

Special Weather Report for 21st May 2007

extreme Cold

Very cold weather conditions occurred over the country from 21st to 23rd May 2007. All stations recorded the lowest daily temperatures since the beginning of temperature records in 1965. This cold weather was due to the passage of successive cold fronts over the region, accompanied by a strong high pressure behind, pushing in very cold southerly air.

The genesis of the systems started on the 18th May when a cold front passed over the southern interior in the afternoon bringing gusty winds with moderate to heavy dust storms. On the 19th, the cold front had shifted east of the country, maintaining gusty north westerly winds over the subcontinent. A second cold front had developed, following immediately behind the first one. The system was pronounced and deepening at upper levels. On the 20th, the first front became quasi-stationary over the east coast, delaying movement of the second front. This resulted in build up of a tight pressure gradient and hence deepening the second front which was now situated on the southeast coast. The flow over the southern interior was turning from westerly to southwesterly.

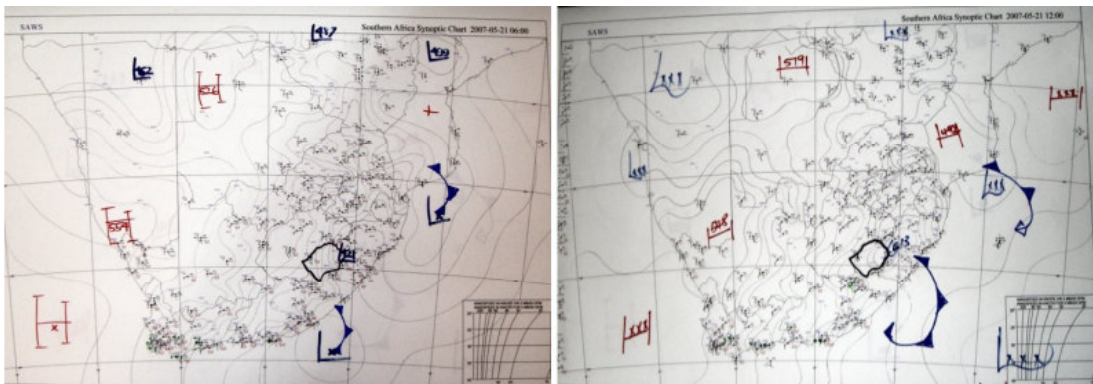


Figure 1: Analysed synoptic weather charts for 21st May 2007 at 0600Z (left panel) and 1200Z (right panel) showing the position of the cold fronts and the ridging high pressure behind.

On the 21st early morning the first front was progressing over the northeast coast and was situated at 25°S and 35°E with the second front still in the southeast coast. The Atlantic Ocean Anticyclone was ridging behind, pumping cold south westerly air over the southern interior. By afternoon the cold front was over the east coast. By midnight the country was bounded by the 1000/500mb 540-545 Dam contour and the freezing level was dropping below 7000ft (2134m) which was an **indication that snowfall was inevitable over our area**. Snowfall in the high lying areas and freezing temperatures over the entire country started at this time. Minimum temperatures dropped below freezing, the lowest values of -8.0°C at Quthing in the Lowlands and -9.9°C at Oxbow in the Highlands. During daytime, temperatures only managed to rise to highest of 5.8°C in the Lowlands and 3.0°C in the Highlands. These are the lowest ever recorded daytime temperatures in history since 1965. Snow had piled to 10cm at Oxbow in the northern Highlands, and 1cm at Semonkong in the central Highlands. On the other high lying areas snowfall was observed over the mountain ranges.

On the morning of the 22nd, the second front was exiting the subcontinent with the ridging high still maintaining a cold southerly airflow over the entire subcontinent. The entire country was bounded by the 540 Dam thickness contour. Temperatures were still very low up to this day, and are expected to remain low for the rest of the week.