



MRU Earth Watch

(Experimental) Weather Report 1
August 2007 – December 2007

Weather Station 1: EarthPod
(Macerata Area, Marche Region, Italy)



Weather Station set-up and site outlook

The Weather Station is an automated Davis VantagePro2 Wireless Weather Station allocated at the heart of a varying countryside of low rolling hills, on the top of an elongated hill, at the “contrafforti” of Central Marche Appenines in the province of Macerata. Due to installation constraints, the station is not directly pointed to the direction of the very strongest winds beating the area, although the rather more protected site is evaluated as not a confound on the logged readings.

The station is firmly anchored at the ground and operates at the height of about 2 meters from the base of the field, isolated from the ground-based liquid humidity of the agricultural field by a plastic sheet. The station is provided with an independent solar-panel energy source, a Lithium battery for cloud-cover days and co-operates with an independent wireless receiving station located inside a building, in safe weather conditions, also providing at-a-glance weather data and forecasts to local farmers.

Data are downloaded and analyzed on site on a MRU land-unit specialized PC Workstation with Dual Monitor called EarthPod, which also gives the name to the measuring station and measuring site. The station is capable of running for months in a fully independent manner without requiring any external intervention, besides long-term data download on the PC.



Figure 1: EarthPod Weather Station, external component – the Station Manager Marco invites you on and around this amusing measurement site :-)

About the data

The following reports are based on the NOAA monthly-based summarization standard of weather data (using variables related to air temperature, wind, and precipitation). Just below we provide a commented legend of the reported weather-related value for a better understanding of the charts.

Header information

Column 1 (DAY): Day of the month
Column 2 (MEAN TEMP): Mean temperature of the day
Column 3 (HIGH): Maximum temperature of the day
Column 4 (TIME): Time of maximum temperature of the day
Column 5 (LOW): Minimum temperature of the day
Column 6 (TIME): Time of minimum temperature of the day
Column 9 (RAIN): Precipitation of the day (in mm)
Column 10 (AVG WIND SPEED): Average wind speed for the day
Column 11 (HIGH): Maximum wind speed for the day
Column 12 (TIME): Time of maximum wind speed of the day
Column 13 (DOM DIR): Dominant wind direction

The bottom line reports the extreme values according to the variable being represented (mean temperature for the month, maximum temperature for the month, etc.).

Other data have been left out of these quick reports, such as humidity and barometric pressure, but they are freely available from MRU upon email request.

August 2007

MONTHLY CLIMATOLOGICAL SUMMARY for AUG. 2007

NAME: EarthPod_Weather CITY: Macerata, Marche Region (Area) STATE: Italy
 ELEV: 420 m LAT: LONG:

TEMPERATURE (°C), RAIN (mm), WIND SPEED (km/hr)

DAY	MEAN		TIME	LOW	TIME	HEAT	COOL	RAIN	AVG		TIME	DOM
	TEMP	HIGH				DEG	DEG		WIND	DIR		
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23	18.8	21.1	18.30	17.7	00.00	0.0	0.1	0.0	0.6	8.0	18.30	NNW
24	20.5	23.3	13.00	17.2	5.00	0.1	1.6	0.0	1.3	17.7	13.00	ENE
25	24.4	28.5	14.00	16.6	7.00	0.0	4.1	0.0	1.9	16.1	11.00	NNW
26	26.1	28.5	15.00	20.7	8.00	0.0	4.2	0.0	2.7	19.3	16.00	NNW
27	27.1	31.4	15.00	20.1	6.00	0.0	4.7	0.0	2.3	19.3	18.00	E
28	30.8	34.4	16.00	22.8	8.00	0.0	7.3	0.0	1.4	16.1	20.00	NE
29	30.2	34.7	15.00	25.4	4.00	0.0	6.0	0.0	3.5	35.4	14.00	NNW
30	29.4	34.9	14.00	22.1	00.00	0.0	8.8	0.0	4.0	33.8	10.00	NNW
31	20.0	22.7	2.00	16.2	22.00	0.3	1.4	2.4	2.1	24.1	14.00	NNW
	25.2	34.9	30	16.2	31	0.5	38.2	2.4	2.2	35.4	29	NNW

September 2007

MONTHLY CLIMATOLOGICAL SUMMARY for SEP. 2007

NAME: EarthPod_Weather CITY: Macerata, Marche Region (Area) STATE: Italy
 ELEV: 420 m LAT: LONG:

TEMPERATURE (°C), RAIN (mm), WIND SPEED (km/hr)

DAY	MEAN		TIME	LOW	TIME	HEAT	COOL	RAIN	AVG		TIME	DOM
	TEMP	HIGH				DEG	DEG		WIND	DIR		
1	17.9	21.3	16.00	15.4	7.00	0.6	0.4	0.4	4.0	29.0	14.00	NNW
2	21.8	22.9	14.00	16.0	23.00	0.0	1.3	0.0	3.2	22.5	16.00	NNW
3	21.5	27.0	16.00	14.9	8.00	0.0	0.8	0.0	1.9	30.6	00.00	N
4	16.3	21.3	1.00	11.9	12.00	2.0	0.6	5.6	7.7	41.8	4.00	NNW
5	14.1	15.8	13.00	9.6	7.00	1.2	0.0	0.8	4.0	48.3	19.00	NNW
6	13.9	16.4	14.00	11.3	4.00	1.3	0.0	0.0	2.3	24.1	4.00	N
7	17.8	19.7	16.00	12.9	10.00	0.5	0.2	0.0	1.4	11.3	13.00	NNW
8	18.1	22.1	11.00	13.9	8.00	0.1	0.1	0.0	0.5	11.3	9.00	S
9	26.5	26.5	15.00	25.4	13.00	0.0	0.3	0.0	0.5	8.0	15.00	NE
10	---	---	---	---	---	0.0	0.0	0.0	0.5	8.0	20.00	W
11	---	---	---	---	---	0.0	0.0	0.0	1.3	22.5	8.00	N
12	---	19.4	18.00	19.2	18.00	0.0	0.0	0.0	0.8	19.3	18.00	E
13	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	---	---
14	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	---	---
15	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	---	---
16	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	---	---
17	25.2	27.8	15.00	21.7	17.00	0.0	1.2	0.8	1.0	25.7	15.00	SE
18	24.8	28.4	15.00	21.3	20.00	0.0	2.2	0.8	3.4	33.8	16.00	S
19	15.7	17.7	10.00	13.3	21.00	1.0	0.0	1.6	1.4	16.1	10.00	NNW
20	13.8	16.0	15.00	10.5	23.00	1.9	0.0	0.2	2.9	25.7	15.00	NNW
21	15.0	17.5	14.00	11.1	00.00	1.6	0.0	0.0	3.2	22.5	14.00	NNW
22	15.8	20.2	16.00	10.0	7.00	1.8	0.1	0.0	1.4	14.5	11.00	WSW
23	16.1	21.1	14.00	11.7	6.00	2.7	0.5	0.0	1.6	17.7	16.00	SW
24	16.7	22.3	16.00	12.5	7.00	2.3	0.7	0.0	1.4	14.5	12.00	W
25	16.8	22.3	15.00	12.2	7.00	2.3	0.8	0.0	2.4	17.7	16.00	SSW
26	16.2	19.9	13.00	13.6	6.00	1.8	0.1	1.0	3.7	40.2	00.00	S
27	15.4	18.8	14.00	11.7	21.00	2.9	0.0	5.8	6.8	38.6	14.00	S
28	14.3	18.2	16.00	10.9	6.00	3.6	0.0	4.0	7.9	46.7	6.00	S
29	15.4	18.7	16.00	12.4	2.00	2.4	0.0	0.0	3.7	33.8	4.00	S
30	16.1	21.0	14.00	12.6	6.00	2.5	0.4	0.0	1.4	16.1	15.00	SSW
	17.6	28.4	18	9.6	5	32.5	9.7	20.9	2.3	48.3	5	NNW

October 2007

MONTHLY CLIMATOLOGICAL SUMMARY for OCT. 2007

NAME: EarthPod_Weather CITY: Macerata, Marche Region (Area) STATE: Italy
 ELEV: 420 m LAT: LONG:

TEMPERATURE (°C), RAIN (mm), WIND SPEED (km/hr)

DAY	MEAN		TIME	LOW	TIME	HEAT	COOL	RAIN	AVG		TIME	DOM
	TEMP	HIGH				DEG	DEG		WIND	DIR		
1	15.9	20.3	15.00	12.3	7.00	2.5	0.3	0.0	1.8	14.5	12.00	WSW
2	17.2	21.7	15.00	13.8	7.00	1.4	0.6	0.0	0.8	11.3	16.00	NNW
3	18.5	23.2	15.00	15.2	5.00	0.9	1.0	0.0	0.8	11.3	13.00	SW
4	21.1	27.6	14.00	17.0	2.00	0.1	2.1	0.0	1.4	14.5	13.00	SW
5	23.0	27.7	15.00	17.9	6.00	0.0	3.3	0.0	1.4	25.7	00.00	SW
6	17.5	22.0	16.00	15.6	00.00	0.5	0.2	13.2	1.0	19.3	18.00	NE
7	14.0	15.8	1.00	12.3	23.00	3.4	0.0	1.0	5.3	29.0	13.00	NNW
8	13.7	16.4	15.00	11.6	6.00	2.1	0.0	0.0	0.5	8.0	2.00	NNW
9	15.1	16.7	13.00	11.0	7.00	1.1	0.0	0.0	1.1	14.5	13.00	NNW
10	13.8	14.8	15.00	13.0	3.00	1.7	0.0	0.0	1.6	14.5	12.00	NNW
11	12.0	12.0	15.00	11.4	16.00	0.3	0.0	3.2	0.3	16.1	15.00	WNW
12	14.0	16.9	14.00	11.4	9.00	2.9	0.0	0.0	1.0	14.5	16.00	NNW
13	14.0	18.3	15.00	11.6	6.00	4.1	0.0	0.0	1.6	17.7	17.00	SSW
14	11.4	14.8	15.00	7.7	00.00	6.9	0.0	0.0	2.6	19.3	15.00	WNW
15	10.4	14.9	14.00	6.7	7.00	7.9	0.0	0.0	1.4	16.1	16.00	SSW
16	11.3	16.7	15.00	7.3	8.00	7.0	0.0	0.0	1.1	11.3	13.00	SW
17	12.6	17.6	14.00	8.7	8.00	5.7	0.0	0.0	1.3	14.5	18.00	S
18	14.6	21.1	15.00	8.2	00.00	4.1	0.4	3.4	3.2	35.4	23.00	NNW
19	9.2	12.2	12.00	7.0	23.00	8.7	0.0	0.6	5.3	29.0	11.00	SSW
20	4.7	7.7	1.00	2.3	23.00	13.6	0.0	6.6	3.1	30.6	13.00	NNW
21	3.9	4.9	9.00	2.6	2.00	14.4	0.0	3.8	3.2	30.6	23.00	NNW
22	5.3	6.6	00.00	4.3	7.00	13.0	0.0	18.0	9.8	38.6	10.00	NNW
23	7.6	9.7	16.00	6.1	22.00	10.7	0.0	0.6	1.3	11.3	1.00	NNW
24	8.5	10.6	14.00	6.6	1.00	9.8	0.0	0.2	1.1	9.7	14.00	NNW
25	9.6	12.8	15.00	6.7	8.00	8.7	0.0	7.2	2.4	19.3	15.00	WSW
26	11.3	14.7	16.00	9.9	5.00	5.5	0.0	3.6	1.0	16.1	18.00	SW
27	11.0	11.5	9.00	10.7	2.00	0.3	0.0	0.0	0.2	9.7	10.00	SW
28	11.9	13.2	15.00	10.8	8.00	0.5	0.0	0.0	0.2	4.8	14.00	NNW
29	12.3	14.6	12.00	9.9	22.00	4.3	0.0	0.0	1.4	16.1	14.00	S
30	11.4	12.5	19.00	9.9	6.00	6.8	0.0	10.8	2.7	19.3	12.00	S
31	10.8	12.6	1.00	10.1	00.00	5.6	0.0	14.2	3.7	24.1	10.00	NNW
12.5	27.7	5	2.3	20	154.5	7.9	86.4	2.1	38.6	22	NNW	

November 2007

MONTHLY CLIMATOLOGICAL SUMMARY for NOV. 2007

NAME: EarthPod_Weather CITY: Macerata, Marche Region (Area) STATE: Italy
 ELEV: 420 m LAT: LONG:

TEMPERATURE (°C), RAIN (mm), WIND SPEED (km/hr)

DAY	MEAN		TIME	LOW	TIME	HEAT	COOL	RAIN	AVG		TIME	DOM
	TEMP	HIGH				DEG	DEG		WIND	DIR		
1	9.4	10.6	1.00	8.7	18.00	6.6	0.0	0.4	3.2	20.9	14.00	NNW
2	9.6	11.3	13.00	8.1	19.00	3.6	0.0	0.0	3.2	20.9	2.00	NNW
3	10.4	13.5	14.00	7.9	00.00	4.6	0.0	0.0	1.1	16.1	14.00	NNW
4	10.2	13.4	14.00	7.4	7.00	8.1	0.0	0.0	1.8	19.3	11.00	SSW
5	8.6	11.0	13.00	4.8	00.00	9.7	0.0	0.0	2.7	20.9	10.00	SSE
6	7.9	11.1	15.00	3.8	6.00	10.4	0.0	0.0	0.6	19.3	16.00	SSW
7	9.4	12.9	13.00	4.6	7.00	8.9	0.0	0.0	3.1	30.6	00.00	S
8	12.3	15.2	13.00	10.7	5.00	6.0	0.0	0.0	5.8	37.0	00.00	NNW
9	9.7	14.1	14.00	1.3	22.00	8.6	0.0	28.2	7.7	53.1	22.00	WNW
10	8.2	11.1	14.00	3.2	1.00	10.1	0.0	0.0	6.1	40.2	20.00	NNW
11	11.6	13.5	12.00	9.3	1.00	6.7	0.0	0.0	12.4	53.1	20.00	NNW
12	9.4	14.9	11.00	4.7	00.00	8.8	0.0	0.0	5.6	35.4	14.00	NNW
13	6.4	10.2	13.00	3.8	6.00	11.9	0.0	0.0	1.6	16.1	00.00	S
14	4.2	8.6	3.00	0.2	15.00	14.1	0.0	31.6	2.9	27.4	6.00	NNW
15	4.2	6.0	11.00	2.9	7.00	14.1	0.0	0.6	3.9	35.4	11.00	NNW
16	3.5	5.1	13.00	1.8	00.00	14.8	0.0	1.8	3.2	22.5	13.00	E
17	1.9	2.8	3.00	0.8	19.00	16.4	0.0	7.4	5.5	29.0	13.00	NNW
18	2.5	3.3	22.00	1.8	11.00	15.8	0.0	0.2	2.6	19.3	12.00	NNW
19	3.9	6.6	15.00	2.5	00.00	14.4	0.0	0.0	1.4	16.1	13.00	NNW
20	4.9	9.3	14.00	2.0	4.00	13.3	0.0	0.0	1.1	11.3	11.00	SW
21	6.6	9.9	13.00	3.3	5.00	11.8	0.0	0.0	1.6	17.7	20.00	SSW
22	7.7	10.5	11.00	4.4	8.00	10.6	0.0	0.0	2.6	22.5	16.00	S
23	11.3	14.6	12.00	8.6	8.00	7.0	0.0	0.0	0.6	9.7	3.00	SW
24	10.7	13.0	14.00	9.1	5.00	7.6	0.0	1.4	1.4	14.5	17.00	SSW
25	13.2	16.0	13.00	10.4	1.00	5.1	0.0	0.0	4.5	33.8	19.00	S
26	10.9	15.7	13.00	7.2	00.00	7.4	0.0	0.0	3.9	27.4	11.00	NNW
27	7.6	11.1	14.00	5.7	7.00	10.7	0.0	0.0	7.6	30.6	11.00	S
28	6.1	9.6	12.00	3.5	23.00	12.2	0.0	0.0	7.1	32.2	11.00	S
29	5.2	7.7	12.00	3.2	6.00	13.1	0.0	0.0	2.4	11.3	11.00	S
30	5.6	9.7	13.00	3.1	8.00	12.7	0.0	0.0	1.3	9.7	12.00	SSW
	7.8	16.0	25	0.2	14	305.2	0.0	71.6	3.6	53.1	9	NNW

December 2007

MONTHLY CLIMATOLOGICAL SUMMARY for DEC. 2007

NAME: EarthPod_Weather CITY: Macerata, Marche Region (Area) STATE: Italy
 ELEV: 420 m LAT: LONG:

TEMPERATURE (°C), RAIN (mm), WIND SPEED (km/hr)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	7.9	11.6	13.00	3.9	1.00	10.4	0.0	0.0	1.6	17.7	16.00	SSW
2	11.6	13.9	12.00	9.2	4.00	6.8	0.0	0.0	5.8	64.4	00.00	S
3	10.9	12.9	11.00	9.1	00.00	7.4	0.0	5.8	9.3	66.0	8.00	S
4	8.2	11.5	13.00	5.3	00.00	10.1	0.0	0.0	3.7	32.2	13.00	NNW
5	6.4	9.2	13.00	4.2	7.00	11.9	0.0	0.0	0.6	11.3	13.00	SSW
6	7.0	9.7	14.00	4.6	1.00	11.3	0.0	0.0	1.1	9.7	6.00	S
7	9.4	13.7	11.00	5.7	2.00	8.8	0.0	7.6	7.9	54.7	11.00	S
8	7.6	11.9	3.00	5.4	20.00	10.7	0.0	13.4	8.7	41.8	15.00	NNW
9	6.7	9.9	12.00	4.3	7.00	11.6	0.0	6.0	5.3	57.9	14.00	S
10	6.9	10.4	12.00	3.2	5.00	11.4	0.0	0.2	3.5	33.8	6.00	NE
11	4.6	6.2	1.00	3.1	23.00	13.7	0.0	0.2	0.8	14.5	13.00	N
12	4.1	6.2	12.00	0.5	3.00	14.2	0.0	2.6	4.5	35.4	00.00	NW
13	5.2	6.2	12.00	3.7	20.00	13.1	0.0	1.4	8.2	29.0	4.00	N
14	1.8	4.2	1.00	-0.9	00.00	16.5	0.0	0.0	6.1	40.2	14.00	SE
15	-1.7	0.2	12.00	-4.2	7.00	20.0	0.0	2.0	3.2	30.6	13.00	NNW
16	-0.3	2.1	12.00	-2.6	9.00	18.6	0.0	4.0	1.3	19.3	23.00	SSE
17	1.8	3.5	10.00	0.4	00.00	16.5	0.0	4.0	1.4	16.1	12.00	S
18	0.2	0.7	23.00	-0.2	17.00	18.1	0.0	0.6	2.1	20.9	14.00	NNW
19	0.8	2.8	13.00	-0.1	2.00	17.5	0.0	5.8	0.6	9.7	2.00	NW
20	3.4	7.9	12.00	0.5	2.00	14.9	0.0	4.2	0.2	8.0	13.00	WSW
21	4.4	10.3	11.00	2.6	6.00	6.4	0.0	0.0	0.0	4.8	2.00	SSW
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
5.1	13.9	2	-4.2	15	269.9	0.0	57.8	3.6	66.0	3	NNW	



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