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To: All Media

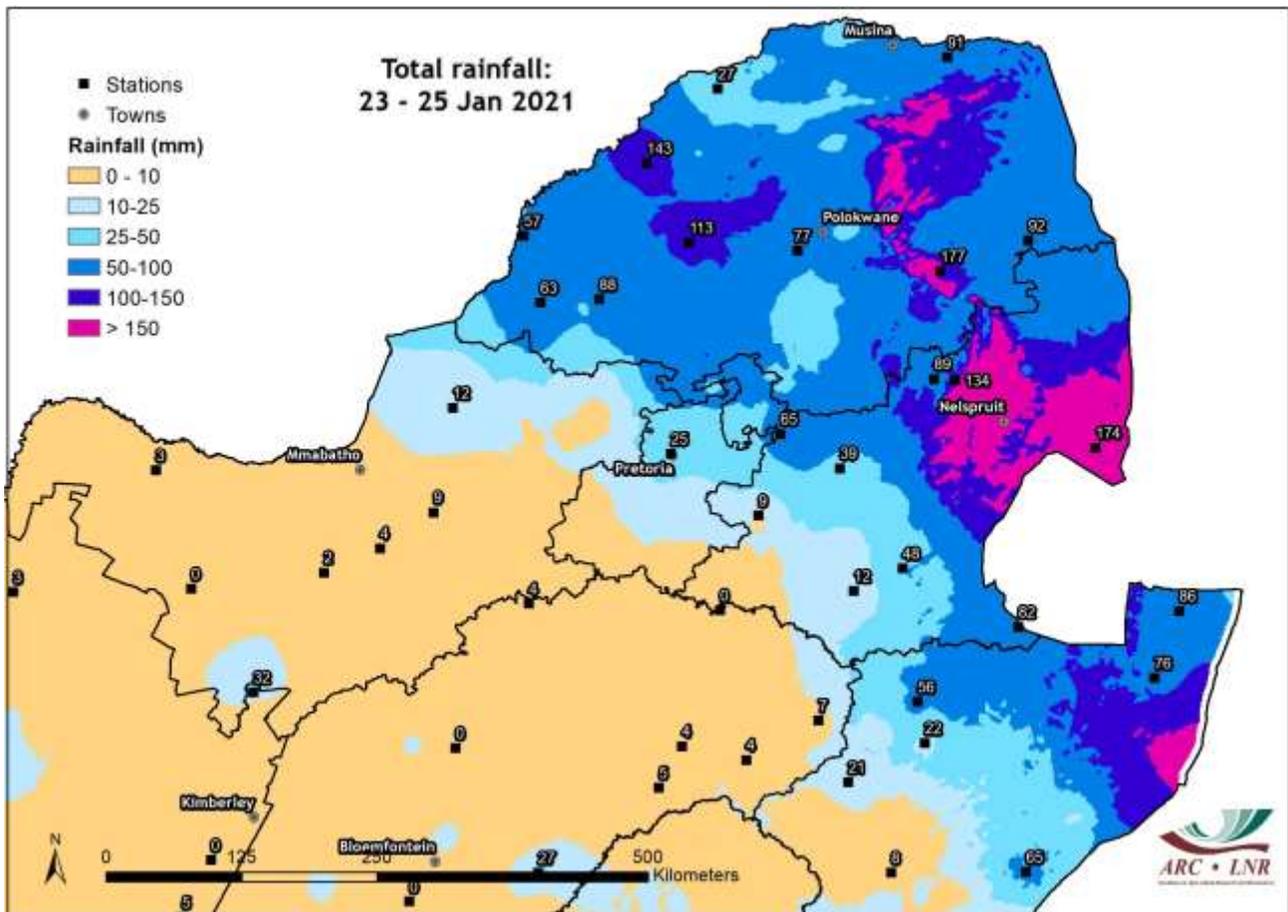
Date: 27 January 2021

Attention: News Editors / Agricultural Writers

The ARC weather station network assists to track and assess Tropical Cyclone Eloise and its probable impact on South African agriculture.

Pretoria: The Agricultural Research Council's Agro-Climate Network, comprising over 500 automatic weather stations situated across the country, enables Agrometeorology researchers to monitor and study the effects of weather events on South Africa's agricultural activities. The areas of expertise include various aspects of climatic effects on agriculture which, coupled with the long-term climate database (dating back nearly 100 years) housed at the ARC-Soil, Climate and Water, allows the ARC to conduct rapid and comprehensive research into all types of related occurrences.

An event such as the landfall of a tropical cyclone in late January and subsequent inland track towards south-eastern Botswana, as in the case of Eloise, is a rare occurrence. Such events can significantly boost seasonal rainfall totals over the north-eastern parts of South Africa and, as seen in this case, can result in widespread flooding over parts of Limpopo and Mpumalanga – especially the Lowveld. Rainfall associated with the system also makes a meaningful contribution to the moisture budget over the interior, with ARC weather stations recording rainfall totals over large parts of the interior west of the escarpment exceeding 50 mm within 3 days of the system making landfall (see rainfall map below). These are relatively high totals for this zone, compared to the normal rainfall contribution of such cyclones. The area receiving significant rainfall includes large parts of the eastern maize production region in Mpumalanga where totals earlier in the season were somewhat deficient.



Total rainfall map for 23-25 January 2021. Rainfall over the north-eastern parts of the country is associated with Tropical Cyclone Eloise. Based on rainfall recorded by the ARC Agro-Climatic Network – a selection of the weather stations are shown on the map.

Another important aspect currently is a shift in the weather patterns associated with the system having moved very far inland. The remnants of the system, together with other favourable atmospheric circulation patterns, will result in much wetter conditions over central South Africa in the next few days – during the critical period of the growing season for summer grain crops. Rainfall totals exceeding 150 mm are expected over the western parts of the summer grain production region between now and early February. The remainder of the summer rainfall region is also expected to receive further rain, with maximum temperatures somewhat lower than normal, resulting in decreased evapotranspiration rates. This will be of benefit to summer crops by providing increased soil water in the profile for the next few weeks.

The expected persistent wet conditions, however, may result in the occurrence of fungal pathogens while waterlogging may occur in areas with susceptible soil types and where above-normal rainfall already occurred since late December. The ARC recommends that farmers in affected areas should monitor nearby streams and rivers, as there could be further flash flooding with sudden rising water levels due to rain in the catchment area. Farmers could open some drainage furrows at the edge of the lower parts of their fields to facilitate quicker drainage of surface runoff water, whilst livestock owners should move their large and small stock to high-lying drier areas to prevent possible foot rot infections.

As it is almost February, crop farmers have little opportunity to replant. However, if some fields have well-drained soils, perhaps there is a window of opportunity to plant a short-season crop of sunflowers, beans (or other legumes) or vegetables that can be harvested before the first frost.

The CEO of the ARC emphasizes the importance of a high quality operational weather station network to support current and future efforts to provide Agromet advisories and to study climate variability and climate change and its effects on the agricultural sector.

Ends

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Notes to the Editors

About the Agricultural Research Council

The Agricultural Research Council is a premier science institution that conducts research with partners, develops human capital and fosters innovation in support of the agricultural sector. The ARC provides diagnostic, laboratory, analytical, agricultural engineering services, post-harvest technology development, agrochemical evaluation, consultation and advisory services, food processing technology services as well as various surveys and training interventions. For more information visit the ARC website at: www.arc.agric.za