

RELAZIONE METEOCLIMATICA ED ATTIVITA ANNESSE AL PROGETTO RURITAGE

July 2020

The CENTRAL MONTH OF THE METEOROLOGICAL SUMMER 2020 was characterized by a prevalence of stable weather, determined by a persistent presence of the Atlantic anticyclone, with rare and concentrated unstable passages, especially in its central part. In the last few days, alone, the northward expansion of the African anticyclone has resulted in a moderate heat wave. The thermal climate was generally mild with strong diurnal temperature variations, especially in the first decade.

The first week of the month was the most variable, given the prevalence of Atlantic wet currents which, undulating moderately, produced short showers in the afternoon on days 3 and 4.

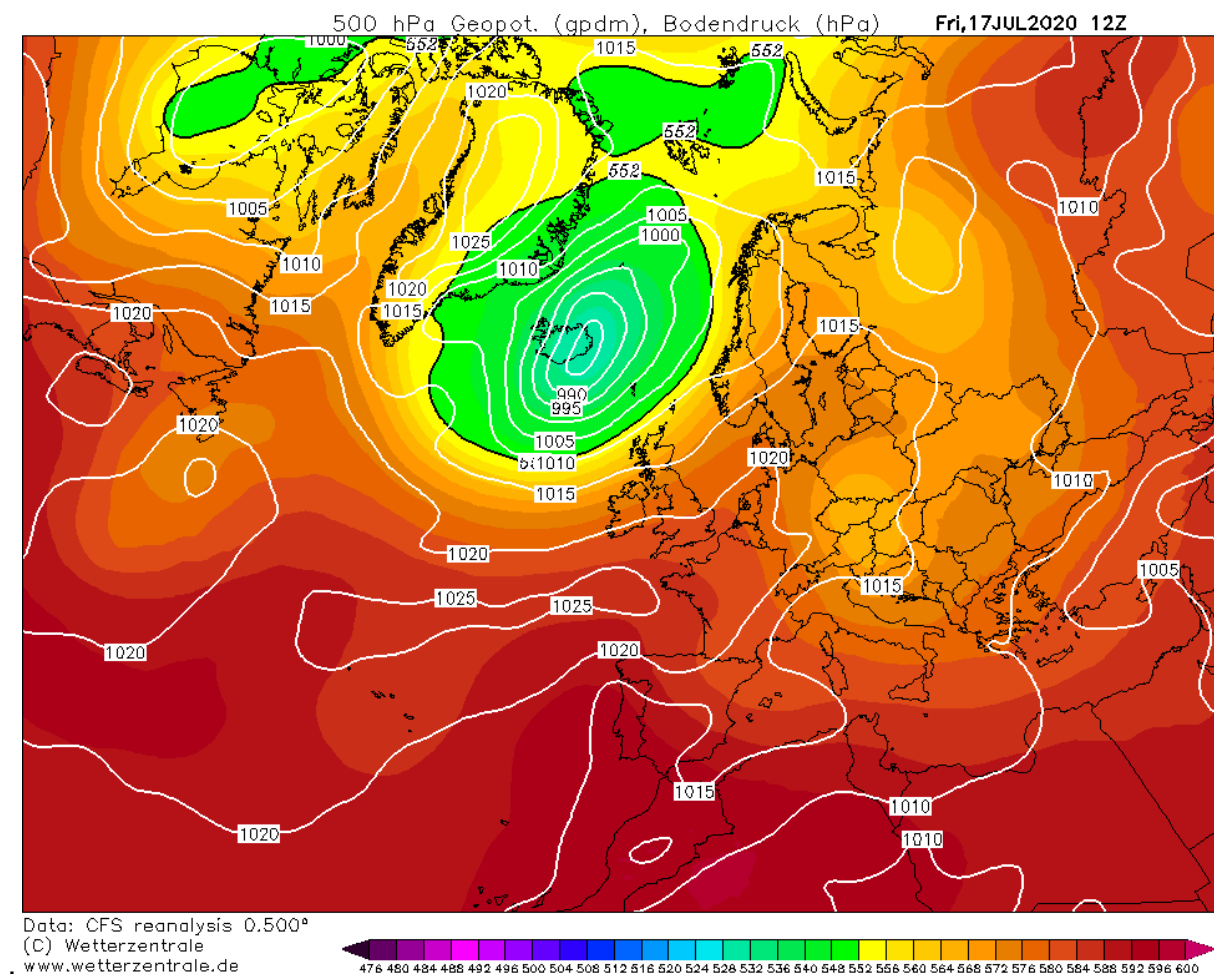


Figure 1 ground pressures and geopotential at 500 hPa referring to 12Z of July 17th

From day 7 to day 12, the Atlantic anticyclone gradually strengthens, bringing conditions of decisive atmospheric stability, with cool nights and bald but torrid days. From the 13th, the undulations of the jet stream become deeper and around the 15th a cavity is created which determines an atmospheric destabilization. The passage of two associated perturbations causes moderate precipitations, which between the 16th and the 17th determine sum of just under 20 mm - compared to the total monthly 35 mm (fig. 1).

The thermal climate remains "below average" until the 21st when the African anticyclone begins to expand northwards. It causes a rapid overheating of the soil so that a mild cold passage at high altitude destabilizes the atmosphere on the 24th, causing intense storms. Finally, the last week of the month presents conditions of intense and sultry heat, with the first peaks of heat above 35 ° C and often hot nights (figs. 2 and 3).

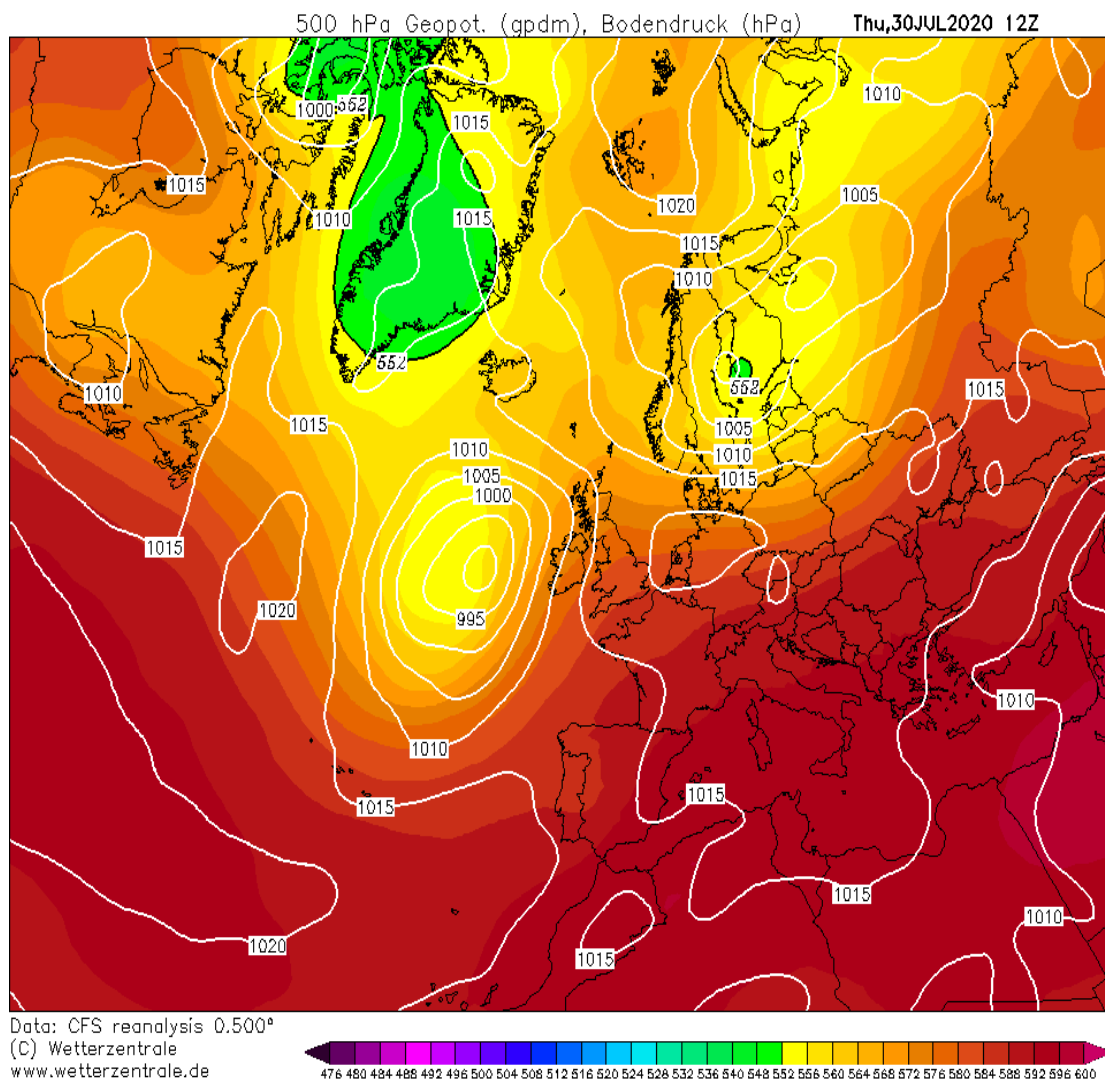


Figure 2 – – ground pressures and geopotential at 500 hPa referring to 12Z of July 30th

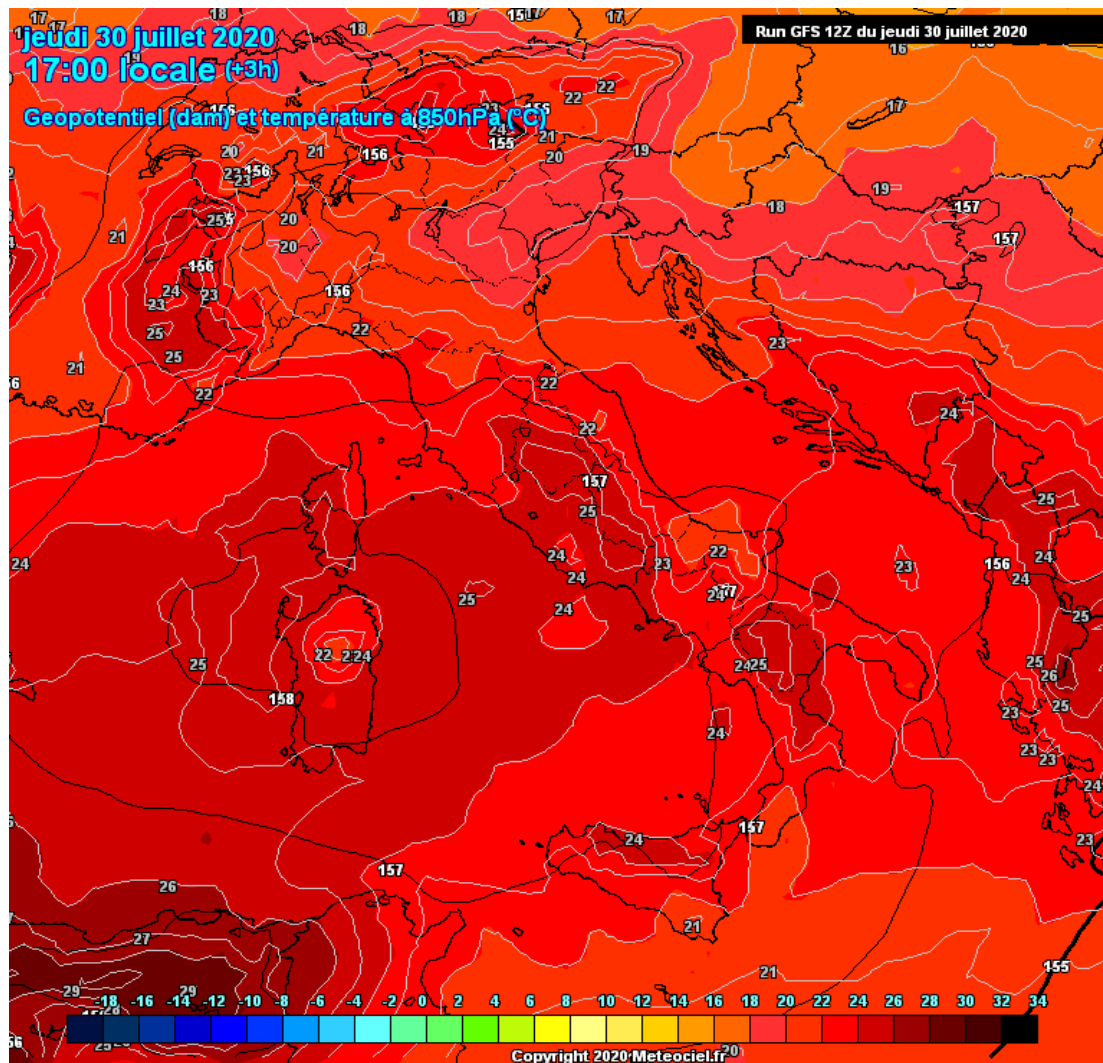


Figura 3 -- field pressure and temperatures and 850 hPa geopotential referring to 12Z of July 30th

From the analysis of the complete thermometric data (Table 1), it is clear that the average monthly temperature was about 23.6 ° C; the minimum of 17.2 ° C and the maximum of 30. ° C; consequently the monthly temperature range was around 12.8 ° C. Hot days were 14, very hot ones only 2 as well as tropical nights.

From the comparison with the average values for the thirty-year CLINO 1981-2010 for the Ascoli Piceno station, we can see an almost perfect identity of the values, even in the presence of an overall more continental signal, given that the minimum con was a degree more low of the average and the maximums above the average climatic values of one degree.

On the other hand, if we compare the data with those concerning the last fifteen years for the same Brecciarolo station, as happened for the month of June, a much more significant lower value than the average emerges - of over 2.5 ° C - 23.6 Vs 26.2 ° C.

With regard to precipitation, the signal was characterized by a moderate meteoric deficit - about 30% (35 mm Vs 45 mm of climatic average) with precipitation distributed over 5 days (average 5.4 days). There were only two stormy days but without intense associated meteoric phenomenologies.

Table 1 and figure 4 show daily climatic data with the respective monthly averages and the relative thermo-pluviometric graph

Y	M	D	Tmin	Av T	Tmax	Prec. mm	RD	TS	HotD	Trnig	
2020		7	1	20	26,2	32,4	0				
2020		7	2	18,8	25,2	31,5	0				
2020		7	3	19,2	25,6	32	3,4 *				
2020		7	4	18,7	22,5	26,2	1 *				
2020		7	5	15,8	22,5	29,1	0				
2020		7	6	16,6	23,6	30,6	0		*		
2020		7	7	17,1	21,7	26,2	0				
2020		7	8	13,9	20,8	27,6	0				
2020		7	9	15,1	22,3	29,5	0				
2020		7	10	17,9	24,9	31,9	0		*		
2020		7	11	17,5	25,7	33,9	0		*		
2020		7	12	19,4	23,1	26,8	0				
2020		7	13	15	20,8	26,5	0				
2020		7	14	14,4	20,3	26,2	0				
2020		7	15	13,8	20,3	26,7	0				
2020		7	16	14,6	21,8	28,9	13 *	*			
2020		7	17	17,1	21,1	25,1	4,6 *				
2020		7	18	14,7	20,0	25,3	0,8				
2020		7	19	13,2	20,0	26,7	0				
2020		7	20	14	22,2	30,4	0		*		
2020		7	21	18,3	25,7	33	0		*		
2020		7	22	19,3	26,3	33,2	0		*		
2020		7	23	20,1	25,4	30,6	0		*	*	
2020		7	24	18,5	25,6	32,6	12,2 *	*	*		
2020		7	25	17,5	22,8	28	0				
2020		7	26	16,6	23,8	31	0		*		
2020		7	27	17,2	24,6	32	0		*		
2020		7	28	19,6	26,1	32,5	0		*		
2020		7	29	19,7	26,9	34	0		*		
2020		7	30	22,3	28,6	34,8	0		*	*	
2020		7	31	19	27,6	36,1	0		*		
average				17,2	23,6	30,0	35	5	2	14	2
av.81-18				18,1	23,5	29	45	5,2			
av 03-19					26,2						

Table 1 – Daily summary of weather data available for December 2018. LEGEND: AvTmin: minimum temperature; AvTmed: average temperature: AvTmax: maximum temperature; prec mm: daily precipitation; RD= rainy days> 1mm; TS: Thunderstorms; Hd: hot days (with Tmax≥30°C). Trnig: ,tropical night; (with Tmin>20°C)

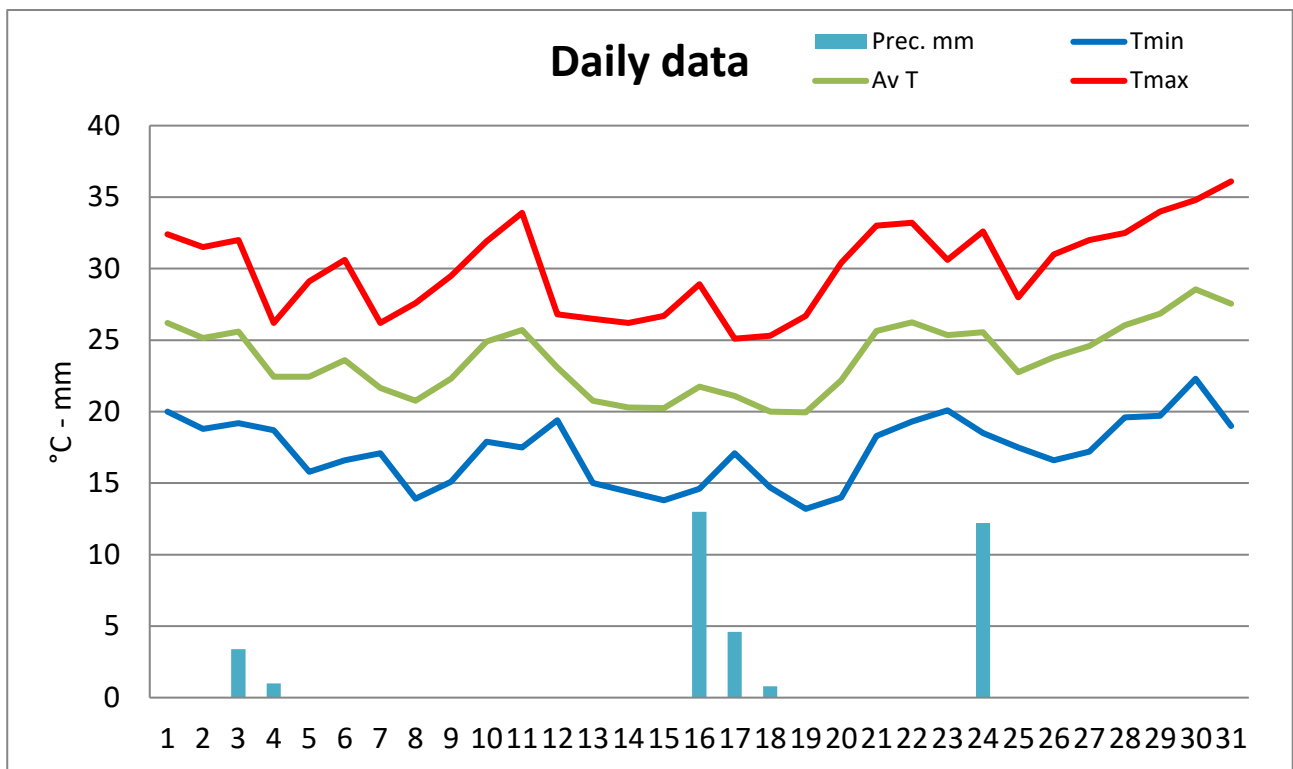


Figure 4 – graph of thermo- meteoric daily data