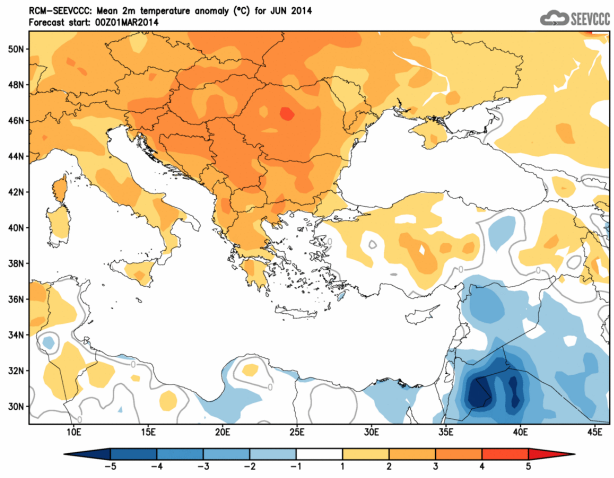
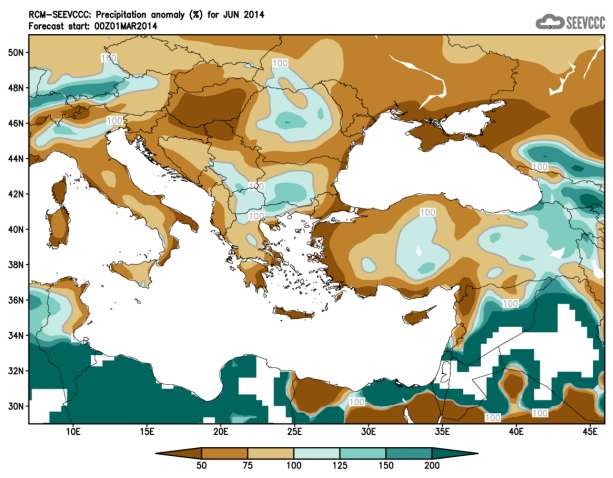
JJA2014 Validation of SEECOFs Products for the area of Cyprus

Validation of June's forecast

According to the seasonal forecast, in terms of temperature, June was expected to be a normal month. Compared with the monthly normal rainfall, the model was presenting a negative equilibrium for Cyprus. The accumulated precipitation would range below 50% over most parts of the island except the extreme western part where it will range around normal.



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



Percentage of the mean monthly precipitation (%) compared with the normal of June

From the relevant information, kept in the data base of the Department of Meteorology, and the provisional temperature data recorded for **June 2014**, (table below) seems that the model performed moderately.

The model was suggesting temperature, both maximum and minimum to be normal. The maximum temperature was indeed around normal but an extreme max was recorded over Athalassa station equal to 43.1°C. Regarding the minimum temperature the deviation was again around normal while an extreme min was recorded over Prodromos station equal to 8.1°C.

The model performed moderately in predicting the accumulated precipitation. Inland stations recorded precipitation well above normal while the coastal ones have recorded precipitation practically zero. The accumulated precipitation was a result of a medium level baroclinic wave (unusual for June), during the period from 6 to 9 of June, which affected Cyprus and initiated isolated thunderstorms. The resulted accumulated precipitation was well above normal for June, as mentioned earlier for inland stations. Precipitation was encountered and during the period 11 to 12 of June mainly as a result of low level thermal instability than as a result of upper level dynamic instability. During this period hail was reported in the stations of Saittas (mountainous station) and Kellaki (semi mountainous station) with the accumulated precipitations reaching at Kellaki 61.5mm and over Saittas 36.3mm. June at mean encountered 240% (14.4 mm) of mean normal precipitation while extreme accumulated precipitation

was recorded at Kellaki station 700% of normal. The coastal stations had practically zero accumulated precipitation.

As an overall conclusion the model failed predicting **June's** accumulated precipitation but it performed well with temperature forecast.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JUNE 2014

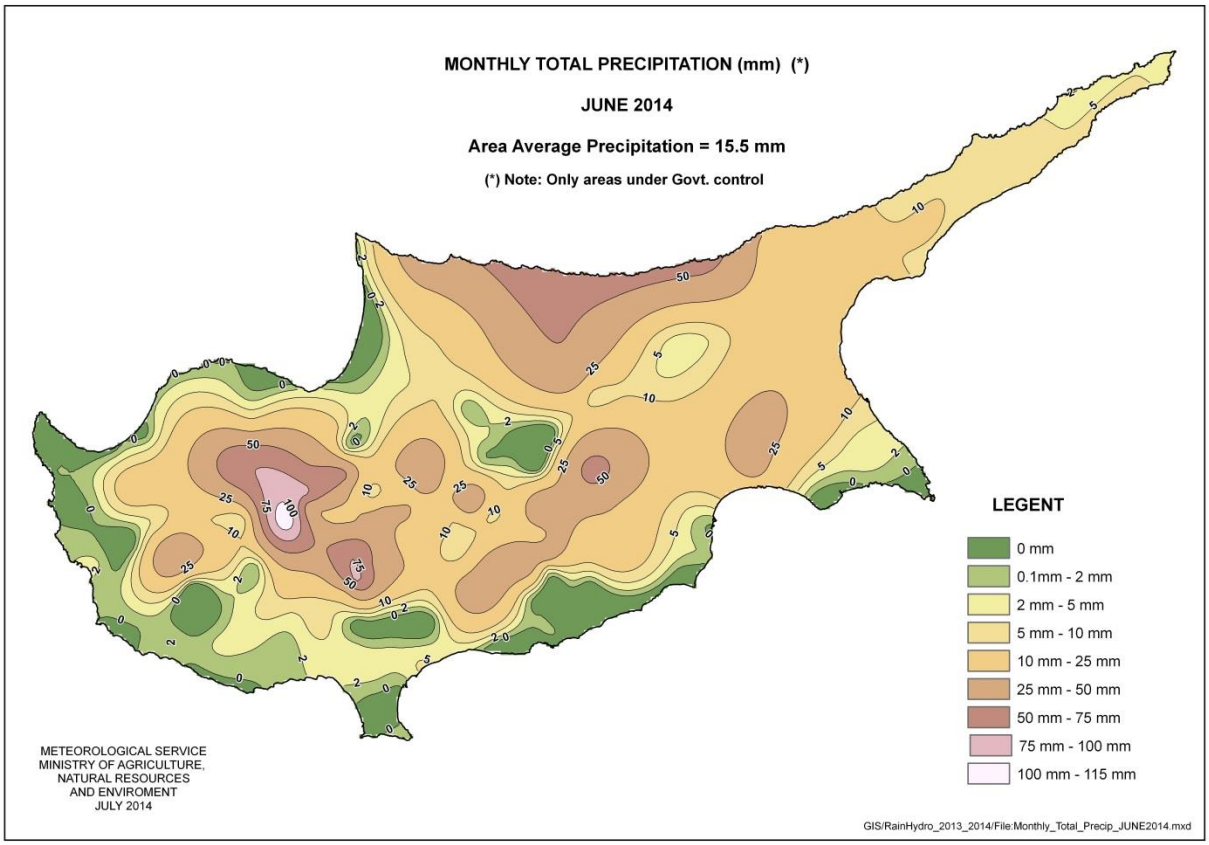
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	29.3	30.3	-1.0	37.2	19.1	18.5	0.6	16.2	0.0	1.8	-1.8
82*	PAFOS (AIRPORT)	28.4	27.6	0.8	33.7	20.0	18.0	2.0	16.8	0.0	1.3	-1.3
225	PRODROMOS (C.F.C.)	23.6	25.0	-1.4	34.4	13.2	15.0	-1.8	8.1	38.5	27.2	11.3
666*	ATHALASSA (RADIOSONDE)	33.3	34.0	-0.7	43.1	20.1	19.1	1.0	14.6	11.6	11.6	0.0
731	LARNAKA (AIRPORT)	30.4	30.2	0.2	38.0	20.0	19.4	0.6	15.7	1.8	2.0	-0.2
800**	ACHNA (DASAKI)	29.8	31.0	-1.2	38.8	18.4	18.9	-0.5	13.7	18.4	1.8	16.6

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

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

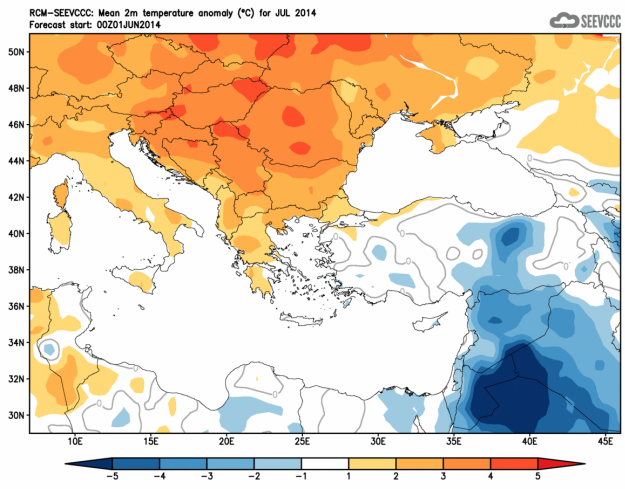
= VALUES FROM AUTOMATIC WEATHER STATION

On the precipitation chart (below) the recorded values of the accumulated precipitation of June, are presented, with the area of Cyprus having a 15.5mm Area Average Accumulated Precipitation.

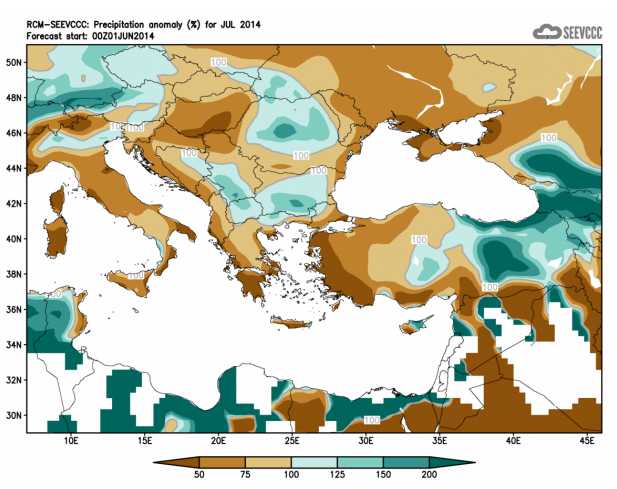


Validation of July's forecast

According to the seasonal forecast, **July's** temperature was expected to be normal. In terms of the accumulated precipitation, the model presented a rather complex image. The western part was expected to be rather dry (50% - 75% of normal) while the eastern part and the central the accumulated precipitation would have range from normal to almost 150% of normal.



Divergence of the mean monthly temperature (^{o}C) from normal during July



Percentage of the mean monthly precipitation (%) compared with the normal of July

From the relevant information, kept in the data base of the Department of Meteorology, and the provisional temperature data recorded for **July 2014**, (table below) seems that the model performed, at least qualitatively, well.

Concerning the maximum temperature, and from what it is observed in the table below, it was very close to normal and the divergence from normal was very small. Of course maximum extremes were recorded like the one over Athalassa station with the recorded maximum of 40.1°C, or the one over Prodromos station 32.5°C. Minimum temperature was also close to normal, even thou with greater deviations.

Regarding the accumulated precipitation the model performed also well. Athalassa's accumulated precipitation was well above normal, as a result of the thundery activity of the period 20 to 21 of **July**. Coastal stations are presenting a deficit in precipitation. Prodromos (the representative mountainous station) recorded precipitation below normal, but Saittas station (another mountainous station) recorded precipitation above normal due to the thundery activity of the 20th of **July**. The above is explained by the fact that thundery activity may result in high accumulated precipitation. Never the less, since the phenomenon is very local and isolated (when it is developed from thermal instability) a lot of differences in accumulated precipitation are observed even in neighbourhood stations (i.e. Prodromos Saittas).

As an overall conclusion the model performed well for **July**.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR JULY 2014

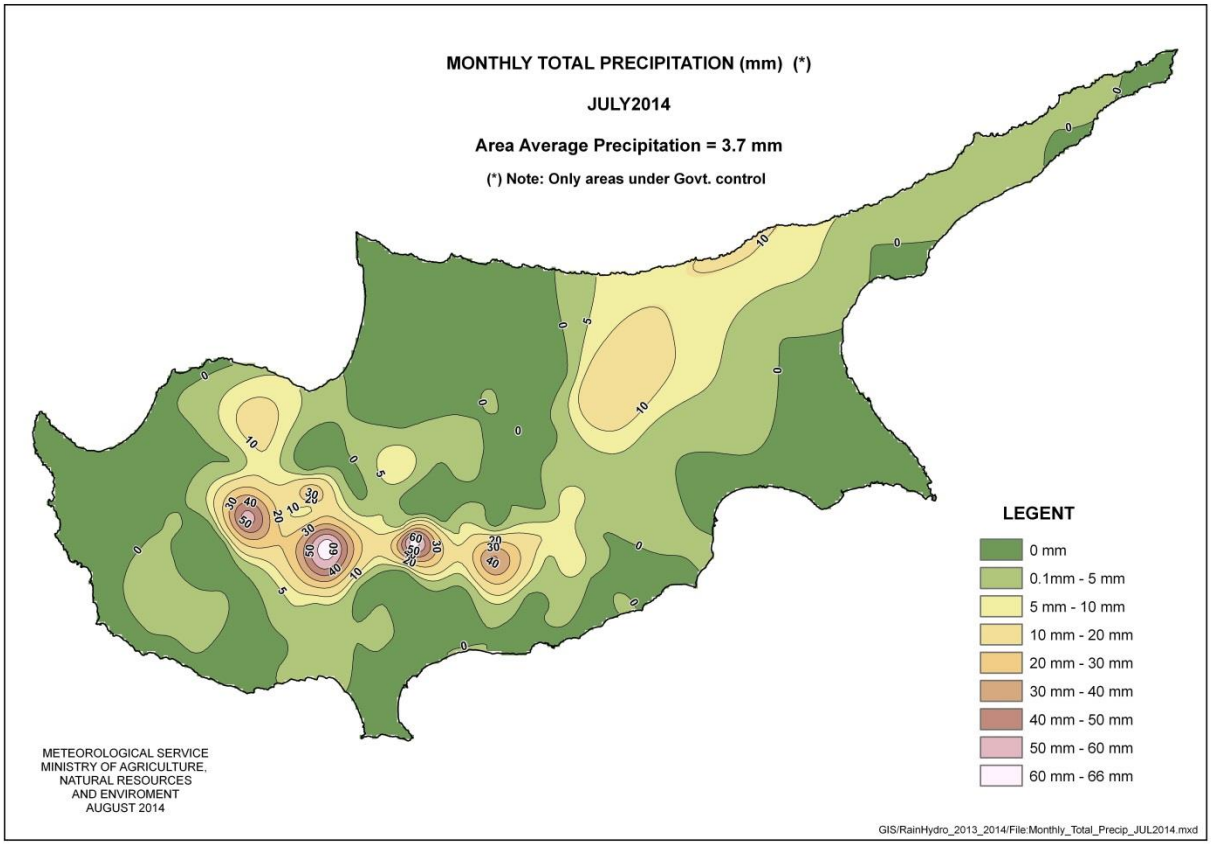
St. No.	Station Name	Mean Daily Maximum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Highest Daily Maximum Temperature (°C)	Mean Daily Minimum Temperature (°C)	Normal Value (1981-2010)	Difference from Normal Value	Lowest Daily Minimum Temperature (°C)	Monthly Total Precipitation (mm)	Normal Value (1981-2010)	Difference from Normal Value
41	POLIS CHRYSOCHOUS	32.7	33.4	-0.7	37.7	21.5	21.1	0.4	18.1	0.0	0.1	-0.1
82*	PAFOS (AIRPORT)	30.1	29.9	0.2	31.5	21.9	20.6	1.3	18.9	0.0	0.2	-0.2
225	PRODROMOS (C.F.C.)	28.1	27.9	0.2	32.5	17.3	18.2	-0.9	13.0	11.0	16.4	-5.4
666*	ATHALASSA (RADIOSONDE)	36.5	37.1	-0.6	40.1	22.3	22.1	0.2	20.1	17.6	4.2	13.4
731	LARNAKA (AIRPORT)	32.2	32.5	-0.3	35.1	22.7	22.0	0.7	20.9	0.2	0.5	-0.3
800**	ACHNA (DASAKI)	31.2	33.2	-2.0	33.7	21.2	21.8	-0.6	19.0	0.0	0.1	-0.1

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

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

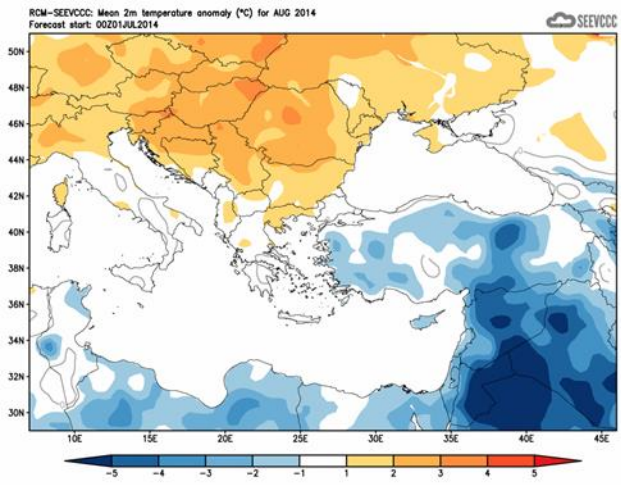
= VALUES FROM AUTOMATIC WEATHER STATION

On the precipitation chart (below) the recorded values of the accumulated precipitation of July, are presented with the area of Cyprus having a 3.7mm Area Average Accumulated Precipitation.

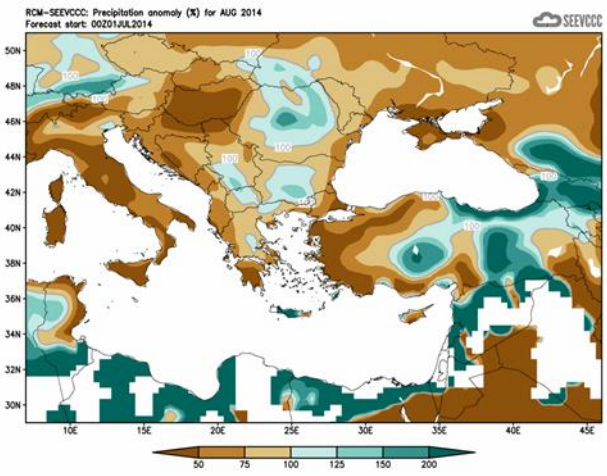


Validation of August's seasonal forecast for the area of Cyprus

The temperature seasonal forecast was suggesting that **August's** temperature would be lower (by 1° to 2°C) than normal in all the area. Accumulated precipitation would have being again lower than normal (50% - 75% of normal), in the greater part of the area except the western part where it would be around normal.



Divergence of the mean monthly temperature (^{o}C) from normal during August



Percentage of the mean monthly precipitation (%) compared with the normal of August

From the relevant information, kept in the data base of the Department of Meteorology, and the provisional temperature data recorded for **August 2014**, (table below) seems that the model performed, at least qualitatively, moderate.

Concerning the maximum temperature, and from what it is observed in the table below, the recorded temperatures where close to the normal. A deviation of -1.8°C was recorded over Achna station while the rest of the stations where ranging from -0.2 to 1.1°C. It worth's observing the extreme maximum temperature 41.1°C, recorded at Athalassa station. Similar or less extreme maximum values where recorded in all stations as a result of a heat wave lasted for several days during the last third of **August**. The deviation of the minimum temperature was ranging from -0.2 to 1.2°C but it worth's observing the extreme low over Prodromos station departing almost 4°C from normal.

Regarding the accumulated precipitation it is observed that Prodromos recorded precipitation well above normal while other stations recorded zero. Prodromos precipitation was a result of thundery activity (a very isolated weather phenomenon), which is among **August's** characteristics.

TEMPERATURE AND PRECIPITATION PROVISIONAL DATA FOR AUGUST 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	33.5	33.3	0.2	38.1	22.0	21.5	0.5	19.7	0.0	0.0	0.0
82*	PAFOS (AIRPORT)	31.6	30.5	1.1	33.8	23.1	21.1	2.0	21.3	0.0	0.0	0.0
225	PRODROMOS (C.F.C.)	28.4	28.0	0.4	33.2	17.9	18.1	-0.2	14.2	29.0	12.0	17.0
666*	ATHALASSA (RADIOSONDE)	37.5	36.9	0.6	41.1	23.1	21.9	1.2	21.5	0.3	1.8	-1.5
731	LARNAKA (AIRPORT)	32.7	32.9	-0.2	37.4	23.5	22.3	1.2	21.9	0.6	0.3	0.3
800**	ACHNA (DASAKI)	31.7	33.5	-1.8	34.8	22.1	22.0	0.1	20.0	0.0	0.1	-0.1

* 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

On the precipitation chart (below) the recorded values of the accumulated precipitation of August, are presented, with the area of Cyprus having a 4.5mm Area Average Accumulated Precipitation.