

# UGM Students Create Forest Fire Early Warning System

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Forest fire is a national level disaster that brings ecological and economic losses. The World Bank recorded Indonesia suffered as high as IDR200 trillions in losses in year 2015.

Starting from this condition, four Engineering students of Universitas Gadjah Mada (UGM) under the guidance of Dr-Ing.Ir. Singgih Hawibowo developed a technology to help prevent forest fire. Yusuf Ginanjar Putra, Gewin Bestralen Muntoha, Ryan Tirta Saputra, and Karrina Swastikaningtyas developed an Early warning System to alert the people against forest fire.

“During this time forest fire has spread massively before it is detectable. Hence, anticipation is difficult to do,” said Yusuf on Wednesday (15/6) in the Nuclear and Physics Engineering Department building at UGM.

The system is able to detect hotspots and their dimensions. If the dimension is over 100 m<sup>2</sup>, the sensor will send a signal to the monitoring centre. This info will later be responded for extinguishment, hence stopping the fire from expanding further.



Yusuf explained that a hotspot measuring over 100 m<sup>2</sup> has the potential to create forest fires. Currently, satellite-based detection systems can indeed detect hotspots, but these cannot inform people on the dimension.

“The sensor in the early warning system comes in the form of infrared waves from the hotspot phenomenon. Later, transmission process uses radio wave that becomes the plus point of this system, remembering that it is usually difficult for other systems of communication to work in the forest,” Yusuf added.

This tool is expected to be able to help prevent forest fire disasters, thus preventing negative impacts and losses due to such fires.

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