

## **A monthly Weather Summary – October 2021**

October was slightly warmer than average during the day and close to the average at night. There were no notable Sharav events during the month, and it was generally characterized by stability in temperature.

The amounts of rainfall in October were small and reached several millimeters in the north and center of the country. The deficiency of rainfall in October is not unusual and it can be noted that last year October was completely rainless.

### **Temperatures and weather during the month**

Daytime October temperatures were above average (1995-2009) by 0.5 to 1°C. At night temperatures were close to average in most areas. In the Golan Heights they were below average and in the Arava they were slightly higher than it (Table 1).

With regard to the course of temperature during the month, there was a difference between the internal parts of the country and the Coastal Plain (Figs. 1, 2). While on the Coastal Plain temperatures were stable and close to average most of the month, in the mountains and inland there were changes during October - the first week of the month was cooler than average in these areas, but later on it warmed up and by the middle of the month it became warmer than usual. On the 8<sup>th</sup>, high temperatures were measured in the north of the country - in the northern valleys 36 to 38°C and in the southern Golan Heights and in the Lower Galilee 34 to 35°C.

On the 12<sup>th</sup>, the temperatures were especially high in the south of the country - in the northern Negev 35 to 37°C, in the Jordan Valley and the Dead Sea 37 to 38°C and in the southern Arava 39 to 40°C. In the second part of the month there was a cooling and from the 17<sup>th</sup> onwards, it was cooler than usual mainly in the mountains and inland. The nights continued to be cool until the 28<sup>th</sup>, but during the day it started to become warmer already on the 24<sup>th</sup> and it was also noticeable later on in the Coastal Plain, where 32 to 33°C were measured on the 29<sup>th</sup>.

**Table 1: October 2021 temperatures (°C) compared with the average**

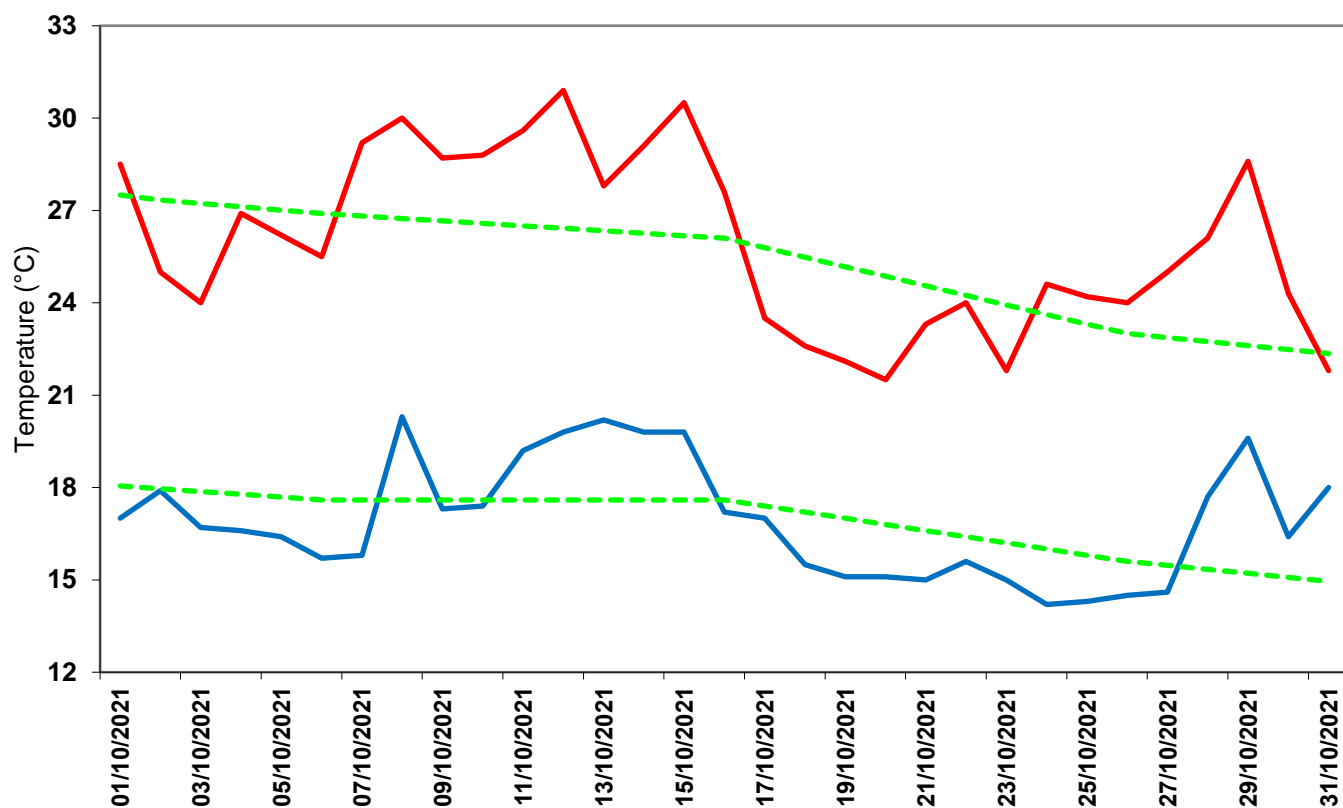
Region	Station	October 2021		Deviation from the average 1995-2009	
		Maximum	Minimum	Maximum	Minimum
Coastal Plain and the Shfela	Haifa (Technion)	26.6	19.5	+0.8	+0.4
	En HaHoresh	28.8	15.1	+0.4	+0.5
	Bet Dagan	29.4	17.6	+1.0	+0.1
	Negba	28.8	18.1	+0.7	+0.2
Northern mountains	Elon (western Galilee)	27.7	18.2	+0.5	+0.2
	Merom Golan Picman	24.9	9.3	+0.8	-1.6
	Avne Etan	28.7	14.0	+0.3	-0.8
	Zefat Har Kenaan	24.6	15.5	+0.2	0.0
	Deir Hanna	29.0	19.3	+1.2	+0.2
Northern valleys	Afula, Nir HaEmeq	31.1	16.5	+0.9	+0.9
	Kefar Blum	32.3	15.3	+1.4	-0.1
	Zemah	32.3	18.0	+0.7	-0.3
	Eden Farm (Bet Shean)	32.6	19.1	+0.5	+0.4
Central mountains	Qarne Shomron	28.3	16.7	+1.2	-0.3
	Jerusalem	26.0	16.9	+0.7	+0.1
	Bet Jimal	29.0	18.6	+0.3	+0.2
	Rosh Zurim	24.3	15.5	+1.0	+0.4
Negev	Besor	28.7	17.6	+0.3	+0.5
	Arad	28.0	15.9	+0.6	-0.1
	Be'er Sheva	30.4	16.8	+0.7	+0.1
	Sede Boqer	27.9	15.3	+0.7	+0.7
Arava	Sedom	33.4	26.5	+0.6	+0.8
	Elat	33.3	22.5	+0.2	+0.7

**Table 2: Extreme temperatures in October 2021 (°C) compared with the past**

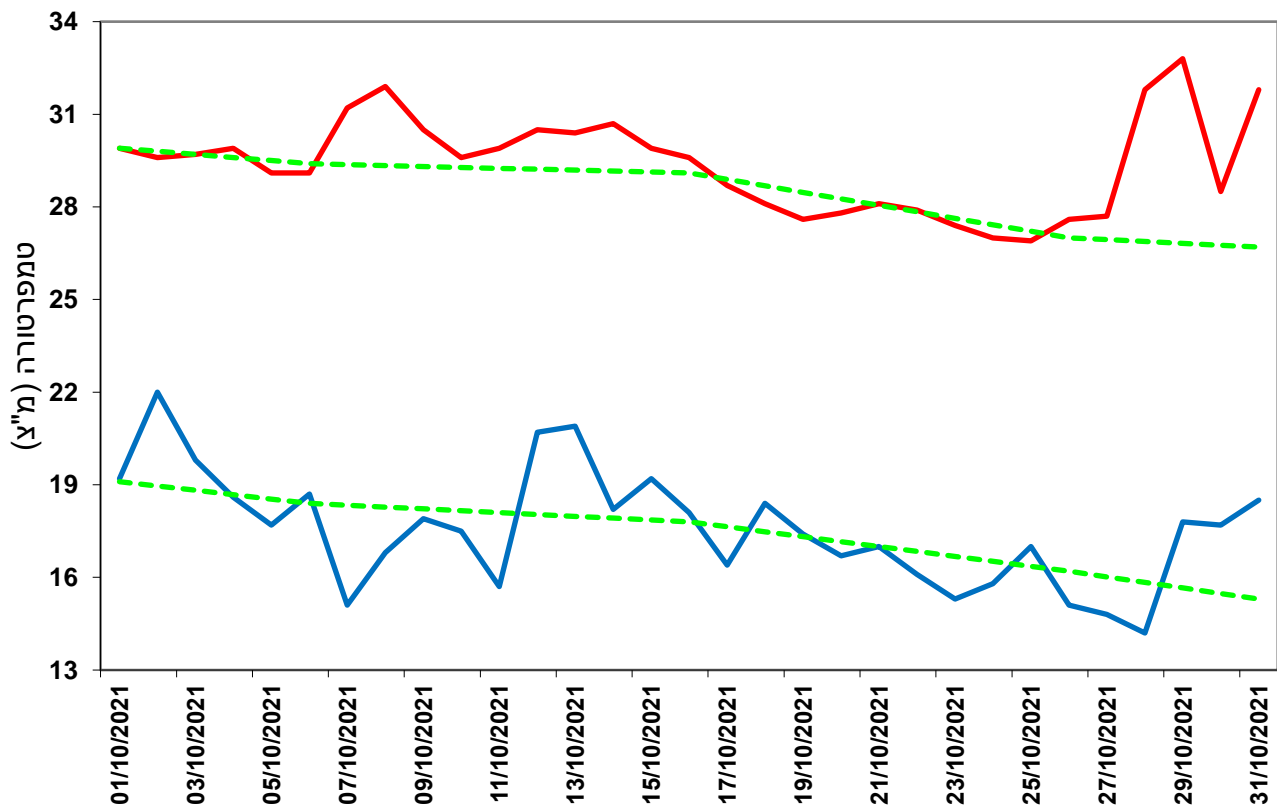
Station	October 2021				Extreme Values in record				Period of measurements
	Extreme Max.		Extreme Min.		Extreme Max.		Extreme Min.		
	Temp.	Date	Temp.	Date	Temp.	Date	Temp.	Date	
Bet Dagan	32.8	29/10/21	14.2	28/10/21	41.8	20/10/10	7.0	30/10/85	1962-2021
Negba	32.5	29/10/21	14.1	28/10/21	41.6	13/10/98	9.0	31/10/65	1950-2021
Zefat Har Kenaan	29.3	8/10/21	12.0	21/10/21	36.0	1/10/02	5.9	14/10/48	1939-2021
Jerusalem <sup>1</sup>	30.9	12/10/21	14.2	24/10/21	36.6	1/10/02	8.3	25/10/00	1867-2021
Be'er Sheva <sup>2</sup>	36.9	12/10/21	12.8	27/10/21	41.7	20/10/10	6.0	16/10/26	1922-2021
Elat	38.8	12/10/21	19.2	24/10/21	43.4	1/10/02	9.2	31/10/63	1949-2021

<sup>1</sup> For Jerusalem: Center 1950-2021; Talbiye 1948-1949; Palace Hotel 1935-1947, American Colony 1927-1935, Mt. of Olives 1918-1926, German Colony 1895-1915, English Hospital Nevi'im St 1898-1913, English Hospital Old City 1867-1915

<sup>2</sup> For Be'er Sheva: Negev Institute 1957-2021; Old Town 1922-1957.



**Figure 1: Daily minimum and maximum temperatures in Jerusalem in October 2021 compared with the long-term average**



**Figure 2: Daily minimum and maximum temperatures in Bet Dagan in October 2021 compared with the long-term average**

1995-2009 Average      2021      Min  
 Max

### Rainfall in October

The rainfall amounts in October were small. In the north of the country and in the Coastal Plain, most stations measured 5 to 10 mm and in the more northern parts (from the northern Golan to the Western Galilee), more than 10 mm were measured locally and more than 15 mm at some of them. The long-term average in the north of the country and in the Coastal Plain is 20 to 40 mm. In the central mountains rainfall amounts were 1 to 2 mm (the average is 10 to 20 mm) and in the south of the country, there was less than 1 mm (maps 1, 2). Table 3 shows the October rainfall data compared to the average at several stations.

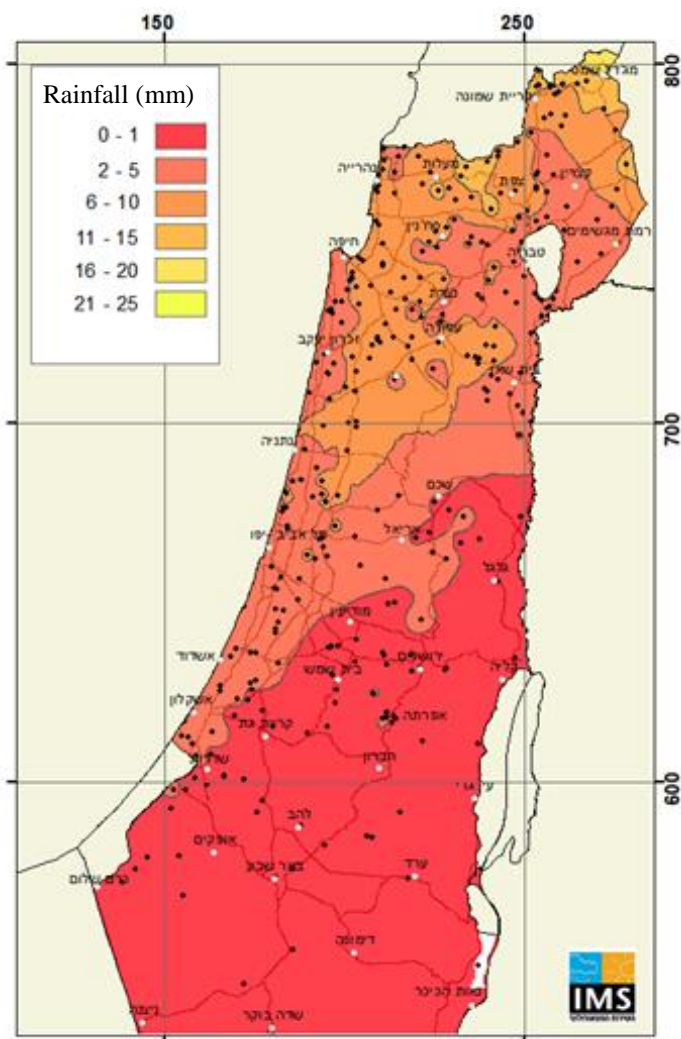
### Rain events in October

11 to 13 October: A few millimeters (up to 3) were measured mainly in the north of the country. In the center of the country less than 1 mm was measured. The rains were accompanied by several occurrences of extensive thunderstorms.

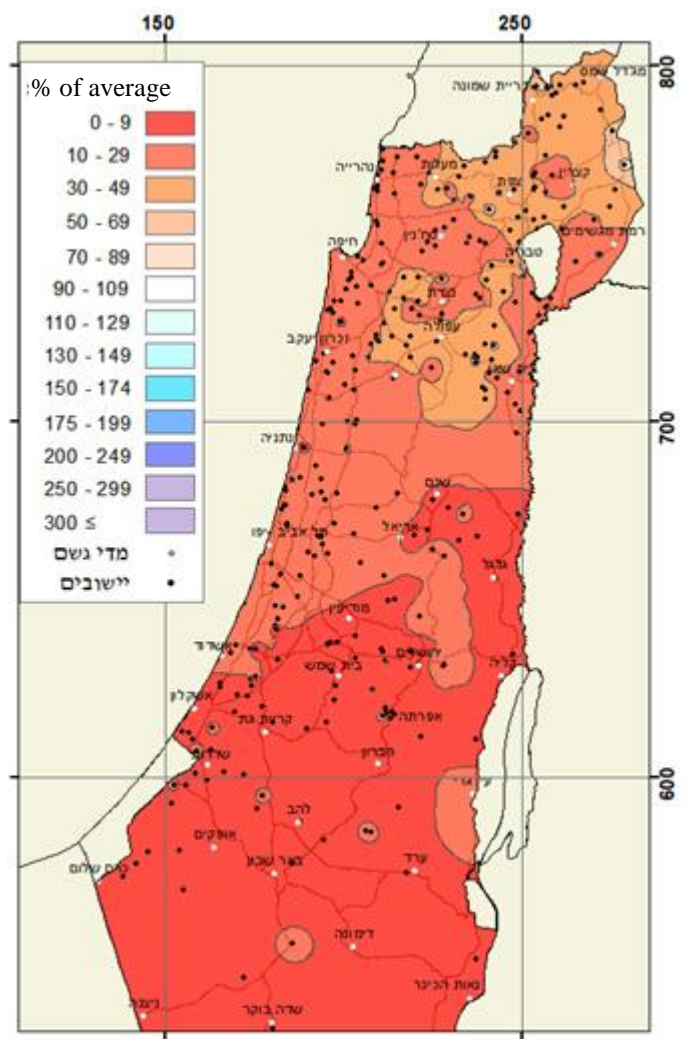
October 17 to 19: Several millimeters were measured in the north of the country and in the Coastal Plain.

30 to 31 October: In the north and in the center of the country, 3 to 8 mm were measured. In some areas in the north more than 10 mm and locally even above 15 mm were measured. The rains occurred due to an atmospheric instability accompanied by an upper level trough, a deep depression in the Mediterranean Sea (south of Crete) and a jet stream. The rains were accompanied by thunderstorms, on the night of October 31 - November 1.

The deficiency of rainfall in October is not unusual and there have been quite a few cases in the past in which similar or smaller amounts have been measured, both in the last decade (2020, 2016, 2013, 2011) and in the more distant past.



**Map 1:** Precipitation in October 2021 (mm)



**Map 2:** Precipitation in October 2021 – percent of average

**Table 3: Rainfall in October 2021 in comparison with the long term average<sup>1</sup>**

	<b>Station</b>	<b>Rainfall in Oct. 2021 (mm)</b>	<b>Long term average for Oct. (mm)</b>	<b>% of Oct. average</b>
Coastal Plain and the Shfela <sup>2</sup>	Nahariyya	6	36	17%
	Evron	8	38	21%
	Haifa (Port)	3	26	12%
	Yagur	6	29	21%
	En HaShofet	8	24	33%
	En HaHoresh	6	32	19%
	Kefar Hess	6	31	19%
	Nir Eliyyahu	6	29	21%
	Nahshonim	4	21	19%
	HaKefar HaYarok	6	33	18%
	Miqwe Yisrael	4	27	15%
	Bet Dagan	4	23	17%
	Gan Shlomo (Rehovot)	2	20	10%
	Qevuzat Yavne	2	22	9%
	Nizzanim	2	25	8%
	Negba	0.4	24	2%
	Ziqim	2	25	8%
	Dorot	0.2	18	1%
	Be'eri	1	19	5%
	Besor	0	11	0%
Northern Mountains	Merom Golan Picman	9	18	50%
	Gamla	4	14	29%
	Elon	5	34	15%
	Kefar Gil'adi	11	23	48%
	Meron	10	26	38%
	Farod	18	24	75%
	Zefat Har Kenaan	10	23	43%
	Harashim	10	33	30%
Northern Valleys	Deir Hanna	5	20	25%
	Newe Ya'ar	8	23	35%
	Afula Nir Ha'Emek	6	18	33%
	Maayan Baruch	12	21	57%
	Dafna	9	22	41%
	Kefar Blum	7	18	39%
	Ayelet HaShahar	4	16	25%
	Ginnosar	5	17	29%
Central Mountains	Zemah	3	14	21%
	Sede Eliyyahu	4	13	31%
	Kdumim	4	24	17%
	Eli	3	22	14%
	Zova	2	15	13%
	Jerusalem Centre	1	10	10%
	Beit Jimal	0.4	15	3%
Negev	Rosh zurim	2	16	13%
	Arad	0.5	7	7%
	Beer Sheva	0.2	8	3%
	Sede Boqer	0.5		
Jordan Valley and the Arava <sup>3</sup>	Mizpe Ramon	0.1		
	Gilgal	1		
	Sedom	0		
	Hatzeva	0.1		
	Paran	0.2		
	Timna (Ramon Apt.)	0		
Elat	0			

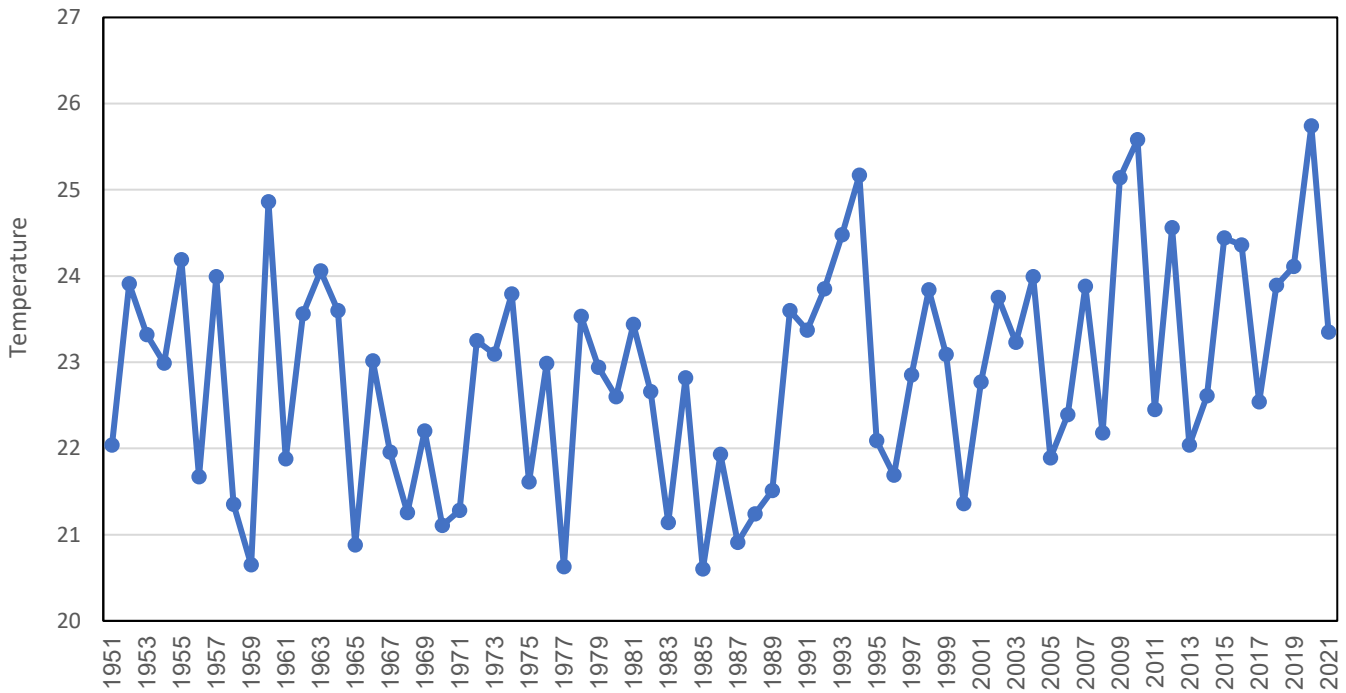
<sup>1</sup> Long-term average pertains to 1991-2020. For stations that were not active, averages are computed for this period

<sup>2</sup> Foothills between the Coastal Plain and the central mountains.

<sup>3</sup> In arid zones, the monthly average and the rainfall for the same period average are not presented due to the non-regular characteristics of rainfall in these areas

### Temperatures in October 2021 compared to the past

Temperatures in October 2021 were close to average (1995-2009) or slightly higher than that. A comparison with the past shows that in a countrywide average, October 2021 is ranked 29th in the series of measurements from the early 1950s and was less warm than October in the previous three years (Figure 3).



**Figure 3: Israel average daily temperature (°C) \* in October 1951-2020**