NRCC
- NWCC
- RMCC
- SACC
- OSCC
- SWCC
- WGBC

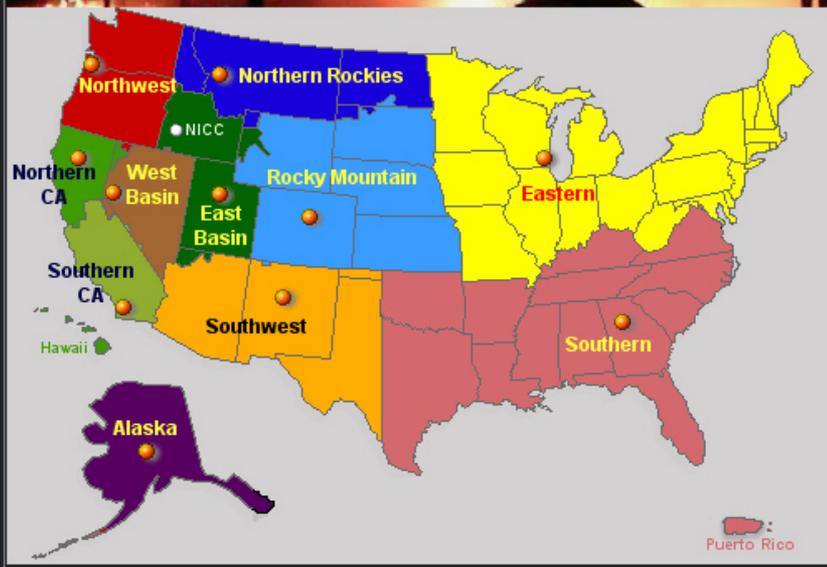
What GACC do you want to visit today?



NATIONAL FIRE CENTER AGENCIES

- NIFC Website
- Bureau of Land Management
- Bureau of Indian Affairs
- National Park Service
- U. S. Fish & Wildlife
- U. S. Forest Service
- National Association of State Foresters
- National Business Center
- National Oceanic Atmospheric Administration
- U. S. Fire Administration

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U. S. Fire Administration

GACC OPERATIONS (Direct Links)

Logistic/Dispatch
Predictive Services

- Intelligence
- Weather
- Fuels / Fire Danger
- Outlooks

We (FS R&D) aren't doing this alone !!

We facilitate and nurture partnerships with academia, NGOs, and many other agencies.

For example.....

Wildland Fire Science Partnership



University
of Idaho



A University-Forest Service partnership working together to improve the management of wildland fire by integrating science, technology, education, and practical experience.

The FS Fire Research Portfolio

- ▶ Funding Sources
- ▶ Portfolio Areas
- ▶ Emerging Research Needs

Funding Sources

- ▶ Base Research Funding: \$22 million (about 8% of FS research, 157 FTE, enriched by crosscutting research)
- ▶ “Fire Plan” or Hazardous Fuels Funding: \$22 million—effects and effectiveness of hazardous fuels treatments
- ▶ Joint Fire Science Program: \$14 million in BLM and FS funds, administered through competitive grants
- ▶ FS Fire and Aviation Management also supports research and science delivery with millions of dollars targeted to particular products or lines of work

JFSP Investment Strategy

| Investment Topics | Investment Goal |
|---------------------------------------|-----------------|
| Science | 65% |
| Lines of work | 40% |
| Emerging management needs | 15% |
| New science initiatives | 5% |
| Long-term trends—remeasurement | 5% |
| Science delivery and adoption | 25% |
| Program administration and evaluation | 10% |

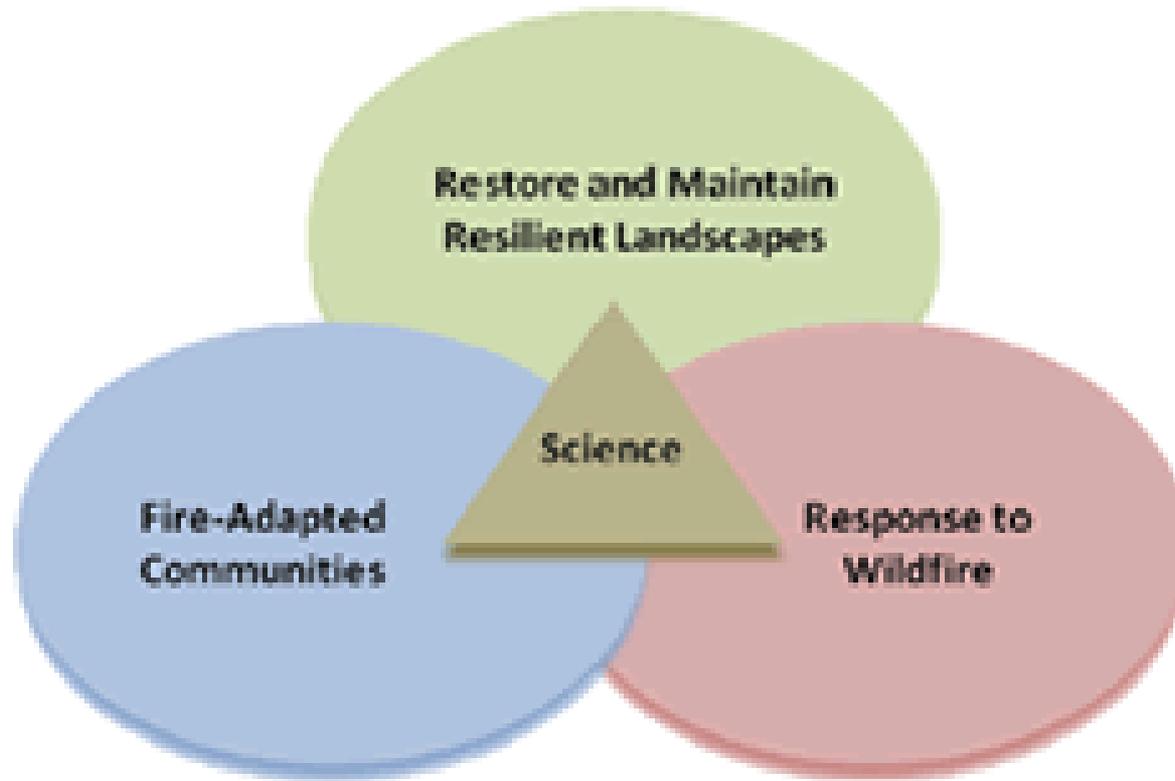
Fire Research Portfolio Areas

- ▶ **Physical Fire Science**--physical fire processes (combustion, heat transfer, emissions), fire characteristics at multiple scales, and fire danger assessment.
- ▶ **Ecological and Environmental Fire Science**--fire effects on ecosystem components, and fire and environmental interactions.
- ▶ **Social Fire Science**--public interactions with fire and fuels management, socio-economic aspects of fires and fuels management, and organizational effectiveness.
- ▶ **Integrated Fire and Fuels Management**--management strategies at multiple scales; treatment and disturbance effects on ecosystem components; and forest operations, including biomass utilization and product development associated with fire and fuel management activities.
- ▶ **Science Delivery**-- ensuring that knowledge generated by the Forest Service is transferred to and adopted by policy makers, wildland fire managers, and local communities.

Research Needs

- ▶ Fire in a Changing Climate
- ▶ Fire and water/watersheds
- ▶ Changing development patterns due to economic conditions – how will the WUI be impacted
- ▶ Research to support implementation of the Cohesive Strategy

Cohesive Strategy for Wildland Fire Management



Collaborative, risk based management – what data, skills, knowledge do we need to make it happen?