

Climate change beliefs shape the interpretation of forest fire events

www.nrfirescience.org/resource/20957

Using a naturalistic quasi-experimental design and growth curve modeling techniques, a recently proposed climate change risk perception model was replicated and extended to investigate changes in climate change risk perception and climate policy support in relation to exposure to forest fires. At the start of the study, above-...

Author(s): Karine Lacroix, Robert Gifford, Jonathan Rush

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Fire data

www.nrfirescience.org/resource/21700

The statistical analysis of wildland fire activity is integral to wildland fire planning, operations, and research across the globe. Historical fire records are inputs to fire danger rating applications, fire-potential forecast models, geospatial fire modeling systems, and other tools for risk assessment, planning, budgeting, and...

Author(s): Karen C. Short, Marty Ahrens, Sarah Harris, Jesus San-Miguel-Ayanz

Year Published: 2020

Type: Document

Research Brief or Fact Sheet

Seeing the Light, Feeling the Heat - An essay by Stephen Pyne

www.nrfirescience.org/resource/20873

FIRE PHOTOGRAPHY BEGAN EARLY. As soon as photographs could replace lithographs in magazines and newspapers, photos of firefights, the aftermath of bad burns, and occasionally even flame and smoke appeared. When Harper's Weekly covered the 1871 and 1894 fires in Wisconsin and Minnesota, it relied on artists' drawings. The 1903...

Author(s): Stephen Pyne

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Taking a tabula rasa approach to wildfire governance: a thought experiment and call for papers and an open dialogue on the topical issue of fire

www.nrfirescience.org/resource/21486

This perspective serves as a preface to the Topical Issue of Fire and presents an opportunity, framed within the classic approach of a thought experiment, to discuss how a new wildfire governance framework may be created from the ground up, if it were unencumbered by any existing construct, or experiences. It is not specific to any...

Author(s): Stephen D. Fillmore, Alistair M. S. Smith

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

The Hot-Dry-Windy Index: A new tool for forecasting fire weather

www.nrfirescience.org/resource/21180

Accurate predictions of how weather may affect a wildfire's behavior are needed to protect crews on the line and efficiently allocate firefighting resources. Since 1988, fire meteorologists have used a tool called the Haines Index to predict days when the weather will exacerbate a wildfire. Although the Haines Index is widely...

Author(s): Andrea Watts, Brian E. Potter, Joseph J. Charney, Alan F. Srock
Year Published: 2020
Type: Document
Technical Report or White Paper

North American Blueprint for Wildland Fire Science Collaboration

www.nrfirescience.org/resource/22273

We need a comprehensive strategy to improve collaboration and capacity for wildland fire science in North America. Every year, wildfires burn across large areas of Continental North America. These fires recognize no political boundaries; some cross borders directly and require collaboration between countries for their suppression...

Author(s): Diego Pérez Salicrup, Stacy Sankey, William Matt Jolly, Jonathan Boucher, Eric Toman, Christy Arseneau, Michael Norton

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Understanding acceptability of fuel management to reduce wildfire risk: informing communication through understanding complexity of thinking

www.nrfirescience.org/resource/21147

Understanding the social acceptability of managing forest fuels to reduce wildfire risk is essential to achieving long-term investment in fuel management that is supported publicly and politically. Integrative Complexity Theory (ICT) examines how people think about complex issues, and provides a way to better understand...

Author(s): Melinda R. Mylek, Jacki Schirmer

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Why don't bushfire warnings work as intended? Responses to official warnings during bushfires in New South Wales, Australia

www.nrfirescience.org/resource/21920

Australian fire services provide two broad types of warning to people in bushfire (or wildfire) risk areas. Fire Danger Ratings communicate the possible consequences of a bushfire due to its rate of spread, intensity and difficulty of suppression. Warnings are also issued to alert people to impending bushfires and advise them how to...

Author(s): Joshua Whittaker, Mel Taylor, Christopher Bearman

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

If you love it, let it go: the role of home attachment in wildfire evacuation decisions

www.nrfirescience.org/resource/20985

Evacuation is the preferred method in the U.S. for preserving public safety in wildfire. However, alternatives such as staying and defending are used both in North America and Australia. Dangerous delays in the decision to evacuate are also common. One contributor to the evacuation decision is attachment to the home, however, little...

Author(s): Hugh D. Walpole, Robyn S. Wilson, Sarah M. McCaffrey

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Navigating the Wildfire–Pandemic Interface: Public Perceptions of COVID-19 and the 2020 Wildfire Season in Arizona

www.nrfirescience.org/resource/21769

COVID-19 has complicated wildfire management and public safety for the 2020 fire season. It is unclear whether COVID-19 has impacted the ability of residents in the wildland–urban interface to prepare for and evacuate from wildfire, or the extent to which residents feel their household’s safety has been affected. Several areas...

Author(s): Catrin Edgeley, Jack T. Burnett

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Reducing wooden structure and wildland-urban interface fire disaster risk through dynamic risk assessment and management

www.nrfirescience.org/resource/20965

In recent years, severe and deadly wildland-urban interface (WUI) fires have resulted in an increased focus on this particular risk to humans and property, especially in Canada, USA, Australia, and countries in the Mediterranean area. Also, in areas not previously accustomed to wildfires, such as boreal areas in Sweden, Norway, and...

Author(s): Torgrim Log, Vigdis Vandvik, Liv G. Velle, Maria-Monika Metallinou

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

'Climate crisis' and 'bushfire disaster': Implications for tourism from the involvement of social media in the 2019-2020 Australian bushfires

www.nrfirescience.org/resource/21515

This research note seeks to draw attention to the potential impact of social media climate change debates on the Australian tourism industry during and after the devastating 2019-2020 Australian bushfires. Whilst acknowledging the tremendous role of all media forms in the emergency management response, the present paper argues that...

Author(s): Stephen Schweinsberg, Simon Darcy, David Beirman

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Editorial: fire in the environment

www.nrfirescience.org/resource/20719

Fire is a natural element of the landscape and thus, the environment would be different as we know it without its presence. Fire is accepted as a vital force in shaping biomes and, to some extent, has allowed us to persist through time and become 'humans.' Fire can be a controversial topic because we can benefit from its role as a...

Author(s): Miriam Muñoz-Rojas, Paulo Pereira

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

A robust p-Center problem under pressure to locate shelters in wildfire context

www.nrfirescience.org/resource/21481

The location of shelters in different areas threatened by wildfires is one of the possible ways to reduce fatalities in a context of an increasing number of catastrophic and severe wildfires. These shelters will enable the population in the area to be protected in case of fire outbreaks. The subject of our study is to determine the...

Author(s): Marc Demange, Virginie Gabrel, Marcel A. Haddad, Cécile Murat

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Building skills for the future: teaching high school students to utilize remote sensing of wildfires

www.nrfirescience.org/resource/22280

A substantial proportion of Italian students are unaware of the connection between what they learn at school and their work opportunities. This proportion would most likely increase if data were collected today, given the generation of a broad range of new jobs that has arisen due to advancements in technology. This gap between...

Author(s): Stefania Amici, Marek Tesar

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Forging, protecting, and repairing community resilience informed by the 2019-2020 Australian bushfires

www.nrfirescience.org/resource/21172

Natural disasters are inherently traumatic. The unexpected, unpredictable, threatening, and overwhelming nature of these events can be destabilising and distressing, potentially leading to psychological trauma (Substance Abuse & Mental Health Services Administration, 2014). Psychological trauma encompasses how people respond to...

Author(s): Sancia West, Denis C. Visentin, Amanda Neil, Grad Dip, Rachel Kornhaber, Valerie Ingham, Michelle Cleary

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Developing Behavioral and Evidence-Based Programs for Wildfire Risk Mitigation

www.nrfirescience.org/resource/22260

The actions of residents in the wildland–urban interface can influence the private and social costs of wildfire. Wildfire programs that encourage residents to take action are often delivered without evidence of effects on behavior. Research from the field of behavioral science shows that simple, often low-cost changes to program...

Author(s): Hilary Byerly, James R. Meldrum, Hannah Brenkert-Smith, Patricia A. Champ, Jamie Gomez, Lilia C. Falk, Christopher M. Barth

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Living in a wildfire: the relationship between crisis management and community resilience in a tourism-based destination

www.nrfirescience.org/resource/21086

This study contributes to the understanding of the relationship between crisis management procedures and local resilience responses. Utilizing the context of the 416 wildfire in southwest Colorado during the

summer of 2018, this study proposes that community resilience is a process that is impacted by the decision-making surrounding...

Author(s): Elizabeth A. Cartier, Lorraine L. Taylor

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Walking through a 'phoenix landscape': hiker surveys reveal nuanced perceptions of wildfire effects

www.nrfirescience.org/resource/21918

Public opinion of wildfire is often perceived to be negative and in support of fire suppression, even though research suggests public opinions have become more positive over the past few decades. However, most prior work on this topic has focused on homeowners in forested regions. In this study, we shift the lens to hikers in a...

Author(s): Alexandra Weill, Lauren M. Watson, Andrew Latimer

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Content analysis of resilience in forest fire science and management

www.nrfirescience.org/resource/21057

To better understand the implications of the word resilience for western forest and fire management, this study explores its emerging use in a large body of policy and management documents produced between 1980 and 2016. We performed a computer-aided content analysis on 1487 scientific journal articles and 139 western U.S. Forest...

Author(s): Owen A. Selles, Adena R. Rissman

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

The COVID-19 pandemic and wildfire smoke: potentially concomitant disasters

www.nrfirescience.org/resource/21813

As we enter the wildfire season in the northern hemisphere, the potential for a dangerous interaction between SARS-CoV-2 and smoke pollution should be recognized and acknowledged. This is challenging because the public health threat of COVID-19 is immediate and clear, whereas the public health threat of wildfire smoke seems distant...

Author(s): Sarah B. Henderson

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

'Damned if you do, damned if you don't': media frames of responsibility and accountability in handling a wildfire

www.nrfirescience.org/resource/20972

Previous research on media framing of wildfire has chiefly been concerned with the nature of wildfire in the context of climate change and with framing effects on policy and public opinion. Empirical studies on media content, hence what is mediated to crisis managers and the public concerning authorities' and the public's response...

Author(s): Sofia Nilsson, Ann Enander

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Integrating art and science to communicate the social and ecological complexities of wildfire and climate change in Arizona, USA

www.nrfirescience.org/resource/21743

Background: This paper describes Fires of Change, a collaborative art exhibit designed to communicate about the shifting fire regimes of the United States Southwest through the lens of multimedia art. The Southwest Fire Science Consortium and Landscape Conservation Initiative, both of which are boundary organizations that facilitate...

Author(s): Melanie M. Colavito, Barbara S. Wolfson, Andrea E. Thode, Collin M. Haffey, Carolyn Kimball

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Smokey's Legacy

www.nrfirescience.org/resource/20256

Like many of us at the Forest Service, I started my career in fire, and I have always relied on Smokey Bear. Fire prevention is part of our cultural DNA. It started with Gifford Pinchot, the first Forest Service Chief. In his 1905 Use Book for line officers, Pinchot noted that "care with small fires is the best way to prevent..."

Author(s): Vicki Christiansen

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Wildland Fire Science—Supporting Wildland Fire and Land Management

www.nrfirescience.org/resource/21244

The U.S. Geological Survey's Wildland Fire Science Program produces fundamental information to identify the causes of wildfires, understand the impacts and benefits of both wildfires and prescribed fires, and help prevent and manage larger, catastrophic events. Our fire scientists provide information and develop tools that are...

Author(s): Paul F. Steblein, Mark P. Miller, Suzanna C. Soileau

Year Published: 2019

Type: Document

Research Brief or Fact Sheet

Covering Wildfires: Media Emphasis and Silence after the Carlton and Okanogan Complex Wildfires

www.nrfirescience.org/resource/20207

This article examines salient topics and textual silences in the media coverage of two major wildfires in Washington State. A significant body of research has examined the importance of media coverage in framing disaster events, yet gaps remain in scholarly understanding of wildfire media coverage. In this article, we explore the...

Author(s): Alissa Corder, Eliana Schwartz

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Wildfires as an ecosystem service

www.nrfirescience.org/resource/19798

...

Author(s): Juli G. Pausas, Jon E. Keeley

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Integrating subjective and objective dimensions of resilience in fire-prone landscapes

www.nrfirescience.org/resource/19464

Resilience has become a common goal for science-based natural resource management, particularly in the context of changing climate and disturbance regimes. Integrating varying perspectives and definitions of resilience is a complex and often unrecognized challenge to applying resilience concepts to social–ecological systems (SESs...

Author(s): Philip E. Higuera, Alexander L. Metcalf, Carol Miller, Brian Buma, Dave McWethy, Elizabeth C. Metcalf, Zak Ratjczak, Cara R. Nelson, Brian C. Chaffin, Richard C. Stedman, Sarah M. McCaffrey, Tania L. Schoennagel, Brian J. Harvey, Sharon M. Hood, Courtney Schultz, Anne E. Black, Dave Campbell, Julia H. Haggerty, Robert E. Keane, Meg A. Krawchuk, Judith C. Kulig, Rebekah Rafferty, Arika Virapongse

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Local public priorities and preferences for public land management in the Northern Region

www.nrfirescience.org/resource/21058

Local land managers are tasked with balancing the needs and preferences of local and national publics. This report provides a snapshot of preferences for local public land management and the demographics of communities within 50 miles of U.S. national forests and grasslands in the Northern Region of the U.S. Forest Service. This...

Author(s): Rebecca Rasch, Sarah M. McCaffrey

Year Published: 2019

Type: Document

Technical Report or White Paper

Wildfire Smoke: A Guide for Public Health Officials

www.nrfirescience.org/resource/20882

The guide provides public health officials with the information they need to prepare for smoke events, communicate health risks and take measures to protect public health. It is also a valuable resource for anyone interested in learning more about what to do when smoke travels from nearby forest fires. This fourth edition of the...

Author(s): Susan Lyon Stone

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Historical range and variation (HRV)

www.nrfirescience.org/resource/21203

Many ecosystems and landscapes are experiencing rapid and potentially persistent changes as the result of complex and potentially novel interactions of anthropogenic climate changes; shifting fire regimes; exotic plant, insect, and pathogen invasions; and industrial, agricultural, and urban development (Moritz and Agudo 2013; Joyce...

Author(s): Robert E. Keane, Rachel A. Loehman

Year Published: 2019
Type: Document
Book or Chapter or Journal Article

Optimisation of tower site locations for camera-based wildfire detection systems

www.nrfirescience.org/resource/20096

Early forest fire detection can effectively be achieved by systems of specialised tower-mounted cameras. With the aim of maximising system visibility of smoke above a prescribed region, the process of selecting multiple tower sites from a large number of potential site locations is a complex combinatorial optimisation problem....

Author(s): Andries Heyns, Warren du Plessis, Michael Kosch, Gavin Hough

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Selecting low-flammability plants as green firebreaks within sustainable urban garden design

www.nrfirescience.org/resource/17770

In response to an increasing risk of property loss from wildfires at the urban–wildland interface, there has been growing interest around the world in the plant characteristics of urban gardens that can be manipulated to minimize the chances of property damage or destruction. To date, considerable discussion of this issue can be...

Author(s): Brad R. Murray, Leigh J. Martin, Colin Brown, Daniel W. Krix, Megan L. Phillips

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

The role of trust in homeowner firewise actions

www.nrfirescience.org/resource/17758

Absher and Vaske conducted a mail survey of rural landowners in heavily forested counties along the Front Range of Colorado. They asked questions designed to measure respondents' trust in (1) the information that the Forest Service provided regarding forest fires, and (2) the agency's competency in responding to fires and...

Author(s): Josh McDaniel

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Residents reduce wildfire risks through the Firewise USA program

www.nrfirescience.org/resource/18282

Under the Firewise USA™ national recognition program, residents living in the wildland–urban interface have been taking action to reduce the wildfire hazards around the exterior of their homes and in the three home ignition zones on their properties (fg. 1). Both kinds of measures have been part of the national Firewise USA™...

Author(s): Cathy Prudhomme

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Joint Fire Science Program Smoke Science Plan, 2010–2016: Results and Impacts

www.nrfirescience.org/resource/17755

The Smoke Science Plan (SSP) was built upon personal interviews and an extensive web-based needs identification with scientists, fire managers, and air quality managers using online questionnaires (Riebau and Fox 2010a, 2010b). It is structured around four themes, which are conceptualized as complementary investigative areas to...

Author(s): Allen R. Riebau, Douglas G. Fox, Cindy Huber

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Values of the public at risk of wildfire and its management

www.nrfirescience.org/resource/18242

Wildfire management agencies increasingly seek to understand what the public values and expects to be protected from wildfire and its management. Recent conceptual development demonstrates the utility of considering values at three levels of abstraction: localised valued entities such as people, places and objects; valued attributes...

Author(s): Kathryn J. Williams, Rebecca M. Ford, Andrea Rawluk

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Learning To Live With Fire

www.nrfirescience.org/resource/17751

Each year, the wildfire season in the Western United States brings headlines and news reports, mostly factual but sometimes misleading. This year is no different, a case in point being "Let Forest Fires Burn? What the Black-Backed Woodpecker Knows" (Gillis 2017). Stories like this feed widespread misperceptions in the United...

Author(s): Tom Tidwell

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Use and benefits of NASA's RECOVER for post-fire decision support

www.nrfirescience.org/resource/18018

Today's extended fire seasons and large fire footprints have prompted state and federal land-management agencies to devote increasingly large portions of their budgets to wildfire management. As fire costs continue to rise, timely and comprehensive fire information becomes increasingly critical to response and rehabilitation...

Author(s): William Toombs, Keith T. Weber, Tesa Stegner, John L. Schnase, Eric Lindquist, Frances Lippitt

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Prioritising stakeholder engagement for forest health, across spatial, temporal and governance scales, in an era of austerity

www.nrfirescience.org/resource/17567

Tree health is a major concern for forest managers as well as others who enjoy the benefits of trees, woods and forests. We know that stakeholder engagement can help define what people find important about forests and woodlands, assist in the development of better management approaches, enhance buy-in of strategies proposed and...

Author(s): Rehema M. White, Juliette Young, Mariella Marzano, Sharon Leahy

Year Published: 2018
Type: Document
Book or Chapter or Journal Article

Assessing influences on social vulnerability to wildfire using surveys, spatial data and wildfire simulations

www.nrfirescience.org/resource/17422

A growing body of research focuses on identifying patterns among human populations most at risk from hazards such as wildfire and the factors that help explain performance of mitigations that can help reduce that risk. Emerging policy surrounding wildfire management emphasizes the need to better understand such social vulnerability-...

Author(s): Travis B. Paveglio, Catrin Edgeley, Amanda M. Stasiewicz

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

New development and application needs for Earth system modeling of fire-climate-ecosystem interactions

www.nrfirescience.org/resource/17867

Research has traditionally focused on the wildfire impacts of climate and vegetation, using the approaches developed mainly based on empirical and statistical weather–fire behavior relationships as well as empirical and process-based vegetation–fire relationships. Recent studies have turned more attention to the feedbacks of...

Author(s): Yongqiang Liu

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

How does information affect fire risk reduction behaviors? Mediating effects of cognitive processes and subjective knowledge

www.nrfirescience.org/resource/17341

Communicating risk information is crucial in policy making regarding hazardous events. The influencing mechanism of risk information in generating behavioral reactions is considered in the context of fire risk. We investigate homeowners' responses to risk information and how their cognitive processes influence their risk reduction...

Author(s): Tianzhuo Liu, Huifang Jiao

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Wildland Fire Science Literacy: Education, Creation, and Application

www.nrfirescience.org/resource/18808

Wildland fire science literacy is the capacity for wildland fire professionals to understand and communicate three aspects of wildland fire: (1) the fundamentals of fuels and fire behavior, (2) the concept of fire as an ecological regime, and (3) multiple human dimensions of wildland fire and the socio-ecological elements of fire...

Author(s): Devan A. McGranahan, Carissa L. Wonkka

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

The role of communication in preparation for wildland fire: a literature review

www.nrfirescience.org/resource/17319

Fire regimes are needed for healthy forest ecosystems, but citizens who live parallel to public forests do not always understand or favour the mechanisms land managers use for fire prevention and preparation. One way that land managers and citizens may share concerns and overcome barriers is through effective communication, allowing...

Author(s): Lauren Remenick

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Preface: Special issue on wildland fires

www.nrfirescience.org/resource/17795

Wildland fires are a critical Earth-system process that impacts human populations in each settled continent [1,2]. Wildland fires have often been stated as being essential to human life and civilization through the impacts on land clearance, agriculture, and hunting, with fire as a phenomenon serving a key role in the development of...

Author(s): Alistair M. S. Smith, James A. Lutz, Chad M. Hoffman, Grant J. Williamson, Andrew T. Hudak

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Smokey Bear and the pyropolitics of United States forest governance

www.nrfirescience.org/resource/17253

Wildfire prevention advertisements featuring Smokey Bear represent the longest-standing and most successful government advertising and branding campaign in U.S. history. As the public face of U.S. fire control policy, Smokey Bear uses mass media to influence the attitudes and behavior of U.S. citizenry in order to accomplish...

Author(s): Jesse Minor, Geoffrey A. Boyce

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Switching on the Big Burn of 2017

www.nrfirescience.org/resource/17761

Fuel, aridity, and ignition switches were all on in 2017, making it one of the largest and costliest wildfire years in the United States (U.S.) since national reporting began. Anthropogenic climate change helped flip on some of these switches rapidly in 2017, and kept them on for longer than usual. Anthropogenic changes to the fire...

Author(s): Jennifer Balch, Tania L. Schoennagel, A. Park Williams, John T. Abatzoglou, Megan E. Cattau, Nathan Mietkiewicz, Lise A. St. Denis

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Human-related ignitions increase the number of large wildfires across U.S. ecoregions

www.nrfirescience.org/resource/17106

Large fires account for the majority of burned area and are an important focus of fire management. However, 'large' is typically defined by a fire size threshold, minimizing the importance of

proportionally large fires in less fire-prone ecoregions. Here, we defined 'large fires' as the largest 10% of wildfires by ecoregion...

Author(s): R. Chelsea Nagy, Emily J. Fusco, Bethany A. Bradley, John T. Abatzoglou, Jennifer Balch
Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Fire Control and the 2015 Canyon Creek Complex Fire

www.nrfirescience.org/resource/17757

Accordingly, the average annual risk of a wildfire destroying a home in the WUI was less than 1 onehundredth of 1 percent. Of course, the risk is much higher in fire-prone parts of the South and West, but so are expectations that government firefighters will come to the rescue (NWCG 2001; Pyne 2015; Stein and others 2013). Confident...

Author(s): Hutch Brown

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Community mitigation assistance teams: A proven approach

www.nrfirescience.org/resource/18280

Communities in the wildland– urban interface (WUI) have challenges that other communities don't. They struggle to establish and maintain a viable wildfire mitigation effort over time. While many communities understand their risk and want to reduce it, they don't have the local capacity to accomplish it for lack of funds or...

Author(s): Pam Leschak

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Smokey Bear from idea to icon

www.nrfirescience.org/resource/20222

Smokey Bear's story begins with World War II. In spring 1942, a few months after Japanese planes had attacked Pearl Harbor, an enemy submarine fired shells that exploded near an oil field close to the Los Padres National Forest. U.S. Forest Service personnel feared that future attacks could ignite forest fires and cause disastrous...

Author(s): James G. Lewis

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Water Quality Impacts of Wildland Fires

www.nrfirescience.org/resource/17753

Large fires have tremendous effects on the characteristics of water-producing watersheds and the quality of the water coming out of them. This article discusses the effects of wildland fires on water quality and suggests ways of managing fire-prone forested water source areas to prevent their degradation from wildfires. The article...

Author(s): Aregai Tecele, Daniel G. Neary

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Social Factors in Wildland Fire

www.nrfirescience.org/resource/18158

The socio-environmental dimension in wildland fire management is critical for moving towards a baseline of firewise planning. Wildland fire risk planning is a land use planning tool that should be able to keep pace with rapid rates of social and environmental change. Changes in land use and climate bring alterations in fire regimes...

Author(s): David Martín Gallego, Eduard Plana Bach, Domingo Molina Terrén

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

The Challenge of Diffusion in Forest Plans: A Methodological Proposal and Case Study

www.nrfirescience.org/resource/17627

Society's participation in decisions regarding land planning and management is essential for reaching viable and long-lasting solutions. The success of forest plans depends on the involvement of different stakeholders. In turn, stakeholder involvement depends on the representativity achieved in public participation in the...

Author(s): Xabier Bruña-García, Manuel F. Marey-Pérez

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Connecting ecological science and management in forests for scientists, managers and pocket scientists

www.nrfirescience.org/resource/16725

The structures, patterns, and processes of the forests of the world develop from ecological interactions among hugely diverse types of organisms interacting with environmental factors at specific places and times on the Earth's surface. The science of ecology helps us develop frameworks for understanding these structures, patterns...

Author(s): Dan Brinkley, Mark A. Adams, Todd Fredericksen, Jean Paul Laclau, Harri Mäkinen, Cindy E. Prescott

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Marshall Woods Restoration Project - Challenges to building consensus and conveying fire hazard mitigation and ecological restoration needs to the public

www.nrfirescience.org/resource/19686

The 28,000-acre Rattlesnake National Recreation Area (RNRA) lies immediately northwest of Missoula, Montana, and is a highly popular recreation destination with an estimated 60,000 annual visitors. The immediate area also contains thousands of residences situated within the Wildland Urban Interface (WUI). In 2005, Missoula County'...

Author(s): Megan P. Keville

Year Published: 2018

Type: Document

Research Brief or Fact Sheet

Two More Chains: Nuts and Bolts

www.nrfirescience.org/resource/17868

The Wildland Fire Lessons Learned Center provides the nuts and bolts on real-deal incidents that

translate into actions you can take.

Author(s): Wildland Fire Lessons Learned Center

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Appropriate Sample Sizes for Monitoring Burned Pastures in Sagebrush Steppe: How Many Plots are Enough, and Can One Size Fit All?

www.nrfirescience.org/resource/18950

Statistically defensible information on vegetation conditions is needed to guide rangeland management decisions following disturbances such as wildfire, often for heterogeneous pastures. Here we evaluate sampling effort needed to achieve a robust statistical threshold using > 2 000 plots sampled on the 2015 Soda Fire that burned...

Author(s): Cara Applestein, Matthew J. Germino, David S. Pilliod, Matthew R. Fisk, Robert S. Arkle

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Citizen fire academy: curriculum package for facilitators and educators

www.nrfirescience.org/resource/17355

The Citizen Fire Academy (CFA) program equips participants with the knowledge they need to improve fire preparedness and resiliency on their own properties and in their communities. This curriculum offers interested educators or agencies the teaching tools needed to conduct their own CFA program, including lesson plans, detailed...

Author(s): Stephen A. Fitzgerald, Kara Baylog, Max Bennett, Rhiann Simes, Nicole Strong

Year Published: 2018

Type: Document

Technical Report or White Paper

Joint Fire Science Program (JFSP) Fire Science Exchange Network: A national evaluation of initiative impacts

www.nrfirescience.org/resource/17828

The Joint Fire Science Program (JFSP) Fire Science Exchange Network is composed of 15 Exchanges that act as boundary organizations tasked with improving fire science use within their respective regions. A longitudinal survey conducted annually between 2011 and 2015 as part of a larger evaluation effort reveals significant impacts....

Author(s): Lisa D. Maletsky, William P. Evans, Loretta Singletary, Lorie L. Sicafuse

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Wildland-urban interface residents' relationships with wildfire: Variation within and across communities

www.nrfirescience.org/resource/18837

Social science offers rich descriptions of relationships between wildland–urban interface residents and wildfire, but syntheses across different contexts might gloss over important differences. We investigate the potential extent of such differences using data collected consistently in sixty-eight Colorado communities and...

Author(s): James R. Meldrum, Hannah Brenkert-Smith, Patricia A. Champ, Lilia C. Falk, Pamela Wilson, Christopher M. Barth

Year Published: 2018

Type: Document
Book or Chapter or Journal Article

Influences on the adoption and implementation of a wildfire mitigation program in an Idaho city

www.nrfirescience.org/resource/17338

The Firewise Communities Program and other wildfire mitigation programs promote private property actions that alleviate the growing complexity, costs, and damages from wildfire. Despite significant research surrounding performance of mitigations promoted by Firewise, fewer studies explore community adoption of the program or how...

Author(s): Travis B. Paveglio, Emma Kelly

Year Published: 2018

Type: Document
Book or Chapter or Journal Article

Understanding the factors that influence perceptions of post-wildfire landscape recovery across 25 wildfires in the northwestern United States

www.nrfirescience.org/resource/17306

Disturbances such as wildfire are important features of forested landscapes. The trajectory of changes following wildfires (often referred to as landscape recovery) continues to be an important research topic among ecologists and wildfire scientists. However, the landscape recovery process also has important social dimensions that...

Author(s): Chad Kooistra, Troy E. Hall, Travis B. Paveglio, Michael Pickering

Year Published: 2018

Type: Document
Book or Chapter or Journal Article

Big Fire; or, Introducing the Pyrocene

www.nrfirescience.org/resource/17111

I present the case for a fire-centric scholarship, and suggest the transition between burning living landscapes and lithic ones (in the form of fossil fuels) would make a good demonstration of what such scholarship might do and what its value could be.

Author(s): Stephen Pyne

Year Published: 2017

Type: Document
Book or Chapter or Journal Article

Effectiveness of public health messaging and communication channels during smoke events: a rapid systematic review

www.nrfirescience.org/resource/15062

Exposure to smoke emitted from wildfire and planned burns (i.e., smoke events) has been associated with numerous negative health outcomes, including respiratory symptoms and conditions. This rapid review investigates recent evidence (post-2009) regarding the effectiveness of public health messaging during smoke events. The...

Author(s): Jennifer A. Fish, Micah D. J. Peters, Imogen Ramsey, Greg Sharplin, Nadia Corsini, Marion Eckert

Year Published: 2017

Type: Document
Book or Chapter or Journal Article, Synthesis

Communicator's Guide for Wildland Fire Management: fire education, prevention, and mitigation

practices (online version)

www.nrfirescience.org/resource/16196

Communicator's Guide for Wildland Fire Management introduces ways of communicating about wildland fire issues so we have a basic framework to reach mutual objectives of protecting people and natural resources. This Communicator's Guide is designed to help you address the key elements of effective communication: who says what to whom...

Year Published: 2017

Type: Document

Management or Planning Document

Accelerating awareness, understanding, and adoption of wildland fire science information - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/17026

Smoke from wildland fires has a significant impact on public health and transportation safety and presents a serious complication for air regulators seeking to design effective and efficient emission control strategies to meet and maintain air quality standards. Wildland fires produce numerous hazardous air pollutants and criteria...

Author(s): Shawn P. Urbanski

Year Published: 2017

Type: Document

Technical Report or White Paper

Federal fire managers' perceptions of the importance, scarcity and substitutability of suppression resources

www.nrfirescience.org/resource/15491

Wildland firefighting in the United States is a complex and costly enterprise. While there are strong seasonal signatures for fire occurrence in specific regions of the United States, spatiotemporal occurrence of wildfire activity can have high inter-annual variability. Suppression resources come from a variety of jurisdictions and...

Author(s): Crystal S. Stonesifer, David E. Calkin, Michael S. Hand

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Learn from the burn: The High Park Fire 5 years later

www.nrfirescience.org/resource/16520

It has been 5 years since the High Park Fire burned over 85,000 acres in Northern Colorado, causing extensive property damage, loss of life, and severe impacts to the water quality of the Poudre River. In the fall of 2016, a conference was organized by the USFS Rocky Mountain Research Station and the Coalition for the Poudre River...

Author(s): Charles C. Rhoades, Peter R. Robichaud, Sandra E. Ryan, Jen Kovecses, Carl Chambers, Sara Rathburn, Jared Heath, Stephanie Kampf, Codie Wilson, Dan Brogan, Brad Piehl, Mary Ellen Miller, John Giordanengo, Erin Berryman, Monique E. Rocca

Year Published: 2017

Type: Document

Research Brief or Fact Sheet

Should I stay or should I go now? Or should I wait and see? Influences on wildfire evacuation decisions

www.nrfirescience.org/resource/16390

As climate change has contributed to longer fire seasons and populations living in fire-prone

ecosystems increase, wildfires have begun to affect a growing number of people. As a result, interest in understanding the wildfire evacuation decision process has increased. Of particular interest is understanding why some people leave...

Author(s): Sarah M. McCaffrey, Robyn S. Wilson, Avishek Konar

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Mapping the future: U.S. exposure to multiple landscape stressors

www.nrfirescience.org/resource/15285

Landscape exposure to multiple stressors can pose risks to human health, biodiversity, and ecosystem services. Attempts to study, control, or mitigate these stressors can strain public and private budgets. An interdisciplinary team of Pacific Northwest Research Station and Oregon State University scientists created maps of the...

Author(s): Marie Oliver, Becky K. Kerns, John Kim, Jeffrey D. Kline

Year Published: 2017

Type: Document

Technical Report or White Paper

Montana Climate Assessment: collaboration in Seeley Lake marks the way of the future for public forests

www.nrfirescience.org/resource/15726

This is an article about climate change and political climate for logging in Seeley Lake, Montana.

Year Published: 2017

Type: Document

Research Brief or Fact Sheet

Policy scenarios for fire-adapted communities: understanding stakeholder risk-perceptions with Fuzzy Cognitive Maps

www.nrfirescience.org/resource/15209

Collaborative groups are most effective when the varied stakeholder groups within them understand the risks of wildfire and take proactive steps to manage these risks. Implementing policies for fire risk mitigation and adaptation, however, remains difficult because risks and policy alternatives are not understood or supported...

Author(s): Antonie Jetter, Steven A. Gray, Lisa M. Ellsworth

Year Published: 2017

Type: Document

Technical Report or White Paper

Visions of restoration in fire-adapted forest landscapes: lessons from the collaborative forest landscape restoration program

www.nrfirescience.org/resource/15086

Collaborative approaches to natural resource management are becoming increasingly common on public lands. Negotiating a shared vision for desired conditions is a fundamental task of collaboration and serves as a foundation for developing management objectives and monitoring strategies. We explore the complex socio-ecological...

Author(s): Lauren S. Urgenson, Clare M. Ryan, Charles B. Halpern, Jonathan D. Bakker, R. Travis Belote, Jerry F. Franklin, Ryan D. Haugo, Cara R. Nelson, Amy E. M. Waltz

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Effects of wildfire on the value of recreation in western North America

www.nrfirescience.org/resource/15023

Wildfires play an integral role in forest ecosystems of western North America. In an attempt to measure the level and value of ecosystem damage caused by wildfires, papers employing nonmarket valuation techniques—stated preference, revealed preference, and combined methods—are reviewed. A systematic review of results shows a portion...

Author(s): Ranjit S. Bawa

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Telling fire's story through narrative and art

www.nrfirescience.org/resource/17029

Modern works by highly skilled narrative authors and artists have become increasingly useful for telling the story of wildland fire in the United States. Using unconventional means—and with partial funding by the Joint Fire Science Program—creative individuals have spawned some colorful and heartfelt messages that convey...

Author(s): Stephen W. Barrett

Year Published: 2017

Type: Document

Research Brief or Fact Sheet

Where you stand depends on where you sit: Qualitative inquiry into notions of fire adaptation

www.nrfirescience.org/resource/16190

Wildfire and the threat it poses to society represents an example of the complex, dynamic relationship between social and ecological systems. Increasingly, wildfire adaptation is posited as a pathway to shift the approach to fire from a suppression paradigm that seeks to control fire to a paradigm that focuses on “living with”...

Author(s): Hannah Brenkert-Smith, James R. Meldrum, Patricia A. Champ, Christopher M. Barth

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Social media approaches to modeling wildfire smoke dispersion: spatiotemporal and social scientific investigations

www.nrfirescience.org/resource/15552

Wildfires have significant effects on human populations, economically, environmentally, and in terms of their general well-being. Smoke pollution, in particular, from either prescribed burns or uncontrolled wildfires, can have significant health impacts. Some estimates suggest that smoke dispersion from fire events may affect the...

Author(s): Sonya Sachdeva, Sarah M. McCaffrey, Dexter Locke

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Is the whole greater than the sum of its parts? Homeowner wildfire risk mitigation, community heterogeneity, and fire adaptedness - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/17000

In this project we posed the question “Is the whole greater than the sum of its parts?” We focused on

homeowner wildfire risk mitigation, community heterogeneity, and fire adaptedness. One of the unique aspects of this project was that the team was a research and practice collaboration. This collaboration facilitated...

Author(s): Patricia A. Champ, Hannah Brenkert-Smith, James R. Meldrum, Christopher M. Barth, Travis Warziniack

Year Published: 2017

Type: Document

Technical Report or White Paper

Insurance and Wildfire Mitigation: What Do We Know?

www.nrfirescience.org/resource/17550

There is much interest in the role of insurance in encouraging homeowners to mitigate wildfire risk to their properties. For example, the Fire Adapted Communities Coalition characterizes the insurance industry as a 'nontraditional stakeholder' that 'may reduce future wildfire-related insurance claims by educating homeowners on...

Author(s): James R. Meldrum, Christopher M. Barth, Patricia A. Champ, Hannah Brenkert-Smith, Lilia C. Falk, Travis Warziniack

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Ecological effects of fire

www.nrfirescience.org/resource/16500

Fire is an enormously influential disturbance over large areas of land in the modern world. Vegetation burns because the Earth's atmosphere contains sufficient oxygen (415%) to support combustion (Pyne, 2001). Oxygen started to accumulate in the atmosphere about 2 billion years ago and, since the appearance of plants in the...

Author(s): William J. Bond, Robert E. Keane

Year Published: 2017

Type: Document

Synthesis

Relational risk assessment and management: investigating capacity in wildfire response networks - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/14925

Relational Risk Assessment and Management (RRAM) is about developing a new set of concepts and rapid assessment tools for assessing risk for problems that occur in inter-agency communication and coordination on complex fire events. Failures in effective communication and coordination within the network of responding organizations...

Author(s): Branda Nowell, Sarah M. McCaffrey, Toddi A. Steelman

Year Published: 2017

Type: Document

Technical Report or White Paper

Diversity in forest management to reduce wildfire losses

www.nrfirescience.org/resource/15210

This study investigates how federal, state, and private corporate forest owners in a fire-prone landscape of southcentral Oregon manage their forests to reduce wildfire hazard and loss to high-severity wildfire. We evaluate the implications of our findings for concepts of social-ecological resilience. Using interview data, we...

Author(s): Susan Charnley, Thomas A. Spies, Ana M. G. Barros, Eric M. White, Keith A. Olsen

Year Published: 2017
Type: Document
Book or Chapter or Journal Article

Evaluating the characteristics of social vulnerability to wildfire: demographics, perceptions, and parcel characteristics

www.nrfirescience.org/resource/14804

A large body of research focuses on identifying patterns of human populations most at risk from hazards and the factors that help explain performance of mitigations that can help reduce that risk. One common concept in such studies is social vulnerability-human populations' potential exposure to, sensitivity from and ability to...

Author(s): Travis B. Paveglio, Tony Prato, Catrin Edgeley, Derek J. Nalle

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Wildfire risk to residential structures in the Island Park Sustainable Fire Community: Caribou-Targhee National Forest

www.nrfirescience.org/resource/14695

The Island Park Sustainable Fire Community (IPSFC) Project is a collaborative working group of citizens, businesses, non-profit organizations, and local, state, and federal government agencies (www.islandparkfirecommunity.com) working to create fire-resilient ecosystems in and around the human communities of West Yellowstone,...

Author(s): Don Helmbrecht, Julie W. Gilbertson-Day, Joe H. Scott, LaWen Hollingsworth

Year Published: 2016

Type: Document

Technical Report or White Paper

ARCBURN: Linking field-based and experimental methods to quantify, predict, and manage fire effects on cultural resources - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/17041

Cultural resources are physical features, both natural and anthropogenic, associated with human activity. These unique and non-renewable resources include sites, structures, and objects possessing significance in history, architecture, archaeology, or human development (Fowler 1982). Wildfires can alter cultural resources through...

Author(s): Rachel A. Loehman, Bret W. Butler, Jamie Civitello, Connie Constan, Jennifer Dyer, Zander Evans, Megan Friggens, Rebekah Kneifel, James J. Reardon, Madeline Scheintaub, Anastasia Steffen

Year Published: 2016

Type: Document

Technical Report or White Paper

Butte Fire Staff Ride - Preliminary Study

www.nrfirescience.org/resource/18001

On the afternoon of Aug. 29, 1985, the Butte Fire on the Salmon National Forest in central Idaho made a sudden high-intensity crown run up Wallace Creek, a side drainage of the Salmon River. Over the next 90 minutes, this run consumed 3,500 acres. Approximately 118 persons on the Division—including hand crews,...

Author(s): David Thomas

Year Published: 2016

Type: Document

Technical Report or White Paper

Facilitating knowledge transfer between researchers and wildfire practitioners about trust: an international case study

www.nrfirescience.org/resource/14605

The importance of knowledge transfer between researchers, policy makers and practitioners is widely recognized. However, barriers to knowledge transfer can make it difficult for practitioners to apply the results of scientific research. This paper describes a project that addressed barriers to knowledge transfer by involving...

Author(s): Tara K. McGee, Allan Curtis, Bonita McFarlane, Bruce A. Shindler, Amy Christianson, Christine Olsen, Sarah M. McCaffrey

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Is seeing believing? Perceptions of wildfire risk over time

www.nrfirescience.org/resource/14317

Ongoing challenges to understanding how hazard exposure and disaster experiences influence perceived risk lead us to ask: Is seeing believing? We approach risk perception by attending to two components of overall risk perception: perceived probability of an event occurring and perceived consequences if an event occurs. Using a two-...

Author(s): Patricia A. Champ, Hannah Brenkert-Smith

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Recreating forests of the past isn't enough to fix our wildfire problems

www.nrfirescience.org/resource/16310

There is general agreement that America's landscapes, certainly its wildlands, are out of whack with their fires. Wildfires are bigger, hotter, more savage and more expensive than in the past. There is wide agreement, too, that America's deeper fire problem is not that malignant megafires are crashing into our communities....

Author(s): Stephen Pyne

Year Published: 2016

Type: Document

Research Brief or Fact Sheet

Quantifying the human influence on fire ignition across the western USA

www.nrfirescience.org/resource/14896

Humans have a profound effect on fire regimes by increasing the frequency of ignitions. Although ignition is an integral component of understanding and predicting fire, to date fire models have not been able to isolate the ignition location, leading to inconsistent use of anthropogenic ignition proxies. Here, we identified fire...

Author(s): Emily J. Fusco, John T. Abatzoglou, Jennifer Balch, John T. Finn, Bethany A. Bradley

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Communication under fire: communication efficacy during wildfire incidents

www.nrfirescience.org/resource/14170

In this study, researchers analyzed the influence of pre-incident familiarity, stakeholder affiliation, and

primary wildfire response/functional role on communication frequency and efficacy during three western U.S. wildfires ignited on U.S. Forest Service land. All fires occurred in wildland/urban interface areas, and involved a...

Author(s): Northwest Fire Science Consortium

Year Published: 2016

Type: Document

Technical Report or White Paper

Characterizing public tolerance of smoke from wildland fires in communities across the United States

www.nrfirescience.org/resource/14813

Little is known about public tolerance of smoke from wildland fires. By combining data from two household surveys, we sought to determine whether tolerance of smoke from wildland fires varies with its origin or managerial rationale, to describe geographical variation in tolerance of smoke, and to describe the relationship between...

Author(s): Jesse M. Engebretson, Troy E. Hall, Jarod Blades, Christine Olsen, Eric Toman, Stacey S. Frederick

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Using scientific conferences to engage the public on climate change

www.nrfirescience.org/resource/15600

Climate change is often perceived as controversial in the public's view. One meaningful way scientists can address this problem is to engage with the public to increase understanding of climate change. Attendees of scientific conferences address climate change within meetings yet rarely interact with the public as part of...

Author(s): Jeffrey A. Hicke, John T. Abatzoglou, Steven Daley-Laursen, Jamie Esler, Lauren E. Parker

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Understanding the effect of large wildfires on residents' well-being: what factors influence wildfire impact?

www.nrfirescience.org/resource/13937

Existing social science has indicated that wildfires can affect the short- and long-term functioning of social systems. Less work has focused on how wildfire events affect the physical and psychological well-being of individual residents impacted by such events. In this study, we explore the extent to which personal- or community-

Author(s): Travis B. Paveglio, Chad Kooistra, Troy E. Hall, Michael Pickering

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Wicked Problem, New Solutions: Our Fire, Our Problem

www.nrfirescience.org/resource/18393

This conference is being presented to bring focus to the many issues associated with fuels, fire behavior, large wildfires, and the future of fire management. Much attention is being given to wildland fire management. It seems with each passing year we recognize escalating complexity, increasing risk, and mounting challenges....

Year Published: 2016

Type: Document
Conference Proceedings

U.S. wildfire governance as social-ecological problem

www.nrfirescience.org/resource/14736

There are fundamental spatial and temporal disconnects between the specific policies that have been crafted to address our wildfire challenges. The biophysical changes in fuels, wildfire behavior, and climate have created a new set of conditions for which our wildfire governance system is poorly suited to address. To address these...

Author(s): Toddi A. Steelman

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Burning rates of wood cribs with implications for wildland fires

www.nrfirescience.org/resource/14684

Wood cribs are often used as ignition sources for room fire tests and the well characterized burning rates may also have applications to wildland fires. The burning rate of wildland fuel structures, whether the needle layer on the ground or trees and shrubs themselves, is not addressed in any operational fire model and no simple...

Author(s): Sara S. McAllister, Mark A. Finney

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Wildfire! Toward understanding its effects on wildlife

www.nrfirescience.org/resource/14658

There are few places in western North America, and increasingly in the northern regions of Canada and Alaska, where wildfire and its effects are unfamiliar sights. Last year, wildfires burned more than 800,000 hectares of National Forest lands; the same year, a record 4.1 million hectares burned across all land ownerships in the...

Author(s): Peter H. Singleton, Victoria A. Saab, William M. Block, Brian Logan, Craig Thompson

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Smoke management photographic guide: a visual aid for communicating impacts

www.nrfirescience.org/resource/14538

Communicating emissions impacts to the public can sometimes be difficult because quantitatively conveying smoke concentrations is complicated. Regulators and land managers often refer to particulate-matter concentrations in micrograms per cubic meter, but this may not be intuitive or meaningful to everyone. The primary purpose of...

Author(s): Joshua C. Hyde, Jarod Blades, Troy E. Hall, Roger D. Ottmar, Alistair M. S. Smith

Year Published: 2016

Type: Document

Technical Report or White Paper

Global trends in wildfire and its impacts: perceptions versus realities in a changing world

www.nrfirescience.org/resource/14432

Wildfire has been an important process affecting the Earth's surface and atmosphere for over 350

million years and human societies have coexisted with fire since their emergence. Yet many consider wildfire as an accelerating problem, with widely held perceptions both in the media and scientific papers of increasing fire occurrence,...

Author(s): Stefan H. Doerr, Cristina Santin

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Wildland fire: nature's fuel treatment

www.nrfirescience.org/resource/14887

Every year wildland fires affect much more acreage in the United States compared to controlled burns. Like controlled burns, wildland fire can help promote biological diversity and healthy ecosystems. But despite these facts, wildland fire is not often considered as a fuel treatment in the United States.

Scientists working with the...

Author(s): Brian Cooke

Year Published: 2016

Type: Document

Research Brief or Fact Sheet

The ecological importance of mixed-severity fire: nature's phoenix

www.nrfirescience.org/resource/16303

If you are a curious reader with a knack for the analytical, you may be asking yourself, Why start a book about fire ecology with a mythological figure? And if you are a tried-and-true scientist, like we are, you may also be asking, Isn't it a bit risky to mix myth with science, fact with fiction, observation with mystique, nature...

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Exploring how alternative mapping approaches influence firehatched assessment and human community exposure to wildfire

www.nrfirescience.org/resource/13949

Attaining fire-adapted human communities has become a key focus of collaborative planning on landscapes across the western United States and elsewhere. The coupling of fire simulation with GIS has expanded the analytical base to support such planning efforts, particularly through the "fireside" concept that identifies areas where...

Author(s): Joe H. Scott, Matthew P. Thompson, Julie W. Gilbertson-Day

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Managing fire, understanding ourselves: human dimensions in safety and wildland fire

www.nrfirescience.org/resource/18394

Wildland fire management has risen to the forefront of land management and now receives greater social and political attention than ever before. As we progress through the 21st century, these areas of attention are continually presenting challenges never experienced before. We may consider ourselves well positioned to move into the...

Year Published: 2015

Type: Document

Conference Proceedings

A systematic review of the physical health impacts from non-occupational exposure to wildfire smoke

www.nrfirescience.org/resource/13262

Climate change is likely to increase the threat of wild fires, and little is known about how wild fires affect health in exposed communities. A better understanding of the impacts of the resulting air pollution has important public health implications for the present day and the future. Method: We performed a systematic search to...

Author(s): Jia C. Liu, Gavin Pereira, Sarah A. Uhl, Mercedes Bravo, Michelle L. Bell

Year Published: 2015

Type: Document

Synthesis

American Fire History, 1960-2013

www.nrfirescience.org/resource/15567

With support from the U.S. Forest Service, Department of the Interior, and Joint Fire Science Program, I have written a fire history of America from 1960 to 2013. The project will result in two books. Between Two Fires: A Fire History of Contemporary America relates the basic narrative. To the Last Smoke assembles anthologies of...

Author(s): Stephen Pyne, Heidi Neeley

Year Published: 2015

Type: Document

Technical Report or White Paper

Smartphone applications for data collection, dynamic modeling, and visualization in the wildland fire environment

www.nrfirescience.org/resource/13749

Rapid advances in cellular phone technology have transformed portable telephones into "smart" phones; powerful, portable personal computers equipped with Global Positioning System (GPS), cameras, and a suite of tools for accessing and storing information. Smartphones offer the ability to...

Author(s): Jim Riddering, Zachary A. Holden, William Matt Jolly, Allen Warren

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Effect of fire prevention programs on accidental and incendiary wildfires on tribal lands in the United States

www.nrfirescience.org/resource/13177

Humans cause more than 55% of wildfires on lands managed by the USDA Forest Service and US Department of the Interior, contributing to both suppression expenditures and damages. One means to reduce the expenditures and damages associated with these wildfires is through fire prevention activities, which can include burn permits,...

Author(s): Karen L. Abt, David T. Butry, Jeffrey P. Prestemon, Samuel Scranton

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

First approximations of prescribed fire risks relative to other management techniques used on private lands

www.nrfirescience.org/resource/13593

Fire is widely recognized as a critical ecological and evolutionary driver that needs to be at the forefront of land management actions if conservation targets are to be met. However, the prevailing view is that prescribed fire is riskier than other land management techniques. Perceived risks associated with the application of fire...

Author(s): Dirac Twidwell, Carissa L. Wonkka, Michael T. Sindelar, John R. Weir

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Community Mitigation Assistance Team: National pilot highlights

www.nrfirescience.org/resource/13555

Scores of communities nationwide experience the impacts of wildfire every year; thousands of residents evacuate; infrastructure is threatened; many communities, especially those dependent on tourism or natural resources, are economically devastated; and wildfire response costs billions. But the wildfire itself...

Author(s): Pam Leschak

Year Published: 2015

Type: Document

Research Brief or Fact Sheet

Collaborative fuels reduction and restoration - Experiences from the Southwestern Crown of the Continent

www.nrfirescience.org/resource/13064

Forests that historically burned in mixed-severity fire regimes prove difficult to manage, especially when they border homes and prized recreation areas. This management challenge was the focus of the Fuels Reduction and Restoration in Mixed-Conifer Forests of the Southwestern Crown of the Continent field trip, following the May...

Author(s): Corey L. Gucker

Year Published: 2015

Type: Document

Research Brief or Fact Sheet

Understanding gaps between the risk perceptions of wildland-urban interface (WUI) residents and wildfire professionals

www.nrfirescience.org/resource/13447

Research across a variety of risk domains finds that the risk perceptions of professionals and the public differ. Such risk perception gaps occur if professionals and the public understand individual risk factors differently or if they aggregate risk factors into overall risk differently. The nature of such divergences, whether...

Author(s): James R. Meldrum, Patricia A. Champ, Hannah Brenkert-Smith, Travis Warziniack, Christopher M. Barth, Lilia C. Falk

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Catching fire? Social interactions, beliefs, and wildfire risk mitigation behaviors

www.nrfirescience.org/resource/13419

Social interactions are widely recognized as a potential influence on risk-related behaviors. We present a mediation model in which social interactions (classified as formal/informal and generic/fire-specific) are associated with beliefs about wildfire risk and mitigation options, which in turn shape wildfire mitigation behaviors....

Author(s): Patricia A. Champ, Katherine L. Dickinson, Hannah Brenkert-Smith, Nicholas Flores
Year Published: 2015
Type: Document
Book or Chapter or Journal Article

Community wildfire preparedness: a global state-of-the-knowledge summary of social science research

www.nrfirescience.org/resource/13274

This article builds on findings from a synthesis of fire social science research that was published from 2000 to 2010 to understand what has been learned more recently about public response to wildfires. Two notable changes were immediately noted in the fairly substantial number of articles published between 2011 and 2014. First,...

Author(s): Sarah M. McCaffrey
Year Published: 2015
Type: Document
Synthesis

What information do people use, trust, and find useful during a disaster? Evidence from five large wildfires

www.nrfirescience.org/resource/13211

The communication system through which information flows during a disaster can be conceived of as a set of relationships among sources and recipients who are concerned about key information characteristics. The recipient perspective is often neglected within this system. In this article, we explore recipient perspectives related to...

Author(s): Toddi A. Steelman, Sarah M. McCaffrey, Anne-Lise Knox Velez, Jason Alexander Briefel
Year Published: 2015
Type: Document
Book or Chapter or Journal Article

Forecasting integrated lightning and fuels ignition potentials in a system with real-time analysis of fire weather prediction accuracy

www.nrfirescience.org/resource/15557

Weather forecasts can help identify environmental conditions conducive to prescribed burning or to increased fire danger. These conditions are important components of fire management tools such as fire ignition potential maps, fire danger rating systems, fire behavior predictions, and smoke dispersion modeling. Fire managers use...

Author(s): Miriam L. Rorig, Stacy Drury
Year Published: 2015
Type: Document
Technical Report or White Paper

Re-envisioning community-wildfire relations in the U.S. West as adaptive governance

www.nrfirescience.org/resource/13725

Prompted by a series of increasingly destructive, expensive, and highly visible wildfire crises in human communities across the globe, a robust body of scholarship has emerged to theorize, conceptualize, and measure community-level resilience to wildfires. To date, however, insufficient consideration has been given to wildfire...

Author(s): Jesse Abrams, Melanie Knapp, Travis B. Paveglio, Autumn Ellison, Cassandra Moseley, Max W. Nielsen-Pincus, Matthew S. Carroll
Year Published: 2015
Type: Document

Book or Chapter or Journal Article

'Put the wet stuff on the hot stuff': the legacy and drivers of conflict surrounding wildfire suppression

www.nrfirescience.org/resource/13584

Existing research demonstrates that wildfire events can lead to conflict among local residents and outside professionals involved in wildfire management or suppression. What has been missing in the wildfire literature is a more explicit understanding of the social dynamics that influence such conflict in rural or agricultural...

Author(s): Travis B. Paveglio, Matthew S. Carroll, Troy E. Hall, Hannah Brenkert-Smith

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Community experiences with wildfire: actions, effectiveness, impacts, and trends

www.nrfirescience.org/resource/13068

This paper explores community experiences with and perceptions of local wildfire preparedness by summarizing results from two recent surveys. These surveys, one conducted at the county scale and one at the community scale, were completed by wildfire planning participants and community leaders in places...

Author(s): Autumn Ellison, Melanie Knapp, Jesse Abrams, Max W. Nielsen-Pincus, Travis B. Paveglio, Cassandra Moseley

Year Published: 2015

Type: Document

Technical Report or White Paper

Tribal Engagement roadmap

www.nrfirescience.org/resource/16168

The U.S. Department of Agriculture (USDA), Forest Service is recognized as a leader among Federal land management agencies in partnering collaboratively with American Indian and Alaska Native governments and indigenous communities. The Forest Service Research and Development (R&D) Deputy Area recognizes that working with tribes...

Year Published: 2015

Type: Document

Technical Report or White Paper

A study of wildfire ignition by rifle bullets

www.nrfirescience.org/resource/15780

Experiments were conducted to examine the potential for rifle bullets to ignite organic matter after impacting a hard surface. The tests were performed using a variety of common cartridges (7.62 × 51 [.308 Winchester (The use of tradenames is provided for informational purposes only and does not constitute an endorsement by the U.S...

Author(s): Mark A. Finney, Sara S. McAllister, Trevor B. Maynard, Ian J. Grob

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Strengthening syntheses on fire: increasing their usefulness for managers

www.nrfirescience.org/resource/13443

A synthesis for fire managers summarizes and interprets a body of information, presents its meaning in

an objective, unbiased way, and describes its implications for decisionmakers. Following are suggestions for ways to strengthen syntheses on fire and on other natural resource issues: Include managers, scientists, and science...

Author(s): Jane Kapler Smith

Year Published: 2015

Type: Document

Book or Chapter or Journal Article, Synthesis

Local ecological knowledge and fire management: what does the public understand?

www.nrfirescience.org/resource/13415

As fire management agencies seek to implement more flexible fire management strategies, local understanding and support for these strategies become increasingly important. One issue associated with implementing more flexible fire management strategies is educating local populations about fire management and identifying...

Author(s): John M. Diaz, Toddi A. Steelman, Branda Nowell

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

One-hundred years of wildfire research: a legacy of the Priest River, Deception Creek, and Boise Basin Experimental Forests of Idaho

www.nrfirescience.org/resource/13104

The 1910 fires, which burned more than 1.3 million ha of northern Rocky Mountain forests, provided a mission and management objectives for the newly created Forest Service. By 1911, the Priest River Experimental Station (Forest- PREF) was established in northern Idaho to help meet the needs of the Forest Service. Harry T. Gisborne,...

Author(s): Russell T. Graham, Theresa B. Jain, Kathy L. Graham, Robert Denner, Colin C. Hardy

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Trust: a planning guide for wildfire agencies and practitioners - An international collaboration drawing on research and management experience in Australia, Canada, and the United States

www.nrfirescience.org/resource/12551

This planning guide is the outcome of an international collaboration of researchers and practitioners/field managers working in communities at risk of wildfire in three countries. Initially, the team of social scientists from Australia, Canada, and the United States utilized the collective research literature to examine factors that...

Author(s): Bruce A. Shindler, Christine Olsen, Sarah M. McCaffrey, Bonita McFarlane, Amy Christianson, Tara K. McGee, Allan Curtis, Emily Sharp

Year Published: 2014

Type: Document

Technical Report or White Paper

Communicating about smoke from wildland fire: challenges and opportunities for managers

www.nrfirescience.org/resource/12982

Wildland fire and associated management efforts are dominant topics in natural resource fields. Smoke from fires can be a nuisance and pose serious health risks and aggravate pre-existing health conditions. When it results in reduced visibility near roadways, smoke can also pose hazardous driving conditions and reduce the scenic...

Author(s): Christine Olsen, Danielle K. Mazzotta, Eric Toman, A. Paige Fischer

Year Published: 2014
Type: Document
Book or Chapter or Journal Article

Learning to coexist with wildfire

www.nrfirescience.org/resource/15326

The impacts of escalating wildfire in many regions — the lives and homes lost, the expense of suppression and the damage to ecosystem services — necessitate a more sustainable coexistence with wildfire. Climate change and continued development on fire-prone landscapes will only compound current problems. Emerging strategies for...

Author(s): Max A. Moritz, E. Batllori, Ross A. Bradstock, A. Malcolm Gill, J. Handmer, Paul F. Hessburg, J. Leonard, Sarah M. McCaffrey, Dennis C. Odion, Tania L. Schoennagel, Alexandra D. Syphard

Year Published: 2014
Type: Document
Book or Chapter or Journal Article

Understanding evacuation preferences and wildfire mitigations among northwest Montana residents

www.nrfirescience.org/resource/12955

There is currently insufficient information in the United States about residents' planned evacuation actions during wildfire events, including any intent to remain at or near home during fire events. This is incompatible with growing evidence that select populations at risk from wildfire are considering alternatives to evacuation....

Author(s): Travis B. Paveglio, Tony Prato, Douglas Dalenberg, Tyron J. Venn

Year Published: 2014
Type: Document
Book or Chapter or Journal Article

Warning Tweets: Serial Transmission of Messages during the Warning Phase of a Disaster Event

www.nrfirescience.org/resource/21915

Serial transmission — the passing on of information from one source to another — is a phenomenon of central interest in the study of informal communication in emergency settings. Microblogging services such as Twitter make it possible to study serial transmission on a large scale and to examine the factors that make...

Author(s): Jeannette Sutton, Emma S. Spiro, Britta Johnson, Sean Fitzhugh, Ben Gibson, Carter T. Butts

Year Published: 2014
Type: Document
Book or Chapter or Journal Article

The Bitterroot Valley fires of 2000 - Revisiting experiences and fire effects 13 years later

www.nrfirescience.org/resource/12673

During the Fires of 2000 field trip, held as part of the May 2014 Large Wildland Fires Conference, researchers, managers, residents, and stakeholders shared their experiences around the unprecedented number and size of fires that burned in the Bitterroot Valley in the summer of 2000. Topics discussed included fire history, fire...

Author(s): Corey L. Gucker

Year Published: 2014
Type: Document

Smoke management of wildland and prescribed fire: understanding public preferences and trade-offs

www.nrfirescience.org/resource/13012

Smoke from forest fires is a serious and increasing land management concern. However, a paucity of information exists that is specific to public perceptions of smoke. This study used conjoint analysis, a multivariate technique, to evaluate how four situational factors (i.e., smoke origin, smoke duration, health impact, and advanced...

Author(s): Jarod Blades, Steven R. Shook, Troy E. Hall

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Exploring how deliberation on scientific information shapes stakeholder perceptions of forest management and climate change - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/12967

Climate change has resulted in rapid biophysical changes in forests of the western US and has prompted the need for an increased understanding of potential impacts and adaption measures. Land managers, policy makers, and community officials lack locally relevant climate change science and are urgently calling for research to inform...

Author(s): Troy E. Hall, Jarod Blades

Year Published: 2014

Type: Document

Technical Report or White Paper

Northern Rocky Mountain Experimental Forests: settings for science, management, and education alliances

www.nrfirescience.org/resource/12911

Society's view of forests and what they produce changed considerably during the latter part of the 20th century. Prior to the 1970s, society believed that forests in the western United States provided a seemingly infinite supply of natural resources and economic prosperity. The public trusted experts to make forest management...

Author(s): Theresa B. Jain, Michael A. Battaglia, Russell T. Graham

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Perverse incentives: the case of wildfire smoke regulation

www.nrfirescience.org/resource/14235

Wildfire is on the rise. The United States is witnessing a spectacular increase in acres lost to catastrophic wildfires, a phenomenon fed by the generally hotter and dryer conditions associated with climate change. In addition to losses in lives, property, and natural resources, wildfires contribute thousands of tons of air...

Author(s): Kirsten H. Engel

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Building trust, establishing credibility, and communicating fire issues with the public

www.nrfirescience.org/resource/12385

With more people than ever living in the vicinity of the wildland-urban interface, communicating wildland fire management activities and building trust with the public is paramount for safety. Although the time and resources it takes to build and maintain the public's trust may seem daunting, it may be one of the most important...

Author(s): Josh McDaniel

Year Published: 2014

Type: Document

Research Brief or Fact Sheet

The merits of prescribed fire outweigh potential carbon emission effects

www.nrfirescience.org/resource/12426

While North American ecosystems vary widely in their ecology and natural historical fire regimes, they are unified in benefitting from prescribed fire when judiciously applied with the goal of maintaining and restoring native ecosystem composition, structure, and function. On a modern landscape in which historical fire regimes...

Author(s): Association for Fire Ecology, International Association of Wildland Fire, Tall Timbers Research Station, The Nature Conservancy

Year Published: 2013

Type: Document

Technical Report or White Paper

Communicating science in politicized environments

www.nrfirescience.org/resource/12605

Many members of the scientific community attempt to convey information to policymakers and the public. Much of this information is ignored or misinterpreted. This article describes why these outcomes occur and how science communicators can achieve better outcomes. The article focuses on two challenges associated with communicating...

Author(s): Arthur Lupia

Year Published: 2013

Type: Document

Book or Chapter or Journal Article, Synthesis

Assessing social vulnerability to climate change in human communities near public forests and grasslands: a framework for resource managers and planners

www.nrfirescience.org/resource/14673

Public land management agencies have incorporated the concept of vulnerability into protocols for assessing and planning for climate change impacts on public forests and grasslands. However, resource managers and planners have little guidance for how to address the social aspects of vulnerability in these assessments and plans....

Author(s): A. Paige Fischer, Travis B. Paveglio, Matthew S. Carroll, Daniel Murphy, Hannah Brenkert-Smith

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Social amplification of wildfire risk: the role of social interactions and information sources

www.nrfirescience.org/resource/14671

Wildfire is a persistent and growing threat across much of the western United States. Understanding how people living in fire-prone areas perceive this threat is essential to the design of effective risk management policies. Drawing on the social amplification of risk framework, we develop a conceptual

model of wildfire risk...

Author(s): Hannah Brenkert-Smith, Katherine L. Dickinson, Patricia A. Champ, Nicholas Flores

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

FIRE Up: youth working with communities to adapt to wildfire

www.nrfirescience.org/resource/12008

Around the world, youth are recognized as playing an important role in reducing the risk of disasters and promoting community resilience. Youth are participating in disaster education programs and carrying home what they learn; their families, in turn, are disseminating knowledge into the community. Youth are also collecting data...

Author(s): Victoria Sturtevant, Gwyneth Myer

Year Published: 2013

Type: Document

Research Brief or Fact Sheet

Wildfire risk and optimal investments in watershed protection

www.nrfirescience.org/resource/16172

Following what was then one of the most destructive fire years on record, President Bush signed into law the Healthy Forests Restoration Act of 2003. The law requires no less than fifty percent of all funds allocated for hazardous fuels reductions to occur in the wildland-urban interface (WUI), with the aim of enhancing the...

Author(s): Travis Warziniack, Matthew P. Thompson

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Developing standardized strategic response categories for fire management units

www.nrfirescience.org/resource/16165

We undertook an exploration of these data (FMUs) to better understand how fire management objectives and corresponding planned incident responses vary across landscapes and ownerships. By capturing common themes across FMUs, we were able to establish a broad set of four standard response categories for purposes of classification. In...

Author(s): Matthew P. Thompson, Crystal S. Stonesifer, Robert C. Seli, Marlena Hovorka

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

American voters' views on wildfires

www.nrfirescience.org/resource/12435

Just under half (44%) of U.S. voters say 'uncontrollable wildfires that destroy property and forests' is a serious problem, facing the nation - with one-in-four calling it an 'extremely' or 'very' serious problem. This is the highest proportion to register this view since 2007.

Author(s): National Forest Foundation

Year Published: 2013

Type: Document

Research Brief or Fact Sheet

Combustion efficiency and emission factors for wildfire-season fires in mixed conifer forests of

the northern Rocky Mountains, US

www.nrfirescience.org/resource/13481

In the US, wildfires and prescribed burning present significant challenges to air regulatory agencies attempting to achieve and maintain compliance with air quality regulations. Fire emission factors (EF) are essential input for the emission models used to develop wildland fire emission inventories. Most previous studies quantifying...

Author(s): Shawn P. Urbanski

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Trial by fire: Community Wildfire Protection Plans put to the test

www.nrfirescience.org/resource/12430

Research has found that community wildfire protection planning can make significant contributions to wildfire mitigation and preparedness, but can the planning process and resulting Community Wildfire Protection Plans make a difference to wildfire response and recovery? In case studies conducted in four USA communities with...

Author(s): Pamela J. Jakes, Victoria Sturtevant

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Social and ecological factors influencing attitudes toward the application of high-intensity prescribed burns to restore fire adapted grassland ecosystems

www.nrfirescience.org/resource/12401

Fire suppression in grassland systems that are adapted to episodic fire has contributed to the recruitment of woody species in grasslands worldwide. Even though the ecology of restoring these fire prone systems back to grassland states is becoming clearer, a major hurdle to the reintroduction of historic fires at a landscape scale...

Author(s): David Toledo, Michael G. Sorice, Urs P. Kreuter

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Best practices in risk and crisis communication: implications for natural hazards management

www.nrfirescience.org/resource/8359

As societies evolve, often the most appropriate response to the hazard must also evolve. However, such shifts in appropriate response to a hazard, whether at the individual or at the societal level, are rarely straightforward: Closing the gap between desired practice and current practice requires effective communication. Although...

Author(s): Toddi A. Steelman, Sarah M. McCaffrey

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Brush, grass, and forest fires

www.nrfirescience.org/resource/12408

Based on data from the U.S. Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association's (NFPA's) annual fire department experience survey, NFPA estimates that during 2007-2011, local fire departments responded to an average of 334,200 brush, grass or forest fires per...

Author(s): Marty Ahrens
Year Published: 2013
Type: Document
Technical Report or White Paper

Wildfire smoke and health impacts: a closer look at fire attributes and their marginal effects

www.nrfirescience.org/resource/12143

Existing studies on the economic impact of wildfire smoke have focused on single fire events or entire seasons without considering the marginal effect of daily fire progression on downwind communities. In addition, neither approach allows for an examination of the impact of even the most basic fire attributes, such as distance and...

Author(s): K. Moeltner, Man-Kuen Kim, E. Zhu, W. Yang

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Living in a tinderbox: wildfire risk perceptions and mitigating behaviours

www.nrfirescience.org/resource/14672

The loss of homes to wildfires is an important issue in the USA and other countries. Yet many homeowners living in fire-prone areas do not undertake mitigating actions, such as clearing vegetation, to decrease the risk of losing their home. To better understand the complexity of wildfire risk-mitigation decisions and the role of...

Author(s): Patricia A. Champ, Geoffrey H. Donovan, Christopher M. Barth

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

The rising Great Plains fire campaign: citizens' response to woody plant encroachment

www.nrfirescience.org/resource/12011

Despite years of accumulating scientific evidence that fire is critical for maintaining the structure and function of grassland ecosystems in the US Great Plains, fire has not been restored as a fundamental grassland process across broad landscapes. The result has been widespread juniper encroachment and the degradation of the...

Author(s): Dirac Twidwell, William E. Rogers, Samuel D. Fuhlendorf, Carissa L. Wonkka, David M.

Engle, John R. Weir, Urs P. Kreuter, Charles A. Taylor

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Yellowstone National Park and the summer of fire

www.nrfirescience.org/resource/11997

Because of their close relationships with fires, western forest ecosystems are considered fire dependent. If we hope to sustain the communities of trees, plants, and animals that characterize these wildland forests, we need to understand the natural role of fire, changes brought about by suppressing fire, and alternatives for...

Author(s): Diane M. Smith

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Public perceptions of smoke from wildfire, prescribed fire, and fire use

www.nrfirescience.org/resource/13483

Managers and policy-makers across broad disciplines and organizations are calling for a better understanding of public opinion on natural resource issues. One such issue is that of fire and its role in the management of our forests and rangelands. Public perceptions of fuel reduction techniques, with a particular emphasis on using...

Author(s): Stacey S. Frederick

Year Published: 2013

Type: Document

Dissertation or Thesis

Bridging natural resource communication boundaries: public perceptions of smoke from wildland fires and forest managers' perspectives of climate change science

www.nrfirescience.org/resource/13479

Land managers of the northern Rocky Mountains and south-central U.S. are challenged with numerous social and ecological changes, many of which are linked to climate change. The work presented here focuses on two important research gaps: 1) managers do not understand public opinions toward smoke from prescribed fires (a necessary...

Author(s): Jarod Blades

Year Published: 2013

Type: Document

Dissertation or Thesis

Influencing public perceptions of smoke management and prescribed burning programs: an analysis of opportunities existing in communication tactics, community-based partnerships and interagency decision making

www.nrfirescience.org/resource/13507

Historical fire suppression efforts have led to the alteration of forest structure and fuel conditions across the United States. Correspondingly, managers are now faced with higher fuel loads and denser vegetation as well as growing forest communities and wildland-urban interface. While managers recognize the ecological benefits of...

Author(s): Danielle K. Mazzotta

Year Published: 2012

Type: Document

Dissertation or Thesis

The role of experimental forests in science and management

www.nrfirescience.org/resource/12913

Happy 100 years to the Priest River Experimental Forest (PREF)! PREF, which is managed by the Research and Development Branch of the USDA Forest Service, celebrated its centennial in September 2011. It was established in northern Idaho to provide useful information that would improve forest management in the western part of District...

Author(s): Theresa B. Jain

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

How can we span the boundaries between wildland fire science and management in the United States?

www.nrfirescience.org/resource/12614

In 2009, the federal Joint Fire Science Program (JFSP) initiated a national network of boundary

organizations, known as regional fire science consortia, to accelerate the awareness, understanding, and use of wildland fire science. Needs assessments conducted by consortia in eight regions of the United States are synthesized here...

Author(s): Susan D. Kocher, Eric Toman, Sarah F. Trainor, Vita Wright, Jennifer S. Briggs, Charles P. Goebel, Eugenie M. MontBlanc, Annie Oxarart, Donna Peppin, Toddi A. Steelman, Andrea E. Thode, Thomas A. Waldrop

Year Published: 2012

Type: Document

Book or Chapter or Journal Article, Synthesis

Research perspectives on the public and fire management: a synthesis of current social science on eight essential questions

www.nrfirescience.org/resource/12601

As part of a Joint Fire Science Program project, a team of social scientists reviewed existing fire social science literature to develop a targeted synthesis of scientific knowledge on the following questions: 1. What is the public's understanding of fire's role in the ecosystem? 2. Who are trusted sources of information about fire...

Author(s): Sarah M. McCaffrey, Christine Olsen

Year Published: 2012

Type: Document

Synthesis

Wildfire triage: targeting mitigation based on social, economic, and ecological values

www.nrfirescience.org/resource/16178

Evaluating the risks of wildfire relative to the valuable resources found in any managed landscape requires an interdisciplinary approach. Researchers at the Rocky Mountain Research Station and Western Wildland Threat Assessment Center developed such a process, using a combination of techniques rooted in fire modeling and ecology,...

Author(s): Karl Malcolm, Matthew P. Thompson, David E. Calkin, Mark A. Finney, Alan A. Ager

Year Published: 2012

Type: Document

Research Brief or Fact Sheet

Cramer Staff Ride: Preliminary study

www.nrfirescience.org/resource/18011

The Cramer fire began as a fairly typical mid-slope ignition on the south-facing slope of the steep Salmon River Canyon during an extended drought that saw live fuel moistures in late July falling below the benchmark record of 2000. On July 22, the fourth day after ignition, and three days from detection and engagement, the fire...

Year Published: 2012

Type: Document

Technical Report or White Paper

The Waldo Canyon Fire: Fires on the Colorado Front Range and Home Destruction - A Report to the Pike and San Isabel National Forests

www.nrfirescience.org/resource/11266

The purpose of this white paper is to discuss fires on the Colorado Front Range and to share initial observations of fire behavior and home destruction during the Waldo Canyon Fire. It is my hope that these lessons and observations will be beneficial to agencies and especially the public. I want to share this information early when...

Author(s): Richard D. Stratton

Year Published: 2012
Type: Document
Technical Report or White Paper

The Missoula Fire Sciences Laboratory: a 50-year dedication to understanding wildlands and fire

www.nrfirescience.org/resource/16347

In 1960, the USDA Forest Service established the Northern Forest Fire Laboratory (now the Missoula Fire Sciences Laboratory) to find scientific solutions for better managing the nation's wildland resources and to research ways to improve forest fire prevention and suppression. This new state-of-the-art research facility did not...

Author(s): Diane M. Smith
Year Published: 2012
Type: Document
Technical Report or White Paper

A case for developing place-based fire management strategies from traditional ecological knowledge

www.nrfirescience.org/resource/16101

Sustainability science promotes place-based resource management because natural processes vary among ecosystems. When local science is limited, land managers may be forced to generalize from other ecosystems that function differently. One proposed solution is to draw upon the traditional ecological knowledge that indigenous groups...

Author(s): Lily A. Ray, Crystal A. Kolden, F. Stuart Chapin
Year Published: 2012
Type: Document
Book or Chapter or Journal Article

Wildland fire in ecosystems: effects of fire on cultural resources and archaeology

www.nrfirescience.org/resource/141

This state-of-knowledge review provides a synthesis of the effects of fire on cultural resources, which can be used by fire managers, cultural resource (CR) specialists, and archaeologists to more effectively manage wildland vegetation, fuels, and fire. The goal of the volume is twofold: (1) to provide cultural resource/...

Year Published: 2012
Type: Document
Synthesis

Public engagement in neighbourhood level wildfire mitigation and preparedness: case studies from Canada, the US and Australia

www.nrfirescience.org/resource/12432

This study examined neighbourhood level wildfire mitigation programs being implemented in neighbourhoods in Canada (FireSmart-ForestWise), Australia (Community Fireguard) and the US (Firewise Communities). Semi-structured interviews were completed with 19 residents participating in the programs. A wide range of activities were...

Author(s): Tara K. McGee
Year Published: 2011
Type: Document
Book or Chapter or Journal Article

Public perceptions and tolerance of smoke from prescribed and wildland fire

www.nrfirescience.org/resource/15554

A literature synthesis on public perceptions and tolerance of smoke. Topics explored include personal values and beliefs about smoke, beliefs about the controllability of fire and smoke, agency trust, individual characteristics related to perceptions and tolerance of smoke, and future research.

Author(s): Jarod Blades, Troy E. Hall

Year Published: 2011

Type: Document

Technical Report or White Paper

A synthesis of current knowledge on forests and carbon storage in the United States

www.nrfirescience.org/resource/12598

Using forests to mitigate climate change has gained much interest in science and policy discussions. We examine the evidence for carbon benefits, environmental and monetary costs, risks and trade-offs for a variety of activities in three general strategies: (1) land use change to increase forest area (afforestation) and avoid...

Author(s): Duncan C. McKinley, Michael G. Ryan, Richard A. Birdsey, Christian P. Giardina, Mark E. Harmon, Linda S. Heath, Richard A. Houghton, Robert B. Jackson, James F. Morrison, Brian C. Murray, Diane E. Pataki, Kenneth E. Skog

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

The exposure index: developing firefighter safety performance measures

www.nrfirescience.org/resource/16182

A cornerstone of effective institutional learning and accountability is the development, tracking, and analysis of informative performance measures. In a previous issue of Fire Management Today ("A New Look at Risk Management," Winter 2011), a series of articles highlighted the importance of organizational safety and risk management...

Author(s): David E. Calkin, John Phipps, Thomas P. Holmes, Jon D. Rieck, Matthew P. Thompson

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Beyond fire behavior and fuels: learning from the past to help guide us in the future

www.nrfirescience.org/resource/18397

The third IAWF Fire Behavior and Fuels Conference was held in Spokane, Washington, October 25-29, 2010, and commemorated the 100th anniversary of the 1910 fires in the Northern Rocky Mountains. The theme of the conference was appropriately titled 'Beyond Fire Behavior and Fuels: Learning from the Past to Help Guide Us in the...

Year Published: 2011

Type: Document

Conference Proceedings

Understanding homeowner preparation and intended actions when threatened by a wildfire

www.nrfirescience.org/resource/11138

As wildland fires affect more houses, increasing attention is being paid to how homeowners in affected areas respond to the wildfire threat. Most research on homeowner responses to wildfire has focused on actions homeowners take before a fire to mitigate their fire risk, particularly vegetation management. Less attention has been...

Author(s): Sarah M. McCaffrey, Greg Winter

Year Published: 2011
Type: Document
Technical Report or White Paper

Outreach programs, peer pressure, and common sense: what motivates homeowners to mitigate wildfire risk?

www.nrfirescience.org/resource/8335

In recent years, altered forest conditions, climate change, and the increasing numbers of homes built in fire prone areas has meant that wildfires are affecting more people. An important part of minimizing the potential negative impacts of wildfire is engaging homeowners in mitigating the fire hazard on their land. It is therefore...

Author(s): Sarah M. McCaffrey, Melanie Stidham, Eric Toman, Bruce A. Shindler

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Reducing fuels in the wildland-urban interface: community perceptions of agency fuels treatments

www.nrfirescience.org/resource/11452

Wildland fires and resulting effects have increased in recent years. Efforts are under way nationwide to proactively manage vegetative conditions to reduce the threat of wildland fires. Public support is critical to the successful implementation of fuels reduction programs, particularly at the wildland-urban interface. This study...

Author(s): Eric Toman, Melanie Stidham, Bruce A. Shindler, Sarah M. McCaffrey

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Community wildfire protection planning: is the Healthy Forests Restoration Act's vagueness genius?

www.nrfirescience.org/resource/8273

The Healthy Forests Restoration Act of 2003 (HFRA) encourages communities to develop community wildfire protection plans (CWPPs) to reduce their wildland fire risk and promote healthier forested ecosystems. Communities who have developed CWPPs have done so using many different processes, resulting in plans with varied form and...

Author(s): Pamela J. Jakes, Kristen C. Nelson, Sherry A. Enzler, Sam Burns, Anthony S. Cheng, Victoria Sturtevant, Daniel R. Williams, Alexander N. Bujak, Rachel F. Brummel, Stephanie A. Grayzeck-Souter, Emily Staychock

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Human relationships to fire prone ecosystems: mapping values at risk on contested landscapes

www.nrfirescience.org/resource/13510

A key problem in developing a better understanding of different responses to landscape level management actions, such as fuel treatments, is being able to confidently record and accurately spatially delineate the meanings stakeholders ascribe to the landscape. To more accurately understand these relationships with the Bitterroot...

Author(s): Kari Gunderson, Stephen J. Carver, Brett Davis

Year Published: 2011

Type: Document

The economic cost of adverse health effects from wildfire: a review

www.nrfirescience.org/resource/14534

The economic costs of adverse health effects associated with exposure to wildfire smoke should be given serious consideration in determining the optimal wildfire management policy. Unfortunately, the literature in this research area is thin. In an effort to better understand the nature of these economic costs, we review and...

Author(s): Ikuho Kochi, Geoffrey H. Donovan, Patricia A. Champ, John B. Loomis

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Alternatives to evacuation during wildland fire: exploring adaptive capacity in one Idaho community

www.nrfirescience.org/resource/11993

The use of alternatives to evacuation during wildfire events continues to be an intensely debated strategy in the professional and policy circles of numerous fire-prone countries. The most recent chapter comes in response to the Black Saturday Fires in Australia, which has led to policy changes concerning alternatives to evacuation...

Author(s): Travis B. Paveglio, Matthew S. Carroll, Pamela J. Jakes

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Utilization of the Native American talking circle to teach incident command system to tribal community health representatives

www.nrfirescience.org/resource/16106

The public health workforce is diverse and encompasses a wide range of professions. For tribal communities, the Community Health Representative (CHR) is a public health paraprofessional whose role as a community health educator and health advocate has expanded to become an integral part of the health delivery system of most tribes....

Author(s): Brenda Granillo, Ralph Renger, Jessica Wakelee, Jefferey L. Burgess

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Fire Effects Information System: New engine, remodeled interior, added options

www.nrfirescience.org/resource/16134

Some of today's firefighters weren't even born when the Fire Effects Information System (FEIS) "hit the streets" in 1986. Managers might remember using a dial-up connection in the early 1990s to access information on biology, ecology, and fire offered by FEIS.

Author(s): Jane Kapler Smith

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Field guide for mapping post-fire soil burn severity

www.nrfirescience.org/resource/15310

Following wildfires in the United States, the U.S. Department of Agriculture and U.S. Department of the

Interior mobilize Burned Area Emergency Response (BAER) teams to assess immediate post-fire watershed conditions. BAER teams must determine threats from flooding, soil erosion, and instability. Developing a postfire soil burn...

Author(s): Annette Parson, Peter R. Robichaud, Sarah A. Lewis, Carolyn Napper, Jess T. Clark

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Willingness-to-pay function for two fuel treatments to reduce wildfire acreage burned: a scope test and comparison of white and hispanic households

www.nrfirescience.org/resource/11065

We estimate a marginal benefit function for using prescribed burning and mechanical fuel reduction programs to reduce acres burned by wildfire in three states. Since each state had different acre reductions, a statistically significant coefficient on the reduction in acres burned is also a split sample scope test frequently used as...

Author(s): John B. Loomis, Le Trong Hung, Armando Gonzalez-Caban

Year Published: 2009

Type: Document

Conference Proceedings, Technical Report or White Paper

Mapping tradeoffs in values at risk at the interface between wilderness and non-wilderness lands

www.nrfirescience.org/resource/11063

On the Flathead Indian Reservation in Montana, U.S., the Mission Mountains Tribal Wilderness is bordered by a buffer zone. To successfully improve forest health within that buffer zone and restore fire in the wilderness, the managing agency and the public need to work together to find solutions to increasingly threatening fuel...

Author(s): Alan E. Watson, Roian Matt, Tim Waters, Kari Gunderson, Stephen J. Carver, Brett Davis

Year Published: 2009

Type: Document

Conference Proceedings

The Fire Effects Information System - serving managers since before the Yellowstone fires

www.nrfirescience.org/resource/16133

This presentation will describe the current status of the Fire Effects Information System (FEIS) and explore lessons learned from this 23-yearold project about the application of science to fire management issues. FEIS contains literature reviews covering biology and fire ecology for approximately 1,100 species in North America:...

Author(s): Jane Kapler Smith, Janet L. Fryer, Kristin L. Zouhar

Year Published: 2009

Type: Document

Conference Proceedings

Communicating about fire with tribal organizations

www.nrfirescience.org/resource/16111

The key to working effectively with tribes is the ability to build trust and to respect differences. Unfortunately, all too often, fire managers make critical mistakes when dealing with tribal governments, tribal people, and tribal fire teams. It is easy to assume that the same ways of seeing things and communicating—the same...

Author(s): Germaine White, Pat McDowell

Year Published: 2009

Type: Document
Book or Chapter or Journal Article

Fire intensity, fire severity and burn severity: a brief review

www.nrfirescience.org/resource/16309

Several recent papers have suggested replacing the terminology of fire intensity and fire severity. Part of the problem with fire intensity is that it is sometimes used incorrectly to describe fire effects, when in fact it is justifiably restricted to measures of energy output. Increasingly, the term has created confusion because...

Author(s): Jon E. Keeley

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

A multi-disciplinary approach to fire management strategy, suppression costs, community interaction and organizational performance

www.nrfirescience.org/resource/17806

Over the past several fire seasons, there has been increasing emphasis on strategies to achieve fire management objectives using less than full perimeter control, such as more prescribed burning and focused point and area protection. While the strategies and tactics themselves are not new, wider use by Federal agencies, particularly...

Author(s): Anne E. Black, Krista M. Gebert, Sarah M. McCaffrey, Toddi A. Steelman, Janie Canton-Thompson

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

The homeowner view of thinning methods for fire hazard reduction: more positive than many think

www.nrfirescience.org/resource/11486

With the focus of the National Fire Plan on decreasing fire risk in the wildland-urban interface, fire managers are increasingly tasked with reducing the fuel load in areas where mixed public and private ownership and a growing number of homes can make most fuel reduction methods problematic at best. In many of these intermix areas...

Author(s): Sarah M. McCaffrey

Year Published: 2008

Type: Document

Conference Proceedings, Technical Report or White Paper

Contingent valuation of fuel hazard reduction treatments

www.nrfirescience.org/resource/11988

This chapter presents a stated preference technique for estimating the public benefits of reducing wildfires to residents of California, Florida, and Montana from two alternative fuel reduction programs: prescribed burning, and mechanical fuels reduction. The two fuel reduction programs under study are quite relevant to people...

Author(s): John B. Loomis, Armando Gonzalez-Caban

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Wildfire smoke: a guide for public health officials

www.nrfirescience.org/resource/12451

Smoke rolls into town, blanketing the city, turning on streetlights, creating an eerie and choking fog. Switchboards light up as people look for answers. Citizens want to know what they should do to protect themselves. School officials want to know if outdoor events should be cancelled. The news media want to know how dangerous the...

Author(s): Michael Lipsett, Barbara Materna, Susan Lyon Stone, Shannon Therriault, Robert Blaisdell, Jeff Cook

Year Published: 2008

Type: Document

Technical Report or White Paper

The what, how, and when of social reliance and cooperative risk management

www.nrfirescience.org/resource/132

A study of the relationship between public trust and management actions taken by the US Forest Service. This chapter focuses on an analysis of the definitions 'social reliance' and 'trust,' then applies them to various examples, one of which is the cooperative management of US National Forests.

Author(s): George T. Cvetkovich, Patricia L. Winter

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Northern Inland West land/homeowner perceptions of fire risk and responsibility in the wildland-urban interface

www.nrfirescience.org/resource/8338

The issue of sorting through who should bear responsibility for mitigating wildfire risk in the wildland-urban interface of the northern Inland West was approached using focus groups. The groups were selected to reflect a variety of stakeholders in the study area population for whom interface issues are relevant. Most participants...

Author(s): Brad R. Weisshaupt, Pamela J. Jakes, Matthew S. Carroll, Keith A. Blatner

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

The fire environment -- Innovations, management, and policy

www.nrfirescience.org/resource/16904

The 2nd Fire Behavior and Fuels Conference: Fire Environment – Innovations, Management and Policy was held in Destin, FL, March 26-30, 2007. Following on the success of the 1st Fire Behavior and Fuels Conference, this conference was initiated in response to the needs of the National Wildfire Coordinating Group – Fire Environment...

Author(s): Bret W. Butler, Wayne A. Cook

Year Published: 2007

Type: Document

Conference Proceedings

Social science informing forest management — bringing new knowledge to fuels managers

www.nrfirescience.org/resource/15006

To improve access, interpretability, and use of the full body of research, a pilot project was initiated by the USDA Forest Service to synthesize relevant scientific information and develop publications and decision support tools that managers can use to inform fuels treatment plans. This article provides an overview of the work of...

Author(s): Pamela J. Jakes
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

Big and black sagebrush landscapes

www.nrfirescience.org/resource/15405

Perhaps no plant evokes a common vision of the semi-arid landscapes of western North America as do the sagebrushes. A collective term, sagebrush is applied to shrubby members of the mostly herbaceous genus, *Artemisia* L. More precisely, the moniker is usually restricted to members of subgenus *Tridentatae*, a collection of some 20...

Author(s): Stanley G. Kitchen, E. Durant McArthur
Year Published: 2007
Type: Document
Conference Proceedings

The next catastrophe: reducing our vulnerabilities to natural, industrial, and terrorist disasters

www.nrfirescience.org/resource/15885

Perrow, developer of normal accident theory, argues here that we must reduce the size of targets that are vulnerable to disasters because organizations, including political ones, cannot completely prevent all the risks associated with the potential disasters that a society might face. A basic tenant of Perrow's argument is that...

Author(s): Charles Perrow
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

Improving wildfire preparedness: lessons from communities across the US

www.nrfirescience.org/resource/7947

Communities across the U.S. have been taking action to adapt to the wildfire risk they face. In a series of case studies conducted in 15 communities, researchers identified and described four elements that form the foundation for community wildfire preparedness: landscape, government, citizens, and community.

Author(s): Pamela J. Jakes, Linda E. Kruger, Martha C. Monroe, Kristen C. Nelson, Victoria Sturtevant
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

Citizen-Agency Interactions in Planning and Decisionmaking After Large Fires

www.nrfirescience.org/resource/17810

This report reviews the growing literature on the concept of agency-citizen interactions after large wildfires. Because large wildfires have historically occurred at irregular intervals, research from related fields has been reviewed where appropriate. This issue is particularly salient in the West where excess fuel conditions...

Author(s): Christine Olsen, Bruce A. Shindler
Year Published: 2007
Type: Document
Technical Report or White Paper

Understanding the influence of local and landscape conditions on the occurrence and

abundance of Black-backed Woodpeckers in burned forest patches

www.nrfirescience.org/resource/15635

Wildfire is the predominant disturbance agent in the Northern Rockies. The nearly annual occurrence of wildfire at some point in a larger landscape has served as the environmental backdrop against which our native wildlife species have evolved. A number of native species have, in fact, become dependent on wildfires or wildfire-...

Author(s): Richard L. Hutto, Deborah Austin, Sallie Hejl

Year Published: 2007

Type: Document

Technical Report or White Paper

Managing the unexpected: resilient performance in an age of uncertainty

www.nrfirescience.org/resource/15972

Thousands of firefighters across the United States have been influenced by the first edition of "Managing the Unexpected". In this second edition, the authors continue their analysis of high reliability organizations (HRO's), which are organizations that routinely operate in high risk environments (where the consequences of...

Author(s): Karl E. Weick, Kathleen Sutcliffe

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Collaborative planning to reduce risk

www.nrfirescience.org/resource/138

Wildland fire knows no political boundaries, nor should efforts to address its risk. Collaboration is not a new idea; many examples of natural resource managers and community groups working together can be found in forest management planning, watershed restoration, and wildland fire suppression (Sturtevant et al. 2005). Direction...

Author(s): Victoria Sturtevant, Pamela J. Jakes

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Whitebark ecosystem displayed indoors

www.nrfirescience.org/resource/11091

If you had never seen a high-elevation whitebark pine community, if you had never picked up a whitebark cone emptied by nutcrackers, if you had never stepped over (or into) a bear scat full of pine nut shells, how could you appreciate the intricacy of whitebark pine habitat? How could you care about this beautiful, imperiled...

Author(s): Jane Kapler Smith

Year Published: 2007

Type: Document

Research Brief or Fact Sheet

A look inside the dynamics of trust: a guide for managers

www.nrfirescience.org/resource/12542

In the United States, federal public land managers are tasked with serving as stewards of land, but also as stewards of the relationships that people have with the land. By assessing the public's trust in the actions of land managers, insight can be gained into how good of a job managers are doing. This paper outlines a number of...

Author(s): Adam Liljeblad, Alan E. Watson, William T. Borrie

Year Published: 2007
Type: Document
Conference Proceedings

A comparison of CVM response rates, protests, and willingness to pay of Native Americans and general population for fuels reduction policies

www.nrfirescience.org/resource/7932

A contingent valuation method (CVM) study was used to compare survey response rates, protest refusals to pay, and median willingness-to-pay (WTP) of Native American communities in Montana compared to Montana's general population for two wildland fire mitigation strategies. Understanding differences in response rates, protest...

Author(s): Armando Gonzalez-Caban, John B. Loomis, Andrea Rodriguez, Hayley Hesseln

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Climate Change: what it means for us, our children, and our grandchildren

www.nrfirescience.org/resource/15711

Most of us are familiar with the terms climate change and global warming, but not too many of us understand the science behind them. We don't really understand how climate change will affect us, and for that reason we might not consider it as pressing a concern as, say, housing prices or the quality of local education. This book...

Author(s): J.F.C. DiMento, P. Doughman

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

A national study of the consequences of fire and fire surrogate treatments

www.nrfirescience.org/resource/15633

We provide highlights of some of the results thus far for the National Fire and Fire Surrogate study (FFS). Highlights summarize work that has been published within the last four years (2003-2006), primarily in theses, proceedings, general technical reports, and peer-reviewed journals (<http://www.fs.fed.us/ffs/>). In the summary, we...

Author(s): James D. McIver, Phil Weatherspoon

Year Published: 2006

Type: Document

Technical Report or White Paper

The roles of natural and human disturbances in forest soil erosion

www.nrfirescience.org/resource/8170

Forests provide numerous benefits for society, including fibre, wildlife and recreation. Forest managers are challenged to balance ecosystem health with maintaining public forest lands for multiple uses. During the first half of the last century, public forest management emphasized the harvesting of forest resources. In recent years...

Author(s): William J. Elliot

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Trust in wildland fire and fuel management decisions

www.nrfirescience.org/resource/12541

Public land managers are stewards of public lands and of the relationship between the public and these lands. Maintaining one aspect of this relationship, trust in the agency, can be challenging. Lack of trust can influence public response to management decisions, including about wildland fire use. By considering the factors that...

Author(s): Adam Liljeblad, William T. Borrie

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Understanding social influences on wilderness fire stewardship decisions

www.nrfirescience.org/resource/7954

Federal land managers and the public engage in many decisions about stewardship of wilderness in the United States, including decisions about stewardship of fire. To date, social science research lacks a holistic examination of the decision-making context of managers and the public about stewardship of fire inside wilderness and...

Author(s): Katie Knotek

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Wildland fire and fuel management: principles for effective communication

www.nrfirescience.org/resource/11437

In this paper we discuss four principles identified through recent research for effective citizen-agency communication and examine their use in accomplishing fire management objectives. Principles include the following: (1) effective communication is a product of effective planning; (2) both unidirectional (one-way) and interactive...

Author(s): Eric Toman, Bruce A. Shindler

Year Published: 2006

Type: Document

Technical Report or White Paper

Organizational characteristics that contribute to success in engaging the public to accomplish fuels management at the wilderness/non-wilderness interface

www.nrfirescience.org/resource/10984

In the fall of 2003, the Rocky Mountain Ranger District of the Lewis and Clark National Forest initiated a multi-year, large-scale prescribed burn in the Scapegoat Wilderness. The objectives of this burn were to make the non-wilderness side of the wilderness boundary more defensible from wildfire and to establish conditions that...

Author(s): Katie Knotek, Alan E. Watson

Year Published: 2006

Type: Document

Conference Proceedings

Using focus groups to involve citizens in resource management - investigating perceptions of smoke as a barrier to prescribed forest burning

www.nrfirescience.org/resource/11214

Participants in a series of focus groups discussed how their tolerance for smoke varied by the source of the smoke and found their opinions changing as they talked with other participants. Even those opposed to smoke from agricultural burning eventually found smoke from prescribed forest burning would be acceptable under appropriate...

Author(s): Brad R. Weisshaupt, Matthew S. Carroll, Keith A. Blatner, Pamela J. Jakes
Year Published: 2006
Type: Document
Technical Report or White Paper

Prescribed fire: what influences public approval?

www.nrfirescience.org/resource/8440

Except in remote areas, most prescribed fires will have some effect on members of the public. It is therefore important for land managers to work with the public before, during, and after a prescribed burn. To do this effectively, managers need to have an accurate idea of what people do and do not think about prescribed fire and...

Author(s): Sarah M. McCaffrey
Year Published: 2006
Type: Document
Technical Report or White Paper

Managing fire-prone forests in the Western United

www.nrfirescience.org/resource/16308

The management of fire-prone forests is one of the most controversial natural resource issues in the US today, particularly in the west of the country. Although vegetation and wildlife in these forests are adapted to fire, the historical range of fire frequency and severity was huge. When fire regimes are altered by human activity,...

Author(s): Reed F. Noss, Jerry F. Franklin, William L. Baker, Tania L. Schoennagel, Peter B. Moyle
Year Published: 2006
Type: Document
Book or Chapter or Journal Article

Social science to improve fuels management: a synthesis of research relevant to communicating with homeowners about fuels management

www.nrfirescience.org/resource/15007

A series of syntheses were commissioned by the USDA Forest Service to aid in fuels mitigation project planning. This synthesis focuses on how managers can most effectively communicate with the public about fuels management efforts. It summarizes what is known about the techniques of persuasive communication programs and provides an...

Author(s): Martha C. Monroe, Lisa Pennisi, Sarah M. McCaffrey, Dennis Mileti
Year Published: 2006
Type: Document
Synthesis, Technical Report or White Paper

Understanding place meanings on the Bitterroot National Forest - A landscape-level assessment of personal and community values

www.nrfirescience.org/resource/7934

Information about human relationships with wilderness is important for wilderness management decisions, including decisions pertaining to the use of wildland fire. In a study about meanings attached to a national forest, local residents were asked to identify places they valued on the forest, why they valued them, and how fuel...

Author(s): Kari Gunderson, Alan E. Watson
Year Published: 2006
Type: Document
Book or Chapter or Journal Article

Trends in public attitudes towards the use of wildland fire

www.nrfirescience.org/resource/10983

This paper summarizes a select set of research studies conducted over the past 40 years, drawing conclusions on trends in public attitudes about the use of wildland fire in federally designated Wilderness. The research includes trend studies conducted with visitors to Wilderness areas in Washington, Oregon, California, Idaho and...

Author(s): Katie Knotek

Year Published: 2006

Type: Document

Conference Proceedings

Human aspects of fire and fuels management in the Northern Rockies

www.nrfirescience.org/resource/11499

Humans are a part of forest and grassland ecosystems where we live, recreate, work, obtain timber products, and seek spiritual solace, among many other uses. Therefore, it's important to consider the human aspects of sustainable management of these ecosystems. BEMRP social scientists are working to understand meanings people assign...

Author(s): Katie Knotek

Year Published: 2005

Type: Document

Research Brief or Fact Sheet

Social science to improve fuels management: a synthesis of research on collaboration

www.nrfirescience.org/resource/15016

A series of syntheses were commissioned by the USDA Forest Service to aid in fuels mitigation project planning. This synthesis focuses on collaboration research, and offers knowledge and tools to improve collaboration in the planning and implementation of wildland fire and fuels management projects. It covers a variety of topics...

Author(s): Victoria Sturtevant, Margaret Ann Moote, Pamela J. Jakes, Anthony S. Cheng

Year Published: 2005

Type: Document

Synthesis, Technical Report or White Paper

Social science to improve fuels management: a synthesis of research on aesthetics and fuels management

www.nrfirescience.org/resource/15009

A series of syntheses were commissioned by the USDA Forest Service to aid in fuels mitigation project planning. This synthesis focuses on research addressing aesthetic considerations of fuels management. A general finding is that fuels management activities can contribute to the visual quality of a landscape. Topics covered in the...

Author(s): Robert L. Ryan

Year Published: 2005

Type: Document

Synthesis, Technical Report or White Paper

Acceptability of smoke from prescribed forest burning in the northern inland west: a focus group approach

www.nrfirescience.org/resource/8393

Focus groups were used to gauge tolerance of smoke from broadcast prescribed forest burning in the wildland-urban interface of the northern Inland West. Focus group participants worked through issues

surrounding prescribed burning as a management tool to determine if the origin of smoke made a difference in the acceptance of that...

Author(s): Brad R. Weisshaupt, Matthew S. Carroll, Keith A. Blatner, William D. Robinson, Pamela J. Jakes

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

Shared mindfulness in cockpit crisis situations

www.nrfirescience.org/resource/15912

Research reveals that human error contributes 60 to 80 percent of error in aviation accidents and disasters. Thus, despite innovations in technology and safety materials, individuals must be able to make speedy yet intelligent decisions and be able to communicate those decisions in an efficient manner. Krieger explores the...

Author(s): Janice L. Krieger

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

Social science to improve fuels management: a synthesis of research on assessing social acceptability of fuels treatments

www.nrfirescience.org/resource/15014

A series of syntheses were commissioned by the USDA Forest Service to aid in fuels mitigation project planning. This synthesis focuses on research for assessing the social acceptability of fuels treatments. The synthesis is structured around six important considerations for any social acceptability assessment: defining the fuels...

Author(s): Terry C. Daniel, Michael Valdiserri, Carrie R. Daniel, Susan C. Barro, Pamela J. Jakes

Year Published: 2005

Type: Document

Synthesis, Technical Report or White Paper

Wildland fire in ecosystems: effects of fire on soils and water

www.nrfirescience.org/resource/12596

This state-of-knowledge review about the effects of fire on soils and water can assist land and fire managers with information on the physical, chemical, and biological effects of fire needed to successfully conduct ecosystem management, and effectively inform others about the role and impacts of wildland fire. Chapter topics...

Author(s): Daniel G. Neary, Kevin C. Ryan, Leonard F. DeBano

Year Published: 2005

Type: Document

Technical Report or White Paper

Evaluating communication strategies and local partnerships: methods for reducing fuels, sharing responsibility, and building trust - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/11398

The purpose of this project is to help identify and prioritize the elements of successful communication strategies so that agency personnel can adapt them to their own situation for meeting management objectives. Preferred outcomes include partnerships with local organizations for reducing fuels, shared responsibility for making...

Author(s): Bruce A. Shindler

Year Published: 2005

Type: Document
Technical Report or White Paper

Eighth international wildland firefighter safety summit: 10 years later

www.nrfirescience.org/resource/15458

These files contain the proceedings and poster papers from the International Association of Wildland Fire's Wildland Fire Safety Summit™ held in Missoula, Montana April 26-28, 2005. These proceedings contain the papers as submitted by the authors. Except for some editing to try and instill a common format, these papers are as...

Year Published: 2005

Type: Document

Conference Proceedings

Federal Implementation Plans Under the Clean Air Act for Indian Reservations in Idaho, Oregon and Washington; Final Rule

www.nrfirescience.org/resource/12014

The Environmental Protection Agency (EPA) is taking final action on these Federal Implementation Plans (FIPs) under the Clean Air Act (CAA) for Indian reservations in Idaho, Oregon, and Washington. The FIPs put in place basic air quality regulations to protect health and welfare on Indian reservations located in the Pacific...

Author(s): U.S. Environmental Protection Agency

Year Published: 2005

Type: Document

Management or Planning Document

Fuels planning: science synthesis and integration; social issues fact sheet 3: developing personal responsibility for fuels reduction: more ways to catch and hold people's attention

www.nrfirescience.org/resource/14950

Other fact sheets discuss the different types of information that are useful in explaining to property owners the importance of taking personal responsibility for fuels management on their land. However, for some property owners, new information is not enough-they may need more information in order to understand that change is...

Author(s): Martha C. Monroe, Lisa Pennisi

Year Published: 2004

Type: Document

Research Brief or Fact Sheet

Tongue-tied: Confused meanings for common fire terminology can lead to fuels mismanagement

www.nrfirescience.org/resource/18931

The ineffective and inconsistent use of terminology among fire managers, scientists, resource managers and the public is a constant problem in resource management. In fire management and fire science, the terms fire severity, burn severity and fire intensity are defined in a variety of ways, used inconsistently and, in some cases,...

Author(s): Theresa B. Jain, Russell T. Graham, David S. Pilliod

Year Published: 2004

Type: Document

Book or Chapter or Journal Article

Fuels planning: science synthesis and integration; social issues fact sheet 1: developing

personal responsibility for fuels reduction: building a successful program to engage property owners

www.nrfirescience.org/resource/14948

In the course of work as a land manager, you will no doubt be involved in developing programs to achieve various objectives, including the improvement of fuels management on private lands. This fact sheet describes six steps that will help you plan and conduct a successful program.

Author(s): Martha C. Monroe, Lisa Pennisi

Year Published: 2004

Type: Document

Research Brief or Fact Sheet

Acceptability norms toward fire management in three national forests

www.nrfirescience.org/resource/21726

Norm theory offers a paradigm for understanding why the public judges management actions acceptable or unacceptable. This study assesses normative beliefs about acceptable wildland fire management. The acceptability of three fire management actions for eight scenarios was examined. The scenarios varied by fire origin and fire impact...

Author(s): Katie Kneeshaw, Jerry J. Vaske, Alan D. Bright, James D. Absher

Year Published: 2004

Type: Document

Book or Chapter or Journal Article

Red Lodge, Montana: steps to improve community preparedness for wildfire

www.nrfirescience.org/resource/11104

This is a government publication outlining the steps to wildfire preparedness in Red Lodge, MT. The key features include homeowners' associations, which lead in fuel reduction around properties; USFS recreation residences, which conduct fuel reduction projects; evacuation plans and fuel breaks; regulations; and relationships, which...

Author(s): Victoria Sturtevant, Linda E. Kruger

Year Published: 2004

Type: Document

Research Brief or Fact Sheet

FireWorks educational program and its effectiveness

www.nrfirescience.org/resource/11010

FireWorks is an educational program that provides interactive, hands-on activities for studying fire behavior, fire ecology, and human influences on three fire-dependent forest types-ponderosa pine (*Pinus ponderosa*), interior lodgepolepine (*P. contorta* var. *latifolia*), and whitebark pine (*P. albicaulis*). Wildland fire provides a rich...

Author(s): Jane Kapler Smith, Nancy E. McMurray

Year Published: 2004

Type: Document

Conference Proceedings

Fuels planning: science synthesis and integration; social issues fact sheet 4: three critical topics to cover when talking about hazards

www.nrfirescience.org/resource/14952

The amount of science applicable to the management of wildfire hazards is increasing daily. In addition, the attitudes of landowners and policymakers about fire and fuels management are changing. This fact sheet discusses three critical keys to communicating about wildfire hazards.

Author(s): Dennis Mileti

Year Published: 2004
Type: Document
Research Brief or Fact Sheet

Fuels planning: science synthesis and integration; social issues fact sheet 2: developing personal responsibility for fuels reduction: types of information to encourage proactive behavior

www.nrfirescience.org/resource/14949

Fuels management responsibilities may include providing local property owners with the information for taking responsibility for reducing fuels on their land. This fact sheet discusses three different types of information that may be useful in programs to engage property owners in fuel reduction activities.

Author(s): Martha C. Monroe, Lisa Pennisi

Year Published: 2004

Type: Document

Research Brief or Fact Sheet

Blue mountain nature trail: a fire story

www.nrfirescience.org/resource/12935

In 2003, on Black Mountain just to the northwest, lightning ignited a wildfire that eventually burned across 7,000 acres ending here at the Blue Mountain Nature Trail. Because of this event, we have a unique chance to observe close-up how fire affects a ponderosa pine and Douglas-fir forest...

Author(s): U.S. Department of Agriculture, Forest Service

Year Published: 2004

Type: Document

Research Brief or Fact Sheet

Training ecologists to think with uncertainty in mind

www.nrfirescience.org/resource/12642

Predictive capacity is needed to anticipate the consequences of global change. Along with the computational challenges inherent in accounting for uncertainty in models of ecological and physical processes related to global change, we face educational challenges related to developing the intellectual capital for thinking with...

Author(s): Carol A. Brewer, Louis J. Gross

Year Published: 2003

Type: Document

Book or Chapter or Journal Article, Synthesis

Keys to community preparedness for wildfire

www.nrfirescience.org/resource/11403

Assessments of a community's vulnerability to wildfires often focus on landscape conditions or ecological factors such as forest type, age distribution, forest health, topography, or hydrology. However, vulnerability is also a function of a variety of social factors. We need to understand both the social and ecological factors that...

Author(s): Linda E. Kruger, Shruti Agrawal, Martha C. Monroe, Erika A. Lang, Kristen C. Nelson, Pamela J. Jakes, Victoria Sturtevant, Sarah M. McCaffrey, Yvonne Everett

Year Published: 2003

Type: Document

Conference Proceedings, Technical Report or White Paper

A collaborative fire hazard reduction/ecosystem restoration stewardship project in a Montana

mixed ponderosa pine/Douglas-fir/western larch wildland-urban interface

www.nrfirescience.org/resource/11009

Forest Service managers and researchers designed and evaluated alternative disturbance-based fire hazard reduction/ecosystem restoration treatments in a greatly altered low-elevation ponderosa pine/Douglas-fir/western larch wildland urban interface. Collaboratively planned improvement cutting and prescribed fire treatment...

Author(s): Steve Slaughter, Laura Ward, Michael Hillis, Jimmie D. Chew, Becky McFarlan

Year Published: 2003

Type: Document

Conference Proceedings

The effects of fire on hiking demand: a travel cost study of Colorado and Montana

www.nrfirescience.org/resource/10968

Surveys were conducted on 33 sites within National Forests in Colorado and Montana to test how forest fires affected recreation demand in the two states. Data were collected on the actual number of visits and on the intended number of visits if the area had been subject to a recent high intensity crown fire, a recent prescribed fire...

Author(s): Hayley Hessel, John B. Loomis, Armando Gonzalez-Caban

Year Published: 2003

Type: Document

Conference Proceedings

Inviting disaster: lessons from the edge of technology

www.nrfirescience.org/resource/15873

While technology has provided the means for achieving unprecedented control over land, air, and sea, it has also become increasingly complex. As a result of this complexity, disasters are difficult to predict, and they are even more difficult to prevent. This book exposes many common mistakes that have culminated in unnecessary...

Author(s): James R. Chiles

Year Published: 2002

Type: Document

Book or Chapter or Journal Article

Microsimulation of neighborhood evacuations in the urban-wildland interface

www.nrfirescience.org/resource/11491

Residential development in fire-prone wildlands is occurring at an unprecedented rate. Community-based evacuation planning in many areas is an emerging need. In this paper we present a method for using microscopic traffic simulation to develop and test neighborhood evacuation plans in the urban - wildland interface. The method...

Author(s): Thomas J. Cova, Justin P. Johnson

Year Published: 2002

Type: Document

Book or Chapter or Journal Article

Educational program about wildland fire integrates plant science into curriculum

www.nrfirescience.org/resource/8386

A science fiction story by Edmond Hamilton entitled 'Alien Earth' (Hamilton 1949) describes the experience of a young scientist in a tropical country. The scientist obtains a potion that slows his physiology to a rate at which he can perceive plant growth and interactions between plants in rapid, aggressive, even violent motion. He...

Author(s): Jane Kapler Smith, Nancy E. McMurray, Garon C. Smith

Year Published: 2001
Type: Document
Book or Chapter or Journal Article

The dynamic path of recreational values following a forest fire: a comparative analysis of states in the Intermountain West

www.nrfirescience.org/resource/7924

This analysis examines the dynamic path of recreational values following a forest fire in three different states in the intermountain western United States. The travel cost demand analysis found that annual recreation values after a fire follow a highly nonlinear intertemporal path. The path is S-shaped, providing a range of...

Author(s): Jeffrey Englin, John B. Loomis, Armando Gonzalez-Caban

Year Published: 2001

Type: Document

Book or Chapter or Journal Article

Are old forests underestimated as global carbon sinks?

www.nrfirescience.org/resource/7916

Old forests are important carbon pools, but are thought to be insignificant as current atmospheric carbon sinks. This perception is based on the assumption that changes in productivity with age in complex, multiaged, multispecies natural forests can be modelled simply as scaled-up versions of individual trees or even-aged stands....

Author(s): Elieen V. Carey, Anna Sala, Robert E. Keane, Ragan M. Callaway

Year Published: 2001

Type: Document

Book or Chapter or Journal Article

Ponderosa pine ecosystems restoration and conservation: steps toward stewardship; April 25-27, 2000; Flagstaff, AZ

www.nrfirescience.org/resource/11888

This volume is divided into three sections: (1) Ecological, Biological, and Physical Science; (2) Social and Cultural; and (3) Economics and Utilization. Effective ecological restoration requires a combination of science and management. The authors of the first section exemplified this integration in the course of addressing a broad...

Author(s): Regina K. Vance, Carleton B. Edminster, W. Wallace Covington, Julie A. Blake

Year Published: 2001

Type: Document

Conference Proceedings

Agencies within communities, communities within ecosystems

www.nrfirescience.org/resource/8415

Can scientific information and intensive, extensive public involvement through facilitated meetings be expected to lead to agreement on natural resource issues? Communications and research in the Bitterroot Ecosystem Management Research Project indicate that, where people's values differ greatly, consensus is not a realistic goal...

Author(s): Jane Kapler Smith, Kerry McMenus

Year Published: 2000

Type: Document

Conference Proceedings

Testing transferability of forest recreation demand in three intermountain states with application to forest fire effects

www.nrfirescience.org/resource/11052

Surveys of visitors to National Forests in Colorado, Idaho, and Wyoming were conducted to determine whether non-motorized recreation visitation responded to different fire ages and fire intensities. Actual and intended behavior data was combined using a negative binomial count data travel cost model. The intended behavior trip...

Author(s): John B. Loomis, Jeffrey Englin, Jared McDonald, Armando Gonzalez-Caban

Year Published: 2000

Type: Document

Conference Proceedings

Preventing disaster: home ignitability in the wildland-urban interface

www.nrfirescience.org/resource/159

Wildland-urban interface (W-UI) fires are a significant concern for federal, state, and local land management and fire agencies. Research using modeling, experiments, and W-UI case studies indicates that home ignitability during wildland fires depends on the characteristics of the home and its immediate surroundings. These findings...

Author(s): Jack D. Cohen

Year Published: 2000

Type: Document

Book or Chapter or Journal Article

Building consensus: legitimate hope or seductive paradox?

www.nrfirescience.org/resource/11186

To understand how participants in a natural resource planning situation described the nature of consensus, we interviewed scientists, agency planners and managers, and public representatives in two planning processes on the Bitterroot National Forest in west-central Montana. While most interviewees felt the agency had included...

Author(s): Stephen F. McCool, Kathleen Guthrie, Jane Kapler Smith

Year Published: 2000

Type: Document

Technical Report or White Paper

The Bitterroot Ecosystem Management Research Project: what we have learned, symposium proceedings; May 18-20, 1999; Missoula, MT

www.nrfirescience.org/resource/11890

The varied topics presented in these symposium proceedings represent the diverse nature of the Bitterroot Ecosystem Management Research Project (BEMRP). Separated into six sections, the papers cover the different themes researched by BEMRP collaborators as well as brief overviews of five other ecosystem management projects. The...

Author(s): Helen Y. Smith

Year Published: 2000

Type: Document

Conference Proceedings

FireWorks: hands-on learning about fire ecology

www.nrfirescience.org/resource/8149

The perpetuation of fire-dependent forests requires an understanding of fire ecology and fire behavior not only by scientists and managers, but also by the public (U.S. Department of Interior and U.S. Department of Agriculture, 1995). FireWorks is a plastic trunk that contains educational materials and

lessons designed to increase...
Author(s): Jane Kapler Smith
Year Published: 2000
Type: Document
Book or Chapter or Journal Article

FireWorks curriculum featuring ponderosa, lodgepole, and whitebark pine forests

www.nrfirescience.org/resource/11238

FireWorks is an educational program for students in grades 1-10. The program consists of the curriculum in this report and a trunk of laboratory materials, specimens, and reference materials. It provides interactive, hands-on activities for studying fire ecology, fire behavior, and the influences of people on three fire-dependent...

Author(s): Jane Kapler Smith, Nancy E. McMurray
Year Published: 2000
Type: Document
Technical Report or White Paper

Smoke exposure at western wildfires

www.nrfirescience.org/resource/11193

Smoke exposure measurements among firefighters at wildfires in the Western United States between 1992 and 1995 showed that altogether most exposures were not significant, between 3 and 5 percent of the shift-average exposures exceeded occupational exposure limits for carbon monoxide and respiratory irritants. Exposure to benzene and...

Author(s): Timothy E. Reinhardt, Roger D. Ottmar
Year Published: 2000
Type: Document
Technical Report or White Paper

Behavioral and cognitive evaluation of FireWorks education trunk

www.nrfirescience.org/resource/8411

This study assessed the effectiveness of FireWorks, an educational trunk about wildland fire, in increasing student understanding, enabling students to apply classroom learning in a field setting, and improving the learning environment. Students who were in classrooms using the FireWorks educational trunk demonstrated more knowledge...

Author(s): Linda R. Thomas, James A. Walsh, Jane Kapler Smith
Year Published: 2000
Type: Document
Conference Proceedings

Risk management for ecological stewardship

www.nrfirescience.org/resource/15896

This comprehensive chapter documents, from a management perspective, the knowledge base on risk assessments and risk management. The previous chapter in the book is a companion article that provides the scientific foundation for the concepts and terminology used by Cleaves and Haynes. In this chapter, Cleaves and Haynes provide a...

Author(s): D.A. Cleaves, R. W. Haynes
Year Published: 1999
Type: Document
Book or Chapter or Journal Article

Effects of fire on the economic value of forest recreation in the Intermountain West: preliminary results

www.nrfirescience.org/resource/11051

Visitors to National Forests in Colorado, Idaho, and Wyoming were asked how their visitation rates would change with the presence of a high-intensity crown fire, prescribed fire, and a 20-year-old high-intensity fire at the area they were visiting. By using pairwise t-tests, visitors to forests in Colorado showed a statistically...

Author(s): John B. Loomis, Jeffrey Englin, Armando Gonzalez-Caban

Year Published: 1999

Type: Document

Conference Proceedings, Technical Report or White Paper

Dialogue and the art of thinking together

www.nrfirescience.org/resource/16219

In this book, Isaacs argues that we should learn to kindle and sustain a new conversational spirit in our relationships, organizations, and communities. A conversational spirit will help us in times of frustration and conflict and help us work together to a more promising future. Isaacs discusses what encourages and discourages such...

Author(s): William Isaacs

Year Published: 1999

Type: Document

Book or Chapter or Journal Article

Interim air quality policy on wildland and prescribed fires

www.nrfirescience.org/resource/12446

This policy statement has been prepared in response to plans by some Federal, tribal and State wildland owners/managers to significantly increase the use of wildland and prescribed fires to achieve resource benefits in the wildlands. Many wildland ecosystems are considered to be unhealthy as a result of past management strategies....

Author(s): U.S. Environmental Protection Agency

Year Published: 1998

Type: Document

Technical Report or White Paper

Managing environmental uncertainty with legitimate authority: a comparative analysis of the Mann Gulch and Storm King Mountain Fires

www.nrfirescience.org/resource/15893

Alder recognizes two decisions common to both the Mann Gulch and Storm King Mountain fires that influenced the behavior of firefighters during critical moments: 1) failing to question authority and 2) failing to obey authority. He argues that these failures are based on individual perceptions of legitimate authority. There are four...

Author(s): G. Stoney Alder

Year Published: 1997

Type: Document

Book or Chapter or Journal Article

Man-made disasters

www.nrfirescience.org/resource/15889

To understand and avoid future calamities, decision makers must have a more accurate way of understanding past calamities. Most of what we know about calamities comes from eye witness accounts that favor relief efforts and damage reports rather than the specific events that come together

initially to form a disaster. This suggests...
Author(s): Barry A. Turner, Nick F. Pidgeon
Year Published: 1997
Type: Document
Book or Chapter or Journal Article

The ecological implications of fire in Greater Yellowstone, proceedings of the second biennial conference on the Greater Yellowstone Ecosystem

www.nrfirescience.org/resource/11989

Proceedings of the second biennial conference on the Greater Yellowstone Ecosystem.
Author(s): Jason Greenlee
Year Published: 1996
Type: Document
Conference Proceedings

Dealing with public concerns in restoring fire to the forest

www.nrfirescience.org/resource/11253

Public support is important to all restoration efforts on public lands. Some types of restoration activities are easier for the public to support than others. Restoring wetlands, habitat restoration for salmon or burrowing owls, and vegetative rehabilitation are generally acceptable practices. Most restoration projects and...

Author(s): Leslie A. C. Weldon
Year Published: 1996
Type: Document
Technical Report or White Paper

Causes of disaster: sloppy management

www.nrfirescience.org/resource/15891

Turner argues that while the best way to avoid disasters is primarily "for managers to establish, to strengthen, and then to assert control," management control only addresses part of the problem, and there are limitations that affect management in disaster situations. Turner advocates examining three interrelated factors in a...

Author(s): Barry Turner
Year Published: 1994
Type: Document
Book or Chapter or Journal Article

Organizational communication imperatives: lessons of the space program

www.nrfirescience.org/resource/15970

Drawing upon experience working for NASA during the Apollo Missions and his studies of organizational communication, Tompkins illustrates that taking a communication perspective can help with understanding organizational problems. This book takes a narrative approach in which Tompkins discusses his visits to the Marshall Space...

Author(s): Phillip K. Tompkins
Year Published: 1993
Type: Document
Book or Chapter or Journal Article

Preventing chaos in a crisis: strategies for prevention, control and damage limitation

www.nrfirescience.org/resource/15914

This early work of Lagadec's, though it is nearly a decade and half old, continues to provide a helpful summary of guidelines managers can use during a crisis. The book, targeted specifically for decision makers, is organized into three parts that answer three main questions: What is a crisis? How do you manage a crisis? How do you...

Author(s): Patrick Lagadec

Year Published: 1993

Type: Document

Book or Chapter or Journal Article

The textual approach: risk and blame in disaster sensemaking

www.nrfirescience.org/resource/16261

This article investigates responses to a gas pipeline explosion as a means of uncovering the methods that organizations and other participants use to make sense during disaster and to change situations. Sensemaking deals with how organizations and individuals explain or "make sense of" what goes on around them. Gephart is...

Author(s): Robert P. Gephart Jr.

Year Published: 1993

Type: Document

Book or Chapter or Journal Article

Effects of the Gates Park Fire on recreation choices

www.nrfirescience.org/resource/11094

The 1988 Gates Park Fire, along the North Fork of the Sun River in the Bob Marshall Wilderness, provided an opportunity to explore fire effects on wilderness visitor choices. Recreation visitors along the North and South Fork drainages were interviewed to assess the effects of 1988 fires on their 1989 visits. The Gates Park fire had...

Author(s): Timothy G. Love, Alan E. Watson

Year Published: 1992

Type: Document

Research Brief or Fact Sheet

Yellowstone media myths: print and television coverage of the 1988 fires

www.nrfirescience.org/resource/12422

This paper draws on comments from 89 reporters who covered the fires, on comments from 146 of their news sources, and on evaluations of network television coverage by four groups of wildfire experts. The research also incorporates a content analysis of stories about the fires that appeared in Yellowstone-area and elite newspapers....

Author(s): Conrad Smith

Year Published: 1991

Type: Document

Conference Proceedings, Technical Report or White Paper

On risk communication as interorganizational control: the case of the aviation safety reporting system

www.nrfirescience.org/resource/15969

Focusing on the 1974 Trans World Airlines (TWA) Flight 514 crash, Tompkins discusses the National Transportation Safety Board's (NTSB) investigation of the crash and points to communication between the pilot and controllers and communication between airline organizations as principle contributors to the tragedy. Using this...

Author(s): Phillip K. Tompkins

Year Published: 1990

Type: Document
Book or Chapter or Journal Article

Military misfortunes: the anatomy of failure in war

www.nrfirescience.org/resource/15876

Military misfortunes are complex and involve not only individual failures in judgment or action, but also organizational failures rooted in the values each military organization upholds. This book uses examples from several military battles to highlight the need for military operations and organizations that: 1) learn from past...

Author(s): Eliot A. Cohen, John Gooch

Year Published: 1990

Type: Document

Book or Chapter or Journal Article

Attitudes toward prescribed fire policies

www.nrfirescience.org/resource/15182

This article discusses social considerations with respect to public wildland forest fire policy. Social attitudes, beliefs and behavioral intentions of wildland fire are described as well as the public's knowledge of the effects of fire. This study details these social issues with regards to the 'let burn' policy and the 1988 fires...

Author(s): Michael J. Manfreda, Martin Fishbein, Glenn E. Haas, Alan E. Watson

Year Published: 1990

Type: Document

Book or Chapter or Journal Article

Effects of fire in the northern Great Plains

www.nrfirescience.org/resource/11184

Fire has been used inconsistently to manage native and tame grasslands in the Northern Great Plains (NGP) of the north-central U.S. and south-central Canada, particularly the grasslands found in prairies, plains, agricultural land retirement programs, and moist soil sites. This has happened for three primary reasons: (1) the...

Author(s): Kenneth F. Higgins, Arnold D. Kruse, James L. Piehl

Year Published: 1989

Type: Document

Synthesis, Technical Report or White Paper

Protecting people and homes from wildfire in the interior West: proceedings of the symposium and workshop

www.nrfirescience.org/resource/11968

Includes 25 invited papers and panel discussions, 6 workshop reports, and 15 poster papers that focus on the escalating problem of wildfire in wildland residential areas throughout the western United States and Canada.

Author(s): William C. Fischer, Stephen F. Arno

Year Published: 1988

Type: Document

Conference Proceedings, Technical Report or White Paper

The Great Basin: wildland fire management in the year 2000

www.nrfirescience.org/resource/11487

The future of wildland fire management depends on the course chosen by fire managers today. Our

responsiveness to issues will determine how much we influence where we go. Economics in concert with a better appreciation of fire's role in ecosystem dynamics will significantly alter fire management as we know it today. Public subsidies...

Author(s): James B. Webb

Year Published: 1987

Type: Document

Conference Proceedings, Technical Report or White Paper

The care and feeding of increment borers

www.nrfirescience.org/resource/12436

An increment borer is a precision instrument specially designed to extract a thin cylinder of wood from a tree, shrub, log or pole. It is available in a variety of sizes ranging in length from 4 inches to 40 inches. Although the increment borer is essentially a very simple instrument, it is relatively expensive. Proper operation and...

Author(s): James K. Agee, Mark H. Huff

Year Published: 1986

Type: Document

Technical Report or White Paper

Sagebrush over time: A photographic study of rangeland change

www.nrfirescience.org/resource/15404

This publication is not available online. It will have to be ordered from a library.

Author(s): Kendall L. Johnson

Year Published: 1986

Type: Document

Conference Proceedings

Visitor attitudes toward wilderness fire management policy - 1971-84

www.nrfirescience.org/resource/11962

Visitors to the Selway-Bitterroot Wilderness, MT, were asked about their knowledge of fire effects and attitudes toward fire management in wilderness settings. In comparison to a similar 1971 study, visitors were more knowledgeable about fire effects and more supportive of fire management rather than fire suppression. About half the...

Author(s): Stephen F. McCool, George H. Stankey

Year Published: 1985

Type: Document

Technical Report or White Paper

Victims of groupthink: a psychological study of foreign-policy decisions and fiascoes

www.nrfirescience.org/resource/16221

According to Janis, groupthink occurs when "members of any small cohesive group tend to maintain esprit de corps by unconsciously developing a number of shared illusions and related norms that interfere with critical thinking and reality testing". Groupthink can lead to group members making faulty decisions together because they...

Author(s): Irving L. Janis

Year Published: 1972

Type: Document

Book or Chapter or Journal Article

Characteristics of people who start fires...some preliminary findings

www.nrfirescience.org/resource/11473

Recreationists or city dwellers are usually most often thought of as being responsible for starting forest fires. But a limited study showed that fire starters were more apt to be people who lived near and worked on the National Forests. They were relatively young and undereducated, and had "good reputations" in their communities....

Author(s): John R. Christiansen

Year Published: 1971

Type: Document

Research Brief or Fact Sheet

Fire and smoke in Montana forests

www.nrfirescience.org/resource/13133

The concept of forest fire is especially difficult to deal with in an objective manner because fire has deep psychological associations for most animals, especially man. Moreover, attitudes toward forest fires have been greatly conditioned by what has been called the most effective advertising campaign in history...

Author(s): William R. Beaufait

Year Published: 1971

Type: Document

Book or Chapter or Journal Article

Climate change, disturbances and landscape dynamics

www.nrfirescience.org/resource/18407

This chapter is within a book by Walker and Steffen that presents a collection of essays by leading authorities who address the current state of knowledge. The chapters bring together the early results of an international scientific research program designed to address what will happen to our ability to produce food and fiber...

Type: Document

Book or Chapter or Journal Article