

## SA public gets fire updates on TV

South Africans saw a world first on television when the SABC became the first public broadcaster to televise active fire maps as part of its weather reports early in June 2006. The fire map, developed jointly by the CSIR and power utility Eskom Holdings, shows active fires throughout South Africa as detected by satellites over the preceding 12 hours.

“This is a prime example of a private-public sector partnership, using the power of science and technology outcomes, to the benefit of the public. Through the CSIR’s research expertise, and its application for Eskom, people will get a better understanding of the extent and threat of fires in South Africa,” comments Dr Sibusiso Sibisi, CSIR President and CEO.

The fire map is one of the outcomes of the Advanced Fire Information System (AFIS), a joint project between the CSIR and Eskom. It is shown weekly on Wednesday evenings during the weather forecast at 19:30 on SABC2 and SABC3, with a repeat on some Thursday mornings.

AFIS is a satellite-based fire information tool that delivers locations of active fires in near-real time over southern Africa. The CSIR’s expertise in remote sensing, in collaboration with the University of Maryland in the USA, NASA and Eskom, has resulted in the development of a unique fire detection system. The application of remote sensing coupled with cell phone technology for alert messaging (or via SMSs) is the first of its kind in the world.

The system allows Eskom management to respond quickly to fires under transmission lines, which could reduce damage and power supply disruptions. “We are proud to have implemented this technology in Eskom,” says Hein Vosloo, Servitude Specialist - Transmission Division. “As AFIS is a new system, we are still experimenting and improving the system.” He notes that not all fires are detected by the system, as size and duration do play a role.

The SABC fire map comes at the time when South Africa is in its fire season between May and October (in the northern parts of the country). Information for the map is delivered free of charge to the SABC by Eskom and the CSIR.

Each dot on the fire map shows an active fire varying in size from 200 m to 1 000 m. Active fires are detected using data from the Moderate Resolution Image Spectro radiometer (MODIS) sensor on NASA’s Aqua and Terra satellites.

Sub-Saharan Africa has the highest frequency of fires in the world. While wildfire is a natural phenomenon, people are responsible for most fires, sometimes with devastating consequences for humans, animals (wild and livestock), vegetation and infrastructure.

Countrywide, fire protection associations are being established in terms of the National Veld and Forest Fire Act (Act 101 of 1998). It is also planned to include them in the SMS service to mobilise fire fighters at the earliest possible time.

For more information on AFIS, visit [www.wamis.co.za/afis/afis.htm](http://www.wamis.co.za/afis/afis.htm), or send an email to [afisinfo@csir.co.za](mailto:afisinfo@csir.co.za) or [afis@eskom.co.za](mailto:afis@eskom.co.za)

### AFIS-SENSOR WEB FIRE MAPPER

The screenshot displays a web-based fire mapping application for South Africa. The map area is yellow, with province boundaries and names labeled: Northern Province, North West, Free State, Eastern Cape, Northern Cape, and Western Cape. Major cities like Pretoria and Johannesburg are also marked. A toolbar on the left contains various navigation and map control icons. On the right, a red 'Layers' panel lists several data layers with checkboxes, including 'Fires Last 24Hrs', 'MODIS Active Fire Detections', 'MSG-Fires Last 15 min', 'MSG-Archive', 'Transmission Sub stations', 'Towns', 'Cities', 'Major Cities', 'Transmission grid', 'Distribution grid', 'Roads', 'Dams', 'Protected Areas IUCN 1-6', 'Label Province', and 'South'. Below the layers panel, a 'Date Query' section includes a 'Help' link and instructions to enter dates in 'YYYY-MM-DD format'. The 'Start Date' and 'End Date' fields are both populated with '2006-07-03'. A scale bar at the bottom of the map indicates 450 km.

[Previous page viewed](#)

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