المركز الإقليمي للعواصف الغبارية والرملية
Sand and Dust Storm Regional Center

المركز الوطني للأرصاد
National Center for Meteorology

Dust and Sandstorms Events in May 2024

Executive Summary:

This report provides an in-depth analysis of dust and sandstorm events (SDS) across Saudi Arabia during May 2024, compared to the 21-year climatological average (2003–2023). A total of 94 dust hours were recorded over 33 days, reflecting a 74% decrease in dust hours and a 74% decrease in dust days compared to the long-term average (487 hours; 126 days). Regional differences were evident: the Eastern Province showed partial activity, with Al-Ahsa (6 days; 19 hours, -3 days; -39 hours), Dammam (3 days; 15 hours, -4 days; -19 hours), and Dhahran (1 day; 2 hours, -6 days; -32 hours), while only Hafar Al-Batin recorded SDS (1 day; 1 hour, -7 days; -34 hours). The central region witnessed intense wind activity, with Riyadh (1 day; 1 hour, -8 days; -20 hours) and Al-Kharj (1 day; 2 hours, -7 days; -17 hours) experiencing a sharp decline in activity, while Qassim and Ad-Dawadmi witnessed no wind activity. The northern region recorded limited wind activity: Al-Qurayyat (2 days; 6 hours, -8 hours), Rafha (1 day; 2 hours, -8 days; -45 hours), and Tarif (1 day; 1 hour, -5 days; -25 hours), while winds in Arar and Al-Jawf dropped to zero. Tabuk (3 days; 6 hours, -1 day; -4 hours) was the most active in the north. In the western region, activity was very limited: Yanbu (2 days; 8 hours, -1 day; 0 hours) reached its climatic hours, while Medina (1 day; 1 hour, -1 day; -3 hours) and Jeddah (0) showed a deficit. In the southern and southwestern regions, Sharurah (5 days; 13 hours, -4 hours) matched its climatological days but decreased in hours. Najran (1 day; 2 hours, -2 days; -3 hours) and Jazan (1 day; 2 hours, -2 days; -4 hours) recorded limited events. These results confirm that May 2024 was significantly suppressed, with dust days and hours nationwide decreasing by about three-quarters relative to climatology.