Fire weather Research Utilisation

T1-A1 Training Modules

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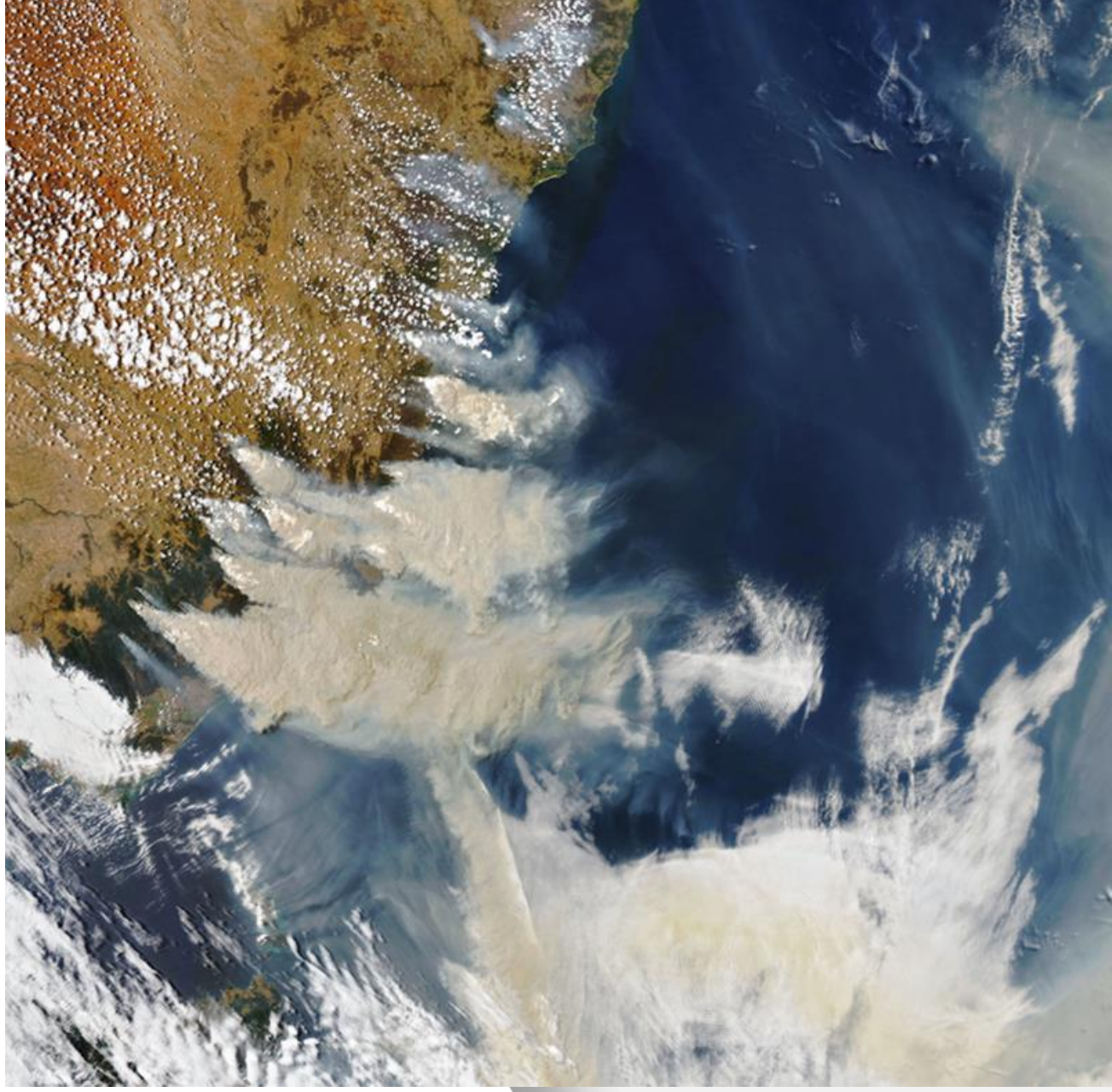


NASA MODIS Aqua satellite
4 January 2020

Research motivation

Intensity and duration and impacts of weather events is shifting.

High funding levels in Australian climate research.
Ingredients-based mesoscale meteorology research has a direct pathway to decision making during extreme events.

Learn from an extreme event through post event analysis of data and information. Fire weather research benefits from a multidisciplinary approach.

Understand processes. Provide more accurate forecasts and predictions next time.

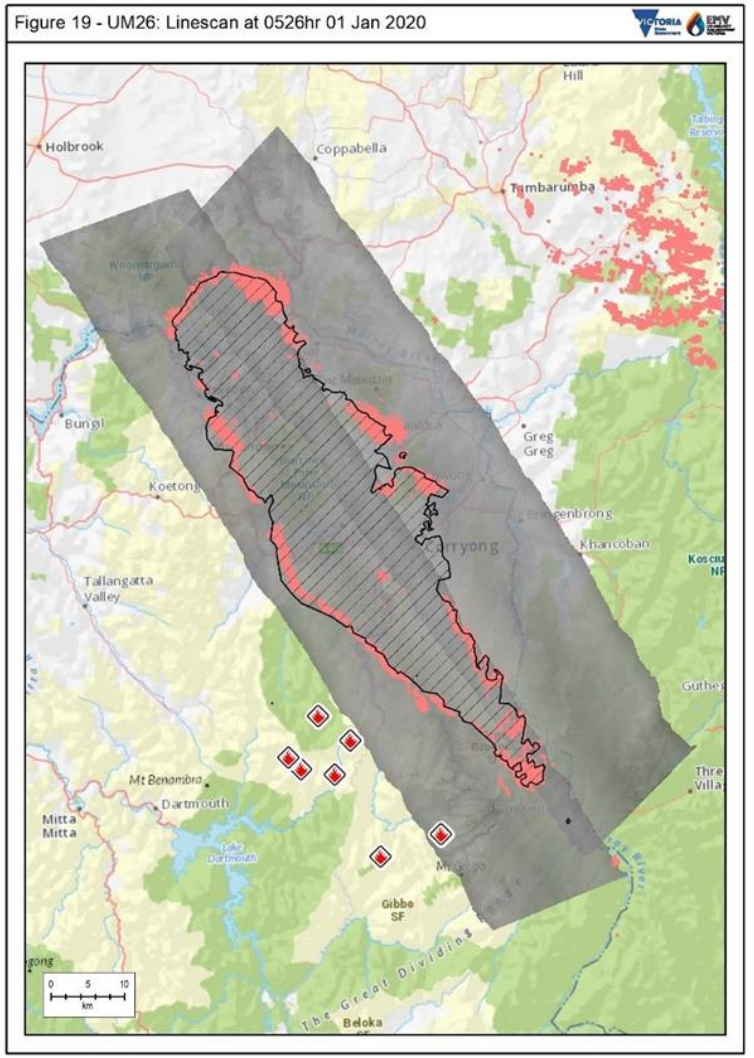
How do we effectively share the knowledge, in context, and place it in the hands of practitioners.

Kangaroo Island.

Credit: Trent Lawson

Black Summer research

Green Valley. Fire generated tornadic vortex
Wind estimated up to 320 km/h (EF4 tornado)
Fire truck overturned



Corryong Fire (also Badja Fire)
Overnight fire run of 36 km
Fire plume interaction with a low-level jet

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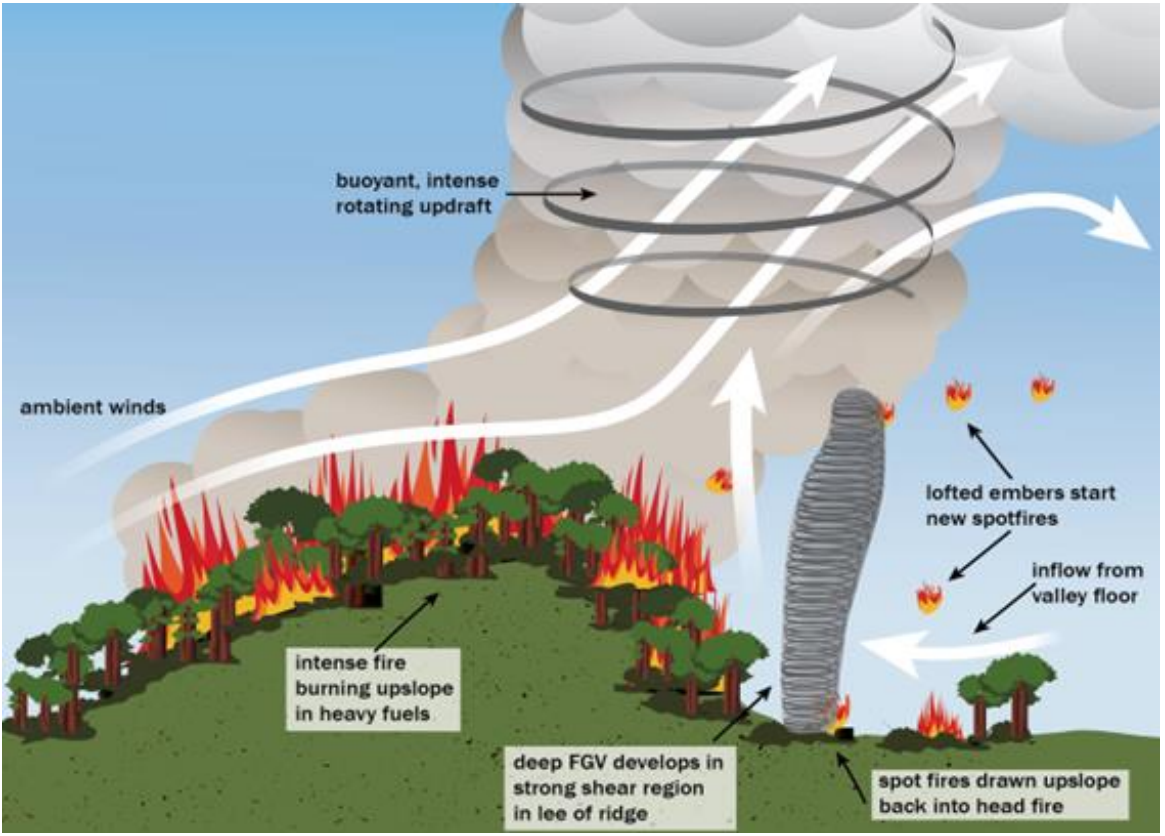
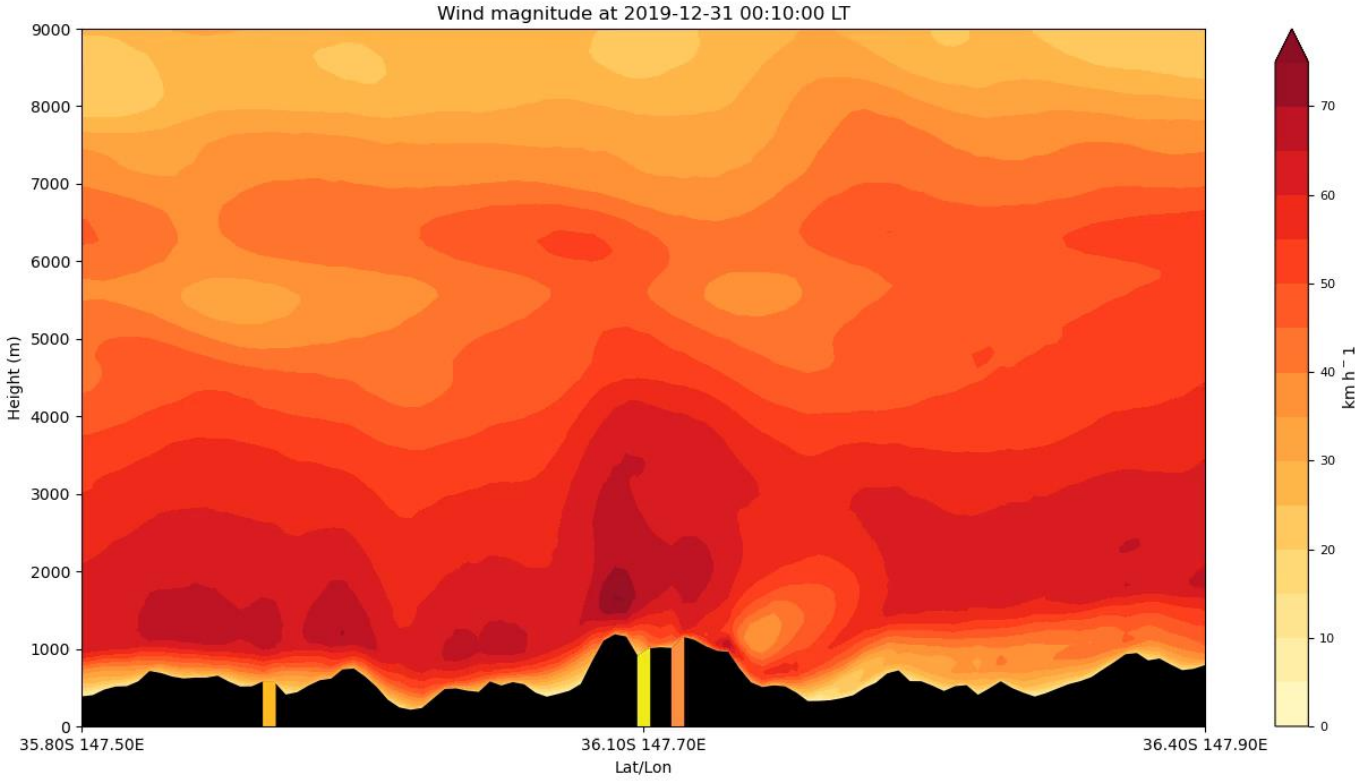
Research findings



Fire generated vortices with tornado strength winds



Low level jets

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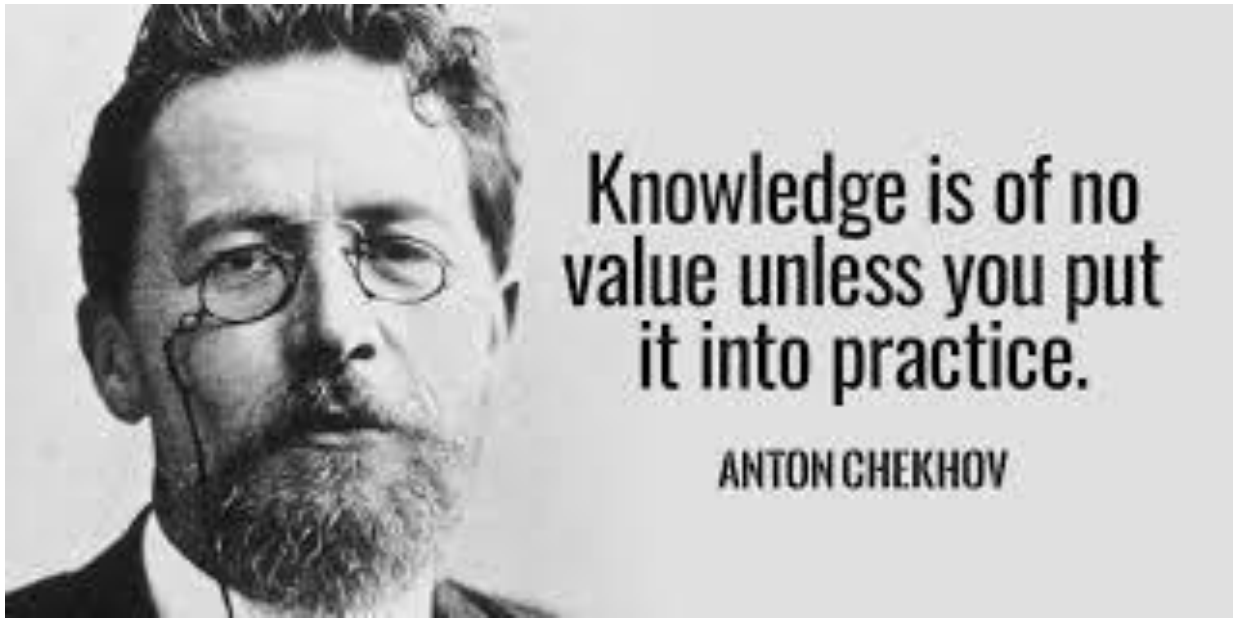

Research: systematic investigation of materials and sources in order to establish facts and reach new conclusions.

Knowledge: the theoretical or practical understanding of a subject.

Value: getting research in the hands of decision makers through training and development of people.

In unfolding natural disasters, people make decisions.

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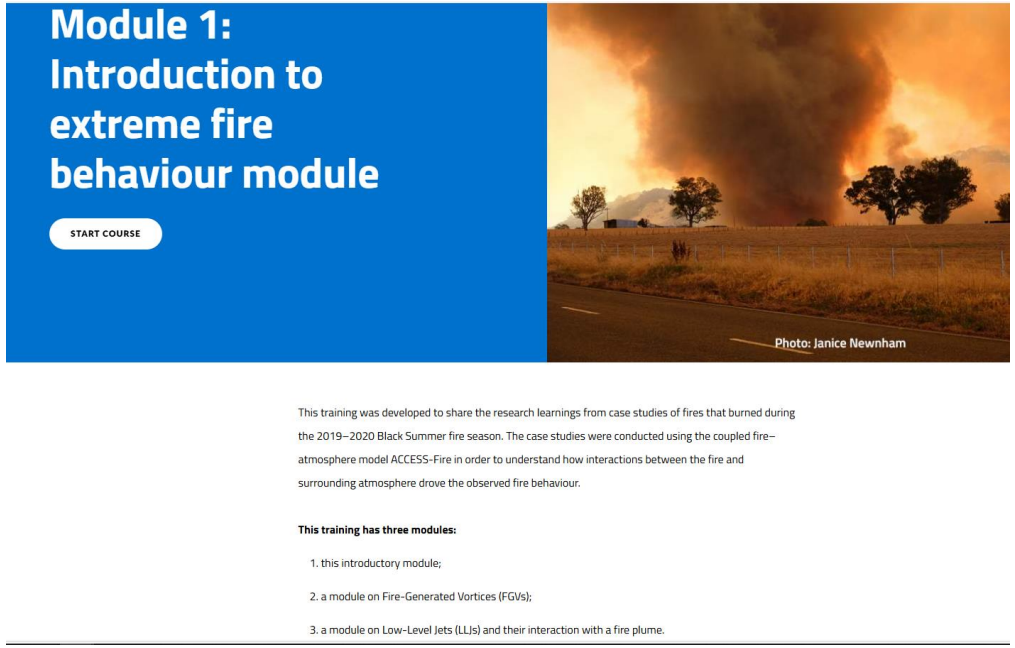
Module 1: Introduction

Module 2 : Fire Generated Vortices

Module 3 : Low Level Jets



Training for practitioners

Focus on target audience(s) of Fire Mets and FBANs

SEC context of real time decisions using information, operational images and data sources available in real time

If you see these ingredients at a future event, what information can you share and what decisions could be made?

Research Operationalisation Challenges

Research operationalisation is not trivial for Agencies.

Agencies cover broad areas of science and engineering and are often not resourced to sufficiently **monitor** for new research across a range of disciplines. Nor are they resourced to **analyse** and **synthesise** that research in a way that can be **implemented** into practice (operations or policy).

Research Operationalisation Challenges

Operationalising Extreme Fire Behaviour Knowledge

Highly specific and technical

Complex, involves feedbacks between ambient weather and a fire's behaviour

Requires inter-team collaboration

Occurrences can be uncommon

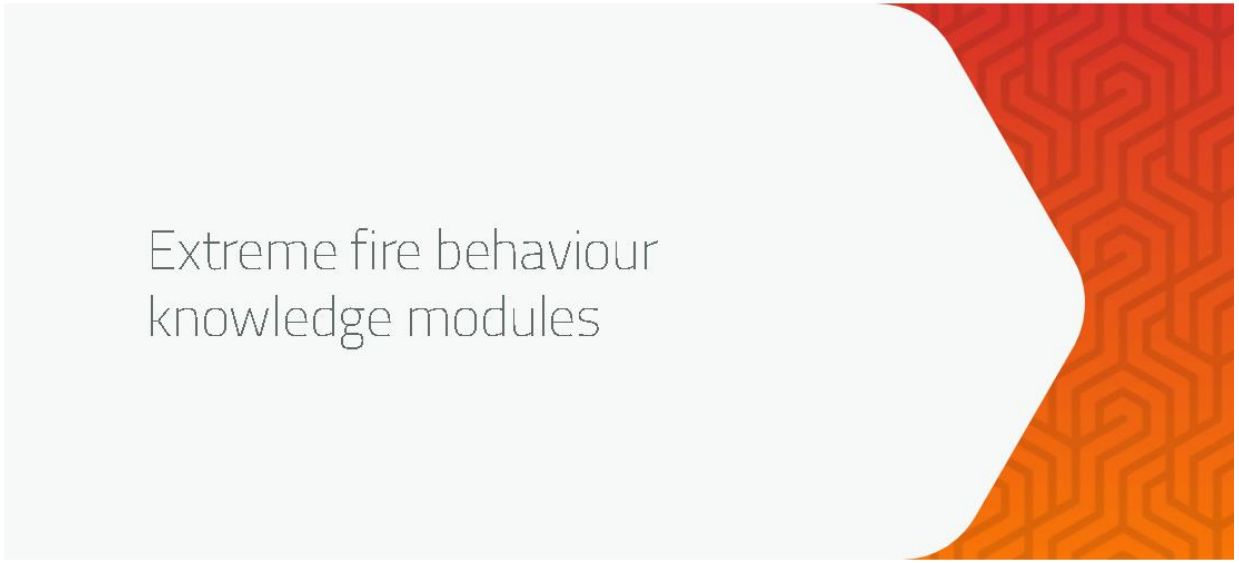
Extreme fire behaviour knowledge modules

Ideal transformation of research into operations

Collaboration between researchers and Agencies

Direct translation of research into training designed to uplift Agency personnel

Enhanced firefighter and public safety



Thank you

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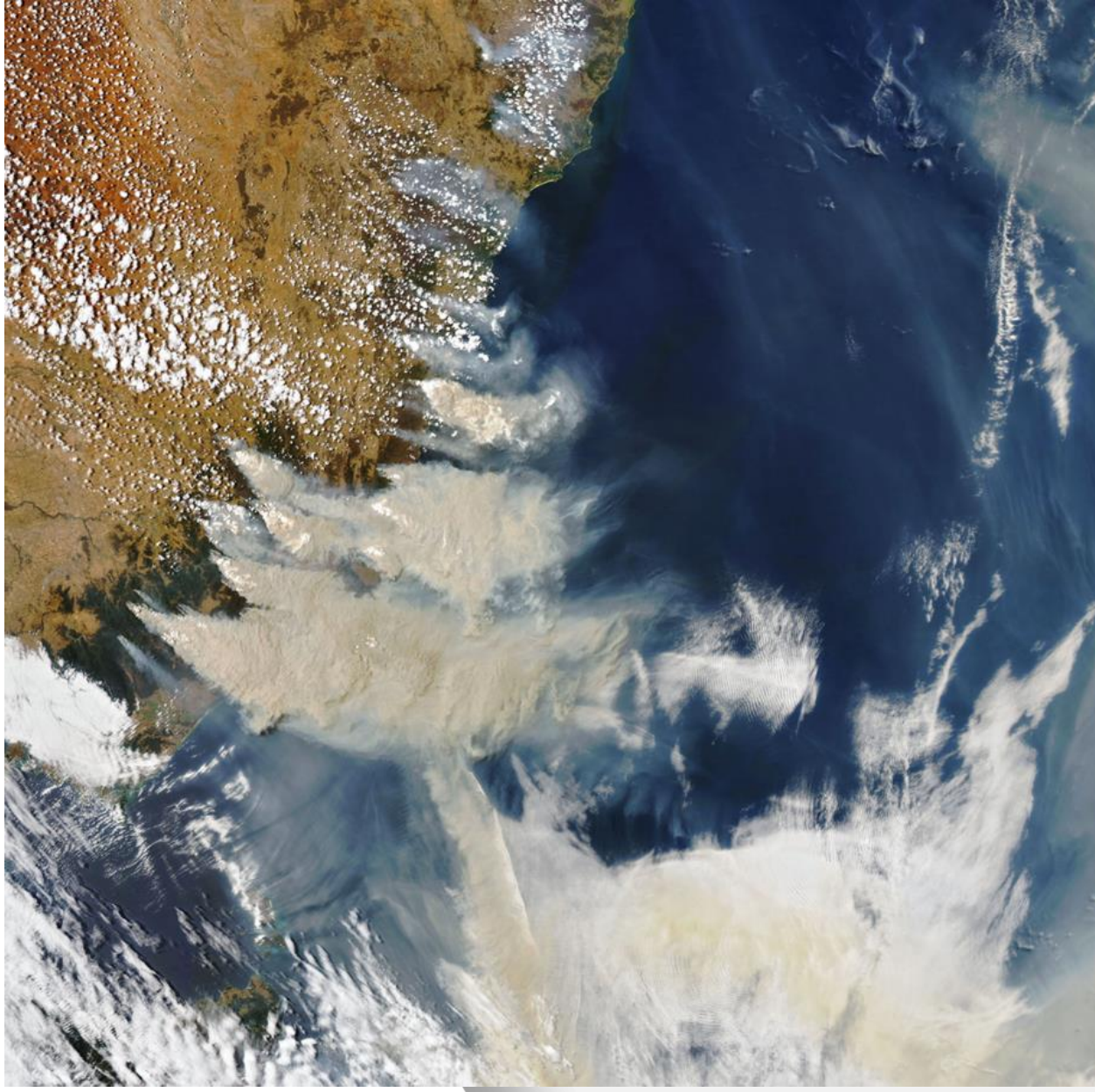
Mika Peace and David Field



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