

Marine meteorological and oceanographical dangers on the Adriatic

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Although the Adriatic Sea is just a small closed gulf of the Mediterranean Sea it has often had extreme and dangerous maritime meteorological phenomena. In this report we shall try to briefly deal with those phenomena.

The Adriatic Sea is the northernmost gulf of the Mediterranean, which penetrates deeply towards the Middle Europe. It extends for 783 km between the Dinaric-Balcanic mountains on the north-east and the Apennine peninsula on the south-west, having the mean width of 248 km. Its area during the mean sea level is 138.595 km².

Geographically it is situated between 40.07 N and 18.35 E in the Otranto strait and towards the north, in the Gulf of Trieste up to 45.47 N and 13.35 E. Therefore it is located in moderate latitudes, starting with subtropical to semi-arid zone of the southern half of the northern hemisphere. It is a zone of prevailing western winds (colder part of the year) and the etesian (warmer part of the year), namely the zone of transfer of moderate latitude cyclones under the influence of vast Atlantic and European anti-cyclone fields. The position of barometric centres in the Adriatic, Mediterranean and over the Europe with respective flows and air masses influences the wind regime and maritime meteorological phenomena in the Adriatic.

In this report we shall describe some maritime meteorological extreme phenomena in the Adriatic, such as storm winds (wind speed ≥ 17.2 m/sec) and hurricanes (≥ 32.7 m/sec), high waves ($\geq 2.5, 3, 4, 5, 6, 7, 8$ and 10 m), Adriatic storm surges (up to 10-50 cm) which cause bay seiches with amplitude ($\geq 1-5$ m), extreme precipitation (≥ 100 mm/24 hours), limited visibility – fog (visibility < 1000 m), thunderstorms and extreme dry periods with drought lasting 1, 2 and 3 months or longer. The above mentioned phenomena could be observed separately or in linked interactive groups which increase the danger and which should be announced in time as a part of the system of preventive meteorological warnings aiming to protect human lives, nature and goods in the entire region of the Adriatic sea.