

## Validation of SEECOF products for December 2013 and January, February 2014 for the area of Cyprus

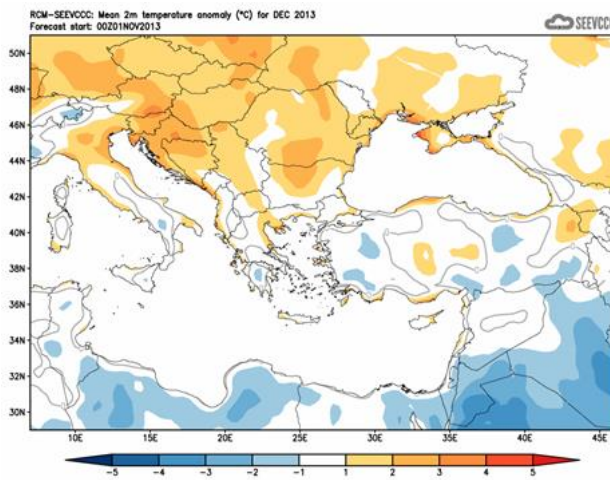
### General comment

The period in focus is the rather cold and rainy period for the area of Cyprus. In general during this period are encountered the majorete of depressions affecting the area which are resulting in the vast majorete of the years accumulated precipitation. The past DJF period was very poor in accumulated precipitation amount and it was also a relatively warmer than normal period, which was well picked up by the model at least qalytatively. The area experienced some extreem weather which will be presseneted in more detail below.

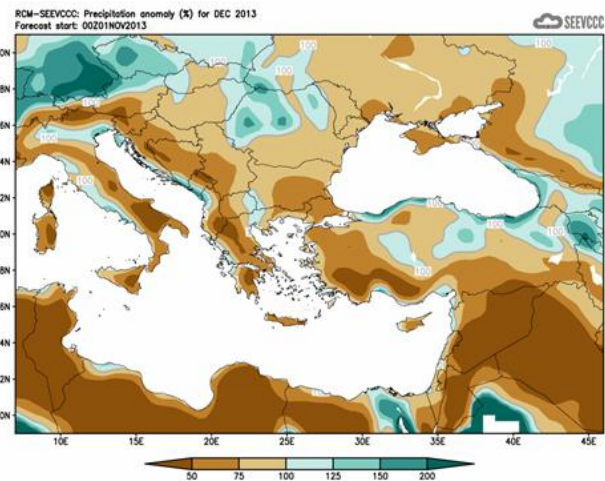
**During the period in discussion the accumulated precipitationn was so poor, listing it as the poorest in precipitation, among all DJF since 1901, with only 208.6mm, as a mean area average precipitation.**

### Validation of Decembers 2013 forecast

For **December 2013** the seasonal forecast was suggesting almost normal temperatures. The accumulated precipitation was suggested to be rather low since it was expected not to exceed 75% in most areas, except the western part where the accumulated precipitation was expected to range from 75 – 100% of normal.



Divergence of the mean monthly temperature ( $^{\circ}\text{C}$ ) from normal during December



Percentage (%) of the expected mean monthly accumulated precipitation compared to the mean normal of December

**TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR DECEMBER 2013**

St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS		18.0				9.3			49.7	93.6	-43.9
82*	PAFOS (AIRPORT)	18.8	18.9	-0.1	26.2	9.9	10.0	-0.1	4.5	64.5	90.1	-25.6
225	PRODROMOS (C.F.C.)	7.0	8.3	-1.3	20.4	2.1	2.6	-0.5	-7.8	143.5	157.3	-13.8
666*	ATHALASSA (RADIOSONDE)	16.0	17.3	-1.3	22.5	6.4	7.0	-0.6	0.1	54.4	57.2	-2.8
731	LARNAKA (AIRPORT)	17.5	18.6	-1.1	22.5	8.8	9.2	-0.4	2.4	46.4	79.0	-32.6
800**	ACHNA (DASAKI)		18.0				8.3			72.9	76.8	-3.9

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

\*\* Achna's Temperature Normal Values cover the period 1981-2007. December's 2013 Monthly Total Precipitation value is from Frenaros (Reservoir) station.

= Technical Problem

The previous table presents the mean daily maximum/minimum/highest/lowest temperature recorded during December 2013, the monthly total accumulated precipitation during December 2013 and the normal values for the climatic period 1981-2010 concerning December, accompanied with the calculated deviations (differences) of the observed values and the 1981-2010 normal for a selection of stations.

From the relevant information, kept in the data base of the Department of Meteorology, and the provisional data, recorded for **December 2013**, seems that temperature was up to normal (a small negative deviation was recorded in all stations) while over the mountains (Prodromos C.F.C.) an extreme minimum was recorded. The accumulated precipitation was low since all stations have recorded a negative deviation (deviations of -44% to -14% were recorded) with an exception of Athalassa and Achna stations, which have recorded an up to normal accumulated precipitation.

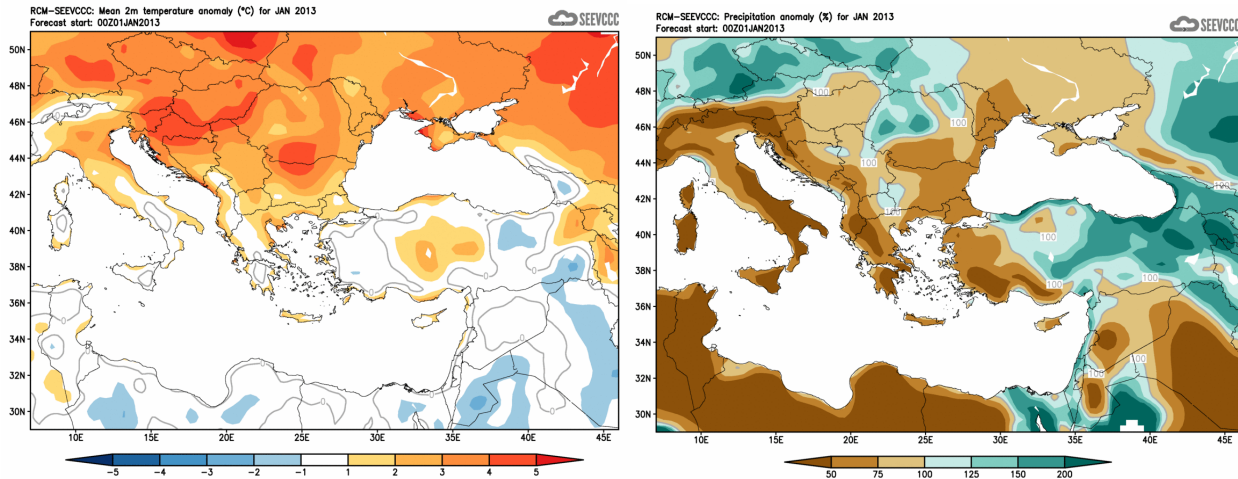
So evaluating in general the models score for **December 2013**, in forecasting temperature and accumulated precipitation it must be mentioned that the model "did it" well since both temperature and accumulated precipitation were forecasted well for the area of Cyprus.

It must be also mentioned that during the period from **10 to 13 December 2013**, Cyprus was affected by a cold depression, which has initiate a northeasterly very strong to near gale and locally gale force wind associated with low temperature and snowfall, falling from the height of 250m and above. The snowfall and the low temperature field resulted in a sequence of a number of totally frost days in a lot of areas mainly over the mountains. The low temperatures recorded during the cold depressions period (10 to 13 of December) were compensated with the well above normal or normal temperatures recorded before and after the cold event.

### Validation of January 2014 forecast

According to the seasonal forecast, the past, **January 2014**, in terms of temperature was expected to be a normal month, since the temperature would have range around normal levels. Compared with the monthly normal rainfall, the model was presenting a negative equilibrium for Cyprus since the

accumulated precipitation was ranging from 50 up to 75% of normal over the eastern areas while over the rest of the area was forecasted to reach the normal for the month.



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 relevant information, kept in the data base of the Department of Meteorology, and the provisional data recorded for **January 2014**, seems that temperature was above normal with positive deviations of at least 1.5°C to as high as 2.9°C. Regarding the accumulated precipitation it was very low since all stations have recorded a significant negative deviation with an exception of Paphos airport where the accumulated precipitation was just above normal.

**TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JANUARY 2014**

St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest 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	23.3	9.1	7.6	1.5	5.6	30.0	85.3	-55.3
82*	PAFOS (AIRPORT)	19.0	17.1	1.9	21.2	10.7	8.3	2.4	7.1	80.0	78.8	1.2
225	PRODROMOS (C.F.C.)	9.2	6.3	2.9	15.6	3.6	0.7	2.9	1.4	56.9	150.0	-93.1
666*	ATHALASSA (RADIOSONDE)	17.6	15.5	2.1	20.4	7.6	5.4	2.2	4.4	9.0	48.8	-39.8
731	LARNAKA (AIRPORT)	18.9	16.8	2.1	20.6	9.8	7.5	2.3	6.4	37.0	73.7	-36.7
800**	ACHNA (DASAKI)	18.0	16.3	1.7	20.0	7.7	6.6	1.1	5.1	15.6	67.3	-51.7

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

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

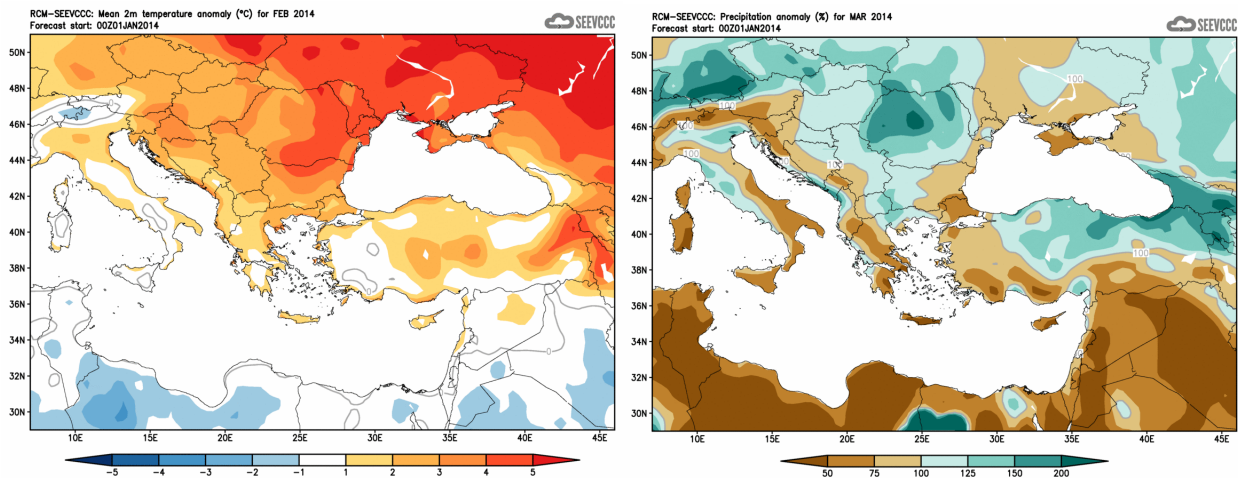
= VALUES FROM AUTOMATIC WEATHER STATION

The previous table presents the mean daily maximum/minimum/highest/lowest temperature recorded during January 2014, the monthly total accumulated precipitation during January 2014 and the normal values for the climatic period 1981-2010 concerning January, accompanied with the calculated deviations (differences) of the observed values and the 1981-2010 normal, for a selection of stations.

So in an attempt to evaluate qualitatively the seasonal forecast score for **January 2014**, in forecasting temperature and accumulated precipitation it must be mentioned that it picked up well precipitation but not the temperature.

### Validation of February 2014 forecast

**February**, according to the seasonal forecast, was expected to be relatively warmer than normal, since the model was giving a a positive general deviation of 1 to 2 °C. The balance of the accumulated precipitation was expected to be negative since, it was expected that the rainfall would have range below 50% of normal over the east, 50 to 75% of normal inland and only over the extrem wester part where the precipitation would have to be up to normal.



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 relevant information, kept in the data base of the Department of Meteorology, and the provisional data recorded for **February 2014**, seems that the model was at least qualitatively performed well. Temperature was above normal with positive deviations of about 2°C as mentioned by the model. Regarding the accumulated precipitation it was well below normal in all areas except the western part as described by the model.

From the precipitation data recorded by the Department of Meteorology from 1901 and Cyprus and the calculated area average accumulated precipitation for December 2013 and January and February 2014 it is evident that the winter months DJF2013-2014 were the driest recorded.

**TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR FEBRUARY 2014**

St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	17.9	16.3	1.6	21.3	7.5	7.3	0.2	3.9	45.1	68.5	-23.4
82*	PAFOS (AIRPORT)	18.9	17.1	1.8	23.4	9.4	8.1	1.3	5.5	61.9	59.8	2.1
225	PRODROMOS (C.F.C.)	10.3	6.7	3.6	19.9	3.2	0.5	2.7	-2.1	57.2	128.7	-71.5
666*	ATHALASSA (RADIOSONDE)	18.9	16.0	2.9	23.4	6.8	5.3	1.5	2.4	22.0	44.5	-22.5
731	LARNAKA (AIRPORT)	18.7	17.0	1.7	21.9	8.7	7.1	1.6	3.9	34.0	50.3	-16.3
800**	ACHNA (DASAKI)	18.4	16.5	1.9	24.3	6.8	6.3	0.5	0.6	17.4	50.7	-33.3

\* 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 previous table presents the mean daily maximum/minimum/highest/lowest temperature recorded during February 2014, the monthly total accumulated precipitation during February 2014 and the normal values for the climatic period 1981-2010 concerning February, accompanied with the calculated deviations (differences) of the observed values and the 1981-2010 normal, for a selection of stations.

So in an attempt to evaluate qualitatively the seasonal forecast score for **February 2014**, in forecasting temperature and accumulated precipitation it must be mentioned that it picked up well both accumulated precipitation and temperature.

On the 14th of February when a depression was affecting the area at least two stations reported hail