



New articles and reports in your library this month

FIRE INCIDENTS – AUSTRALIAN



Fire Australia – Issue 2, 2021 is online This magazine, co-published by BNHCRC, AFAC and FPA includes news and feature articles on fire protection, natural hazard research and the fire and emergency service sector.

Use this BNHCRC link to read the magazine online.

Kangaroo Island Black Summer fire reconstruction (Report)

Bushfire and Natural Hazards CRC, July 2021

In the 2019-20 summer, wildfire affected an area of around 200,000 hectares on Kangaroo Island, South Australia. This report outlines the methods used to verify hotspots detected by the BRIGHT algorithm and reconstruct the Black Summer fires using spatio-temporal clustering.

Use this BNHCRC link to read the report online.

FIRE INCIDENTS – INTERNATIONAL



Wildfire Magazine –the July 2021 issue is online. This month's issue includes an article by Kylie Paul, the superintendent of Juliet Crew, the first and only all-women wildland firefighting crew in South Africa.

Use this IAWF link to read the issue online.

Indonesian Fires and Haze : Measuring the Health Consequences of Smoke Exposure (Report)

RAND Corporation, July 2021

Fires in Indonesia contribute to severe air pollution that causes public health, environmental, and economic degradation across Indonesia and across equatorial Asia. What are the drivers of fire activity in Indonesia? And what are some the health impacts of air pollution exposure?

Use this RAND link to read the report online.

How wildfire restored a Yosemite watershed (ScienceDaily news article)

University of California, 9 August 2021

EMERGENCY MANAGEMENT

Wonderful news!!!! The Australian Emergency Management Library which began in 1956 and is remembered favourably by many emergency management agencies is re-opening!!

Recognising the significant revival over recent years for specialist reference assistance, the library has undergone an extensive process in reorganising their 17,000 item collection.



Once serving over 4,000 members (Fun fact! Your NSW RFS Library cares for over 3,000 active library members) it moved from Mt Macedon in Victoria (pictured) in 2014 to the Lionel Murphy Library at the Attorney-General's Department in Canberra for a short period and then back to storage in Victoria. The catalogue is now being shelved in its new home - the AIDR and AFAC offices on Albert St, East Melbourne. More updates to come.

Disaster management and the need for a reinstated social contract of shared responsibility (Journal article)

International Journal of Disaster Risk Reduction Vol 63, Sept 2021

Mark Croweller and Petra Tschakert analyse governmental inquiries and actions undertaken regarding three past catastrophic disasters—2005 Hurricane Katrina (USA), the 2009 Victorian Bushfires (Australia), and the 2011 Queensland Floods (Australia). They assess, across these inquiries, 'what went wrong', 'what was working', and 'what needs fixing' with shared responsibility in disaster management.

Use this ScienceDirect link to read the article online.



Australian Journal of Emergency Management– the July 2021 issue is online

This month's issue focuses on the management of animals in emergencies

Half a century of allowing lightning fires to burn in Yosemite's Illilouette Creek Basin has created a lost forest ecosystem that is far more resilient to the impacts of drought, wildfire and climate change

Use this [ScienceDaily link](#) to read the article online.

For The 1st Time in Recorded History, Smoke from Wildfires Reaches the North Pole (US news article)

National Public Radio, August 2021

Smoke from wildfires raging in Russia has reached the North Pole for the first time in recorded history. Smoke from those fires has even been recorded as having travelled more than 1,864 miles to reach the North Pole — an unprecedented distance.

Use this [NPR link](#) to read the article online. The related [NASA news release](#) can be read here.

Dixie Fire becomes largest single wildfire in California history (US News article)

Politico California, 6th August 2021

The Dixie Fire burning in two Northern California counties is now the largest single wildfire in recorded state history, exploding in size overnight as drought-stricken lands continue to fuel the flames.

Use this [Politico link](#) to read the article online.

Wildfire isn't Unique to the West: A Forgotten History and A Warning (Webpage)

KQED, August 2021

This scroll down Californian media webpage relates the history of wildfire in the United States and the concern that more people are moving to fire-prone areas without realising the danger.

Use this [KQED webpage](#) to view the history article.

Current Wildland Fire Patterns and Challenges in Europe: A Synthesis of National Perspectives. (Journal article)

Air, Soil & Water Research, 15 July 2021

Changes in climate, land use, and land management impact the occurrence and severity of wildland fires in many parts of the world. This is particularly evident in Europe, where ongoing changes in land use have strongly modified fire patterns over the last decades.

Contact the library to request a copy of this article.

CULTURAL BURNING



Cultural burning in southern Australia: collaborations based on Indigenous leadership (Hazard Note 101)

BNHCRC, 13 July 2021

Across southern Australia, many Indigenous people are practicing and promoting cultural fire management, yet the emergency management sector has limited experience in collaborating with them on fire management.

Use this [AIDR link](#) to read the magazine online.

Crisis management is people management (Magazine article)

Crisis Response Journal, June 2021

Thomas Lahnthaler explains why we should focus on people rather than situations when crises strike.

Contact the library to request a copy of this article.

DISASTER RESILIENCE

Disaster resilience in Australia: A geographic assessment using an index of coping and adaptive capacity (Journal article)

International Journal of Disaster Risk Reduction, Vol 62, Aug 2021

This paper reports a national-scale assessment of disaster resilience, using the Australian Disaster Resilience Index. The index assesses resilience at three levels. 16% of Australia's population (3.8 million people) live in an area assessed as having low capacity for disaster resilience. Most outer regional, remote and very remote areas were assessed as having low capacity for disaster resilience.

Use this [ScienceDirect link](#) to read the article online.



Funding for Wildfire Resilience: Strategies for a Paradigm Shift (US Report)

The Nature Conservancy, July 2021

A report by The Nature Conservancy says US investment over the next

decade needs to be in the neighbourhood of \$US5 billion to \$US6 billion to mitigate the effects of the number and intensity of wildfires across the US.

Use this [Nature Conservancy link](#) to read the report online.

LEADERSHIP AND MANAGEMENT

Leadership: What Are Your Personal Core Values (Magazine article)

Fire Engineering, July 2021

The article focuses on the Personal Core Values.

Topics discussed include US Battalion Chief John Dixon from New Jersey, challenged me and several of our close friends to put together our own personal mission statements as well as our personal core values; and challenged us to live by them day in and day out as a good leader would do.

Contact the library to request a copy of this article.

Read Hazard Note 101 using this [BNHCRC link](#).

FIRE BEHAVIOUR

Indications of positive feedbacks to flammability through fuel structure after high-severity fire in temperate eucalypt forests (Journal article)

International Journal of Wildland Fire, published early online 6 July 2021

Forest fire severity influences post-fire fuel structure and thus the behaviour of subsequent fires. Understanding such interactions is critical to improving predictions of fire risk and emergency management, yet few studies have quantified fire severity effects on fuel attributes. The authors quantify fuel structure of a fire-tolerant eucalypt forest 7 years after a landscape-scale wildfire in south-eastern Australia.

Please contact the library to request a copy of this article.

FIREFIGHTING

Selection of Appropriate Respiratory Protective Devices (RPD) During Bushfires (AFAC Guideline)

AFAC PPE Technical Group, August 2021

This guideline covers the types of respiratory protective devices (RPD) that may be used and worn by workers during bushfires or at controlled fires, e.g., a prescribed burn. It also provides additional information for consideration relating to their use.

Use this [AFAC link](#) to read the guideline online.

Rural firefighting vehicles burn-over protection. (AFAC Guideline)

AFAC Fleet Technical Group, July 2021

This procedural guideline details the principles that should be considered by AFAC Members to underpin the risk management approach taken when specifying vehicle safety features that are designed to maximise crew safety and survivability during burn-over events.

Use this [AFAC link](#) to read the guideline online.

Analysis and Exploitation of Landforms for Improved Optimisation of Camera-Based Wildfire Detection Systems (Journal article)

Fire Technology, Vol 57 Sept 2021

Tower-mounted camera-based wildfire detection systems provide an effective means of early forest fire detection. Historically, tower sites have been identified by foresters and locals with intimate knowledge of the terrain and without the aid of computational optimisation tools. When moving into vast new territories and without the aid of local knowledge, this process becomes cumbersome and

When it comes to change, get employees off the sidelines (Journal article)

TD: Talent Development, August 2021

To help employees adjust to all that change, talent development professionals coach employees to expect change - to let them know that it's normal and something that's continuous. Take advantage of that - and get more employees actively involved in the change - by encouraging leaders to reserve a few slots on the project team for employees who will participate as part of their formal development plan. *Contact the library to request a copy of this article.*

The Empathy Trap (Magazine article)

Time Magazine, 2 August 2021

The article discusses the efforts by employers, particularly in the U.S., to adopt the value of empathy to ensure the satisfaction of their employees amidst the turmoil caused by the coronavirus pandemic. Only 25% of staff thought empathy is sufficient in their organisation, how empathy differs from sympathy, and workplace programs like diversity, equity and inclusion

Contact the library to request a copy of this article.

TRAINING AND PROFESSIONAL DEVELOPMENT

Are Learning Equity Issues Affecting Your Company? (Journal article)

TD: Talent Development, August 2021

Does every employee in your organisation - regardless of role, tenure, location, or identity - have an equitable opportunity to develop their knowledge and skills? If only 17 percent of executives say their workers are "very ready to adapt, reskill and assume new roles" according to Deloitte researchers, it's unlikely that most employers already have the necessary infrastructure in place to rapidly address employee development needs.

Contact the library to request a copy of this article.

MENTAL HEALTH & INCIDENT STRESS

Making the Leap from Wellness to Well-Being (Journal article)

TD: Talent Development, August 2021

While employers can offer a smorgasbord of self-care services, benefits, and resources for employee well-being, that does not necessarily mean employees will take advantage of them

Contact the library to request a copy of this article.

daunting. The landform classifications at 165 existing tower sites from wildfire detection systems in South Africa, Canada and the USA are analysed.

Use this [Springer link](#) to read the article online.

FIRE MODELLING

Catching fire: AI is helping scarce firefighters better predict blazes (PreventionWeb News Update)

UNDRR, 22 July 2021

With climate change driving worsening U.S. wildfires, machine learning and statistical models let firefighters map out ahead of time how and where blazes might spread.

Use this [PreventionWeb link](#) to read the article online.

Derivation of a Bayesian fire spread model using large-scale wildfire observations (Journal article)

Environmental Modelling & Software, October 2021

Models that predict wildfire rate of spread (ROS) play an important role in decision-making during firefighting operations, including fire crew placement and timing of community evacuations. Here, the authors use a large set of remotely sensed wildfire observations, and explanatory data (focusing on weather), to demonstrate a Bayesian probabilistic ROS modelling approach. They also compare Bayesian model predictions to those of widely used deterministic ROS models in Australia.

Please contact the library to request a copy of this article.

FIRE WEATHER

A characterisation of synoptic weather features often associated with extreme events in southeast Australia:

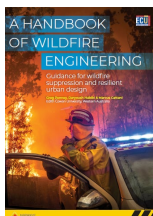
Stage 1 – common features of recent events (Report)

Bushfire and Natural Hazards CRC, July 2021

This study aimed to identify how often negatively tilted troughs occur and how often they are associated with extreme storms and fire weather.

Use this [BNHCRC report](#) to read the report online.

FIRE MANAGEMENT



A handbook of wildfire engineering : Guidance for wildfire suppression and resilient urban design (eBook)

By Greg Penney, September 2020

In order to improve firefighter safety and operational effectiveness during landscape scale wildfires, as well as providing sound engineering guidance to improve community resilience to

As Fire Season Heats Up, Burnout Looms (US Commentary)

RAND Blog, 21 July 2021

Increasingly intense fire seasons are taking a physical and mental toll on wildland firefighters. Without more direct attention paid to firefighters' mental health, burnout could decimate the ranks of those who protect lives and property across the US West.

Use this [RAND link](#) to read the commentary online.



Mental health in rural and remote Australia (Factsheet)

National Rural Health Alliance, 23 July 2021

People in rural areas face a range of stressors unique to living outside major cities. This fact sheet outlines some key statistics regarding mental health in rural and remote communities.

Use this [NRHA link](#) to read the factsheet online.



Taming the Black Dog, and burnout (Podcast)

Conversations - ABC, 22 July 2021

Gordon Parker is the founder of the Black Dog Institute, which works to remove the stigma around depression, mental illness and bipolar disorder. For the past few years he's been looking closely at the phenomenon of burnout at home and at work

Use this [ABC link](#) to listen to the podcast online.

Nurturing Spiritual Resilience to Promote Post-disaster Community Recovery: The 2016 Alberta Wildfire in Canada (Journal article)

Frontiers in public health, Vol 9 July 2021

Spirituality has been found to be a major protective factor in facilitating resiliency and recovery following the experience of disaster. Nonetheless, little focus has been directed toward how spirituality can strengthen and empower community capacity and growth during post-disaster recovery. Our study explored various meanings and concerns, along with tools and strategies that helped to nurture spiritual resilience and well-being among residents of Fort McMurray following the Alberta wildfire.

Use this [Frontiers link](#) to read the article online.

Books on this topic are found in our library's [Mental Health and You collection](#)

COMMUNITY RESILIENCE

wildfire impacts, this textbook examines critical components of wildfire response. These components are the wildfire fighting strategies and tactics applied during a landscape scale wildfire event; the procedures and protective systems utilised in the event of burnover; operational risk management; and wildfire resilient urban design.

Use this [EDU link](#) to access the eBook online.

FIRE ECOLOGY



FireTools Cloud - Mapping of vegetation status, patterns and severity (Podcast)

Centre of Excellence for Prescribed Burning, Aug 2021

FireTools Cloud is an online tool for vegetation fire threshold status calculation and prescribed burn planning. In this webinar, Dr Grant Williamson from the University of Tasmania and NSW Bushfire Risk Management Research Hub, explains the functionality and outputs of FireTools Cloud, and discuss the future directions for the project

Use this [YouTube link](#) to watch the podcast online.

FIRE INVESTIGATION



Fire & Arson Investigator Journal - Summer 2021

This issue includes the IAAI 2021 Photography Winners and a look back at September 11 2001, Contact the library if you would like to added to the table of contents email alert for new issues.

HAZARD REDUCTION AND PRESCRIBED BURNING

Fire operations-prescribed burning combo reduces wildfire severity up to 72% (ScienceDaily news article) Penn State, July 2021

Firefighters battling wildfires in the western United States use a variety of suppression tactics to get the flames under control. Prescribed burns intentionally set to clear shrubs and forest litter before a wildfire ever ignites, can make fire suppression operations almost three times as effective in limiting wildfire severity, according to a new study.

Use this [ScienceDaily link](#) to read the article online.

Please contact the library to request a copy of the IJWF article "Prescribed fire and fire suppression operations influence wildfire severity under severe weather in Lassen

Partnerships with natural first responders (Journal article)

Crisis Response Journal, June 2021

Marcus T Coleman says that when governments work alongside neighbours, caregivers and young people, the resilience of the whole community is strengthened. Here, he explains how such partnerships can be nurtured

Please contact the library to request a copy of this article.

3 wildfire lessons for forest towns as Dixie Fire destroys historic Greenville, California (News article)

The Conversation, 7 August 2021

The emergence of extreme fires in recent years and the resulting devastation shows that communities need better means to anticipate mounting dangers, and underscores how settlement patterns, land management and lifestyles will have to change to prevent even larger catastrophes. A research team of [landscape](#) architects, ecologists, social scientists and computer scientists has been exploring and testing strategies to help.

Use [The Conversation link](#) to read the article online.

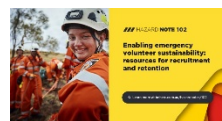
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Use this [Frontiers link](#) to read the article online.

VOLUNTEER MANAGEMENT



Enabling emergency volunteer sustainability: resources for recruitment and retention

(Hazard Note 102)

BNHCRC, 6 August 2021

Across Australia, emergency service volunteer planners, managers and leaders work in complex and dynamic spaces when seeking to sustain their volunteer workforce over time. Agencies are often looking for ways to improve volunteer recruitment, retention, onboarding, management and communications strategies.

Volcanic National Park, California, USA” that the article refers to.

BUSHFIRE SMOKE

How extensive were the adverse health effects of bushfire smoke in the summer of 2019/20?

(PreventionWeb News Update)

UNDRR, 2 August 2021

A UNSW survey has explored the links between bushfire smoke and adverse health effects. The study found that smoke exposure was significantly linked to adverse health effects among people with pre-existing respiratory conditions, such as asthma and chronic obstructive pulmonary disease (COPD), but also in previously healthy people.

Use this [PreventionWeb link](#) to read the article online.

Please contact the library to request the published results of the study in *The American Journal of Respiratory and Critical Care Medicine*

Researchers develop method to better predict when wildfire smoke affects residents *(ScienceDaily news article)*

University of Utah, August 2021

Researchers have developed a way to better predict if and when wildfire smoke might affect the ground-level air quality of nearby communities by developing a method of combining a meteorological model with NASA satellite data to determine whether the wildfire smoke will stay high up or come down to the ground.

Use this [ScienceDaily link](#) to read the article online.

Read Hazard Note 102 using this [BNHCRC link](#).

METEOROLOGY AND CLIMATE CHANGE

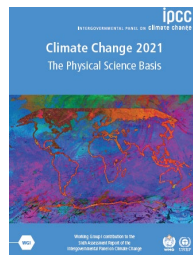
Bushfires, not pandemic lockdowns, had biggest impact on global climate in 2020 *(PreventionWeb News Update)*

UNDRR, 27 July 2021

When a team of scientists began analysing events that influenced the world’s climate in 2020, they made sure to consider the pandemic-related lockdowns that reduced emissions and led to clearer skies over many cities. “The main climate forcing of 2020 wasn’t COVID-19 at all,” said John Fasullo, a scientist at the National Center for Atmospheric Research (NCAR) and the lead author of the new study. “It was the explosion of wildfires in Australia.”

Use this [PreventionWeb link](#) to read the article online.

The published study in *Geophysical Research Letters* can be read online [here](#)



Climate change 2021: the physical science basis *(Report)*

Intergovernmental Panel on Climate Change, 7 Aug 2021

This Sixth IPCC Assessment Report addresses the most up-to-date physical understanding of the global climate system and climate change, bringing together the latest advances in climate science, and combining multiple lines of evidence from paleoclimate, observations, process understanding, and global and regional climate simulations.

Use this [IPCC link](#) to read the report online – this report is over 3,000 pages and will take time to load.

CHILDREN’S BUSH FIRE COLLECTION

Books in our children’s bush fire collection can be found listed [here](#)

Borrowing books

Your NSW RFS Library catalogue is [online](#). It is easy to search. The collection holds books, DVDs, journals and reports.

The library also has an eBook and audiobook collection for all NSW RFS Members.

[Contact NSW RFS Library](#) for further assistance.

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