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28 August 2023

Confirmation of EF-1 Landspout near Morningstar Airfield, Cape Farms on 25 August 2023

The South African Weather Service can confirm that an EF-1 landspout occurred near Morningstar Airfield in the Cape Farms, City of Cape Town, on the 25 August 2023 just after 10:00 SAST.

A well-developed cold front made landfall over the south-western parts of the Western Cape on Friday morning, 25 August 2023. This brought cold, wet, and windy weather across the province. The wind phenomenon which is the subject of this media release developed roughly 10 km inland from Melkbosstrand near the Morningstar airfield (City of Cape Town District Municipality) in the Western Cape. Shortly after 10:00 SAST, a resident recalled “an indescribable sound” and noticed a nearby roof being torn off soon thereafter. The main damage observed included several corrugated roof sheets being blown off and informal homes blown over as seen in Figure 1.

Figure 1: The damage (left and centre) due to the EF-1 landspout (right) that hit Cape Farms on Friday morning, 25 August 2023.

The South African Weather Service (SAWS) analysed the weather conditions and conducted a field investigation on the day of the event, where it was determined that the wind phenomenon that hit the Cape Farms was a landspout. In a similar fashion to a tornado, a landspout also rotates, is usually fast-moving and can be damaging. However, landspouts are much weaker and smaller in scale in comparison to a tornado. Moreover, landspouts form from the ground up, whilst tornado vortices originate at the base of the parent cloud. Based on the extent of the damage caused by the landspout, it was determined that it corresponded with EF-1 damage, utilising the Enhanced Fujita (EF) scale. In particular, the damage included an informal home blown over as well as a report by a community member of a securely installed and partially full Jojo water tank being lifted and blown some distance away. The EF scale rates the intensity of the wind phenomenon by performing an estimation of the average wind speed, based upon the relative severity of wind damage to structures and trees.

The landspout developed near the Wolwerivier settlement at 10:08 SAST as recorded by residents and moved eastward over the N7 main road, dissipating around 10:13 SAST at the Olifantskop Farm (Fig. 2). In total, the landspout travelled approximately 4.39 km before dissipating.

Figure 2: A satellite view of the landspout track that developed shortly after 10:00 SAST on Friday morning, 25 August 2023 indicating the orientation of the track, in relation to Morningstar Airfield. Source: Google Earth.

The South African Weather Service would like to express their gratitude to the Wolwerivier community, Olifantskop Farm residents and City of Cape Town Disaster Management Centre, for providing valuable information, photos, and videos. Moreover, the public are encouraged to share any additional photos or videos of this event which will surely promote further research regarding

the landspout phenomenon. Such information can be shared with the Cape Town Weather Office via email factfc@weathersa.co.za or WhatsApp (084 279 1166).

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