

N. DE HOOP VLEI GORGE

Field Note N8e1. Hydrology – De Hoop Vlei - Flash flood of May 2021



The flooded De Hoop Vlei.

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Torrential rains over the Overberg during the first week of May 2021 resulted in floods of the Heunings, Kars and Salt Rivers. Large spans of land as well as bridges on the Bredasdorp Plain and between Bredasdorp and Swellendam were under water. This Field Note is about the flooding of the De Hoop Vlei.

The bridges over the Salt River were under water (Figures 1 to 5).

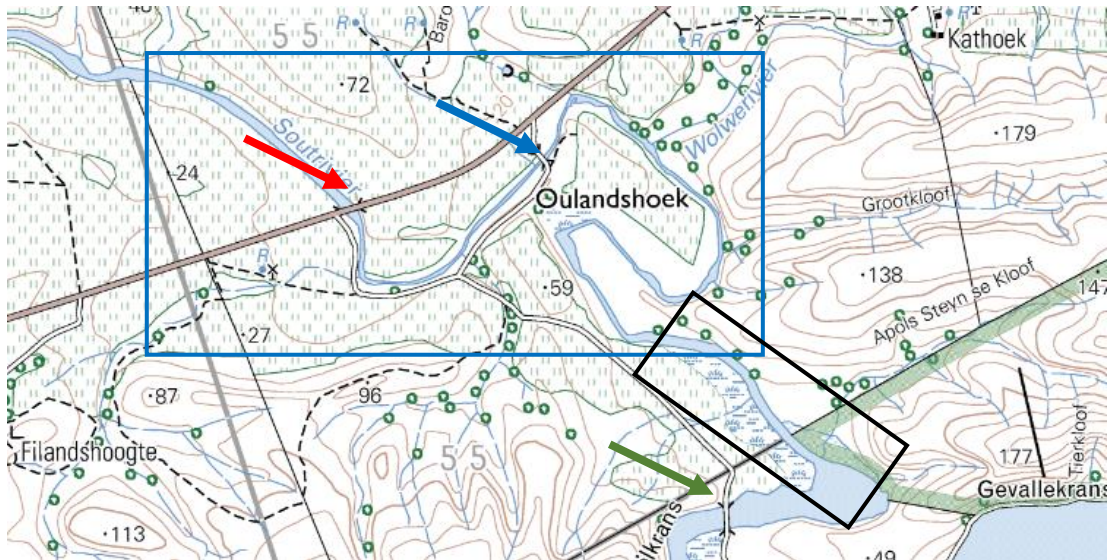


Figure 1. Bridges over the Salt River before it enters the De Hoop Vlei. Top - satellite image; bottom – topography map. Arrows indicate as follows: red – bridge of the road to Ouplaas; blue – bridge of the old road to Ouplaas; green – causeway of the road to the historic farm Windhoek. Blue box enlarged in Figure 2. Black box indicates the view shown in Figure 4.



Figure 2. Blue paint indicates the approximate extent of the flooded road to Ouplaas. The water rose to ~17 m above sealevel, or ~2 m above the bridges in this map.



Photo courtesy of Heidi Uys, Patryskraal



Figure 3. The bridge on the road to Ouplaas. Top – when flooded (arrow points to the bridge); Bottom – after the water receded. The water level is ~1.5 m below the road, or 13 m above msl.



Figure 4. The Salt River between the road to Ouplaas and the causeway to the Windhoek Farm, two weeks after the flood. View to the SE.



Figure 5. After the flood: the causeway over Salt River leading to Windhoek Farm is submerged under >1 m of water. Yellow line indicates the location of the causeway.

The causeway was only exposed again in the beginning of March 2022, or ten months after the flood. It was damaged but is still drivable (Figure 6).



Figure 6. The damaged causeway.

In the northern part of the De Hoop Vlei, only a small part of The Island protrudes the water (Figure 7).



Figure 7. Satellite image of the flooded northern part of the De Hoop Vlei after the flood (date unknown). Yellow arrow points to The Island; white arrow points to the historical Windhoek Farm.

The middle part of the vlei was inaccessible for photography. The southern part of the vlei was filling fast, as shown in Figure 8.



Figure 8. Melkkamer area. Top two photos – taken during the flood, while the water was rising. Bottom two photos were taken after the flood.

The flooded southern section of the vlei is shown in Figure 9.



Figure 9. The flooded Melkkamer area. Top – photo taken from the entrance to De Hoop Nature Reserve. Bottom – oblique aerial view.

The water level of the vlei was ~13 m above sealevel (Figure 10).



Figure 10. View of the flooded vlei. Top – view from the resort to the NW. Bottom – between the resort and Die Mond – view to the south.

The vlei water level is continuously recorded by the Dep of Water and Sanitation, by a hydrometer on the east shore of the south of the vlei (Figure 11). (See other Field Notes in this chapter).

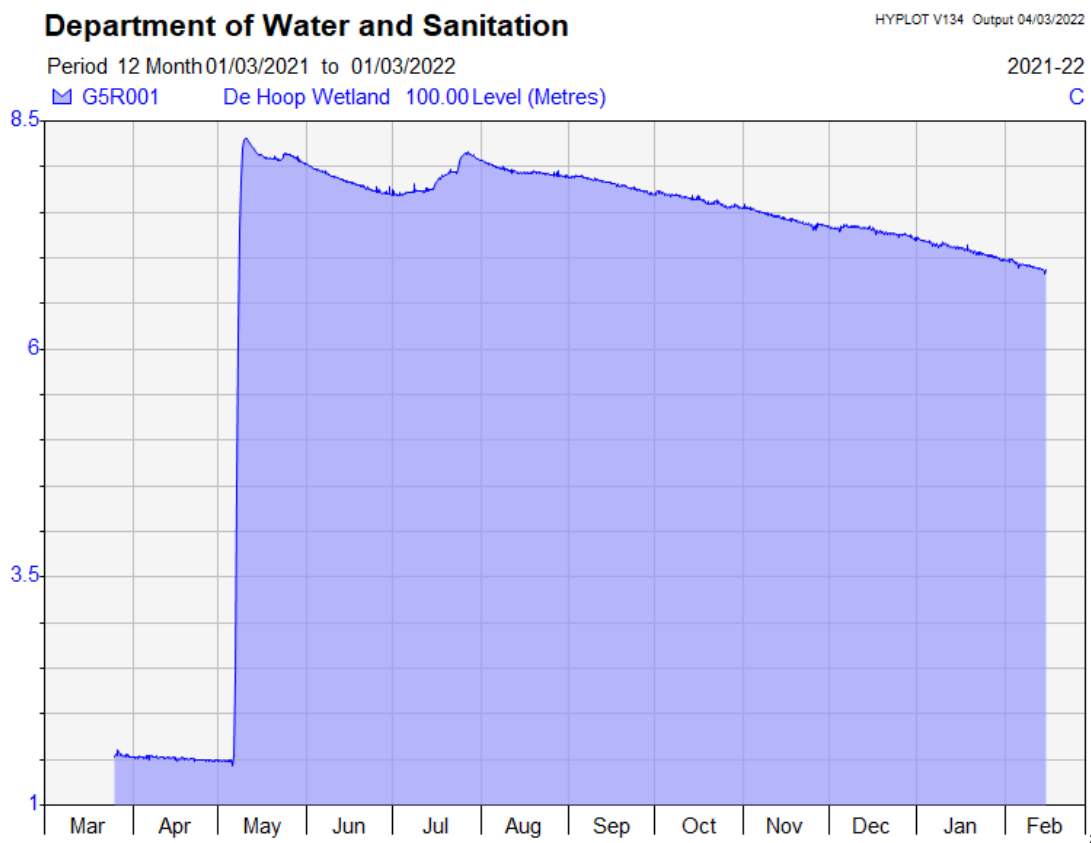
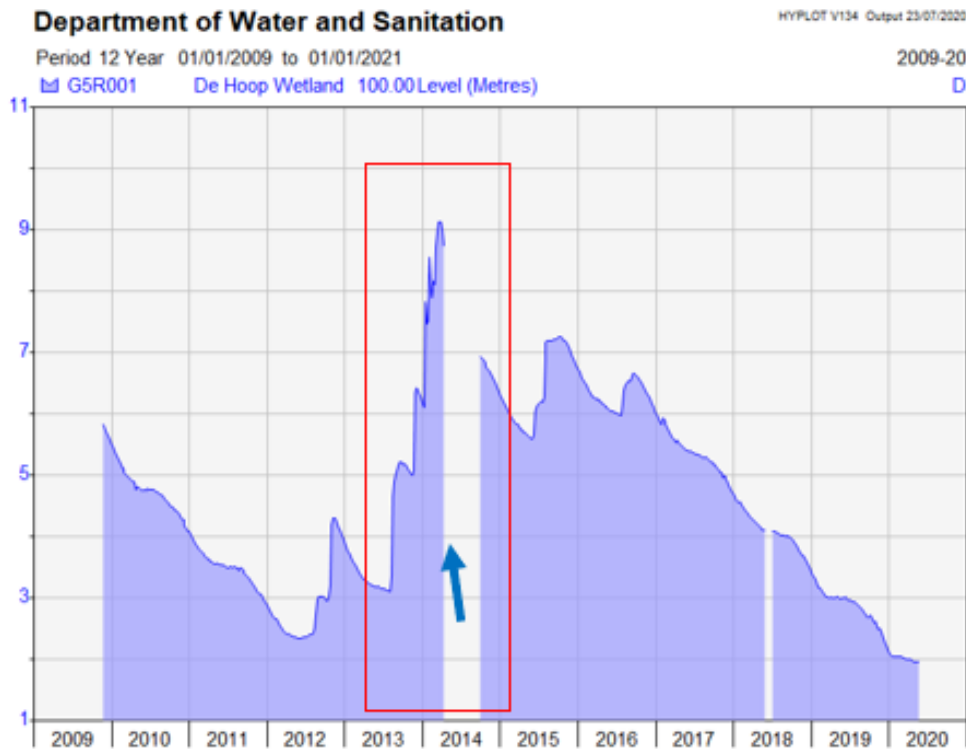


Figure 11. Water level in the vlei. Top – 2009 to 2020. Bottom – March 2021 to March 2022. Note that the level of the 2014 flood was higher than that of May 2021.

Courtesy: Warren Adonis, Department of Water and Sanitation, Hydrometry, Heatlievale, Worcester, 6849.

In the Die Mond area the water rose to above the very top of the hydrometer pole (Figure 12) and inundated the road, which leads to Melkkamer (Figure 13).



Figure 12. The top of the hydrometer pole near Die Mond. The base of the pole is believed to be ~5 m above sealevel.



Figure 13. The road to Melkkamer, just before the left turn-off to Koppie Alleen, was under ~1 m of water.

The areas southwest of the vlei are topographically low and were flooded nearly to the extent of the 1957 flood (Figures 14 to 16). See Desk Note on the 1957 flood in this Chapter.



Figure 14. Views on the flooded areas southwest of the vlei, Top – from the east bank of the vlei. Bottom – from the gate to the De Hoop Nature Reserve.



Figure 15. Oblique aerial views to the SW on the flooded vlei and the areas southwest of it.

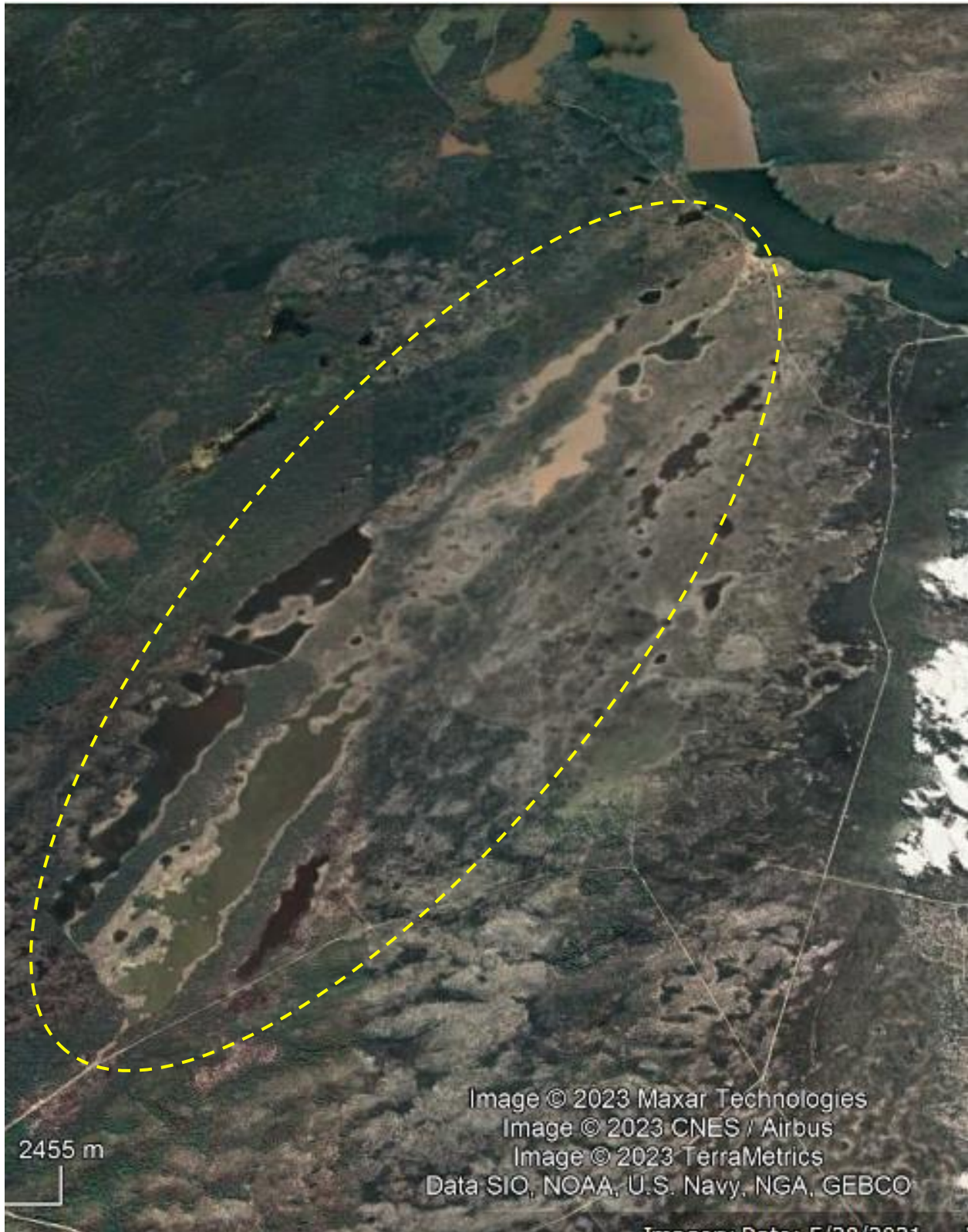


Figure 16. Satellite images of the vlei and the SW areas, showing the extent of the May 2021 flash flood (within the ellipse).

The extent of the flooded areas resulting from the 1957 flash flood was a little larger, as the water level was higher (Figure 17).

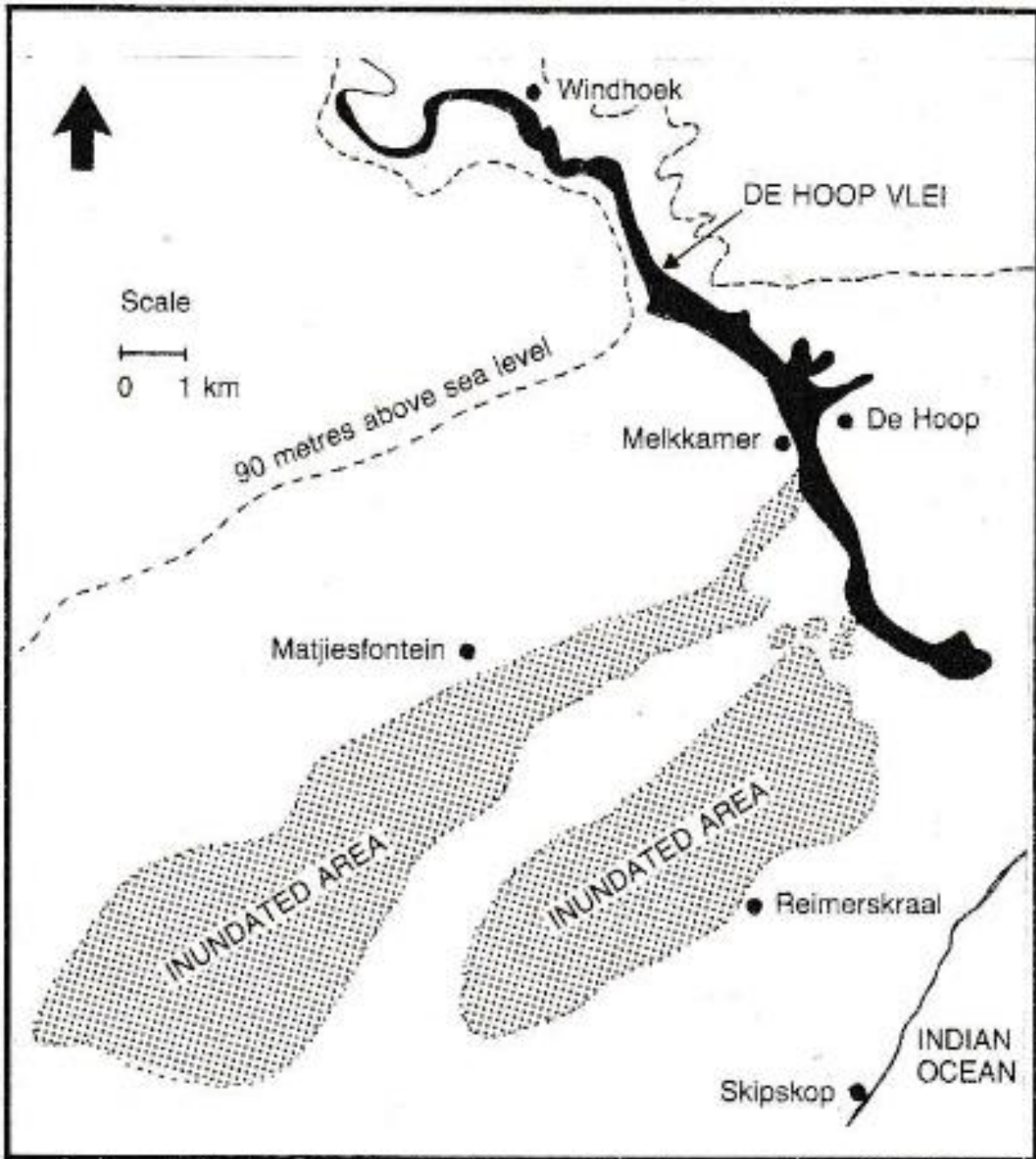


Figure 17. The extent of the 1957 flash flood (note that this map is inaccurate).

Map source unknown (from the magazine *The Ostrich*, Vol 38 No. 4).