



Exceptional bura case at the end of February 2019

Tanja Renko, Nataša Strelec Mahovic, and Petra Mikus Jurkovic
Meteorological and Hydrological Service, Zagreb, Croatia (tanja.renko@cirus.dhz.hr)

Wind storms are not unusual in Croatia, especially in cold part of the year, namely in the period from January to March when bura events are quite frequent along the Adriatic coast. There is even a folk traditional saying that in March three episodes of exceptionally strong bura occur (at intervals of 7 to 10 days) after which „Spring begins“. Extreme and severe winds are often associated with the cyclonic activity in the Mediterranean. Adriatic region is in winter period often under the influence of deep cyclones that form in the Gulf of Genoa. This case of exceptionally strong bura at the end of February is not a typical case connected to cyclogenesis in Gulf of Genoa, so the emphasis of this study will be on the special features that generated a record high average wind speed as well as hurricane force gusts. An intense cold advection from northeast started on 22nd of February within a deep trough spreading from Russia to middle Mediterranean. A cut off low formed on 23rd over the Adriatic Sea and in the next 24 hours it was already over North Africa. Surface cyclogenesis occurred over Balkan Mountains causing very strong pressure gradients between middle Europe and Ionian Sea, approximately 35 hPa, but isobars were most densely placed over Dinaric Alps and the Adriatic coast causing extreme bura episode that lasted for 2 days. Strongest wind gusts were experienced in Dalmatia. Synop station Split-Marjan recorded gust of 176 km/h, the strongest ever recorded at that station, while Makarska had maximum gust of 191 km/h. Along the whole coast there was a great deal of damage, many trees were uprooted or broken, roofs and cars were damaged. The traffic was interrupted on many roads along the coast and the islands were cut off from the mainland. Also one interesting feature was associated with this event – sea level in some places was very low, lowest in the last few years. Wind warnings for this event were issued on time, but due to the exceptionally strength of bura, most of the damage could not be avoided and it is fortunate that there were no human casualties.