

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

Rapid growth of the US wildland-urban interface raises wildfire risk

www.nrfirescience.org/resource/17146

The wildland-urban interface (WUI) is the area where houses and wildland vegetation meet or intermingle, and where wildfire problems are most pronounced. Here we report that the WUI in the United States grew rapidly from 1990 to 2010 in terms of both number of new houses (from 30.8 to 43.4 million; 41% growth) and land area (from...

Author(s): Volker C. Radeloff, David P. Helmers, Heather A. Kramer, Miranda H. Mockrin, Patricia M. Alexandre, Avi Bar-Massada, Van Butsic, Todd J. Hawbaker, Sebastian Martinuzzi, Alexandra D. Syphard, Susan I. Stewart

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

Large outdoor fires and the built environment: Objectives and goals of permanent IAFSS working Group

www.nrfirescience.org/resource/18770

Large outdoor fires present a risk to the built environment. Examples often in the international media reports are wildfires that spread into communities, referred to as Wildland-Urban Interface (WUI) fires. WUI fires have destroyed communities throughout the world and are a growing problem in fire safety science. Other examples are...

Author(s): Sam Manzello, Sara S. McAllister, Sayaka Suzuki

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Does plant flammability differ between leaf and litter bed scale? Role of fuel characteristics and consequences for flammability assessment

www.nrfirescience.org/resource/17696

The increasing concern regarding fire in the wildland–urban interface (WUI) around the world highlights the need to better understand the flammability of WUI fuels. Research on plant flammability is rapidly increasing but commonly only considers a single fuel scale. In some cases, however, different fuel scales (e.g. leaf and...

Author(s): Anne Ganteaume

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Collaboration across boundaries: a policy perspective on the state of wildland fire

www.nrfirescience.org/resource/18283

The topic of collaboration across boundaries is fitting for me and for the Forest Service because our national priorities revolve around just that—collaboration across boundaries—especially when it comes to wildland fire. We are committed to improving the conditions of the Nation's forests, being good neighbors, and sharing...

Author(s): Vicki Christiansen

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

Scalable evacuation routing in a dynamic environment

www.nrfirescience.org/resource/17242

In emergency management, tools are needed so we can take the appropriate action at different stages of an evacuation. Recent wildfires in California showed how quickly a natural disaster can affect a large geographical area. Natural disasters can create unpredicted traffic congestion or can temporarily block urban or rural roads....

Author(s): Kaveh Shahabi, John P. Wilson

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Quantile regression: an alternative approach to modelling forest area burned by individual fires

www.nrfirescience.org/resource/18056

Components of a fire regime have long been estimated using mean-value-based ordinary least-squares regression. But, forest and fire managers require predictions beyond the mean because impacts of small and large fires on forest ecosystems and wildland–urban interfaces are different. Therefore, different action plans are required...

Author(s): Baburam Rijal

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/18768

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

Responding to risky neighbors: Testing for spatial spillover effects for defensible space in a fire-prone WUI community

www.nrfirescience.org/resource/18318

Often, factors that determine the risk of an environmental hazard occur at landscape scales, and risk mitigation requires action by multiple private property owners. How property owners respond to risk mitigation on neighboring lands depends on whether mitigation actions are strategic complements or strategic substitutes. We test...

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

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Where wildfires destroy buildings in the US relative to the wildland–urban interface and national fire outreach programs

www.nrfirescience.org/resource/17694

Over the past 30 years, the cost of wildfire suppression and homes lost to wildfire in the US have increased dramatically, driven in part by the expansion of the wildland–urban interface (WUI), where buildings and wildland vegetation meet. In response, the wildfire management community has devoted substantial effort to better...

Author(s): H. Anu Kramer, Miranda H. Mockrin, Patricia M. Alexandre, Susan I. Stewart, Volker C. Radeloff

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

Are Wildfires Knocking on the Built-Up Areas Door?

www.nrfirescience.org/resource/17638

Human-started fires represent the vast majority of wildfires in Mediterranean countries. The current expansion of human settlements into fire-prone territories has led to the creation of landscapes where anthropogenic developments merge with wildland areas. In this context, understanding the role of distance from built-up areas in...

Author(s): Leone D. Mancini, Mario Elia, Anna Barbatì, Luca Salvati, Piermaria Corona, Raffaele Laforteza, Giovanni Sanesi

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Can Air Quality Management Drive Sustainable Fuels Management at the Temperate Wildland–Urban Interface?

www.nrfirescience.org/resource/18137

Sustainable fire management has eluded all industrial societies. Given the growing number and magnitude of wildfire events, prescribed fire is being increasingly promoted as the key to reducing wildfire risk. However, smoke from prescribed fires can adversely affect public health. We propose that the application of air quality...

Author(s): David M. J. S. Bowman, Lori D. Daniels, Fay H. Johnston, Grant J. Williamson, William Matt Jolly, Sheryl Magzamen, Ana G. Rappold, Michael Brauer, Sarah B. Henderson

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Multiobjective prioritization of preselected fuel treatment strategies for public forestland: a case study in Flathead County, Montana

www.nrfirescience.org/resource/17346

Preferred fuel treatment strategies (FTSs) were determined for two public forests in Flathead County, Montana, for the period 2010–59 using a multiple-objective evaluation method that accounts for future residential development in the WUI and climate change. Three fuel management objectives were used to evaluate and rank FTSs:...

Author(s): Tony Prato, Travis B. Paveglio

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Network analysis of wildfire transmission and implications for risk governance

www.nrfirescience.org/resource/16507

We characterized wildfire transmission and exposure within a matrix of large land tenures (federal, state, and private) surrounding 56 communities within a 3.3 million ha fire prone region of central Oregon US. Wildfire simulation and network analysis were used to quantify the exchange of fire among land tenures and communities and...

Author(s): Alan A. Ager, Cody Evers, Michelle A. Day, Haiganoush K. Preisler, Ana M. G. Barros, Max W. Nielsen-Pincus

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Human presence diminishes the importance of climate in driving fire activity across the United States

www.nrfirescience.org/resource/16345

Growing human and ecological costs due to increasing wildfire are an urgent concern in policy and management, particularly given projections of worsening fire conditions under climate change. Thus, understanding the relationship between climatic variation and fire activity is a critically important scientific question. Different...

Author(s): Alexandra D. Syphard, Jon E. Keeley, Anne H. Pfaff, Ken Ferschweiler

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Review of Pathways for Building Fire Spread in the Wildland Urban Interface Part I: Exposure Conditions

www.nrfirescience.org/resource/17814

While the wildland–urban interface (WUI) is not a new concept, fires in WUI communities have rapidly expanded in frequency and severity over the past few decades. The number of structures lost per year has increased significantly, due in part to increased development in rural areas, fuel management policies, and climate change,...

Author(s): Sara E. Caton, Raquel S. P. Hakes, Daniel J. Gorham, Aixi Zhou, Michael J. Gollner

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

Examining the influence of biophysical conditions on wildland-urban interface homeowners' wildfire risk mitigation activities in fire-prone landscapes

www.nrfirescience.org/resource/16539

Expansion of the wildland–urban interface (WUI) and the increasing size and number of wildfires has policy-makers and wildfire managers seeking ways to reduce wildfire risk in communities located near fire-prone forests. It is widely acknowledged that homeowners can reduce their exposure to wildfire risk by using nonflammable...

Author(s): Christine Olsen, Jeffrey D. Kline, Alan A. Ager, Keith A. Olsen, Karen C. Short

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

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

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

Wildland urban interface wildfire mitigation desk reference guide

www.nrfirescience.org/resource/15251

The Wildland Urban Interface Wildfire Mitigation Desk Reference Guide is designed to provide basic background information on relevant programs and terminology for those, whether community members or agency personnel, who are seeking to enhance their community's wildfire mitigation efforts. The four primary objectives of this...

Author(s): National Wildfire Coordinating Group (NWCG)

Year Published: 2017

Type: Document

Management or Planning Document

Managing Fire and Biodiversity in the Wildland-Urban Interface: A Role for Green Firebreaks

www.nrfirescience.org/resource/17110

In the wildland-urban interface, the imperative is often to protect life and property from destructive fires, while also conserving biodiversity. One potential tool for achieving this goal is the use of green firebreaks: strips of low flammability species planted at strategic locations to help reduce fire spread by

slowing or...

Author(s): Timothy J. Curran, George L.W. Perry, Sarah V. Wyse, Md Azharul Alam

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Wildland urban interface part II: response of components, systems, and mitigation strategies in the United States

www.nrfirescience.org/resource/17715

Structure loss in wildland fires has significantly increased over the past few decades, affected by increased development in rural areas, changing fuel management policies, and climate change, all of which are projected to increase in the future. This paper is Part II of a two-part review, which presents a summary of fundamental and...

Author(s): Raquel S. P. Hakes, Sara E. Caton, Daniel J. Gorham, Michael J. Gollner

Year Published: 2017

Type: Document

Synthesis

Overlapping layers of fire management examined through the lens of post-fire erosion - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/17018

At the Wildland Urban Interface (WUI), where undeveloped landscapes meet the built environment, there is a complex interaction among local, state and federal land and hazard stakeholders that must work together to protect life and property from wildfire. The effective use of wildfire science is considered key to successful wildfire...

Author(s): Katie Gibble, Jennifer L. Pierce, Eric Lindquist

Year Published: 2017

Type: Document

Technical Report or White Paper

Adapting to wildfire: Moving beyond homeowner risk perceptions to taking action

www.nrfirescience.org/resource/16524

Champ's presentation focused on how to get homeowners to take action to protect their properties from fire. She framed this challenge as a last-mile problem, which is a concept from the literature on supply chain. The last mile is the end of the supply chain where a product is transferred to the customer. The last mile is often...

Author(s): Patricia A. Champ

Year Published: 2017

Type: Document

Conference Proceedings

Surface fuel characteristics, temporal dynamics, and fire behavior of masticated mixed-conifer fuelbeds of the U.S. Southeast and Rocky Mountains

www.nrfirescience.org/resource/15582

Mastication is a wildland fuel treatment technique that is rapidly becoming popular with fire managers for fire hazard reduction projects, especially in areas where reducing fuels with prescribed fire is particularly challenging. Mastication is the process of mechanically modifying the live and dead surface and canopy biomass by...

Author(s): Robert E. Keane, Pamela G. Sikkink, Theresa B. Jain, James J. Reardon

Year Published: 2017

Type: Document

Resolving future fire management conflicts using multicriteria decision making

www.nrfirescience.org/resource/13893

Management strategies to reduce the risks to human life and property from wildfire commonly involve burning native vegetation. However, planned burning can conflict with other societal objectives such as human health and biodiversity conservation. These conflicts are likely to intensify as fire regimes change under future climates...

Author(s): Don A. Driscoll, Michael Bode, Ross A. Bradstock, David A. Keith, Trent D. Penman, Owen F. Price

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Places where wildfire potential and social vulnerability coincide in the conterminous United States

www.nrfirescience.org/resource/14522

The hazards-of-place model posits that vulnerability to environmental hazards depends on both biophysical and social factors. Biophysical factors determine where wildfire potential is elevated, whereas social factors determine where and how people are affected by wildfire. We evaluated place vulnerability to wildfire hazards in the...

Author(s): Gabriel Wigtil, Roger B. Hammer, Jeffrey D. Kline, Miranda H. Mockrin, Susan I. Stewart, Daniel Roper, Volker C. Radeloff

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

High resolution mapping of development in the wildland-urban interface using object based image extraction

www.nrfirescience.org/resource/14808

The wildland-urban interface (WUI), the area where human development encroaches on undeveloped land, is expanding throughout the western United States resulting in increased wildfire risk to homes and communities. Although census based mapping efforts have provided insights into the pattern of development and expansion of the WUI at...

Author(s): Michael D. Caggiano, Wade T. Tinkham, Chad M. Hoffman, Anthony S. Cheng, Todd J. Hawbaker

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Using community archetypes to better understand differential community adaptation to wildfire risk

www.nrfirescience.org/resource/14469

One of the immediate challenges of wildfire management concerns threats to human safety and property in residential areas adjacent to non-cultivated vegetation. One approach for relieving this problem is to increase human community 'adaptiveness' to deal with the risk and reality of fire in a variety of landscapes. The challenge...

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

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Forest density preferences of homebuyers in the wildland-urban interface

www.nrfirescience.org/resource/14795

In the fire-prone Western U.S., the scale of surrounding forest density can be realized by homebuyers as an amenity for aesthetics and cooling effects, or as a disamenity in terms of wildfire risk. There has been a lack of academic attention to understanding this duality of forest density preferences for homebuyers in at-risk...

Author(s): Evan Hjerpe, Yeon-Su Kim, Leah Dunn

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Evaluating the effectiveness of mitigations activities in the wildland urban interface - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/17052

There has been relatively little research on Wildland-Urban Interface (WUI) fire spread, compared to fires within structures, despite the increasing frequency and losses from WUI fires. This is due, in part, to the fact that the subject of WUI fire research falls between traditional studies of building fires and forest fires, non-...

Author(s): Alexander Maranghides

Year Published: 2016

Type: Document

Technical Report or White Paper

Examining alternative fuel management strategies and the relative contribution of National Forest System land to wildfire risk to adjacent homes - a pilot assessment on the Sierra National Forest, California, USA

www.nrfirescience.org/resource/14352

Determining the degree of risk that wildfires pose to homes, where across the landscape the risk originates, and who can best mitigate risk are integral elements of effective co-management of wildfire risk. Developing assessments and tools to help provide this information is a high priority for federal land management agencies such...

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

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

Anthropogenic influence on wildfire activity in Alberta, Canada

www.nrfirescience.org/resource/14702

The boreal forest of Alberta, Canada, is under pressure from a rapid expansion of the wildland–human interface driven by natural resources exploitation. The specific impact of these changes on area burned remains poorly understood. We addressed this issue by modelling area burned for the 1980–2010 period using variables...

Author(s): Francois-Nicolas Robinne, Marc-Andre Parisien, Michael D. Flannigan

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Factors related to building loss due to wildfires in the conterminous United States

www.nrfirescience.org/resource/14691

Wildfire is globally an important ecological disturbance affecting biochemical cycles and vegetation composition, but also puts people and their homes at risk. Suppressing wildfires has detrimental ecological effects and can promote larger and more intense wildfires when fuels accumulate, which increases the threat to buildings in...

Author(s): Patricia M. Alexandre, Susan I. Stewart, Nicholas S. Keuler, Murray K. Clayton, Miranda H. Mockrin, Avi Bar-Massada, Alexandra D. Syphard, Volker C. Radeloff

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

The relative impacts of vegetation, topography, and spatial arrangement on building loss to wildfires in case studies of California and Colorado

www.nrfirescience.org/resource/13886

Context: Wildfires destroy thousands of buildings every year in the wildland urban interface. However, fire typically only destroys a fraction of the buildings within a given fire perimeter, suggesting more could be done to mitigate risk if we understood how to configure residential landscapes so that both people and buildings could...

Author(s): Patricia M. Alexandre, Susan I. Stewart, Miranda H. Mockrin, Nicholas S. Keuler, Alexandra D. Syphard, Avi Bar-Massada, Murray K. Clayton, Volker C. Radeloff

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Setting priorities for private land conservation in fire-prone landscapes: Are fire risk reduction and biodiversity conservation competing or compatible objectives?

www.nrfirescience.org/resource/14588

Although wildfire plays an important role in maintaining biodiversity in many ecosystems, fire management to protect human assets is often carried out by different agencies than those tasked for

conserving biodiversity. In fact, fire risk reduction and biodiversity conservation are often viewed as competing objectives. Here we...

Author(s): Alexandra D. Syphard, Van Butsic, Avi Bar-Massada, Jon E. Keeley, Jeff A. Tracey, Robert N. Fisher

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Planning for wildfire in the wildland-urban interface: a resource guide for Idaho communities

www.nrfirescience.org/resource/14856

The price of wildfire has never been higher. Why? And what can local communities do about it? One way to measure the price of wildfire is the dollars spent on suppression alone. In 1995, fire made up 16 percent of the U.S. Forest Service's annual appropriation budget; in 2015, wildfire consumed more than 50 percent of the...

Author(s): Stephen R. Miller, Thomas Wuerzer, Jaap Vos, Eric Lindquist, Molly Mowery, Tyre Holfeltz, Brian Stephens, Alexander Grad

Year Published: 2016

Type: Document

Management or Planning Document

Do insurance policies and rates influence home development on fire-prone lands?

www.nrfirescience.org/resource/14811

The dangers and costs associated with wildfires are rising and predicted to escalate rapidly in decades to come, primarily because of continued home development on fire-prone lands and the effects of climate change. Those interested in reducing wildfire risk have asked whether insurance can play a role in making new and existing...

Author(s): Ray Rasker

Year Published: 2016

Type: Document

Technical Report or White Paper

Fuel size impacts on carbon residuals and combustion dynamics in masticated woody debris

www.nrfirescience.org/resource/14488

Mastication of standing trees to reduce crown fuel loading is an increasingly popular method of reducing wildfire hazard in the wildland-urban interface of Canada. Previous research has shown that masticated fuel beds can leave considerable pyrogenic and black carbon residuals after burning, though the impact of fuel particle size...

Author(s): Dan K. Thompson, Tom J. Schiks, B. Mike Wotton

Year Published: 2016

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

Living with fire: how social scientists are helping wildland-urban interface communities reduce wildfire risk

www.nrfirescience.org/resource/14451

Reducing wildfire risk to lives and property is a critical issue for policy makers, land managers, and citizens who reside in high-risk fire areas of the United States - this is especially the case in the Rocky Mountain region and other western states. In order for a wildfire risk reduction effort to be effective in a U.S. wildland-...

Author(s): Brian Cooke
Year Published: 2016
Type: Document
Research Brief or Fact Sheet

The affluence-vulnerability interface: intersecting scales of risk, privilege, and disaster

www.nrfirescience.org/resource/14766

This paper examines vulnerability in the context of affluence and privilege. It focuses on the 1991 Oakland Hills Firestorm in California, USA to examine long-term lived experiences of the disaster. Vulnerability is typically understood as a condition besetting poor and marginalized communities. Frequently ignored in these...

Author(s): Christine Eriksen, Gregory Simon
Year Published: 2016
Type: Document
Book or Chapter or Journal Article

Recovery and adaptation after wildfire on the Colorado Front Range (2010-12)

www.nrfirescience.org/resource/14703

Following the loss of homes to wildfire, when risk has been made apparent, homeowners must decide whether to rebuild, and choose materials and vegetation, while local governments guide recovery and rebuilding. As wildfires are smaller and more localised than other disasters, it is unclear if recovery after wildfire results in policy...

Author(s): Miranda H. Mockrin, Susan I. Stewart, Volker C. Radeloff, Roger B. Hammer
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

Categorizing the social context of the wildland urban interface: Adaptive capacity for wildfire

and community "archetypes"

www.nrfirescience.org/resource/13186

Understanding the local context that shapes collective response to wildfire risk continues to be a challenge for scientists and policymakers. This study utilizes and expands on a conceptual approach for understanding adaptive capacity to wildfire in a comparison of 18 past case studies. The intent is to determine whether comparison...

Author(s): Travis B. Paveglio, Cassandra Moseley, Matthew S. Carroll, Daniel R. Williams, Emily Jane Davis, A. Paige Fischer

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Climate change and wildfire risk in an expanding wildland-urban interface: a case study from the Colorado Front Range corridor

www.nrfirescience.org/resource/13861

Context: Wildfire is a particular concern in the wildland-urban interface (WUI) of the western United States where human development occurs close to flammable natural vegetation. Objectives: (1) Assess the relative influences of WUI expansion versus climate-driven fire regime change on spatial and temporal patterns of burned WUI,...

Author(s): Zhihua Liu, Michael C. Wimberly, Aashis Lamsal, Terry L. Sohl, Todd J. Hawbaker

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

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

Rebuilding and new housing development after wildfire

www.nrfirescience.org/resource/13201

The number of wildland-urban interface communities affected by wildfire is increasing, and both wildfire

suppression and losses are costly. However, little is known about post-wildfire response by homeowners and communities after buildings are lost. Our goal was to characterise rebuilding and new development after wildfires across...

Author(s): Patricia M. Alexandre, Miranda H. Mockrin, Susan I. Stewart, Roger B. Hammer, Volker C. Radeloff

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

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

Climate change beliefs and hazard mitigation behaviors: homeowners and wildfire risk

www.nrfirescience.org/resource/14535

Downscaled climate models provide projections of how climate change may exacerbate the local impacts of natural hazards. The extent to which people facing exacerbated hazard conditions understand or respond to climate-related changes to local hazards has been largely overlooked. In this article, we examine the relationships among...

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

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

Wildland fire management: insights from a foresight panel

www.nrfirescience.org/resource/13440

Wildland fire management faces unprecedented challenges in the 21st century: the increasingly apparent effects of climate change, more people and structures in the wildland-urban interface, growing costs associated with wildfire management, and the rise of high-impact fires, to name a few. Given these significant and growing...

Author(s): Robert L. Olson, David N. Bengston, Leif A. DeVaney, Trevor A.C. Thompson

Year Published: 2015

Type: Document
Technical Report or White Paper

The 2010 wildland-urban interface of the conterminous United States

www.nrfirescience.org/resource/13412

The wildland-urban interface (WUI) is the area where structures and other human development meet or intermingle with undeveloped wildland, and it is where wildfires have their greatest impacts on people. Hence the WUI is important for wildfire management. This document and associated maps summarize the extent of the WUI in the...

Author(s): Sebastian Martinuzzi, Susan I. Stewart, Miranda H. Mockrin, Roger B. Hammer, Volker C. Radeloff, David P. Helmers

Year Published: 2015

Type: Document

Technical Report or White Paper

Evaluating the effectiveness of wildfire mitigation activities in the wildland-urban interface

www.nrfirescience.org/resource/14047

Each year wildfires damage homes, businesses, communities, watersheds, and forests on millions of acres across the U.S. However there are effective ways to reduce the impact of wildfire. A new report, Evaluating the Effectiveness of Wildfire Mitigation Activities in the Wildland-Urban Interface, shares lessons learned from...

Author(s): Alexander M. Evans, Sarah Auerbach, Lara Wood Miller, Rachel Wood, Krys Nystrom, Jonathan Loevner, Amanda Aragon, Matthew Piccarello, Eytan Krasilovsky

Year Published: 2015

Type: Document

Technical Report or White Paper

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

Exploring how alternative mapping approaches influence firehazard 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

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

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

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

Are wildfire management resources in the United States efficiently allocated to protect resources at risk? A case study from Montana

www.nrfirescience.org/resource/12909

Federal wildfire management agencies in the United States are under substantial pressure to reduce and economically justify their expenditures. To support economically efficient management of wildfires, managers need better estimates of the resource benefits and avoided damage costs associated with alternative wildfire management...

Author(s): Derek T. O'Donnell, Tyron J. Venn, David E. Calkin

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

The role of defensible space for residential structure protection during wildfires

www.nrfirescience.org/resource/12775

With the potential for worsening fire conditions, discussion is escalating over how to best reduce effects on urban communities. A widely supported strategy is the creation of defensible space immediately surrounding homes and other structures. Although state and local governments publish specific guidelines and requirements, there...

Author(s): Alexandra D. Syphard, Teresa J. Brennan, Jon E. Keeley

Year Published: 2014

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

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

Fighting fire with fire: does a policy of broad-scale prescribed burning improve community safety?

www.nrfirescience.org/resource/17711

Wildfires cause enormous damage worldwide, particularly in Victoria, Australia, with growing populations in fire-prone ecosystems. Broad-scale prescribed burning is an established, yet controversial, wildfire management policy in Victoria and Australia. But does broad-scale prescribed burning reduce fire damage? The answer depends...

Author(s): Danielle Clode, Mark A. Elgar

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

The rising cost of wildfire protection

www.nrfirescience.org/resource/12409

Headwaters Economics produced this report to better understand and address why wildfires are becoming more severe and expensive. The report also describes how the protection of homes in the Wildland-Urban Interface has added to these costs and concludes with a brief discussion of solutions that may help control escalating costs....

Author(s): Ross Gorte

Year Published: 2013

Type: Document

Technical Report or White Paper

Wildfire, wildlands, and people: understanding and preparing for wildfire in the wildland-urban interface - a forests on the edge report

www.nrfirescience.org/resource/16861

Fire has historically played a fundamental ecological role in many of America's wildland areas. However, the rising number of homes in the wildland-urban interface (WUI), associated impacts on lives and property from wildfire, and escalating costs of wildfire management have led to an urgent need for communities to become "fire-..."

Author(s): Susan M. Stein, Sara J. Comas, James P. Menakis, Mary A. Carr, Susan I. Stewart, Helene Cleveland, Lincoln Bramwell, Volker C. Radeloff

Year Published: 2013

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

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

Burning questions for managers: fuels management practices in riparian areas

www.nrfirescience.org/resource/8354

Vegetation treatment projects for fuel reduction in riparian areas can pose distinct challenges to resource managers. Riparian areas are protected by administrative regulations, many of which are largely custodial and restrict active management. Like uplands, however, riparian areas have been affected by fire suppression, land use,...

Author(s): Kristen E. Meyer, Kathleen A. Dwire, Patricia A. Champ, Sandra E. Ryan, Gregg M. Riegel, Timothy A. Burton

Year Published: 2012

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

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

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

Proceedings of the Second Conference on the Human Dimensions of Wildland Fire

www.nrfirescience.org/resource/17808

This proceedings contains articles, posters, and abstracts of presentations from the second Human

Dimensions of Wildland Fire Conference held 27-29 April 2010 in San Antonio, Texas. The conference covered the social issues at the root of wildland fire management's most serious challenges. Specific topics included: firefighter and...

Year Published: 2011

Type: Document

Conference Proceedings

How fuel treatments saved homes from the 2011 Wallow fire

www.nrfirescience.org/resource/17699

This is a fuel treatment effectiveness assessment report from Region 3 about the success of fuel treatments in protecting several communities from the recent Wallow fire in Arizona and New Mexico. The report narrative and graphics point to the success of good forest management and good community assistance to protect life, property...

Author(s): Pam Bostwick, James P. Menakis, Tim Sexton

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

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

National Fire Plan fuels treatments target the wildland-urban interface in the western United States

www.nrfirescience.org/resource/8351

The article 'Implementation of National Fire Plan treatments in the wildland-urban interface in the western United States' (1) is misleading because it is based on wildland-urban interface (WUI) designations not used by federal agencies or their state and local partners. Moreover, by omitting any examination of the allotment of...

Author(s): Allan Fitzsimmons

Year Published: 2009

Type: Document
Book or Chapter or Journal Article

Implementation of National Fire Plan fuel treatments near the wildland-urban interface in the western United States

www.nrfirescience.org/resource/8225

Because of increasing concern about the effects of catastrophic wildland fires throughout the western United States, federal land managers have been engaged in efforts to restore historical fire behavior and mitigate wildfire risk. During the last 5 years (2004-2008), 44,000 fuels treatments were implemented across the western...

Author(s): Tania L. Schoennagel, Cara R. Nelson, David M. Theobald, Gunnar C. Carnwath, Teresa B. Chapman

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

Potential for future development on fire-prone lands

www.nrfirescience.org/resource/12009

Most studies of wildland fire and residential development have focused on the cost of firefighting and solutions such as fuel reduction and fire-safe home building. Although some studies quantify the number of homes being built near forests, little research has indicated the potential magnitude of the problem in the future. This...

Author(s): Patricia Gude, Ray Rasker, Jeff van den Noort

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Temporal and spatial structure in a daily wildfire-start data set from the western United States (1986-96)

www.nrfirescience.org/resource/8201

The temporal and spatial structure of 332 404 daily fire-start records from the western United States for the period 1986 through 1996 is illustrated using several complimentary visualisation techniques. We supplement maps and time series plots with Hovmiller diagrams that reduce the spatial dimensionality of the daily data in order...

Author(s): Patrick J. Bartlein, Steven W. Hostetler, Sarah L. Shafer, J. O. Holman, Allen M. Solomon

Year Published: 2008

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

Development of initial Wildland Fire Use documentation for Charles M. Russell National Wildlife Refuge

www.nrfirescience.org/resource/11077

The Charles M. Russell National Wildlife Refuge manages ecosystems that depend on fire for their maintenance. Fire is abundant in and adjacent to the refuge where lightning and human ignitions can rapidly spread in grass and shrub fuels. Farm and ranch land which would be adversely impacted by fire, pose a significant logistical...

Author(s): Bill Clark, Doug Stephen, Pat Stephen, Laurie L. Kurth, Ken Kerr

Year Published: 2006

Type: Document

Management or Planning Document

Managing for fire in the interface: challenges and opportunities

www.nrfirescience.org/resource/157

Fire managers define the wildland-urban interface as all areas where flammable wildland fuels are adjacent to homes and communities. With this definition, the wild-land-urban interface may encompass a much broader landscape than traditionally perceived. For example, the Tunnel Fire in the Oakland hills in 1991 included a large area...

Author(s): Alan J. Long, Dale D. Wade, Frank C. Beall

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

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

New technology for fuel breaks and green strips in urban interface and wildland areas

www.nrfirescience.org/resource/11039

Threat from wildfire can be greatly minimized through proactive efforts that reduce and slow spread through use of green strips or fuel breaks, and decrease fire volatility by reducing fuel load. This results in greater safety to fire fighters and protection to key urban interface areas or wildlife habitat. The fight against western...

Author(s): Jennifer L. Vollmer

Year Published: 2005

Type: Document

Conference Proceedings

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

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

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

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

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

A site-specific approach for assessing the fire risk to structures at the wildland/urban interface

www.nrfirescience.org/resource/12423

The essence of the wildland/urban interface fire problem is the loss of homes. The problem is not new, but is becoming increasingly important as more homes with inadequate adherence to safety codes are built at the wildland/urban interface. Current regulatory codes are inflexible. Specifications for building and site characteristics...

Author(s): Jack D. Cohen

Year Published: 1991

Type: Document

Conference Proceedings, 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

Introduction to Wildland Fuel Management

www.nrfirescience.org/resource/18089

This video is an introduction on how to manage wildland fuels. The objectives of this video are to: 1) Define wildland fuel management; 2) Explain how fuels are modified; 3) Describe some common desired outcomes; 4) Introduce fuel management in the Wildland Urban Interface; 5) Explore fuel management considerations to return fire to...

Type: Media

Webinar

Recovery and adaptation after wildfire across the United States, 2009-2011

www.nrfirescience.org/resource/15292

Becoming a fire-adapted community that can live with wildfire is envisioned as a continuous, iterative

process of adaptation. In eight case study sites across the United States we examined how destructive wildfire affected altered progress towards becoming fire-adapted, focusing on the role of planning and WUI regulations (building...

Type: Media

Webinar

Material and design considerations for building in wildfire prone areas

www.nrfirescience.org/resource/14127

Home survival in wildfire prone areas depends on a combination of adequate vegetation management in the area surrounding your home (i.e., your 'defensible space') and choices regarding building materials and design decisions for the home or building. Steve Quarles has been actively involved in wildfire research and education...

Type: Media

Webinar

Expert spotlight: Jack D. Cohen

www.nrfirescience.org/resource/14665

No one has done more to define the wildland-urban interface problem and empower homeowners to reduce their risk of wildfire than Jack Cohen. His post-fire field examinations and laboratory-based research on fire dynamics led to the concept of the home ignition zone, a phrase he coined. Cohen also co-developed the U.S. National Fire...

Type: Media

Video

Wildland urban legends

www.nrfirescience.org/resource/14859

Wildfire and home safety myths and beliefs are put to the test. Wildfire expert Pat Durland determines truth or bunk to questions we all have, drawing upon his long career as a smoke jumper, wildland firefighter, policy maker, insurance consultant, and wildland fire educator.

Type: Media

Webinar

Firewise communities: a tool for WUI residents

www.nrfirescience.org/resource/14083

This webinar provides an overview of the Firewise Communities/USA Recognition Program administered by the National Fire Protection Association (NFPA) in partnership with the USDA Forest Service, US Department of the Interior, the California Fire Safe Council, CAL FIRE, and state forestry agencies across the U.S. This program is...

Type: Media

Webinar

Wildland fire ignition pathway

www.nrfirescience.org/resource/13762

There are many potential pathways for wildland fires to ignite buildings within the WUI. These pathways (including both fire and ember exposure) depend on the characteristics of the wildland (e.g., fuels, terrain, weather, etc.), the characteristics of the community (e.g., construction materials, building designs, housing density,...

Type: Media

Webinar

Land use planning to reduce wildfire risk: lessons from 5 western cities

www.nrfirescience.org/resource/14542

In the American West, wildfire risk to life and property is accelerating as a result of development trends favoring the region's Wildland-Urban Interface (WUI). Moreover, extended droughts, unseasonably warm temperatures, and other climate-induced impacts are influencing the frequency and size of wildfires. In response, a number...

Type: Media

Webinar

Creating fire adapted communities:an interactional approach

www.nrfirescience.org/resource/14836

A growing body of wildfire research indicates that populations will support or enact different programs, policies and planning approaches to better "live with wildfire." This presentation builds on one existing conceptual approach for characterizing local socio-ecological conditions that influence how and why populations might...

Type: Media

Webinar

Evacuation planning in the wildland-urban interface

www.nrfirescience.org/resource/12818

The 2012 fire season has already resulted in more fire-caused evacuations than many recent years. This webinar will review traditional and contemporary aspects of evacuation planning. Traditional topics to be covered include warning and response, traffic management, contingency planning, and vulnerable populations....

Type: Media

Webinar

WiR? - Wildfire Research

www.nrfirescience.org/resource/17059

WiR? (Wildfire Research) is an interdisciplinary research collaboration focused on homeowner wildfire risk mitigation and community wildfire adaptedness. This group seeks to improve the bridge between use-inspired research and on-the-ground programs, management, and policy. Research is supported by the U.S. Interagency National...

Type: Website

Website

Fire operations in the wildland-urban interface

www.nrfirescience.org/resource/14078

During this presentation, Chief Veneris discusses firefighting operations in the wildland-urban interface from a California perspective. He uses information and products from both his department, the California Department of Forestry and Fire Protection (CAL FIRE) as well as the latest publications from Firefighting Resources of...

Type: Media

Webinar

Firewise Virtual Workshop: Understanding How Embers Ignite Roofs in a Wildland Fire

www.nrfirescience.org/resource/16076

Firewise Virtual Workshop: Understanding How Embers Ignite Roofs in a Wildland Fire and How to Make Your Roof More Survivable

Type: Media

Video

Community wildfire protection planning

www.nrfirescience.org/resource/13662

Wildfires have become more intense and frequent as forests thicken with unburned fuels and changes in climate increase uncertainty in future conditions. How can communities in our growing wildland-urban interface prepare for this growing threat? This session will discuss what planners and communities need to know to reduce risks of...

Type: Media

Webinar

Applying the WiR? Approach

www.nrfirescience.org/resource/17057

This is the second video in a series of three. "Applying the WiR? Approach" delves into the WiR? Team process of pairing social data from residents living in the wildland urban interface with parcel-level wildfire risk data. Using this community-specific data, the WiR? Team works with local wildfire professionals to understand...

Type: Media

Video

Changing risk in three differing SoCal communities: a GIS-based approach

www.nrfirescience.org/resource/14073

This webinar examines how multiple GIS strategies were employed to analyze changes to fire risk in 3 nearby, but demographically different communities in San Diego County. This research simultaneously (1) quantifies expansion of the WUI over time in multiple, dissimilar communities, (2) analyzes temporal changes to risk based on...

Type: Media

Webinar

Wildland Urban Interface Fires: An Overview for Homeowners

www.nrfirescience.org/resource/16067

This 58 minute video covers what the wildland-urban interface is and what the public and firefighters need to know about fighting fire in it.

Type: Media

Video

Mapping evidence of historical and potential wildfire for climate change and fuels mitigation in the montane forests of the Colorado Front Range

www.nrfirescience.org/resource/14067

Mapping evidence of historical and potential wildfire for climate change and fuels mitigation in the montane forests of the Colorado Front Range. Rosemary Sherriff, Associate Professor, Humboldt State University. Recorded talk from 2013 Restoring the West Conference at Utah State University. The conference focused on forest...

Type: Media

Video

The science behind California's surging wildfires

www.nrfirescience.org/resource/18406

As three major fires blaze in California, we consider some of their causes, both human and meteorological. Science correspondent Miles O'Brien has been filming a NOVA documentary on megafires and witnessed the Camp Fire not long after it began. He joins William Brangham to describe that stunning experience, along with the broader...

Type: Media

Video

Firefighter Safety in the Wildland/Urban Interface

www.nrfirescience.org/resource/16060

This presentation is a training video produced by The National Wildland/Urban Interface Fire Protection Program. It covers problems encountered in the wildland-urban interface that complicate the work of firefighters.

Type: Media

Video

Community risk reduction success stories - Firewise virtual workshop

www.nrfirescience.org/resource/14743

This Firewise webinar features three stories of successful community wildfire risk reduction. The stories come from Colorado, Idaho and Washington (featuring FAC Net member Jerry McAdams from Boise Fire Department and affiliate member Patrick Haggerty from the Cascadia Conservation District).

Type: Media

Webinar

Effectiveness of wildfire mitigation activities in the wildland-urban interface (WUI)

www.nrfirescience.org/resource/14048

Each year wildfires damage homes, businesses, communities, watersheds, and forests on millions of acres across the U.S. However there are effective ways to reduce the impact of wildfire. A new report, Evaluating the Effectiveness of Wildfire Mitigation Activities in the Wildland-Urban Interface, shares lessons learned from...

Type: Media

Webinar

Recovery and Adaptation after Wildfire, 2000-2013

www.nrfirescience.org/resource/15957

Becoming a fire-adapted community that can live with wildfire is envisioned as a continuous, iterative process of adaptation. We combined national and case study research to examine how experience with wildfire alters the built environment and community- and government-level wildfire mitigation, planning, and regulations. By...

Type: Media

Webinar

Improving access for wildland firefighters

www.nrfirescience.org/resource/13338

Join wildland fire stakeholders and residents in this informational workshop and discover how modifications can be made to increase driveway accessibility, improve address visibility and hear what fire personnel look for when making decisions about which homes may be defensible; and receive simple tips on how homeowners can help...

Type: Media

Webinar

Firesafe Flathead: Promoting Fire-Adapted Communities

www.nrfirescience.org/resource/17663

Our Mission: Individuals, neighborhoods, organizations, and agency wildfire professionals working to create Fire Adapted Communities in the Flathead area by providing leadership, technical assistance, education, and resources. We: •Are inclusive and welcome all partners interested in creating fire-adapted communities. •...

Type: Website

Website

Fire behavior in the wildland/urban interface

www.nrfirescience.org/resource/14009

The National Wildland/Urban Interface Fire Protection Program (www.firewise.org) Firefighter Safety Series FWC-602-03-DVD. Part 1: Fire Behavior in the Wildland/Urban Interface. The Fire Fighter Safety Series is a multipart instructional package developed for small community fire departments to address the...

Type: Media

Video

The Full Community Costs of Wildfire

www.nrfirescience.org/resource/18175

As wildfires increase in size and severity, the costs to protect homes and lives similarly rise. Yet protecting communities represents a relatively small portion of the total costs of a wildfire—other short- and long-term impacts yield a variety of costs that often go unrecognized. In an analysis of five case studies—the Hayman...

Type: Media

Webinar

A Four-Step Approach to Planning for Wildfire in the Wildland-Urban Interface

www.nrfirescience.org/resource/15849

This talk will focus on a four-step approach to integrating wildfire planning for the wildland-urban interface (WUI) through a variety of planning and implementation processes that work across departments within local governments. Attendees may wish to review the guide on which the talk will be based prior to the session. The talk...

Type: Media

Webinar

Fire adapted communities: moving from policy to action

www.nrfirescience.org/resource/13245

This webinar discusses tangible and innovative methods in which national Fire Adapted Communities (FAC's) are moving forward. Over the last few years, many have been introduced to the term Fire Adapted Communities through national policy and programs. Many communities have embraced FAC concepts and are displaying positive results on...

Type: Media

Webinar

Planning to live with fire: designing and retrofitting communities with fire in mind

www.nrfirescience.org/resource/14192

Carol Rice, coauthor of the book 'Managing Fire in the Urban Wildland Interface,' discusses appropriate land use policy, community layout, infrastructure, building requirements, and vegetation management in

the WUI. This webinar is targeted for local planners, resource managers, property owners, homeowner associations, developers,...

Type: Media

Webinar

Your Home Can Survive a Wildfire

www.nrfirescience.org/resource/18100

Dr. Jack Cohen, Fire Science Researcher with the USDA Forest Service, explains current research about how homes ignite during wildfires, and the actions that homeowners can take to help their home survive the impacts of flames and embers. Featuring footage from the IBHS Research Center showing ember experiments on full-scale...

Type: Media

Video

How to survive and leverage your wildland fire prevention efforts during a fire using Ready, Set, Go!

www.nrfirescience.org/resource/14189

This webinar will give you the basic history of the READY, SET, GO! (RSG) and how the program is rapidly being adopted across the United States. RSG provides concepts to build fire adapted communities and then how to leverage these tenets for your personal safety and the survivability of your structure. Chief Roper will provide you...

Type: Media

Webinar

Social motivation in the WUI: effectively engage the public

www.nrfirescience.org/resource/13025

This webinar provides an overview of what has been learned to date in relation to different aspects of public response to wildfire management including risk perception, social acceptance of prescribed fire and thinning, what makes homeowners more or less willing to create defensible space, and communication dynamics. Developing an...

Type: Media

Webinar

Assessing hazard and risk in the interface: cautions and confessions from a statewide mapping effort

www.nrfirescience.org/resource/14124

This webinar focused on elements required for statewide or regional scale mapping efforts designed to describe and classify ignition exposure to buildings that are associated with wildland (vegetation) fires, and their potential spread into urbanized areas. In addition to covering input data and spatial processing rules, the talk...

Type: Media

Webinar

Drought Tolerance in Trees- Improving Tree Selection for Challenging Urban Sites

www.nrfirescience.org/resource/16341

Looking for trees that can establish and survive in challenging urban environments? Of course you are! In this webinar, Dr. Andrew Hirons will explain how drought tolerance is one of the most important determinants of a tree's ability to survive in the urban forest. You will gain an understanding of the basic mechanisms of drought...

Type: Media

Webinar

Computer models for wildland and wildland-urban interface fires

www.nrfirescience.org/resource/13808

Hosted by the Northwest Fire Science Consortium. Ruddy Mell from the USFS Pacific Wildland Fire Sciences Lab in Seattle, WA provides an overview of the current state, limitations, and future developments in wildland and wildland-urban interface fire behavior models.

Type: Media

Webinar

Community wildfire protection plans and fire-adapted human communities: trial by fire

www.nrfirescience.org/resource/14082

Community wildfire protection plans have been described as 'one of the most successful tools' for addressing wildland fire management in the WUI. Jakes shares findings from two recently completed studies of CWPPs, one identifying best management practices for developing a CWPP, and the second investigating whether CWPPs...

Type: Media

Webinar

Living with Fire - Wildland Fire Science

www.nrfirescience.org/resource/16081

In this 3 minute video released by Oregon State University, fire science experts discuss the impact of fire on wildland as well as society's changing perception of the importance of fire and fire safety. Oregon State is conducting world-class research into all aspects of fire including the immediate and long-term effects of...

Type: Media

Video

Becoming more fire adapted through better understanding of the community

www.nrfirescience.org/resource/17058

The final video in a three-part series - "Becoming More Fire Adapted through Better Understanding of the Community" - describes WiR?'s unique approach working with communities-at-risk from wildfire in order to tailor efforts to their specific needs; resulting in increased fire adaptation. Working closely with wildfire mitigation...

Type: Media

Video

Experimentally simulating wind-driven firebrand showers in wildland-urban interface (WUI) fires

www.nrfirescience.org/resource/14076

Wind-driven firebrand showers are a major cause of structural ignition in Wildland-Urban Interface (WUI) fires. To address this problem, a new firebrand research area targeted on quantifying structure vulnerabilities to wind-driven firebrand showers has been developed. This type of firebrand research was never possible prior to the...

Type: Media

Webinar

Wildland Urban Interface Fires: An Overview for Responders

www.nrfirescience.org/resource/16068

This 58 minute video is produced for fire responders to improve knowledge and safety when fighting

fires in the wildland-urban interface

Type: Media

Video

An Innovative Approach to Understanding Communities

www.nrfirescience.org/resource/17056

The first of the three videos in the series - "An Innovative Approach to Understanding Communities" - introduces the WiR? Team and explains how they are helping communities adapt to wildfire.

Type: Media

Video

A holistic framework to sustainably manage the wildland-urban interface

www.nrfirescience.org/resource/14071

NOTE: Technical difficulties during this webinar. Skip to 11:50 to start. Chris Dicus provides an introduction to the common problems encountered in managing WUI landscapes, and provides a framework for how to address some of these problems.

Type: Media

Webinar

Wildfire! Preventing Home Ignitions

www.nrfirescience.org/resource/16061

Wildfire! Preventing Home Ignitions is a 19-minute video available from the Rocky Mountain Research Station. This program tells you how a wildfire can ignite your home. A 'home ignition zone,' the area that includes a home and its immediate surroundings, determines a home's ignition resistance during a severe wildfire. Some of the...

Type: Media

Video

2012 Waldo fire wildland urban interface case study

www.nrfirescience.org/resource/14052

The National Institute of Standards and Technology (NIST) has a suite of research projects addressing risk reduction in Wildland Urban Interface (WUI) communities. The NIST WUI Team and the United States Forest Service, Fire and Environmental Research Applications Team (USFS FERA) were invited by the Colorado Springs Fire...

Type: Media

Webinar

Rx Fire and Fire Use Lessons Learned

www.nrfirescience.org/resource/16018

Listen to the experiences and lessons learned from seven veteran fire management officers.

Type: Media

Video

Fuel particle heat exchange

www.nrfirescience.org/resource/14336

This seminar was recorded by the RMRS Fire Sciences Laboratory.

Type: Media

Seminar

Restoring fires role in fire adapted communities

www.nrfirescience.org/resource/15918

If you find yourself working in or with a community at risk from wildfire, it's because fire is a component of the local ecosystems. This means that your community will be confronted with fire at some time, with the main variables being when, and under what conditions. This 'when not if' scenario begs the following three questions...

Type: Media

Webinar

How effective were fuel treatments in the 2011 Wallow fire?

www.nrfirescience.org/resource/14301

This webinar presents results of an opportunistic study to quantify the performance of thinning and surface fuel treatment in migrating wildfire behavior and severity, as represented by bole char, crown scorch proportion, tree burn severity index, on the largest wildfire in southwest USA history: 2011 Wallow fire. The results...

Type: Media

Webinar

Landscaping and home design for fire defense

www.nrfirescience.org/resource/13240

Yana Valachovic will discuss the types, placement, and maintenance of landscape plants to reduce risk of home ignition. She will discuss various elements of home design that mitigates home loss during a wildfire.

Type: Media

Webinar

WUI fire: managing the response

www.nrfirescience.org/resource/14191

In this webinar Dan Turner discusses fire jurisdictions, mutual aid agreements, pre-attack planning, deployment and mobilization plans, agency differences in strategy and tactics, resource prioritization, evacuations and Emergency Operations Center (EOC) coordination. It is geared toward public and private sector individuals...

Type: Media

Webinar