المركز الإقليمي للعواصف الغبارية والرملية
Sand and Dust Storm Regional Center

المركز الوطني للأرصاد
National Center for Meteorology

Dust and Sandstorms Events in July 2025

Executive Summary:

This report provides a detailed analysis of dust and sandstorm (SDS) events across Saudi Arabia during July 2025, benchmarked against the 21-year climatological average (2003–2024). A total of 238 dust hours distributed over 24 days were recorded, reflecting a 41% decrease in dust hours and a 4% decrease in dust days compared to the long-term mean of 400 hours and 25 days. Regional variations were notable. The Eastern Region (particularly Al-Ahsa, Dammam, and Dhahran) recorded the highest activity, with Al-Ahsa registering 71 hours over 11 days, Dammam 31 hours over 6 days, and Dhahran 19 hours over 8 days. In contrast, the Central and Western regions (Riyadh, Madinah, and Yanbu) reported complete inactivity with 0 hours and 0 days, while Northern stations such as Rafha and Arar showed very limited activity (4 hours and 1 day at Rafha). Some Central locations such as Dawadmi recorded only minimal levels (1 hour, 1 day). On the event scale, blowing dust dominated with 236 cases (99%), though substantially below the historical average of 389 cases (97%). Sandstorms decreased to only 2 cases (vs. 6 historically), while no dust storms were reported, compared to the historical mean of 5 cases. This indicates a month heavily skewed toward low-intensity SDS activity, with storm-scale events significantly suppressed. A case study from 28 July 2025 in Gizan highlighted one of the rare sandstorms of the month. Strong easterly winds (20–22 knots), combined with very dry and hot conditions (36°C, dew point 16–22°C), reduced visibility to 500–900 meters. Synoptic analysis confirmed a strong pressure gradient and satellite imagery corroborated the presence of thick dust plumes. These results emphasize that July 2025 was characterized by widespread but low-intensity SDS activity, with notable suppression of storm-scale events, and strong regional contrasts between active Eastern stations and inactive Central/Western locations.