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Tuesday, 14 November 2023

Severe thunderstorms wreak havoc over the northeastern areas of the country

During the afternoon and early evening of Monday 13 November 2023, the north-eastern parts of the country experienced severe thunderstorms. These included a tornado in the Lekwa local municipality in Mpumalanga, as well as hailstorms in parts of City of Johannesburg with the most severe of these in the suburbs of Midrand. These thunderstorms caused severe damage to property, including housing and other structures, as well as motor vehicles.

An extension of a low pressure area was positioned over the central parts of the country, with a high pressure to the east. This setup allowed for low-level moisture to be advected into the north-eastern parts of the country, supporting the development of thunderstorms. Thunderstorms started developing over south-eastern North West province and the northern Free State early in the afternoon, moving north-eastwards towards Gauteng and south-western Mpumalanga.

Once it was observed on the radar and satellite (figure 1) that some of these thunderstorms were becoming severe, a warning was issued for southern parts of Gauteng as well as Mpumalanga.

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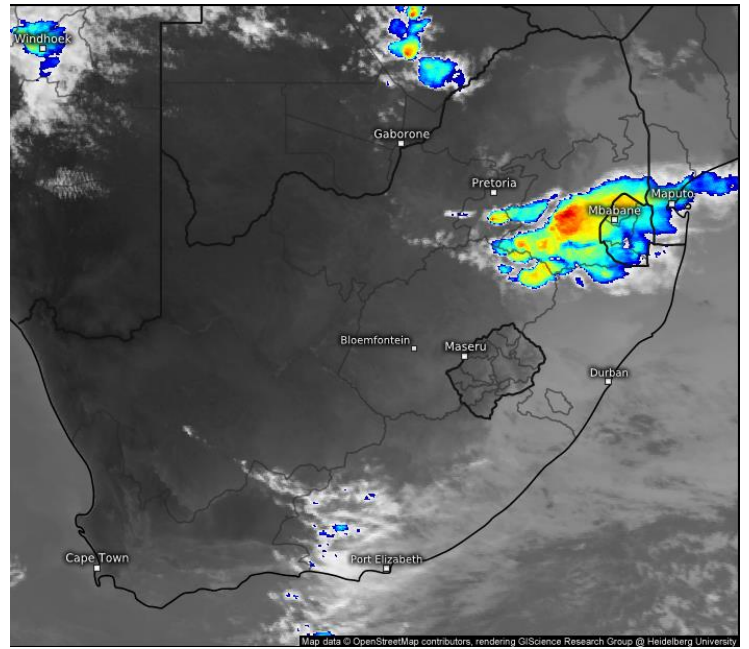
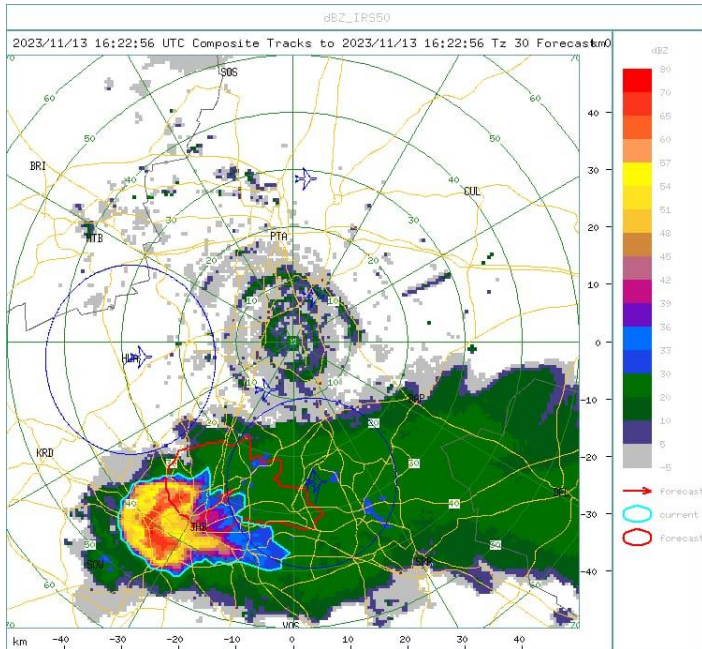


Figure 1: Radar image (left) showing severe thunderstorm in Gauteng and satellite image (right) taken from Meteologix: <https://meteologix.com/za/satellite/south-africa/top-alert-15min/20231113-1430z.html>

The isolated thunderstorm in Gauteng (radar image in figure 1) caused extensive damage to property and infrastructure (figure 2) because of the large hail. There were also reports of flooding as well as large amounts of small hail. The impact in Mpumalanga included that of electrical infrastructure, where a substation was affected, as well as uprooted trees which fell onto power lines and fences in the Lekwa local municipality (figure 3).



Figure 2: Images of the hail in Gauteng as well as the damage it caused



Figure 3: Images from the Lekwa local municipality, Mpumalanga

For the remainder of the week, partly cloudy and warm conditions will persist for most parts of the country with hot to very hot conditions expected to be over the south-western areas of the country. Isolated to scattered showers and thundershowers/thunderstorms will be confined to the central and eastern parts (figure 4) with no severe weather warnings issued yet.

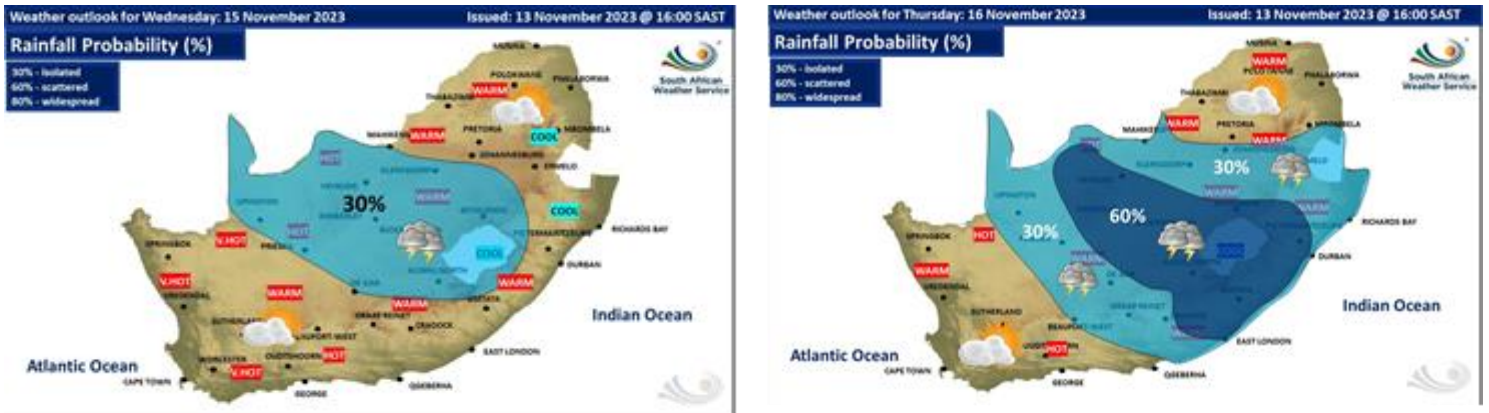


Figure 4: Forecast for Wednesday 15 November and Thursday 16 November

The El Niño-Southern Oscillation (ENSO) is currently in an El Niño state and according to the latest Predictions, is expected to persist through most of the summer months. ENSO’s typical impact on Southern Africa is in favour for generally drier and warmer conditions during the summer seasons from October to March. However, current global forecasts indicate a great deal of uncertainty for the typical drier conditions that South Africa experiences during typical El Niño seasons, in particular over the eastern parts of the country. Weather extremes will continue to occur from time to time during the summer season as much as drier conditions are expected.

The South African Weather Service (SAWS) multi-model rainfall forecast indicates above-normal rainfall for the north-east of the country during Nov-Dec-Jan (NDJ), Dec-Jan-Feb (DJF) and Jan-Feb-Mar (JFM) with below normal rainfall predicted for the central and south-western parts of the country. Predictions still favour above-normal rainfall conditions over the north-eastern parts of the country, even with an El Niño in place. For most of the areas where above-normal rainfall is predicted, these probabilities are low.

Caution is advised at this point as the El Niño effect might still manifest its influence in the next few months and change the outlook of the rainfall forecast for mid- and late-summer.

Minimum and maximum temperatures are expected to be mostly above-normal countrywide for the forecast period.

The SAWS will continue to monitor the weather and climate conditions and provide updates on any future assessments that may provide more clarity on the current expectations for the coming season.

Furthermore, the public are urged and encouraged to regularly follow weather forecasts on television and radio. Updated information in this regard will regularly be available at www.weathersa.co.za as well as via the SA Weather Service Twitter account @SAWeatherServic

Compiled by Lehlohonolo Thobela

Edited by Ezekiel Sebege and Elizabeth Viljoen

Approved by Mr Tshepho Ngobeni, Senior Manager: Disaster Risk Reduction

For technical and weather enquiries:

National Forecasting Centre: Tel: 012 367 6041

Media enquiries: Ms Hannelee Doubell: Manager, Communications; Tel: (012) 367 6104; Cell: 072 222 6305; E-mail: hannelee.doubell@weathersa.co.za

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