



FIRE AWAY

Good day to the Letaba FPA community and all our local landowners.

This year has certainly flown by, and here we are already approaching the end of September! Depending on how you look at it, we have been very fortunate with the weather, which has resulted in a remarkably quiet fire season so far. In fact, for the first time in about ten years, the aircraft has hardly been heard flying over Tzaneen and surrounding areas to combat veldfires.

However, this is also the time when we need to remain vigilant and prepared. The limited rainfall we have received so far may potentially prolong the fire season into late November or even December, particularly with the hot temperatures that are expected. We all know how quickly conditions in our area can change — one moment everything is green and wet, and the next, we can find ourselves back at square one with an increased fire danger.

I would like to sincerely thank everyone who continues to adhere to the Letaba FPA rules and fire prohibition regulations. Even when the fire risk is relatively low, these rules remain in place for a reason, and your cooperation makes a tremendous difference. A very special thank you also goes to all our volunteers and members of the community who selflessly assist whenever veldfires occur. There are so many of you who give your time, equipment and expertise, and we truly could not do what we do without your support. Your commitment to keeping our communities and land safe is greatly appreciated.

We would also like to extend a huge thank you to the entire LFPA team, and especially to Simon Malatji, who runs the dispatch centre every single day. Simon does a fantastic job of keeping everyone informed, coordinating responses and managing these uncontrolled fires. His dedication and commitment are invaluable!

Let's see what the final stretch of the fire prohibition period brings, and hopefully it will remain as calm and uneventful as it has been thus far!

We wish everyone a fire-safe day and a blessed and safe remainder of the season.

Yours Truly



LFPFA Membership



Landowners are required by the National Veldfire Act of 1998 to be a FPA member. The Act applies to you if you are an owner of land, or are a lessee, lawful occupier or other person (manager) in control of land.

How do I become a member? To join the LFPFA contact the office admin@letabafire.co.za and request the application forms. There are different categories of membership:

Aerial Membership : fees paid go towards the standing cost of the aircraft. Up to 55ha pays a fixed rate of R4994.66 incl VAT. More than 55ha the rate is calculated per hectare @ R78.80 excl VAT. Aerial assistance during a fire is calculated per minute in the air and the amount of drops made.

Member Only (standard membership) under 60 ha R2234.90 incl VAT. Bigger properties are calculated per hectre @ R39.04 incl VAT. Standard members do not have access to the aircraft as they do not contribute to the standing fees.

Stand-alone **sawmills** that are not in a current registered title are welcome to join, the rate is R3049.80. No aerial support.

Other categories include **Grassland & Conservation and Gamefarm**, which also have access to the aircraft.

Members are exempted from paying for a Special Burning Permit, where as non-members have to pay the R2500 fee.

Fire fighting training and specialist courses are available at a lesser cost than non-members.

Members receive a discount at participating stores NTK and Star Spares.

The assistance of the Skid Unit crew is available to members to help with the slashing of fire breaks, and to assist in burning. Free of charge.

The use of our Bakkie Sakkies is free of charge, for four days at a

AI : THE WILDFIRE COMMANDER'S ASSISTANT

Longer fire seasons, rising temperatures, prolonged droughts and expanding development at the wildland-urban interface are placing unprecedented pressure on emergency services and governments worldwide.

As these challenges grow, so too does the need for smarter, faster and more coordinated approaches to wildfire management. Fortunately, a new generation of technologies is transforming how wildfires are detected, predicted and fought. Artificial intelligence (AI), Earth observation satellites, robotics, digital twins and advanced communications are giving firefighters access to real-time intelligence that was unimaginable just a decade ago. Rather than simply reacting to fires, these tools are helping agencies anticipate fire behaviour, deploy resources more effectively and protect lives, infrastructure and ecosystems.

The next decade is likely to see wildfire management evolve from a largely reactive process into a predictive, data-driven discipline.



AI is rapidly becoming one of the most valuable tools in modern wildfire management. Instead of replacing human decision-makers, AI systems analyse vast volumes of information in seconds, helping incident commanders make faster, better-informed decisions.

Modern AI platforms combine weather forecasts, satellite imagery, topography, vegetation data and historical fire behaviour to estimate where a wildfire is likely to spread next. These systems can identify emerging risks, prioritise threatened communities and recommend the most effective deployment of firefighting resources.

Recent reviews of the field show AI research increasingly focuses on integrating geospatial data, machine learning and real-time decision support to improve every stage of wildfire management.

Machine learning is also improving early detection. AI algorithms can distinguish genuine smoke plumes from clouds, dust or agricultural activity, reducing false alarms and allowing emergency services to respond sooner.

As explainable AI develops further, incident commanders are likely to gain

ROBOTICS ARE TAKING ON DANGEROUS FRONTLINE TASKS

Robotic systems are increasingly being deployed to perform tasks that would otherwise expose firefighters to significant risk.

Autonomous drones equipped with thermal cameras can map fire perimeters, identify hidden hotspots through dense smoke and provide continuous aerial surveillance during rapidly changing incidents. Ground robots are beginning to assist with vegetation clearance, fuel break creation, controlled burns and equipment delivery across hazardous terrain.

While fully autonomous firefighting remains some way off, robotic systems are already reducing the burden on emergency crews by undertaking repetitive or high-risk activities. Future developments may include autonomous suppression vehicles capable of protecting critical infrastructure or operating safely in areas too dangerous for human firefighters.



DIGITAL TWINS COULD REVOLUTIONISE OPERATIONAL PLANNING

One of the most promising developments in wildfire management is the emergence of digital twin technology.

A digital twin creates a continuously updated virtual model of a real-world environment by combining data from satellites, drones, ground sensors, weather forecasts and fire behaviour models. Emergency managers can use this virtual environment to simulate how a wildfire is likely to evolve under different weather conditions or response strategies.

Instead of relying solely on static maps or historical data, commanders gain a dynamic picture of the incident as it unfolds. Researchers believe digital twins

Kid's Page

Dad, what did they use before matches was made?



The very early humans, about 1,8million years ago, would pick up seasonal wildfire that was started by lightning. Carrying burning pieces of wood to their caves and maintaining it as long as they can. They were able to use it, but making fire started quite a bit later.

Friction is one of the most iconic and widespread methods of primitive fire making. Examples of these methods include bow drills, hand drills, and fire ploughs. All of these work by rubbing two pieces of wood or wood and another hard material together, until an ember is formed and tinder delicately added. This method was used by the Khoi San, Maori, Zulu, Egyptian and Aboriginal people.



Mongolia/Tibet

Both of these cultures use an ornate leather pouch known as a chuckmuck as their tinderbox. The pouches have metal components on the outside for striking against. Inside the pouch is where the flint and tinder is held. These decorative and useful pouches would hang off the belts of the people of Mongolia and Tibet and vary widely in decoration and design



Compression of Air: Not so well known method!

This method of fire creation uses specially made cylinders to trap air as it is rammed through a tube, creating temperatures of up to 400 degrees Fahrenheit to ignite tinder and form an ember. The cultural examples of air compression fire-starting are interesting, because “fire pistons” were developed independently in Southeast Asia and in Europe. Fire pistons may have been the inspiration for the diesel engine, as they work on a similar principle.

In Europe the fire piston was accidentally developed in 1745 by the Abbot Agostino Ruffo in Verona, Italy while testing an air gun he was building. They later became popular in the rest of Europe until matches

