



Lake Mountain landscape post Black Saturday fires

Key Topics:

- fire [2]
- fire impacts [3]
- remote sensing [4]

Mapping bushfire hazard and impacts [5]


Over six years, the project used cutting-edge technology to produce near-real-time spatial information on fuel condition, fire hazard and impact to support a wide range of fire risk management and response activities such as hazard reduction burning and pre-positioning firefighting resources and, in the longer term, the new Australian Fire Danger Rating System. Based on the research findings, the researchers have produced the Australian Flammability Monitoring System, an interactive map of immediate fire danger associated with landscape dryness, which uses satellites to collect information about moisture content in trees, shrubs and grass, and assists with prescribed burning efforts and assessment of firefighting resources.

Project: detail Notabs


Research team

Research leader

[6]



A/Prof Marta Yebra
[6]
RESEARCH LEADER




THE AUSTRALIAN NATIONAL UNIVERSITY

[7]


Research team

[8]



Prof Albert van Dijk
[8]
RESEARCH TEAM

[9]



A/Prof Geoff Cary
[9]
RESEARCH TEAM

[7]



[7]



End User representatives

[10]



Andrew Grace
[10]
END-USER



[11]

[12]



Dr Adam Leavesley
[12]
END-USER



[13]

[14]



Ali Walsh
[14]
END-USER



[15]

[16]



Bruno Greimel
[16]
END-USER



[17]

[18]



Belinda Kenny
[18]
END-USER



[19]

[20]



Bruce Murrell
[20]
END-USER



[21]

[22]



David Hudson
[22]
END-USER



[23]

[24]

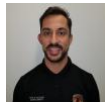


David Taylor
[24]
END-USER



[25]

[26]



Dr Felipe Aires
[26]
END-USER



[19]

[27]



Frank Crisci
[27]
END-USER



[15]

[28]



Frederick Ford
[28]
END-USER



[29]

[30]



Matt Chesnais
[30]
END-USER



[17]

[31]



Michael Konig
[31]
END-USER



[21]

[32]



Maggie Tran
[32]
END-USER



[23]

[33]



Neil Cooper
[33]
END-USER



[34]

[35]



Robert Preston
[35]
END-USER



[36]

[37]



Dr Simon Heemstra
[37]
END-USER



[38]

[39]



Dr Stuart Matthews
[39]
END-USER



[38]

[40]



Simeon Telfer
[40]
END-USER




Government of South Australia
Department for Environment
and Water


[41]

Student researchers

[42]




Dr Andrea Massetti
[42]
STUDENT RESEACHER




[43]

[44]



Li Zhao
[44]
STUDENT RESEACHER



[7]

Description

Understanding and predicting fire behaviour is a priority for fire agencies, land managers and sometimes individual businesses and residents. This is an enormous scientific challenge given bushfires are complex processes, with their behaviour and resultant severity driven by complicated interactions involving vegetation, topography and weather conditions.

A good understanding of fire risk across the landscape is critical in preparing and responding to bushfires and managing fire regimes, and this understanding will be enhanced by remote sensing data. However, the vast array of spatial data sources available is not being used very effectively in fire management.

This project uses cutting-edge technology and imagery to produce spatial information on fire hazard and impacts needed by planners, land managers and emergency services to manage fire at landscape scales. The team works closely with agencies to better understand their procedures and information needs, comparing these with the spatial data and mapping methods that are readily available, and developing the next generation of mapping technologies to help them prepare and respond to bushfires.

The project is focused on two related activities:


1. Fire hazard mapping and monitoring – this focuses on spatial information of fuel load, structure that can assist fire preparedness through better fire danger ratings and fire behaviour predictions. This supports logistics and resources planning by emergency services, and can also improve fire management by helping guide activities such as scheduling and implementing prescribed burning.
2. Fire impacts on landscape values – land managers also need spatial information on the expected fire impacts on landscape values, such as water resources, carbon storage, habitat and remaining fuel load.

The team has developed, tested and published software to classify a dense point cloud derived from a mobile laser scanner into different vegetation components: ground returns, near-surface vegetation, elevated understory vegetation (shrubs), tree trunks and tree canopy. The resulting classified point cloud is used to automatically derive information on the different fuel components that are important for fire hazard assessment such as total biomass, fractional cover and height. These results open a pathway of automatically deriving detailed vegetation structure information from ground-based LiDAR.

The team have also developed a pre-operational near-real time flammability data service (The Australian Flammability Monitoring System) to support fire risk management and response activities such as hazard reduction burning and pre-positioning firefighting resources and, in the long term, the new National Fire Danger Rating System.

[Read the final report here.](#) [45]

Related News



Recovery research honoured with Resilient Australia Award

COMMUNITIES, RECOVERY

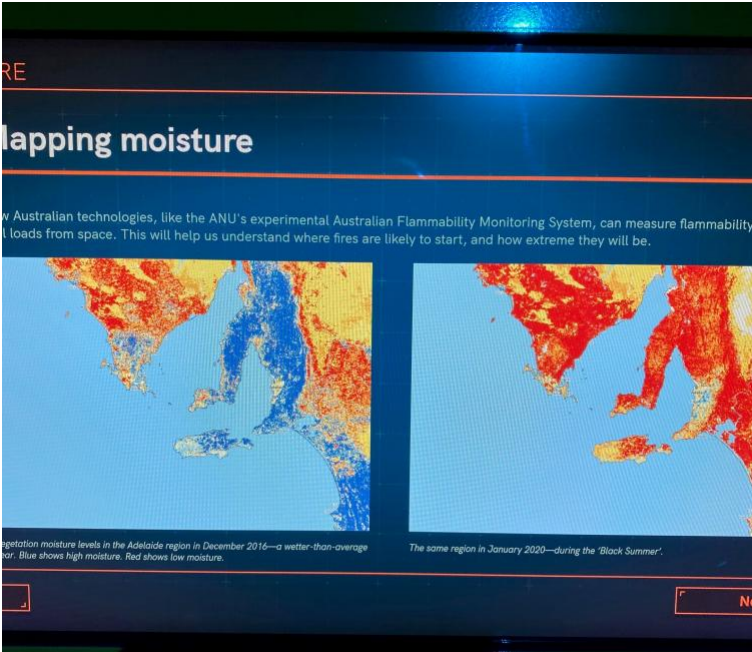
14 DEC 2021



New online - June 2021
LAND MANAGEMENT, MENTAL HEALTH

24 JUN 2021

[47]



Space exhibitions feature CRC research
FIRE, FIRE IMPACTS

01 APR 2021

[48]



28 JAN 2021

New online - January 2021
COMMUNICATION, EMERGENCY MANAGEMENT

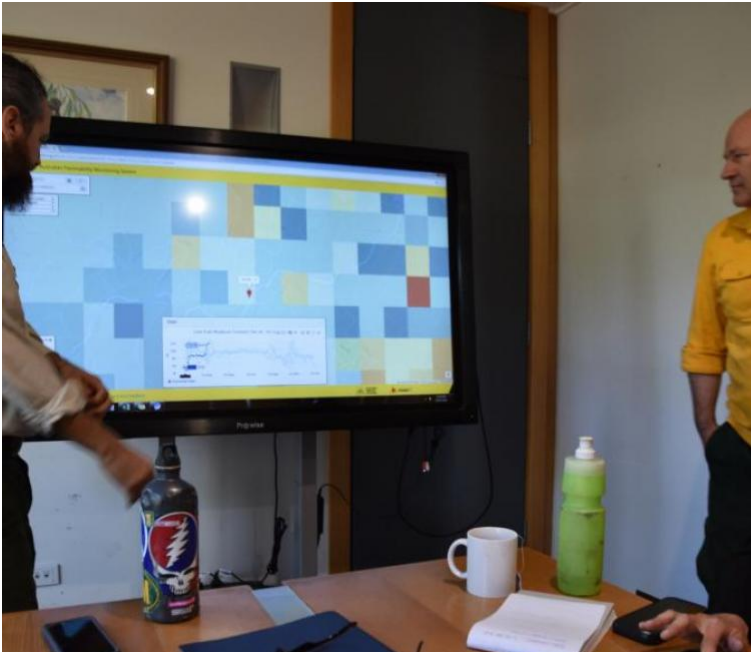
[49]



09 DEC 2020

International awards for CRC experts
FIRE IMPACTS, FIRE WEATHER

[50]



18 NOV 2020

Establishing a wider view of impact
LOCAL KNOWLEDGE

[51]



20 OCT 2020

New online - October 2020
COMMUNICATION, EMERGENCY MANAGEMENT

[52]



CRC researchers recognised as science leaders
EMERGENCY MANAGEMENT, HYDROLOGY

08 OCT 2020

[53]



New online - June 2020
COMMUNICATION, EMERGENCY MANAGEMENT

25 JUN 2020

[54]



New online - May 2020
COMMUNICATION, EMERGENCY MANAGEMENT

21 MAY 2020

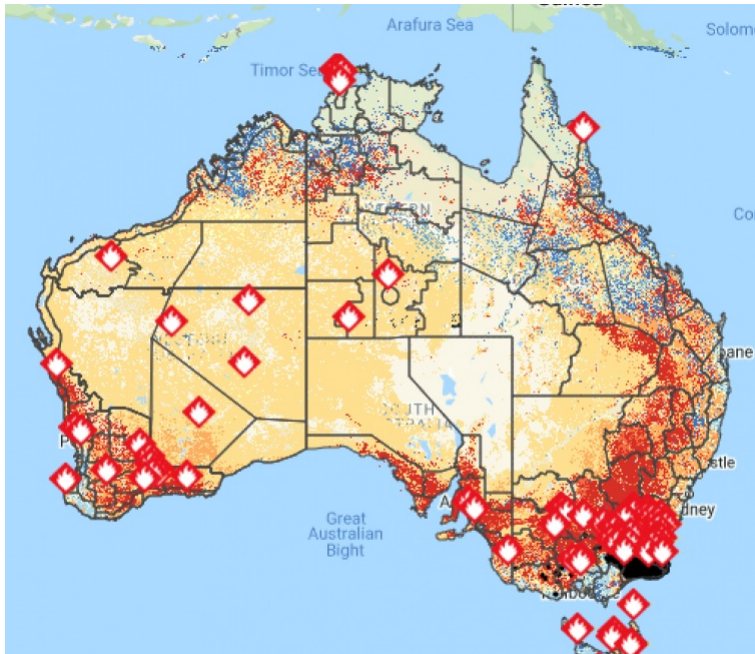
[55]



If you're worried about bushfires but want to keep your leafy garden, follow these tips
ENVIRONMENTS, FUEL REDUCTION

01 APR 2020

[56]



Disaster inquiries and assessing flammability popular online
FIRE IMPACTS, REMOTE SENSING

17 FEB 2020

[57]



Science Roundtable meets on bushfires
FIRE, FIRE IMPACTS

13 FEB 2020

[58]



Special edition Monographs share AFAC19 science
EMERGENCY MANAGEMENT, LAND MANAGEMENT

11 DEC 2019

[59]



CRC science making national impact
FIRE, FIRE SEVERITY

19 NOV 2019

[60]



Predictive services research spotlighted
EMERGENCY MANAGEMENT, FORECASTING

23 OCT 2019

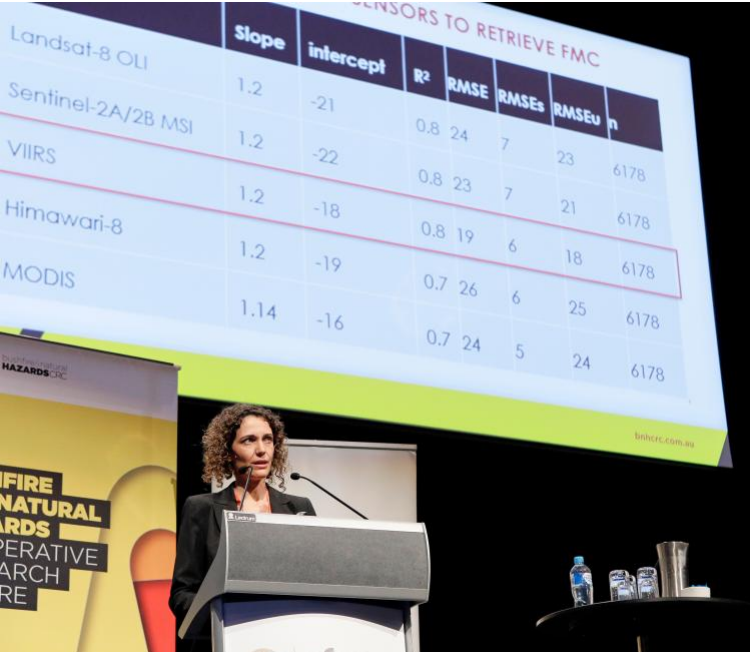
[61]



New online - October 2019
EMERGENCY MANAGEMENT, ENGINEERING

09 OCT 2019

[62]



Dr Marta Yebrá: Balancing a thriving career and a rich personal life
FIRE IMPACTS, REMOTE SENSING

02 OCT 2019

[63]



New online - September 2019
EMERGENCY MANAGEMENT, MULTI-HAZARD

11 SEP 2019

[64]



09 SEP 2019

Global database published in prestigious journal
FIRE, FIRE IMPACTS

[65]



28 AUG 2019

Outstanding achievements awarded at AFAC19
FIRE IMPACTS, REMOTE SENSING

[66]



23 AUG 2019

Our new global plant water status database may prevent you from needing to fieldwork. What will you miss?
EMERGENCY MANAGEMENT, FIRE

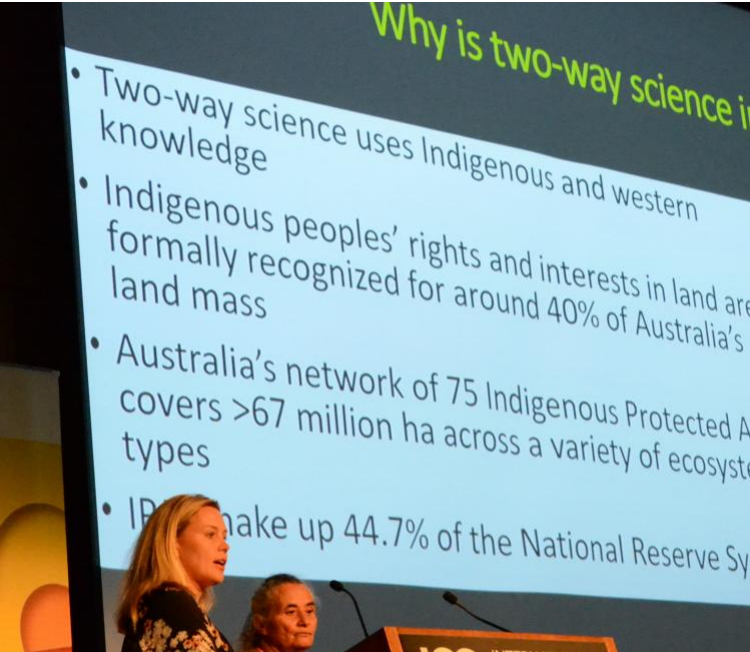
[67]



24 JUL 2019

New online - July 2019
EMERGENCY MANAGEMENT, FIRE

[68]



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

15 MAY 2019

[69]



Prescribed burning research warm up to conference
FORECASTING, MITIGATION

15 MAY 2019

[70]



19 MAR 2019

New online - March 2019
EMERGENCY MANAGEMENT, FIRE

[71]



19 DEC 2018

CRC scientists leading the way
DIVERSITY AND INCLUSION, FIRE

[72]



18 DEC 2018

New online - December 2018
EMERGENCY MANAGEMENT, MODELLING

[73]



12 DEC 2018

Satellites to help show when the bush is ready to burn
FIRE, REMOTE SENSING

[74]



15 NOV 2018

New online – November 2018
EARTHQUAKE, MODELLING

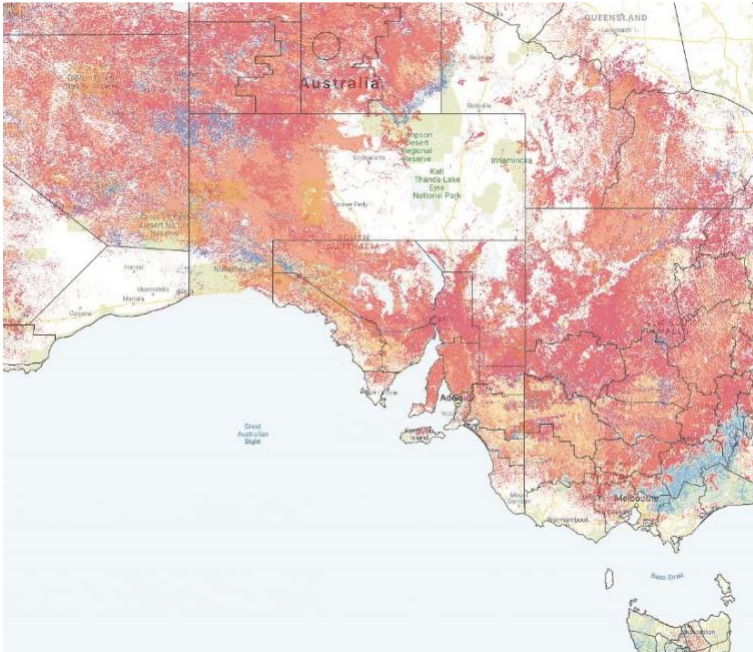
[75]



18 SEP 2018

Conference papers available online
EMERGENCY MANAGEMENT, MULTI-HAZARD

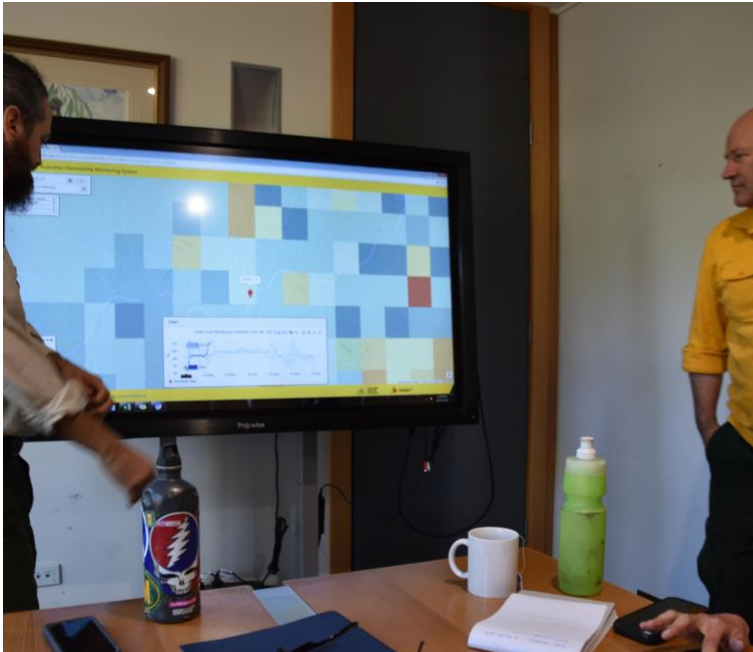
[76]



Preparedness measures on land and sea
COASTAL, FIRE

13 SEP 2018

[77]



Satellites to help show when the bush is ready to burn
FIRE, MODELLING

12 SEP 2018

[78]



New online - May 2018

21 MAY 2018

[79]



New online - November 2017

17 NOV 2017

[80]



New online - September 2017

13 SEP 2017

[81]



Prestigious gong for researcher
FIRE, FIRE IMPACTS

21 JUN 2017

[82]



29 MAR 2017

Can we predict bushfires from space?
FIRE, FIRE IMPACTS

[83]



15 MAR 2017

Researcher wins accolade
FIRE, PRESCRIBED BURNING

[84]



19 DEC 2016

New online - December 2016
EMERGENCY MANAGEMENT, LAND MANAGEMENT

[85]



11 NOV 2016

Increasing cost of natural hazards as climate changes
FIRE, FIRE SEVERITY

[86]



New online - October 2016

13 OCT 2016

[87]



Scan and burn in the ACT
FUEL REDUCTION, LAND MANAGEMENT























14 APR 2015

[88]

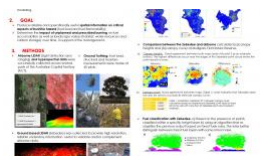
Publications

Year	Type	Citation
2021	Journal Article	Kumar, V. [89], Dharssi, I. [90], Yebra, M. [91] & Fox-Hughes, P. [92] Continental-scale prediction of live fuel moisture content using soil moisture information [93]. <i>Agricultural and Forest Meteorology</i> 298-299 , (2021). DOI [94]
2021	Journal Article	Zhao, L. [44] <i>et al.</i> The influence of soil moisture on surface and sub-surface litter fuel moisture simulation at five Australian sites [98]. <i>Agricultural and Forest Meteorology</i> 298-299 , (2021). DOI [99]
2020	Journal Article	Chuvieco, E. [103] <i>et al.</i> Satellite Remote Sensing Contributions to Wildland Fire Science and Management [104]. <i>Current Forestry Reports</i> (2020). doi:https://doi.org/10.1007/s40725-020-00116-5
2020	Journal Article	Garcia-Haro, F. Javier [109] <i>et al.</i> A global canopy water content product from AVHRR/Metop [110]. <i>Remote Sensing</i> 162 , 77-93 (2020). DOI [111] Google Scholar [112] BibTeX [113] EndNote XML [114]
2020	Journal Article	Garcia, M. [115] <i>et al.</i> A Live Fuel Moisture Content Product from Landsat TM Satellite Time Series for Implementation in Fire Behavior Models [116]. <i>Remote Sensing</i> 12 , (2020). DOI [117] Google Scholar [118] BibTeX [119] EndNote XML [120]
2020	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping bushfire hazard and impacts – final project report [45]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [121] BibTeX [122] EndNote XML [123]
2019	Conference Paper	Engel, C. [124], Matthews, S. [39], Jones, S. [125] & Reinke, K. [126] Detecting active fires from space using Himawari-8: a report from the regional New South Wales trial [127]. <i>AFAC19 powered by the CRC for Bushfire and Natural Hazards</i> (2019). Google Scholar [128] BibTeX [129] EndNote XML [130]
2019	Conference Paper	van Dijk, A. [8], Yebra, M. [91], Cary, G. J. [9] & Shah, S. [132] Towards comprehensive characterisation of flammability and fire danger [133]. <i>Bushfire and Natural Hazards CRC Research Day Abstracts</i> (2019). Google Scholar [134] BibTeX [135] EndNote XML [136]
2019	Journal Article	Wang, L. [137] <i>et al.</i> Assessment of the Dual Polarimetric Sentinel-1A Data for Forest Fuel Moisture Content Estimation [138]. <i>Remote Sensing</i> 11 , (2019). DOI [139] Google Scholar [140] BibTeX [141] EndNote XML [142]
2019	Journal Article	Chuvieco, E. [103] <i>et al.</i> Historical background and current developments for mapping burned area from satellite Earth observation [143]. <i>Remote Sensing of Environment</i> 225 , 45-64 (2019). DOI [144] Google Scholar [145] BibTeX [146] EndNote XML [147]
2019	Journal Article	Massetti, A. [42], Rüdiger, C. [148], Yebra, M. [91] & Hilton, J. [149] The Vegetation Structure Perpendicular Index (VSPi): A forest condition index for wildlife predictions [150]. <i>Remote Sensing of Environment</i> 225 , 107-120 (2019). DOI [151] Google Scholar [152] BibTeX [153] EndNote XML [154]
2019	Journal Article	Yebra, M. [91] <i>et al.</i> Globe-LFMC, a global plant water status database for vegetation ecophysiology and wildfire applications [155]. <i>Scientific Data</i> 6 , (2019). DOI [156] Google Scholar [157] BibTeX [158] EndNote XML [159]
2019	Report	Yebra, M. [91], van Dijk, A. [8], Cary, G. J. [9], Zhao, L. [44] & Zeng, H. [160] Mapping bushfire hazards and impacts annual report 2018-2019 [161]. (Bushfire and Natural Hazards CRC, 2019). Google Scholar [162] BibTeX [163] EndNote XML [164]
2019	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping Bushfire Hazard and Impacts Annual Report 2017-2018 [165]. (Bushfire and Natural Hazards CRC, 2019). Google Scholar [166] BibTeX [167] EndNote XML [168]
2018	Conference Paper	Bates, J. [169] Research proceedings from the 2018 Bushfire and Natural Hazards CRC and AFAC Conference [170]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2017</i> (Bushfire and Natural Hazards CRC, 2018). Google Scholar [171] BibTeX [172] EndNote XML [173]
2018	Conference Paper	Leavesley, A. J. [12], van Dijk, A. [8] & Yebra, M. [91] A lidar-derived fuel map for the ACT [174]. <i>AFAC18</i> (Bushfire and Natural Hazards CRC, 2018). Google Scholar [175] BibTeX [176] EndNote XML [177]
2018	Journal Article	Yebra, M. [91] <i>et al.</i> A fuel moisture content and flammability monitoring methodology for continental Australia based on optical remote sensing [178]. <i>Remote Sensing of Environment</i> 212 , 107-120 (2018). DOI [179] Google Scholar [180] BibTeX [181] EndNote XML [182]
2018	Journal Article	Chen, X. [183] <i>et al.</i> Estimating fire severity and carbon emissions over Australian tropical savannahs based on passive microwave satellite observations [184]. <i>International Journal of Remote Sensing</i> 39 , 107-120 (2018). DOI [185] Google Scholar [186] BibTeX [187] EndNote XML [188]
2018	Journal Article	Liu, X. [189] <i>et al.</i> Near real-time extracting wildfire spread rate from Himawari-8 satellite data [190]. <i>Remote Sensing</i> 10 , 1654 (2018). DOI [191] Google Scholar [192] BibTeX [193] EndNote XML [194]
2018	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Australian Flammability Monitoring System Version 1.0: User feedback and priorities for further development [195]. (Bushfire and Natural Hazards CRC, 2018). Google Scholar [196] BibTeX [197] EndNote XML [198]
2018	Report	Yebra, M. [91], Cary, G. J. [9] & van Dijk, A. [8] Mapping bushfire hazards and impacts: annual project report 2017-18 [199]. (Bushfire and Natural Hazards CRC, 2018). Google Scholar [200] BibTeX [201] EndNote XML [202]
2018	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Evaluation of the feasibility and benefits of operational use of alternative satellite data in the Australian Flammability Monitoring System to ensure fire management [203]. (Bushfire and Natural Hazards CRC, 2018). Google Scholar [204] BibTeX [205] EndNote XML [206]
2017	Conference Paper	Yebra, M. [91] <i>et al.</i> The Australian Flammability Monitoring System [207]. <i>AFAC17</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [208] BibTeX [209] EndNote XML [210]
2017	Conference Paper	Rumsewicz, M. [211] Research proceedings from the 2017 Bushfire and Natural Hazards CRC and AFAC Conference [212]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2017</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [213] BibTeX [214] EndNote XML [215]
2017	Journal Article	Quan, X. [216] <i>et al.</i> Retrieval of forest fuel moisture content using a coupled radiative transfer model [217]. <i>Environmental Modelling & Software</i> 95 , 290-302 (2017). DOI [218] Google Scholar [219] BibTeX [220] EndNote XML [221]
2017	Journal Article	Quan, X. [216] <i>et al.</i> A radiative transfer model-based method for the estimation of grassland aboveground biomass [222]. <i>International Journal of Applied Earth Observation and Geoinformation</i> 55 , 107-120 (2017). DOI [223] Google Scholar [224] BibTeX [225] EndNote XML [226]
2017	Journal Article	Holgate, C. M. [227], van Dijk, A. [8], Cary, G. J. [9] & Yebra, M. [91] Using alternative soil moisture estimates in the McArthur Forest Fire Danger Index [228]. <i>International Journal of Wildland Fire</i> 26 , 107-120 (2017). DOI [229] Google Scholar [230] BibTeX [231] EndNote XML [232]
2017	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping bushfire hazards and impacts: annual project report 2016-17 [233]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [234] BibTeX [235] EndNote XML [236]
2016	Journal Article	Marselis, S. [237], Yebra, M. [91], Jovanovic, T. [238] & van Dijk, A. [8] Deriving comprehensive forest structure information from mobile laser scanning observations using automated point cloud classification [239]. <i>Remote Sensing of Environment</i> 186 , 107-120 (2016). DOI [240] Google Scholar [241] BibTeX [242] EndNote XML [243]
2016	Journal Article	Kiem, A. S. [244] <i>et al.</i> Natural hazards in Australia: droughts [245]. <i>Climatic Change</i> 139 , 37-54 (2016). DOI [246] Google Scholar [247] BibTeX [248] EndNote XML [249]
2016	Journal Article	Johnson, F. [250] <i>et al.</i> Natural hazards in Australia: floods [251]. <i>Climatic Change</i> 139 , 21-35 (2016). DOI [252] Google Scholar [253] BibTeX [254] EndNote XML [255]
2016	Journal Article	Holgate, C. M. [227] <i>et al.</i> Comparison of remotely sensed and modelled soil moisture data sets across Australia [256]. <i>Remote Sensing of Environment</i> 186 , (2016). DOI [257] Google Scholar [258] BibTeX [259] EndNote XML [260]
2016	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping bushfire hazard and impacts: Annual project report 2015-2016 [261]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [262] BibTeX [263] EndNote XML [264]
2015	Journal Article	Yebra, M. [91], van Dijk, A. [8], Leuning, R. [265] & Guerschman, J. Pablo [266]. Global vegetation gross primary production estimation using satellite-derived light-use efficiency and canopy cover [267]. <i>Remote Sensing of Environment</i> 162 , 107-120 (2015). DOI [268] Google Scholar [269] BibTeX [270] EndNote XML [271]
2015	Presentation	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping bushfire hazard and impact [272]. (2015). Google Scholar [273] BibTeX [274] EndNote XML [275]
2015	Report	Yebra, M. [91], Marselis, S. [237], van Dijk, A. [8], Cary, G. J. [9] & Chen, Y. [276] Using LiDAR for forest and fuel structure mapping: options, benefits, requirements and costs [277]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [278] BibTeX [279] EndNote XML [280]
2015	Report	van Dijk, A. [8] Mapping Bushfire Hazard and Impacts Annual Report 2014 [281]. (2015). Google Scholar [282] BibTeX [283] EndNote XML [284]
2015	Report	Yebra, M. [91], van Dijk, A. [8] & Cary, G. J. [9] Mapping bushfire hazard and impacts: Annual project report 2014-2015 [285]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [286] BibTeX [287] EndNote XML [288]
2015	Report	van Dijk, A. [8], Yebra, M. [91] & Cary, G. J. [9] A model-data fusion framework for estimating fuel properties, vegetation growth, carbon storage and the water balance at hillslope scale [289]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [290] BibTeX [291] EndNote XML [292]

Presentations & Resources

DATE [293]	TITLE [294]	DOWNLOAD	KEY TOPICS
21 Mar 2014	Monitoring and prediction [295]	 7.35 MB	[296]x7 (297 MB)
04 Dec 2014	Mapping bushfire hazard and impact [300]	 1.44 MB	[301] (1.44 MB)
03 Apr 2016	Monitoring and prediction - cluster overview [304]	 0 bytes	[305] (0 bytes) [306]
24 Oct 2016	Mapping bushfire hazard and impact [308]	 1.81 MB	[309] (1.81 MB)
28 Nov 2016	Monitoring and predicting natural hazards [310]	 853.18 KB	[311] (853.18 KB) [312]
29 Mar 2017	Can we predict bushfires from space?—Dr Marta Yebra [313]	 0 bytes	[314] (2 bytes) m
07 Jul 2017	Building bushfire predictive services capability [315]	 9.97 MB	[316] (9.97 MB) k
07 Jul 2017	Building bushfire predictive services capability - Simon Heemstra [318]	 0 bytes	[319] (2 bytes) m
07 Sep 2017	The Australian Flammability Monitoring System [320]	 1.49 MB	[321] (2.49 MB) h
31 Oct 2017	Mapping bushfire hazards and impacts: developing spatial information on fire hazard for planners, land managers and emergency services [322]	 1.32 MB	[323] (2.32 MB) h
31 Oct 2017	Prescribed burning and predictive services [324]	 4.46 MB	[325] (2.46 MB) h
03 Apr 2018	Australian Flammability Monitoring System: AFAC webinar [327]	 0 bytes	[328] (2 bytes) m
12 Sep 2018	Fire Australia Issue Three 2018 [329]	 19.49 MB	[330] (19.49 MB) B
18 Sep 2018	A LiDAR-derived fuel map for the ACT [333]	 1.88 MB	[334] (2.88 MB) i
18 Sep 2018	Multi-temporal and spatial remote sensing imagery to monitor flammability in Australia [335]	 3.56 MB	[336] (3.56 MB) h
23 Nov 2018	Mapping bushfire hazard and impacts [337]	 5.9 MB	[338] (2.9 MB) m
29 Jul 2019	Remote sensing data with Dr Marta Yebra [339]	 0 bytes	[340] (0 bytes) er
27 Aug 2019	Towards comprehensive characterisation of flammability and fire danger In the Australian Flammability Monitoring System [341]	 3.57 MB	[342] (3.57 MB) B
27 Aug 2019	QFES response to the 2018 fires [343]	 2.24 MB	[344] (2.24 MB) h
17 Oct 2019	Mapping bushfire hazard and impacts [345]	 8.51 MB	[346] (2.51 MB) h
25 Nov 2020	Satellites to help show when the bush is ready to burn [348]		fire [2], remot
26 Nov 2020	AFAC Webinar: Future of the Australian Flammability Monitoring System [350]	 0 bytes	[351] (2 bytes) m
22 Jan 2021	The Australian Flammability Monitoring System: providing a clear picture of landscape dryness [352]	 768.18 KB	[353] (268.18 KB) i

Posters



[354] 29 AUG 2014

Mapping bushfire hazard and impact

[354]

Little accurate and timely spatial information is currently available on bushfire hazard and impacts.



[355] 18 AUG 2015

Mapping Bushfire Hazard and Impact

[355]

FIRE
FIRE [2], IMPACTS [3]

A good understanding of fire risk across the landscape is critical in preparing and responding to bushfire...



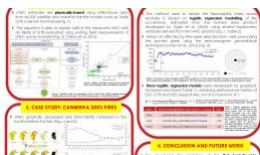
[356] 18 AUG 2015

Mapping Forest Fuel load and Structure from Airborne LiDAR Data

[356]

FIRE
FIRE [2], IMPACTS [3]

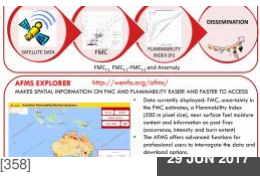
Australia is a dry continent, with high climate variability, and is continually vulnerable to natural hazards...



[357] 12 AUG 2016

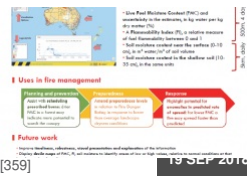
The Australian flammability monitoring system
[357]

FIRE
FIRE [2], IMPACTS [3]
Live fuel moisture content (LFMC) is one of the primary variables affecting bushfire flammability.



The Australian Flammability Monitoring System
[358]

FIRE
FIRE [2], IMPACTS [3]
The first national-scale, pre-operational, near-real time live fuel moisture content and flammability...



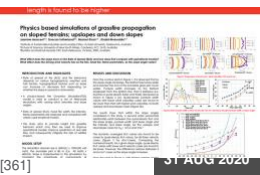
Australian flammability monitoring system website
[359]

FIRE
FIRE [2], IMPACTS [3]
"The new technology described here has enormous potential to improve the efficiency of bushfire operations..."



Australian Flammability Monitoring System Website
[360]

REMOTE
FIRE [2], SENSING [4]
The AFMS is available to anyone, including fire and land managers and other industries such as insurance and...



Fragility functions development frameworks introduced for bridgesubjected to extreme wave-induced forces
[361]

FIRE
IMPACTS [3], MULTI-HAZARD [299]
Key findings: At different slope angles and driving wind velocities, different operational quasi-steady Rate...



Coupling Litter and Soil Moisture Dynamics for Surface Fine Fuel Moisture Content Forecasting-Field Experiment
[362]

FIRE
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Key findings: The influence of soil moisture on litter fuel moisture content (FMC) depends on the soil...

Linked Projects

Improving flood forecast skill using remote sensing data
[363]

FLOOD AND COASTAL MANAGEMENT [364]

A/Prof Valentijn Pauwels
Monash University [43]



Mapping bushfire hazard and impacts
[5]

BUSHFIRE PREDICTIVE SERVICES [365]

A/Prof Marta Yebra



Fire surveillance and hazard mapping [366]

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Prof Simon Jones
RMIT University [367]



Fire spread prediction across fuel types [368]

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A/Prof Khalid Moinuddin
Victoria University [369]



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