

# Australian researchers eye fighting fires with explosives

May 22 2014

---



This undated picture released by the Energetic Materials Research and Testing Center on May 22, 2014 shows researchers during an experiment in New Mexico, United States

Australian researchers are working on fighting out-of-control bushfires with explosives, likening the process of using the soundwave produced by a blast to blowing out a candle.

Graham Doig of Sydney's University of New South Wales has been

examining how blasts can extinguish fires, a technique sometimes used on oil well blazes.

In one test, Doig detonated an [explosion](#) inside a four-metre steel tube to produce a shockwave and rush of air aimed at a metre-high flame fuelled by a propane burner.

"The sudden change in pressure across the shockwave, and then the impulse of the airflow behind it, pushed the flame straight off the fuel source," he said.

"As soon as the flame doesn't have access to fuel anymore, it stops burning."

Doig, from the university's School of Mechanical and Manufacturing Engineering, said compressed air could also produce a blast wave, but would be harder to produce.

"The problem is you need a lot of compressed air," he told AFP.

"The beauty of explosives is, even though it sounds a lot more dangerous, you really only need a very small amount and these kinds of explosives, nitroglycerin-style explosives, don't spontaneously combust; you need a detonation charge to be applied to them."

Doig said he hoped the concept could eventually be used to fight out-of-control fires in Australia and around the world, potentially by helicopters dropping explosives into fires.



This undated picture released by the Energetic Materials Research and Testing Center on May 22, 2014 shows researchers during an experiment in New Mexico, United States

"It's not probably a case of 'bang', fire extinguished, everybody goes home, it is one of many tools that will have to be applied to control a fire," he said.

In the case of raging bushfires, which plague Australia during summer months, the technique could perhaps be deployed to buy time, to get people out of the area if there was a dangerous fire front sweeping across.

He said the research was at the stage where he was starting to look at working with firefighters to see in what scenarios they felt they didn't have any ways to tackle certain fires and this could be an option.

"We're not saying it's a magic bullet for every situation but it could certainly apply in some scenarios, the trick is to do that in a very safe and controlled manner," Doig said.

© 2014 AFP

Citation: Australian researchers eye fighting fires with explosives (2014, May 22) retrieved 21 July 2024 from <https://phys.org/news/2014-05-australian-eye-explosives.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.