

Seasonal weather forecast for the months of

January, February and March 2019

General over view of the weather expected to prevail during January, February and March 2019.

The weather for the following period consists of a part (January and February) of the traditional winter, where the most of the annual accumulated precipitation is climatologically expected, while in the period in focus normal temperatures (both maximum and minimum) are significantly lower than the other months of the year and the first month (March) of the traditional Spring, which is also a part of the period of forecast. During the period the frequency of baroclinic depressions affecting the area is at its most resulting in higher accumulated precipitation amounts.

Seasonal forecast for the next three months

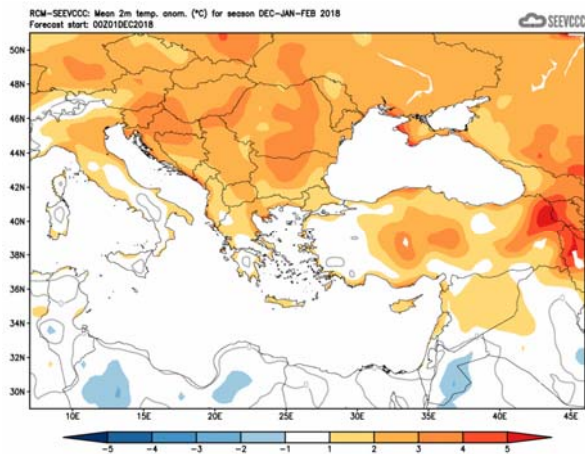
It is observed that the behaviour of the seasonal forecast is problematic since the accumulated precipitation, has a significant deviation from the observed. For this reason, in this seasonal forecast, the seasonal accumulated precipitation will be omitted for reasons of compatibility with observed data. The Department of Meteorology has informed the Serbian Hydrometeorological Service, which the authority responsible for the issuance of the seasonal forecast for all the countries of Southeastern Europe, about the problem and suggested specific proposals.

The significant deviation that occurs specifically in the forecast of the accumulated precipitation is partially due to the erroneous assessment of North Atlantic Oscillation, in the view of the Department of Meteorology. The initial assessment of NOA "underestimated" the intensity and extent of the Azores High, which in fact is quite strong and occupies much of the North Atlantic, resulting in the very frequent channeling of low-pressure systems from the North Sea to the Balkan region and the Eastern Mediterranean.

According to the Department of Meteorology, the frequent channeling of low pressure systems to the eastern Mediterranean will continue for as long as the Azores High has the same characteristics in the North Atlantic.

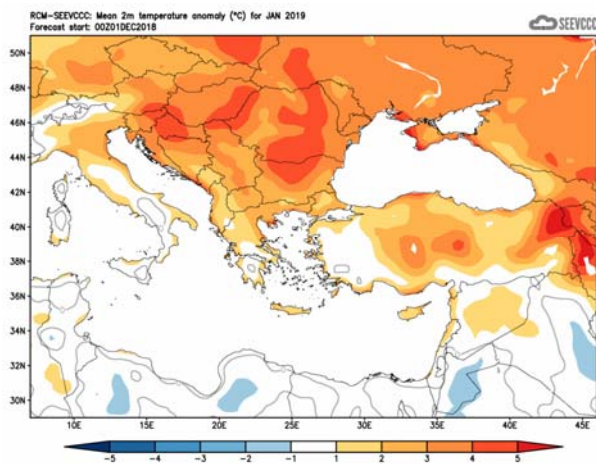
Specifically, regarding the seasonal forecast for the period of the three first months of the year (**January, February and March 2019**), the temperature is expected to be generally above normal by 1 to 2°C. The greater surrounding area is forecasted with almost the same characteristics as Cyprus.

Bearing in mind the model's suggestion (the results of which are presented in graphical form in the charts below) and also the long climatology of the area of Cyprus the next three month period is expected to be warmer than normal with mean season temperatures ranging slightly above normal



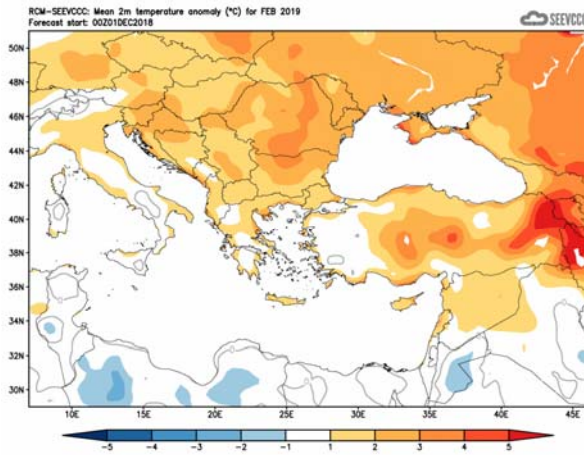
- ① Divergence of temperature from normal from the mean seasonal temperature (°C) for January, February and March

The seasonal forecast for **January 2019** suggests that temperature will be slightly above normal (by 1°C to 2°C). Similar temperatures characterize all the surrounding area.



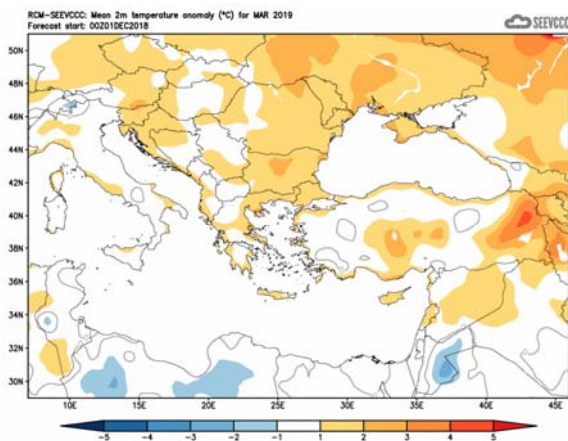
Divergence of the mean monthly temperature (°C) from normal during January

The seasonal forecast for **February 2019** is almost like the one of January that suggests that it will be warmer than normal by 1°C to 2°C. The above temperature characteristics apply also for the surrounding area.



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

The seasonal forecast for **March 2019** is again like the one of the previous months suggesting that **March** will be warmer than normal by 1°C to 2°C. The above temperature characteristics apply also for great parts of the surrounding area.



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

Normal values of temperature (mean maximum and mean minimum) and accumulated precipitation for January, February and March 2019

The normal values of mean maximum, mean minimum temperature and accumulated precipitation are presented below for sample stations, concerning the three months the period of forecast is covering, in order to gain a better view of the normal seasonal climate. The temperatures, both maximum and minimum, of **January** and **February** are the lowest climatological temperatures of the year while the accumulated precipitation has the greater amount of the year during **January**, as a result of the increased frequency of reoccurrence/redeveloping of depressions over the area of the east Mediterranean. During **March** a transitional month from winter to summer an increase of mean maximum and mean minimum temperature is noted with a simultaneous decrease of the accumulated precipitation over all sample stations.

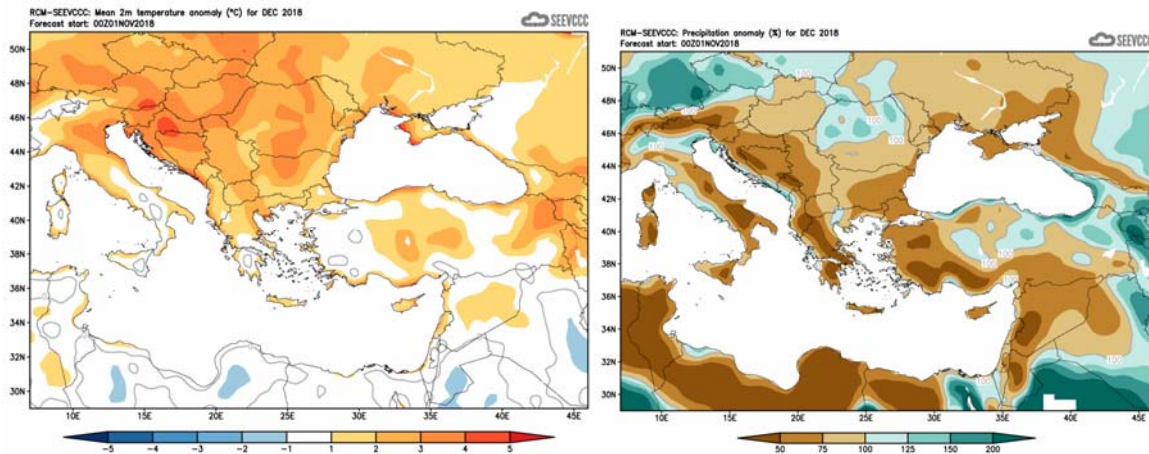
TEMPERATURE AND PRECIPITATION NORMAL VALUES FOR THE PERIOD 1981-2010									
Area Name	MEAN DAILY MAXIMUM TEMPERATURE (°C)			MEAN DAILY MINIMUM TEMPERATURE (°C)			MEAN MONTHLY TOTAL PRECIPITATION (mm)		
	January	February	March	January	February	March	January	February	March
NORTH COAST	16.3	16.3	18.3	7.6	7.3	8.3	85.3	68.5	45.7
WEST COAST*	17.1	17.1	18.6	8.3	8.1	8.9	78.8	59.8	34.4
MOUNTAINOUS AREAS	6.3	6.7	10.4	0.7	0.5	2.8	150.0	128.7	92.1
INLAND*	15.5	16.0	19.2	5.4	5.3	6.9	48.8	44.5	31.9
SOUTH COAST	16.8	17.0	19.3	7.5	7.1	8.6	73.7	50.3	35.8
EAST COAST**	16.3	16.5	19.1	6.6	6.3	7.8	67.3	50.7	35.2

* West Coast and Inland Values cover the period 1983-2010

** East Coast Temperature Values cover the period 1981-2007

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	PRODRAMOS (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).

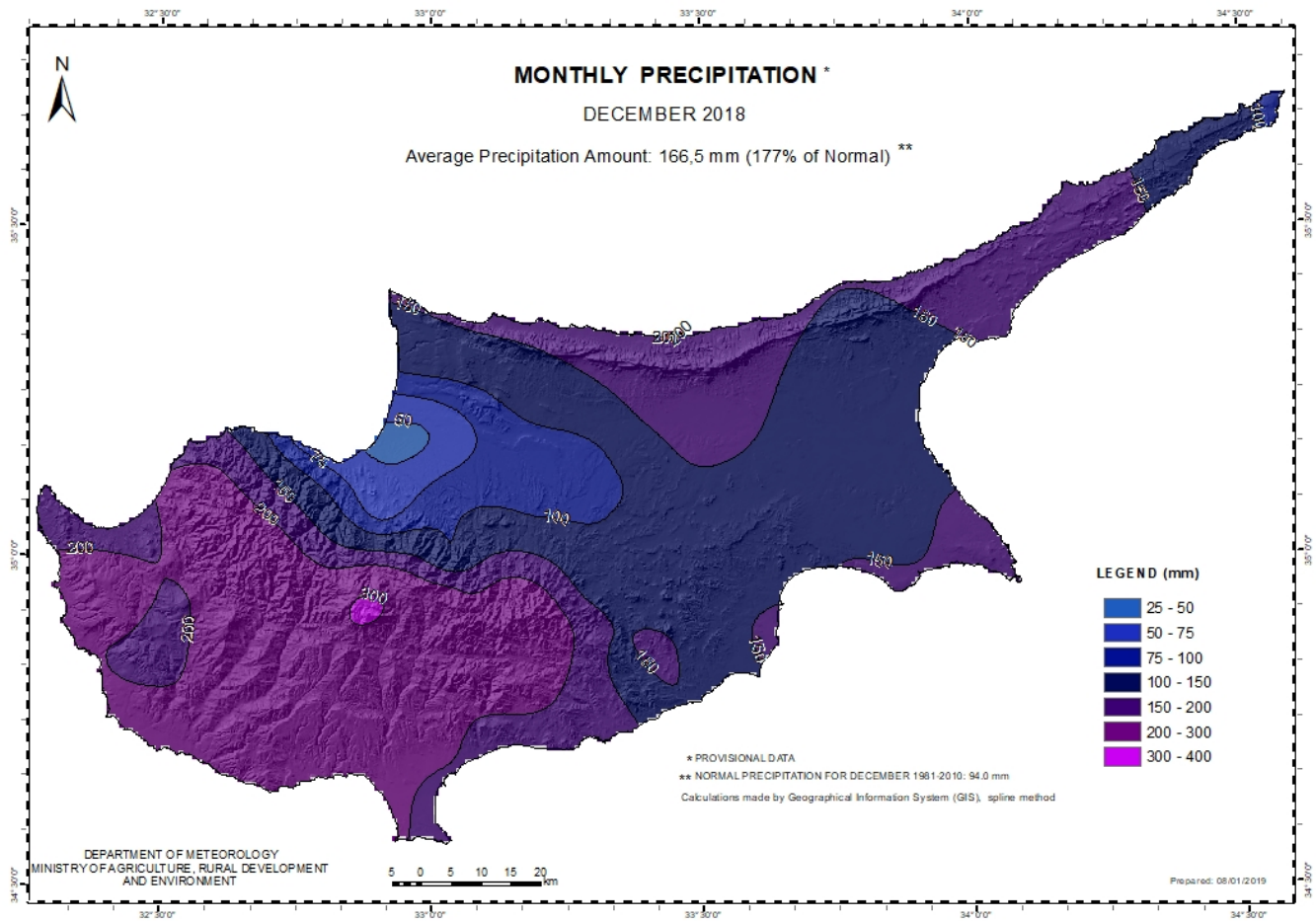
The accumulated precipitation was very high as presented from the table above. From the distribution (provisional accumulated precipitation chart) of the accumulated precipitation of **December** is evident that the surface distribution was well above the expected reaching 166,5mm (177% of normal). **December** 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.

