

Confirmation of Velddrif waterspout – 13 August 2022

On the afternoon of 13 August 2022, the western parts of South Africa were anticipating the last cold front from a series of cold fronts. This system was expected to bring cold, wet and windy conditions to the south-western parts of the Western Cape. It was generally windy ahead of the cold front, with a single convective cloud (Cumulus congestus) over Velddrif along the West Coast, at 16h00 SAST, as seen in figure 1. This Cumulus congestus cloud spawned a waterspout that hit Velddrif between 16h00 and 16h20 SAST and caused infrastructure damage to isolated houses and an apartment building along the Berg River.

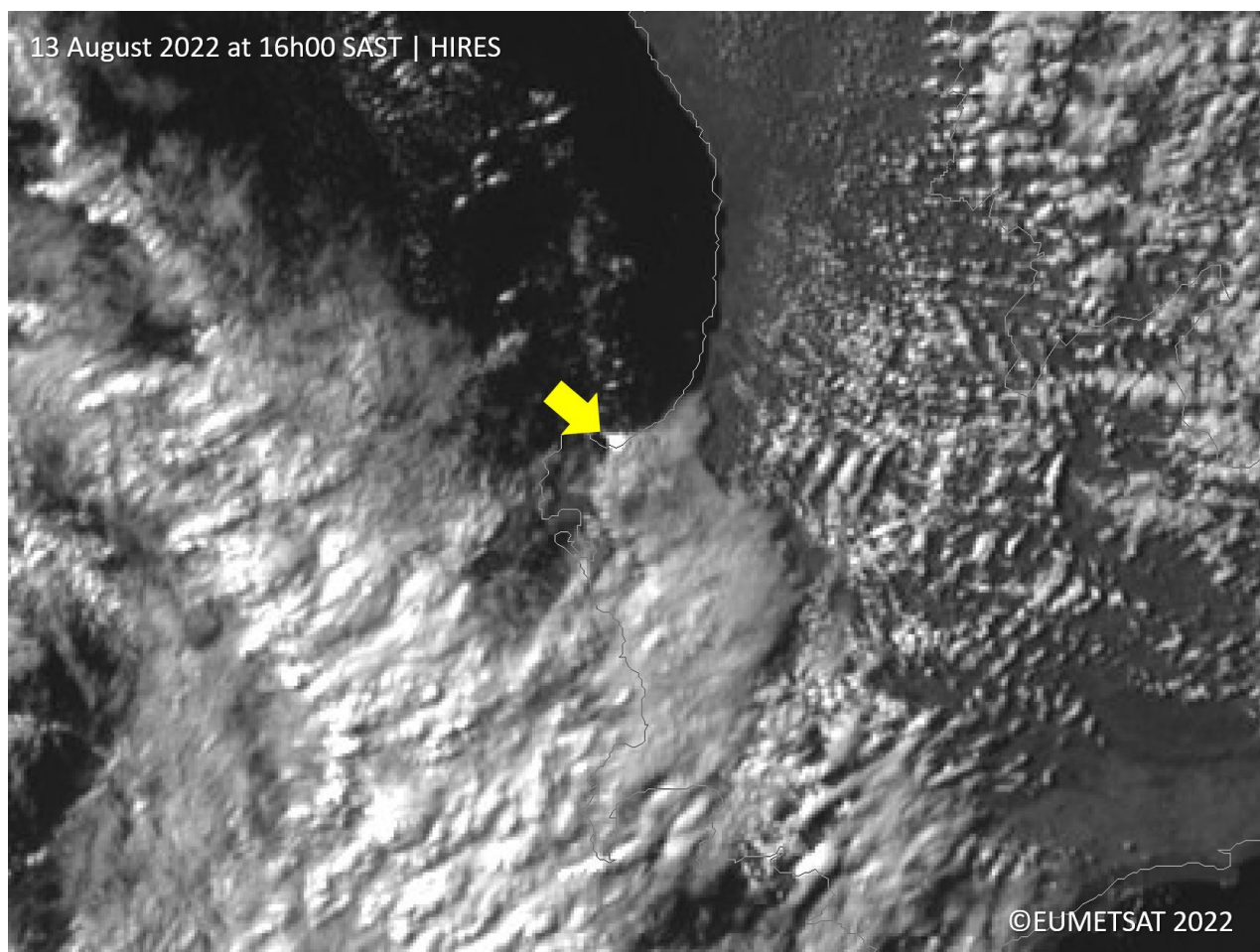


Figure 1: HIRES satellite image valid for 13 August 2022 at 16h00 SAST (14h00Z) (source: EUMETSAT).

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Company Secretary: Ms Millicent Fatlane (Company Secretary)

On 15 August 2022, forecasters from the Cape Town Weather Office visited the affected area to conduct an assessment of the phenomenon. The purpose of this assessment was to determine the strength, duration and length of the path it took. Due to the resilience and teamwork of the Velddrif community, the mop-up process had already started on the 14th, but there was enough evidence left to conduct a thorough assessment, especially as the locals took numerous relevant and authentic photos and videos on the day of the event.

The track of the waterspout as seen in figure 2, started at point A and ended at point F. It was determined that the length was roughly 565 m as calculated from Google Maps, and the width was estimated to be between 20 and 26 m. One of the community members whose property was affected recalled that the roof sheeting was blown to approximately 800 m from their house. The duration of the waterspout cannot be determined thus far, but it seems like it was a fast-moving system by referring to the video evidence, satellite images and personal accounts.



Figure 2: The track of the waterspout from A to F (source: Google Maps).

The track of the waterspout was determined by assessing where it was first observed, where it touched down and the last sighting. Unfortunately, only the last part of the track could be assessed in detail, since it is highly likely that the waterspout originated over the Berg River. Therefore, there is a strong possibility that the track could have been longer. The damage and evidence where the waterspout went through can be seen in figure 3. Where, A is a boundary wall that was blown over; B is a large branch that was taken by the wind from the back of the property and dumped on the fence; C is the boundary wall of the second property (across the street) that was blown over; D is an olive tree that was uprooted and a roof blown away; E is the roof of an apartment building that was damaged; F is a green roof sheeting of the second property (picture D) that was dumped on the shore of the Berg River as well as a damaged jetty.



Figure 3: The damage and evidence of the track of the waterspout - the locations of A to F.

More evidence of the type of damage this waterspout caused can be seen in figure 4, which assisted with determining the Enhanced-Fujita (EF) rating (strength) of the waterspout. The traffic sign that was blown over by the force of the waterspout is located closer to the ocean (figure 4A), which supports the possibility that this waterspout had a longer track and duration. The severity of the roof damage of the second property can be seen in figure 4B.



Figure 4: A) Traffic sign blown over by the force of the waterspout; B) Roof damage after the roof sheeting was taken by the waterspout.

The South African Weather Service can confirm that an EF1 waterspout hit Velddrif during the afternoon of 13 August 2022. Any additional photos or videos of this event can be shared with the Cape Town Weather Office via email (factfc@weathersa.co.za) or via WhatsApp (084 279 1166).

The Cape Town Weather Office would also like to express their gratitude to the local community of Velddrif who assisted with photos and videos, gave thorough explanations of the experience and opened their homes in order for this assessment to be conducted.

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