

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

[www.nrfirescience.org/resource/14925](http://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

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

[www.nrfirescience.org/resource/16390](http://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

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

[www.nrfirescience.org/resource/15552](http://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

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

[www.nrfirescience.org/resource/15062](http://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

## **Risk Perception, Sensemaking and Resilient Performance: The Sounds of Wildland Firefighting in Action - Final Report to the Joint Fire Science Program**

[www.nrfirescience.org/resource/17046](http://www.nrfirescience.org/resource/17046)

Managing wildland fire is an exercise in risk perception, sensemaking and resilient performance. Risk perception begins with individual size up of a wildfire to determine a course of action, and then becomes collective as the fire management team builds and continuously updates their common perception of risk. Karl Weick has called...

Author(s): Anne E. Black, David Thomas, Jennifer Ziegler, Elena Gabor, Rebekah L. Fox

Year Published: 2016

Type: Document

Technical Report or White Paper

### **Communication under fire: communication efficacy during wildfire incidents**

[www.nrfirescience.org/resource/14170](http://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

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

[www.nrfirescience.org/resource/13211](http://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

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

[www.nrfirescience.org/resource/13725](http://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

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

[www.nrfirescience.org/resource/12982](http://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

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

[www.nrfirescience.org/resource/8359](http://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

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

[www.nrfirescience.org/resource/11993](http://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

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

[www.nrfirescience.org/resource/15885](http://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

**Managing the unexpected: resilient performance in an age of uncertainty**

[www.nrfirescience.org/resource/15972](http://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

### **Shared mindfulness in cockpit crisis situations**

[www.nrfirescience.org/resource/15912](http://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

### **Inviting disaster: lessons from the edge of technology**

[www.nrfirescience.org/resource/15873](http://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

### **Risk management for ecological stewardship**

[www.nrfirescience.org/resource/15896](http://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

### **Dialogue and the art of thinking together**

[www.nrfirescience.org/resource/16219](http://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

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

[www.nrfirescience.org/resource/15893](http://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](http://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

### **Causes of disaster: sloppy management**

[www.nrfirescience.org/resource/15891](http://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

### **The textual approach: risk and blame in disaster sensemaking**

[www.nrfirescience.org/resource/16261](http://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

### **Organizational communication imperatives: lessons of the space program**

[www.nrfirescience.org/resource/15970](http://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](http://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

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

[www.nrfirescience.org/resource/15969](http://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](http://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

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

[www.nrfirescience.org/resource/16221](http://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

### **Dude Fire Fatality Case Study**

[www.nrfirescience.org/resource/16007](http://www.nrfirescience.org/resource/16007)

In June 1990 a fire in Arizona results in six firefighter fatalities.

Type: Media

Video

## **Who's to blame? Fire management in mixed-ownership landscapes**

[www.nrfirescience.org/resource/15097](http://www.nrfirescience.org/resource/15097)

Fuels are the only component of the fire triangle that forest and fire managers can alter to change fire behavior. There have been numerous studies examining how fuel reduction treatments and salvage logging alter fire behavior, severity, and its' ecological impacts. However, less attention has been paid to how different forest...

Type: Media

Webinar

## **Little Venus Fire Shelter Deployment - Part 1**

[www.nrfirescience.org/resource/16002](http://www.nrfirescience.org/resource/16002)

This two-part video reviews the 2006 Venus Fire Shelter Deployment — focusing on communication and situational awareness. It covers the problems encountered with radios and not being able to see the location of the fire as the crew started down a drainage. There were no casualties during this deployment. Part 1 of 2.

Type: Media

Video

## **Dude Fire Staff Ride**

[www.nrfirescience.org/resource/16008](http://www.nrfirescience.org/resource/16008)

Dude Fire Staff Ride - National Advanced Fire and Resource Institute 1998 - - Re-released in 2005 from 1998 fire behavior analyst workshop that focused on this tragedy in a wildland-urban interface wildfire. This was first use of a Staff Ride for examining wildfire fighting and opportunities for learning from the Dude fire...

Type: Media

Video

## **Deployment Story: Little Venus Fire**

[www.nrfirescience.org/resource/16003](http://www.nrfirescience.org/resource/16003)

Fire shelter deployment on the Little Venus Fire.

Type: Media

Video

## **Dude Fire - Perryville Fire Crew Entrapment**

[www.nrfirescience.org/resource/16000](http://www.nrfirescience.org/resource/16000)

Firefighters discuss the entrapment of the Perryville Fire Crew on the 1990 Dude fire. This is raw video footage from News Channel 12.

Type: Media

Video

## **WUI fire: managing the response**

[www.nrfirescience.org/resource/14191](http://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