

A supervisionate classification approach of south-westerly wind regime causing severe weather over the Gulf of Genoa

L. Onorato (1), P. Gemelli (2), S. Gallino (3)

1. luca.onorato@arpal.org; ARPAL UO3 Centro Meteo Idrologico Regione Liguria - Dir. Scientifica - Via Brigate Partigiane, 2 16121 Genova (I)
2. gemelli@csaao.org; CSAAO – Centro Studi sull’Ambiente l’Atmosfera e l’Oceano – Genova, Italia
3. stefano.gallino@arpal.org; ARPAL UO3 Centro Meteo Idrologico Regione Liguria - Dir. Scientifica - Via Brigate Partigiane, 2 16121 Genova (I)

In previous works [1,2], two south-westerly wind regimes, associated to different fetch extensions over Liguria Sector, were analysed in order to collect a significant statistic for a supervised classification [3].

The first family of cases consists on a extended SW-flow (named Libeccio) over Provence, Corsica and Liguria Sector, due to the presence of an extended trough over Iberian Peninsula that produces an elevated offshore fetch (300 nm) and heavy sea condition in the Gulf of Genoa.

The second family is characterised by a south-westerly flow with a limited fetch (150 mn), generated by Mistral and a secondary cyclogenesis; the higher values of wind speed are restricted offshore Liguria Sector and Cape Corse.

In both situations the low level winds can reach higher intensity near the coast thanks to local effects or disposition of coastal line (Capo Mele, Bocche Bonifacio, Cape Corse ecc).

By means of data buoy and wave model output (WAM from ECMWF), we found that useful information can be obtain by analyzing the energetic JONSWAP spectra in order to obtain a suitable classification for those two families. The efficiency of such a classifications seems to be quite accurate and a useful tool for forecasting and climatology.

- 1-P. Gemelli, L. Onorato, S. Gallino, F. Castino (2005), A study of two south-westerly regimes in the Gulf of Genoa causing severe weather. EMS, 2005;
- 2-L. Onorato, F. Castino (2004), The prevailing Synoptic regimes of the Mediterranean area and the low level winds circulation in the gulf of Genoa. EMS, 2004;
- 3-Littmann T. 2000, An empirical classification of weather types in the Mediterranean

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