

# METEOCLIMATIC REPORT

February 2020

The winter meteorological season 2020 finish, highlighting persistent conditions of almost absolute lack of rainfall in a thermal context completely above the thirty-year climate averages. Even the month of February showed decidedly stable atmospheric characters, with rare disturbed passages and remarkable thermometric mildness, quantitatively confirmed also by the low number of frost days.

Also in this month, a modest or no ripple of the polar vortex was observed with associated poor heat exchanges between polar and subtropical areas (fig. 1) and extremely positive conditions of NAO and AO. In particular, on day 24, the **AO index managed to reach its historical peak since observations were made on this parameter, with a value of +6.34.** (fig. 2) Atlantic perturbations continued to follow more northern trajectories than the Mediterranean latitudes and there was no advection of intermediate or continental polar air masses (return from the east) harbingers of cold and perturbed or unstable weather conditions.

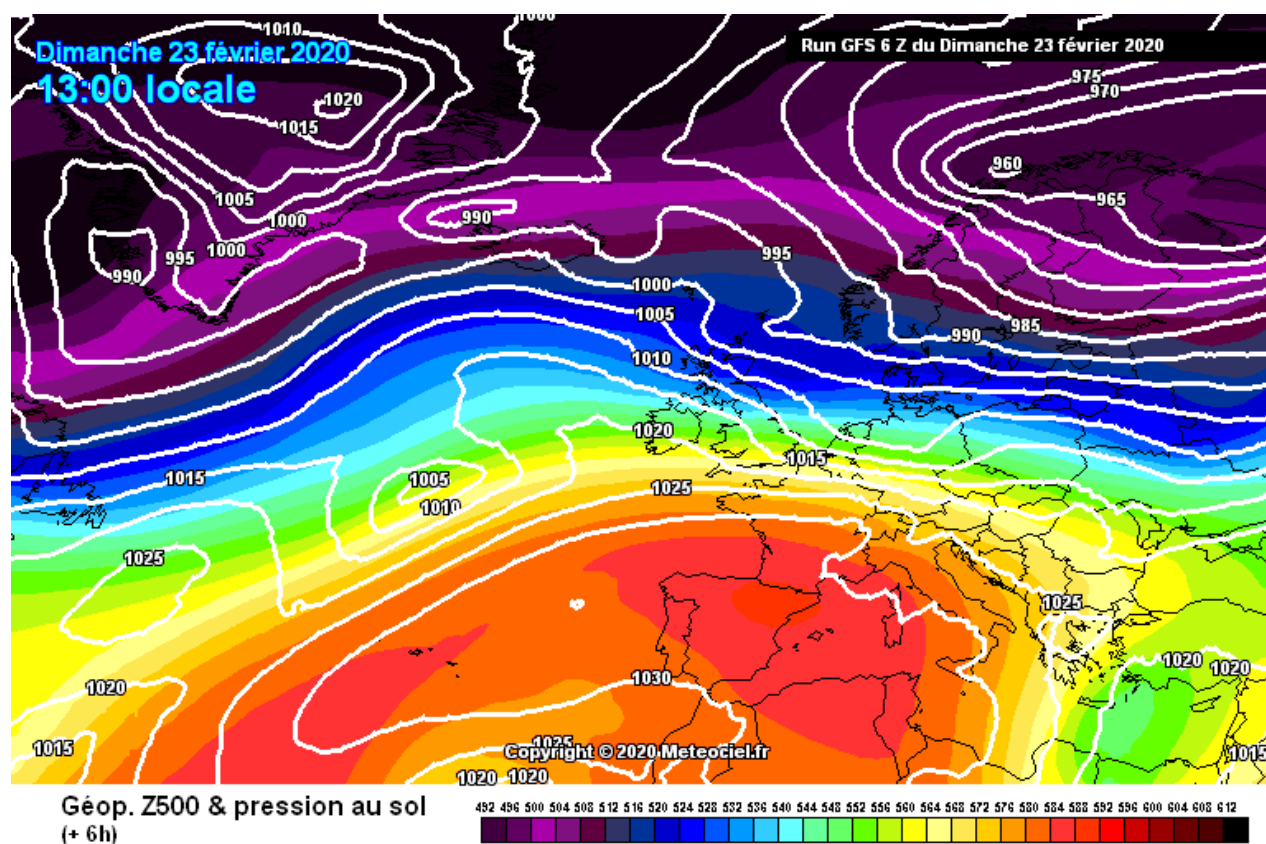
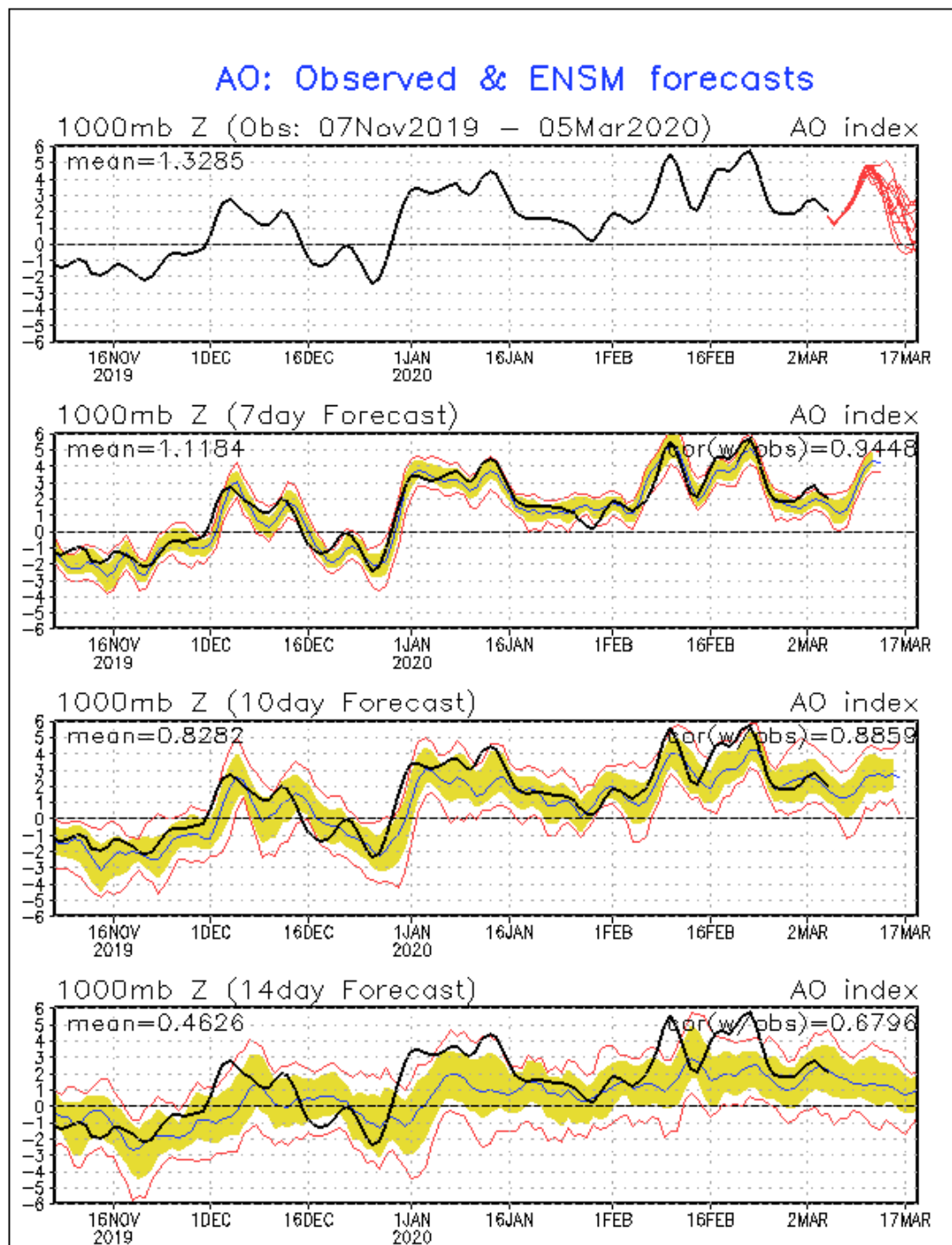


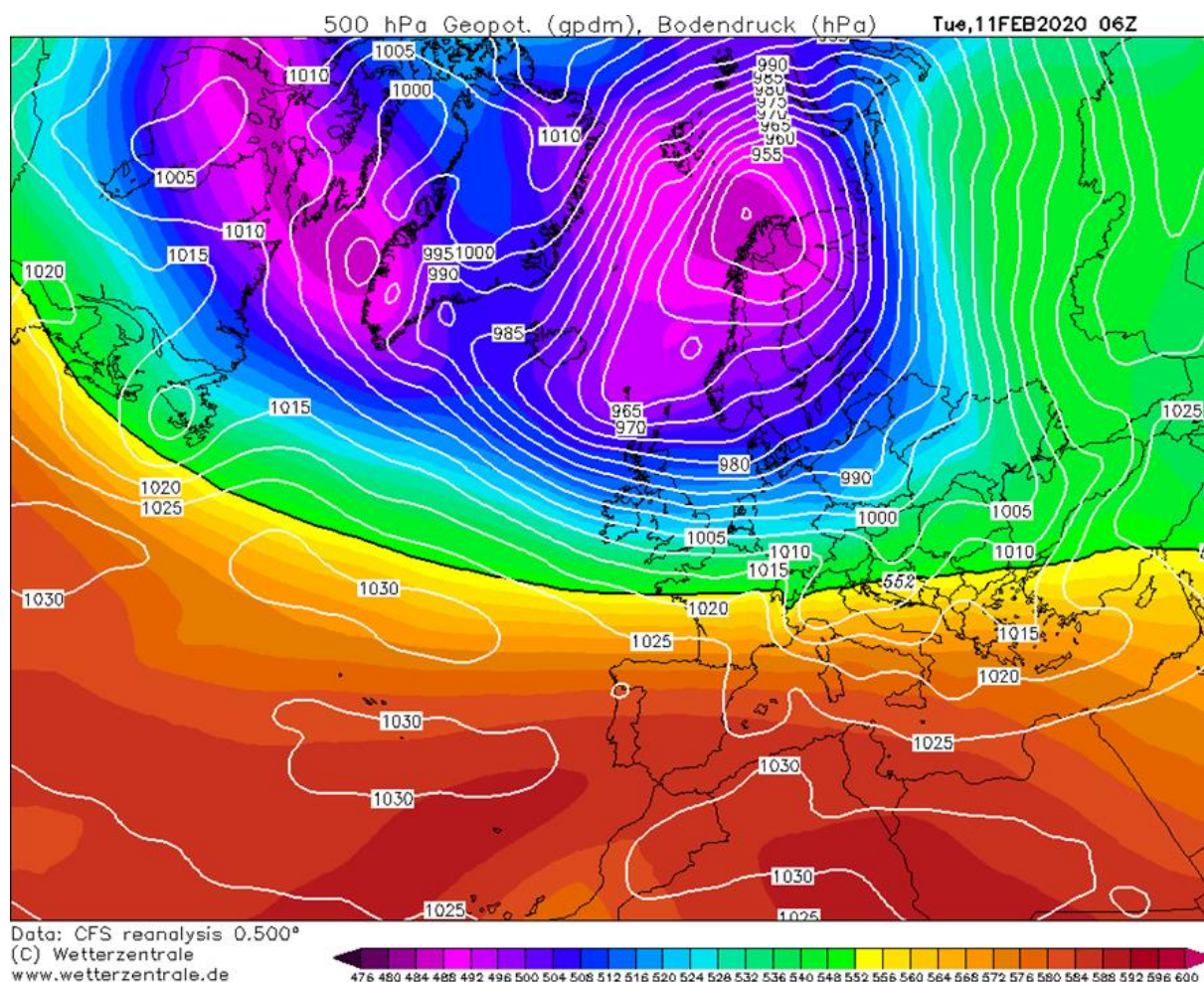
Figure 1 - ground pressures and geopotential at 500 hPa referring to 6Z on February 23th



**Figure 2** - quarterly evolution of the AO index (source CMC - NOAA)

Obviously, what is striking on a purely climatic level is the very strong average daytime temperature range, with overall cold nights but with extremely hot days, more typical of the second half of March.

The repeated westerly, often intense, has sometimes taken on the character of "falling winds", with obvious and decisive increases in temperatures, in particular minimum temperatures, as occurred on day 11, with a minimum close to 17 ° C, compared a value of 2 ° C on the previous day (figures 3 and 4 and table 1)



**Figure 3** - ground pressure and geopotential 500 hPa, relating to the 06Z of February 11th

From the analysis of the complete **thermometric data** (tab.1), it is clear that the average monthly temperature was about 10 °, the minimum one of 2.8 ° C and **the maximum one of 17.1 ° C - statistically exceptional value**; as a consequence, the extremely high monthly temperature range was around 14.5 ° C.

From the comparison with the average values for the thirty years CLINO 1971-2000 for the Ascoli Piceno station, there is a thermal surplus of about 3 ° C with minimums even slightly lower than the average but **with maximums above it of more than 6 ° C** ( 17.1 Vs 10.8 ° C).

On the other hand, if you compare the data with those for the last fifteen years for the Brecciarolo station itself, there is a thermal surplus contained at around 0.7 ° C.

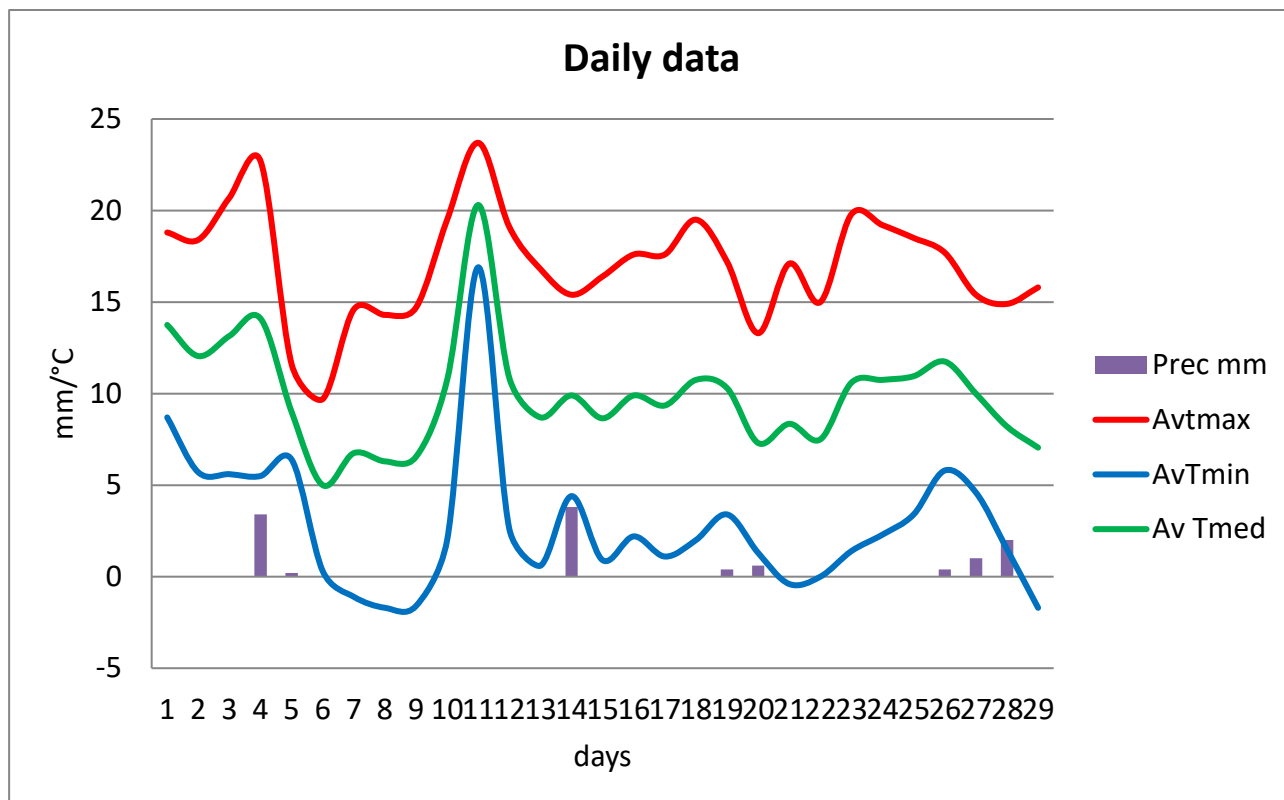
With regard to **rainfall**, as happened for the month of January, the monthly accumulation has slightly exceeded 10 mm (11.8 mm) distributed over 4 days with precipitation (with cumulative > 1mm); the average meteoric intensity is about 2.6 mm / day

Referring to the climatic average of the monthly accumulations for the meteorological station of Ascoli Piceno - of about 64 mm - a very strong deficit emerges, with obvious repercussions on the water availability s.l. (recharge of surface layers, refills of artificial reservoirs and fossil layers in the mountains, etc.).

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

Year	Month	Day	AvTmin	Av Tmed	Avtmax	Prec mm	RD	SD	ID
2020	2	1	8,7	13,8	18,8	0			
2020	2	2	5,7	12,1	18,4	0			
2020	2	3	5,6	13,2	20,7	0			
2020	2	4	5,5	14,1	22,7	3,4 *			
2020	2	5	6,4	9,0	11,6	0,2			
2020	2	6	0,3	5,0	9,7	0			
2020	2	7	-1,1	6,8	14,6	0			*
2020	2	8	-1,7	6,3	14,3	0			*
2020	2	9	-1,6	6,6	14,7	0			*
2020	2	10	2,0	10,8	19,5	0			
2020	2	11	16,9	20,3	23,7	0			
2020	2	12	2,6	10,9	19,1	0			
2020	2	13	0,6	8,7	16,8	0			
2020	2	14	4,4	9,9	15,4	3,8 *			
2020	2	15	0,9	8,7	16,4	0			
2020	2	16	2,2	9,9	17,6	0			
2020	2	17	1,1	9,4	17,6	0			
2020	2	18	2,0	10,8	19,5	0			
2020	2	19	3,4	10,3	17,2	0,4			
2020	2	20	1,3	7,3	13,3	0,6			
2020	2	21	-0,4	8,4	17,1	0			*
2020	2	22	0,0	7,5	15,0	0			*
2020	2	23	1,4	10,6	19,8	0			
2020	2	24	2,3	10,8	19,2	0			
2020	2	25	3,4	11,0	18,5	0			
2020	2	26	5,8	11,8	17,7	0,4			
2020	2	27	4,6	10,0	15,4	1 *			
2020	2	28	1,5	8,2	14,9	2 *			
2020	2	29	-1,7	7,1	15,8	0			*
AVER			2,8	10,0	17,1	11,8	4		6
AVER 81-10			3,4	7,1	10,8	54			
AVER 03-18				9,3					

**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; Id: frost days (tmin>0°C); sd = snowy days



**Figure 4** – graph of thermo- meteoric daily data