

National Climate Bulletin and the assessment of the SEECOF-22

Climate outlook for **CYPRUS** for winter season DJF 2019-2020

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 2019, January and February 2020, which is based on the means of the climatological period 1981-2010.

Generally, and based on the records of climatology, 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 SEECOF22 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 again a probability of 60% (Figure 1) and,
2. Accumulated precipitation probabilities were approximately equal, 33% below normal, 34% around normal and 33% above normal (Figure 2).

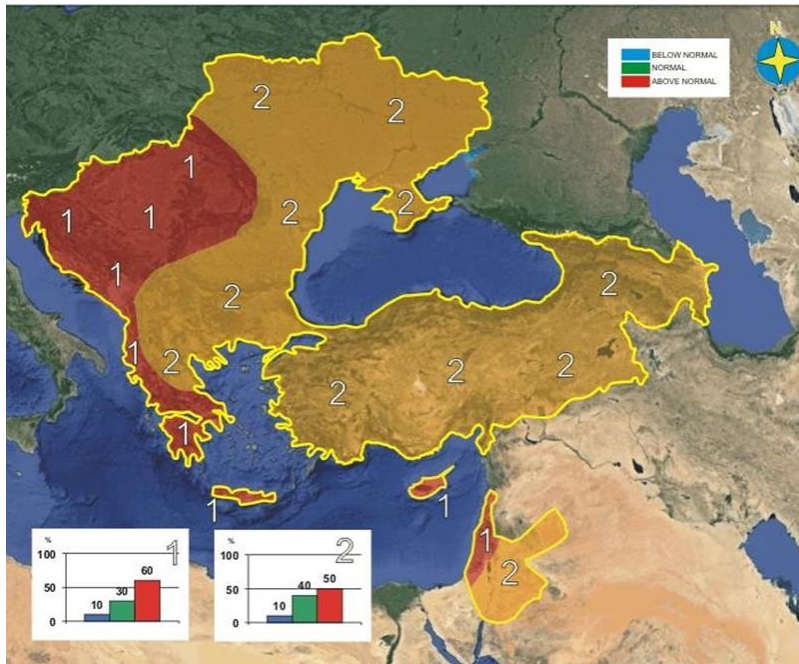


Figure 1. Graphical presentation of 2019/20 winter temperature outlook

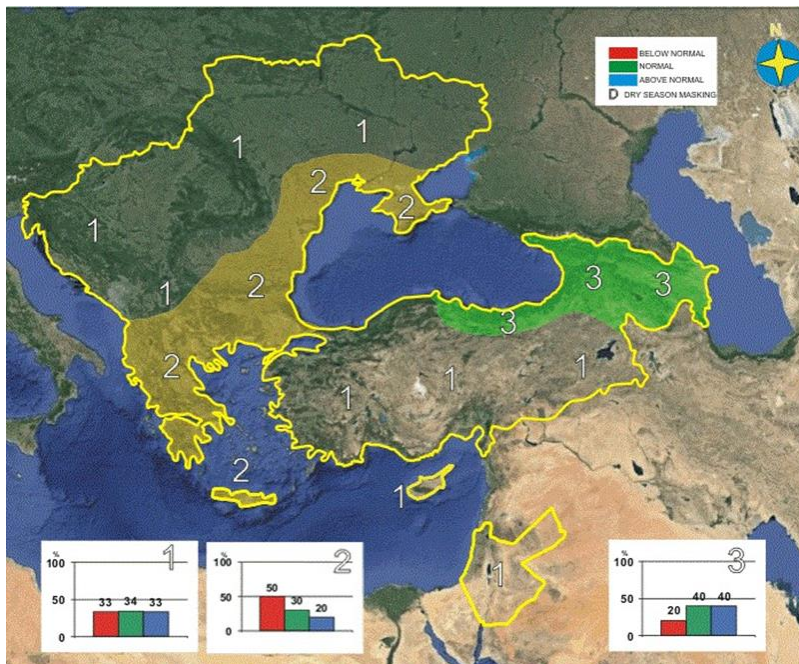


Figure 2. Graphical presentation of 2019/20 winter precipitation outlook

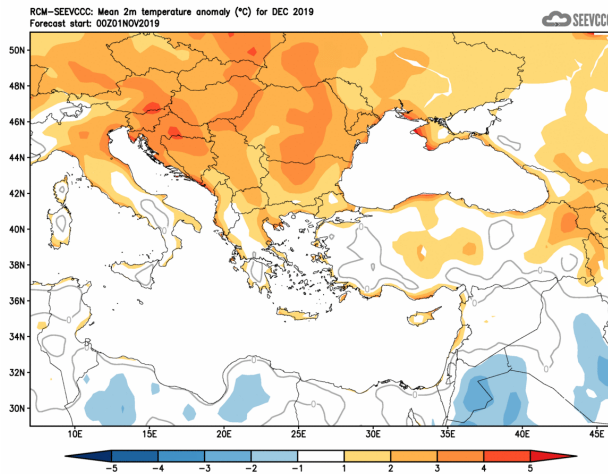
Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded winter weather.

Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)		High Impact Events
	Observed	SEECOF-22 climate outlook for temperature	Observed	SEECOF-22 climate outlook for precipitation	
CYPRUS	<p>DEC Normal to Above Normal</p> <p>JAN Normal</p> <p>FEB Normal to Above Normal</p>	<p>DEC Above Normal mainly over coastal areas</p> <p>JAN Above Normal</p> <p>FEB Above Normal mainly over coastal areas</p>	<p>DEC Well above Normal</p> <p>JAN Well above Normal</p> <p>FEB Slightly below Normal</p>	<p>DEC Below Normal</p> <p>JAN Below Normal</p> <p>FEB Below Normal</p>	<p>DEC: Extremes (deviating by 4°C or more from normal) were also recorded at a numerous of selected meteorological stations. As an example note the recorded maximum of Prodromos that was 18.7°C (with a normal of 8.3°C) and the maximum of Athalassa that was 25.8°C (with a normal of 17.3°C). Concerning the mean daily minimum temperatures note the recorded minimum of Pafos that was 16.3°C (with a normal of 10°C) and the minimum of Larnaka that was 14.7°C (with a normal of 9.2°C).</p> <p>As regarding the accumulated precipitation, December was a very wet 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 176,3mm (188% of normal). On the 1st, 4th, 6th and during the periods 8-15 and 23-31 of December local showers and thunderstorms were recorded. Also, for the periods 13-14, 23-26 and 29-30 of December EMMA of yellow level warnings for showers, thunderstorms and wind were issued. Based on the provisional data, hail recorded on the 13, 14 and 29th of the month. Snowfall was recorded on the 9th and during period 24-31 of the month.</p> <p>JAN: The accumulated precipitation of January is evident from the surface distribution that was well above the expected, but also the months normal, reaching 147,8mm (178% of normal). For the periods 1- 9, 14- 20, 23 and 28- 31 local showers, at sometimes accompanied with thunderstorms and hail as on the 7 and 14 of January. Snow was also recorded apart from the higher Troodos peaks over the higher</p>

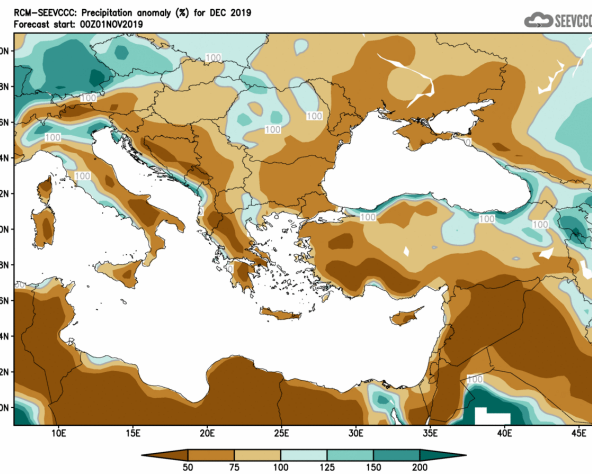
				<p>mountainous area on the 7, 20 and 23 of the month. On the periods 2- 3 EMMA yellow level warnings were issued concerning precipitation, 5- 6 EMMA yellow level warnings were issued concerning precipitation and wind, on the 7th and 16th EMMA yellow level warnings were issued concerning precipitation and on the 23rd of January EMMA yellow level warnings were issued concerning precipitation and wind.</p> <p>FEB: Extremes (deviating by 4°C or more from normal) were also recorded at a numerous of selected meteorological stations. As an example note the recorded maximum of Prodromos that was 15.6°C (with a normal of 6.7°C) and the maximum of Polis Chrysochous that was 22.9°C (with a normal of 16.3°C). Concerning the mean daily minimum temperatures note the recorded minimum of Larnaka that was 14.7°C (with a normal of 7.1°C) and the minimum of Pafos that was 15.5°C (with a normal of 8.1°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 February is evident that the surface distribution was well above the expected reaching 60mm (87% of normal).</p> <p>For the periods 3-8, 11-13, 15, 17-24 and 28-29 of February local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 17th of February hail was reported and snowfall was recorded during the periods 6-8, 11, 18, 21, 23 and 29 of February.</p> <p>On the 7th and 21st of February EMMA yellow level warnings were issued concerning rain, wind and thunderstorms. For the period 8-10 of February a yellow and on orange warning were issued concerning low temperatures. On the 12th of February a yellow warning was issued concerning low visibility due to fog.</p>
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Evaluation of December's seasonal forecast for the area of Cyprus

The seasonal forecast for **December 2019** suggested that temperature would be above normal (by 1°C to 2°C) mainly over coastal areas. The accumulated precipitation of **December** was forecasted to be disappointing since it suggested a mainly dry month with accumulation ranking only from 50% to 75% of normal, except the south eastern coastal parts where the accumulation would range below 50% of 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 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	19.6	18.0	1.6	23.3	16.0	10.4	9.3	1.1	7.9	14.8	-
82*	PAFOS (AIRPORT)	19.9	18.9	1.0	23.1	16.5	11.3	10.0	1.3	8.8	16.3	175.9	90.1	85.8
225	PRODROMOS (C.F.C.)	10.0	8.3	1.7	18.7	3.0	2.6	2.6	0.0	-1.0	7.7	331.0	157.3	173.7
666*	ATHALASSA (RADIOSONDE)	20.1	17.3	2.8	25.8	15.8	7.5	7.0	0.5	4.7	11.8	116.5	57.2	59.3
731	LARNAKA (AIRPORT)	19.8	18.6	1.2	24.3	16.0	10.9	9.2	1.7	8.0	14.7	239.2	79.0	160.2
800**	ACHNA (DASAKI)	18.5	18.0	0.5	22.2	15.2	8.8	8.3	0.5	5.3	13.3	156.8	76.8	80.0

* 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

Is evident that the model did not perform well, since it did not forecast correct the accumulated precipitation. The seasonal forecast for **December** suggested that temperature would have been normal inland and slightly above normal in most of the coastal areas. From the recorded data is shown that

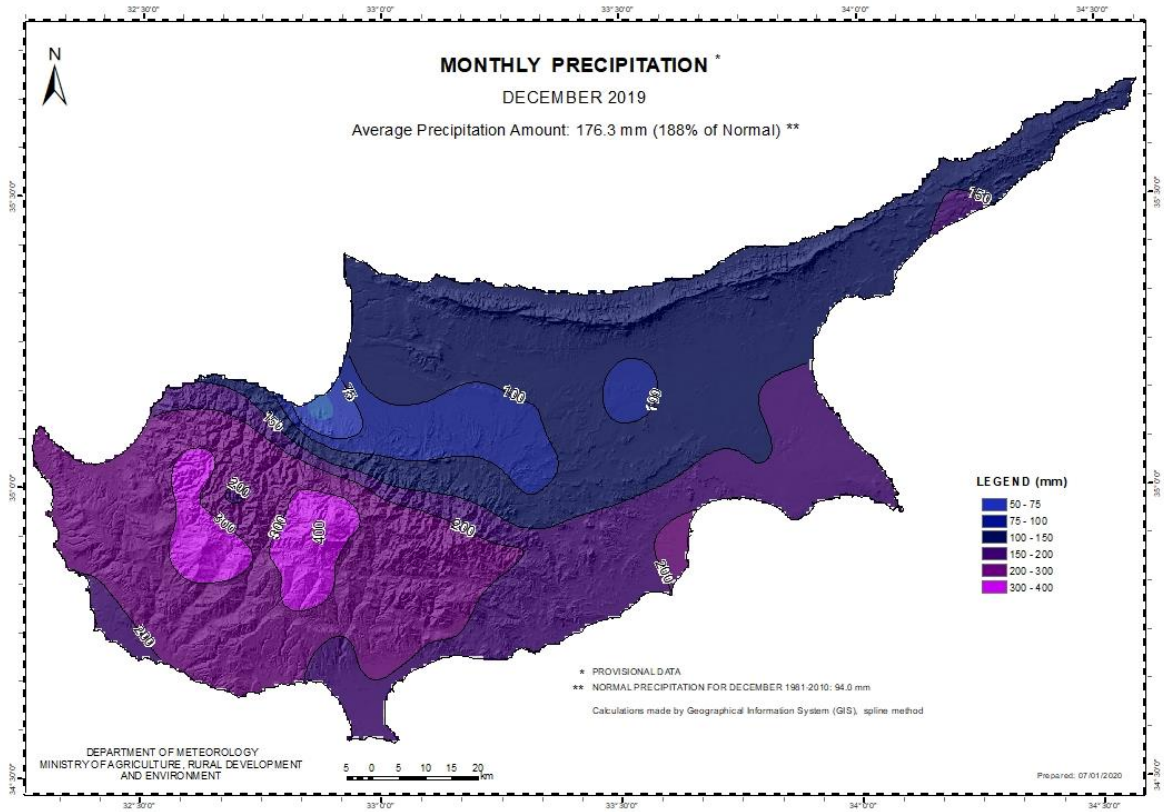
mean daily maximum and most of the mean daily minimum temperatures were near and above normal, not only inland but also for the coastal areas.

Extremes (deviating by 4°C or more from normal) were also recorded at a numerous of selected meteorological stations. As an example, note the recorded maximum of Prodromos that was 18.7°C (with a normal of 8.3°C) and the maximum of Athalassa that was 25.8°C (with a normal of 17.3°C). Concerning the mean daily minimum temperatures note the recorded minimum of Pafos that was 16.3°C (with a normal of 10°C) and the minimum of Larnaka that was 14.7°C (with a normal of 9.2°C).

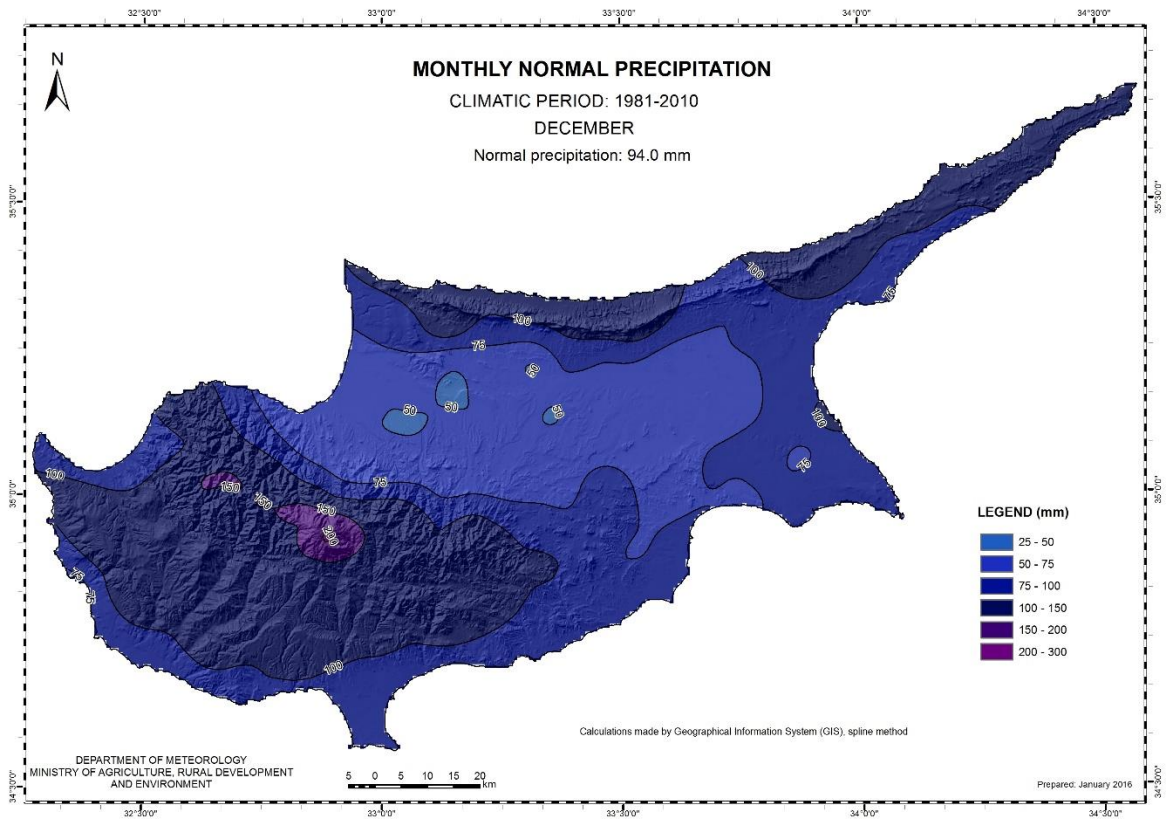
As regarding the accumulated precipitation, **December** was a very wet month, as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **December** is evident that the surface distribution was well above normal reaching 176,3mm (188% of normal). On the 1st, 4th, 6th and during the periods 8-15 and 23-31 of **December** local showers and thunderstorms were recorded. Also, for the periods 13-14, 23-26 and 29-30 of **December** EMMA yellow warning for showers, thunderstorms and wind were issued.

Based on the provisional data, hail was recorded on the 13, 14 and 29th of the month. Snowfall was recorded on the 9th and during the period 24-31 of the month.

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

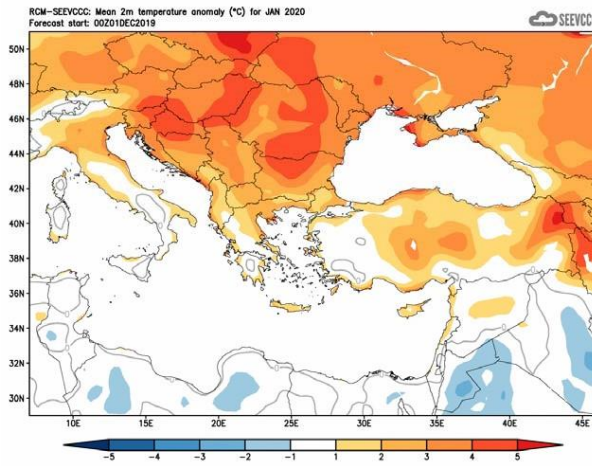


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **December** is also presented.

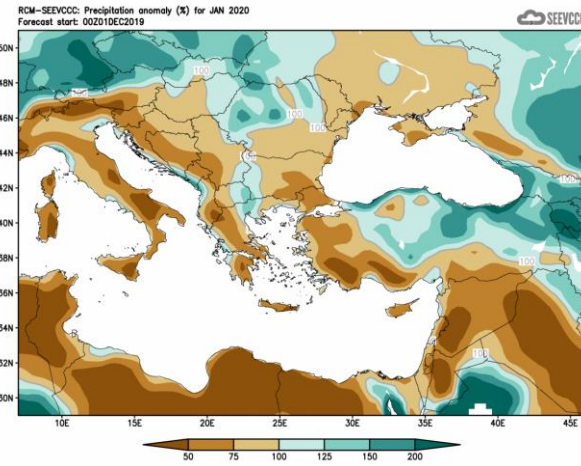


Evaluation of January's seasonal forecast for the area of Cyprus

The seasonal forecast for **January 2020** was suggesting that temperature would be slightly above normal (by 1°C to 2°C) mainly over the coastal zone. The greater surrounding area was forecasted to be with almost the same characteristics as Cyprus. The accumulated precipitation of **January** was forecasted to be disappointing since it suggested a mainly dry month with accumulation ranking from 50% to 75% of normal. Low accumulations characterized 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

As observed below from the table of the recorded data from selected stations temperatures, both maximums and minimums were around normal, despite the evidence that extreme maximums and minimums were recorded. From the observed temperature values its proved that the seasonal forecast for **January** wasn't that good while from the values of accumulated precipitation the seasonal forecast was wrong while **January** was forecasted to be dryer than normal.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JANUARY 2020														
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	16.6	16.3	0.3	18.9	13.2	7.8	7.6	0.2	2.5	11.1	184.7	85.3	99.4
82*	PAFOS (AIRPORT)	17.0	17.1	-0.1	18.8	14.9	8.5	8.3	0.2	4.4	11.3	115.9	78.8	37.1
225	PRODROMOS (C.F.C.)	5.6	6.3	-0.7	11.6	1.1	-0.9	0.7	-1.6	-5.6	1.5	277.2	150.0	127.2
666*	ATHALASSA (RADIOSONDE)	16.3	15.5	0.8	20.2	11.1	5.7	5.4	0.3	0.0	9.4	83.0	48.8	34.2
731	LARNAKA (AIRPORT)	16.7	16.8	-0.1	18.9	13.4	8.3	7.5	0.8	3.4	11.8	101.1	73.7	27.4
800**	ACHNA (DASAKI)	15.4	16.3	-0.9	17.5	12.0	6.4	6.6	-0.2	1.6	9.6	94.6	67.3	27.3

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

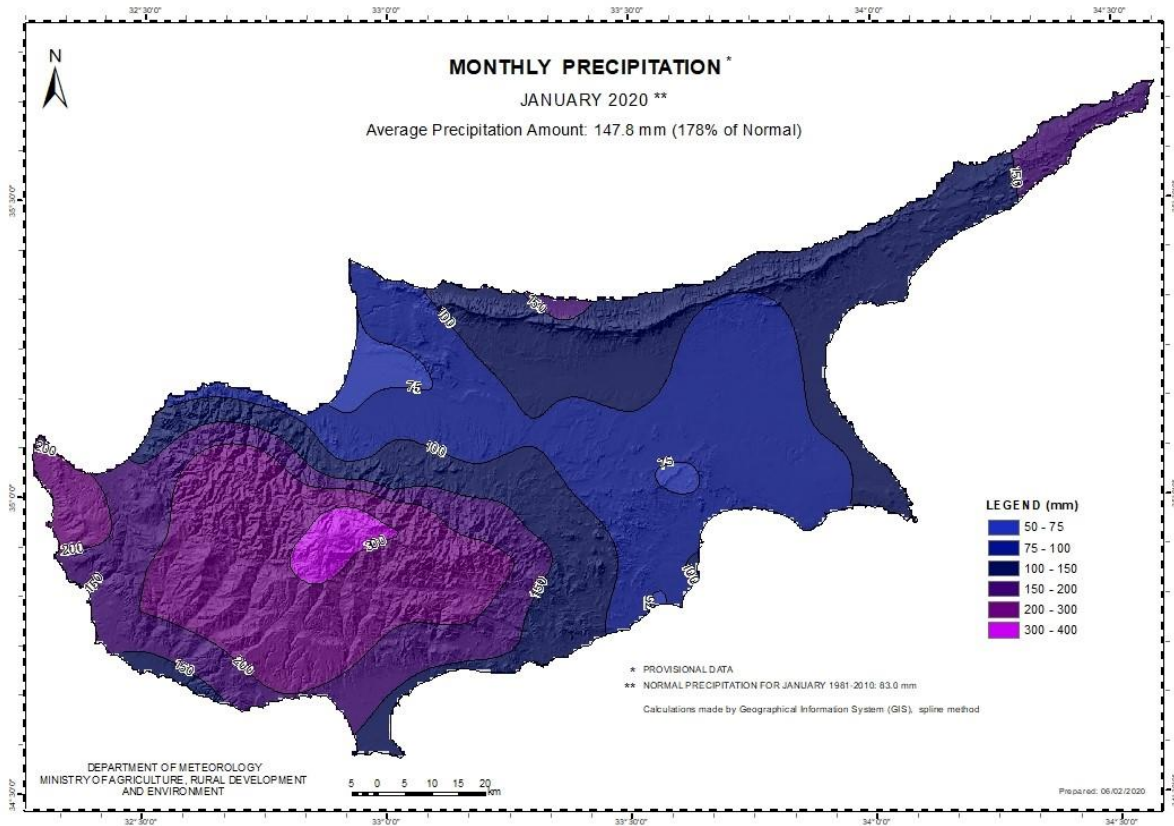
= VALUES FROM AUTOMATIC WEATHER STATION

The accumulated precipitation was very high as presented from the table above, against the forecasted values denoting that **January** would be dryer than normal. From the distribution (provisional

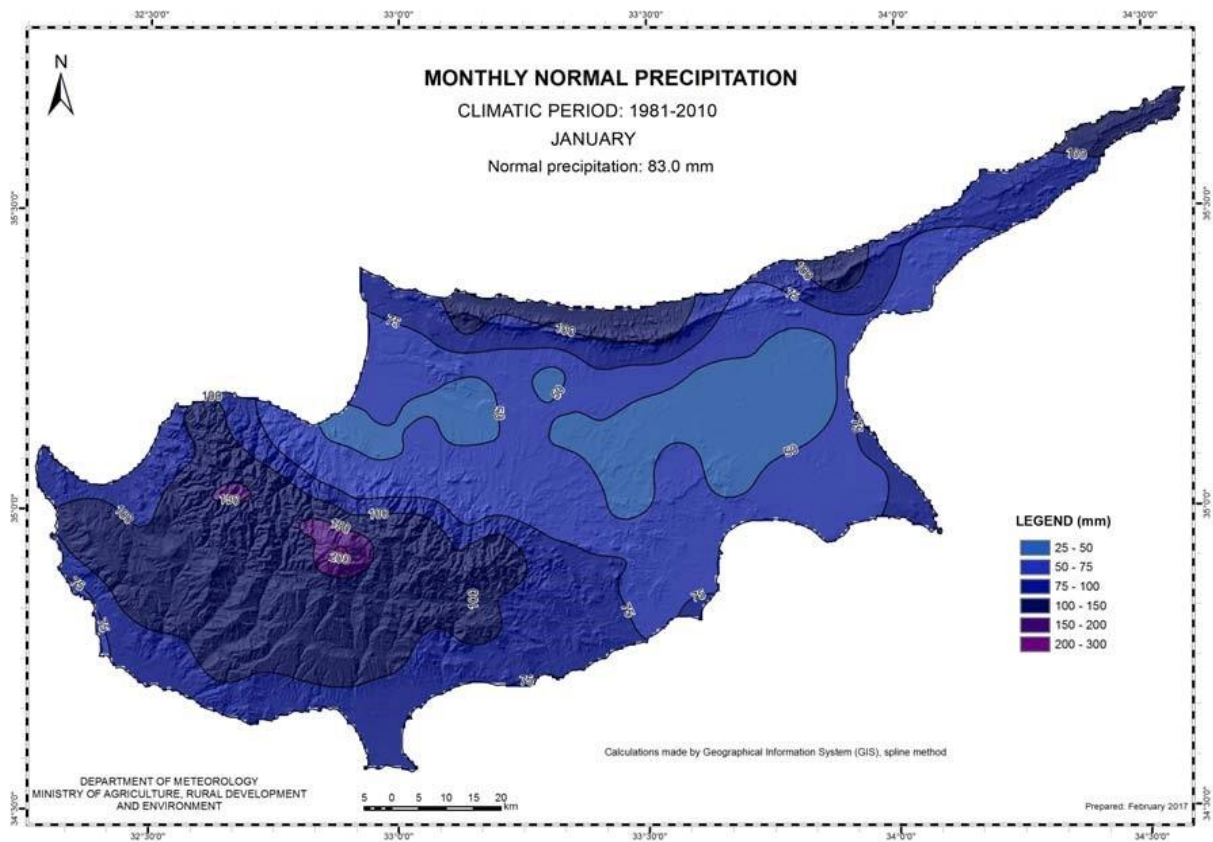
accumulated precipitation chart) of the accumulated precipitation of the past **January** is evident that the surface distribution was well above the expected, but also the months normal, reaching 147,8mm (178% of normal).

For the periods 1-9, 14-20, 23 and 28-31 local showers, at sometimes accompanied with thunderstorms and hail as on the 7 and 14 of **January**. Snow was also recorded apart from the higher Troodos peaks over the higher mountainous area on the 7, 20 and 23 of the month. On the periods 2-3 EMMA yellow level warnings were issued concerning precipitation, 5-6 EMMA yellow level warnings were issued concerning precipitation and wind, on the 7th and 16th EMMA yellow level warnings were issued concerning precipitation and on the 23rd of **January** EMMA yellow level warnings were issued concerning precipitation and wind.

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

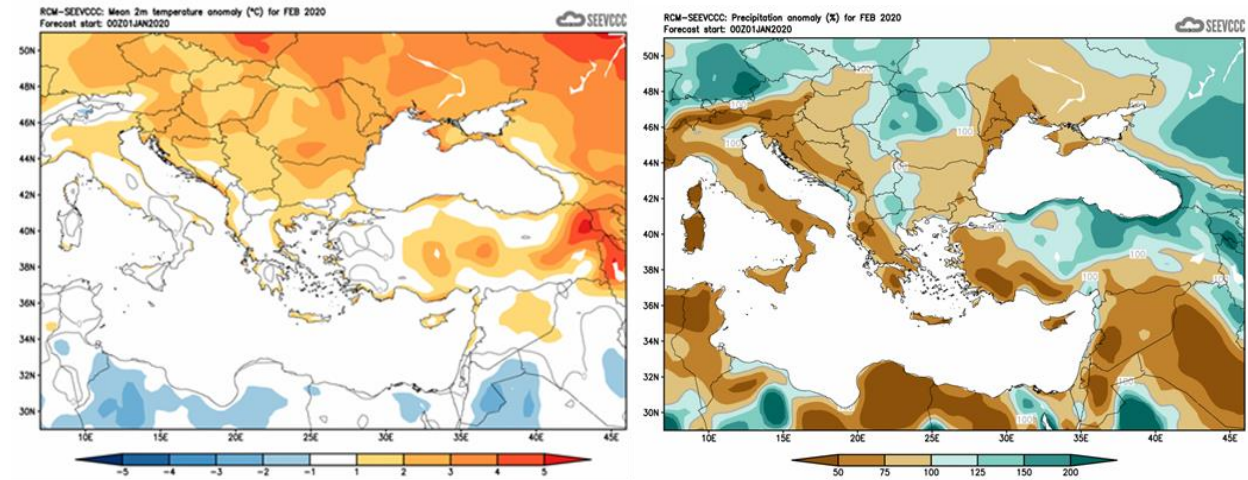


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **January** is also presented.



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

The seasonal forecast for **February** suggested a warmer than normal month, mainly over coastal areas. **February** would be warmer than normal by 1°C to 2°C. The above temperature characteristics applied also for the surrounding area. The accumulated precipitation of **February** was forecasted to be disappointing since it suggested a mainly dry month with accumulation ranking only from 50% to 75% of normal, except the south eastern coastal parts where the accumulation would range below 50% of normal. Low accumulations characterized 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, is evident that the model performed well concerning the temperature anomaly.

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

Extremes (deviating by 4°C or more from normal) were also recorded at a numerous of selected meteorological stations. As an example, note the recorded maximum of Prodromos that was 15.6°C (with a normal of 6.7°C) and the maximum of Polis Chrysochous that was 22.9°C (with a normal of 16.3°C). Concerning the mean daily minimum temperatures note the recorded minimum of Larnaka that was 14.7°C (with a normal of 7.1°C) and the minimum of Pafos that was 15.5°C (with a normal of 8.1°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 **February** is evident from the surface distribution was well above the expected reaching 60mm (87% of normal).

For the periods 3-8, 11-13, 15, 17-24 and 28-29 of **February** local showers, accompanied with thunderstorms most of the times, were recorded. It is worth mentioning that on the 17th of **February** hail was reported and snowfall was recorded during the periods 6-8, 11, 18, 21, 23 and 29 of **February**.

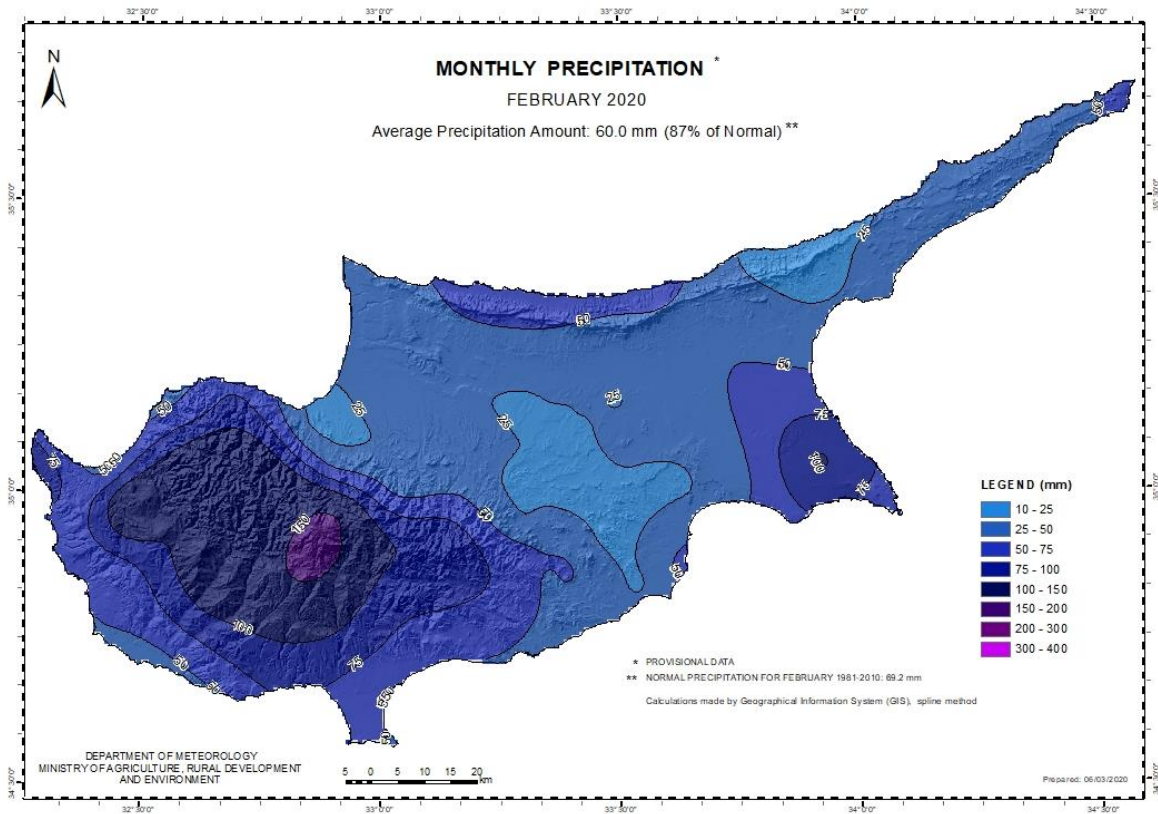
On the 7th and 21st of **February** EMMA yellow warnings were issued concerning rain, wind and thunderstorms. For the period 8-10 of **February** a yellow and an orange level warning were issued concerning low temperatures. On the 12th of **February** a yellow level warning was issued concerning low visibility due to fog.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR FEBRUARY 2020														
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	17.6	16.3	1.3	22.9	11.5	8.2	7.3	0.9	0.6	13.2	49.3	68.5	-19.2
82*	PAFOS (AIRPORT)	17.3	17.1	0.2	20.0	11.6	9.5	8.1	1.4	1.8	15.5	35.7	59.8	-24.1
225	PRODROMOS (C.F.C.)	7.4	6.7	0.7	15.6	-0.5	-0.4	0.5	-0.9	-9.4	4.4	140.9	128.7	12.2
666*	ATHALASSA (RADIOSONDE)	17.1	16.0	1.1	22.2	7.7	6.1	5.3	0.8	-1.4	11.3	24.8	44.5	-19.7
731	LARNAKA (AIRPORT)	17.4	17.0	0.4	22.2	10.2	8.8	7.1	1.7	0.6	14.7	52.6	50.3	2.3
800**	ACHNA (DASAKI)	16.0	16.5	-0.5	19.7	9.0	6.9	6.3	0.6	-2.7	11.9	51.0	50.7	0.3

* 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.

