



Development of a WMO compliant climate monitoring products for Croatia

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Climate monitoring provides the information for effective planning and operations in the future but also estimates of the climate variations in the past. Due to variability in frequency and intensity of extreme weather events like heat waves, droughts, heavy precipitation or flooding, with their often disastrous impacts on the society, climate monitoring becomes increasingly important.

While it is relatively easy to derive climate information from the national weather network on the observation locations, different methods or background information are used to provide the estimates for the locations where there are no measurements. A range of spatial or spatio-temporal interpolation techniques (splines, regression, kriging, neural networks and machine learning techniques) have been used for the interpolation of meteorological data to produce maps, that is to provide the best estimates of the values away from the observing locations. Building on the existing experience in deriving the long term normals for the 1961–1990 in the "Climate Atlas of Croatia 1961–1990, 1971–2000", the newly developed gridded monthly temperature and precipitation fields for Croatia for the 1981–2010 period are presented. Those monthly grids are basis for the development of the WMO compliant national monitoring products, that are area-average mean monthly temperature and precipitation time series. The deviations from the normal are discussed.