

## **Title**

Continuous meteorological observations at Bacoli weather station (Campi Flegrei, Italy) during Jan. 2020 - Dec. 2020 period.

## **Authors**

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## **Abstract**

Weather monitoring is ongoing since 2013 in a network of three sites located in the Campi Flegrei volcanic area, near Naples (Italy) in the framework of the MONICA (Innovative Monitoring of Coastal and Marine Environment) Project. The aim of this activity is to acquire time series to analyze the influence of meteorological factors on geo-morphological coastal processes, such as cliff retreat, landslides and beach erosion. The uploaded dataset includes data (temperature, relative humidity, wind, barometric pressure and rain) acquired at the Bacoli automatic weather station (model: DAVIS Vantage Pro2 wireless) during the period Jan. 2020 – Dec. 2020. Automatic data transfer from the weather station to the ISMAR-CNR processing center of Naples is performed by an internet LAN connection.

## **Event**

Latitude: 40.792119 - Longitude: 14.077630

Elevation: 2 m a. s. l. - Location: Lake Miseno - Bacoli Harbor, Bacoli, Naples, Italy

Date/Time Start: 2020-01-18T00:00:00 - Date/Time End: 2020-12-31T23:50:00

Height above ground: 2 m (barometer) - 6 m (thermo-hygrometer, pluviometer) - 10 m (anemometer)

**Table 1:** Technical specifications of the sensors of the used weather station - model DAVIS Vantage Pro2 wireless (see also at <https://www.davisinstruments.com/support/vantage-pro2-wireless-stations/>).

Sensor	Parameter	Resolution and unit	Range	Accuracy	Update interval
thermometer	air temperature	0.1°C	- 40.0 to 65°C	+/- 0.3°C	10-12 seconds
hygrometer	relative humidity	1 %	1-100%	+/- 2%	1 minute
anemometer	wind speed	1 knot	1-173 knots	+/- 2 knots or 5%	3 seconds
anemometer	wind direction	1°	0-360°	+/- 3°	3 seconds
barometer	barometric pressure	0.1 hPa	540 - 1100 hPa	+/- 1 hPa	1 minute
pluviometer	rainfall amount	0.25 mm	0 – 999.8 mm	+/- 4%	20-24 seconds
pluviometer	rainfall rate	0.1 mm/h	0-2438 mm/h	+/- 5%	20-24 seconds

**Table 2:** Parameters list and characteristics.

<b>N</b>	<b>Parameter name</b>	<b>Short name</b>	<b>Unit</b>	<b>Sensor type</b>	<b>Description of measured parameter (comment)</b>
1	Date/Time	Date/Time			
2	Temperature	Temp	°C	Thermometer	Instantaneous value
3	Relative Humidity	RH	%	Hygrometer	Instantaneous value
4	Wind Speed	Wi-Sp	knot	Anemometer	Last 10 minutes average
5	Wind Direction	Wi-DD	Sector (360°/16)	Anemometer	Last 10 minutes prevalent direction of wind
6	High Wind Speed	HiWi-Sp	knot	Anemometer	Last 10 minutes maximum wind speed (gust)
7	High Wind Direction	HiWi-DD	Sector (360°/16)	Anemometer	Direction of maximum wind speed (gust) during last 10 minutes
8	Rainfall Amount	RF	mm	Pluviometer	Last 10 minutes cumulated rainfall amount
9	Rainfall Rate	RR	mm/h	Pluviometer	Last 10 minutes maximum instantaneous rainfall rate
10	Barometric Pressure	Bar	hPa	Barometer	Last 10 minutes average barometric pressure (adjusted to mean sea level)