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Analysis of the extraordinary 2011/2012 drought in Croatia

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This study presents an analysis of meteorological drought events in Croatia from the beginning of the 20th century. Drought climatology has been presented using the Standardized Precipitation Index (SPI) by means of duration, intensity and magnitude of dry events on different time scales (3-, 6-, 9-, 12- and 24-months) on 5 stations with long dataset (1901-2012). The results revealed that the most intense droughts occurred during 1920s, 1940s, 1950s and 1990s as well as in the recent years of 2011 and 2012. The recent 2011/2012 extreme drought that seriously affected the territory of Croatia, has been thoroughly investigated by means of SPI maps using 23 stations, as well as sea-level pressure anomaly maps for Europe which facilitated the determination of the weather types and wind regimes. It is shown that the recent drought was characterized by the lack of rainfall during the cold part of year (particularly November 2011 and March 2012) which was caused by the intense blocking episode of the pressure field over Europe. The possible impact of large scale circulation patterns was also investigated. The results have indicated that North Atlantic Oscillation and East Atlantic/Western Russian teleconnection patterns have maintained dry conditions in the period from November 2011 until the March 2012.