

National Climate Bulletin and the assessment of the SEECOF-17 Climate outlook for **CYPRUS** for summer season JJA 2017

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 2017, which is based on the deviations from the means of the climatological period 1981-2010.

Generally from the climatological point of view, 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 SEECOF17 which was stating that:

the area of Cyprus as regarded from the suggested climate statement, issued on May 2017, for the period of Summer JJA, would have being in area 3 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%, 30% would be normal and 60% would be above normal. As presented in more details below June and August were normal and July was 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.

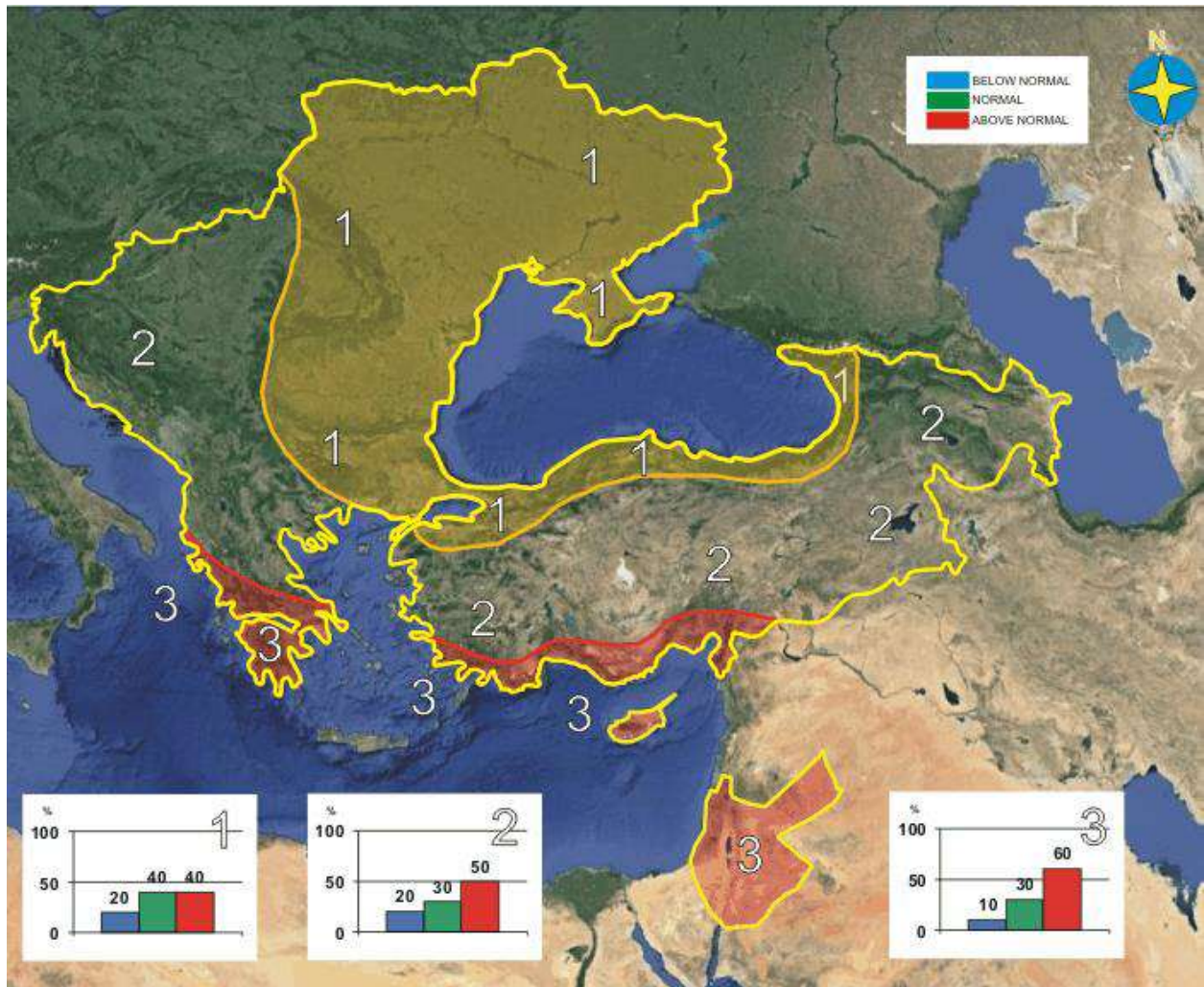


Figure 1. Graphical presentation of the 2017 summer temperature outlook

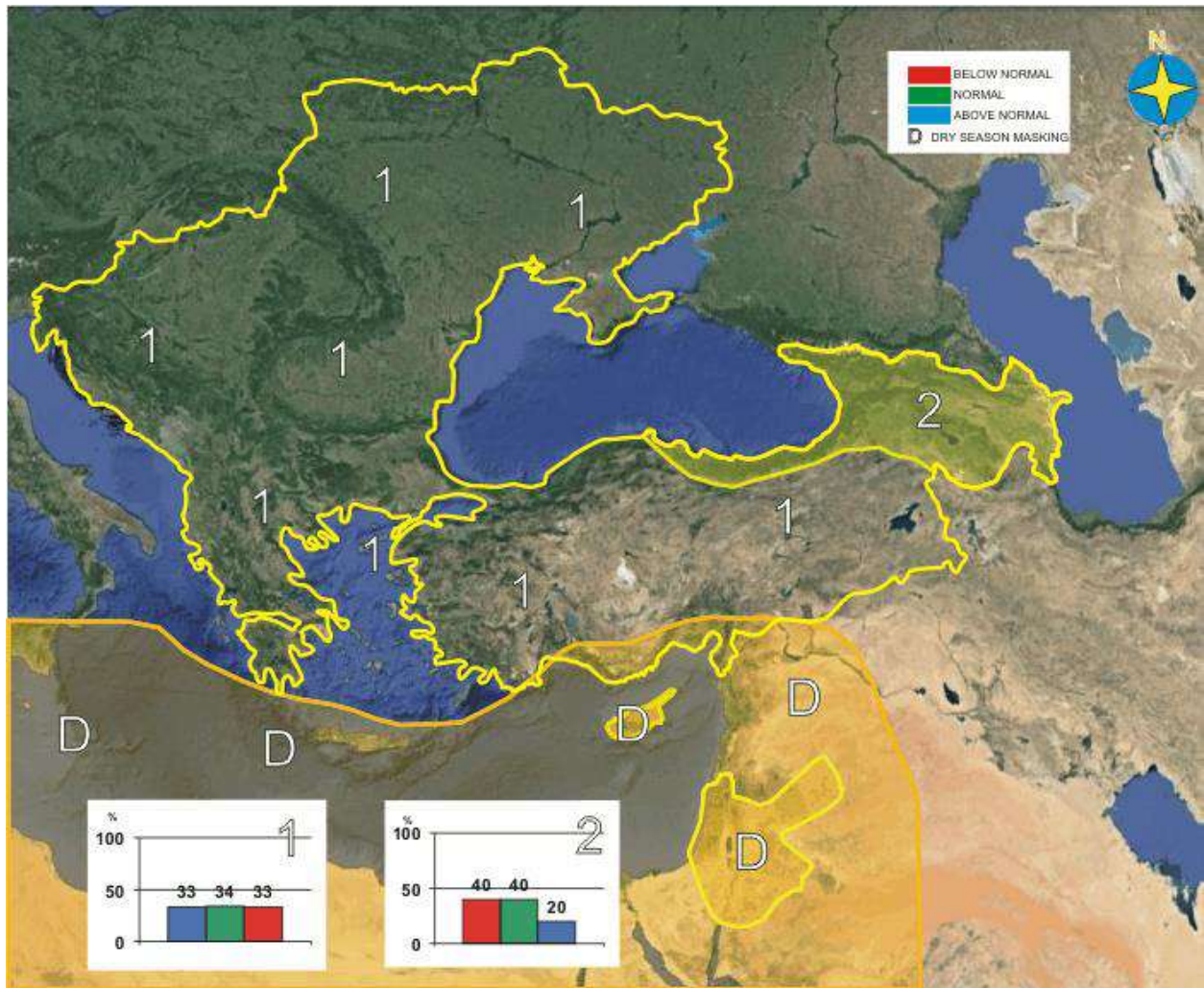


Figure 2. Graphical presentation of the 2017 summer precipitation outlook

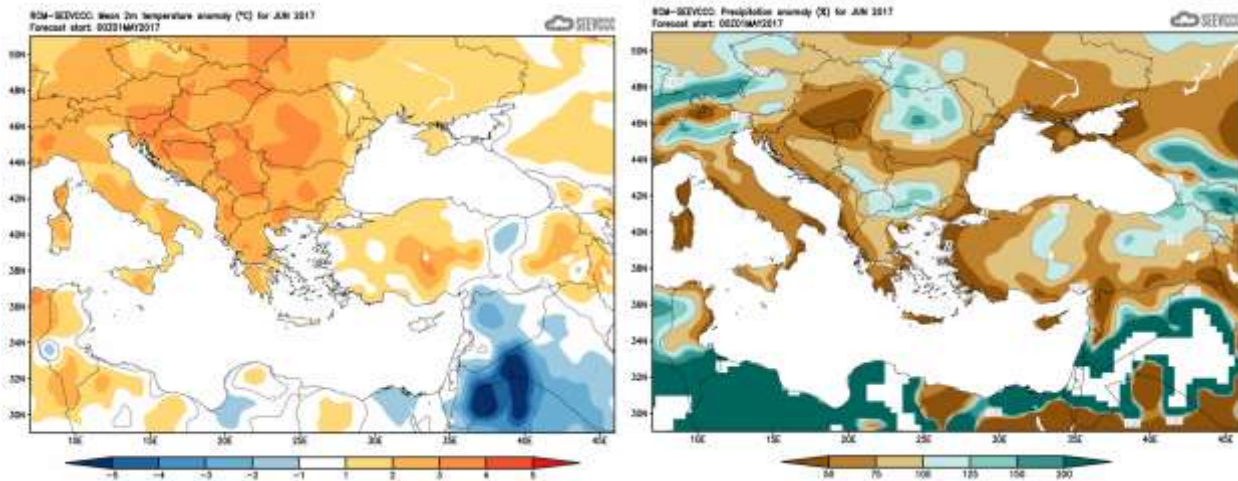
Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded summer weather.

Country	Seasonal temperature (JJA)		Seasonal precipitation (JJA)		High Impact Events
	Observed	SEECOF-17 climate outlook for temperature	Observed	SEECOF-17 climate outlook for precipitation	
CYPRUS	<p>June Normal July Above Normal August Normal</p>	<p>June Normal July Normal August 1 to 2°C below normal, except western part that it would be normal</p>	<p>June Below Normal July Below normal August Normal</p>	<p>June Below Normal July West part below Normal, East part above Normal August Below Normal to Normal, except West and North part Normal to above Normal</p>	<p>June Temperature extremes were recorded with great positive departures of 6 to 8°C, like Polis Chrysochou station where the highest daily maximum temperature (37.8°C) was 8°C greater than normal (29.8°C) and Athalassa station, where the highest daily maximum temperature (41°C) was 6.1°C greater than normal (34.9°C). During 25-30 of June 5 EMMA warnings with yellow awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures. Lowest daily minimum temperatures were also recorded, with positive departures of 5 to 7°C above normal, like Pafos airport, where a minimum of 23.9°C was by 5.9°C above station's normal (18.0°C) and the station of Athalassa, where a minimum of 26.1°C was by 7°C above station's normal (19.1°C). During June local showers and or thunderstorms caused by thermal instability were recorded on 19th and on 21st of June resulting in accumulated precipitation of 71% of normal. It is worth mentioning that from the provisional data on the 21st of the month hail was reported.</p> <p>July Extreme highs and lows (both maximum and minimum departing by 4°C of normal) were recorded. On the 1st and 2nd of July maximum temperature departing by at least 4°C of normal was recorded in all stations. Specifically on 1st of July the daily maximum temperature of Pafos airport was 41.6°C. On 2nd of July the daily maximum temperature of Athalassa was 44.6°C and of Prodromos was 36.7°C. All the above maximum temperatures are</p>

				<p>extremes for July for the last 30 years. They are also the highest temperatures recorded for the last 30 years, except the maximum temperature of Athalassa, which was the second highest (first highest 45.6°C on 1st of August 2010). There were also recorded highest minimums with positive departures greater than 4°C of normal. Note the minimum 28.6°C at Athalassa station on 1st of July and the minimum 23.6°C at Prodromos on 3rd of July.</p> <p>During July 11 EMMA warnings with yellow awareness level and 3 with orange awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures. Extreme high temperatures were characteristic of the month, not only for Cyprus, but also for South Europe.</p> <p>On 24th of July episodes of thundery activity and isolated showers over mountainous areas resulted in accumulated precipitation of 4% of normal.</p> <p style="text-align: center;">August</p> <p>Temperatures extremes were also recorded with positive departures greater than 4°C, like Achna station where the highest daily maximum temperature (38.9°C) was 5.4°C greater than normal (33.5°C) and Prodromos station, where the highest daily maximum temperature (32.6°C) was 4.6°C greater than normal (28°C). Generally, the highest maximum of the month was recorded on 1st of August over the inland station of Athalassa and it was 40.6°C with the normal being 36.9°C. For the 1st of August EMMA warning for high temperature was issued.</p> <p>Daily minimum temperatures were also recorded, with negative departures greater than 4°C below normal, like Prodromos, where a minimum of 13.4°C was 4.7°C below station's normal (18.1°C) and the station of Achna, where a minimum of 18°C was 4°C below station's normal (22°C).</p> <p>On the 4th, 5th, 6th, 12th and 23rd of August episodes of thundery activity and isolated showers over mountainous areas resulted in accumulated precipitation of 100% of normal.</p>
--	--	--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

The seasonal forecast suggested that **June's** temperature would be generally normal while the Balkans and great parts of Asia Minor would be warmer than normal. Regarding the accumulated precipitation Cyprus was 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 well both qualitatively and quantitatively concerning the temperature and relatively poor 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 around normal, suggesting that **June** was normal. Extremes were also recorded with great positive departures of 6 to 8 $^{\circ}\text{C}$, like Polis Chrysochou station where the highest daily maximum temperature (37.8 $^{\circ}\text{C}$) was 8 $^{\circ}\text{C}$ greater than normal (29.8 $^{\circ}\text{C}$) and Athalassa station, where the highest daily maximum temperature (41 $^{\circ}\text{C}$) was 6.1 $^{\circ}\text{C}$ greater than normal (34.9 $^{\circ}\text{C}$). During 25-30 of **June** 5 EMMA warnings with yellow awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures.

Lowest daily minimum temperatures were also recorded, with positive departures of 5 to 7 $^{\circ}\text{C}$ above normal, like Pafos airport, where a minimum of 23.9 $^{\circ}\text{C}$ was by 5.9 $^{\circ}\text{C}$ above station's normal (18.0 $^{\circ}\text{C}$) and the station of Athalassa, where a minimum of 26.1 $^{\circ}\text{C}$ was by 7 $^{\circ}\text{C}$ above station's normal (19.1 $^{\circ}\text{C}$).

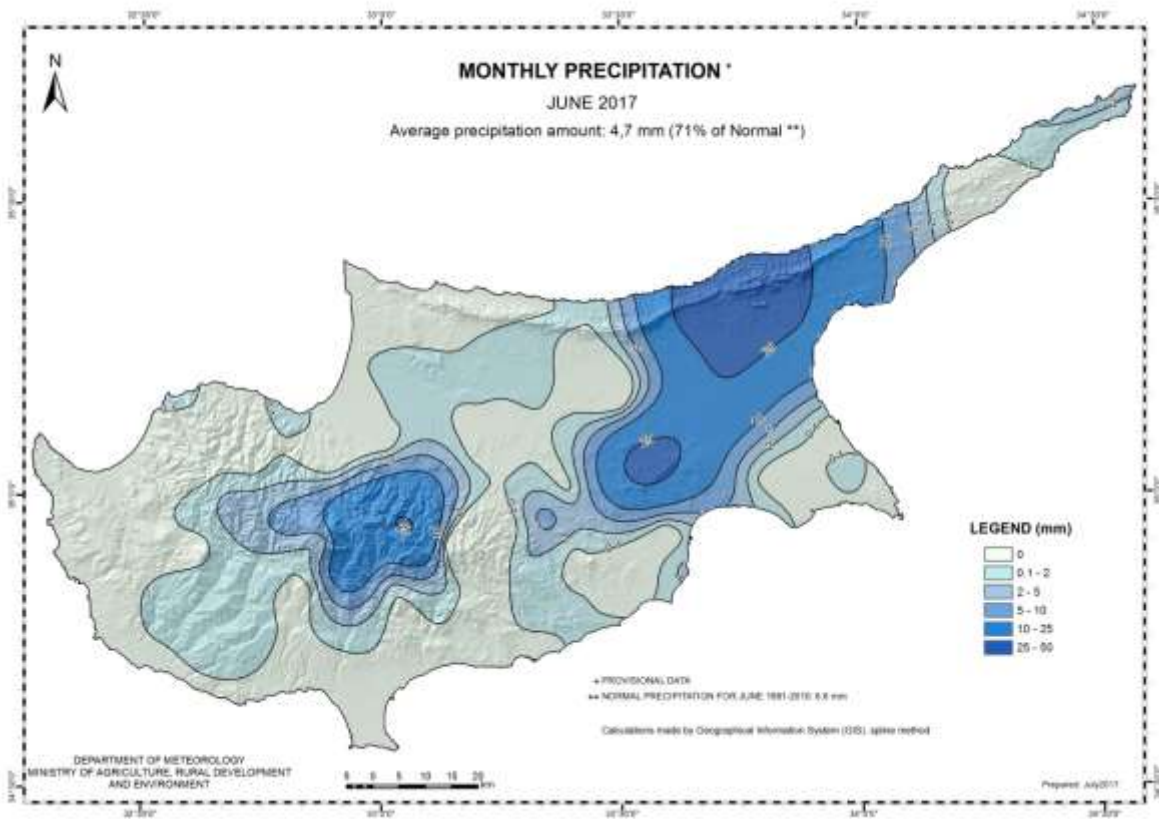
During **June** local showers and or thunderstorms caused by thermal instability were recorded on 19th and on 21st of **June** resulting in accumulated precipitation of 71% of normal. It is worth mentioning that from the provisional data on the 21st of the month hail was reported.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JUNE 2017														
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	29.8	30.3	-0.5	37.8	25.7	18.4	18.5	-0.1	15.3	21.9	0.0	1.8	-1.8
82*	PAFOS (AIRPORT)	28.5	27.6	0.9	31.3	26.2	18.4	18.0	0.4	15.5	23.9	0.0	1.3	-1.3
225	PRODROMOS (C.F.C.)	-	25.0	-	-	-	-	15.0	-	-	-	7.5	27.2	-19.7
666*	ATHALASSA (RADIOSONDE)	34.9	34.0	0.9	41.0	29.8	20.3	19.1	1.2	16.8	26.1	0.0	11.6	-11.6
731	LARNAKA (AIRPORT)	30.7	30.2	0.5	34.4	27.3	20.0	19.4	0.6	16.7	22.7	2.0	2.0	0.0
800**	ACHNA (DASAKI)	30.6	31.0	-0.4	35.7	27.6	19.0	18.9	0.1	15.4	23.1	0.8	1.8	-1.0

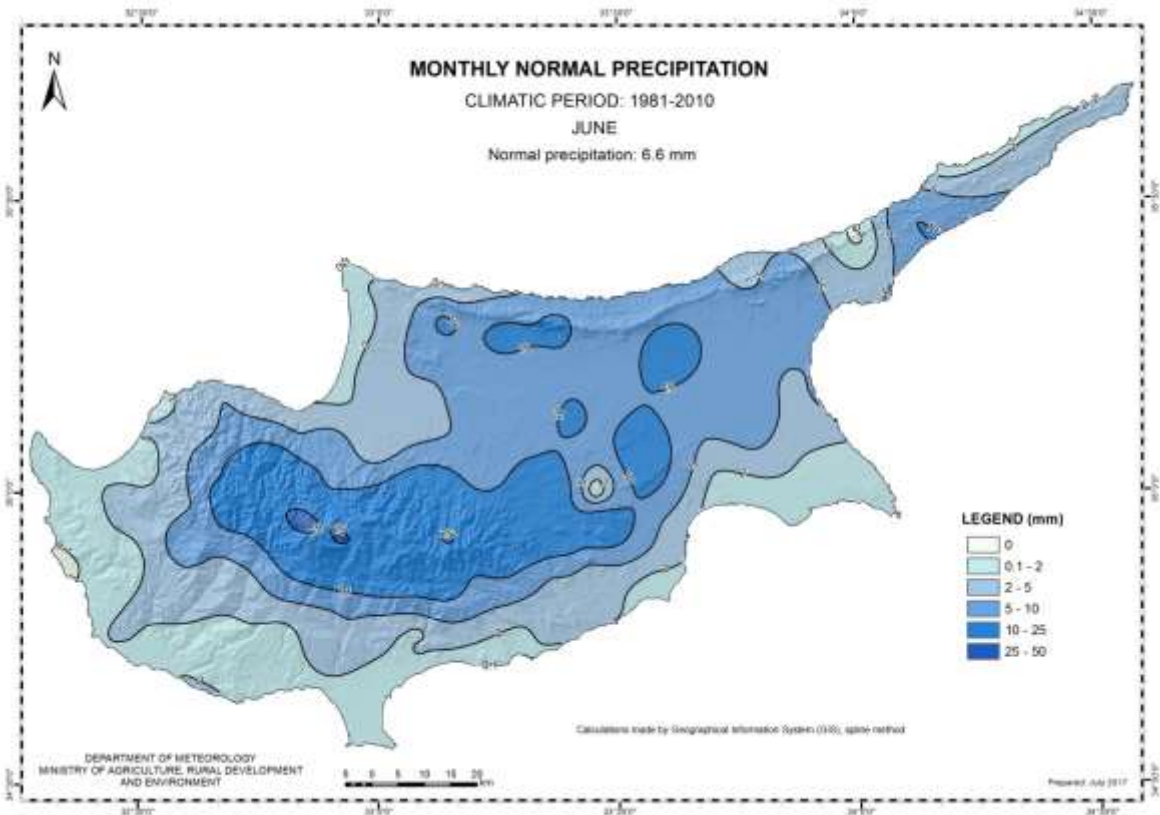
* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010
 ** Achna's Temperature Normal Values cover the period 1981-2007

= 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.

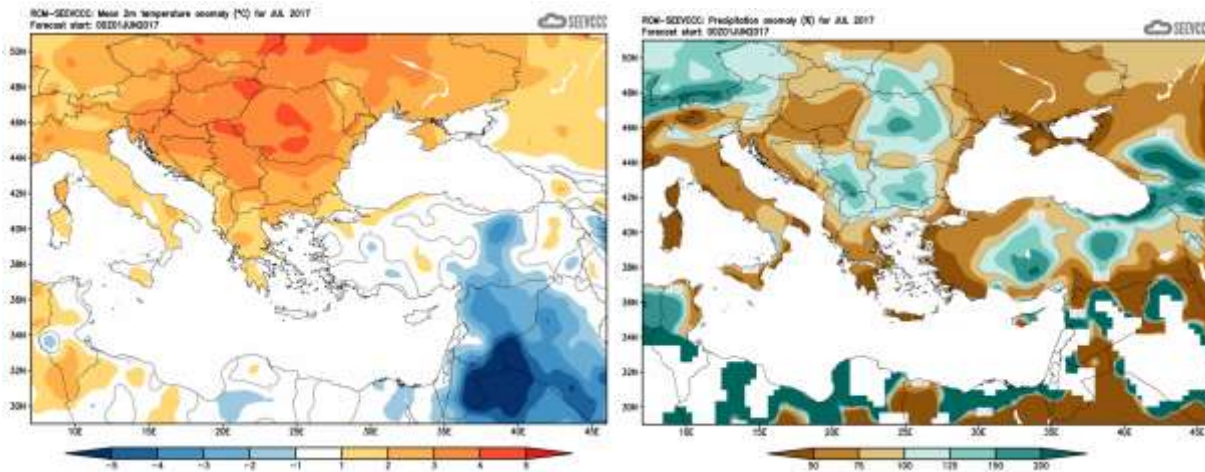


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **June** is also presented.



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 be below 50% of normal but over the east part accumulated precipitation was expected to range up to 200% of normal.



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 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 above normal. The recorded maximum temperature was around 2-3°C above normal over the most areas of Cyprus. Specifically the mean provisional daily maximum temperatures of Athalassa, Prodromos, Pafos Airport and Larnaka Airport are a record of high temperatures of July and rank July 2017 as the hottest for at least the last 30 years.

Of course, extreme highs and lows (both maximum and minimum departing by 4°C of normal) were recorded. On the 1st and 2nd of July maximum temperature departing by at least 4°C of normal was recorded in all stations. Specifically on 1st of July the daily maximum temperature of Pafos airport was 41.6°C. On 2nd of July the daily maximum temperature of Athalassa was 44.6°C and of Prodromos was 36.7°C. All the above maximum temperatures are extremes for July for the last 30 years. They are also the highest temperatures recorded for the last 30 years, except the maximum temperature of Athalassa, which was the second highest (first highest 45.6°C on 1st of August 2010).

There were also recorded highest minimums with positive departures greater than 4°C of normal. Note the minimum 28.6°C at Athalassa station on 1st of **July** and the minimum 23.6°C at Prodomos on 3rd of **July**.

During **July** 11 EMMA warnings with yellow awareness level and 3 with orange awareness level were issued, concerning extreme high temperatures, not only maximum but also minimum temperatures. Extreme high temperatures were characteristic of the month, not only for Cyprus, but also for South Europe.

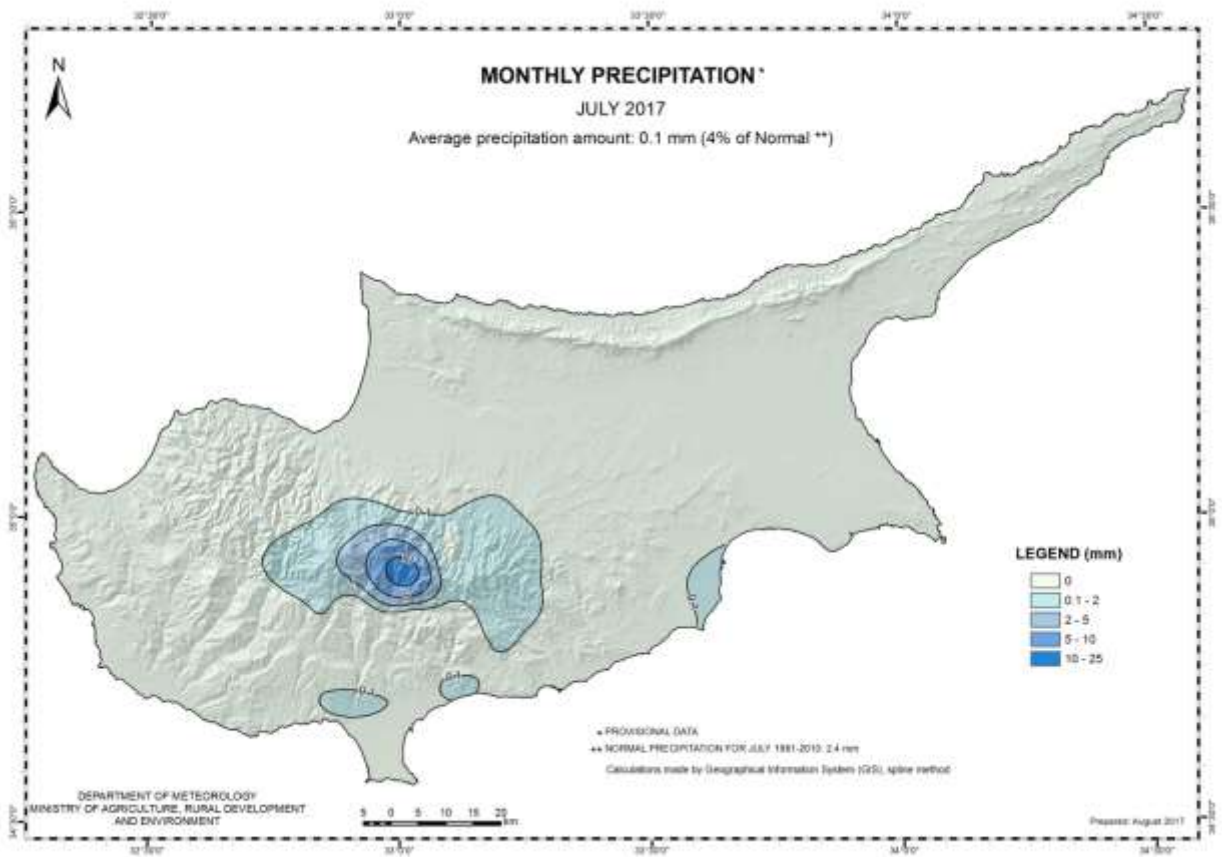
On 24th of **July** episodes of thundery activity and isolated showers over mountainous areas resulted in accumulated precipitation of 4% of normal.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JULY 2017														
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	34.1	33.4	0.7	38.8	31.4	22.0	21.1	0.9	18.2	24.9	0.0	0.1	-0.1
82*	PAFOS (AIRPORT)	32.2	29.9	2.3	41.6	30.6	21.7	20.6	1.1	19.5	23.7	0.0	0.2	-0.2
225	PRODROMOS (C.F.C.)	31.3	27.9	3.4	36.7	27.5	19.1	18.2	0.9	14.8	23.6	0.8	16.4	-15.6
666*	ATHALASSA (RADIOSONDE)	39.3	37.1	2.2	44.6	34.2	24.5	22.1	2.4	20.7	28.6	0.0	4.2	-4.2
731	LARNAKA (AIRPORT)	34.6	32.5	2.1	39.9	31.3	23.6	22.0	1.6	21.5	26.2	0.4	0.5	-0.1
800**	ACHNA (DASAKI)	34.9	33.2	1.7	40.0	30.7	22.6	21.8	0.8	19.4	26.1	0.0	0.1	-0.1

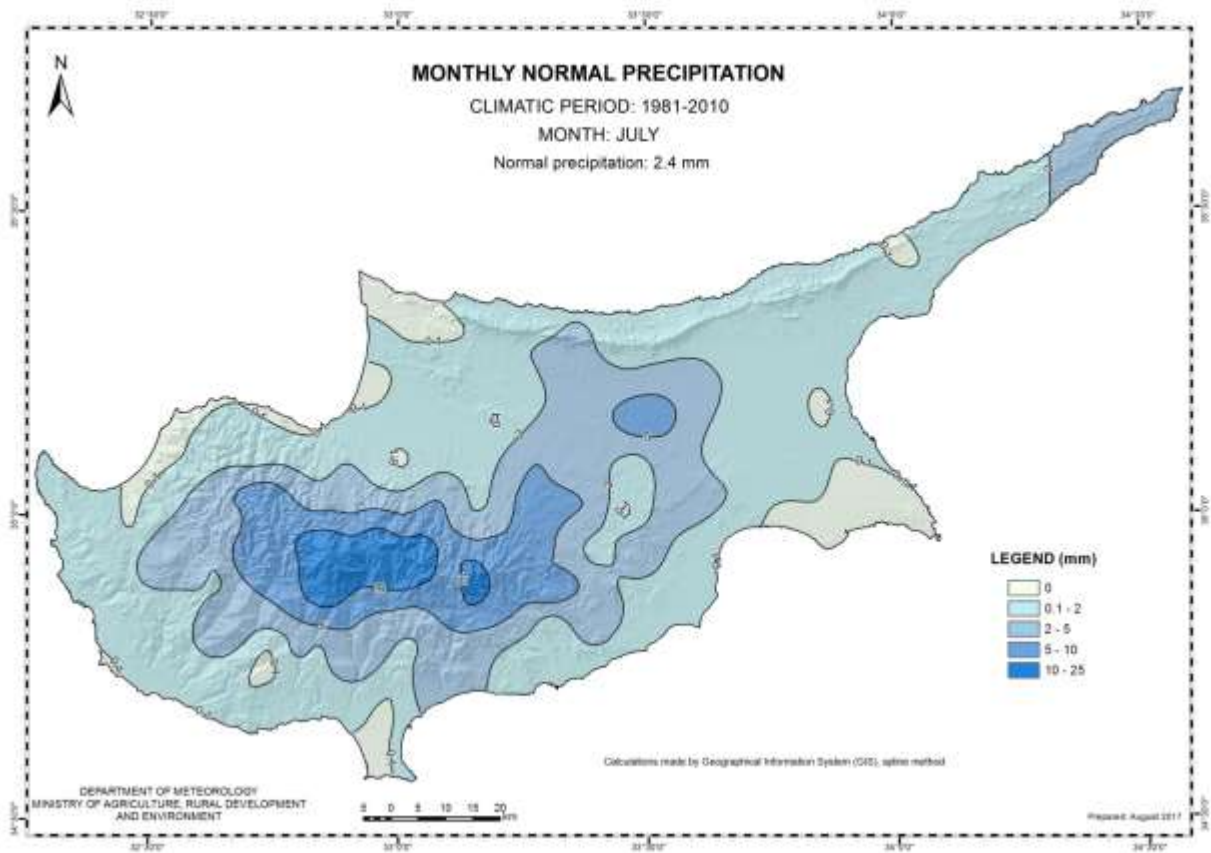
* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010
 ** Achna's Temperature Normal Values cover the period 1981-2007

= 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.

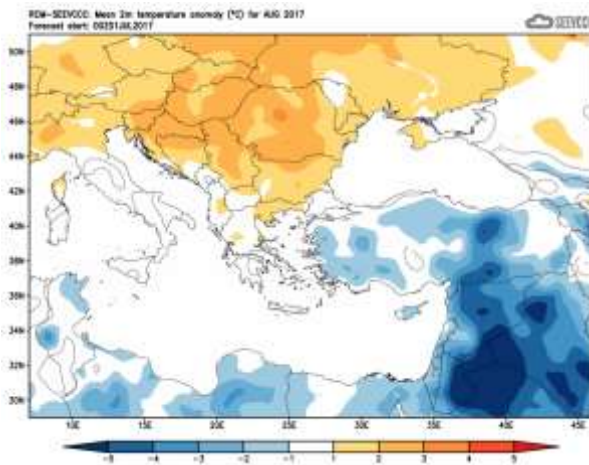


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **July** is also presented.

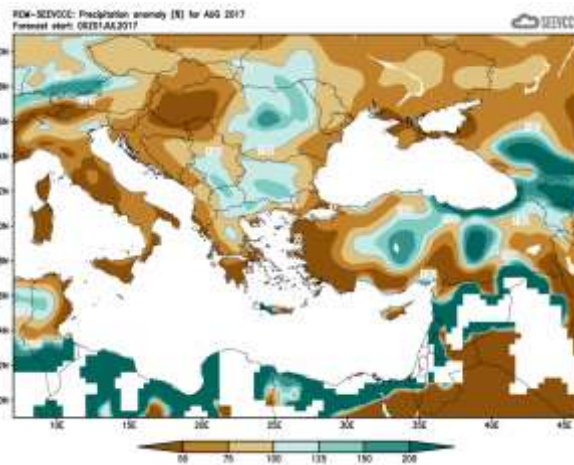


Evaluation of August's seasonal forecast for the area of Cyprus

August's seasonal forecast suggested that temperature over Cyprus would be generally normal to lower than 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 performed relatively well concerning the temperature. All of the mean daily maximum and mean daily minimum temperatures were around normal, except the station of Pafos (Airport) that the mean daily maximum temperature and the mean minimum temperature were slightly above normal. . 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.

Extremes were also recorded with positive departures greater than 4°C, like Achna station where the highest daily maximum temperature (38.9°C) was 5.4°C greater than normal (33.5°C) and Prodomos station, where the highest daily maximum temperature (32.6°C) was 4.6°C greater than normal (28°C). Generally, the highest maximum of the month was recorded on 1st of **August** over the inland station of Athalassa and it was 40.6°C with the normal being 36.9°C. For the 1st of August EMMA warning for high temperature was issued.

Daily minimum temperatures were also recorded, with negative departures greater than 4°C below normal, like Prodromos, where a minimum of 13.4°C was 4.7°C below station's normal (18.1°C) and the station of Achna, where a minimum of 18°C was 4°C below station's normal (22°C).

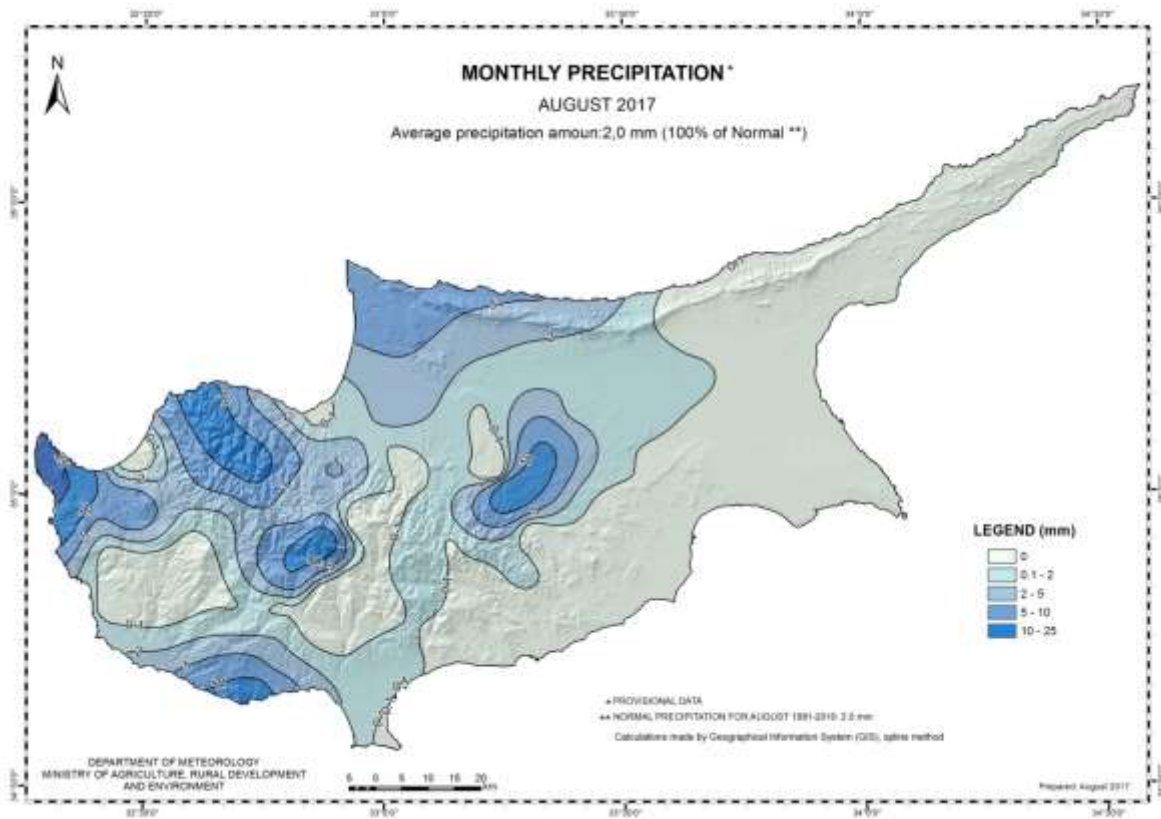
On the 4th, 5th, 6th, 12th and 23rd of **August** episodes of thundery activity and isolated showers over mountainous areas resulted in accumulated precipitation of 100% of normal.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR AUGUST 2017														
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	33.1	33.3	-0.2	37.5	30.3	21.3	21.5	-0.2	18.2	23.4	1.7	0.0	1.7
82*	PAFOS (AIRPORT)	31.8	30.5	1.3	33.3	30.1	22.4	21.1	1.3	19.7	25.2	2.7	0.0	2.7
225	PRODROMOS (C.F.C.)	29.1	28.0	1.1	32.6	22.3	17.1	18.1	-1.0	13.4	20.4	5.3	12.0	-6.7
666*	ATHALASSA (RADIOSONDE)	37.2	36.9	0.3	40.6	33.3	22.8	21.9	0.9	19.4	25.4	1.0	1.8	-0.8
731	LARNAKA (AIRPORT)	33.3	32.9	0.4	36.5	31.8	23.2	22.3	0.9	20.2	25.2	0.0	0.3	-0.3
800**	ACHNA (DASAKI)	32.9	33.5	-0.6	38.9	30.9	22.0	22.0	0.0	18.0	26.2	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.

