

01 June 2023

Monthly Weather Summary – May 2023

May temperatures were close to average and relatively large amounts of rain fell in the south and east of the country, mostly in an usual event at the end of the month. In other areas there was little rainfall and in some of them there was no rainfall at all. Thus the 2022/23 rainfall season ends with lower-than-average rainfall, but in most areas not significantly – on a country wide level the amounts reach nearly 90% of average. The southern and eastern parts of the country were rainier than average. There were several Sharav events during the month of May, which were mostly short-lived. On the other hand, there were several cool weather episodes, so in summary the month was near the temperature average.

Rainfall Amounts

The largest rainfall amounts were obtained in the south and east of the country. The station of Mizpe Ramon measured 20 mm. In the Arava, the Dead Sea area, the Jordan Valley, the eastern mountain ridge and parts of the northeast of the country 5 to 15 mm fell (for example, Banias 13 mm, Gilgal 12 mm, Mezoke Dragot 9 mm, Fazael 8 mm). The rain mostly fell in an event that took place at the end of the month (details below). In other areas of the country the rainfall amounts during May were low and usually did not exceed 3 mm (figure 1). In several areas there were larger amounts (Fassuta 10 mm, Mi'ilya 9 mm, Kedumim 7 mm, En HaShofet 6 mm). The multi-annual average for the month of May is 10 to 15 mm in the northern mountains, 5 to 10 mm in the northern coastal plain, the northern valleys and the central mountains, 3 to 5 mm in the central and southern coastal plain and under 3 mm in the south and east of the country. Table 1 presents the rainfall data for May compared to the average in several stations.

Comparison to Past Years

The monthly rainfall amounts in the south of the country are unusual for May in some of the stations. In Mizpe Ramon (where 20 mm fell) a larger amount was measured only once, in 1967 (36 mm), since the measurements started 60 years ago and a similar amount was measured in 1982. In the entire central Negev, southern Negev and the Arava area, similar or higher monthly amounts were measured in May in one of the rain stations only 5 times since the early 1940's: in 2014 (with larger and more wide-spread amounts), in 1982, in 1968, in 1967 and in 1945.

In Gilgal and in Hazeva there were only two more cases in which higher monthly amounts were measured in May since measurements started there in the 1980's.

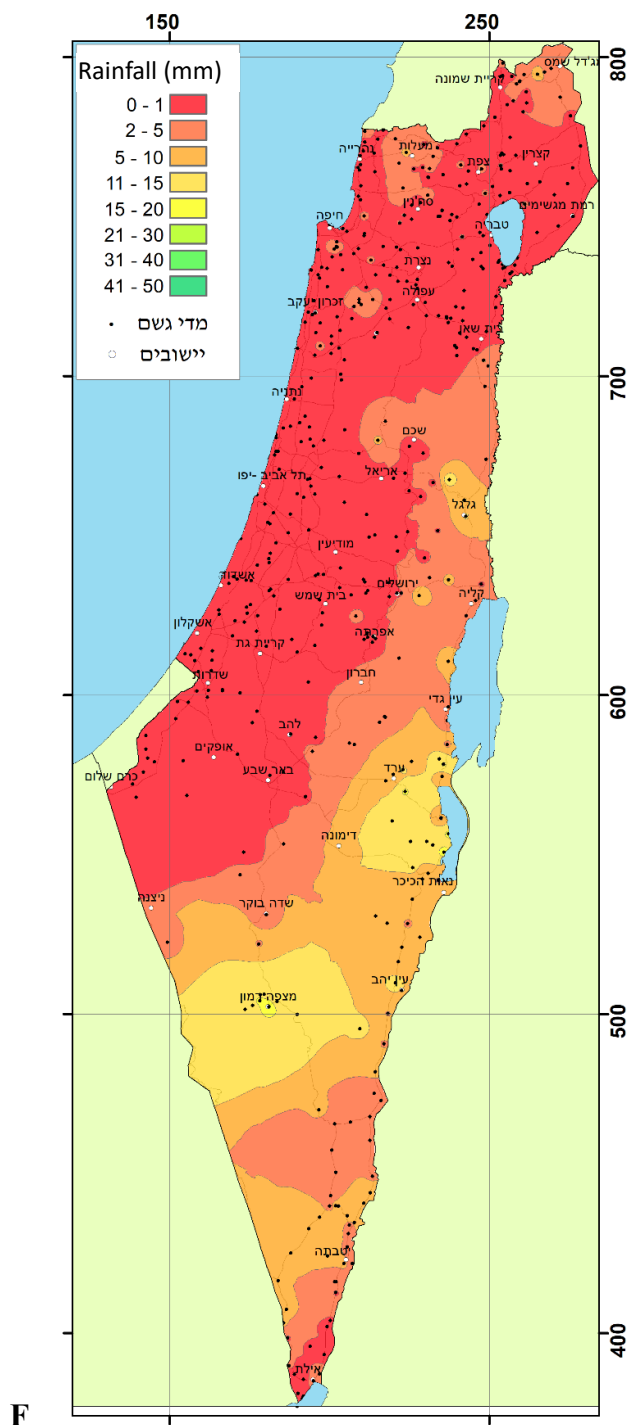


Table 1: Rainfall amounts in May 2023 compared to the multi-year average*

Area	Station	Rainfall amount in May 2023 (mm)	Multi-year average for May (mm)*
Coastal Plane and Lowlands	Rosh Haniqra	3	14
	Nahariyya	1	9
	Evron	2	9
	Haifa Technion	1	7
	Haifa (Port)	0	7
	Yagur	0.4	7
	Daliyat al-Karmel	0	6
	En Hashofet	6	7
	Zichron Yaakov	0.3	6
	Amikam	0.5	6
	Gilad	0.5	7
	En HaHoresh	0.3	4
	Bene Dror	0	5
	Kefar Hess	0.5	5
	Nir Eliyyahu	0.3	6
	Nahshonim	0	5
	Hakfar Hayarok	1	3
	Tel Aviv Coast	0	2
	Mikve Yisrael	0	3
	Bet Dagan	0	4
	Ben Gurion Airport	0	4
	Rishon Lezion	0	4
	Palmahim	0	2
	Netzer Sireni	0	3
	Gan Shlomo	0	2
	Nir Galim	0	3
	Qevuzat Yavne	0	3
	Be'er Tuveya	0	4
	Nizanim	0	3
	En Zurim	0.3	3
	Negba	0	4
	Zikim	0	4
	Erez	0	5
Dorot	0	5	
Yakhini	0	5	
Nahal Oz	0	2	
Beeri	0	2	
Northern Mountains	Besor	0.1	1
	Newe Ativ	4	17
	Nimrod Fortress	4	15
	Merom Golan Picman	0.5	13
	Gamla	1	9

	Elon	3	17
	Kabri	0.5	9
	Metula	2	13
	Kefar Giladi	0.5	10
	Meron	2	12
	Zefat Har Kenaan	2	12
	Harashim	0.6	19
	Deir Hana	1	10
	Neve Ya'ar	1	8
Northern Valleys	Afula Nir HaEmek	0.5	4
	Banias	13	12
	Dafna	3	10
	Kefar Blum	2	7
	Ayyelet Hashahar	2	7
	Ginnosar	0.6	8
	Zemah	0	6
	Sede Eliyyahu	7	5
	Kedumim	7	7
Central Mountains	Elkana	0	6
	Eli	1	4
	Shiloh	0	5
	Neve Zuf	0	7
	Har Horesha	1	9
	Talmon	1	7
	Pesagot	1	7
	Zova	1	6
	Jerusalem Center	1	7
	Ma'ale Adumim	12	4
	Beit Jimal	0.3	7
	Zur Hadasa	2	7
	Rosh Zurim	1	8
The Nagev**	Arad	6	3
	Beer Sheva	0.6	4
	Revivim	2	
	Sede Boqer**	1	
	Mizpe Ramon**	20	
	Neot Smadar	7	
Jordan Valey and the Aravah**	Gilgal	12	
	Sedom**	7	
	Hazeva**	8	
	Paran**	4	
	Yotvata	3	
	Elat**	4	

* The multi-annual average relates to the years 1991 to 2020. In stations that did not operate for that entire period, the averages are fitted for these years.

** In arid areas there is no reference to multi-annual averages due to the low absolute values of rainfall amounts and averages.

Rain Events

- a. May 6-7: small amounts of rain fell mostly in the north of the country, in Samaria and in parts of the coastal plain. The amounts were usually below 2 mm but there were several places that received more – near Ma'alot (Galilee) and in Kedumim (Samaria) 7 to 8 mm were measured.
- b. May 19-20: small rainfall amounts (below 2 mm) fell mainly in the north of the country.
- c. May 19-20: A significant event which was unusual for this period. Due to advection of moisture and clouds from tropical areas, rain fell primarily in the south and the east of the country. 20 mm fell in Mizpe Ramon and over 10 mm were measured in the eastern Negev, the Arad area, parts of the Judean Desert, the Dead Sea, Hula Valley and the Jordan rift valley as well. Smaller amounts fell in other areas. The rain was accompanied by frequent thunderstorms as well as heavy hail in eastern Samaria and the Jordan valley. Rain intensity was high and caused flooding in the streams. It should be noted that these amounts of rain in the Negev and the Arava in the end of May and in June are unusual and occurred just a few times in the past 80 years: in 1945, in 1957, in 1968 and in 2014.

Rain amounts in the 2022/23 Season

The rainfall in May did not have a significant effect on the overall average rainfall status, except for the Mitzpe Ramon area which became rainier than average in the 2022/23 season. In a country-wide perspective (for areas with an annual average of 200 mm or more), the rainy season saw nearly 90% of the annual average. Although the season as a whole ends with smaller amounts than the average, this is a considerable improvement compared to the situation in the first part of the season, when by the end of January approximately 50% to 60% of the average for that period fell and there was a concern that the rainy season would end with a large deficit. In a regional distribution (figure 2 and table 2), in the north of the country and in parts of the coastal plain (until the Tel-Aviv area) the rainfall amounts in the 2022/23 season are smaller than average and reach 70% to 90% of it. In several places in the Lower Galilee the amounts are even less than 70% of average.

In the southern coastal plain (south of Tel-Aviv) amounts reach approximately 100% to 115% of average. In Judea and Samaria, the amounts are near average or more and this is especially prominent in the eastern parts of the mountain area. In the northern Negev the amounts for the 2022/23 season reach 110% to 120% of average and it is especially notable in arid areas with amounts 1.5 to 2 times the average from the central Negev southward and in the Arava, the Dead Sea and southern Jordan Valley areas.

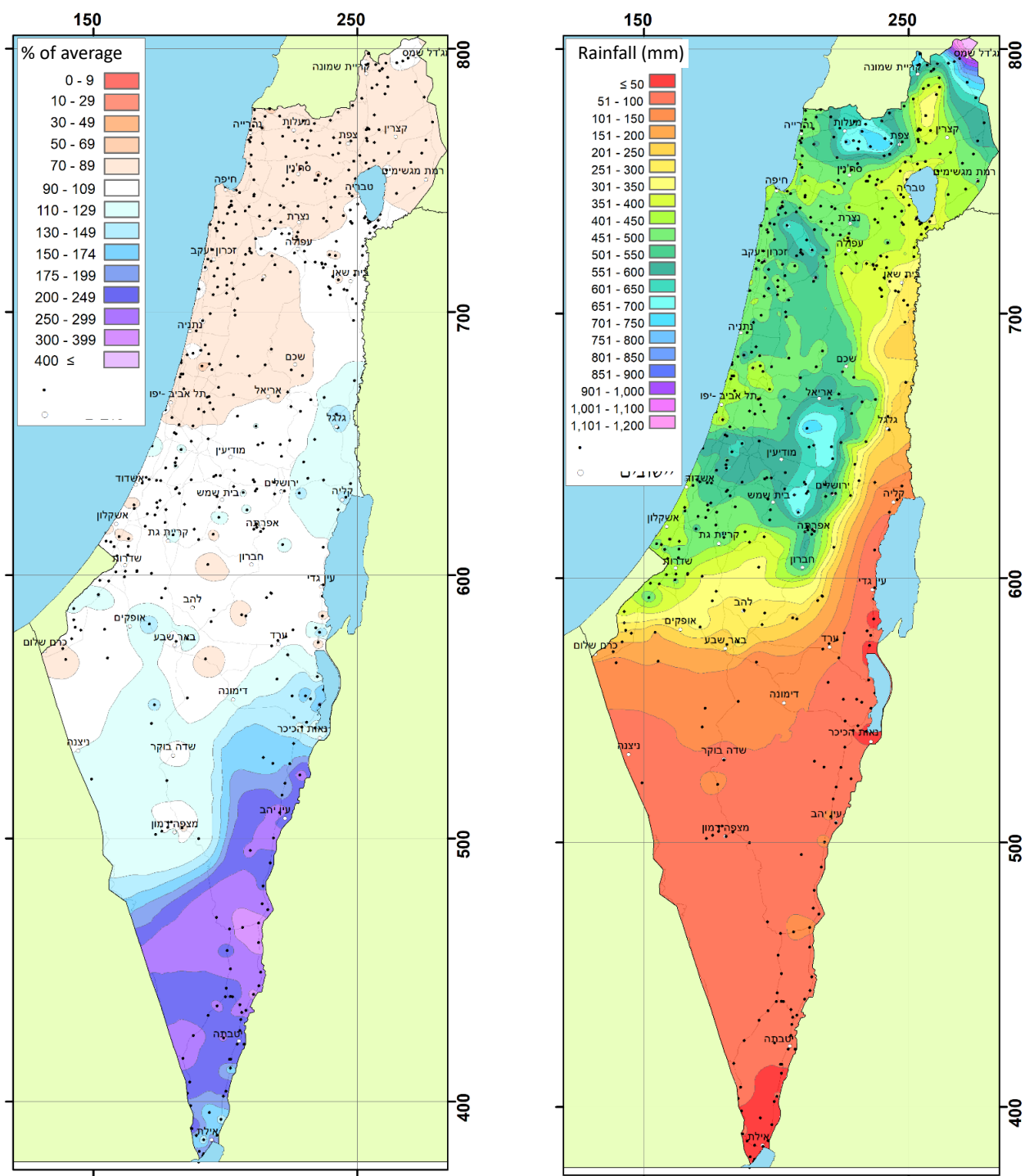


Figure 2: Rainfall amounts in the 2022/23 season (right) and comparison to the seasonal multi-annual average (left).

Table 2: Rainfall Amounts since the beginning of the Season compared to Average*

Station	Accumulated amounts from start of season to end of May (mm)	Total Season Multi-Annual Average*	% of Average for Entire Season
Rosh Haniqra	456	613	74%
Nahariyya	471	615	77%
Evron	483	626	77%
Haifa Technion	509	671	76%
Haifa (Port)	432	565	76%
Yagur	549	709	77%
Daliyat al-Karmel	666	796	84%
En Hashofet	557	661	84%
Zichron Yaakov	480	574	84%
Amikam	500	635	79%
Gilad	485	654	74%
En HaHoresh	464	576	81%
Bene Dror	530	578	92%
Kefar Hess	494	615	80%
Nir Eliyyahu	423	614	69%
Nahshonim	488	553	88%
Hakfar Hayarok	420	557	75%
Tel Aviv Coast	419	443	95%
Mikve Yisrael	392	522	75%
Bet Dagan	468	540	87%
Ben Gurion Airport	490	541	91%
Rishon Lezion	556	511	109%
Palmahim	572	474	121%
Netzer Sireni	648	581	112%
Gan Shlomo	593	535	111%
Nir Galim	507	504	101%
Qevuzat Yavne	508	526	97%
Be'er Tuveya	488	538	91%
Nizanim	489	505	97%
En Zurim	492	524	94%
Negba	514	500	103%
Zikim	479	447	107%
Erez	437	443	99%
Dorot	385	394	98%
Yakhini	457	451	101%
Nahal Oz	417	420	99%
Beeri	472	359	131%
Besor	217	216	100%
Newe Ativ	874	947	92%
Nimrod Fortress	733	816	90%

State of Israel
Ministry of Transportation
Meteorological Service



Merom Golan Picman	642	811	79%
Gamla	469	578	81%
Elon	601	805	75%
Kabri	449	666	67%
Metula	733	825	88%
Kefar Giladi	670	757	89%
Meron	677	881	77%
Zefat Har Kenaan	519	688	75%
Harashim	694	988	70%
Deir Hana	417	616	68%
Neve Ya'ar	483	584	83%
Afula Nir HaEmek	410	460	89%
Banias	667	690	97%
Dafna	517	615	84%
Kefar Blum	417	507	82%
Ayyelet Hashahar	371	472	79%
Ginnosar	339	447	76%
Zemah	355	383	93%
Sede Eliyyahu	259	278	93%
Kedumim	486	642	76%
Elkana	522	600	87%
Eli	615	590	104%
Shiloh	533	522	102%
Neve Zuf	722	690	105%
Har Horesha	651	668	97%
Talmon	621	648	96%
Pesagot	671	694	97%
Zova	717	656	109%
Jerusalem Center	555	522	106%
Ma'ale Adumim	386	276	140%
Beit Jimal	515	506	102%
Zur Hadasa	711	636	112%
Rosh Zurim	513	564	91%
Arad	135	134	101%
Beer Sheva	208	192	108%
Revivim	129	98	132%
Sede Boqer	91	87	105%
Mizpe Ramon	82	70	117%
Neot Smadar	69	30	230%
Gilgal	224	171	131%
Sedom	53	39	136%
Hazeva	81	40	203%
Paran	95	33	288%
Yotvata	62	25	248%
Elat	48	22	218%

* The multi-annual average relates to the years 1991 to 2020. In stations that did not operate for that entire period, the averages are fitted for these years.

www.ims.gov.il

ת.ד. 25 בית דל, 50250

פקס 03-9604065

דוא"ר: ims@ims.gov.il

Number of rain days

The number of rain days in the 2022/23 rainfall season (over a 1 mm threshold) is largely consistent with the rainfall amount in relation to the average. Table 3 shows that the number of days is below average in the north of the country and in the central coastal plain, near average in the central mountains and the southern coastal plain and above average in the south of the country.

	No. of rain days in the 2022/23	Multi-Annual Average of No. of Rain days until the end of May*
Nahariyya	42	52
En HaHoresh	40	46
HaKefar Hayarok	37	45
Bet Dagan	35	42
Negba	40	37
Be'eri	29	33
Kefar Giladi	48	55
Merom Golan	45	54
Zefat Har Kenaan	46	52
Afula Nir HaEmek	39	44
Jerusalem Center	38	41
Beit Jimal	40	40
Rosh Zurim	44	42
Dorot	34	34
Be'er Sheva	31	26
Kefar Blum	43	49
Ayyelet HaShahar	38	46
Deganya Alef	35	41
Sede Eliyyahu	33	36
Sedom	12	9
Elat	8	4

* The multi-annual average relates to the years 1991 to 2020. In stations that did not operate for that entire period, the averages are fitted for these years.

** In arid areas there is no reference to multi-annual averages due to the low absolute values of rainfall amounts and averages.

Temperatures and Weather During May 2023

Temperatures in May were close to average (1991 to 2020) in most parts of the country. In the coastal plain daily temperatures were higher than average by 0.5 to 1 °C and in the Arava they were lower than average by a similar margin (table 4). As can be seen in figures 3 and 4, there were sharav or warmer than average days during the month alongside cooler than average days, as is typical for the spring. Following the coolness of late April, early May was cooler than normal, especially on May 1 when the lowest temperatures of the month were measured – in the mountains 7 to 8 °C at night and 18 to 20 °C during the day, and in the lowlands and the valleys 7 to 9 °C at night and 21 to 22 °C during the day. Additional notable cool episodes were on the 6th to the 8th of the month (with temperatures 5 to 6 °C below average in the mountains and inland areas), on the 13th to 14th of the month and on the 18th to 20 of the month.

Sharav events during the month:

May 4-5: A rise in temperature occurred on the 4th of the month and a Sharav prevailed in some areas. On May 5 the Sharav intensified with temperatures of 38 to 39 °C in the coastal plain, the lowlands, the northern Negev and the northern valleys. Temperatures of 40 to 42 °C were measured in the eastern valleys and the Sharav in these areas reached its peak at noon and afternoon.

May 10-12: A Sharav prevailed mainly inland with temperatures of 38 to 39 °C in the northern and eastern valleys, 33 to 35 °C in the northern Negev and 30 to 32 °C in the mountains.

May 16-17: On the 16th of the month temperatures of 37 to 39 °C were measured in the southern coastal plain, the northern Negev and the northern valleys, 40 to 41 °C in the Arava and 42 to 43 °C in the Jordan Valley. The Sharav continued on the following day, but temperatures declined starting at noon.

May 27-28: On May 27 a Sharav took place with temperatures of 38 to 39 °C in the coastal plain, the lowlands, the northern Negev and the northern valleys. The Sharav was accompanied by haze, considerable cloud cover and even some rain. On the 28th it became cooler, but the Sharav still prevailed in the coastal plain and the lowlands with temperatures of 33 to 35 °C.

Comparison of May 2023 with the past

Temperatures in May 2023 were near average (1991 to 2020), slightly cooler than May 2022. Prior to that, there were several months of May that were warmer than average, some remarkably so like 2021, 2019 and 2018, so May 2023 was the coolest since 2011. In the regional temperature measurement series since 1950, May 2023 is ranked 31st (figure 5).

Table 4: Temperatures in May 2023 (°C) Compared to Average

	Station	May 2023		Difference from 1991-2020 Average	
		Maximum	Minimum	Maximum	Minimum
Coastal Plane and Lowland	Haifa (Technion)	25.8	17.5	+0.4	+0.3
	En HaHoresh	28.2	14.1	+1.0	-0.1
	Bet Dagan	28.7	16.9	+1.1	+0.5
	Negba	28.7	15.6	+0.6	+0.2
Northern Mountains	Elon	27.3	16.6	+0.2	+0.2
	Merom Golan Picman	24.4	10.0	-0.3	-0.2
	Avne Eitan	28.9	13.7	+0.2	-0.3
	Zefat Har Kena'an	24.5	14.0	-0.4	-0.8
	Deir Hanna	28.7	18.0	+0.4	+0.8
Northern Valleys	Afula, Nir HaEmek	30.6	14.3	+0.5	0.0
	Kefar Blum	31.4	15.0	0.0	0.0
	Eden Farm	33.2	17.3	+0.3	+0.2
	Zemah	33.2	17.5	+0.4	+0.1
Central Mountains	Qarne Shomron	28.0	16.5	+0.6	+0.7
	Jerusalem	25.9	15.7	-0.3	-0.5
	Beit Jamal	28.8	17.1	-0.5	+0.4
	Rosh Zurim	24.1	14.0	+0.1	-0.2
Negev	Besor	28.6	16.0	+0.2	+0.4
	Arad	29.6	15.6	+0.4	+0.7
	Be'er Sheva	30.7	16.8	+0.1	+0.8
	Sede Boker	29.5	14.7	+0.2	+0.4
Arava	Sedom	35.1	25.2	-0.1	-0.4
	Hazeva	34.7	20.9	-0.5	-0.2
	Elat	35.0	22.2	-1.1	-0.5

Table 5: Extreme Temperatures in May 2023 (°C) compared to past

	May 2023				Extreme Values Since Start of Measurements				Station Activity Years
	Extreme Max		Extreme Min		Extreme Max		Extreme Min		
	Temp	Date	Temp	Date	Temp	Date	Temp	Date	
Bet Dagan	38.8	5/5/23	11.3	1/5/23	45.6	21/05/1970	5.6	01/05/1963	1962-2023
Negba	39.1	27/5/23	11.0	1/5/23	46.5	21/05/1970	6.0	07/05/1965	2023-1950
Zefat Har Kena'an	32.7	17/5/23	7.3	1/5/23	38.1	23/05/1995	5.7	07/05/1965	2023-1867
Jerusalem*	34.1	16/5/23	8.9	1/5/23	39.6	11/05/1941	7.6	03/05/1990	2023-1935
Be'er Sheva**	39.4	16/5/23	10.3	1/5/23	44.8	21/05/1970	4.5	02/05/1932	2023-1922
Elat	40.1	4/5/23	17.2	1/5/23	46.0	15/05/2016	12.1	13/05/2006	2023-1949

* Jerusalem: Center 1950-2023, Talabiya 1948-1949, Palace Hotel 1935-1947, American Colony 1927-1935, Mount of Olives 1918-1926, German Colony 1895-1915, English Hospital on HaNevi'im Street 1913-1938, English Hospital in Old City 1867-1915

** Be'er Sheva University 2023, Be'er Sheva Negev Institute 1957-2022, Be'er Sheva 1957-1922

Figure 3: Minimum and maximum daily temperatures in Jerusalem in May 2023 compared to multi-year average

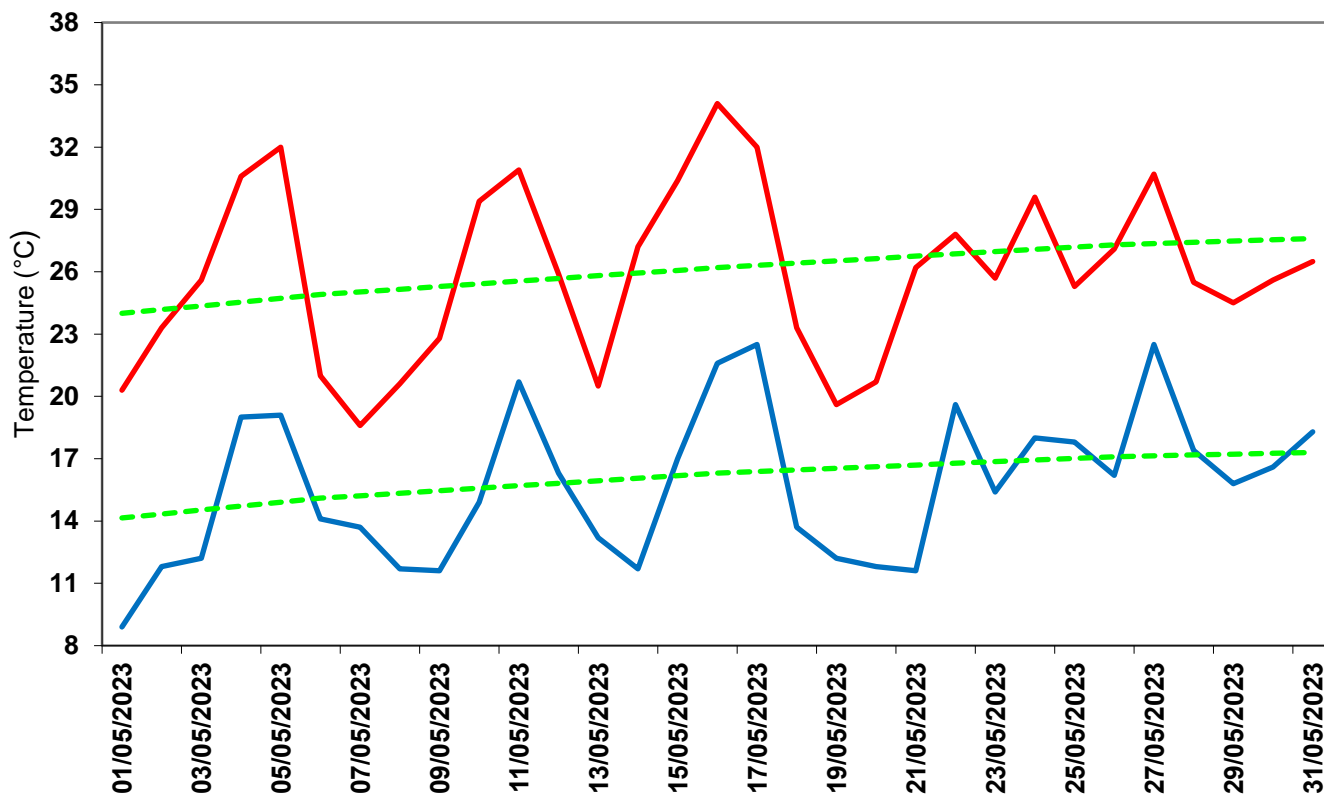


Figure 4: Minimum and maximum daily temperatures in Bet Dagan in May 2023 compared to multi-year average

