

# Medium-Range Forecast Bulletin for the Eastern Mediterranean for weather with characteristics above the expected normal

## An updated overview of the situation concerning the total precipitation for the 2019-2020 hydrological year (1/10/2019 till today)

Time of issue: 20/3/2020

**Time of validity: 20/3/2020 till 31/3/2020**

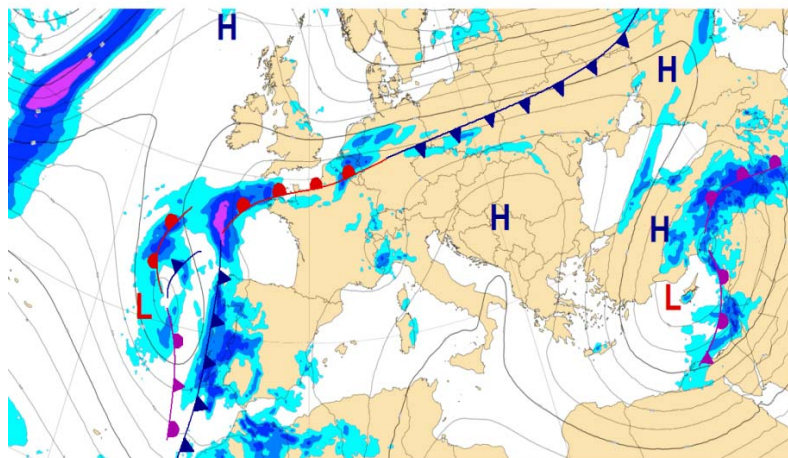
### **1. Medium-Range Forecast Bulletin for the Eastern Mediterranean for weather with characteristics above the expected normal**

According to the directive 202004-u1 of the Climate Watch Advisory Group of the World Meteorological Organisation (WMO), the weather forecast for above normal precipitation and the cold wave that causes a temperature drop in the Eastern Mediterranean region, is extended until 31 March. More specifically, it is forecasted that there will occur a total precipitation 10-30% above the expected normal, locally perhaps even higher, with a probability of more than 90% for the first week and 80% for the second week.

The mean daily temperature is expected to drop 3-6 degrees Celsius over inland areas and 2-4 degrees at coastal areas. Furthermore, among the expected weather features, mention is made of the likelihood of locally extreme rainfall or thunderstorms leading to temporary flash floods, strong wind gusts and days with widespread dust in the atmosphere.

#### **Weather Overview for the Forecast Period**

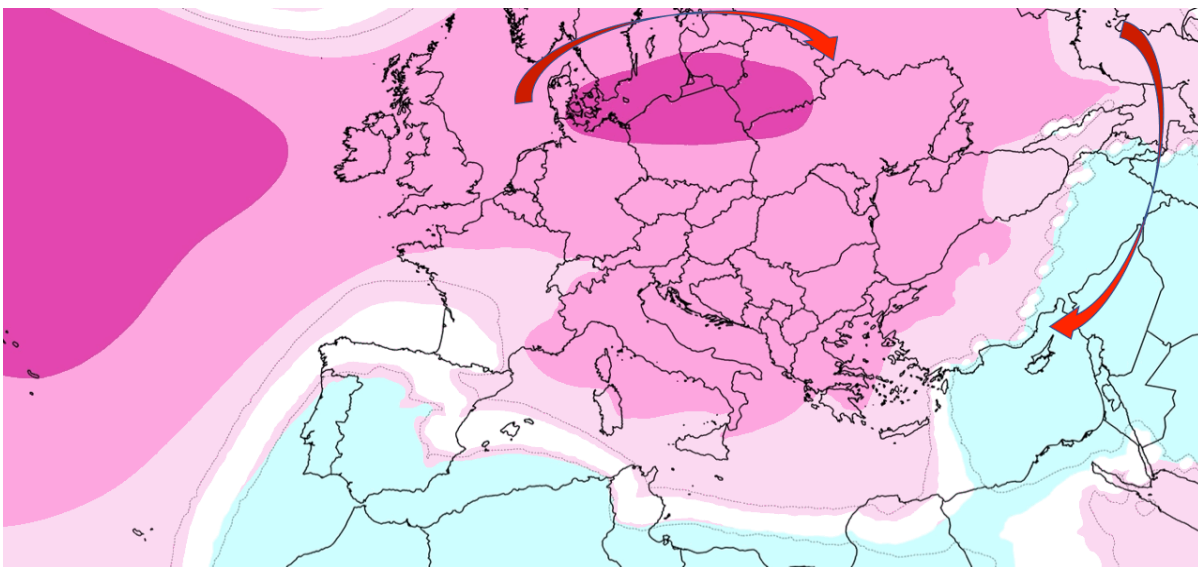
The synoptic scale conditions of the weather that prevail currently in the upper troposphere, are summarized by the following upper air chart at the 300hPa level (about 10km above mean sea level), valid on the 20/3/2020, where one may observe the particular atmospheric conditions over the Eastern Mediterranean. Note the cut-off cold air mass remaining stagnant roughly at the same place, stimulating the creation of a barometric low system at the surface.



Upper Air Weather chart for the 300hPa level with the distribution of surface barometric systems and precipitation areas, on the 20 March, 12:00 (local time)

The following week the Azores Anticyclone will be extending overly more towards the northeast, over central and north Europe, resulting in the creation of an extensive area of high pressure, which will be driving cold air from the arctic regions towards the eastern Mediterranean. This cold air mass on the surface, in conjunction with the favourable conditions in the upper troposphere, will stimulate the appearance of surface low pressure systems which will be the cause of the increased expected precipitation, as mentioned above.

The following chart depicts the distribution of surface pressure in relation to the norm. In red shades are the positive deviations (higher than normal) and with blue the negative deviations. The elongated arrows indicate the course of movement of the cold air masses towards the eastern Mediterranean region.



*Chart indicating the deviation of the mean surface pressure from normal from 19 to 25/3/2020, as well as, the advancement of cold air towards the eastern Mediterranean*

## **2. An overview of the up to date situation akin to precipitation till 20/3/2020**

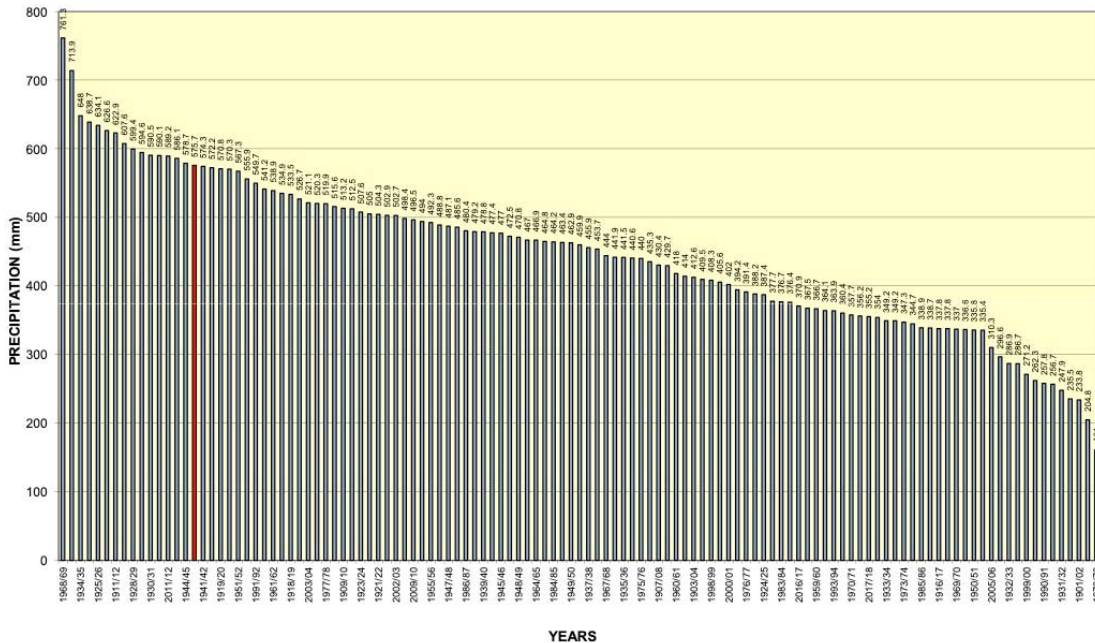
According to preliminary records, the total precipitation for the first six months since the beginning of the hydrological year i.e. from 1/10/2020 to 20/3/2020 (08:00 am), is 575.7mm, a figure that corresponds to 132% of the normal average.

The following table indicates the precipitation ranking of the hydrological half-years since 1901, i.e. considering only the first six months of each year. As of 20/3/2020, the current hydrological year ranks 16<sup>th</sup>.

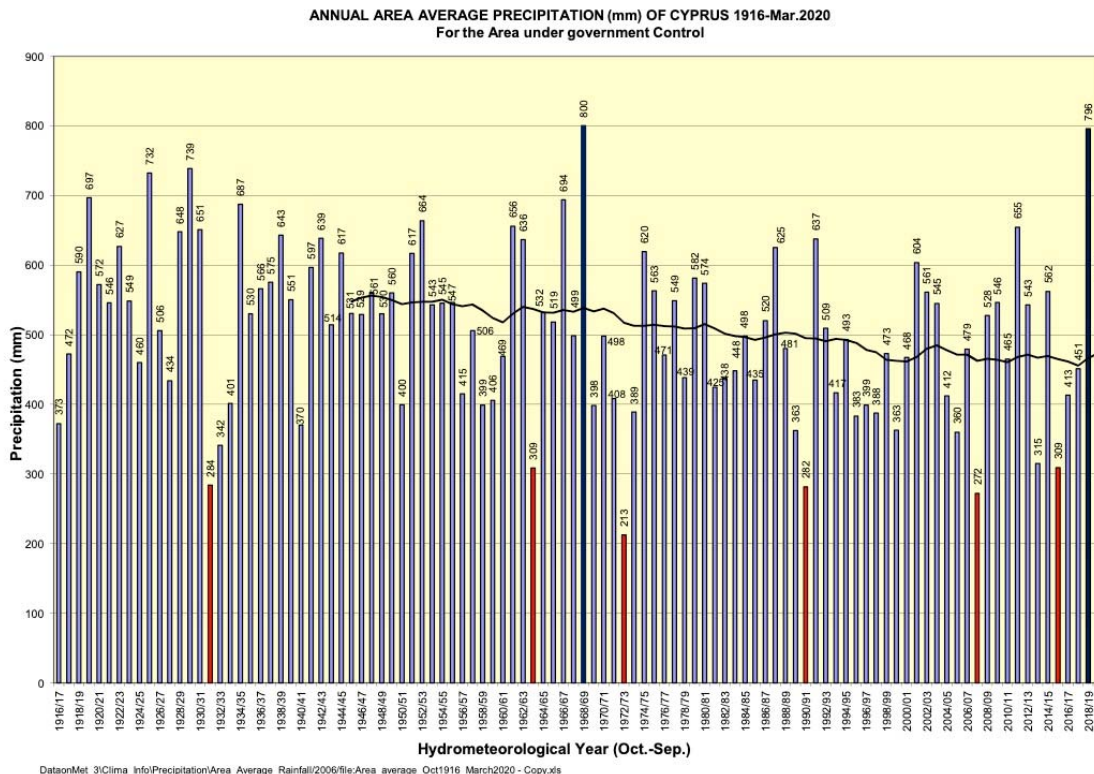
HYDROL. YEAR	Oct	Nov	Dec	Jan	Feb	Mar	Total Oct - Mar	RANK
1968/69	41.6	161.9	205.9	205.0	13.3	133.6	761.3	1
2018/19	55.9	52.4	179.1	200.0	141.3	85.2	713.9	2
1934/35	33.5	19.5	252.1	159.9	127.9	55.1	648.0	3
1904/05	46.5	162.9	117.0	115.7	124.1	72.5	638.7	4
1925/26	53.1	35.8	84.0	235.9	88.4	136.9	634.1	5
1929/30	55.0	53.8	204.8	178.8	103.0	31.2	626.6	6
1911/12	25.3	36.6	292.9	128.9	88.7	50.5	622.9	7
1938/39	44.8	30.3	152.1	134.6	115.5	130.3	607.6	8
1928/29	32.2	120.1	133.7	108.5	182.3	22.6	599.4	9
1952/53	19.5	76.0	207.0	119.9	77.4	94.8	594.6	10
1930/31	25.1	55.9	156.2	151.1	127.0	75.2	590.5	11
1966/67	26.4	98.2	125.3	92.1	103.8	144.3	590.1	12
2011/12	14.5	80.5	117.2	238.4	99.4	39.2	589.2	13
1906/07	7.7	89.6	160.4	127.5	101.1	99.8	586.1	14
1944/45	58.4	46.8	217.5	126.6	90.2	39.2	578.7	15
2019/20	61.4	18.7	204.4	166.7	69.0	55.5	575.7	16

In the following diagram is indicated in descending order the precipitation ranking of each hydrological half-year, i.e. taking into account only the first six months (October-March) of each year. In red is the position of this year's March as of the 19<sup>th</sup>.

AREA AVERAGE PRECIPITATION (mm) IN CYPRUS IN DESCENDING ORDER  
 October-March (1901-2020 (until 19/03))  
 (For the area under Government Control)



The next diagram highlights this year's precipitation amount (as of March 19) in relation to the total precipitation for each hydrological year since 1916.



It is worth noting that, according to preliminary data possessed by the department of Meteorology, the Kyperounta station received a total daily rainfall amount of 102.9mm on the 12 March, 2020. This constitutes a record amount since it is the highest ever recorded in March, since the establishment of that station back in 1968.