

26 Shevat 5785

February 24, 2025

Analysis of the “Coral” Cold Wave Event

An extreme cold wave ("Coral") swept across our region in recent days, resulting in very low temperatures and snowfall in the mountains of the north and center, even at relatively low elevations. However, accumulation was limited to a thin layer. Elsewhere, light rainfall occurred.

Background

Prior to the onset of the cold wave, precipitation fell between the 19th and 21st of the month, measuring 5 to 15 mm from the north of the country to the northern Negev. The Besor area received over 20 mm, as did parts of Samaria and Judea.

On the 22nd, a pronounced cooling trend commenced, intensifying subsequently due to the arrival of very cold air from the north and northeast within the lower atmospheric layers. However, the short maritime trajectory traversed by the northwesterly winds, combined with the absence of a well-defined surface low, inhibited the formation of developed clouds. Even the clouds that did form exhibited limited vertical development because the mid-levels did not cool as significantly as the lower levels. This situation produced clouds with low tops and low precipitation content. Consequently, precipitation amounts were meager, and the snowfall that did occur accumulated only thinly.

Temperatures

On the 22nd, daytime temperatures registered 5°C to 7°C below average. During the night of the 22nd-23rd, sub-zero temperatures below 0°C were recorded in the northern mountains and the highest peaks of the central mountains. On the 23rd, maximum temperatures measured approximately 4°C to 5°C in the mountains and 11°C to 13°C across the coastal plain, northern Negev, and valleys. On the night of the 23rd-24th, minimum temperatures plunged to -6°C to -4°C in the northern Golan Heights, -2°C to -1°C in the Upper Galilee and southern Golan, and -1°C to 0°C in the Judean Mountains. The northern valleys recorded 1°C to 3°C, while the coastal plain and Shfela measured 3°C to 5°C. On the 24th, daytime temperatures in the mountains resembled those of the previous day, while the coastal plain and northern Negev experienced further cooling, with maximum temperatures reaching only 9°C to 11°C - values 8°C to 10°C below the average (Table 1).

Snowfall

The exceptionally low temperatures facilitated snowfall in the northern and central mountains, even down to elevations of approximately 400 meters and above. Snowfall was also reported on Mount Carmel. However, due to the scarcity of precipitation, snow amounts were minimal and generally failed to settle on the ground across most areas. In the northern Golan and Upper Galilee, a layer of 1 to 3 cm accumulated.

Precipitation Amounts

From the north of the country to the northern Negev, the event yielded 3 to 6 mm of precipitation. Slightly higher amounts of 7 to 12 mm fell in the northwestern Negev.

Event Anomalies

While the temperatures recorded in recent days were indeed exceptionally low, they did not break records. Lower minimum temperatures have been registered in recent years (some occurring on clear nights featuring rapid radiative cooling). Notably, however, concerning the mean daily temperature on the 24th (combining day and night) on a nationwide scale, this marked the coldest day of the past decade - since January 16, 2016.

Table 1: Daily Minimum and Maximum Temperatures (°C) on 22-24.02.25 Compared to the Average

Station	22.2.25	23.2.25	24.2.25	Multi-year average of February
Merom Golan	4.8 – (-3.7)	4.2 – (-2.4)	4.1 – (-5.7)	11.7 – 2.3
Avnei Eitan	11.0 – (-0.3)	9.1 – 1.7	8.8 – (-1.8)	15.9 – 6.5
Zefat Har Kena'an	4.7 – 0.1	3.8 – (-1.5)	4.5 – (-2.0)	11.3 – 5.4
Harashim	5.4 – 0.1	4.6 – (-1.6)	5.2 – (-2.0)	12.3 – 6.0
Jerusalem	7.2 – 3.1	5.4 – 1.2	4.6 – 0.6	14.0 – 7.3
Zova	7.9 – 2.2	6.8 – (-0.2)	5.8 – (-0.8)	15.2 – 7.5
Rosh Zurim	5.5 – 1.7	4.5 – (-0.4)	2.4 – (-0.6)	11.9 – 5.4
Bet Dagan	14.1 – 8.3	12.5 – 5.8	10.0 – 3.6	18.8 – 8.4
Kefar Blum	11.8 – 1.3	11.9 – 2.4	12.8 – 0.2	18.9 – 6.8
Beer Sheva	13.0 – 6.9	10.9 – 6.0	9.5 – 3.3	18.6 – 7.7
Sede Boqer	10.9 – 5.1	9.3 – 3.1	8.8 – 0.0	16.9 – 5.6