

Returning fire to the land - Celebrating traditional knowledge and fire

www.nrfirescience.org/resource/15224

North American tribes have traditional knowledge about fire effects on ecosystems, habitats, and resources. For millennia, tribes have used fire to promote valued resources. Sharing our collective understanding of fire, derived from traditional and western knowledge systems, can benefit landscapes and people. We organized two...

Author(s): Frank K. Lake, Vita Wright, Penelope Morgan, Mary E. McFadzen, Dave McWethy, Camille Stevens-Rumann

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Participatory geographic information systems as an organizational platform for the integration of traditional and scientific knowledge in contemporary fire and fuels management

www.nrfirescience.org/resource/15030

Traditional knowledge about fire and its effects held by indigenous people, who are connected to specific landscapes, holds promise for informing contemporary fire and fuels management strategies and augmenting knowledge and information derived from western science. In practice, however, inadequate means to organize and communicate...

Author(s): Brooke Baldauf McBride, Fernando Sanchez-Trigueros, Stephen J. Carver, Alan E. Watson, Roian Matt, William T. Borrie, Linda Moon Stumpff

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Climate change and indigenous peoples: a synthesis of current impacts and experiences

www.nrfirescience.org/resource/14756

A growing body of literature examines the vulnerability, risk, resilience, and adaptation of indigenous peoples to climate change. This synthesis of literature brings together research pertaining to the impacts of climate change on sovereignty, culture, health, and economies that are currently being experienced by Alaska Native and...

Author(s): Kathryn Norton-Smith, Kathy Lynn, Karletta Chief, Karen Cozzetto, Jamie Donatuto, Margaret Hiza Redsteer, Linda E. Kruger, Julie Maldonado, Carson Viles, Kyle P. Whyte

Year Published: 2016

Type: Document

Synthesis, Technical Report or White Paper

Tribal engagement roadmap (Highlights)

www.nrfirescience.org/resource/16116

USDA Forest Service R&D has been conducting research for many years with tribes and in Indian country and has collaboratively developed the USDA Forest Service Research and Development Tribal Engagement Roadmap (Tribal Engagement Roadmap) to help highlight and prioritize the agency's efforts and raise the visibility of tribal...

Author(s): Tania Ellersick

Year Published: 2016

Type: Document

Technical Report or White Paper

Opportunities to utilize traditional phenological knowledge to support adaptive management of social-ecological systems vulnerable to changes in climate and fire regimes

www.nrfirescience.org/resource/13956

The field of adaptive management has been embraced by researchers and managers in the United States as an approach to improve natural resource stewardship in the face of uncertainty and complex environmental problems. Integrating multiple knowledge sources and feedback mechanisms is an important step in this approach. Our objective...

Author(s): Christopher A. Armatas, Tyron J. Venn, Brooke Baldauf McBride, Alan E. Watson, Stephen J. Carver

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Social science research on Indigenous wildfire management in the 21st century and future research needs

www.nrfirescience.org/resource/12910

This article reviews social science research on Indigenous wildfire management in Australia, Canada and the United States after the year 2000 and explores future research needs in the field. In these three countries, social science research exploring contemporary Indigenous wildfire management has been limited although there have...

Author(s): Amy Christianson

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Tribal Engagement roadmap

www.nrfirescience.org/resource/16168

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

Year Published: 2015

Type: Document

Technical Report or White Paper

Forest site classification for cultural plant harvest by tribal weavers can inform management

www.nrfirescience.org/resource/13813

Do qualitative classifications of ecological conditions for harvesting culturally important forest plants correspond to quantitative differences among sites? To address this question, we blended scientific methods (SEK) and traditional ecological knowledge (TEK) to identify conditions on sites considered good, marginal, or poor for...

Author(s): Susan S. Hummel, Frank K. Lake

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Fire and tribal cultural resources

www.nrfirescience.org/resource/13815

Native American tribes regard plants that have evolved with frequent fire and other natural resources as living cultural resources that provide, water, food, medicines, and other material goods while also sustaining tribal cultural traditions. Collaborations between management agencies and tribes and other Native American groups can...

Author(s): Frank K. Lake, Jonathan Long

Year Published: 2014

Type: Document
Book or Chapter or Journal Article

Traditional ecological knowledge: a model for modern fire management?

www.nrfirescience.org/resource/13810

For many thousands of years, aboriginal peoples worldwide used fire to manage landscapes. In North America, the frequency and extent of fire (both human caused and natural) were much reduced after European colonization. Fire exclusion became the policy in the United States for most of the 20th century as the country became more...

Author(s): Gail Wells
Year Published: 2014
Type: Document
Research Brief or Fact Sheet

Cultural impacts to tribes from climate change influences on forests

www.nrfirescience.org/resource/16123

Climate change related impacts, such as increased frequency and intensity of wildfires, higher temperatures, extreme changes to ecosystem processes, forest conversion and habitat degradation are threatening tribal access to valued resources. Climate change is and will affect the quantity and quality of resources tribes depend upon...

Author(s): Garrett Voggesser, Kathy Lynn, John Daigle, Frank K. Lake, Darren Ranko
Year Published: 2013
Type: Document
Book or Chapter or Journal Article

Historical and cultural fires, tribal management and research issues in Northern California: trails, fires and tribulations

www.nrfirescience.org/resource/12539

Indigenous people's detailed traditional knowledge about fire, although superficially referenced in various writings, has not for the most part been analyzed in detail or simulated by resource managers, wildlife biologists, and ecologists. . . . Instead, scientists have developed the principles and theories of fire ecology, fire...

Author(s): Frank K. Lake
Year Published: 2013
Type: Document
Book or Chapter or Journal Article

The many elements of traditional fire knowledge: synthesis, classification, and aids to cross-cultural problem solving in fire-dependent systems around the world

www.nrfirescience.org/resource/12537

I examined the hypothesis that traditional social-ecological fire systems around the world include common elements of traditional fire knowledge (TFK). I defined TFK as fire-related knowledge, beliefs, and practices that have been developed and applied on specific landscapes for specific purposes by long time inhabitants. In all, 69...

Author(s): Mary R. Huffman
Year Published: 2013
Type: Document
Book or Chapter or Journal Article

Aboriginal precedent for active management of sagebrush-perennial grass communities in the

Great Basin

www.nrfirescience.org/resource/12146

Until recently, most contemporary ecologists have ignored or diminished anecdotal historical accounts and anthropologists' reports about aboriginal fire in the Great Basin. Literature review shows that Indians practiced regular use of fire for many purposes, including the obvious reasons of increasing the availability of desired...

Author(s): Kent J. McAdoo, Brad W. Schultz, Sherman R. Swanson

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

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

www.nrfirescience.org/resource/141

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

Year Published: 2012

Type: Document

Synthesis

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

www.nrfirescience.org/resource/16101

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

Author(s): Lily A. Ray, Crystal A. Kolden, F. Stuart Chapin

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Listening and learning from traditional knowledge and western science: a dialogue on contemporary challenges of forest health and wildfire

www.nrfirescience.org/resource/8329

Native Americans relied on fire to maintain a cultural landscape that sustained their lifeways for thousands of years. Within the past 100 years, however, policies of fire exclusion have disrupted ecological processes, elevating risk of wildfire, insects, and disease, affecting the health and availability of resources on which the...

Author(s): Larry Mason, Germaine White, Gary Morishima, Ernesto Alvarado, Louise Andrew, Fred Clark, Mike Durglo, Jim Durglo, Margaret Friedlander, Kathy Hamel, Colin C. Hardy, Tony Harwood, Faline Haven, Everett Isaac, Laurel James, Robert Kenning, Adrian Leighton, Pat Pierre, Carol Raish, Bodie Shaw, Steven Smallsalmon, Vernon Stearns, Howard Teasley, Matt Weingart, Spus Wilder

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

National to local: a pre & post assessment of the Fuel Characteristic Classification System (FCCS) landscape variables for the Confederated Salish and Kootenai Tribes

www.nrfirescience.org/resource/13486

A modified Fuel Characteristic and Classification System (FCCS) fuelbed was created for the Confederated Salish & Kootenai Tribes (CSKT) of Montana. This crosswalk of data combined two principal sources of data: (1) locally the Bureau of Indian Affairs (BIA) Continuous Forest Inventory Data (CFI) and (2) nationally the US Forest...

Author(s): Laurel L. James

Year Published: 2012

Type: Document

Dissertation or Thesis

Working with American Indian tribes on wildland fires: protecting cultural heritage sites in northwestern California

www.nrfirescience.org/resource/16098

The Federal Land Policy and Management Act (1976: Public Law 94-579) requires coordination with approved tribal management plans for the purposes of development and revisions of such plans and is inclusive of programs or projects. Federal Government consultation, such as government-to-government protocol agreements with federally...

Author(s): Frank K. Lake

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Fire burners to firefighters: the Nez Perce and fire

www.nrfirescience.org/resource/16113

This article presents results from an interview-based case study examining burning practices of the Nez Perce tribe in the Inland Northwest in both their contemporary and historical policy context. Despite the lack of a prominent fire tradition, our interviews uncovered a legacy of knowledge and cultural traditions linked to fire...

Author(s): Matthew S. Carroll, Patricia J. Cohn, Travis B. Paveglio, Donna R. Drader, Pamela J. Jakes

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Fire, agency and scale in the creation of aboriginal cultural landscapes

www.nrfirescience.org/resource/16126

Much recent literature explores controlled burning practices used by people of different cultures to manipulate landscapes. Because humans have only recently been able to suppress fires occurring at larger scales these studies focus on activities occurring at the scale of sites as making the greatest contribution to creating...

Author(s): Andrew Martin Miller, Iain Davidson-Hunt

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

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

www.nrfirescience.org/resource/16106

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

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

Year Published: 2010
Type: Document
Book or Chapter or Journal Article

Developing computer-based participatory approaches to mapping landscape values for landscape and resource management

www.nrfirescience.org/resource/16127

The last 50 years or so have seen a steady increase in the rate of destructive wildfires across the world, partly as a result of climate change and partly as a result of encroachment of human settlement on fire-based ecosystems (Russell et al. 2004; Westerling et al. 2006). Years of active fire suppression in such areas has...

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

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Communicating about fire with tribal organizations

www.nrfirescience.org/resource/16111

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

Author(s): Germaine White, Pat McDowell

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Living artifacts: the ancient ponderosa pines of the West

www.nrfirescience.org/resource/8160

Until late in the nineteenth century, magnificent ponderosa pine forests blanketed much of the inland West. They covered perhaps 30 million acres, an area the size of New York state, spreading across the mountains of New Mexico, Arizona, and California and flourishing throughout the eastern Cascades, the intermountain Pacific...

Author(s): Stephen F. Arno, Lars Ostlund, Robert E. Keane

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Wildland fire management as conservation-based development: an opportunity for reservation communities?

www.nrfirescience.org/resource/16109

This article explores the economic and cultural development potential of wildland fire management for American Indian communities. Wildland fire management provides opportunities to engage in “conservation-based development”—helping communities to strengthen their connections with the land, improve ecosystem health,...

Author(s): Kathleen Rasmussen, Michael Hibbard, Kathy Lynn

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Traditional ecological knowledge: applying principles of sustainability to wilderness resource management

www.nrfirescience.org/resource/12545

Traditional ecological knowledge within specific cultural and geographical contexts was explored during an interactive session at the 8th World Wilderness Congress to identify traditional principles of sustainability. Participants analyzed the traditional knowledge contained in ten posters from Canada and...

Author(s): Nancy C. Ratner, Davin L. Holen

Year Published: 2007

Type: Document

Conference Proceedings

Culturally scarred trees in the Bob Marshall Wilderness, Montana, USA- interpreting Native American historical forest use in a wilderness area

www.nrfirescience.org/resource/7966

Wilderness areas are primarily set aside to protect natural ecosystems and processes. However, most protected areas have a long history of native peoples' land use predating their protection. The general paucity of evidence in the form of historical records, in combination with romantic views of native peoples' effects on nature,...

Author(s): Lars Ostlund, Robert E. Keane, Stephen F. Arno, R. Andersson

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

Private and tribal forest landowners and fire risk: a two-county case study in Washington state

www.nrfirescience.org/resource/16114

This study focused on the role of fire both as a perceived threat and a management tool of nonindustrial private forest and tribal forest landowners or managers in two counties in northeastern Washington State. Using qualitative social research methods and a risk perception conceptual frame, we identified distinct categories of...

Author(s): Matthew S. Carroll, Patricia J. Cohn, Keith A. Blatner

Year Published: 2004

Type: Document

Book or Chapter or Journal Article

Simulated indigenous management: a new model for ecological restoration in national parks

www.nrfirescience.org/resource/16119

Native American land management practices could revive the processes needed to maintain the classic ecosystems and cultural integrity of our nation parks.

Author(s): M. Kat Anderson, Michael G. Barbour

Year Published: 2003

Type: Document

Book or Chapter or Journal Article

Maintaining the mosaic: the role of indigenous burning in land management

www.nrfirescience.org/resource/16097

This article highlights the findings of the literature on aboriginal fire from the human- and the land-centered disciplines, and suggests that the traditional knowledge of indigenous peoples be incorporated into plans for reintroducing fire to the nation's forests. Traditional knowledge represents the outcome of long experimentation...

Author(s): R.W. Kimmerer, Frank K. Lake

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

Native burning in western North America: implications for hardwood forest management

www.nrfirescience.org/resource/11062

It is now widely acknowledged that frequent low-intensity fires once structured many western forests. What is not generally recognized, however, is that most of those fires were purposefully set by native people, not started by lightning. Data from the Rocky Mountains attest to the widespread use of fire by native people, as does...

Author(s): Charles E. Kay
Year Published: 2000
Type: Document
Conference Proceedings

Fire regimes on andesitic mountain terrain in northeastern Yellowstone National Park, Wyoming

www.nrfirescience.org/resource/8196

A fire history investigation was conducted for three forest community types in the Absaroka Mountains of Yellowstone National Park, Wyoming. Master fire chronologies were based on fire-initiated age classes and tree fire scars. The area's major forest type, lodgepole pine (*Pinus contorta* Dougl. var. *latifolia*) ecosystems, revealed a...

Author(s): Stephen W. Barrett
Year Published: 1994
Type: Document
Book or Chapter or Journal Article

Indian fires as an ecological influence in the Northern Rockies

www.nrfirescience.org/resource/7910

The importance of fire as an ecological disturbance in the Northern Rockies is well accepted. Lightning is generally thought to have been the main source of ignition prior to settlement by Europeans. But writings of explorers and pioneers mention deliberate burning by Indians frequently enough to warrant an investigation of its...

Author(s): Stephen W. Barrett, Stephen F. Arno
Year Published: 1982
Type: Document
Book or Chapter or Journal Article

Indian fires in the pre-settlement forests of western Montana

www.nrfirescience.org/resource/12043

Presents preliminary results of a two-year study examining the pattern of Indian fires in western Montana's lower elevation forests. Interviews and historic journals were used to reconstruct the characteristics of aboriginal burning. Fire scar data from paired stands indicate substantial differences in fire frequency between Indian...

Author(s): Stephen W. Berrett
Year Published: 1980
Type: Document
Conference Proceedings

The creator's gift of fire: traditional knowledge, responsibility, and world renewal

www.nrfirescience.org/resource/13812

Returning Fire to the Land -- Celebrating Traditional Knowledge and Fire Workshop, Nov 7-9, 2012 - Pablo, Montana. Workshop keynote presentation by Frank Lake, USFS - PSW Research Station and Bill Tripp, Karuk Tribe
Type: Media

Video

Catching fire: prescribed burning in Northern California

www.nrfirescience.org/resource/205

Catching Fire tells a compelling story of how a small but committed group of local, tribal, state and federal land managers are bringing back the use of prescribed fire as a tool to protect communities and ecosystems across Northern California. It examines the use of fire by the Karuk Tribe of California, and the connection between...

Type: Media

Video

Using Narrative Stories to Understand Traditional Ecological Knowledge in the Great Basin

www.nrfirescience.org/resource/16158

In this webinar, Tamara Wall of the Desert Research Institute presented on a pilot project to gather Traditional Knowledge that will aid identifying adaptation strategies to increase resiliency to climate change in the Great Basin, an area already struggling with profound environmental challenges. This project uses a method of...

Type: Media

Webinar

Returning Fire to the Land: Celebrating Traditional Knowledge and Fire

www.nrfirescience.org/resource/16046

In this webinar, Frank Lake, Research Ecologist with the Pacific Southwest Research Station presented findings from the 2014 Crafting Solutions for Wildland and Prescribed Fires Across Tribal and Nontribal Jurisdictions workshop and the 2012 Celebrating Traditional Knowledge and Fire workshop to investigate how...

Type: Media

Webinar

Braids of truth - Part 2: climate change

www.nrfirescience.org/resource/14446

Part 2 of 3. Elders, scientists and cultural leaders discuss the effects of climate change on the earth, culture and peoples and the differences between western science and traditional ecological principles.

Type: Media

Video

Culturally peeled trees handbook

www.nrfirescience.org/resource/12391

This guide was developed to help identify Culturally Peeled Trees. Culturally Peeled Trees are a specific type of Culturally Modified Tree. The term is used to describe the mostly pre-reservation practice by aboriginal or native people of 'peeling,' or removing, the bark/cambium layer of a tree for a variety of procurement and...

Author(s): Marcy Reiser, Laurie S. Huckaby

Type: Document

Technical Report or White Paper

Braids of truth - An introduction

www.nrfirescience.org/resource/14444

A short introduction to the 3-part series "Braids of Truth" an exploration of Traditional Ecological Knowledge, Climate Change and Collaboration Challenges.

Type: Media

Video

Incorporating tribal traditional knowledge and community values into wildland fire management

www.nrfirescience.org/resource/13816

This presentation provides background information on existing federal agency fire planning and management activities. Additionally, it discusses opportunities for how tribes and communities can coordinate with fire managers to identify values at risk and recommend mitigation actions or other treatments to reduce non-desired impacts...

Type: Media

Webinar

Learning from our ancestors: combining ancient knowledge systems and modern science to achieve restoration

www.nrfirescience.org/resource/13236

The webinar describes traditional ecological knowledge and invaluable contributions of Native wisdom to ecological restoration. Specific case studies are presented where traditional ecological knowledge is incorporated into wildlife management plans and fire and fuel management.

Type: Media

Webinar

Tending the Wild

www.nrfirescience.org/resource/16099

Tending the Wild shines light on the environmental knowledge of indigenous peoples across California by exploring how they have actively shaped and tended the land for millennia, in the process developing a deep understanding of plant and animal life. This documentary examines how humans are necessary to live in balance with nature...

Type: Media

Video

Braids of truth - Part 3: collaboration challenges

www.nrfirescience.org/resource/14447

Part 3 of 3. How can agencies, institutions and tribal cultures communicate about issues that relate to ecology and lifeways when the terms can mean different things? Is it learning how to talk or how to listen?

Type: Media

Video

Braids of truth - Part 1: fire and forest management

www.nrfirescience.org/resource/14445

Part 1 of a 3 part series. Elders and forest professionals discuss the traditional and contemporary uses of fire and challenges to forest management practices.

Type: Media

Video

Indigenous fire knowledge and traditional fire systems around the world

www.nrfirescience.org/resource/14149

In this presentation, Mary Huffman (The Nature Conservancy, Fire Learning Network) shares the results of her comparison of indigenous fire knowledge from 25 countries on six continents. She starts with the question, what do people around the world know about fire, and examines the traditional fire knowledge of people who have been...

Type: Media

Webinar