المركز الإقليمي للعواصف الغبارية والرملية
Sand and Dust Storm Regional Center

المركز الوطني للأرصاد
National Center for Meteorology

Dust and Sandstorms Events in November 2024

Executive Summary:

This report presents an in-depth analysis of dust and sandstorm (SDS) events across Saudi Arabia during November 2024, benchmarked against the 21-year climatological average (2003–2023). A total of 71 dust hours distributed over 11 days were recorded, reflecting a 56% decrease in dust days and a 11% decrease in dust hours compared to the long-term mean (27 days; 80 hours). Regional variations: Eastern Province showed mixed signals. Al-Ahsa (2 d; 24 h) registered a sharp rise in dust hours (+13 h, +118%), though days dropped slightly (–33%). Dammam (1 d; 6 h, +2 h) and Dhahran (1 d; 2 h, –1 h) showed marginal deviations, while Hafar Al-Batin had no events (–2 d; –5 h). In the Central Region, Al-Kharj (2 d; 13 h) stood out with a strong positive anomaly (+10 h; +333%), while Riyadh (1 d; 3 h, +1 h) showed a modest rise. Al-Dawadmi and Al-Qassim fell inactive. The Northern Region was largely below normal, with Al-Qurayyat (1 d; 4 h, normal) the only active site, while Rafha, Arar, and Turaif recorded deficits. The Western Region remained subdued, though Jeddah (1 d; 5 h, +3 h; +150%) showed a notable increase. Other stations including Yanbu, Al-Wajh, and Al-Madinah had no events. The Southern Region showed sporadic anomalies. Najran (1 d; 2 h) recorded a small positive signal, while Wadi Al-Dawasir (1 d; 12 h) emerged as a hotspot with +200% in hours. Sharurah (–2 h) fell below climatology, while Abha, Jizan, Khamis Mushait, and Taif remained inactive. On the event scale, blowing dust (BLDU) dominated across active stations, with minor dust storm (2 DS) activity. These findings underscore that November 2024 was characterized by strong localized anomalies in Al-Ahsa, Al-Kharj, Jeddah, and Wadi Al-Dawasir, contrasting with widespread suppression across the Northern and Eastern interiors.