

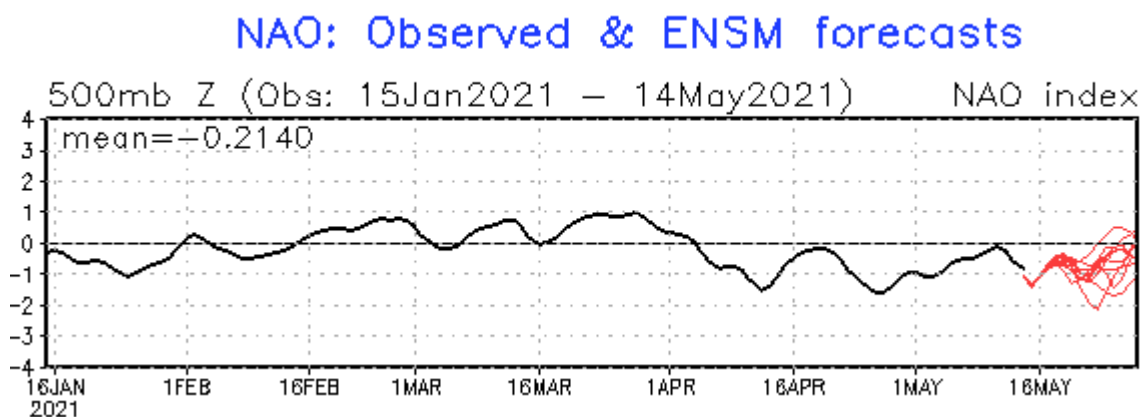
METEOCLIMATIC REPORT AND ACTIVITIES ANNEXED TO THE RURITAGE PROJECT

APRIL 2021

As happened for all the first months of 2021, April showed a “sub-average” thermal connotation to the point of being quantified as THE COLDEST OF THE NEW MILLENNIUM but with scarce rainfall.

The NAO signal remained almost constantly negative despite even significant fluctuations, which temporarily determined a neutral or slightly positive signal as at the beginning of the month. (fig.1)

Figure 1 - standardized monthly NAO signal



As just highlighted, the temperatures remained significantly below - by more than two degrees - the thirty-year seasonal averages - and by over 3°C compared to those of the last fifteen years; the difference was similar for the minimum and maximum values and there was even one day of frost (day 8) and several days with night temperatures below 5°C. With regard to the meteoric picture, the monthly cumulative approached 30 mm, compared to 5 rainy days and 2 days with precipitation <1mm.

The monthly atmospheric dynamics was characterized by a modest activity of the polar front, only occasionally sufficient to produce noteworthy rainfall. In reality, there were only five - however very rhythmic over time - the front passages capable of producing precipitation never exceeding 8 mm, a more stable time with temperatures gradually increasing until reaching decidedly high values at the end of the month. Obviously, however, it is necessary to analyze in detail the first decade of the month, characterized first by an "anomalous heat" for the season, with maximum temperatures reached of 25°C in the first two days

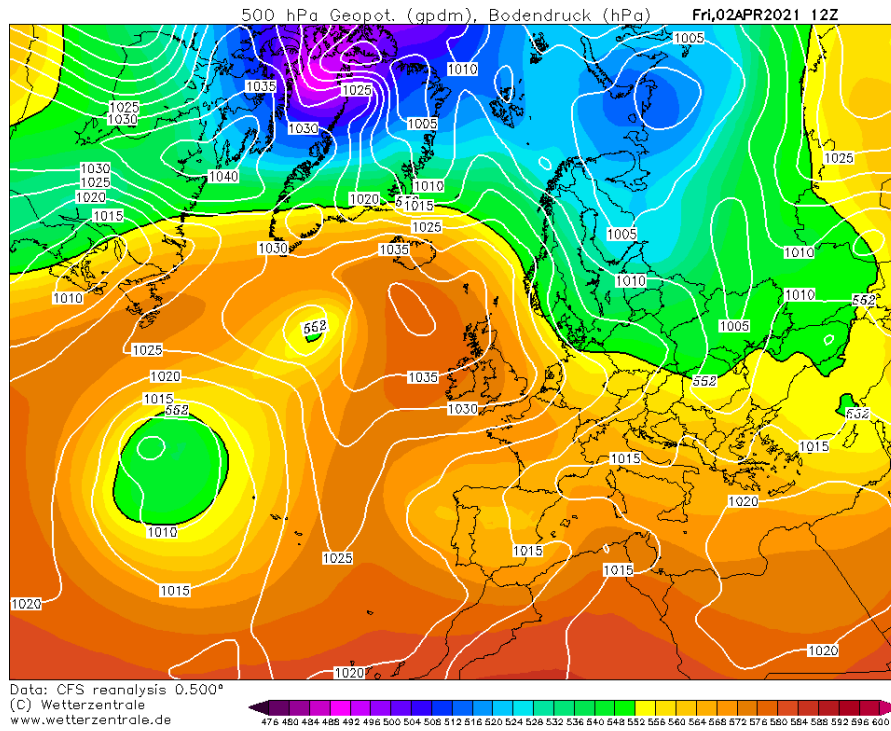


Figure 2 - 500 hPa ground and geopotential map, relative to 12Z on April 2th

(fig.2), caused by the first seasonal expansion towards the north of the subtropical anticyclone, which was followed by a baric subsidence caused by the advection of posthumous cold air to the passage of two weak frontal systems attached to a deep trough centered on the Arctic Ocean. (fig. 3)

The result was an incipient and strong thermal drop, with the maximum temperatures, which on the 7th day were around 9°C, and with the minimum, the following night dropped to -0.5°C. (fig. 4)

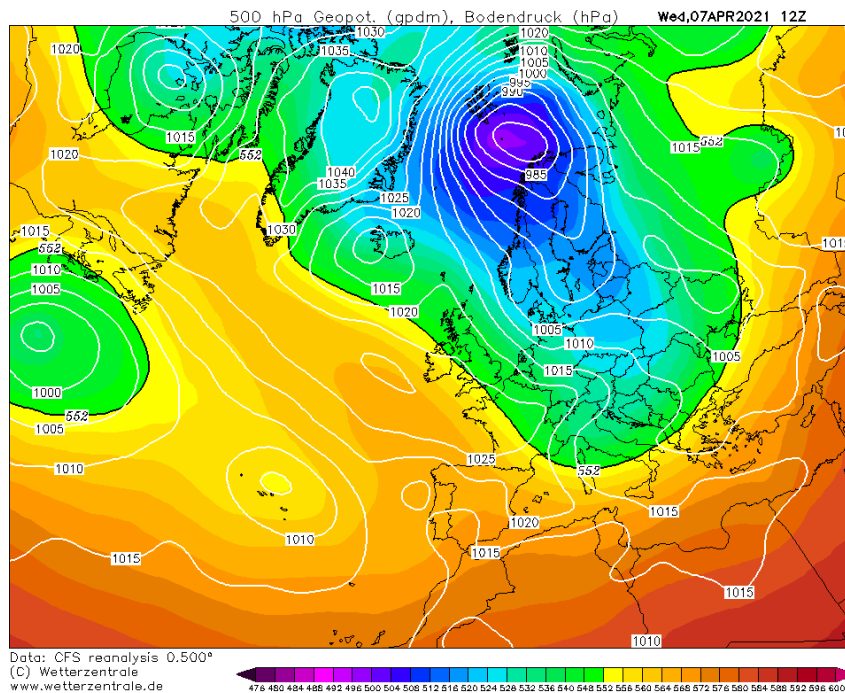


Figure 3 - ground map and geopotential 500 hPa, related to 12AM on april 7th

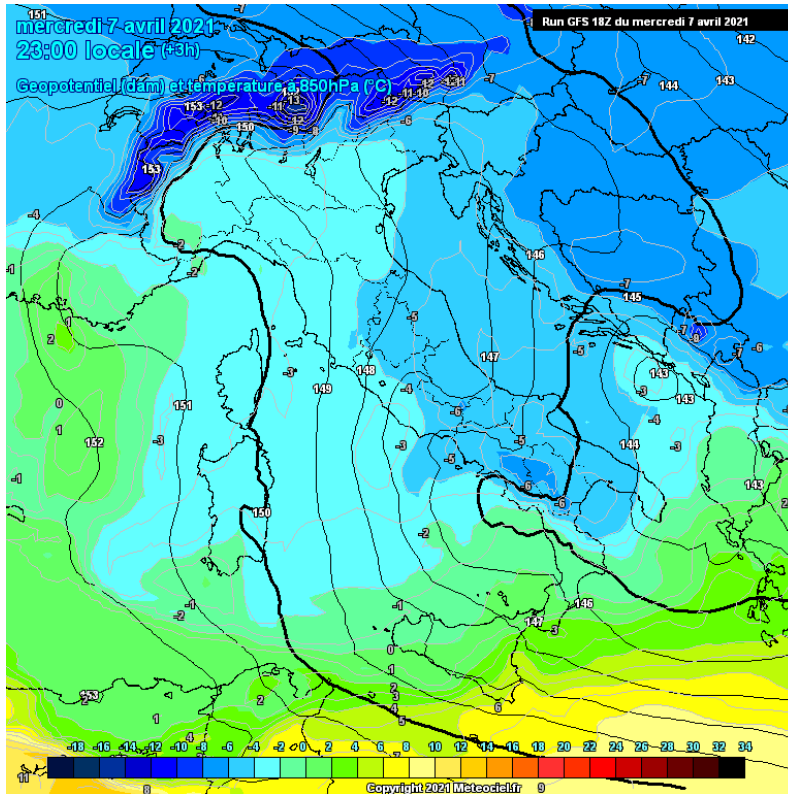


Figure 4 - temperature and geopotential 850 hPa, relative to 23Z on April 7th

Following this advection of Arctic air, temperatures, albeit with obvious fluctuations, slowly began to rise again but did not reach the values of the first two days of the month even at its end.

From the analysis of the complete thermometric data (table 1 and figure 5), it can be observed that the average monthly temperature was about 11.4°C, the average minimum and maximum respectively of 6°C and 16.8°C ; consequently the average daily temperature range was found to be about 11°C - a few tenths of a degree higher than the climatic average - about 10.6°C.

The absolute minimum temperature was -0.5°C on day 8 while the absolute maximum was recorded on day 2, with 25.1°C. Compared to the monthly climatological average calculated for the meteorological station of Ascoli Piceno and relating to the period 1981-2018 - of about 13.6°C, - a decided negative difference of about 2.2°C is observed, slightly higher in the maximum values (2,3°C) compared to the minimum ones - just over two degrees. If we consider the monthly average data of the last fifteen years and related to the station under analysis, the thermal deficit amounts to over three degrees.

With regard to rainfall, the monthly cumulative, as previously highlighted, reached 26 mm distributed over 5 days with cumulative liquid or equivalent from the solid > 1mm. Considering a

monthly climatic average referred to the Ascoli Piceno weather station is about 97 mm, the monthly cumulative recorded shows a deficit in the cumulative of more than 70%.

Figure 5 and Table 1 show the thermo-pluviometric graph and the daily climatic data with the respective monthly averages.

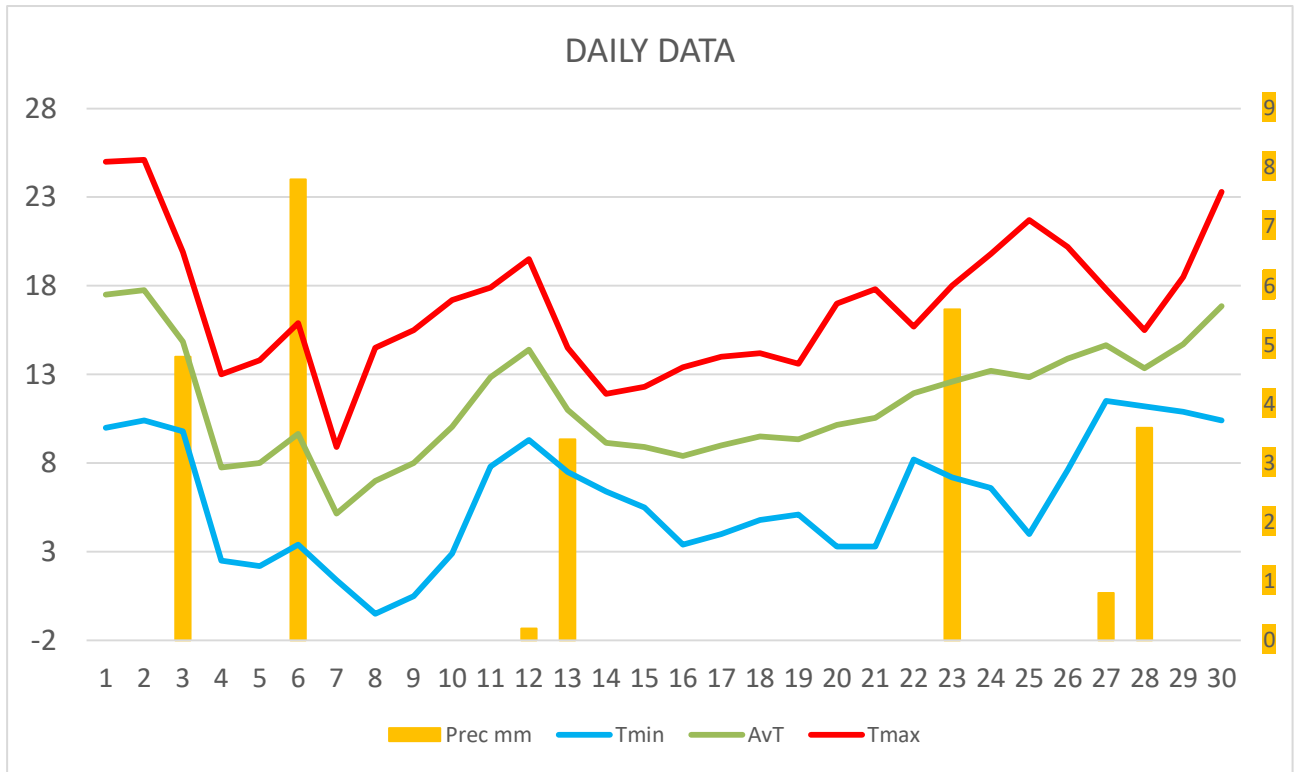


Figure 5 - meteo - climatic daily data

Y	M	D	Tmin	AvT	Tmax	Prec mm	RA	TS	ID
2021		4	1	10	17,5	25	0		
2021		4	2	10,4	17,8	25,1	0		
2021		4	3	9,8	14,9	19,9	4,8 *		
2021		4	4	2,5	7,8	13	0		
2021		4	5	2,2	8,0	13,8	0		
2021		4	6	3,4	9,7	15,9	7,8 *		
2021		4	7	1,4	5,2	8,9	0		
2021		4	8	-0,5	7,0	14,5	0		
2021		4	9	0,5	8,0	15,5	0		
2021		4	10	2,9	10,1	17,2	0		
2021		4	11	7,8	12,9	17,9	0		
2021		4	12	9,3	14,4	19,5	0,2		
2021		4	13	7,5	11,0	14,5	3,4 *		
2021		4	14	6,4	9,2	11,9	0		
2021		4	15	5,5	8,9	12,3	0		
2021		4	16	3,4	8,4	13,4	0		
2021		4	17	4	9,0	14	0		
2021		4	18	4,8	9,5	14,2	0		
2021		4	19	5,1	9,4	13,6	0		
2021		4	20	3,3	10,2	17	0		
2021		4	21	3,3	10,6	17,8	0		
2021		4	22	8,2	12,0	15,7	0		
2021		4	23	7,2	12,6	18	5,6 *		
2021		4	24	6,6	13,2	19,8	0		
2021		4	25	4	12,9	21,7	0		
2021		4	26	7,6	13,9	20,2	0		
2021		4	27	11,5	14,7	17,8	0,8		
2021		4	28	11,2	13,4	15,5	3,6 *		
2021		4	29	10,9	14,7	18,5	0		
2021		4	30	10,4	16,9	23,3	0		
AV			6,0	11,4	16,8	26,2	5	1	1
AV81-18			8,3	13,6	18,9	97	9		
AV 03-19				14,9					

Table 1 – daily summary of available meteorological data. LEGEND: Tmin: minimum temperature; AvT: average temperature; Tmax: maximum temperature; prec. mm: daily precipitation; monthly sum of total precipitation; RA: days with precipitation > 1mm, TS: days with thunderstorms; ID: day with Tmin<0°C