

## National Climate Bulletin and the assessment of the SEECOF-26 Climate outlook for **CYPRUS** for winter season DJF 2021-2022

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 2021, January and February 2022, 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 SEECOF26 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 30% and above normal with again a probability of 50% (Figure 1) and,
2. Accumulated precipitation probabilities were 40% below normal, 40% around normal and 20% above normal (Figure 2).

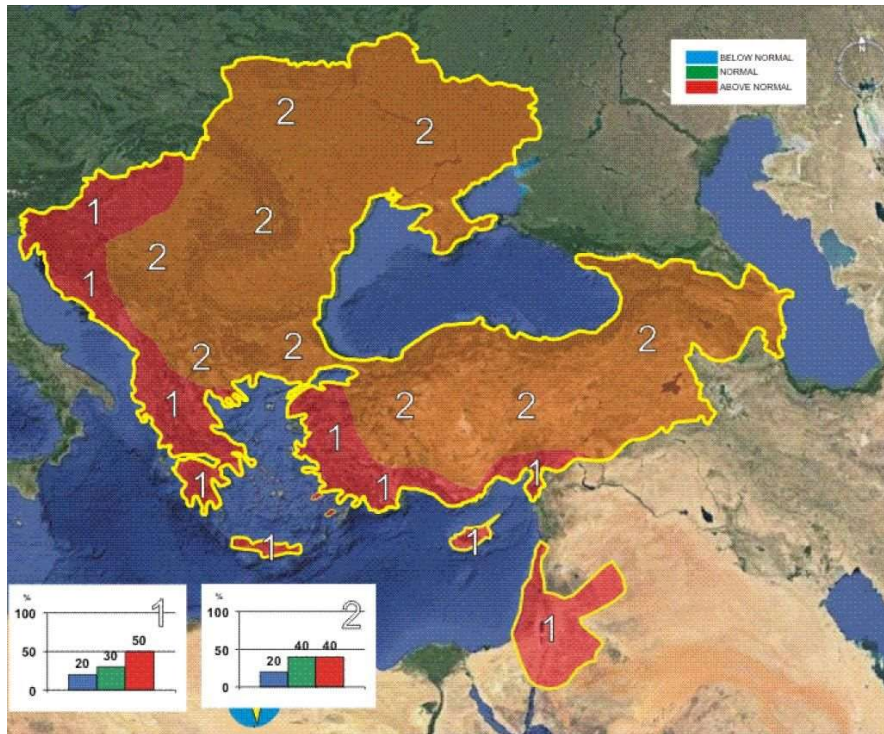


Figure1:Graphical presentation of the 2021/22 winter temperature outlook

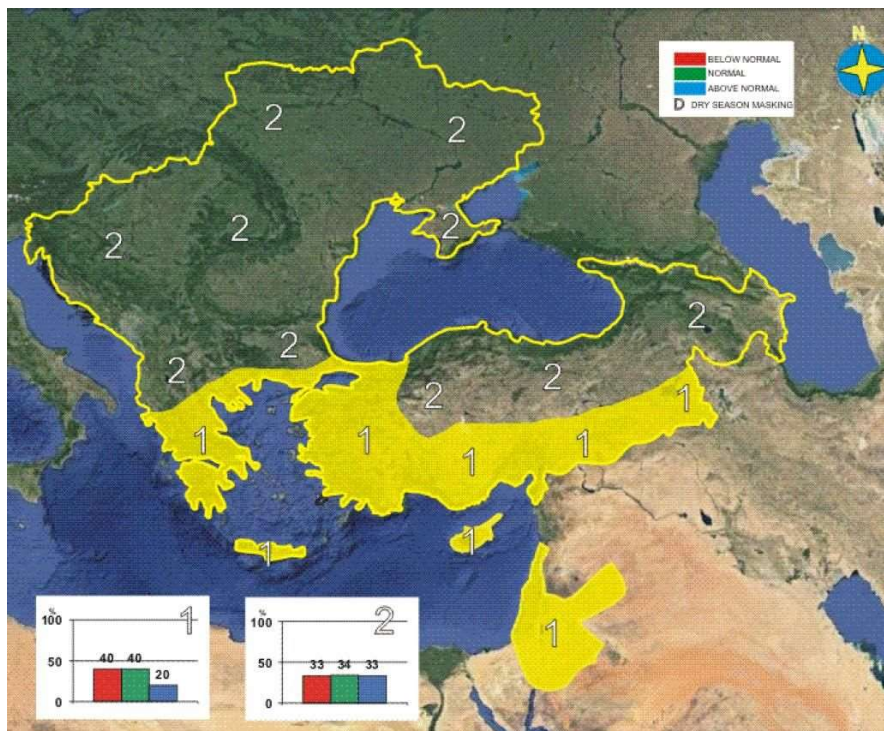


Figure2:Graphical presentation of the 2021/22 winter precipitation outlook

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

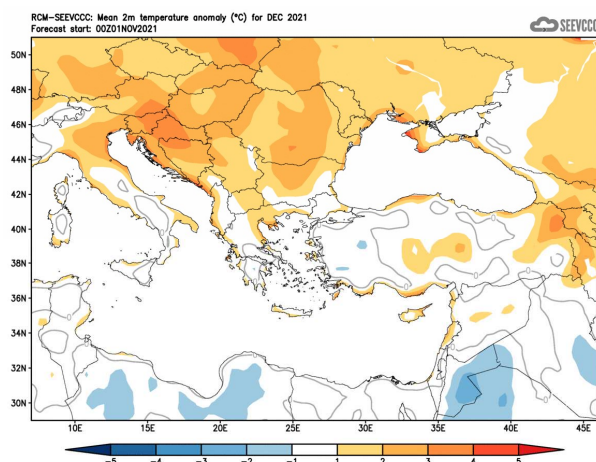
Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)		High Impact Events
	Observed	SEECOF-26 climate outlook for temperature	Observed	SEECOF-26 climate outlook for precipitation	
<b>CYPRUS</b>	<p><b>DEC</b> Normal to Above Normal</p> <p><b>JAN</b> Around Normal</p> <p><b>FEB</b> Above Normal</p>	<p><b>DEC</b> Above Normal mainly over coastal areas</p> <p><b>JAN</b> Above Normal mainly over coastal areas</p> <p><b>FEB</b> Above Normal mainly over coastal areas</p>	<p><b>DEC</b> Well Below Normal</p> <p><b>JAN</b> Well Below Normal</p> <p><b>FEB</b> Not available</p>	<p><b>DEC</b> Below Normal</p> <p><b>JAN</b> Below Normal</p> <p><b>FEB</b> Not available</p>	<p><b>DEC:</b> Extremes (deviating by 4°C or more from normal) were also recorded at most of the selected meteorological stations. As an example, note the recorded maximum of Prodromos that was 17.2°C (with a normal of 8.3°C) and the maximum of Polis Chrysochous that was 25°C (with a normal of 18°C). Concerning the mean daily minimum temperatures note the recorded minimum of Pafos that was 17.2°C (with a normal of 10°C) and the minimum of Larnaka that was 17.9°C (with a normal of 9.2°C). From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of <b>December</b> is evident that the surface distribution was well above normal reaching 162.4mm. During the periods 1-2, 5-8, 13-23 and 26-31 of <b>December</b> local showers and thunderstorms were recorded.</p> <p>For the dates 5<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> of <b>December</b>, yellow EMMA warnings were issued, whereas for the periods 18-20 and 30-31 of <b>December</b> orange warnings were issued. The warnings were about showers and thunderstorms.</p> <p>Based on the provisional data, hail recorded on the 5<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup> and on the 30<sup>th</sup> of the month. Snow was recorded on the 8<sup>th</sup>, 15<sup>th</sup>, 17-21 and 29<sup>th</sup> of the month at Troodos.</p> <p><b>JAN:</b> Extreme high temperatures were recorded, as an example note the station of Athalassa that recorded a highest daily maximum of 21.4°C (with the normal being 15.5°C) and Polis Chrysochous that recorded a highest daily maximum of 23.2°C (with the normal being 16.3°C). Extreme low temperatures were also recorded, as an example note the lowest daily minimum temperature of Achna that was -0.4°C (with a normal of 6.6°C)</p>

					<p>and the lowest daily minimum temperature of Prodromos that was - 8.6°C (with a normal of 0.7°C).</p> <p>From the provisional data recorded by the Department of Meteorology the model did not perform well over the amount of the accumulated precipitation, as the actual accumulated precipitation was more than the expected. <b>January</b> is generally considered to be a rainy month, as the cumulative precipitation reached 143.4mm or 173% of normal.</p> <p>During the periods 1-2, 4-6, 9-15, 17-19 and 21-31 of <b>January</b> local showers and thunderstorms resulted in accumulated precipitation of 99.3mm or 120% of normal. It is worth mentioning that on the 9<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup> and 22<sup>nd</sup> of <b>January</b> hail was reported. Also, for the 9-10, 12-13, 18-20, 22-23, 25 and 27-28 of <b>January</b>, EMMA yellow level warnings for rainfall, wind, thunderstorms and low temperatures were issued. For 10-11 of <b>January</b>, EMMA orange level warning was issued concerning rain and thunderstorms.</p> <p>It is worth mentioning that based on the provisional data there was snowfall during 9-11, 17-19, 21-26 and 28-31 of <b>January</b>.</p> <p><b>FEB:</b> Extreme high temperatures were of course recorded at all the selected meteorological stations, like Prodromos that recorded a highest daily maximum of 14.1°C (with the normal being 6.7°C) and Polis Chrysochous that recorded a highest daily maximum of 22.7°C (with the normal being 16.3°C). Extremes low temperatures (deviating by 4°C or more from normal) were also recorded. As an example, note the highest daily minimum temperatures of Larnaka airport and Pafos that was 16.8°C (with a normal of 7.1°C) and 15.4°C (with a normal of 8.1°C) respectively.</p> <p>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 below normal (reaching only 39.2mm or 57% of normal).</p>
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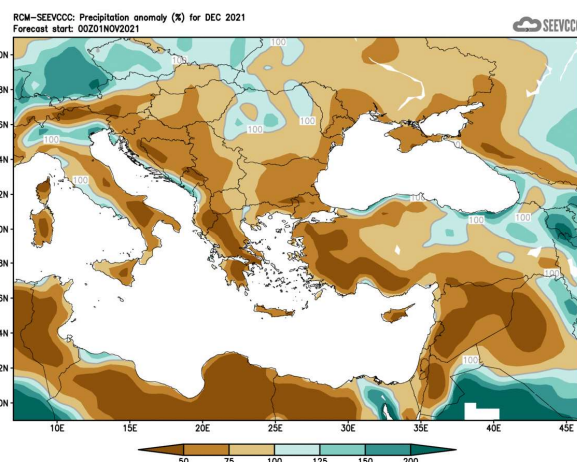
					<p>During the periods 1-10, 13-15, 18-20, 22-26 and on the 28<sup>th</sup> of <b>February</b> local showers and thunderstorms were recorded.</p> <p>Based on the provisional data, hail recorded on the 3<sup>rd</sup> and on the 24<sup>th</sup> of the month while snow was recorded during the periods 1<sup>st</sup>, 3-4, 6, 18-19 and 24-25 of the month.</p> <p>For the dates 3-4 and 8-9 of <b>February</b>, yellow EMMA warning was issued concerning showers and thunderstorms.</p>
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## Evaluation of Decembers seasonal forecast for the area of Cyprus

The seasonal forecast for **December 2021** 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 ranging only from 50% to 75% of normal, except the south eastern part 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 2021												
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)
41	POLIS CHRYSOCHOUS	20,1	18,0	2,1	25,0	15,8	11,3	9,3	2,0	6,3	15,3	172,9
82*	PAFOS (AIRPORT)	19,6	18,9	0,7	23,6	15,2	11,8	10,0	1,8	5,6	17,2	179,0
225	PRODROMOS (C.F.C.)	9,0	8,3	0,7	17,2	3,0	1,9	2,6	-0,7	-2,5	8,6	311,6
666*	ATHALASSA (RADIOSONDE)	18,3	17,3	1,0	22,9	12,6	7,2	7,0	0,2	1,2	13,4	142,1
731	LARNAKA (AIRPORT)	19,3	18,6	0,7	23,4	15,1	10,9	9,2	1,7	4,6	17,9	203,2
800**	ACHNA (DASAKI)	18,0	18,0	0,0	21,1	13,9	8,8	8,3	0,5	0,7	13,7	123,2

\* 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 relatively well in relation with the temperature, in contrast with the model performance concerning precipitation that it was really poor, if not useless. The seasonal forecast for **December** suggested that accumulated precipitation would be well below normal, but from the recorded data is shown that in all of the selected meteorological stations the precipitation was very well above normal

Extremes (deviating by 4°C or more from normal) were also recorded at most of the selected meteorological stations. As an example, note the recorded maximum of Prodromos that was 17.2°C (with a normal of 8.3°C) and the maximum of Polis Chrysochous that was 25°C (with a normal of 18°C). Concerning the mean daily minimum temperatures note the recorded minimum of Pafos that was 17.2°C (with a normal of 10°C) and the minimum of Larnaka that was 17.9°C (with a normal of 9.2°C).

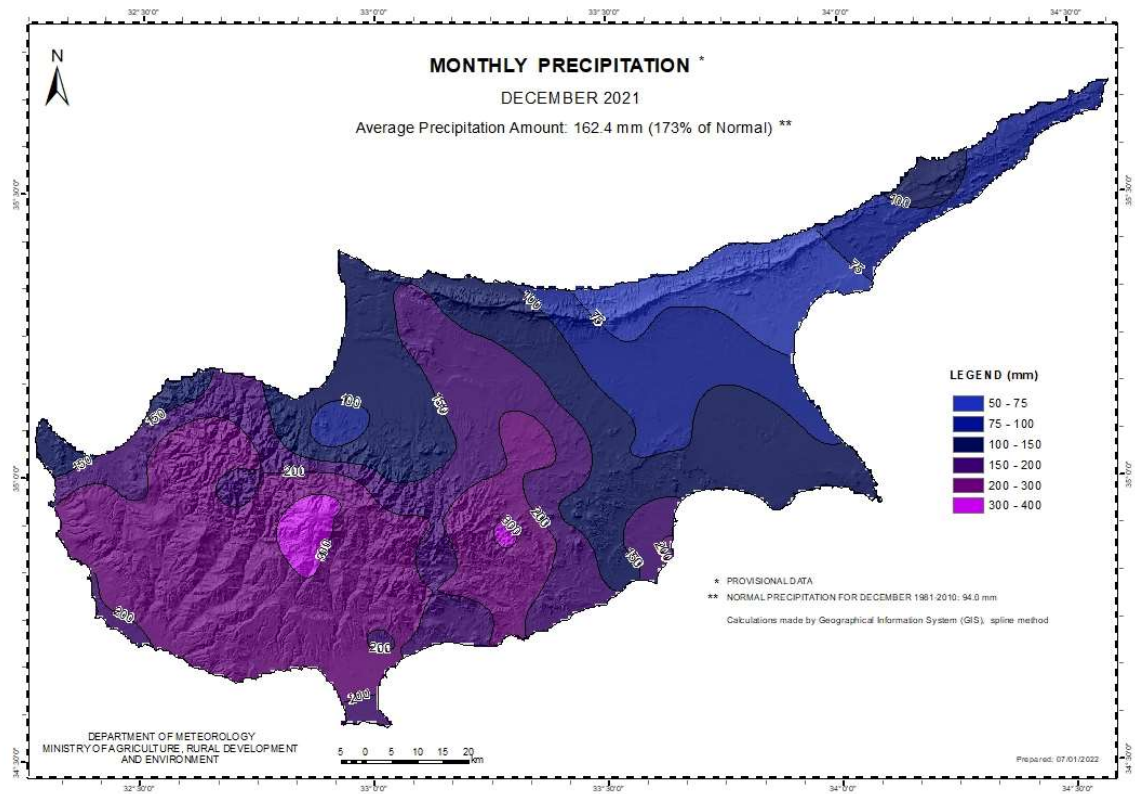
From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **December** is evident that the surface distribution was well above normal reaching 162.4mm. During the periods 1-2, 5-8, 13-23 and 26-31 of **December** local showers and thunderstorms were recorded.

For the dates 5<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> of **December**, yellow EMMA warnings were issued, whereas for the periods 18-20 and 30-31 of **December** orange warnings were issued. The warnings were about showers and thunderstorms.

Based on the provisional data, hail was recorded on the 5<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup> and on the 30<sup>th</sup> of the month. Snow was recorded on the 8<sup>th</sup>, 15<sup>th</sup>, 17-21 and 29<sup>th</sup> of the month at Troodos.

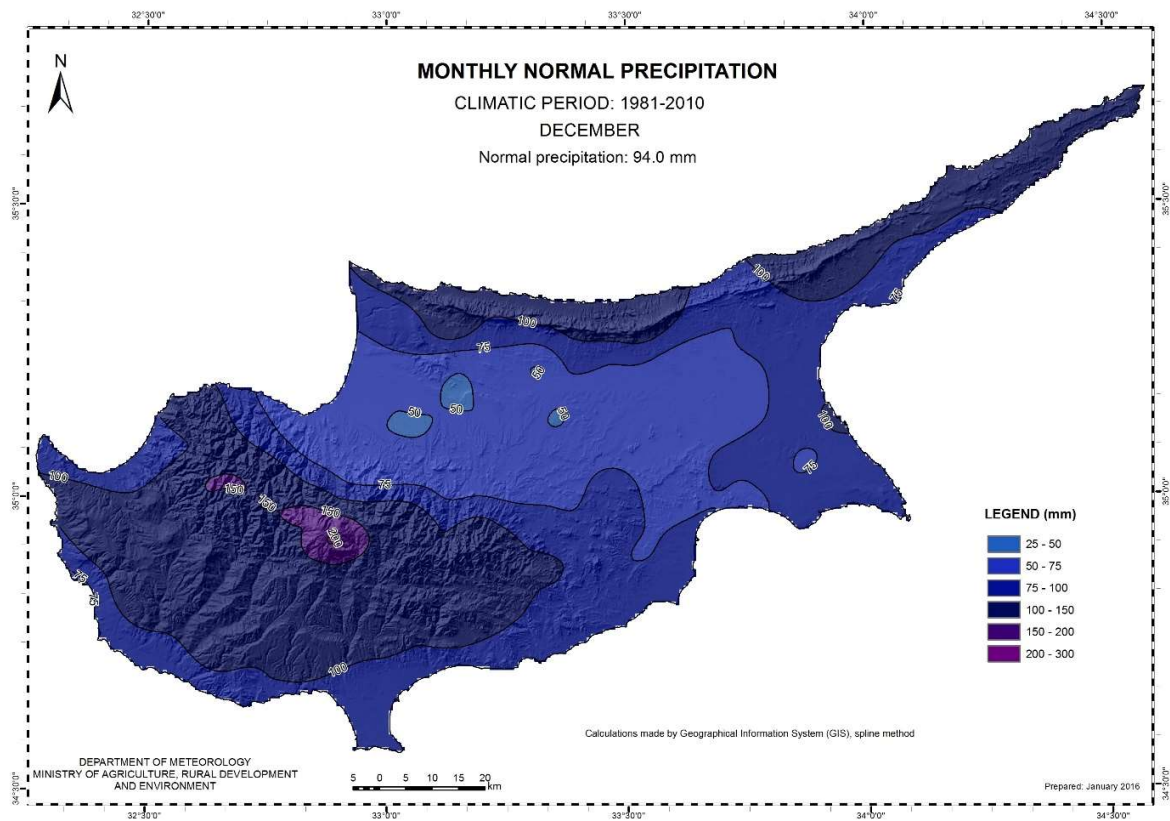


For the purpose of better visualization of **December** accumulated precipitation, a chart of Cyprus with the total preliminary accumulated precipitation is presented.



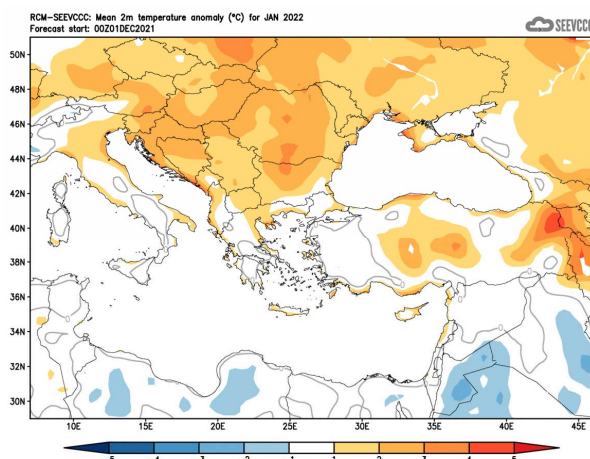


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **December** is also presented.

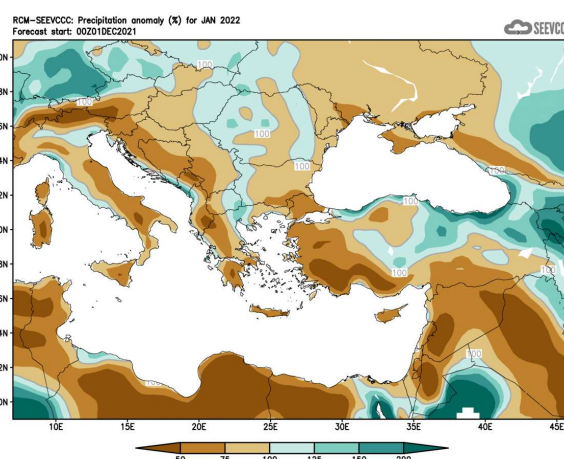


## Evaluation of January's seasonal forecast for the area of Cyprus

The seasonal forecast for **January 2022** suggested that temperature would be above normal (by 1°C to 2°C), mainly over coastal areas. The accumulated precipitation of **January** was again disappointing since the forecast suggested a mainly dry month with accumulation ranging between 50% to 75% of normal. Low accumulations were characterizing 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 2022														
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	17,8	16,3	1,5	23,2	11,8	8,5	7,6	0,9	2,4	14,0	179,7	85,3	94,4
82*	PAFOS (AIRPORT)	16,3	17,1	-0,8	20,7	10,9	9,0	8,3	0,7	1,5	16,4	128,2	78,8	49,4
225	PRODROMOS (C.F.C.)	-	6,3		11,4	0,7	-	0,7		-8,6	2,9	270,3	150,0	120,3
666*	ATHALASSA (RADIOSONDE)	15,4	15,5	-0,1	21,4	9,1	4,5	5,4	-0,9	-1,3	11,7	70,4	48,8	21,6
731	LARNAKA (AIRPORT)	16,4	16,8	-0,4	20,9	10,0	7,8	7,5	0,3	1,3	16,5	104,6	73,7	30,9
800**	ACHNA (DASAKI)	15,2	16,3	-1,1	20,4	9,7	5,7	6,6	-0,9	-0,4	12,0	85,0	67,3	17,7

\* 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
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it seems that the model performed relatively well on the evaluation of the temperature, but it performed bad on the evaluation of the accumulated precipitation, which was well above normal. From the recorded data is shown that most of the mean daily maximum and the mean daily minimum temperatures were around normal. Extreme high temperatures were recorded, as an example note the station of Athalassa that recorded a highest daily maximum of 21.4°C (with the normal being 15.5°C) and Polis Chrysochous that recorded a highest daily maximum of 23.2°C (with the normal being 16.3°C). Extreme low

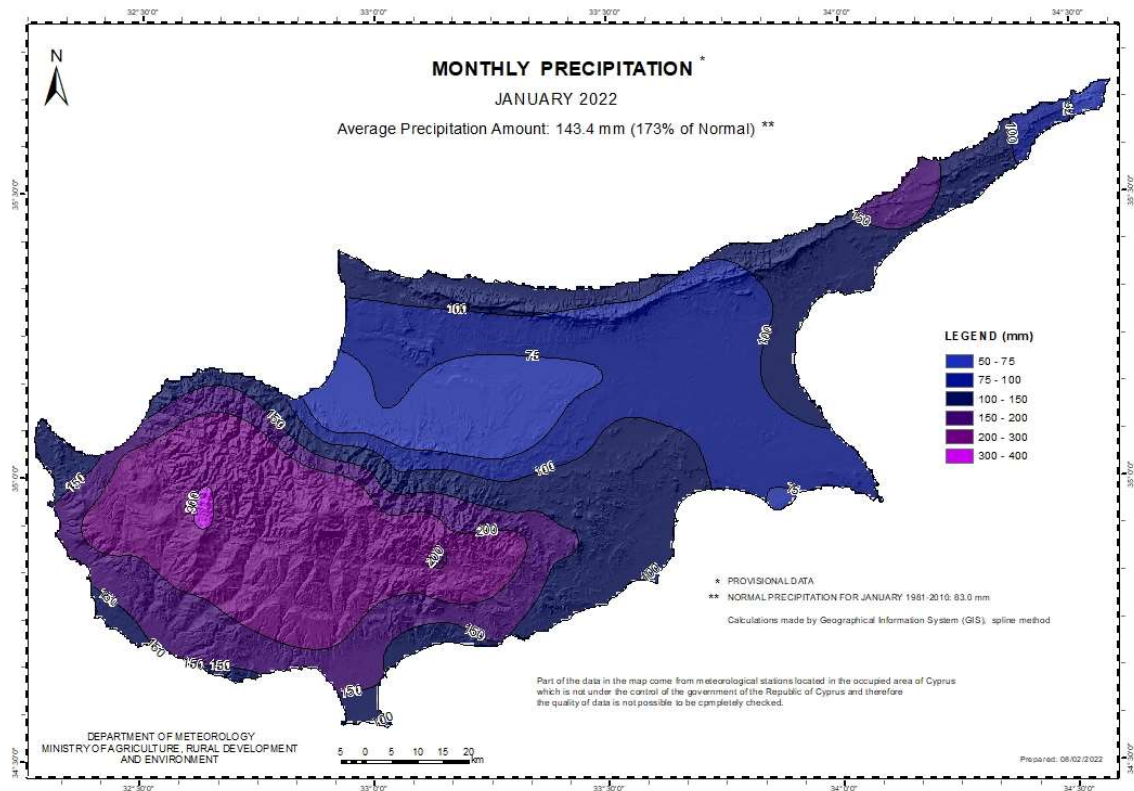
temperatures were also recorded, as an example note the lowest daily minimum temperature of Achna that was  $-0.4^{\circ}\text{C}$  (with a normal of  $6.6^{\circ}\text{C}$ ) and the lowest daily minimum temperature of Prodromos that was  $-8.6^{\circ}\text{C}$  (with a normal of  $0.7^{\circ}\text{C}$ ).

From the provisional data recorded by the Department of Meteorology the model did not perform well over the amount of the accumulated precipitation, as the actual accumulated precipitation was more than the expected. **January** is generally considered to be a rainy month, as the cumulative precipitation reached 143.4mm or 173% of normal.

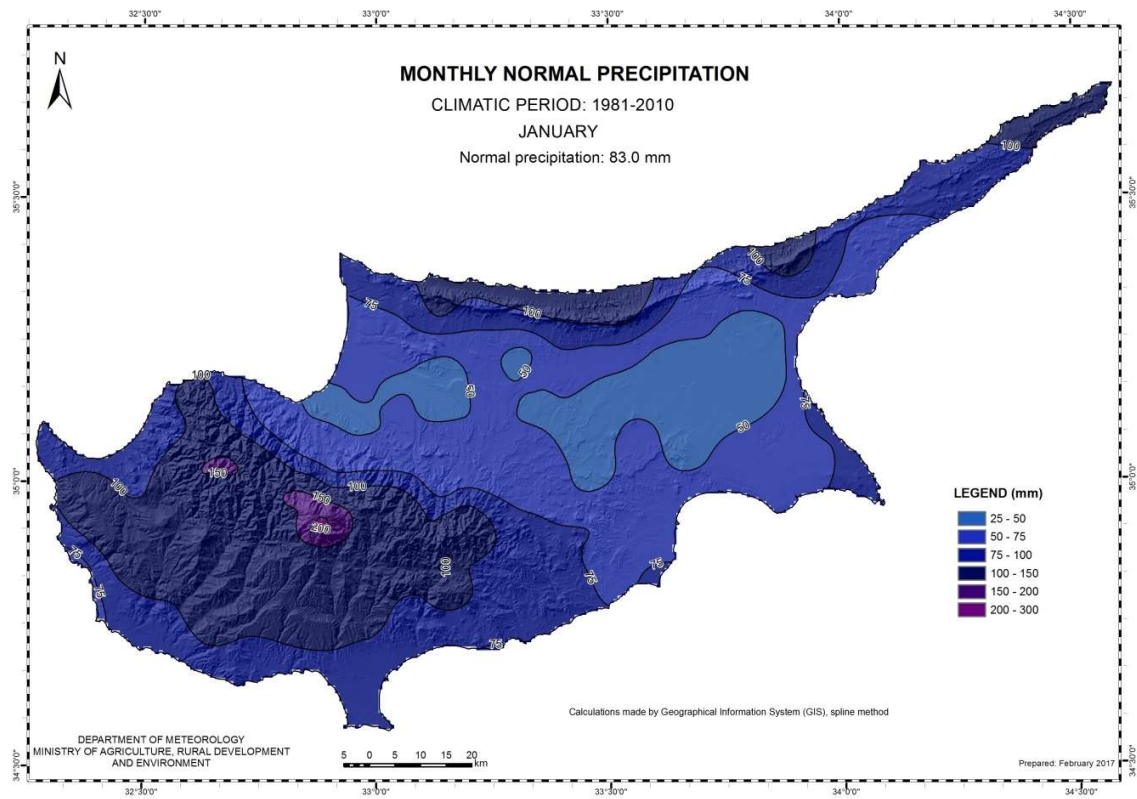
During the periods 1-2, 4-6, 9-15, 17-19 and 21-31 of **January** local showers and thunderstorms resulted in accumulated precipitation of 99.3mm or 120% of normal. It is worth mentioning that on the 9<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup> and 22<sup>nd</sup> of **January** hail was reported. Also, for the 9-10, 12-13, 18-20, 22-23, 25 and 27-28 of **January**, EMMA yellow level warnings for rainfall, wind, thunderstorms and low temperatures were issued. For 10-11 of **January**, EMMA orange level warning was issued concerning rain and thunderstorms.

It is worth mentioning that based on the provisional data there was snowfall during 9-11, 17-19, 21-26 and 28-31 of **January**.

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

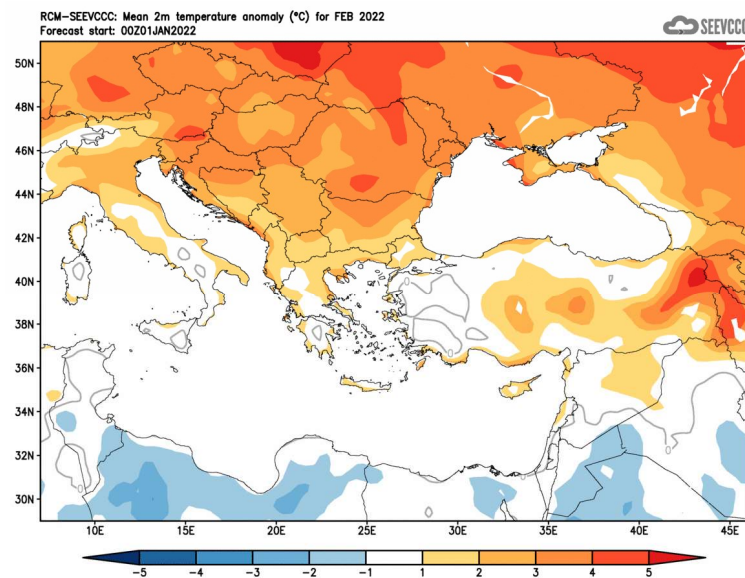


A Cyprus chart with the normal (period 1981 to 2010) accumulated precipitation for the month of **January** is also presented.



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

The seasonal forecast for **February** suggested that it would be warmer than normal by 1°C to 2°C mainly in coastal areas.



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, it seems that the model performed relatively well. **February** was warmer than normal.

Extreme high temperatures were of course recorded at all the selected meteorological stations, like Prodromos that recorded a highest daily maximum of 14.1°C (with the normal being 6.7°C) and Polis Chrysochous that recorded a highest daily maximum of 22.7°C (with the normal being 16.3°C). Extremes low temperatures (deviating by 4°C or more from normal) were also recorded. As an example, note the highest daily minimum temperatures of Larnaka airport and Pafos that was 16.8°C (with a normal of 7.1°C) and 15.4°C (with a normal of 8.1°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 below normal (reaching only 39.2mm or 57% of normal).

During the periods 1-10, 13-15, 18-20, 22-26 and on the 28<sup>th</sup> of **February** local showers and thunderstorms were recorded.

Based on the provisional data, hail was recorded on the 3<sup>rd</sup> and on the 24<sup>th</sup> of the month, while snow was recorded during the periods 1<sup>st</sup>, 3-4, 6, 8-9, 18-19 and 24-25 of the month.

For the dates 3-4 and 8-9 of **February**, yellow EMMA warning was issued concerning showers and thunderstorms.

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	19,1	16,3	2,8	22,7	16,8	9,5	7,3	2,2	5,1	13,7	56,5	68,5	-12,0
82*	PAFOS (AIRPORT)	18,1	17,1	1,0	21,9	15,3	9,6	8,1	1,5	6,3	15,4	55,1	59,8	-4,7
225	PRODRAMOS (C.F.C.)	8,7	6,7	2,0	14,1	3,2	1,3	0,5	0,8	-2,1	6,8	89,2	128,7	-39,5
666*	ATHALASSA (RADIOSONDE)	18,2	16,0	2,2	21,5	12,0	5,7	5,3	0,4	1,5	11,6	17,6	44,5	-26,9
731	LARNAKA (AIRPORT)	18,4	17,0	1,4	23,2	15,7	8,6	7,1	1,5	3,5	16,8	21,6	50,3	-28,7
800**	ACHNA (DASAKI)	17,2	16,5	0,7	20,3	13,4	6,4	6,3	0,1	1,9	12,1	18,0	50,7	-32,7

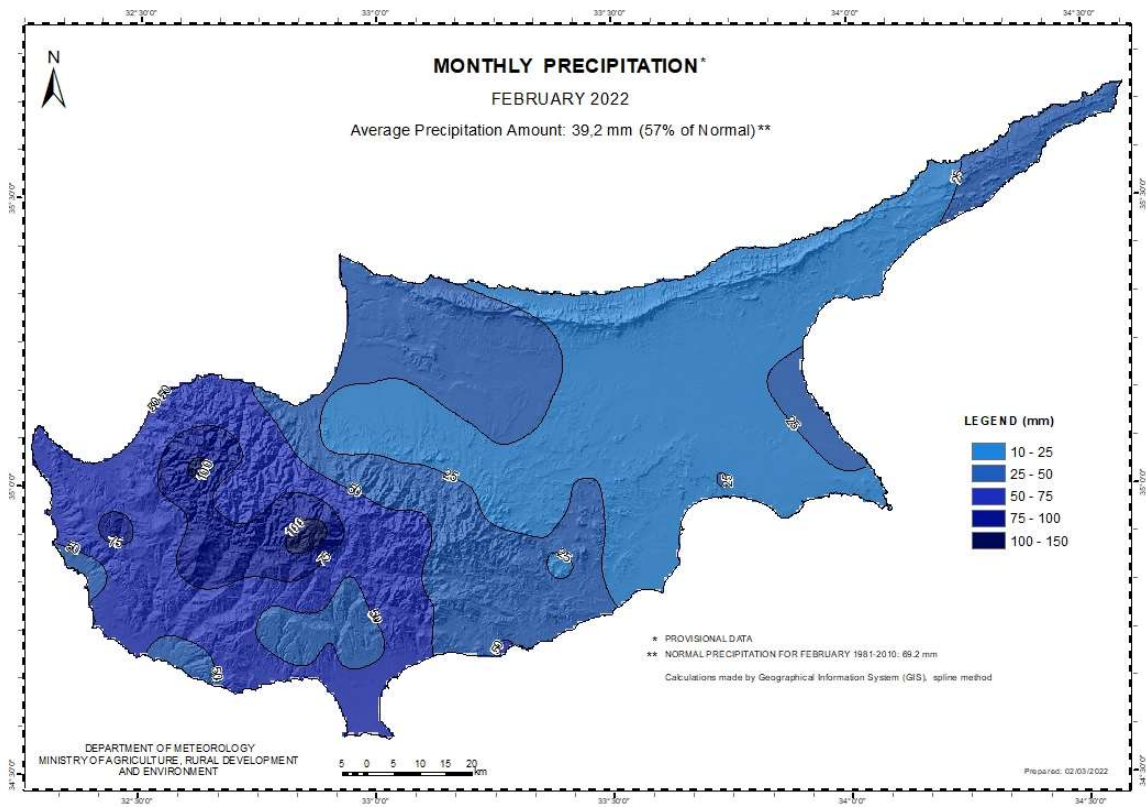
\* Pafos' and Athalassa's Station Normal Values cover the period 1983-2010

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

= VALUES FROM AUTOMATIC WEATHER STATION



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.

