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WILDLAND FIRE
CONFERENCE

GOVERNANCE
PRINCIPLES:
Towards an
International
Framework

Post-fire Assessment and Management Workshop

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USAID
FROM THE AMERICAN PEOPLE



for the greatest good

Post-fire Response and Recovery is part of the Fire Management Cycle



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The Four Phases of Post-fire Response



Repair



Emergency
Response



Rehabilitation



Recovery



The Four Phases of Post-fire Response



Repair

- Short-term – starts before fire containment
- Repair damage from fire suppression activities



Emergency Response



Rehabilitation



Recovery



Suppression Repair: How is this done in your area?



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The Four Phases of Post-fire Response



Repair



Emergency
Response

- Short-term – within 1 year of the fire
- Manage the higher risk of post-fire flooding and debris flows



Rehabilitation



Recovery



The Four Phases of Post-fire Response



Repair



Emergency
Response



Rehabilitation

- Mid-term – within 5 years of the fire
- Repair infrastructure damaged by the fire and aiding natural recovery in high-priority areas



Recovery



The Four Phases of Post-fire Response



Repair



Emergency
Response



Rehabilitation



Recovery

- Long-term
- Restoring ecosystem functions to desired condition





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Reforestation efforts



The Four Phases of Post-fire Response



Repair



Emergency
Response



Rehabilitation



Recovery





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Post-fire Emergency



Emergency Response

What is post-fire risk management?

1. Identify imminent post-wildfire threats to critical values
2. Take immediate actions to manage unacceptable risks



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Risk Management Process

Identify critical values

Assess for threats

Evaluate risk

Develop response strategy

Implement the strategy





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USFS Critical Values

- People
- Infrastructure
- Special natural and cultural resources



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Critical Values Identified by Portugal



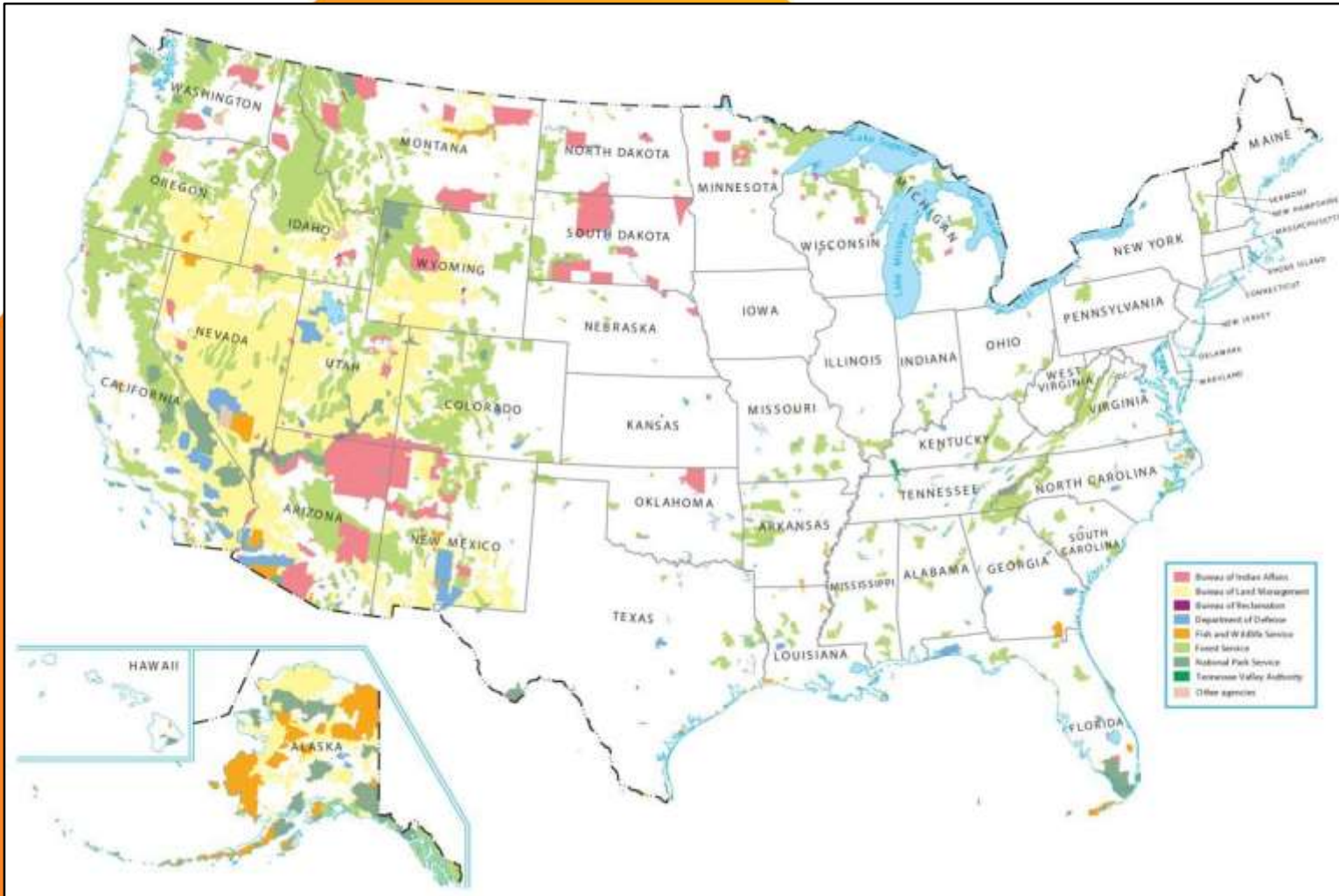
Critical Values Identified by Greece



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What are your
priority
values?



Land Ownership and Responsibility

Who is responsible for...

- Data collection/prediction
- Post-fire risk mitigation
- Public safety
- Post-fire flood response

Risk Management Process

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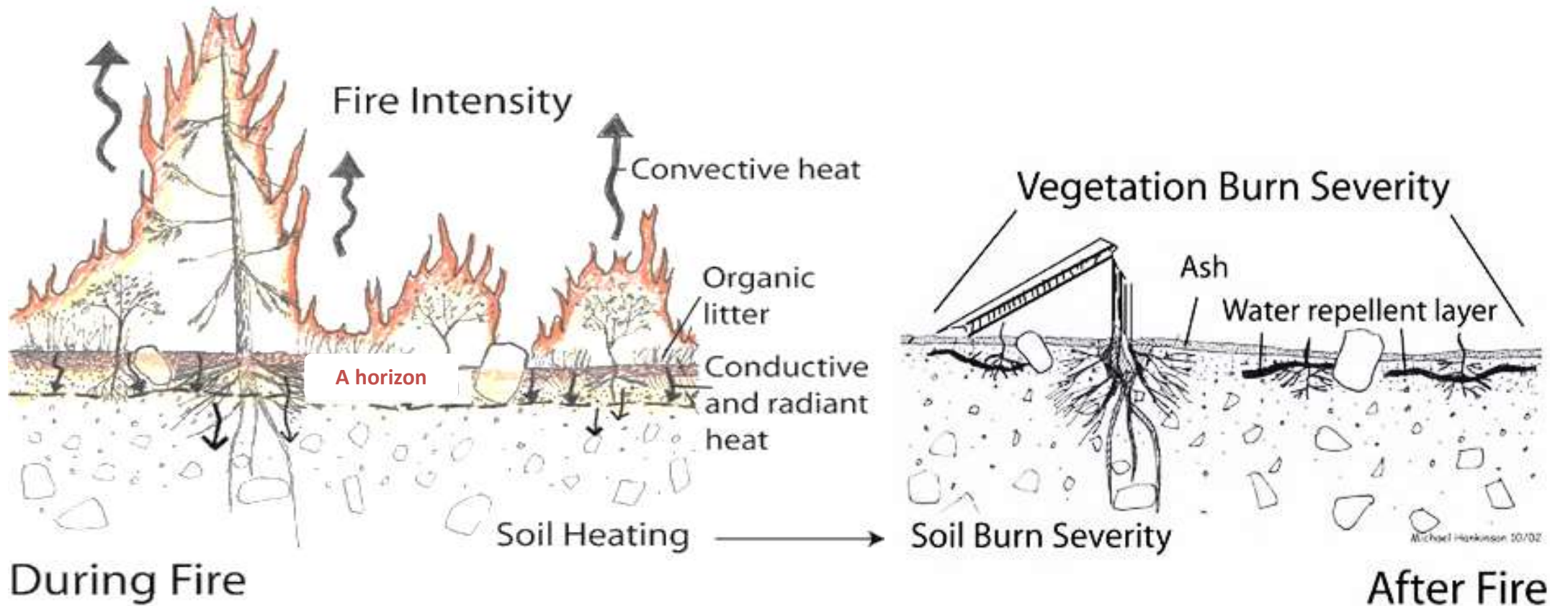


Post-fire Threats

- Soil erosion and sedimentation
- Increased flooding
- Rock fall and debris flows
- Dead and falling trees



Burn Severity: Vegetation versus Soil





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Burn Severity: Field Verification



USDA

United States
Department
of Agriculture

Forest Service

Rocky Mountain
Research Station

General Technical Report
RMRS-GTR-243

October 2010



Field Guide for Mapping Post-Fire Soil Burn Severity

Annette Parsons, Peter R. Robichaud, Sarah A. Lewis,
Carolyn Napper, and Jess T. Clark

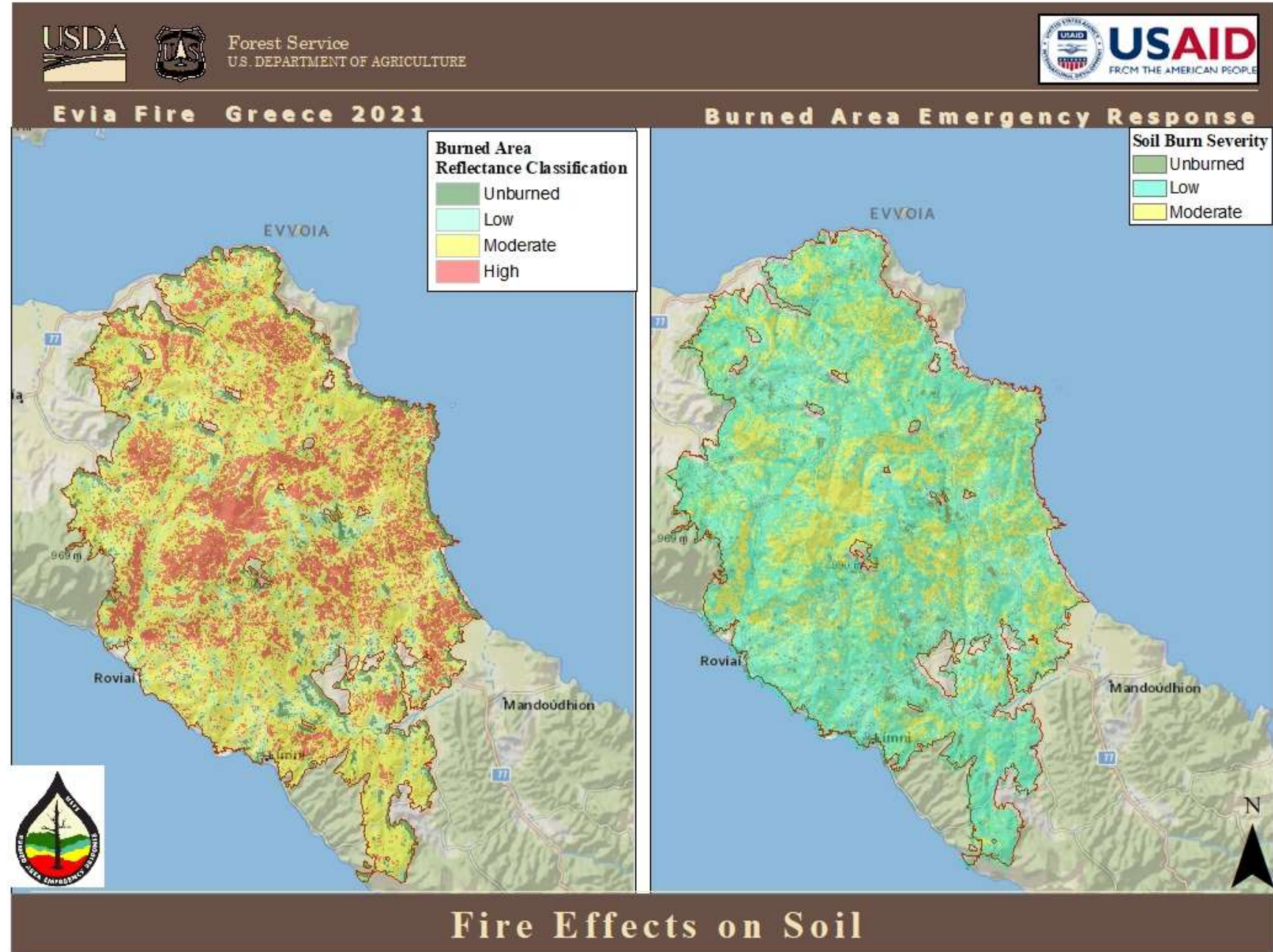




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2021 Greece Evia Island Fire





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Hydrologic Response





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Geologic Response





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What are the
post-fire threats
in your area?



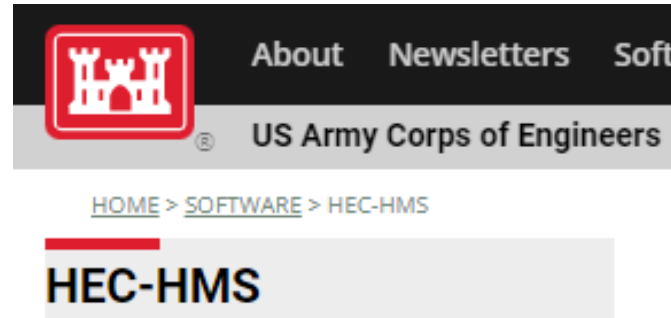
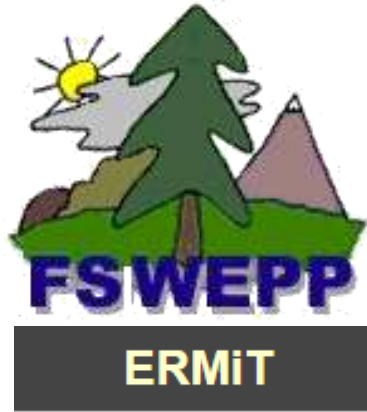
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What are the likely
damaging storms?

When do they
usually occur?

Predictive Tools



Post-Fire Debris-Flow Hazards



WEPPcloud-EU



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PREDICTIVE TOOLS



Are local tools available?

Who are the local specialists?

Risk Management Process

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Implement the strategy





Risk

- How likely is a storm to cause damage?
- What is the probable level of damage?





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How quickly do the burned areas
recover?
How many years is flooding likely?

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Prioritize the needs and develop a response strategy

- Is there an effective treatment to manage the risk?
- What can be done before damaging storms?





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Treatments

- Objective: protect values
- Many methods have been tested
- Effectiveness varies
- Know what works in your area
- Political pressure may influence decisions




Effectiveness Monitoring

- What worked? What did not work?
- Who will monitor effectiveness?



United States
Department of
Agriculture

Forest Service



Rocky Mountain
Research Station

General Technical
Report RMRS-GTR-228

A Synthesis of Post-Fire Road Treatments for BAER Teams: Methods, Treatment Effectiveness, and Decisionmaking Tools for Rehabilitation

Randy B. Foltz, Peter R. Robichaud, and Hakjun Rhee

Effectiveness of post-fire soil erosion mitigation treatments: A systematic review and meta-analysis

Antonio Girona-García^{a,*}, Diana C.S. Vieira^a, Joana Silva^a, Cristina Fernández^b, Peter R. Robichaud^c, J. Jacob Keizer^a

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^b Centro de Investigación Forestal-Lourizán, Xunta de Galicia, P.O. Box 127, 36080 Pontevedra, Spain

^c U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, 1221 S. Main Street, Moscow, ID 83843, USA



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Implementation of Risk Mitigation Work



- Source of funding? Timing?
- Who will do the work?
- When will work be done?



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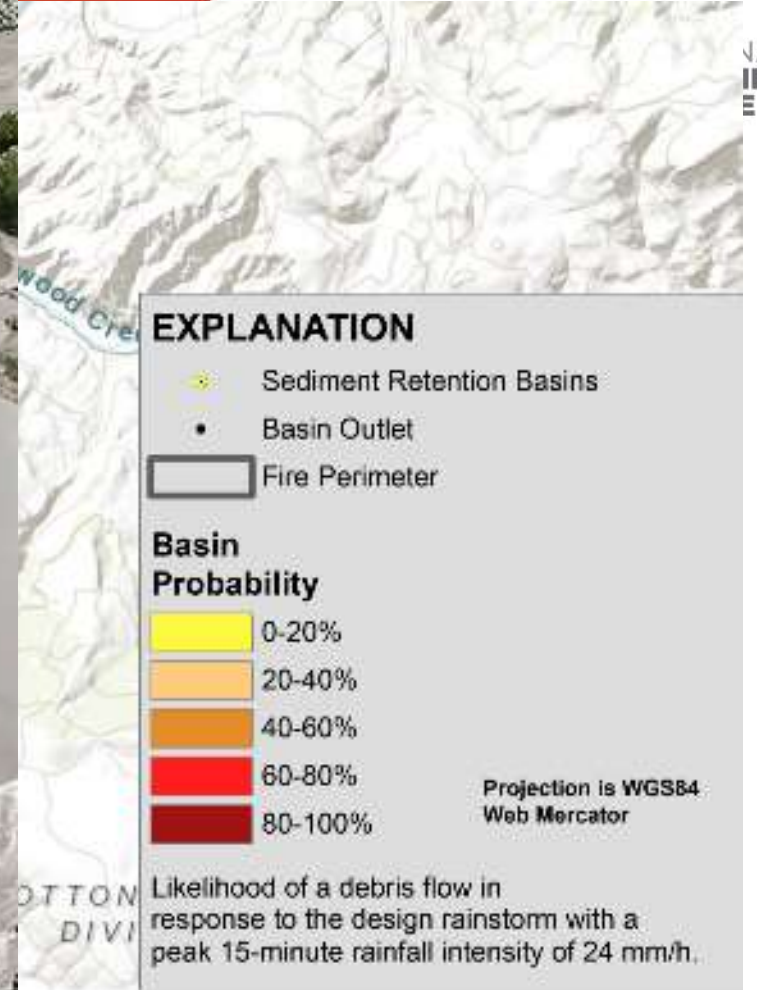


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Preparing for floods

2020 Grizzly Creek Fire



2020 Grizzly Creek Fire



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Questions and Discussion |