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SAWS, METEORAGE partnership to enhance public, industry's protection against lightning strikes

The South African Weather Service (SAWS) has joined forces with global lightning detection specialist, METEORAGE, in a deal that is set to bolster existing efforts aimed at safeguarding the public and industries such as aviation and power generation from severe weather impacts associated with lightning.

In a new Public-Private Partnership project, the SAWS and the French company signed an agreement to strengthen the use of lightning data in South Africa, with users certain to derive vital benefits from cutting-edge technology built upon proven global expertise.

Lightning ranks among the deadliest meteorological phenomena in South Africa. It is estimated that it kills around 264 people every year in the country, although this is likely an underestimation, given the underreporting of incidents coupled with incomplete databases.

In addition to the danger it poses to humans, lightning may cause the death of animals and livestock. Moreover, around 20% of electrical distribution faults are caused by lightning, while damage to electrical equipment is common in many economic sectors, as well as for private individuals. Furthermore, insurance claims linked to lightning amount to millions of rands each year.

The SAWS' collaboration with METEORAGE will promote, develop and facilitate access to solutions for forecasts, warnings, and monitoring and analysis of severe weather, including thunderstorms. The areas of partnership will include:

- Enhancing the value of the existing lightning network (the South African Lightning Detection Network (SALDN)) which the SAWS acquired and has operated since 2006;
- Bringing new dedicated services for South African users, courtesy of the CATS (Computer-Aided Thunderstorm System) software toolbox developed by METEORAGE; and
- Contributing to targeted initiatives to mitigate the lightning risk for all affected activities in the country.

According to the SAWS' Chief Executive Officer, Mr Ishaam Abader, prior to 2005, the SAWS had no means of measuring lightning activity. In 2006, the organisation installed a state-of-the-art South African Lightning Detection Network (SALDN) purchased from Finnish company Vaisala. Through its

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implementation of the SALDN, the South African lightning climatology has completed more than the required 11-year period to produce the Lightning Climatology for South Africa, and completed a full solar cycle, providing the most accurate distribution of lightning across South Africa. “As the South African Weather Service, we are pleased to join hands with METEORAGE, a global authority where matters of lightning detection are concerned. This collaboration will go a long way to enhance our safety efforts against lightning strikes for our citizens, as well as for industries that are critical to our economy, such as aviation, energy and others.”

The President of METEORAGE, Mr Dominique Lapeyre de Chavardès, confirmed that the “most economic and human activities are ‘storm sensitive’, and our mission is to bring decision-making tools to mitigate the risks to lives and properties. I am very proud of this Public Private Partnership with the SAWS, illustrating our shared commitment to make it happen.”

LDNs monitor the development, intensity, and movement of thunderstorms and can be used as a specialised tool in the issuing of severe weather warnings and forecasts. The SALDN forms part of the SAWS’ extensive observation and forecasting network, which includes 26 lightning detection sensors spread across the country. These sensors detect electromagnetic signals from cloud-to-ground and cloud-to-cloud lightning and uses both time-of-arrival and magnetic direction-finding principles to detect the electrical and magnetic components respectively.

METEORAGE has, over the last 37 years, earned a worldwide reputation for its ability to process lightning data into user-friendly packaged services, fully adapted to each type of lightning-sensitive activities. These services are split in five large families: Evaluate (lightning statistics), Be Alerted (lightning buffer zones), Follow (real-time monitoring interfaces), Check (lightning activity reports) and Integrate (integration of lightning information into third-party systems). Thanks to this partnership, all these services will now be available for South African customers of the SAWS, helping them to better mitigate their risks related to lightning and thunderstorms.”

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