



A hazard reduction burn outside Darwin in 2016. Photo: Bushfire and Natural Hazards CRC

Key Topics:

- fuel reduction [2]
- planning [3]
- prescribed burning [4]

Scenario planning for remote community risk management in northern Australia [5]

The project has developed a framework to aid fire and emergency services agencies in engaging with remote Indigenous communities in order to improve emergency services delivery. The research has developed a suite of case studies through which interviews and workshops have been conducted with members of the now-widespread Indigenous Ranger Groups to ascertain the aspirations, willingness and capacity of the Rangers to engage in emergency management activities. This final report summarises the activities undertaken and information gathered to date. This project has also continued the service delivery program of land management and monitoring and evaluation tools to assist fire managers in remote north Australia. The research team provided information with respect to the spatial distribution and effects of fire on tropical savanna and rangeland habitats through the Savanna Monitoring and Evaluation Reporting Framework, also developed through the project.

Project: detail Notabs

Research team

Research leader




[6]

Adj Prof Jeremy Russell-Smith [6]
RESEARCH LEADER




[7]

Research team



[8]

Dr Andrew Edwards [8]



[9]

Cameron Yates [9]

RESEARCH TEAM



[7]

RESEARCH TEAM



[7]



Dominique Lynch

[10]

RESEARCH TEAM



[10]

[7]



Prof Douglas Paton

[11]

RESEARCH TEAM



[11]

[7]



Kamaljit Sangha

[12]

RESEARCH TEAM



[12]

[7]



A/Prof Lindsay Hutley

[13]

RESEARCH TEAM



[13]

[7]



Prof Michael Douglas

[14]

RESEARCH TEAM



[14]

[7]



Dr Neil Burrows

[15]

RESEARCH TEAM

[15]



Dr Natalie Rossiter-Rachor

[16]

RESEARCH TEAM



[16]

[7]



A/Prof Stefan Maier

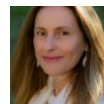
[17]

RESEARCH TEAM



[17]

[7]



A/Prof Samantha Setterfield

[18]

RESEARCH TEAM



[18]

[19]



Steve Sutton

[20]

RESEARCH TEAM

[20]



Dr Vanessa Adams

[21]

RESEARCH TEAM

[21]

Description

This research has developed a suite of case studies. In each case, interviews/workshops have been conducted with members of the, now, wide-spread Indigenous Ranger Groups (IRGs) to ascertain the aspirations, willingness and capacity of the Indigenous Rangers to engage in emergency management activities. The main identified issues across the selected remote communities include little engagement of locals, if any, in managing emergency situations around the community, inappropriate placement of emergency management plans in police stations, lack of resources and services in remote communities, broader recognition of IRGs capacity to deliver emergency management services, and willingness of IRGs to participate in EM services.

This research continues the service delivery program of land management, monitoring and evaluation tools to assist fire managers in remote north Australia. To develop "Improved Fire Management Regimes", the research team provides information with respect to the spatial distribution, and effects of fires on tropical savanna and rangeland habitats through the Savanna Monitoring & Evaluation Reporting Framework (SMERF). In particular, they include the development of a fire severity map product, not only to inform land management, but to improve Savanna Burning greenhouse gas emissions calculations.

This project addresses ongoing priorities identified by partner agencies and community stakeholders requiring further action-based research and implementation, especially addressing:

- Understanding the full "costs and benefits" of engaging with IRGs in delivery of effective emergency management in remote community settings
- Full accounting of the costs of natural hazards and disasters in northern Australia
- Ongoing development of tools to assist savanna fire managers, for example: fire behavior models, improved fire mapping resolution, curing mapping.

[Read the final report here.](#) [22]

Download:

 Savanna fire management for north Australia – project overview [23]

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EMERGENCY MANAGEMENT, INDIGENOUS COMMUNITIES

[24]



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[25]



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[26]



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[27]



17 NOV 2020

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INDIGENOUS COMMUNITIES, LOCAL KNOWLEDGE

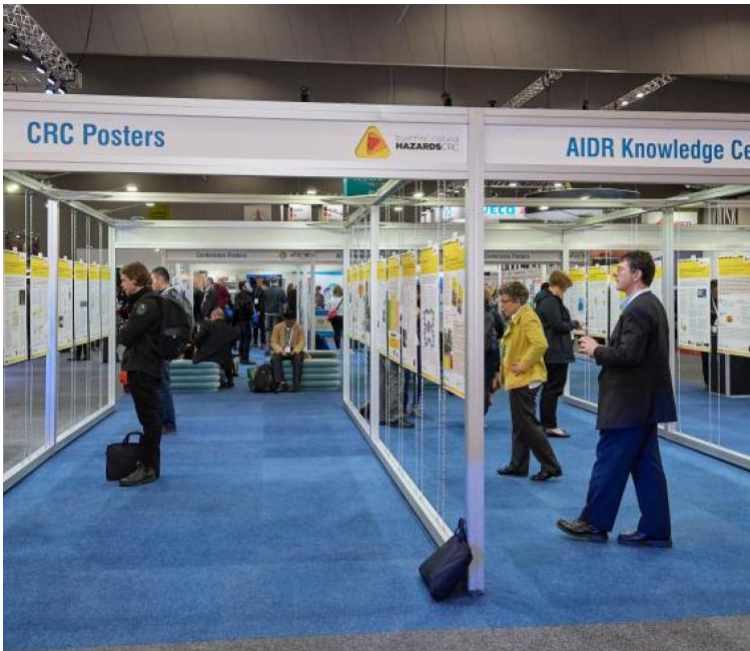
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25 SEP 2020

[30]



Savanna fire
FRAMEWORK, FUEL REDUCTION

01 JUN 2020

[31]



New online - May 2020
COMMUNICATION, EMERGENCY MANAGEMENT

21 MAY 2020

[32]



New online - March 2020
COMMUNICATION, EMERGENCY MANAGEMENT

19 MAR 2020

[33]



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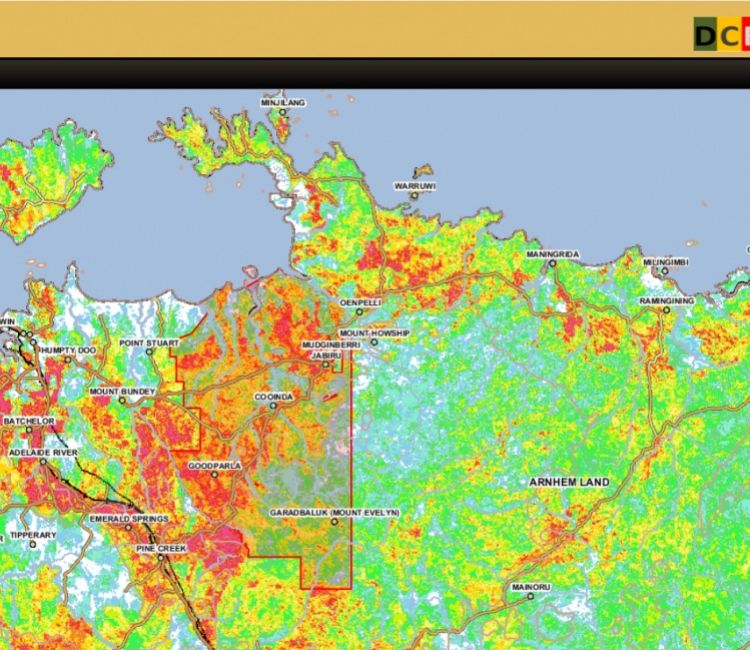
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FORECASTING, MITIGATION

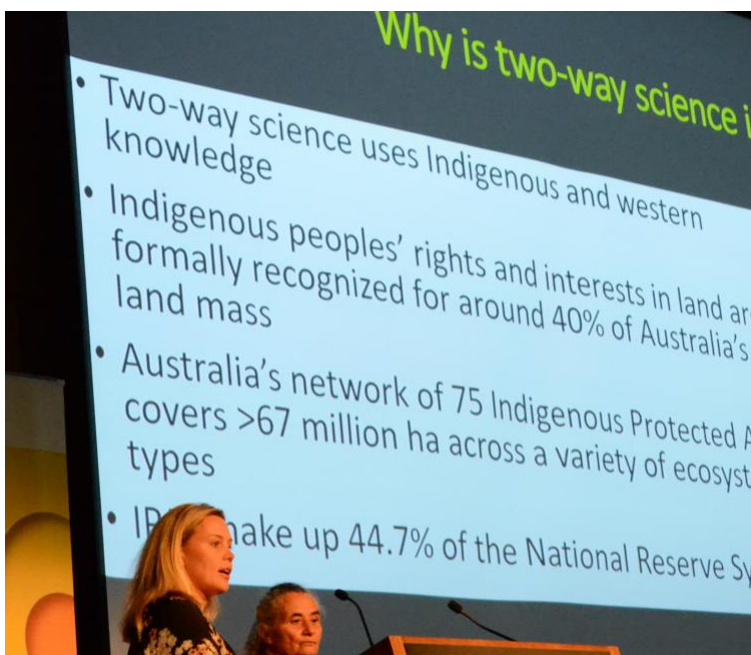
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[40]



Global fire focus on diversity, cultural burning and communities
COMMUNITIES, DIVERSITY AND INCLUSION

15 MAY 2019

[41]



10 MAY 2019

Community and economic impact of Black Saturday investigated in Journal
COMMUNITIES, DIVERSITY AND INCLUSION

[42]



19 MAR 2019

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[43]



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[44]



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31 MAY 2018

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18 DEC 2017

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FIRE, NORTHERN AUSTRALIA

[48]



24 NOV 2017

Updates from north Australia research
COMMUNITIES, FIRE

[49]



New online - November 2017

17 NOV 2017

[50]



New online - October 2016

13 OCT 2016

[51]



26 FEB 2016

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FIRE IMPACTS, FIRE SEVERITY

[52]



25 FEB 2016

Measuring trees and fire in the Top End
FIRE SEVERITY, NORTHERN AUSTRALIA

[53]



18 FEB 2016

Partners get northern research update
COMMUNICATION, INDIGENOUS COMMUNITIES

[54]



16 JUL 2015

Book explores a new industry based on fire in the north
FIRE SEVERITY, INDIGENOUS COMMUNITIES

[55]



Top end resilience discussed
INDIGENOUS COMMUNITIES, NORTHERN AUSTRALIA

05 JUN 2015

[56]

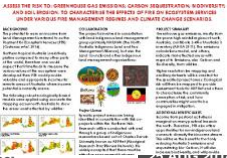
Publications

Year	Type	Citation
2022	Journal Article	Russell-Smith, J. [6] <i>et al.</i> Empowering Indigenous natural hazards management in northern Australia [57]. <i>Ambio</i> (2022). doi:https://doi.org/10.1007/s13280-022-01743-x DOI [58] Google Scholar
2021	Journal Article	Sangha, K. [12], Russell-Smith, J. [6], Edwards, A. C. [8] & Surjan, A. [62] Assessing the real costs of natural hazard-induced disasters: A case study from Australia's Northern Territory [63]. <i>Natural Hazards</i>
2020	Journal Article	Russell-Smith, J. [6], McCaw, L. W. [68] & Leavesley, A. J. [69] Adaptive prescribed burning in Australia for the early 21st Century – context, status, challenges [70]. <i>International Journal of Wildland Fire</i>
2020	Journal Article	Yates, C. P. [9], MacDermott, H. [75], Evans, J. [76], Murphy, B. P. [77] & Russell-Smith, J. [6] Seasonal fine fuel and coarse woody debris dynamics in north Australian savannas [78]. <i>International Journal of Wildland Fire</i>
2020	Report	Russell-Smith, J. [6], Sangha, K. [12] & Edwards, A. C. [8] Savanna fire management and bushfire and natural hazard scenario planning for north Australia [83]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [84]
2020	Report	Russell-Smith, J. [6], Sangha, K. [12] & Edwards, A. C. [8] Building capacity in north Australian remote communities - utilisation project report [87]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [88]
2020	Report	Russell-Smith, J. [6], Sangha, K. [12] & Edwards, A. C. [8] Scenario planning for remote community risk management in northern Australia - final project report [22]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [23]
2019	Journal Article	Sangha, K. [12], Edwards, A. C. [8] & Russell-Smith, J. [6] Long-term solutions to improve emergency management services in remote communities in northern Australia [94]. <i>Australian Journal of Emergency Management</i>
2019	Journal Article	Russell-Smith, J. [6], Edwards, A. C. [8], Sangha, K. [12], Yates, C. P. [9] & Gardener, M. [98] Challenges for prescribed fire management in Australia's fire-prone rangelands – the example of the Northern Territory [99]. <i>International Journal of Wildland Fire</i>
2019	Journal Article	Evans, J. [76] & Russell-Smith, J. [6] Delivering effective savanna fire management for defined biodiversity conservation outcomes: an Arnhem Land case study [104]. <i>International Journal of Wildland Fire</i>
2019	Journal Article	Russell-Smith, J. [6] <i>et al.</i> Tree recruitment dynamics in fire-prone eucalypt savanna [109]. <i>Ecosphere</i> 10 , e02649 (2019). DOI [110] Google Scholar [111] BibTeX [112] EndNote XML [113]
2019	Report	Edwards, A. C. [8] Multi-scaled calibration of high-resolution burnt area and fire severity mapping - workshop report [114]. (Bushfire and Natural Hazards CRC, 2019). Google Scholar [115] BibTeX [116]
2018	Journal Article	Setterfield, S. A. [18], Rossiter-Rachor, N. [16] & Adams, V. M. [21] Navigating the fiery debate: the role of scientific evidence in eliciting policy and management responses for contentious planning [120]. <i>International Journal of Wildland Fire</i>
2018	Journal Article	Edwards, A. C. [8], Russell-Smith, J. [6] & Maier, S. [17] A comparison and validation of satellite-derived fire severity mapping techniques in fire prone north Australian savannas: Extreme fire events [121]. <i>International Journal of Wildland Fire</i>
2018	Journal Article	Lynch, E. [128], Russell-Smith, J. [6], Edwards, A. C. [8], Evans, J. [76] & Yates, C. P. [9] Incentivising fire management in Pindan (Acacia shrubland): A proposed fuel type for Australia's Savanna [129]. <i>International Journal of Wildland Fire</i>
2018	Journal Article	Russell-Smith, J. [6] & Sangha, K. [12] Emerging opportunities for developing a diversified land sector economy in Australia's northern savannas [134]. <i>The Rangeland Journal</i> 40 , 315-330 (2018). DOI [135]
2018	Report	Setterfield, S. A. [18] & Rossiter-Rachor, N. [16] Savanna fire management and bushfire and natural hazard scenario planning for northern Australia annual project report part two: managing fire risk [136]. (Bushfire and Natural Hazards CRC, 2018). Google Scholar [137]
2017	Journal Article	Freeman, J. [143], Edwards, A. C. [8] & Russell-Smith, J. [6] Fire-driven decline of endemic <i>Allosyncarpia</i> monsoon rainforests in Northern Australia [144]. <i>Forests</i> 8 , (2017). DOI [145] Google Scholar [146]
2017	Journal Article	Sangha, K. [12] & Russell-Smith, J. [6] Towards an Indigenous ecosystem services valuation framework: a north Australian example [149]. <i>Conservation and Society</i> 15 , 255-269 (2017). DOI [150]
2017	Journal Article	Russell-Smith, J. [6], Evans, J. [76], Edwards, A. C. [8] & Simms, A. [154] Assessing ecological performance thresholds in fire prone Kakadu National Park, northern Australia [155]. <i>Ecosphere</i> 8 , (2017). DOI [156]
2017	Report	Russell-Smith, J. [6] Savanna fire management and bushfire and natural hazard scenario planning for northern Australia: annual project report 2016-17 [160]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [161]
2016	Report	Russell-Smith, J. [6], Yates, C. P. [9] & Edwards, A. C. [8] Savanna fire management and bushfire and natural hazard scenario planning for northern Australia: annual project report 2015-2016 [162]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [163]
2015	Conference Paper	Rumsewicz, M. [168] Research proceedings from the 2015 Bushfire and Natural Hazards CRC & AFAC conference [169]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2015 (Bushfire and Natural Hazards CRC & AFAC annual conference 2015)</i> [170]. DOI [171]
2015	Conference Paper	Edwards, A. C. [8], Russell-Smith, J. [6], Sangha, K. [12] & Yates, C. P. [9] Culturally appropriate mapping tools for informing two-way fire management planning in remote indigenous north Australia [172]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2015 (Bushfire and Natural Hazards CRC & AFAC annual conference 2015)</i> [173]. DOI [174]
2015	Journal Article	Edwards, A. C. [8], Russell-Smith, J. [6] & Meyer, C. P. (Mick) [177]. Contemporary fire regime risks to key ecological assets and processes in north Australian savannas [178]. <i>International Journal of Wildland Fire</i>
2015	Report	Russell-Smith, J. [6] & Edwards, A. C. [8] Savanna fire management and scenario planning for North Australia: Annual project report 2014-2015 [183]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [184]

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11 Sep 2015	Savanna fire management and bushfire and natural hazard scenario planning for North Australia [198]	16.09 MB	Australia [191], planning [3]
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Posters




[262]

29 AUG 2014

Assessing ecological risk with indigenous communities: Tropical savannas Northern Australia

This project builds upon substantial work previously undertaken within the facility of the Bushfire CRC ...



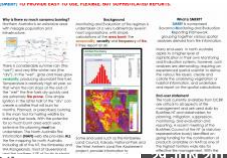
[263]

14 AUG 2016

The Savanna burning project

SAVANNA GRASSLANDS [192]

Providing mapping tools from detailed research, modelling and analysis of the occurrence and effects of fire...



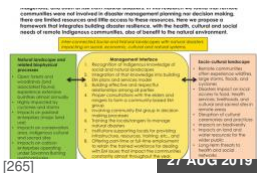
[264]

29 JUN 2017

The Savanna Monitoring & Evaluation Reporting Framework (SMERF)

FUEL REDUCTION [2], PLANNING [3]

The work undertaken through the Bushfire and Natural Hazards CRC is part of a savanna-wide program of mostly...



A joint platform to manage natural disasters in remote locations

[265]
NORTHERN AUSTRALIA [191]

North Australia is at risk from bushfires, cyclones, storms and floods. In 2016-17 the average cost of major...



Scenario Planning for Remote Community Risk Management in northern Australia

[266]
FIRE [196], NORTHERN AUSTRALIA [191]

Key findings: Long term support from Fire and Emergency Services Agencies is necessary to develop the...



Savanna Monitoring & Evaluation Reporting Framework

[267]
FUEL REDUCTION [2], PLANNING [3]

Linked Projects

Remote sensing of tree structure and biomass in north Australian mesic savanna

[268]
PRESCRIBED BURNING AND CATCHMENT MANAGEMENT [269]

Dr Grigorij Goldbergs
Charles Darwin University [7]



[7]

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