

Title

Continuous meteorological observations at Port of Naples weather station (Naples, Italy) during the period Jan.2021-Dec.2021.

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. To this three sites has been added a new monitoring site in the Port of Naples, to delimit to the east the overall monitoring area. The uploaded dataset includes data (temperature, relative humidity, wind, barometric pressure and rain) acquired at the Port of Naples automatic weather station (model: DAVIS Vantage Pro2 wireless) during the period Jan.2021-Dec. 2021. Automatic data transfer from the weather station to the ISMAR-CNR processing center of Naples is performed by an internet LAN connection.

Event

Latitude: 40.844182 - Longitude: 14.259871

Elevation: 12 m a. s. l. * Location: Port of Naples - Naples, Italy

Date/Time Start: 2021-01-01T00:00:00 * Date/Time End: 2021-12-31T23:50:00

HEIGHT above ground: 12 m (barometer) * 15 m (thermo-hygrometer, pluviometer) * 20 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	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.

N	parameter name	short name	unit	sensor type	description of measured parameter (comment)
1	Date/Time	Date/Time			
2	Temperature	Temp	°C	Thermometer	Instantaneous value
3	Relative Humidity	RH	%	Hygrometer	Instantaneous value
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 min 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 min
8	Barometric Pressure	Bar	hPa	Barometer	Last 10 min average 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