



Your details

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Title

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Submission details

I am making this submission as

An academic/researcher

Submission type

I am making a personal submission

Consent to make submission public

I give my consent for this submission to be made public

Share your experience or tell your story

Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#).

1.3 Response to bushfires

In the last few months many solutions have been put forward to reduce the devastating impact of bush fires, particularly hazard burning. However, nothing or very little has been said about bush fire detection. Most fires start as a point source caused by lightning, power lines down, arsonists or carelessness. Particularly in isolated areas these fires may spread quickly before they are detected and create a fire front that cannot easily be accessed or controlled. Satellite and airborne remote sensing systems can easily detect a heat spot using short wave infrared

sensing systems around 2 to 3 micrometre wavelength, and thermal IR around 10 micrometre wavelength to give comparative background temperatures. Digital images of 10 to 20 metre spatial resolution, transmitted directly to a fire management centre, would be adequate to detect and locate the fire. Once located water bombing aircraft and helicopters could then be directed to the fire site and hopefully have the fire stopped before it expanded. Obviously, time is of the essence. The return period of satellite systems would normally be too long as a window of less than two hours, depending on wind conditions, would probably be needed. However new techniques of cluster satellites and formation flying may resolve this time problem. A question for the new Australian Space Agency to consider. A better platform for the sensors would be an unmanned aircraft system programmed to fly contiguous strips over forest areas considered at high risk. The Northrop Grumman Triton is an unmanned aircraft system (UAS) that can remain aloft for more than 30 hours travelling at up to 600 kph. It is understood that the Federal government has confirmed the purchase of a second Triton as part of a planned fleet of six Triton MQ-4C to be in place by 2025. At least one of these systems should be refitted for fire detection and be available over the whole of the six month period from October to March. Additional sky crane water bombing helicopters or large water bombing aircraft should also be purchased or leased by state and/or federal governments to quickly reach and douse detected fires. Ten such helicopters would cost approximately \$350m to purchase or lease at \$15m for 12 weeks. I would suggest that the assets both built and natural saved by this approach would far outweigh the costs we are now bearing. As the old saying goes " a stitch in time saves nine".

1.4 Any other matters

See policyforum.net/firefighting-technology-australia-needs-to-upgrade/

Supporting documents or images
