



FYNBOSFIRE IN THE NEWS

Space-age technology helps to curb runaway wildfire

By Jo-Anne Smetherham

Smart ways of preventing runaway wildfires from causing widespread destruction will be needed as climate change raises temperatures and creates larger tracts of tinder-dry veld.

These smart methods already exist, and many are being used by South Africa's best Fire Protection Associations (FPAs).

They include the use of space-age technology to detect wildfires and the risk they will occur; controlled burns to create buffer zones that protect property and vulnerable young veld; and moves by the insurance industry to educate landowners and encourage them to follow best practice in fire management.

"There are three things that are unavoidable: death, taxes and wildfire," says Tony Marshall of CapeNature, whose 780 000 hectares of nature reserves flank the properties of hundreds of landowners, as well as most municipalities in the Western Cape. "However, wildfire can be managed through pre-emptive preparations."

The observations streaming

down from satellites orbiting the earth includes data on wildfire. In 2004, remote sensing specialist Philip Frost at the Council for Scientific and Industrial Research (CSIR) began developing an information system that could receive, process and distribute this data.

His "Eureka" moment has been a massive boost for wildfire detection and prevention in South Africa and worldwide.

At the time, Frost and his CSIR team were working with Eskom, which was experiencing large numbers of line faults due to fire. In world-first research, the scientists worked out a way of turning observations of large fires into real-time SMS alerts and email messages. On average, over 30 000 SMS fire alerts are sent out per fire season to FPAs and Eskom.

"The technology allows FPAs to detect fires and respond immediately, instead of having to wait until someone smells the smoke, which may well be too late," says Frost.

The data is on the Advanced Fire Information System web-

site (www.afis.co.za), permitting viewers to see maps of fires in real time in any part of the world, for any period, using Google Maps as a backdrop. Monthly estimates of the area burnt and weekly fire danger maps are also distributed to the hundreds of fire managers in South Africa. The data is distributed through AFIS field terminals installed across the Eastern and Western Cape.

The CSIR forecasts of fire risk also enable fire managers to assess the best conditions for doing block burns, which create buffer zones next to valuable property, crops and plantations, and burn old vegetation that needs rejuvenating. "These burns are a crucial component of fire risk management and they have been happening, although not to the extent we would like," says Marshall.

"There is a risk in doing these block burns," he says. "I'm scared of fire, and property owners are probably even more scared. But there is a far greater risk if we don't do them."

"These burns need to be done

collaboratively by all who will benefit – the municipality, the FPA and agriculture and conservation authorities.”

Braam du Preez is forestry risk manager for Cape Pine, the largest plantation owner in the Western Cape. Block burns play a large role in protecting the company’s property and plantations, and keeping the large tracts of fynbos on its properties healthy, he says.

“There were severe thunderstorms in the George area just before Easter, and the lightning caused six fires that threatened two of our plantations. The rain put out one of them and we had to fight the other five. We did a block burn about three years ago and could fight the fire from there. If we hadn’t done that burn, we would have had a very big problem indeed.”

In another move, a major insurance company is leading the way in tackling the rising risks climate change brings. “We are working collaboratively with all parties to find solutions,” says Guy Denichaud, a technical risk specialist for Santam who has been one of the key drivers of its fire and flood strategies.

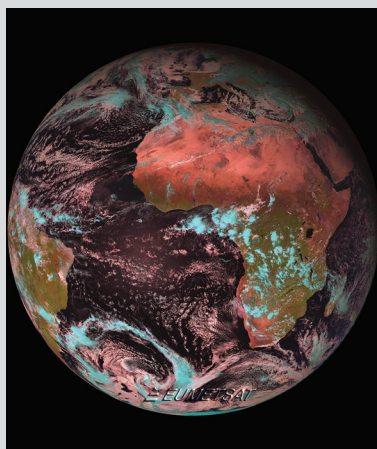
Santam’s fire-risk and flood-management programme started when the company approached scientists at the CSIR, the World Wide Fund for Nature (WWF) and the University of Cape Town four years ago, asking them to investigate why payouts for natural disasters had been mushrooming, and what could be done to curb these claims.

In a project funded jointly by Santam and the CSIR, the research team showed how business risk is linked to environmental drivers including changing climate, and what can be done to minimise this risk. This team is now collaborating on how to implement risk reduction. Their work focuses on Eden District Municipality due to its varied topography, vola-

tile weather conditions and the large value of assets that Santam insures there.

“Interestingly, we found out that the human impact on the environment was equal to or even more influential as a risk factor for fire than climate change,” says Onno Huyser, the WWF South Africa programme manager responsible for the initiative.

“The data showed that historically, invasive alien trees have been the greatest driver of wildfire in this region. The good news is that eradicating or substantially reducing these aliens can massively diminish the fire risk.”



The second part of the collaboration between Santam, WWF and the CSIR is now under way, looking at what action should be taken, by whom and how. One of Santam’s interventions is to help strengthen the Southern Cape FPA, whose territory incorporates the Eden region, and support disaster management.

The developments include an IT system to geocode properties and map them out in detail, allowing for better fire-risk management. Santam has also been investigating the possible use of infra-red cameras that are being researched at Stellenbosch University. These could be strategically placed along firebreaks and near human settlements.

“Here in South Africa we have some of the best expertise in

the world, and the most sophisticated systems ever invented, for proper fire management,” says Fynbos Fire Project director Val Charlton. “Our role is to help support this work and expand these efforts, to create a sustainable model for proper fire management.”

Crucial aspects of this work will be promoting the use of the AFIS service; equipping FPAs across the biome with AFIS field terminals; promoting the use of block burns, and supporting the insurance industry’s efforts to educate insurance holders and communities and to reward property owners practicing proper fire management.

The best FPAs integrate all aspects of integrated fire management, including the use of the AFIS technology, block burns and efforts of the insurance industry. Says Denichaud: “Nobody wants the trauma of seeing a property or business they have built up over decades, which is worth millions, go up in smoke. I have seen powerful men in tears over the destruction fire has caused.

“Working collaboratively is the only approach that’s going to work because, when it comes to managing the risk of wildfire, we’ve all got the same aims.”

- The GEF Fynbos Fire Project was established to support adaptation and technology transfer in all developing countries party to the United Nations Framework Convention on Climate Change (UNFCCC), which has granted the project funding over three years. Cofunders of the project include the South African National Department of Environmental Affairs, through Working for Water and Working on Fire, the Department of Agriculture, Forestry and Fisheries (Western Cape), FPAs, the FFA Group of Companies and the United Nations Development Programme.



CONTACT DETAILS

PROJECT COORDINATOR | TELEPHONE: +27 (0)21 797 5787
E-MAIL: admin@fynbosfire.org.za | WEBSITE: www.fynbosfire.org.za