

Title:

Meteorological data of Bacoli weather station (Phlegraean Fields, Naples, Italy) during Jan. 2019 – Dec.2019 period.

Authors

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Abstract

Weather data 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 geomorphological coastal processes, such as cliff retreat, landslides and beach erosion. The uploaded dataset includes data (temperature, rain, wind, barometric pressure and relative humidity) acquired at the Bacoli automatic weather station (model DAVIS Vantage Pro2 wireless) during the period Jan. 2019 – Dec. 2019. Automatic data transfer from the weather station to the ISMAR-CNR processing center of Naples is performed by an internet LAN connection.

Event:

Latitude: 40.792102 * Longitude: 14.077642

Elevation: 3 m a. s. l. * Location: Bacoli, close to Miseno Lake, Phlegraean Fields, Naples, Italy

Date/Time Start: 2019-01-01T00:10:00 * Date/Time End: 2019-12-31T23:50:00

HEIGHT above ground: 3 m (barometer) * 12 m (thermo-hygrometer, pluviometer) * 15 m (anemometer)

Table 1: Technical specifications of the sensors of the used meteorological station - model DAVIS Vantage Pro2 wireless (see 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	0.1 m/s	0.5-80 m/s	1 m/s 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 – 6553 mm	+/- 4%	20-24 seconds
Pluviometer	Rainfall rate	0.1 mm/h	0-2438 mm/h	+/- 5% < 127 mm/h	20-24 seconds

Table 2: Parameters list and characteristics.

N	parameter name	short name	unit	sensor type (method)	description of measured parameter (comment)
1	Date/Time	Date/Time			
2	Temperature	Temp	°C	Thermometer	Instant reading
3	Relative Humidity	RH	%	Hygrometer	Instant reading
4	Wind Speed	Wi-Sp	m/s	Anemometer	Last 10 min average
5	Wind Direction	Wi-DD	Sector (360°/16)	Anemometer	Last 10 min prevalent direction of wind
6	High Wind Speed	HiWi-Sp	m/s	Anemometer	Last 10 minutes maximum instantaneous wind speed (gust)
7	High Wind Direction	HiWi-DD	Sector (360°/16)	Anemometer	Direction of maximum instantaneous wind speed (gust) during last 10 minutes
8	Barometric pressure	Bar	hPa	Barometer	Instant reading, atmospheric pressure (adjusted to mean sea level)
9	Rainfall amount	RF	mm	Pluviometer	Last 10 min cumulated rainfall amount
10	Rainfall Rate	RR	mm/h	Pluviometer	Last 10 min maximum instantaneous rainfall rate