

National Climate Bulletin and the assessment of the SEECOF-16 Climate outlook for **CYPRUS** for winter season DJF 2016-2017

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 winter months of December 2016, January and February 2017, 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 winter is characterized by the low mean maximum and minimum normal (1981-2010) temperatures. Normal accumulated precipitation is reaching maximum as a result of the frequent barometric systems which are affecting the area.

The assessment for the area of Cyprus is performed bearing in mind the consensus statement of SEECOF16 which was stating that:

1. Temperature (the mean) was likely to range below normal with a probability of 10%, around normal with a probability of 30% and above normal with a probability of 60% (Figure 1) and,
2. Accumulated precipitation probabilities were 45% below normal, 35% around normal and 20% above normal (Figure 2).

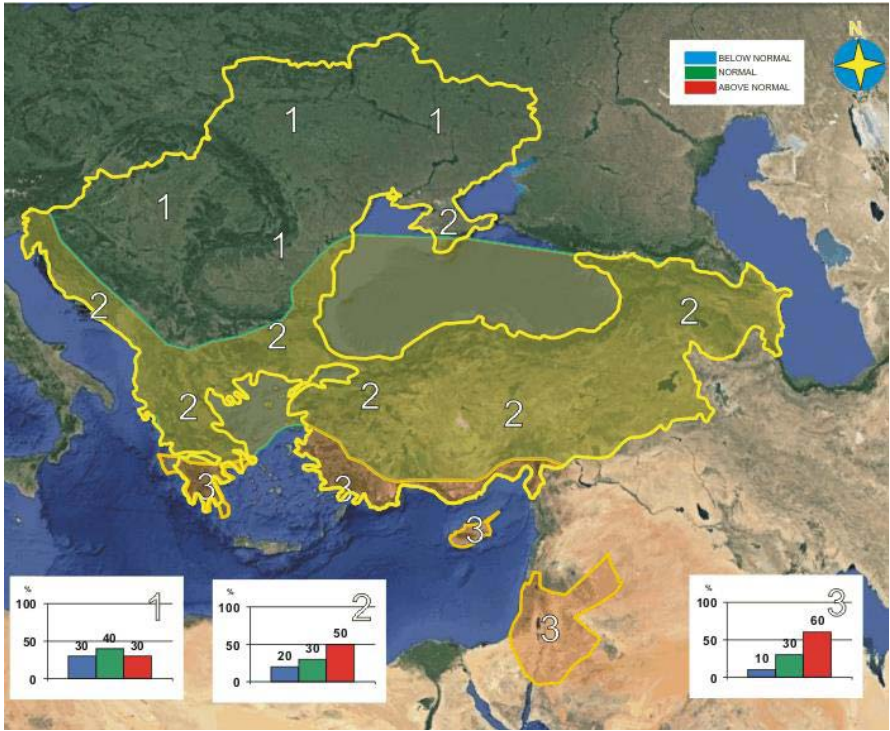


Figure 1. Graphical presentation of 2016/17 winter temperature outlook

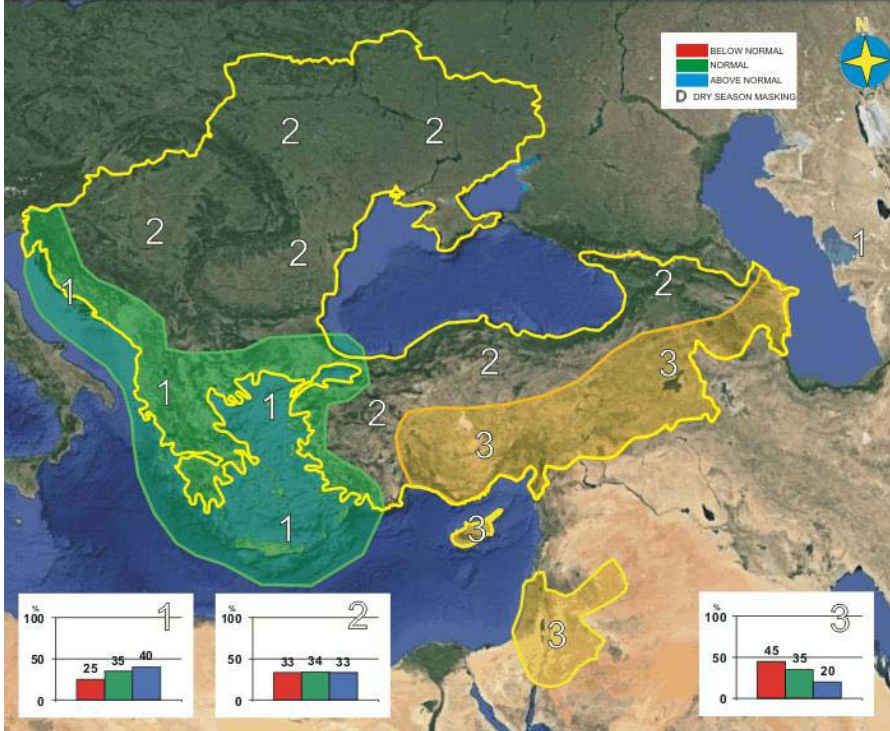


Figure 2. Graphical presentation of 2016/17 winter precipitation outlook

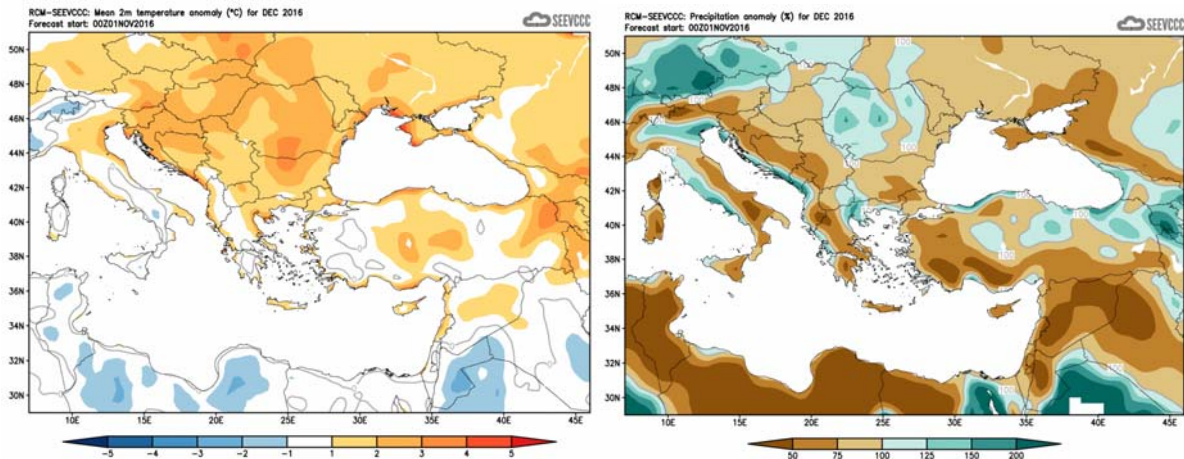
Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded winter weather.

Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)		High Impact Events
	Observed	SEECOF-16 climate outlook for temperature	Observed	SEECOF-16 climate outlook for precipitation	
CYPRUS	<p>DEC Below Normal</p> <p>JAN Colder than Normal.</p> <p>FEB Normal and slightly colder than normal</p>	<p>DEC Slightly above Normal</p> <p>JAN Slightly above normal (by 1°C to 2°C) over the coastal zone</p> <p>FEB Warmer than normal by 1°C to 2°C</p>	<p>DEC Well above Normal</p> <p>JAN Inland and over the southern and eastern coasts below normal but above to well above normal over all other areas</p> <p>FEB Well below Normal</p>	<p>DEC Generally 50% to 75% of normal, except the western coastal part where the accumulation would range almost up to normal.</p> <p>JAN Generally 50% to 75% of normal, except the western part where the accumulation would range almost up to normal.</p> <p>FEB Between 50% and 75% of normal over the greater part of the island and over southeast coast below 50% of normal.</p>	<p>DEC: Extremes (deviating by 4°C or more from normal) were recorded mainly between 14 and 25 of December, at all the selected meteorological stations. As an example note the recorded maximum of Polis on the 19th of December that was 8.6°C (with a normal of 18°C) and the maximum of Achna on the 17th of December that was 8.5°C (with a normal of 18°C). Concerning the mean daily minimum temperatures note the recorded minimum of Prodomos on the 19th of December that was -6.1°C (with a normal of 2.6°C) and the minimum of Achna on the 15th of December that was -0.5°C (with a normal of 8.3°C). Regarding the accumulated precipitation, December recorded a mean area average of 150,6mm (160% of normal). Hail was recorded on the 5th, 12th, 13rd, 21st, 28th and 30th of December. It worth mentioning there were 18 days of snow during December, having on the 21st of December, 21cm of new snow on Troodos square.</p> <p>JAN: Extreme high temperatures were recorded, as an example Polis Chrysochous recorded a highest daily maximum of 20.9°C (with the normal being 16.3°C). Extremes low temperatures (deviating by 4°C or more from normal) were also recorded mainly between 27 and 30 of January, at all the selected meteorological stations. As an example note the lowest daily minimum temperature of Prodomos on the 29th of January that was -8.4°C (with a normal of 0.7°C) and the lowest daily minimum temperature of Pafos again on the 29th of January that was -0.3°C (with a</p>

					<p>normal of 8.3°C). Concerning the daily maximum temperatures during 27 and 30 of January, note the lowest daily maximum of Prodromos on the 28th of January that was -2.9°C (with a normal of 6.3°C) and the lowest daily maximum of Achna again on the 28th of January that was 7.9°C (with a normal of 16.3°C).</p> <p>Regarding the accumulated precipitation, January recorded a mean area average of 64 mm or 77% of month's normal.</p> <p>Hail was recorded on the 1st, 2nd, 8th, 10th and 27th of January.</p> <p>It is worth mentioning that, there were 14 days of snow during January, having on the 10th and on the 27th of January, 15cm of new snow on Troodos mountains.</p> <p>FEB: Extreme high temperatures were recorded at all the selected meteorological stations, mainly on 28th of February, like Pafos airport that recorded a highest daily maximum of 26.6°C (with the normal being 17.1°C). Extremes low temperatures (deviating by 4°C or more from normal) were also recorded. As an example note the lowest daily minimum temperatures of Larnaka airport and Athalassa on the 1st of February that was -0.1°C (with a normal of 7.1°C) and -1.7°C (with a normal of 5.3°C) respectively.</p> <p>Regarding the accumulated precipitation, February recorded a mean area average of only 8mm or 12% of normal).</p> <p>Hail was recorded on the 9th, 11th, 12th, 13th and 22nd of January.</p> <p>It is worth mentioning that, there were 6 days of snow during February, having on the 12th of February, 9cm of new snow on Troodos square.</p>
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Evaluation of December's seasonal forecast for the area of Cyprus

The seasonal forecast for **December** suggested that temperature would be slightly above normal in most of the areas. The accumulated precipitation of **December** was disappointing since the forecast suggested a mainly dry month with accumulation ranging only from 50% to 75% of normal, except the western coastal part where the accumulation would range almost up to normal. Low accumulations characterized all the surrounding area.



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

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

From the provisional data recorded by the Department of Meteorology, for the selected portion of the meteorological stations, which are presented in the table below,

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR DECEMBER 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	17.9	18.0	-0.1	23.2	8.5	8.7	9.3	-0.6	3.7	13.6	197.9	93.6	104.3
82*	PAFOS (AIRPORT)	17.4	18.9	-1.5	21.0	9.8	9.6	10.0	-0.4	3.0	14.8	89.8	90.1	-0.3
225	PRODROMOS (C.F.C.)	4.6	8.3	-3.7	10.9	0.4	-0.7	2.6	-3.3	-6.1	3.3	229.7	157.3	72.4
666*	ATHALASSA (RADIOSONDE)	15.0	17.3	-2.3	19.8	9.0	6.4	7.0	-0.6	0.4	10.2	116.3	57.2	59.1
731	LARNAKA (AIRPORT)	16.6	18.6	-2.0	21.5	11.0	8.3	9.2	-0.9	1.7	12.8	103.7	79.0	24.7
800**	ACHNA (DASAKI)	15.3	18.0	-2.7	19.8	8.6	5.9	8.3	-2.4	-0.5	11.6	104.4	76.8	27.6

* 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

Is evident that the model did not perform well, since it did not forecast correct both the observed temperature anomalies and the accumulated precipitation. The seasonal forecast for **December** suggested that temperature would be slightly above normal in most of the areas. From the recorded

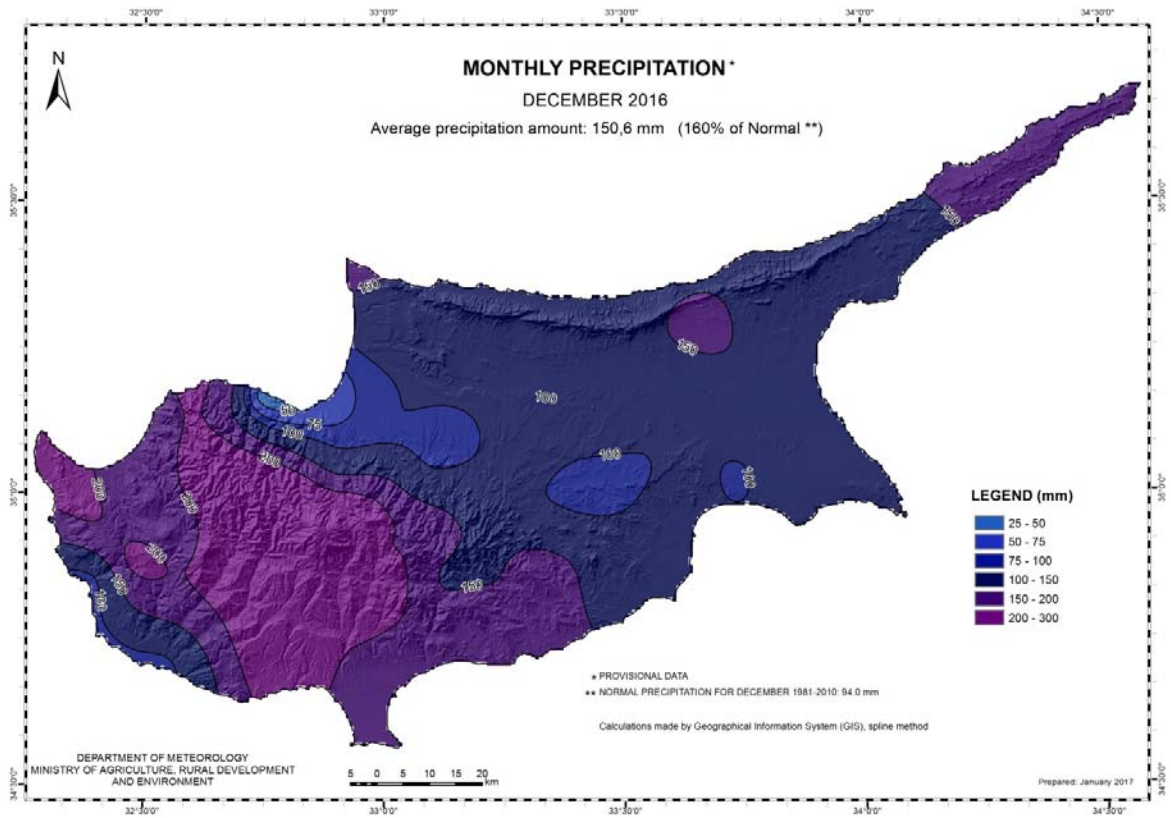
data is shown that both mean daily maximum and mean daily minimum temperatures were below normal, not only inland but also for the coastal areas. All the mean daily maximum temperatures that were recorded, except Polis Chrysochous, were significantly below normal with differences that ranged between 1.5 and 3.7°C. Most of the mean daily minimum temperatures were below normal, but not far from the normal temperatures, except the Prodromos and Achna's temperatures that were 3.3 and 2.4°C respectively, below normal.

Extremes (deviating by 4°C or more from normal) were also recorded mainly between 14 and 25 of **December**, at all the selected meteorological stations. As an example note the recorded maximum of Polis on the 19th of **December** that was 8.6°C (with a normal of 18°C) and the maximum of Achna on the 17th of **December** that was 8.5°C (with a normal of 18°C). Concerning the mean daily minimum temperatures note the recorded minimum of Prodromos on the 19th of **December** that was -6.1°C (with a normal of 2.6°C) and the minimum of Achna on the 15th of **December** that was -0.5°C (with a normal of 8.3°C).

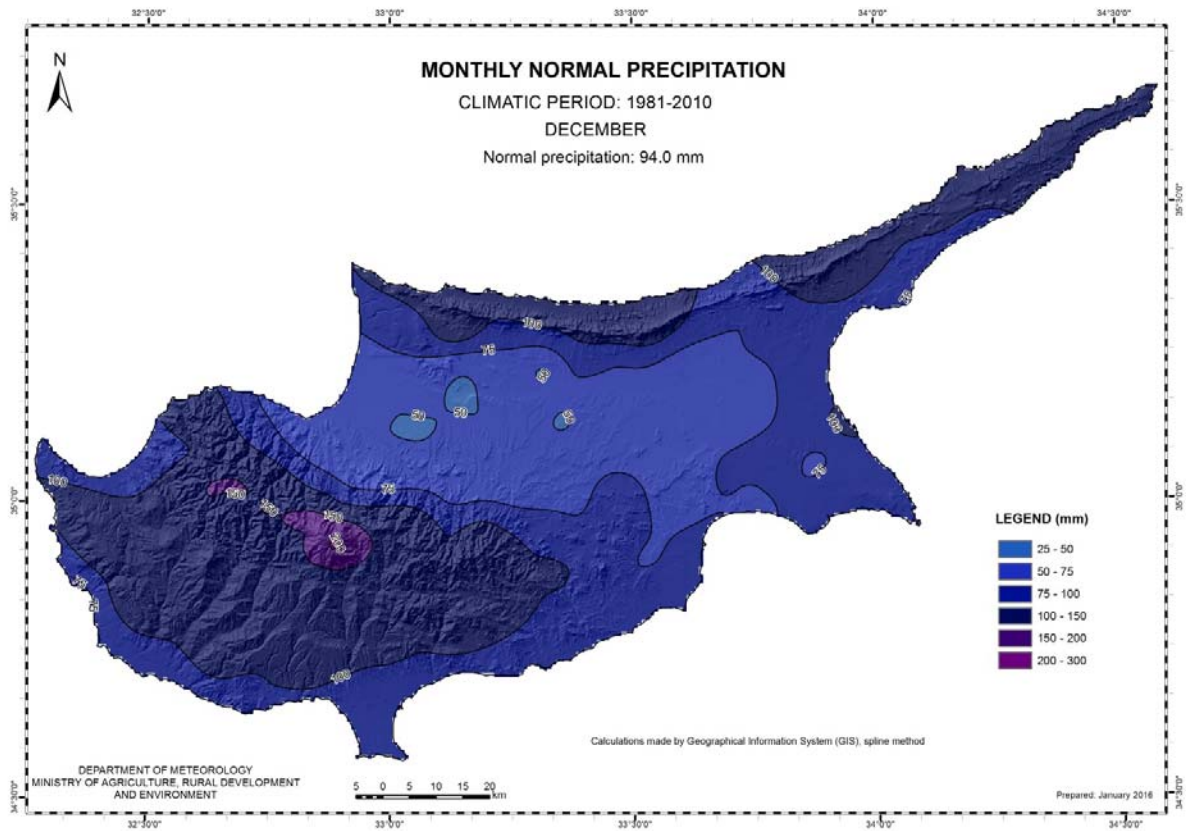
As regarding the accumulated precipitation, **December** was a rainy month, as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **December** is evident that the surface distribution was well above normal reaching 150,6mm (160% of normal) and that mountainous areas recorded a significant accumulated precipitation well above normal.

It worth mentioning that based on the provisional data, there were 18 days of snow during December, having on the 21st of December, 21cm of new snow on Troodos square.

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

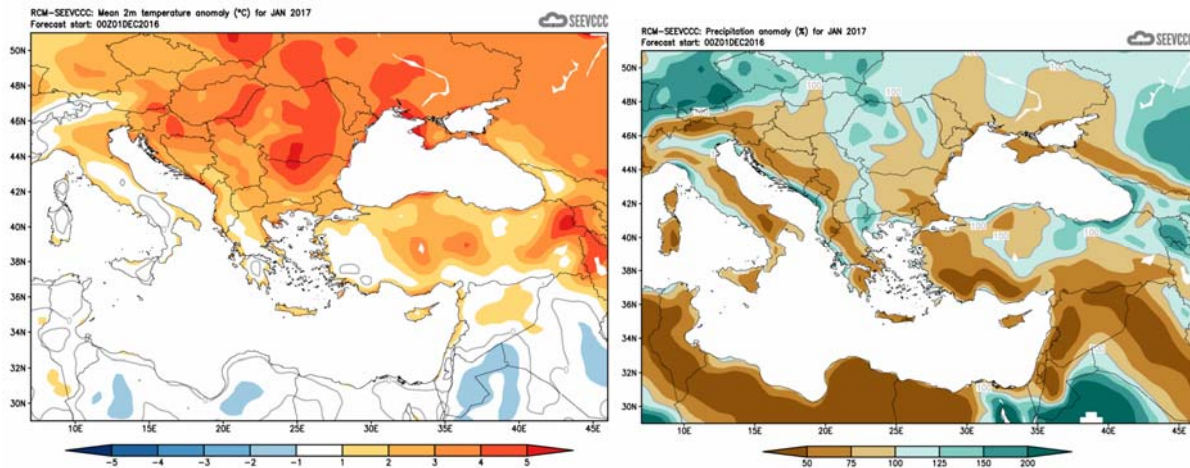


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **December** is also presented.



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

The seasonal forecast for **January 2017** suggested that temperature would be slightly above normal (by 1°C to 2°C) over the coastal zone. The accumulated precipitation of **January** was disappointing since the forecast suggests a mainly dry month with accumulation ranging only from 50% to 75% of normal, except the western part where the accumulation would range almost up to normal. Low accumulations characterized all the surrounding area.



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

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

From the provisional data recorded by the Department of Meteorology, for the selected portion of the meteorological stations, which are presented in the table below,

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JANUARY 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	16.9	16.3	0.6	20.9	9.1	6.4	7.6	-1.2	-0.3	10.8	86.5	85.3	1.2
82*	PAFOS (AIRPORT)	16.5	17.1	-0.6	19.3	11.6	7.8	8.3	-0.5	-0.3	14.7	84.8	78.8	6.0
225	PRODROMOS (C.F.C.)	4.6	6.3	-1.7	10.2	-2.9	-1.8	0.7	-2.5	-8.4	1.9	149.3	150.0	-0.7
666*	ATHALASSA (RADIOSONDE)	14.6	15.5	-0.9	18.8	7.7	4.1	5.4	-1.3	-0.4	7.3	29.7	48.8	-19.1
731	LARNAKA (AIRPORT)	16.0	16.8	-0.8	19.2	10.0	6.1	7.5	-1.4	0.3	10.1	30.6	73.7	-43.1
800**	ACHNA (DASAKI)	14.7	16.3	-1.6	18.2	7.9	4.6	6.6	-2.0	0.3	8.2	30.6	67.3	-36.7

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

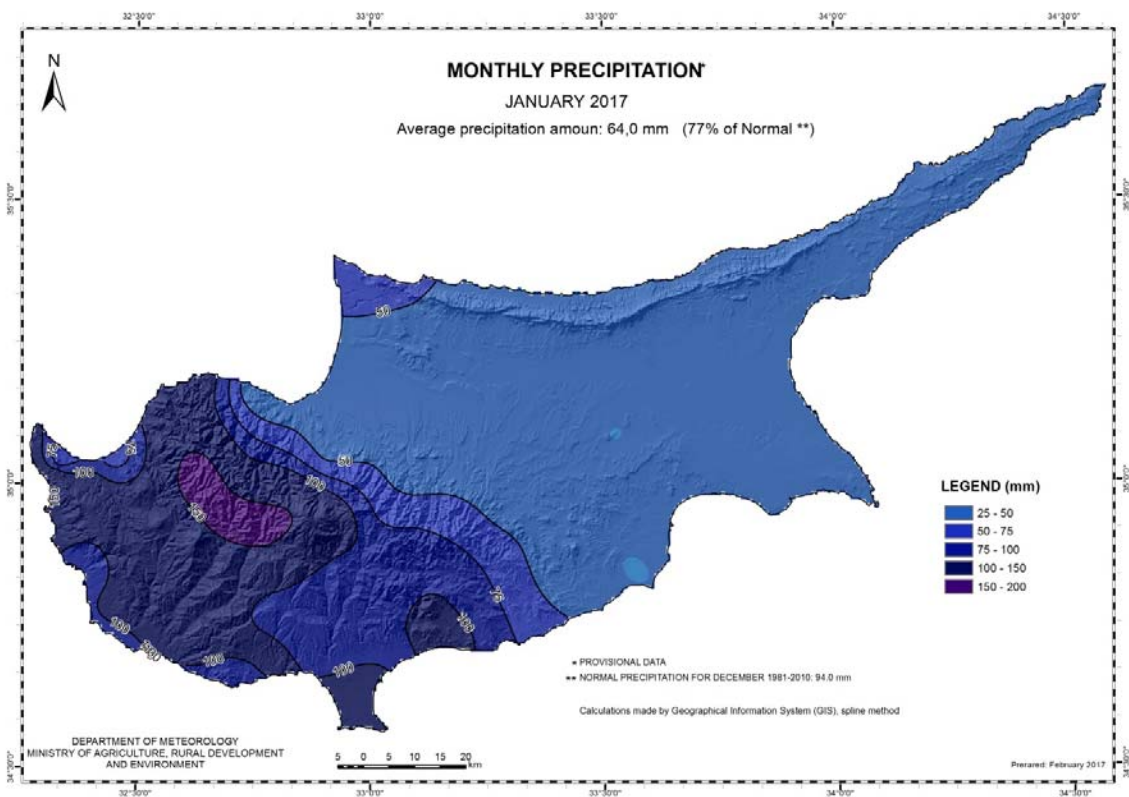
= VALUES FROM AUTOMATIC WEATHER STATION

it seems that the model performed moderately, due to the divergence from the models suggestion both for the temperature and the accumulated precipitation. **January** was rather colder than warmer as the

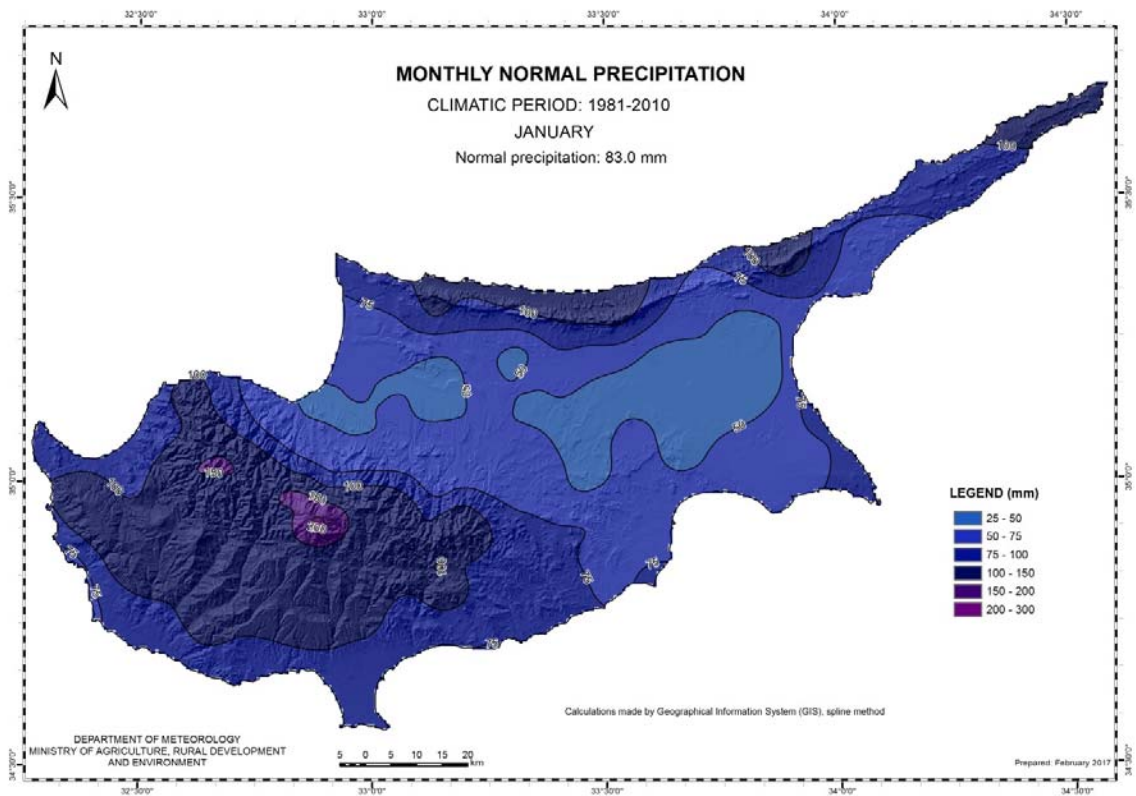
model suggested. Extreme high temperatures were of course recorded, as an example Polis Chrysochous recorded a highest daily maximum of 20.9°C (with the normal being 16.3°C. Extremes low temperatures (deviating by 4°C or more from normal) were also recorded mainly between 27 and 30 of **January**, at all the selected meteorological stations. As an example note the lowest daily minimum temperature of Prodomos on the 29th of **January** that was -8.4°C (with a normal of 0.7°C) and the lowest daily minimum temperature of Pafos again on the 29th of **January** that was -0.3°C (with a normal of 8.3°C). Concerning the daily maximum temperatures during 27 and 30 of **January**, note the lowest daily maximum of Prodomos on the 28th of **January** that was -2.9°C (with a normal of 6.3°C) and the lowest daily maximum of Achna again on the 28th of **January** that was 7.9°C (with a normal of 16.3°C).

As regards the accumulated precipitation **January** recorded inland and over the southern and eastern coasts accumulated precipitation below normal but above to well above normal over all other areas. In general January had moderate score of mean area average of 64 mm or 77% of months normal.

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

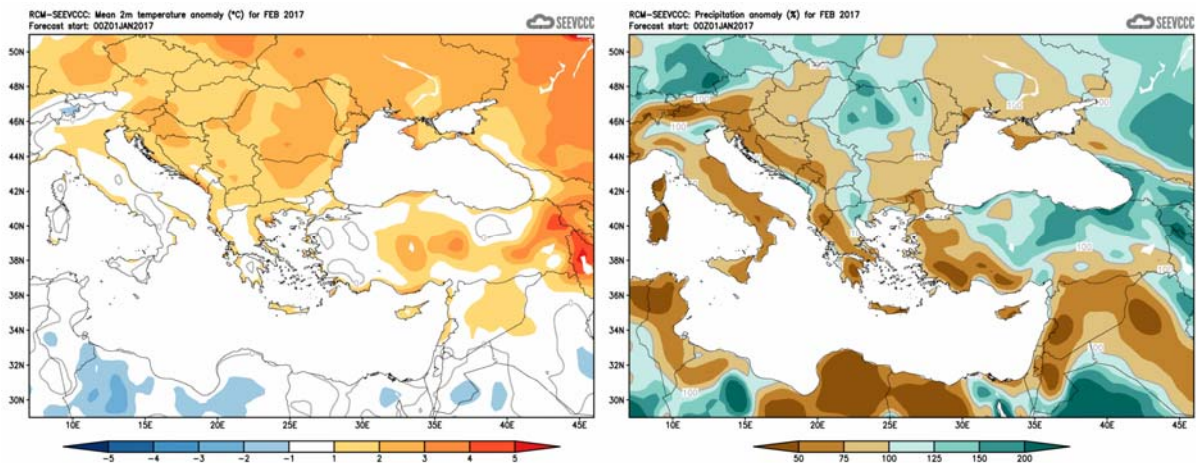


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **January** is also presented.



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

The seasonal forecast for **February** suggested a warmer and drier than normal month. **February** would be warmer than normal by 1°C to 2°C, while the accumulated precipitation would be again disappointing since the forecast suggested a mainly dry month with accumulation ranging between 50% and 75% of normal over the greater part of the island and over southeast coast below 50% of normal. The above temperature and accumulated precipitation characteristics applied also for the surrounding area.



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

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

From the provisional data recorded by the Department of Meteorology, for the selected portion of the meteorological stations, which are presented in the table below, it seems that the model did not perform so well, due to the divergence from the models suggestion both for the temperature and the accumulated precipitation. **February** was rather normal and a little colder than normal and not warmer as the model suggested. Extreme high temperatures were of course recorded at all the selected meteorological stations, mainly on 28th of **February**, like Pafos airport that recorded a highest daily maximum of 26.6°C (with the normal being 17.1°C). Extremes low temperatures (deviating by 4°C or more from normal) were also recorded. As an example note the lowest daily minimum temperatures of Larnaka airport and Athalassa on the 1st of **February** that was -0.1°C (with a normal of 7.1°C) and -1.7°C (with a normal of 5.3°C) respectively.

From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of the month is evident that mainly the mountains received high accumulation score. As regarded from the same chart the mean surface distribution was well below normal (reaching only 8mm or 12% of normal).

It is worth mentioning that based on the provisional data, there were 6 days of snow during **February**, having on the 12th of **February**, 9cm of new snow on Troodos square.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR FEBRUARY 2017

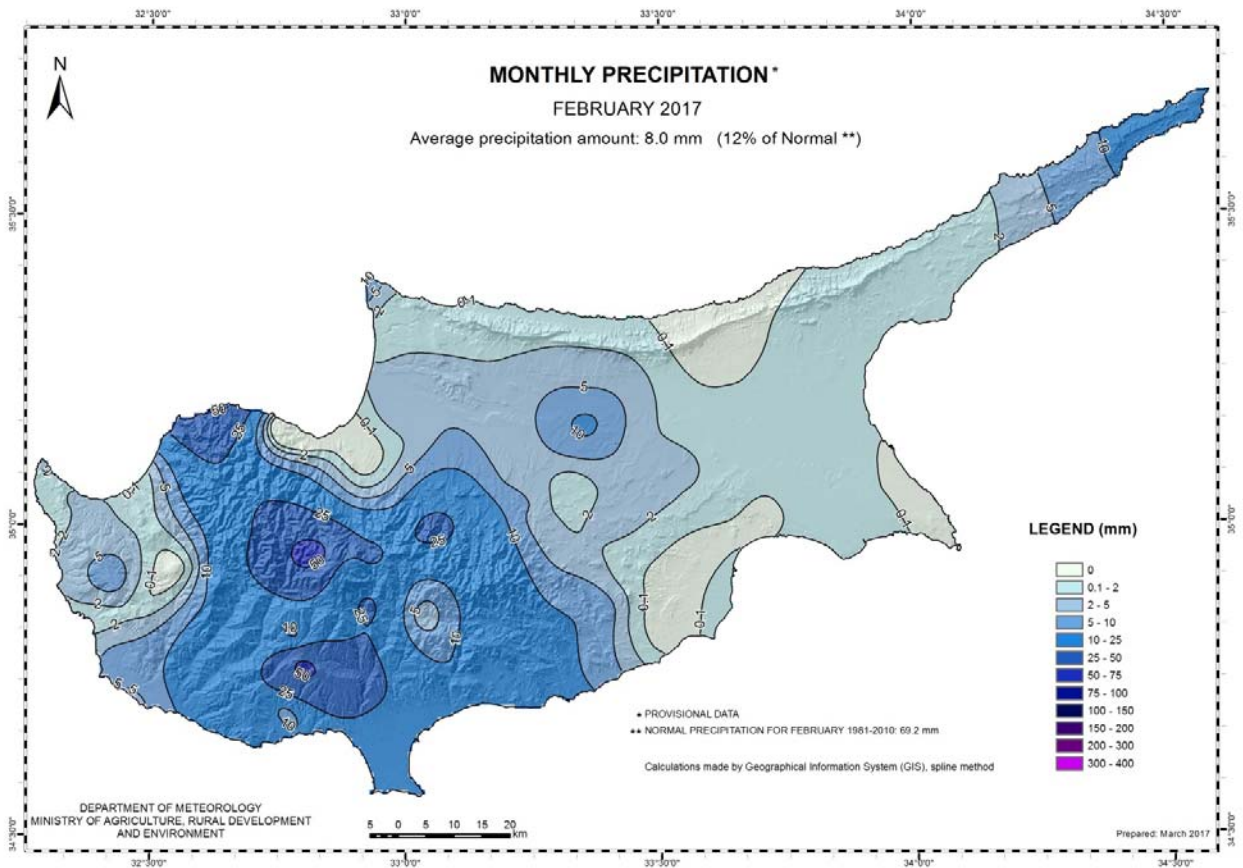
St. No.	Station Name	Temperature Data					Temperature Data					Precipitation Data		
		Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Lowest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (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	17.6	16.3	1.3	24.0	11.0	5.5	7.3	-1.8	1.0	10.0	0.7	68.5	-67.8
82*	PAFOS (AIRPORT)	17.9	17.1	0.8	26.6	14.1	7.1	8.1	-1.0	1.2	12.3	4.3	59.8	-55.5
225	PRODROMOS (C.F.C.)	7.7	6.7	1.0	15.6	-3.1	-0.5	0.5	-1.0	-6.0	6.8	55.8	128.7	-72.9
666*	ATHALASSA (RADIOSONDE)	16.5	16.0	0.5	21.7	9.1	5.1	5.3	-0.2	-1.7	10.7	7.1	44.5	-37.4
731	LARNAKA (AIRPORT)	17.2	17.0	0.2	21.2	11.7	6.9	7.1	-0.2	-0.1	13.6	0.8	50.3	-49.5
800**	ACHNA (DASAKI)	16.4	16.5	-0.1	20.5	9.8	5.3	6.3	-1.0	-0.3	11.2	0.8	50.7	-49.9

* 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 **February** 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 is also presented.

