المركز الإقليمي للعواصف الغبارية والرملية
Sand and Dust Storm Regional Center

المركز الوطني للأرصاد
National Center for Meteorology

Dust and Sandstorms Events in September 2024

Executive Summary:

This report presents an in-depth analysis of dust and sandstorm (SDS) events across Saudi Arabia during September 2024, benchmarked against the 21-year climatological average (2003–2023). A total of 31 dust hours distributed over 12 days were recorded, reflecting a 65% decrease in dust hours and a 57% decrease in dust days compared to the long-term mean (89 hours; 28 days). Regional variations were pronounced: the Eastern Province (notably Al-Ahsa) recorded (2 d; 10 h, –1 d; –5 h), while Dammam and Dhahran both dropped to zero despite climatological means of 2 d; 5 h each. Hafar Al-Batin also reported no activity (–1 d; –4 h). The Central Region showed near-total suppression, with Al-Qassim the only active site (1 d; 2 h, +1 d; +1 h), while Riyadh, Al-Kharj, and Al-Dawadmi had no events. In the Northern Region, Rafha (1 d; 1 h, near-normal in days but –3 h) showed minimal activity, while Arar, Qurayyat, Turaif, Al-Jawf, and Tabuk reported no dust events. The Western Region included isolated activity: Yanbu (2 d; 6 h, normal), Jeddah (1 d; 2 h, normal), and Taif (1 d; 1 h, –1 h). Al-Madinah dropped to zero (–1 d; –1 h). The Southern and Southwestern Regions exhibited contrasting patterns. Jizan (3 d; 6 h, +1 d; +2 h) and Sharurah (1 d; 3 h, +2 h) recorded positive anomalies, while Najran and Bisha fell to zero (–1 d; –2 h and –1 d; –1 h, respectively). On the event scale, blowing dust (BLDU) dominated the observed phenomena, with minor dust storm (1 DS/1 SS/ 3 BLSA) events reported during the month. These results emphasize that September 2024 remained markedly below climatology. Localised increases in Jizan, Sharurah, and Al-Qassim contrasted with widespread inactivity across the central, eastern, and northern regions.