



## Verification of long range drought forecasts

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Drought is a complex phenomenon that – among all natural hazards - causes the highest economic losses in Croatia. At Meteorological and Hydrological Service studies have been made to enhance the existing drought monitoring system with the forecasting component, in order to provide reliable in-time warnings. Drought forecasts are carried out by calculating the Standardized Precipitation Index (SPI) at 1- and 3-month time scales, derived from the long-range ensemble precipitation forecasts by the European Centre for Medium-Range Weather Forecasts (ECMWF). They are validated by SPI values obtained from the observed monthly precipitation amounts at 23 stations, spanning the 2011-2014 period. Verification has been performed by employing standard scores: Brier skill score, ROC as well as the reliability diagrams. Unlike deterministic forecast with notorious ‘no signal’ problem, results reveal a relatively good skill for the one- month SPI forecast and considerably worse skill for three-month forecast. These results encourage the introduction of operational drought forecasting at the Service.