

National Climate Bulletin and the assessment of the SEECOF-15 Climate outlook for **CYPRUS** for summer season JJA 2016

Summary

Cyprus Department of Meteorology prepares regular seasonal climate outlooks, based on the products of SEECOF seasonal forecasts. The present outlook concerns the outlook for the three summer months of June, July and August 2016, which is based on the means of the climatological period 1981-2010.

Generally, the area of the east Mediterranean, but specially the area of Cyprus, during summer is characterized by the high mean maximum and minimum normal (1981-2010) temperatures. Normal accumulated precipitation is reaching minimum as a result of the general synoptic situation.

The assessment is performed bearing in mind the consensus statement of SEECOF15 which was stating that:

the area of Cyprus as regarded from the suggested climate statement, issued on May 2016, for the period of Summer JJA, would have being in area 1 concerning Temperature (Fig 1) and for Precipitation in area musked as «D» (ie Dry musk) as presented in figure 2. So as shown in figure 1, Cyprus is a part of the area where the probability of temperature being lower than normal would be 10% below periods normal, 30% would be normal and 60% would be above normal. As presented in more details below all three months June, July and August were rather warmer than normal.

Regarding the accumulated precipitation and as is presented in more details for each month below it must be mentioned that during summer precipitation in Cyprus is in the form of thunderstorms, an isolated meteorological phenomenon. So for Cyprus as a part of Dry zone it can be stated that the Dry musk applies in general, but due to thundery activity accumulated precipitation during summer may be high in some places.

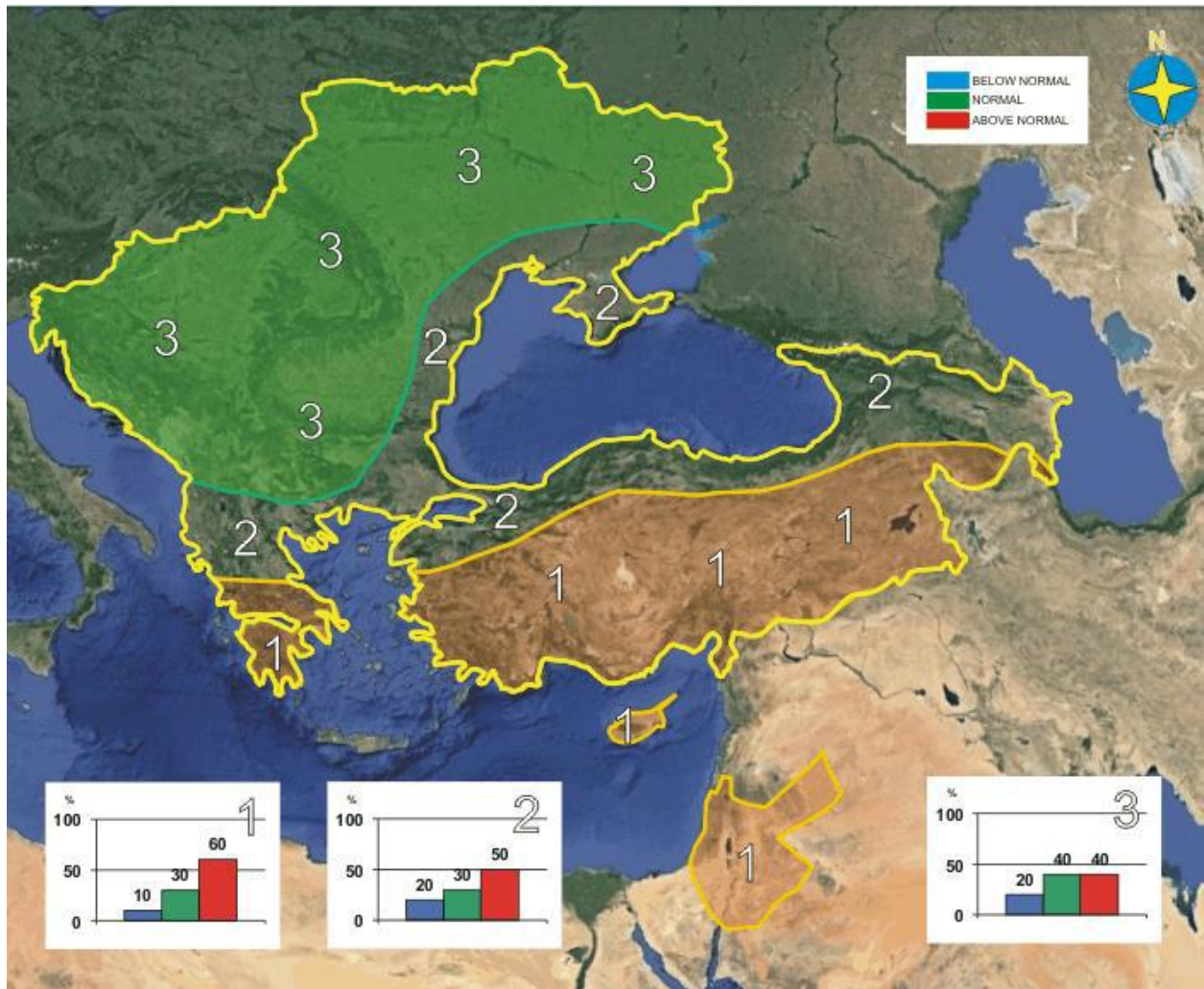


Figure 1. Graphical presentation of the 2016 summer temperature outlook

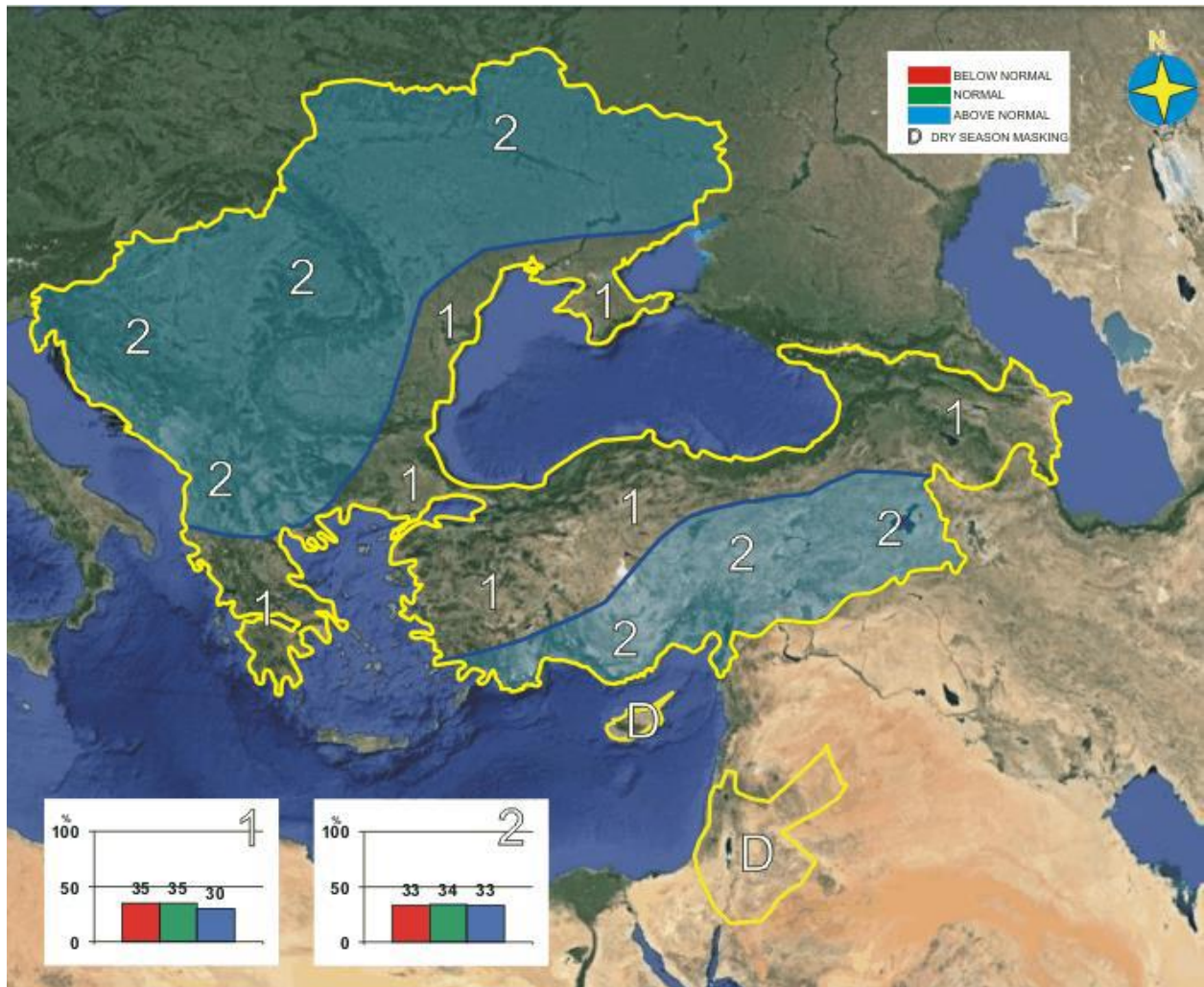


Figure 2. Graphical presentation of the 2016 summer precipitation outlook

Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded summer weather.

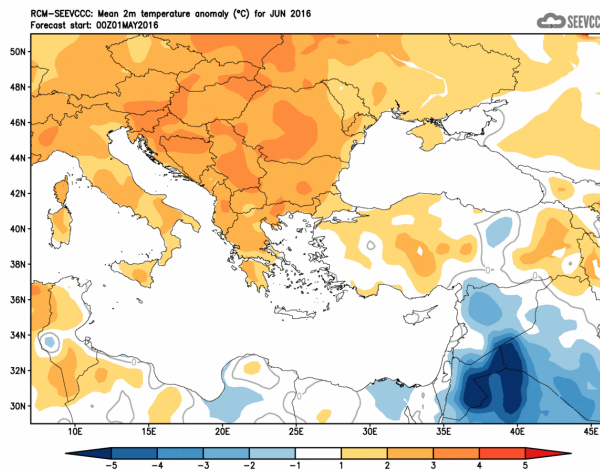
Country	Seasonal temperature (JJA)		Seasonal precipitation (JJA)		High Impact Events
	Observed	SEECOF-15 climate outlook for temperature	Observed	SEECOF-15 climate outlook for precipitation	
CYPRUS	<p>June Above Normal July Above Normal August Above Normal</p>	<p>June Normal July Normal August Normal, except southern and eastern part that it would be by 1 to 2°C below normal</p>	<p>June Generally below normal July Generally below normal August Generally below normal</p>	<p>June Below Normal July West part Below Normal East part Above Normal August West and North and West part above Normal South and East Part Below Normal</p>	<p>June Temperature extremes were recorded with great positive departures of 8 to 10°C, like Polis Chrysochou station where the highest daily maximum temperature (40.2°C) was 9.9°C greater than normal (30.3°C) and Paphos airport where the highest daily maximum temperature (37.8°C) was 10.2°C greater than normal (27.6°C). During 18-25 of June 8 EMMA warnings with yellow awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures. On 19th of June a huge fire broke out at Solia region that destroyed 18,57km² of forest area. The fire was difficult to be brought under control due to the high temperatures and the low percentages of relative humidity. Lowest daily minimum temperatures were also recorded, with negative departures of 5 to 6°C below normal, like the mountainous station of Prodromos where an extreme minimum of 9.1°C was by 5.9°C below station's normal (15.0°C). During June local showers and or thunderstorms caused by thermal instability were recorded on 9th, 10th and 11th of June resulting in accumulated precipitation of 29% of normal. In certain areas, like Kalavassos damn and Athalassa stations the accumulated precipitation was greater than normal, as it was 489% and 173% of normal respectively.</p> <p>July Extreme highs and lows (both maximum and minimum departing by 4°C of normal) were recorded. Note the 39.1°C highest maximum of Polis Chrysochous station departing by almost 6°C from</p>

				<p>normal and the 33.1°C highest maximum of Prodromos station departing around 5°C from normal. There were also recorded two highest minimums with positive departures greater than 4°C of normal, the first at Athalassa station on 6th of July and the second at Pafos airport on 24th of July. At Prodromos station lowest maximum (23.5°C) and lowest minimum (12.8°C) temperatures were recorded with negative departures greater than 4°C from normal.</p> <p>On 5th, 23rd and 31st of July episodes of thundery activity and isolated showers resulted in accumulated precipitation of 21% of normal. Areas with extreme accumulated precipitation were also recorded, like Saittas which recorded 38.8 millimeters of precipitation or 388% of normal.</p> <p style="text-align: center;">August</p> <p>During the period of 2nd to the 5th of August, the maximum temperatures of Polis Chrysochous station were diverted by 4°C higher than the normal maximum of the station. Generally, the highest maximum of the month was recorded on 8th of August over the inland station of Athalassa and it was 40.4°C with the normal being 36.9°C. For a sequence of days EMMA warning for high temperature was issued.</p> <p>.</p>
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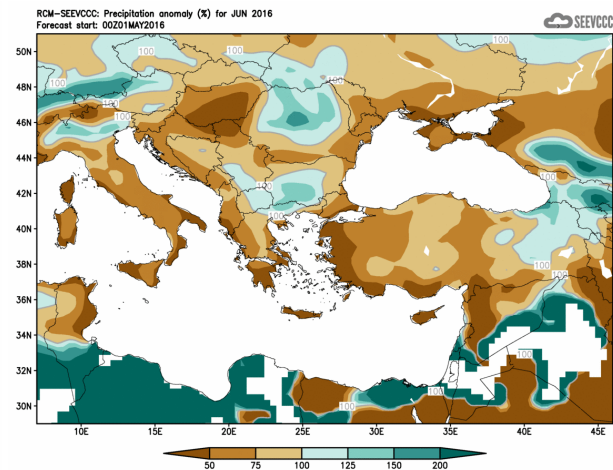
Evaluation of Junes seasonal forecast for the area of Cyprus

June

The seasonal forecast suggested that **June's** temperature will be generally normal while the Balkans and great parts of Asia Minor will be warmer than normal. Regarding the accumulated precipitation Cyprus is expected to be dry with the accumulated precipitation ranging below 50% for the entire area of Cyprus.



Divergence of the mean monthly temperature ($^{\circ}\text{C}$) from normal during June



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

Concerning the models evaluation for **June**, a general judgment is that the model performed poorly both qualitatively and quantitatively concerning the temperature and relatively good in forecasting the seasonal accumulated precipitation. It must be mentioned that during summer month's precipitation is resulted mainly from thundery activity which has very localised characteristics and that judging is very difficult due to models limitations.

In a more detailed evaluation of the recorded temperatures both maximum and minimum (table below) were above normal, suggesting that **June** was hotter than normal. Extremes were also recorded with great positive departures of 8 to 10 $^{\circ}\text{C}$, like Polis Chrysochou station where the highest daily maximum temperature (40.2 $^{\circ}\text{C}$) was 9.9 $^{\circ}\text{C}$ greater than normal (30.3 $^{\circ}\text{C}$) and Paphos airport where the highest daily maximum temperature (37.8 $^{\circ}\text{C}$) was 10.2 $^{\circ}\text{C}$ greater than normal (27.6 $^{\circ}\text{C}$). During 18-25 of **June** 8 EMMA warnings with yellow awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures. On 19th of **June** a huge fire broke out at Solia region that destroyed 18,57km² of forest area. The fire was difficult to be brought under control due to the high temperatures and the low percentages of relative humidity.

Lowest daily minimum temperatures were also recorded, with negative departures of 5 to 6°C below normal, like the mountainous station of Prodromos where an extreme minimum of 9.1°C was by 5.9°C below station's normal (15.0°C).

During **June** local showers and or thunderstorms caused by thermal instability were recorded on 9th, 10th and 11th of **June** resulting in accumulated precipitation of 29% of normal. In certain areas, like Kalavassos damn and Athalassa stations the accumulated precipitation was greater than normal, as it was 489% and 173% of normal respectively.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JUNE 2016

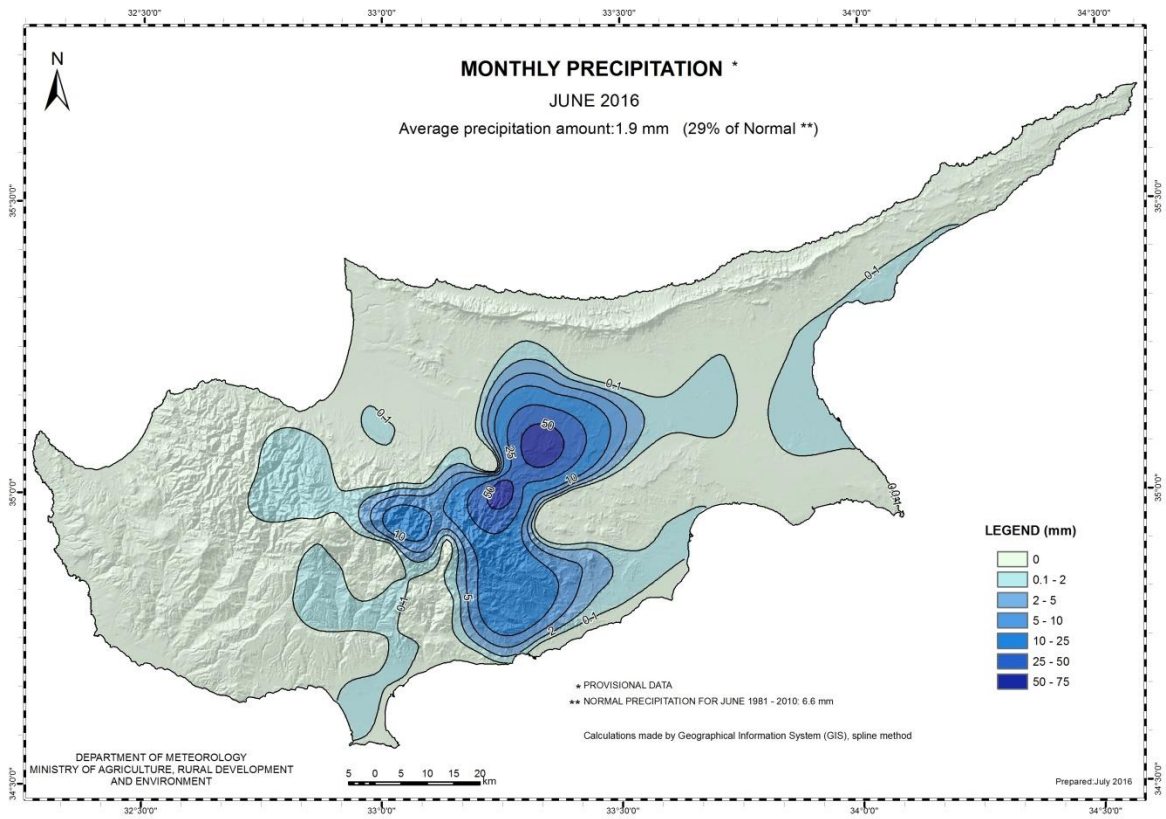
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	32,8	30,3	2,5	40,2	20,9	18,5	2,4	15,5	0,0	1,8	-1,8
82*	PAFOS (AIRPORT)	29,6	27,6	2,0	37,8	19,6	18,0	1,6	15,1	0,2	1,3	-1,1
225	PRODROMOS (C.F.C.)	26,3	25,0	1,3	31,4	15,7	15,0	0,7	9,1	0,0	27,2	-27,2
666*	ATHALASSA (RADIOSONDE)	35,3	34,0	1,3	42,2	21,4	19,1	2,3	16,7	20,1	11,6	8,5
731	LARNAKA (AIRPORT)	32,0	30,2	1,8	38,0	21,3	19,4	1,9	17,1	0,2	2,0	-1,8
800**	ACHNA (DASAKI)	32,0	31,0	1,0	39,4	19,6	18,9	0,7	13,9	0,0	1,8	-1,8

* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010

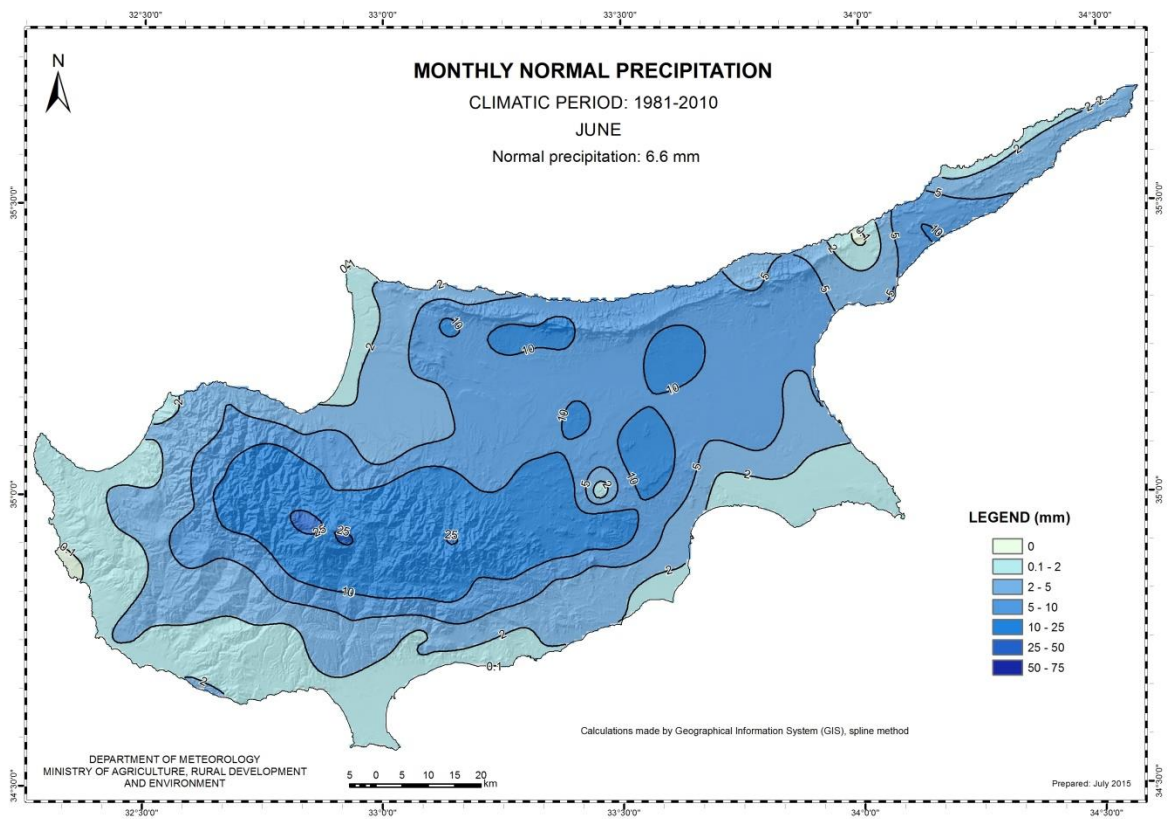
** Achna's Temperature Normal Values cover the period 1981-2007

= VALUES FROM AUTOMATIC WEATHER STATION

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

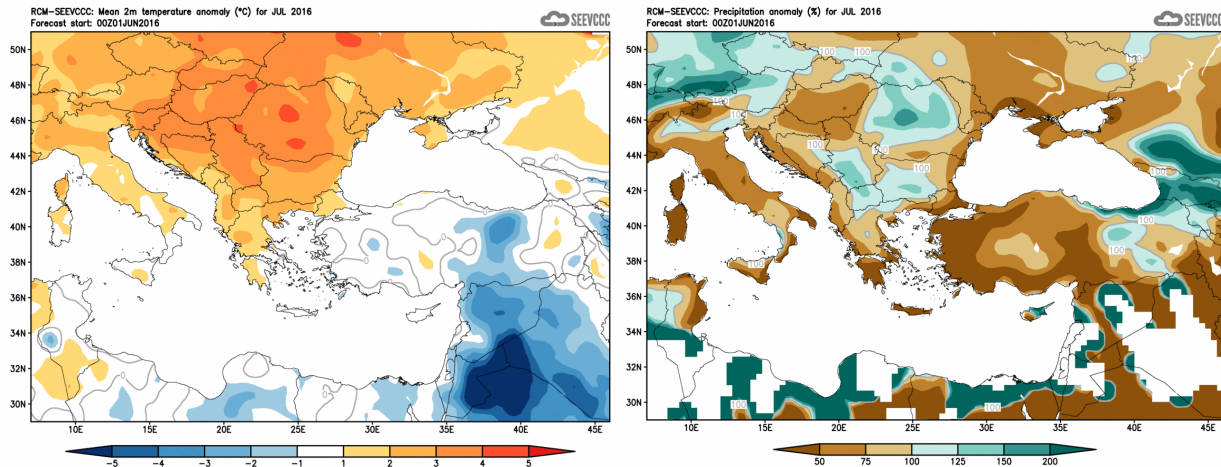


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **June** is also presented.



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. Regarding the accumulated precipitation Cyprus west part was expected to range below 50% and 75% of normal but over the east part accumulated precipitation was expected to range up to 200%.



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

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

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

In a more detailed evaluation of the recorded temperatures, both maximum and minimum (table below), were around 1-2°C above normal over the most areas of Cyprus. Extreme highs and lows (both maximum and minimum departing by 4°C of normal) were recorded. Note the 39.1°C highest maximum of Polis Chrysochous station departing by almost 6°C from normal and the 33.1°C highest maximum of Prodromos station departing around 5°C from normal. There were also recorded two highest minimums with positive departures greater than 4°C of normal, the first at Athalassa station on 6th of **July** and the second at Pafos airport on 24th of **July**. At Prodromos station lowest maximum (23.5°C) and lowest minimum (12.8°C) temperatures were recorded with negative departures greater than 4°C from normal.

On 5th, 23rd and 31st of **July** episodes of thundery activity and isolated showers resulted in accumulated precipitation of 21% of normal. Areas with extreme accumulated precipitation were also recorded, like Saittas which recorded 38.8 millimeters of precipitation or 388% of normal.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JULY 2016

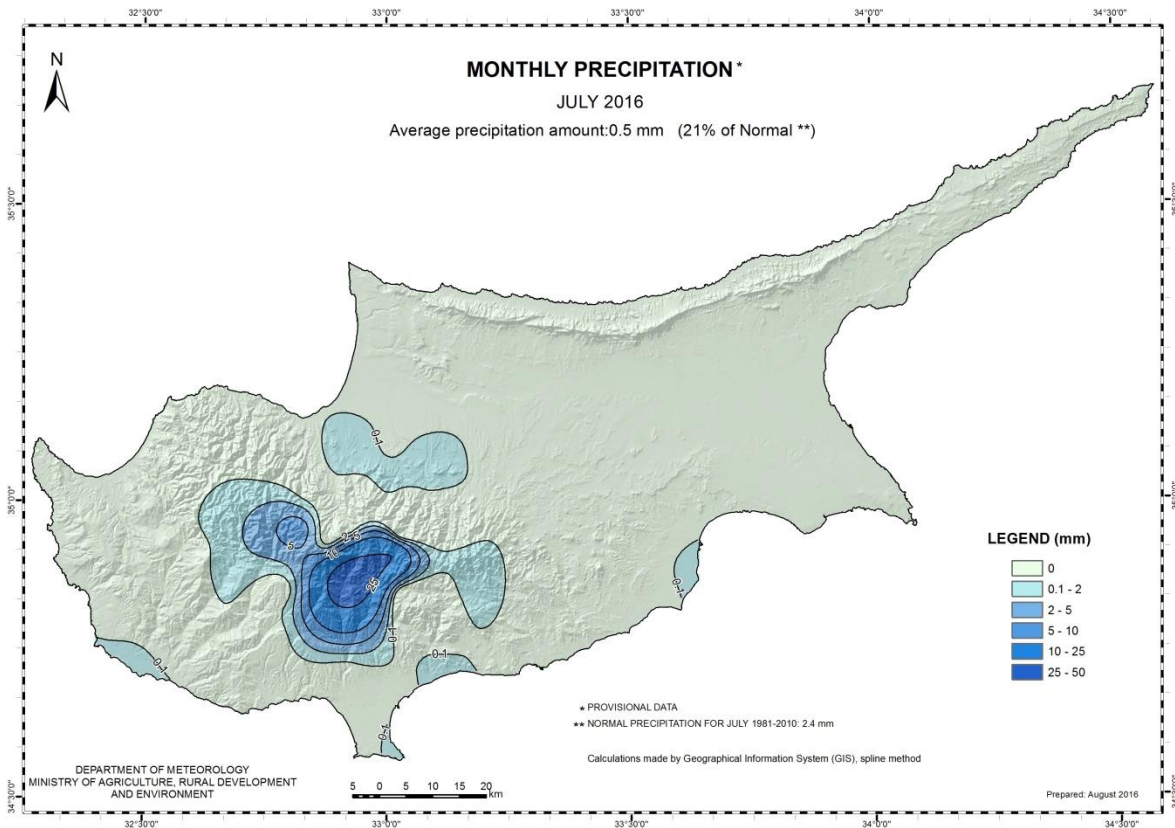
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Lowest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Highest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	35.4	33.4	2.0	39.1	32.8	23.0	21.1	1.9	20.7	24.5	0.0	0.1	-0.1
82*	PAFOS (AIRPORT)	31.5	29.9	1.6	33.3	30.0	21.6	20.6	1.0	19.9	24.8	0.4	0.2	0.2
225	PRODROMOS (C.F.C.)	29.1	27.9	1.2	33.1	23.5	18.1	18.2	-0.1	12.8	20.9	6.6	16.4	-9.8
666*	ATHALASSA (RADIOSONDE)	38.0	37.1	0.9	40.4	34.6	23.7	22.1	1.6	21.3	26.8	0.0	4.2	-4.2
731	LARNAKA (AIRPORT)	33.6	32.5	1.1	36.6	31.1	23.4	22.0	1.4	21.3	25.1	0.2	0.5	-0.3
800**	ACHNA (DASAKI)	33.3	33.2	0.1	37.0	29.9	21.8	21.8	0.0	18.2	24.4	0.0	0.1	-0.1

* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010

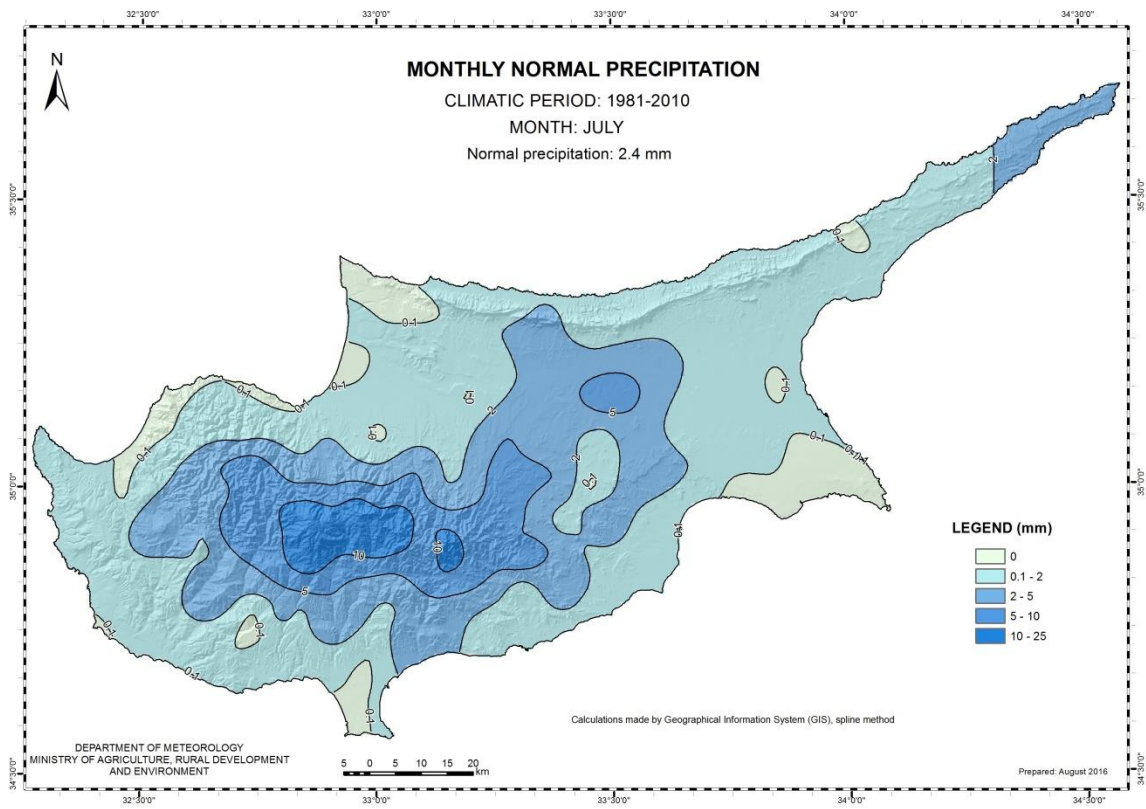
** Achna's Temperature Normal Values cover the period 1981-2007

= VALUES FROM AUTOMATIC WEATHER STATION

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

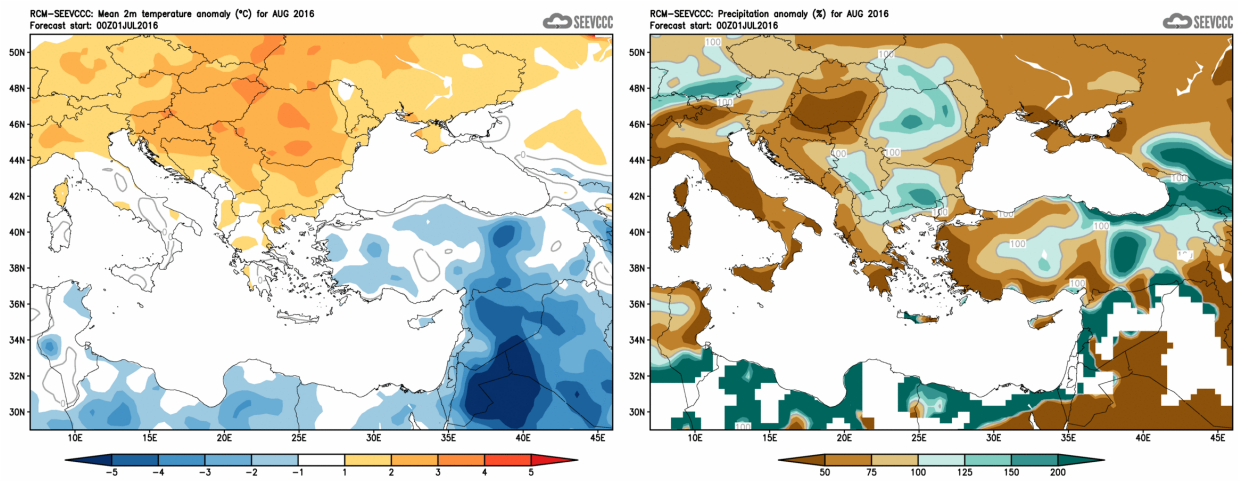


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **July** is also presented.



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

August's seasonal forecast suggested that temperature over Cyprus would be generally normal, except southern and eastern part that it would be by 1 to 2°C below normal. The amount of the accumulated precipitation over most areas of Cyprus was expected to range between 50% and 75% of normal, over the southern and eastern part was expected to range 50% of normal and below and over northern and western part between normal and 125% of normal.



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

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

Concerning the models evaluation for **August** a general judgment is that the model did not perform so well concerning the temperature. Most of the mean daily maximum and mean daily minimum temperatures were above normal, except the station of Achna (Dasaki) that the mean daily maximum temperature was below normal and the mean minimum temperature of Prodromos station that was also below normal.

From the records kept in the archives of the Department of Meteorology during the period of 2nd to the 5th of **August**, the maximum temperatures of Polis Chrysochous station were diverted by 4°C higher than the normal maximum of the station. Generally, the highest maximum of the month was recorded on 8th of **August** over the inland station of Athalassa and it was 40.4°C with the normal being 36.9°C. For a sequence of days EMMA warning for high temperature was issued.

The parameter of the accumulated precipitation is not going to be discussed, since precipitation activity results in random accumulation due to thundery activity.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR AUGUST 2016

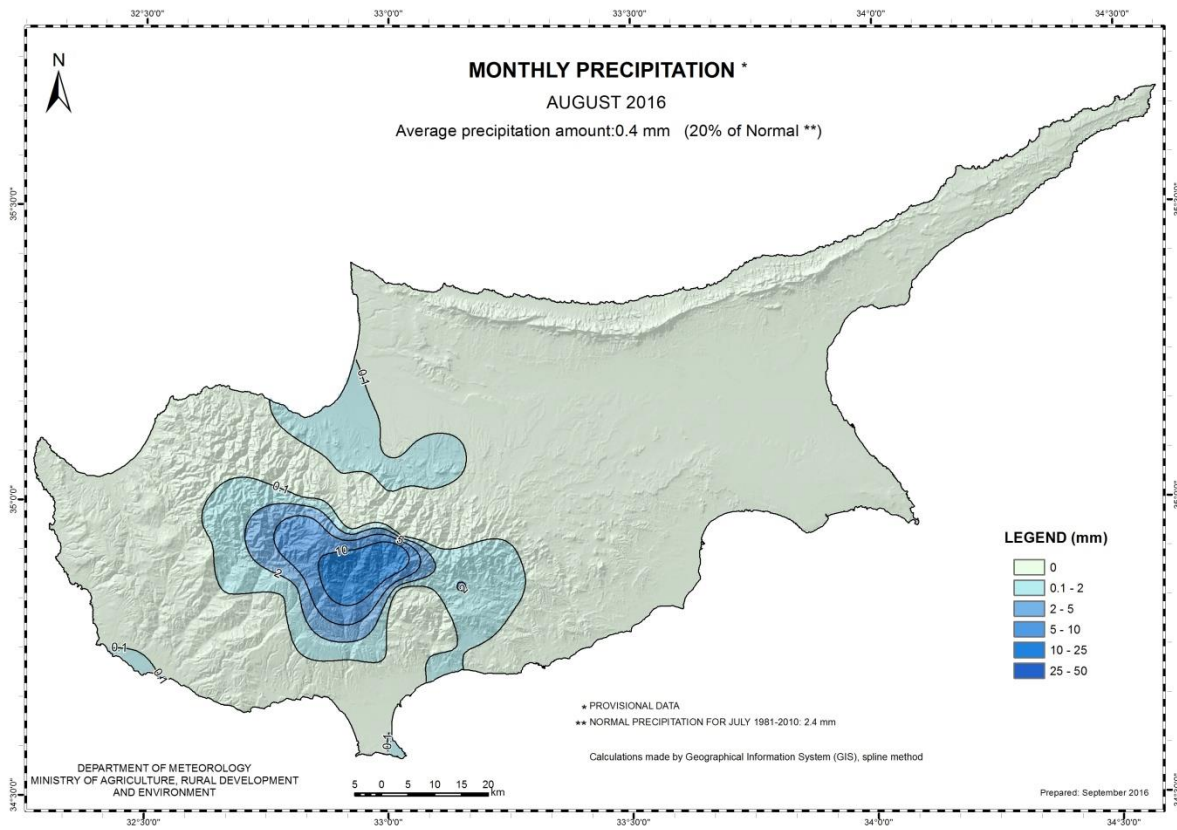
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Lowest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Highest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	35.0	33.3	1.7	38.6	31.8	23.1	21.5	1.6	21.0	26.3	0.0	0.0	0.0
82*	PAFOS (AIRPORT)	31.8	30.5	1.3	33.1	30.6	22.3	21.1	1.2	20.5	24.7	0.2	0.0	0.2
225	PRODROMOS (C.F.C.)	28.7	28.0	0.7	31.3	23.1	17.6	18.1	-0.5	13.3	20.8	8.2	12.0	-3.8
666*	ATHALASSA (RADIOSONDE)	37.7	36.9	0.8	40.4	34.8	23.1	21.9	1.2	20.6	27.2	0.0	1.8	-1.8
731	LARNAKA (AIRPORT)	33.4	32.9	0.5	36.5	31.8	23.5	22.3	1.2	21.3	25.3	0.0	0.3	-0.3
800**	ACHNA (DASAKI)	32.7	33.5	-0.8	35.8	30.7	22.2	22.0	0.2	19.8	25.2	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

= VALUES FROM AUTOMATIC WEATHER STATION

For the purpose of better visualization of **August** 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 **August** is also presented.

