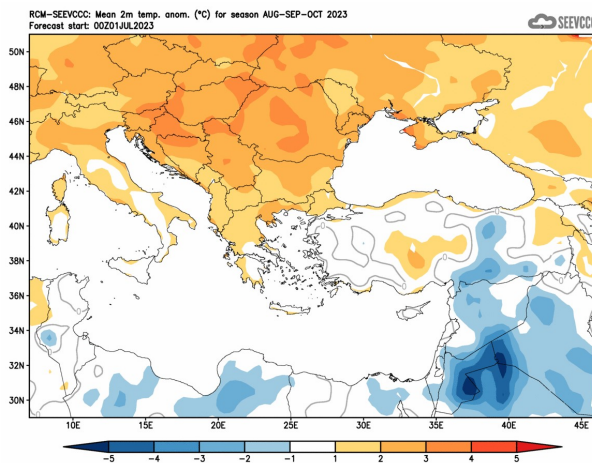


Seasonal weather forecast for the months of August, September, and October 2023

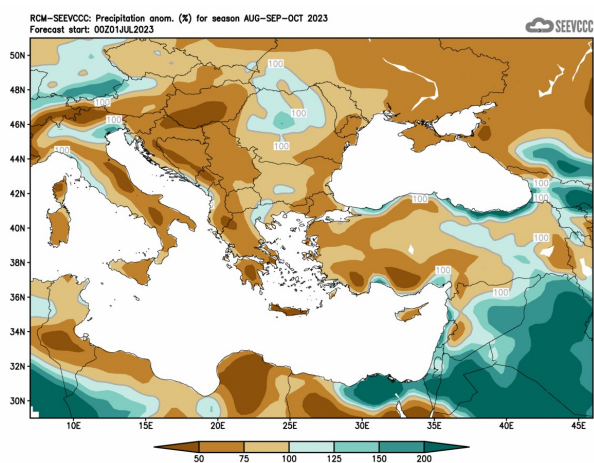
General overview of the weather expected to prevail for August, September and October

The weather for the following three months, namely **August, September, and October 2023**, will be presented, with respect to the anomalies of temperature, and accumulated precipitation. Normal temperatures (both maximum and minimum) are on the rise suggesting **August** as the hottest month of the year. The accumulated precipitation is at its lowest values. The period of the following three months (mainly July and August) is likely to be characterized by outbreaks of thunderstorms, initiated from thermal causes over the main plain area or over the mountainous range from orographic uplift.

Specifically, regarding the seasonal forecast for the period of **August, September and October 2023**, the temperature will be generally normal. Normal temperature also characterizes the greater part of Asia Minor and Greece. The Balkans are expected to be warmer than normal while Middle East will be lower than normal. The amount of the accumulated precipitation over most areas of Cyprus is expected to range between 50% and 75%, but over the northwest part is expected to near normal or a bit lower than normal. The amount of the accumulated precipitation over Greece, the Balkans and Minor Asia will be significantly below normal, while over the northern parts of Middle East will be lower than normal and the southern parts will be above normal (*).



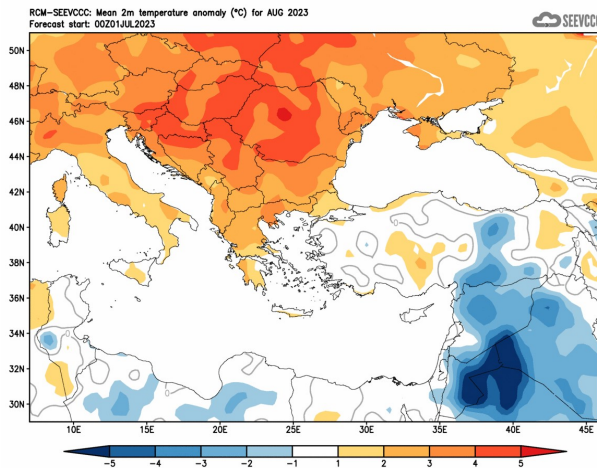
Divergence of temperature from normal from the mean seasonal temperature (°C) for August, September, and October



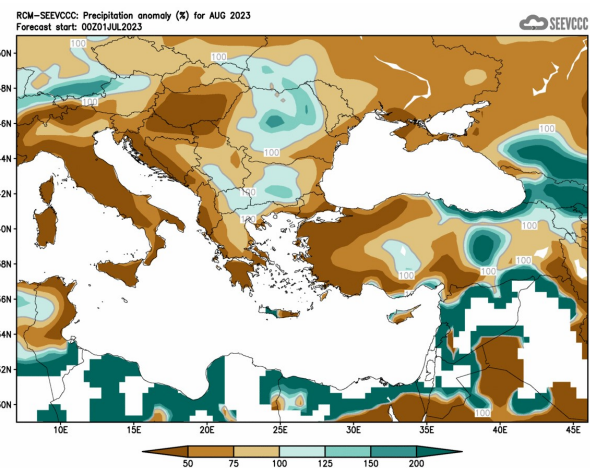
Percentage (%) of the mean seasonal accumulated precipitation compared to the mean normal for August, September, and October

The seasonal monthly forecast in detail

August's seasonal forecast suggests that temperature over Cyprus will be generally normal. Normal temperature also characterizes the Balkans, Greece and Minor Asia, while Middle East will be lower than normal. The amount of the accumulated precipitation over inland areas is expected to be around normal, while over the northern and the western part is expected to range above normal and over the southern and eastern part is expected to range below normal (*).

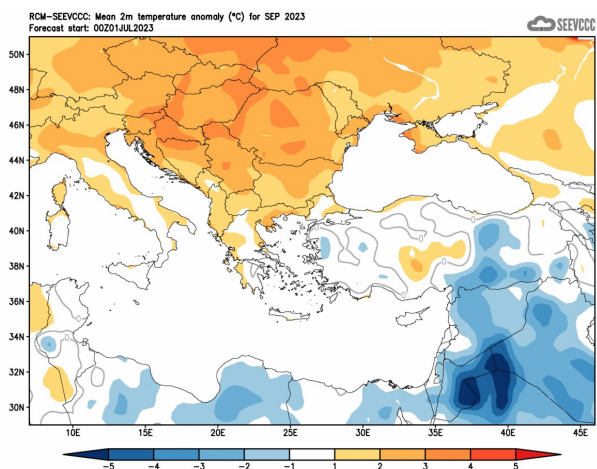


Divergence of the mean monthly temperature (°C)
from normal during August

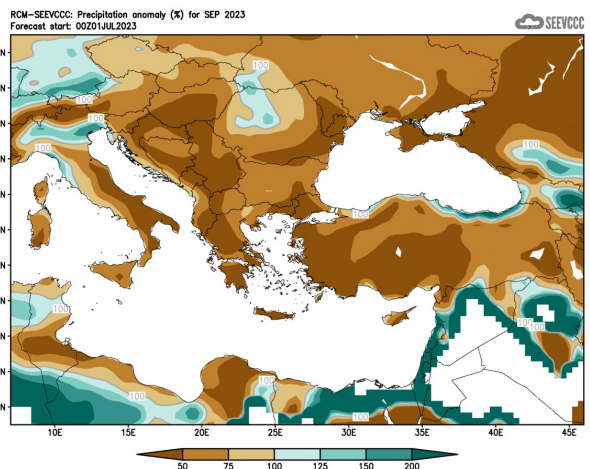


Percentage of the mean monthly precipitation (%)
compared with the normal of August

The seasonal forecast suggests that **September's** temperature will be normal. Greece and Asia Minor seem to also have similar characteristics. The Balkans however seem to be warmer than normal while Middle East will have below normal temperature. The amount of the accumulated precipitation over the southern and eastern part of Cyprus is expected to be below 50% of normal, while over northern and western part of the island is expected to range between 50% and 100% of normal (*).

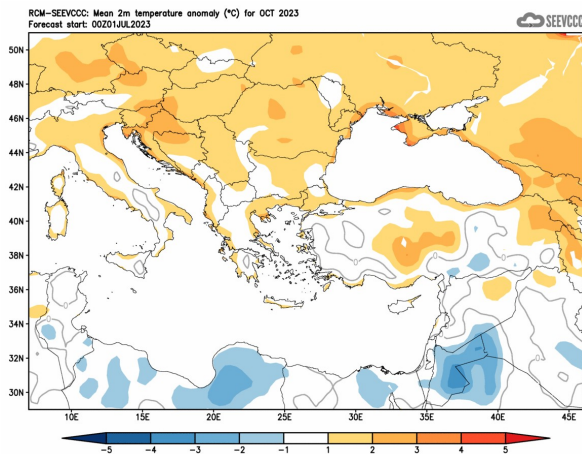


Divergence of the mean monthly temperature (°C)
from normal during September

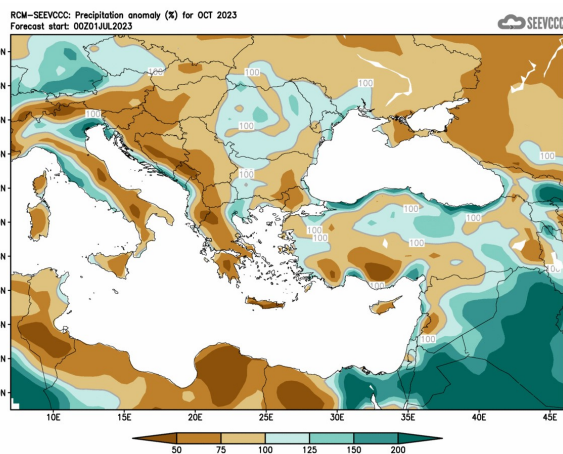


Percentage of the mean monthly precipitation (%)
compared with the normal of September

The seasonal forecast for **October** suggests that temperature will be generally normal. Normal temperature is also a characteristic over most areas of Greece and the Balkans, of Asia Minor and Middle East. The amount of the accumulated precipitation of the island is expected range between 50% and 75% of normal, except for the northwest part of the island over which is expected to be near normal (*).



Divergence of the mean monthly temperature (°C) from normal during October



Percentage of the mean monthly precipitation (%) compared with the normal of October

Normal values of temperature and accumulated precipitation for August, September and October

The normal values of mean maximum, mean minimum temperature and accumulated precipitation are presented below concerning the three months the period of forecast is covering, in order to gain a better view of the normal seasonal climate. The temperature, both maximum and minimum, is on the rise suggesting **August** as the warmest month of not only the period but also the year. On the other hand, the accumulated precipitation is increasing significantly from **August** towards **October**, as presented by the climatological data shown in the table below. It is worth noting that **October's** precipitation is significantly higher than **August's** because of the reoccurrence/redeveloping of depressions over the area of east Mediterranean (during October).

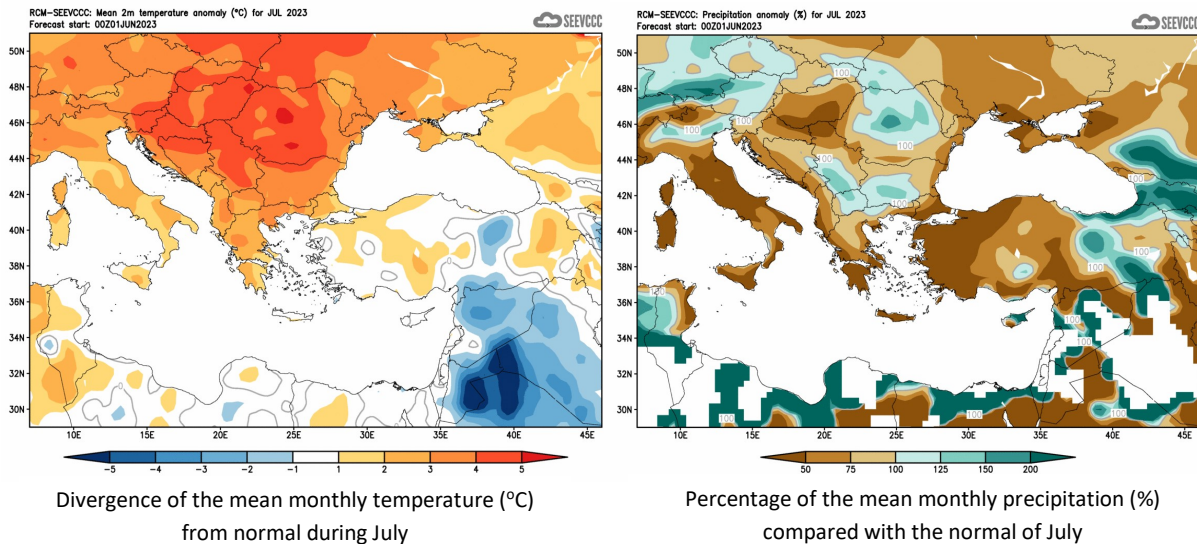
TEMPERATURE AND PRECIPITATION NORMAL VALUES FOR THE PERIOD 1981-2010									
Area Name	MEAN DAILY MAXIMUM TEMPERATURE (°C)			MEAN DAILY MINIMUM TEMPERATURE (°C)			MEAN MONTHLY TOTAL PRECIPITATION (mm)		
	August	September	October	August	September	October	August	September	October
NORTH COAST	33.3	30.1	26.4	21.5	19.2	16.1	0.0	4.0	30.3
WEST COAST*	30.5	29.0	26.4	21.1	19.1	16.4	0.0	3.6	27.4
MOUNTAINOUS AREAS	28.0	24.6	19.2	18.1	14.9	10.9	12.0	10.7	34.4
INLAND*	36.9	33.6	28.4	21.9	18.8	15.2	1.8	12.2	20.7
SOUTH COAST	32.9	30.9	27.8	22.3	19.8	16.7	0.3	4.3	16.0
EAST COAST**	33.5	31.9	28.5	22.0	19.6	16.7	0.1	2.9	19.9

* West Coast and Inland Values cover the period 1983-2010

** East Coast Temperature Values cover the period 1981-2007

Evaluation of July's seasonal forecast for the area of Cyprus

The seasonal forecast suggested that **July's** temperature would be normal, alike Asia Minor. The Balkans were expected to be warmer than normal while Near and Middle East was expected to be colder than normal. Regarding the accumulated precipitation, Cyprus' western – southwestern half was expected to be below 50% of normal but over the eastern – northeastern half the accumulated precipitation was expected to range up to 200% above of normal.



Concerning the model's evaluation for **July**, a general judgment is that the model did not perform well at all concerning both the temperature and the seasonal accumulated precipitation. It must be mentioned that during the summer months, precipitation is resulted mainly from thundery activity which has very localised characteristics and that judging accumulated precipitation is very difficult due to models' limitations.

In a more detailed evaluation of the recorded temperatures, the mean maximum and minimum temperature (table below), was above normal in all of the selected stations. Daily maximum temperatures above normal (deviating by 4°C or more from normal) were recorded, like the highest daily maximum temperature of Achna that was 42.6°C (with a normal of 33.2°C) and the highest daily maximum temperature of Paphos Airport that was 38.1°C (with a normal of 29.9°C). Highest daily minimum temperatures were also recorded, with positive departures greater than 4°C, like the station of Larnaka where a minimum of 29.9°C was by 7.9°C above station's normal (22.0°C) and the station of Achna where a minimum of 28.5°C was by 6.7°C above station's normal (21.8°C).

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JULY 2023														
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Lowest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Highest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
		41	POLIS CHRYSOCHOUS	35.8	33.4	2.4	40.8	30.3	22.7	21.1	1.6	20.2	26.0	0.0
82*	PAFOS (AIRPORT)	32.7	29.9	2.8	38.1	30.0	23.3	20.6	2.7	20.4	26.6	0.0	0.2	-0.2
225	PRODROMOS (C.F.C.)	30.8	27.9	2.9	34.5	24.1	19.8	18.2	1.6	15.0	23.4	0.0	16.4	-16.4
666*	ATHALASSA (RADIOSONDE)	40.0	37.1	2.9	44.6	35.1	23.4	22.1	1.3	18.3	28.1	0.9	4.2	-3.3
731	LARNAKA (AIRPORT)	35.0	32.5	2.5	40.4	30.7	24.6	22.0	2.6	21.8	29.9	0.4	0.5	-0.3
800**	ACHNA (DASAKI)	36.4	33.2	3.2	42.6	30.0	23.7	21.8	1.9	20.2	28.5	0.0	0.1	-0.1

* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010
** Achna's Temperature Normal Values cover the period 1981-2007

△ dew

During **July**, extremely high temperature warnings, EMMA warnings, have been issued at both the yellow risk level and the orange risk level for both the maximum and the minimum temperatures. Specifically, a total of 20 EMMA warnings for extremely high temperatures were issued; 15 of which were at the yellow risk level during the periods 13/7, 15-28/7 and 31/7, while 5 of them were at the orange risk level during the periods 13-16/7 and 23/7.

At this point and after a first evaluation if the preliminary data available to us for July 2023, it is worth noting that July 2023 is, for the island, one of the warmest Julys during which several temperature records have either been re-recorded or surpassed. For example, at 4 of the 5 main reference stations (exception being the station at the Forestry College of Prodromos), the average daily temperature recorded at each of them is the highest ever recorded, while at all stations the average daily temperature is higher than the corresponding normal for the month. Another important characteristic is the absolute 40 degrees that has been recorded as the average daily maximum temperature in Athalassa. At all stations the average temperature has a positive deviation from the corresponding normal of the month, with this deviation ranging from 2.5°C to 2.9°C.

Also, the daily maximum temperatures recorded at the stations were also very high. At all stations, a positive deviation of daily minimum temperature was recorded in relation to the corresponding normal of each station, with this deviation ranging from 1.3°C to 2.6°C.

The two coastal stations at the island's airports, i.e. the stations at Larnaka and Paphos airports, have recorded their highest average daily temperature during July this year, from the day of operation of each station, ranking them as the stations with the warmest July, while the second highest average daily temperatures have been recorded at the Athalassa Radiosonde station, at Akrotiri and at Forestry College's station at Prodromos, ranking then in the 2nd place in relation to the corresponding warmest July. In general, the average daily temperature has been fluctuated by 2.1-2.7°C above the normal for the month.

All stations have recorded extremely high maximum temperatures for the month of July. At Athalassa Radiosonde station, the highest maximum temperature recorded was 44.6°C, which ranks it in the 1st place, the same as the maximum recorded in July 2017. At Larnaka and Paphos airports, the highest maximum temperature recorded in July this year were 40.4°C and 38.1°C, respectively, ranking both

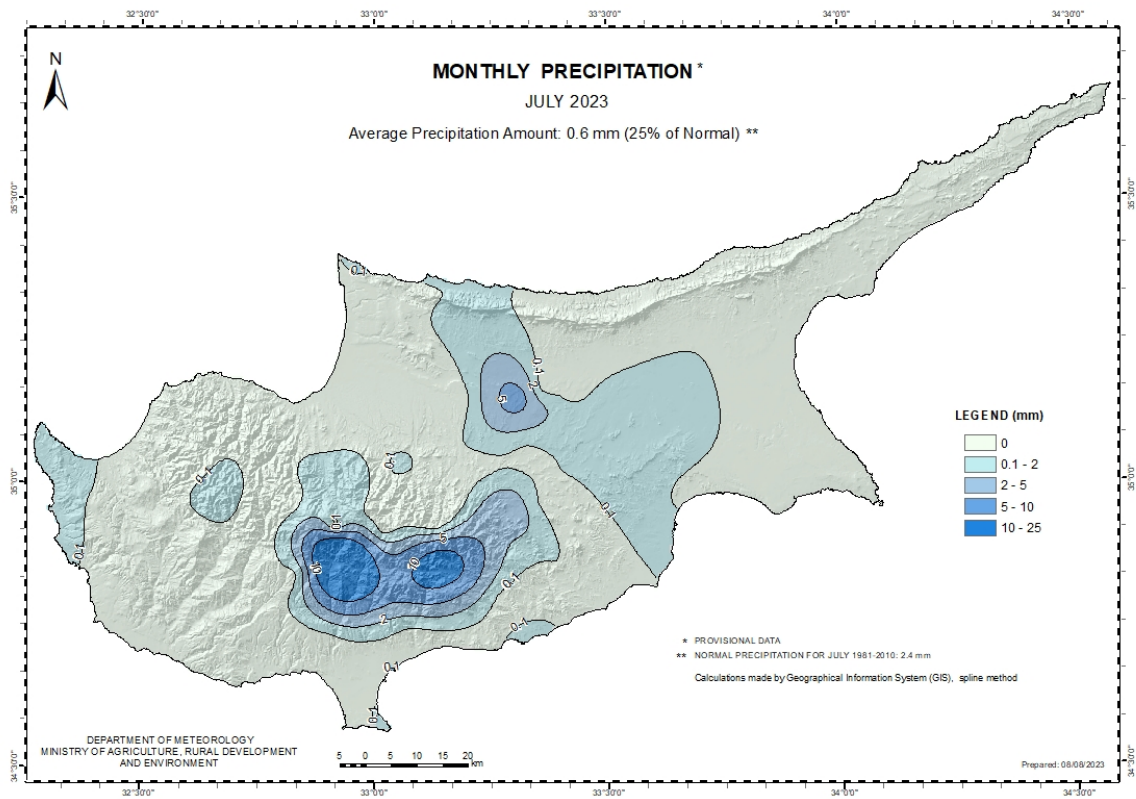
these stations in the 3rd place. The extreme maximum at Larnaka airport was recorded in July 1998 (41.1°C) and at Paphos airport in July 2017 (41.6°C). At Akrotiri, the highest maximum temperature recorded in July this year was 38°C, ranking the station in the 7th place, after 1977 where the extreme maximum temperature had reach 40.2°C. Finally, the Forestry College station of Prodromos is ranked in the 8th place for this July, with its maximum temperature reaching 34.5°C, after 2017 when it took its first place with the temperature climbing to 36.7°C.

Moreover, July is a record month for Larnaka airport area, since this station ranks first in all maxima, with the sole exception of the absolute maximum temperature for which it ranks in 3rd place, after the equivalent of July 1998 with 41.1°C, which is the station's absolute maximum temperature.

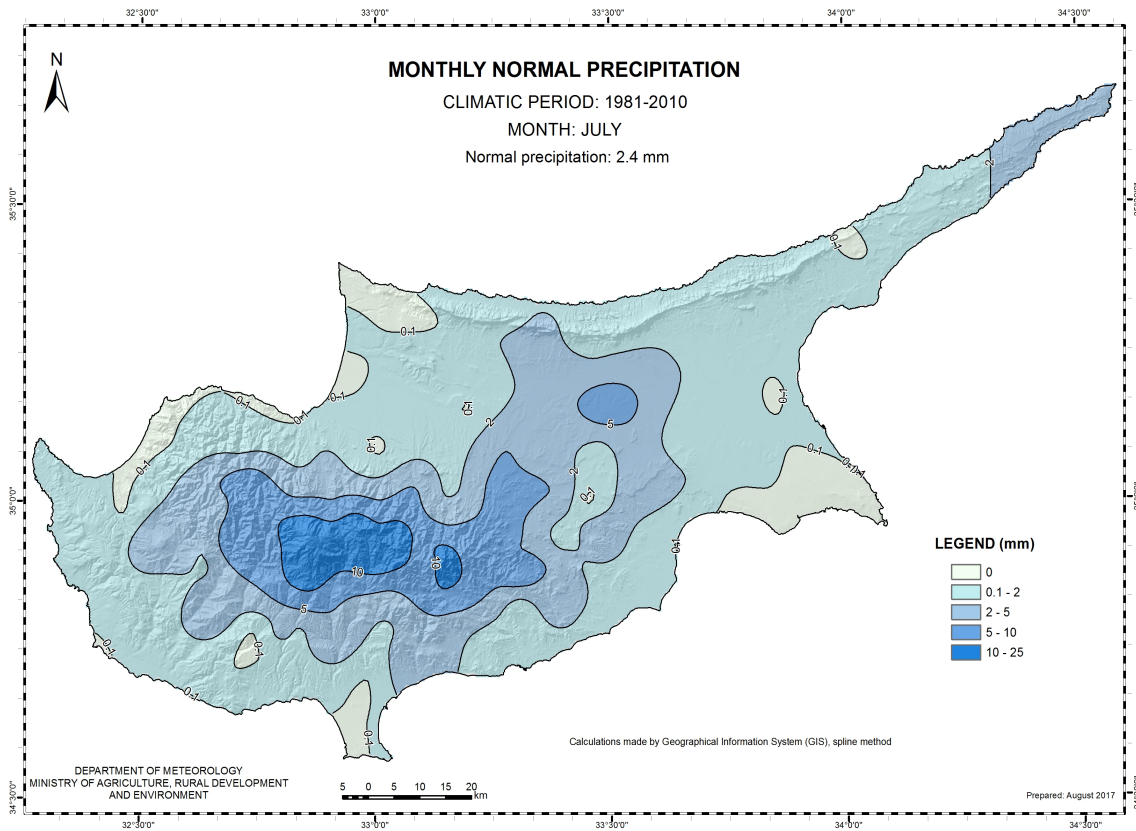
All of the above is a consequence of the extension of the Azores high pressure system which expanded from its initial position, at the beginning of July, further east towards the central and eastern Mediterranean affecting the weather of the countries of the European south in general, as well as our island, especially during the second half of the month. The main characteristic of this system was the very warm and dry air mass that accompanied it and which resulted in very high and in several cases extremely high temperatures in many areas of southern Europe. This system was given the name "Cleon". The name was given not only because of its very high temperatures (both maximum and minimum) but also because of its duration.

From the distribution of the accumulated precipitation of **July**, as is shown in the provisional chart that follows, is evident that the surface distribution was well below normal reaching 0.6mm or 25% of normal, something that shows us the uncertainty of the seasonal forecast model which must always be taken into account with a reserve.

For the purpose of better visualization of **July** accumulated precipitation, a chart of Cyprus with the total preliminary accumulated precipitation is presented.



A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **July** is presented.



(*) It is stated that due to the uncertainty of the seasonal model to correctly forecast the expected precipitation (sometimes) the seasonal forecast for precipitation is given with a reserve.