CASE STUDY

Early warnings to attack remote bushfires

Real-time satellite detection and notification, integrated with location information, allows quick response strike teams to attack new fires before they can escalate and do serious damage to communities and the environment.

INTRODUCTION

The LIST (Land Information System Tasmania) is a whole-of-government online infrastructure that helps you find and use information about land and property in Tasmania.

As part of the LIST, Heritage and Land Tasmania operates a ‘Common Operating Platform’ (COP) that provides Tasmania’s emergency service organisations with a single authoritative mapped view of shared information, for use in emergency planning and response activities.

Since March 2022, the COP includes real-time satellite-based bushfire detection and notification, and combines this with detailed maps including vulnerable and flammable vegetation, landscape features, critical infrastructure, soil moisture and location of firefighting assets.

Emergency Services use this to quickly analyse the threat and prioritise ‘weight of attack’ tactical responses within hours, if not minutes, of a fire starting.

The 2018-19 bushfire season **cost**

$60 million

to bring under control, and incurred at least

$100 million

property damage.

THE CASE

Bushfires in Tasmanian remote, wilderness and world-heritage areas are difficult to detect and often hard to reach. When left alone they have the potential to get out of hand, threaten communities or forest operations, impact agricultural land and vulnerable native vegetation alike, and needing a concerted campaign, over weeks and months, to bring them under control.

Pre 2020, remote fire starts were mainly detected by actively monitoring infrared satellite data. In many cases it would be 12 hours before a fire was detected and processed through the satellite feed. This delay meant the opportunity for an early strike was missed, leading to large landscape fires, more extensive damage and more resources being needed to control the fire.

The introduction of the Ororatech early warning system means that new fire starts are detected in near real-time by a growing constellation of satellites, and automated alerts are sent out within minutes, rather than hours (or in some cases days).

Within ten minutes of receiving the alert, the fire start locations are shown in the LIST’s Common Operating Platform. The COP combines these alerts with contextual mapping layers to give the fire agencies, emergency services and police full situational awareness, enabling them to decide where and when to deploy their available resources and equipment and coordinate responses.

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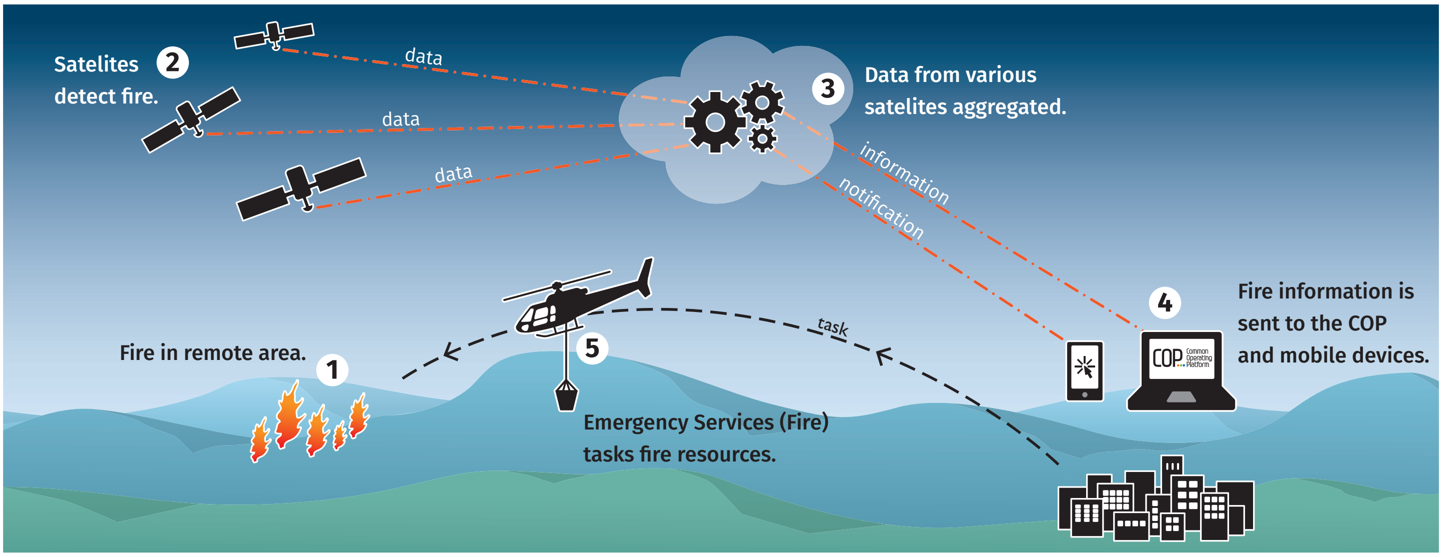
Timely Fire Detection and Notification System



IMPACT

The fast availability of accurate situational awareness helps Tasmanians to:

- **Limit the impact of fires on health, the economy, and the environment**

  Out-of-control bushfires, such as the 2018-19 bushfires, have large direct and indirect impacts on the community that include health (respiratory disease, mental health), burnt production forests (40,000 hectares burnt in 2019), destroyed homes and infrastructure, damage to agricultural enterprises, and damage to cultural and environmental heritage (including 7,000 hectares of globally significant and unique Gondwanan vegetation/rainforest in 2019).

- **Save millions of dollars in firefighting costs**

  Every year, the early warning system costs around $85,000, and stops at least one new fire start escalating to a major fire. In contrast, the estimated cost to bring a major bushfire under control in Tasmania can exceed $60 million (Australian Disaster Resilience Knowledge Hub). The insured losses of the 2018-19 Tasmanian bushfires, are estimated to have been of the order of at least $100 million. Damage avoidance on this scale will deliver significant benefits for Tasmania.

- **Be better prepared for longer and more severe fire seasons resulting from climate change**

  Since the start of this century, fires started by lightning strikes have been getting more frequent and can no longer be considered 'natural events'. Climate change induced increased frequency and severity of catastrophic fire weather is expected to accellerate over the coming decades.

  The new fire regime of more extreme, frequent, and longer fire events will have profound impacts for the response capacity of Tasmanian fire agencies. Improved situational awareness will be instrumental in efficient deployment of this limited response capacity.

2000

employees and **volunteers** were **deployed** during the 2018-19 **firefighting campaign**.

> *"Early indications are showing promising results with a number of unwanted fires being discovered and actioned."*
>
> *David Taylor, Tasmania Parks and Wildlife Service.*

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MORE INFORMATION

https://nre.tas.gov.au/emergency-services-gis