

National Climate Bulletin and the assessment of the SEECOF-20 Climate outlook for **CYPRUS** for winter season DJF 2018-2019

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 2018, January and February 2019, 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 SEECOF20 which was stating that:

1. Temperature (the mean) was likely to range below normal with a probability of 20%, around normal with a probability of 40% and above normal with again a probability of 40% (Figure 1) and,
2. Accumulated precipitation probabilities were 20% below normal, 30% around normal and 50% above normal (Figure 2).



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

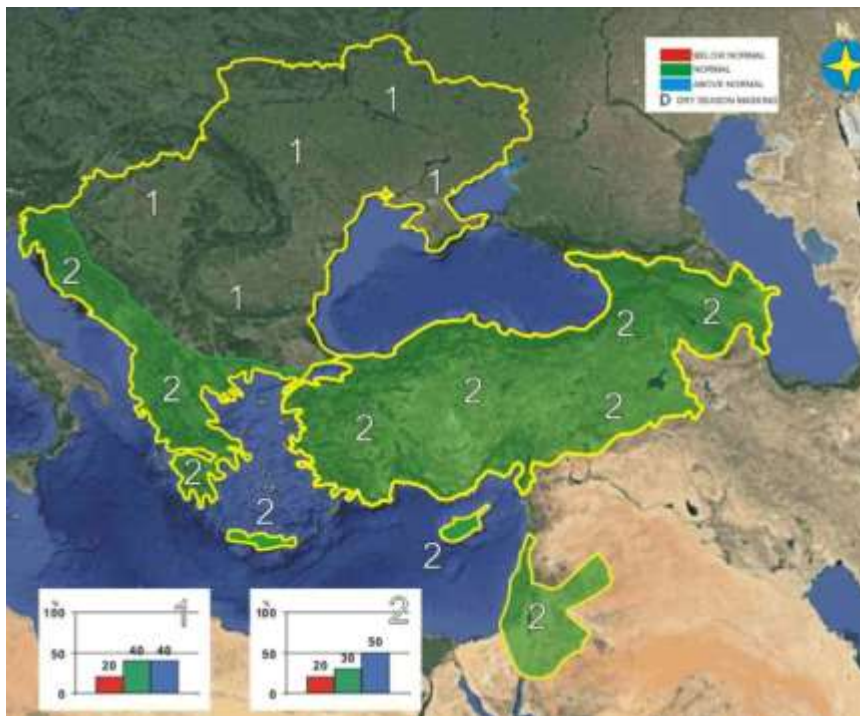


Figure 2. Graphical presentation of 2016/17 winter precipitation outlook

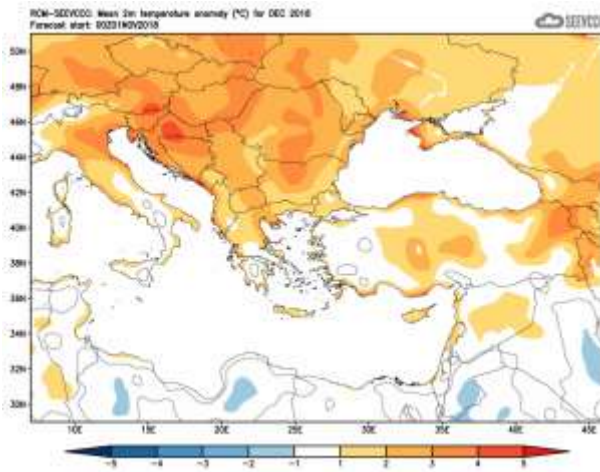
Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded winter weather.

Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)		High Impact Events
	Observed	SEECOF-20 climate outlook for temperature	Observed	SEECOF-20 climate outlook for precipitation	
CYPRUS	<p>DEC Above Normal</p> <p>JAN Above Normal</p> <p>FEB Above Normal</p>	<p>DEC Above Normal</p> <p>JAN Above Normal</p> <p>FEB Above Normal</p>	<p>DEC Well above Normal</p>	<p>DEC Below Normal</p>	<p>DEC: Extremes (deviating by 4°C or more from normal) were also recorded at almost all the selected meteorological stations. As an example note the recorded maximum of Polis Chrysochou that was 24°C (with a normal of 18°C) and the maximum of Paphos that was 24.8°C (with a normal of 18.9°C). Concerning the mean daily minimum temperatures note the recorded minimum of Prodromos that was -2.9°C (with a normal of 2.6°C) and the minimum of Athalassa that was 2.2°C (with a normal of 7°C).</p> <p>The accumulated precipitation was very high 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 the expected reaching 166,5mm (177% of normal). December 2018 is ranked 2nd December concerning high precipitation for the last 15 years. The problem with the significant deviation of the seasonal forecast of the accumulated precipitation from the actual was detected in time. That's why the forecast for December was with great caution.</p> <p>For all the days of December, except the 21st and the 22nd, local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 3rd, 4th, 17th, 19th and 31st of December hail was reported. Based on the provisional data, snowfall was recorded on the 19th, 26th, 27th, 29th, 30th and 31st of the month. Also, for the periods 5-7, 9-10, 17-18 and 31st of December EMMA yellow warnings were issued; except for the period 4-5 of December when orange EMMA warning was issued. All the EMMA warnings concerned rain and thunderstorms.</p>

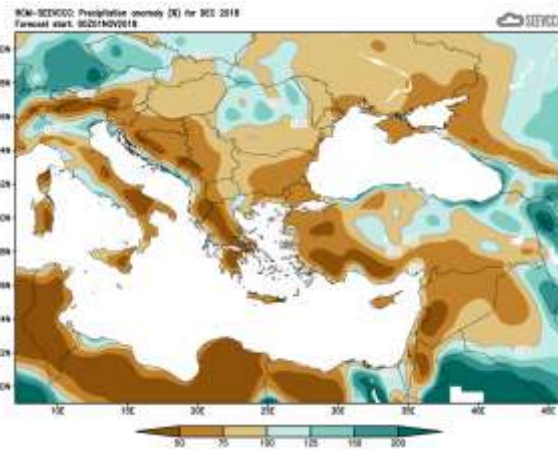
				<p>JAN: The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of January is evident that the surface distribution was well above the expected reaching 155,5mm (187% of normal). For all the days of January, except the 9th, 11th, 17th, 18th, 20th, 21st and the 25th, local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 1st, 2nd, 5th, 7th, 8th, 13th, 16th, 22nd, 30th, and 31st of January hail was reported. Based on the provisional data, snowfall was recorded during the periods 1-8, 13-16, on the 19th, 23rd, 27th, 30th and 31st of January. On the 2nd, 14th and 15th of January EMMA yellow warnings were issued concerning rain and thunderstorms; on the 15th of January EMMA yellow warning was issued concerning strong wind.</p> <p>FEB: The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of February is evident that the surface distribution was well above the expected reaching 144mm (208% of normal). For the periods 5-10, 12-17 και 19-28 of February local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 13th, 21st, 22nd, 23rd, 24th and the 28th of February hail was reported. Based on the provisional data, snowfall was recorded during the periods 7-9, 13-16, 21-24 and 26-28 of February. On the 6th and 14th of February EMMA yellow warnings were issued concerning rain and thunderstorms.</p>
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Evaluation of Decembers seasonal forecast for the area of Cyprus

The seasonal forecast for **December** suggested that temperature would be above normal (by 1°C to 2°C). The accumulated precipitation of **December** was forecasted to be disappointing since it suggested a mainly dry month with accumulation ranging only from 50% to 75% of normal, except the western coastal parts 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 2018														
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	19.2	18.0	1.2	24.0	15.2	10.5	9.3	1.2	6.6	13.9	172.0
82*	PAFOS (AIRPORT)	19.7	18.9	0.8	24.8	14.8	11.5	10.0	1.5	6.0	17.0	294.0	90.1	203.9
225	PRODROMOS (C.F.C.)	8.6	8.3	0.3	12.7	2.4	1.9	2.6	-0.7	-2.9	6.1	238.2	157.3	80.9
666*	ATHALASSA (RADIOSONDE)	18.8	17.3	1.5	22.1	14.3	8.4	7.0	1.4	2.2	12.4	119.2	57.2	62.0
731	LARNAKA (AIRPORT)	19.8	18.6	1.2	22.1	15.2	11.1	9.2	1.9	4.5	15.5	165.5	79.0	86.5
800**	ACHNA (DASAKI)	18.2	18.0	0.2	20.6	13.3	9.3	8.3	1.0	3.6	13.3	84.0	76.8	7.2

* 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 performed well concerning the temperature, but did not perform well at all concerning the accumulated precipitation.

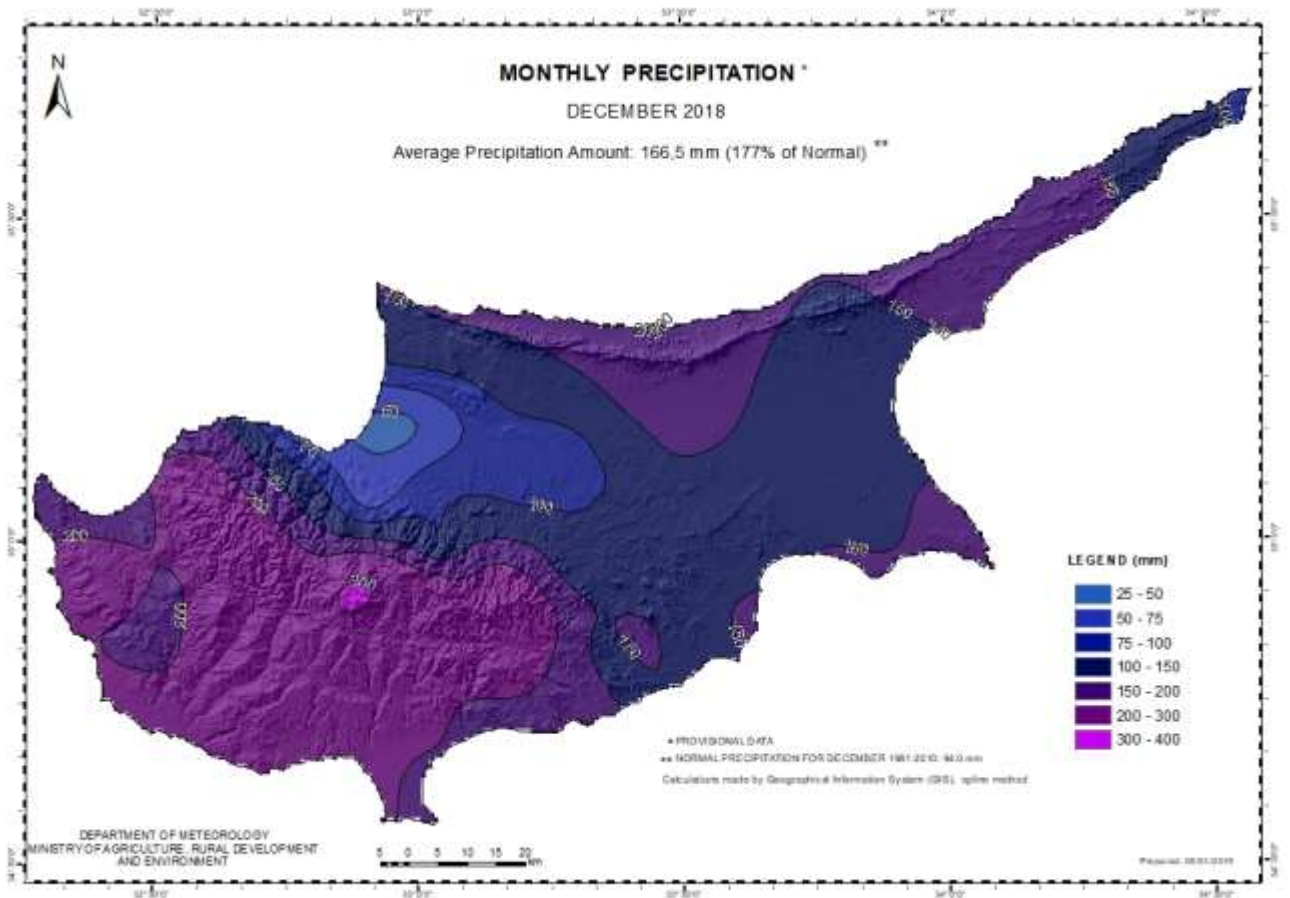
The seasonal forecast for **December** suggested that temperature would be slightly above normal. From the recorded data is shown that mean daily maximum and most of the mean daily minimum temperatures were above normal.

Extremes (deviating by 4°C or more from normal) were also recorded at almost all the selected meteorological stations. As an example note the recorded maximum of Polis Chrysochou that was 24°C (with a normal of 18°C) and the maximum of Paphos that was 24.8°C (with a normal of 18.9°C). Concerning the mean daily minimum temperatures note the recorded minimum of Prodomos that was -2.9°C (with a normal of 2.6°C) and the minimum of Athalassa that was 2.2°C (with a normal of 7°C).

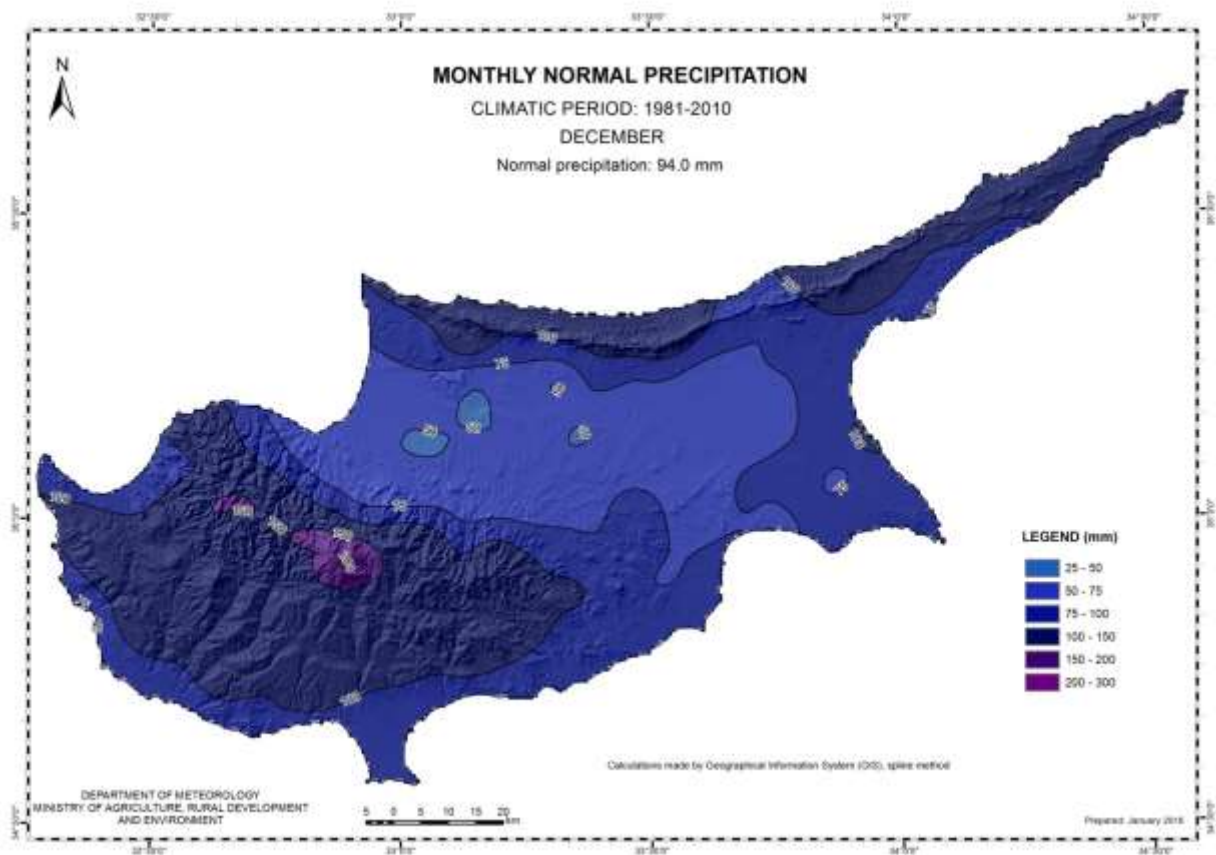
The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **December** is evident that the surface distribution was well above the expected reaching 166,5mm (177% of normal). **December** 2018 is ranked 2nd **December** concerning high precipitation for the last 15 years. The problem with the significant deviation of the seasonal forecast of the accumulated precipitation from the actual was detected in time. That's why the forecast for December was with great caution.

For all the days of **December**, except the 21st and the 22nd, local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 3rd, 4th, 17th, 19th and 31st of **December** hail was reported. Based on the provisional data, snowfall was recorded on the 19th, 26th, 27th, 29th, 30th and 31st of the month. Also, for the periods 5-7, 9-10, 17-18 and 31st of **December** EMMA yellow warnings were issued; except for the period 4-5 of December when orange EMMA warning was issued. All the EMMA warnings concerned rain and thunderstorms.

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

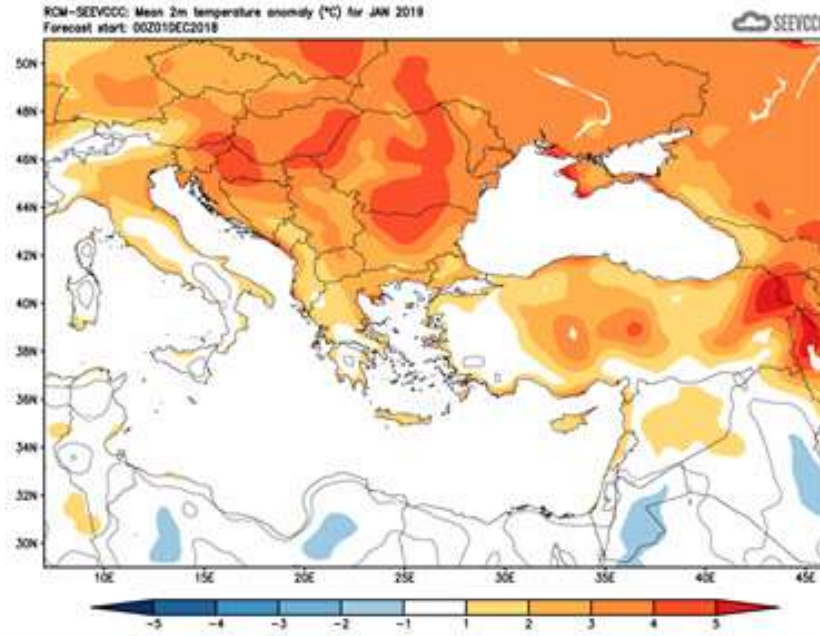


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **December** is also presented.



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

The seasonal forecast for **January** suggested that temperature would be above normal (by 1°C to 2°C). Similar temperatures characterized all the surrounding area.



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

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

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JANUARY 2019														
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	16.3	16.3	0.0	19.7	11.8	8.1	7.6	0.5	4.8	11.8	197.6	85.3	112.3
82*	PAFOS (AIRPORT)	17.1	17.1	0.0	20.4	13.8	9.7	8.3	1.4	5.3	16.4	159.2	78.8	80.4
225	PRODROMOS (C.F.C.)	6.0	6.3	-0.3	13.4	-0.3	-0.6	0.7	-1.3	-5.6	2.5	410.7	150.0	260.7
666*	ATHALASSA (RADIOSONDE)	16.9	15.5	1.4	20.5	12.1	5.3	5.4	-0.1	-0.2	10.5	77.0	48.8	28.2
731	LARNAKA (AIRPORT)	17.4	16.8	0.6	20.2	14.8	8.4	7.5	0.9	3.1	15.5	95.6	73.7	21.9
800**	ACHNA (DASAKI)	15.9	16.3	-0.4	18.4	12.3	6.0	6.6	-0.6	0.3	11.7	46.8	67.3	-20.5

* 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

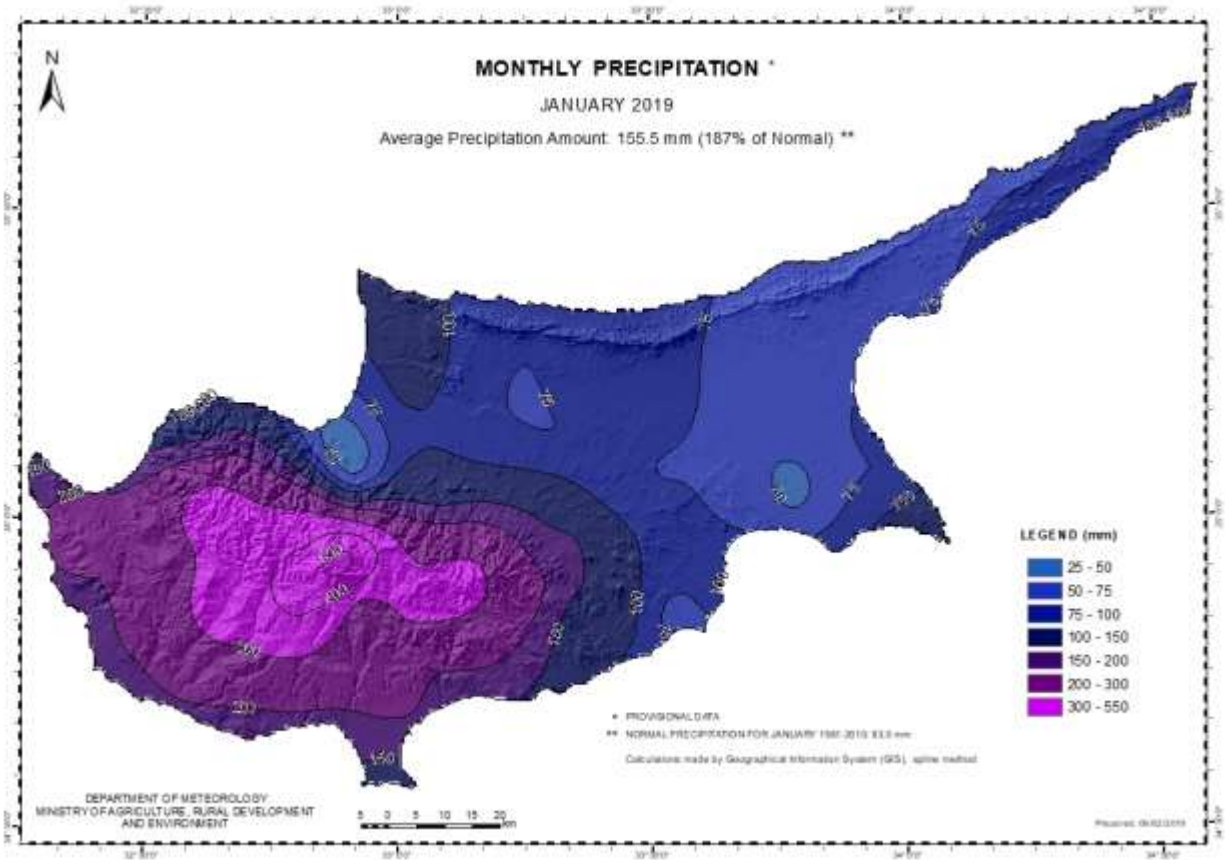
is evident that the model performed well concerning the temperature anomaly.

The seasonal forecast for **December** suggested that temperature would be slightly above normal. From the recorded data is shown that mean daily maximum and most of the mean daily minimum temperatures were above normal.

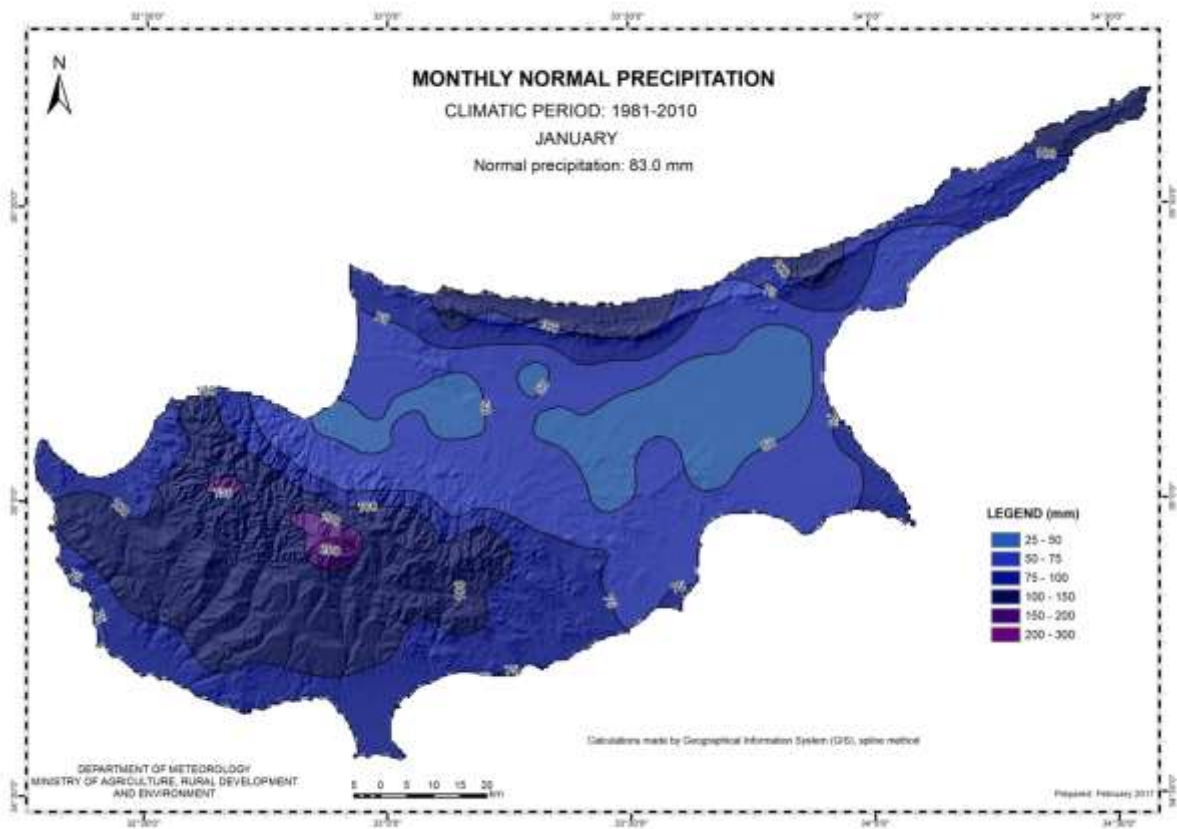
The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **January** is evident that the surface distribution was well above the expected reaching 155,5mm (187% of normal).

For all the days of **January**, except the 9th, 11th, 17th, 18th, 20th, 21st and the 25th, local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 1st, 2nd, 5th, 7th, 8th, 13th, 16th, 22nd, 30th, and 31st of **January** hail was reported. Based on the provisional data, snowfall was recorded during the periods 1-8, 13-16, on the 19th, 23rd, 27th, 30th and 31st of **January**. On the 2nd, 14th and 15th of **January** EMMA yellow warnings were issued concerning rain and thunderstorms; on the 15th of **January** EMMA yellow warning was issued concerning strong wind.

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

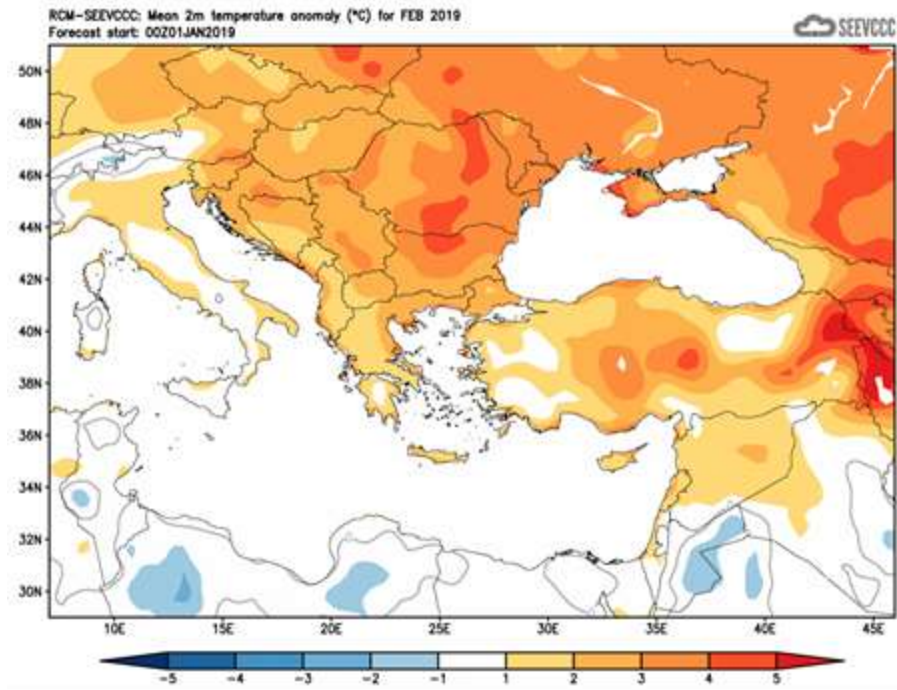


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **January** is also presented.



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

The seasonal forecast for **February** suggested a warmer than normal month. **February** would be warmer than normal by 1°C to 2°C. The above temperature characteristics applied also for the surrounding area.



Divergence of the mean monthly temperature (°C) from normal during 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, is evident that the model performed well concerning the temperature anomaly.

The seasonal forecast for **February** suggested that temperature would be slightly above normal. From the recorded data is shown that mean daily maximum and most of the mean daily minimum temperatures were above normal.

The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **February** is evident that the surface distribution was well above the expected reaching 144mm (208% of normal).

For the periods 5-10, 12-17 και 19-28 of **February** local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 13th, 21st, 22nd, 23rd, 24th and the 28th of **February** hail was reported. Based on the provisional data, snowfall was recorded during the periods

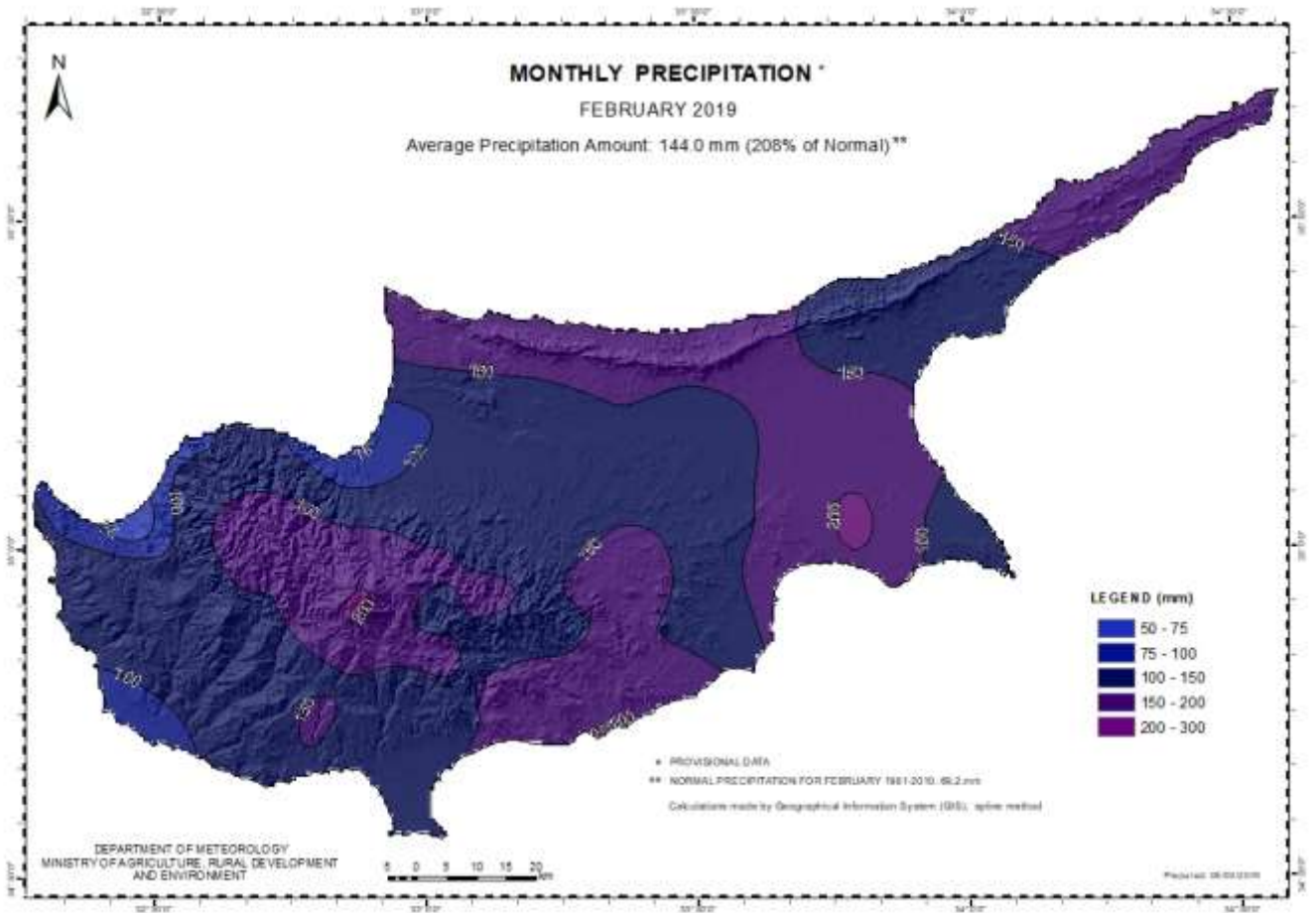
7-9, 13-16, 21-24 and 26-28 of **February**. On the 6th and 14th of **February** EMMA yellow warnings were issued concerning rain and thunderstorms.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR FEBRUARY 2019														
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	18.0	16.3	1.7	23.1	13.2	8.8	7.3	1.5	5.9	12.7	51.5	68.5	-17.0
82*	PAFOS (AIRPORT)	18.4	17.1	1.3	24.6	14.8	9.9	8.1	1.8	6.7	16.2	86.2	59.8	26.4
225	PRODROMOS (C.F.C.)	7.9	6.7	1.2	12.8	0.5	0.4	0.5	-0.1	-3.4	3.2	177.0	128.7	48.3
666*	ATHALASSA (RADIOSONDE)	17.9	16.0	1.9	21.9	11.0	6.8	5.3	1.5	3.5	11.3	129.1	44.5	84.6
731	LARNAKA (AIRPORT)	18.3	17.0	1.3	20.8	13.7	9.4	7.1	2.3	6.0	16.5	151.4	50.3	101.1
800**	ACHNA (DASAKI)	16.8	16.5	0.3	19.4	11.3	7.4	6.3	1.1	2.7	12.0	207.2	50.7	156.5

* 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.

