



The 2010-11 drought in the Horn of Africa: Monitor and seasonal forecasts

E. Dutra (1), L. Magnusson (1), F. Wetterhall (1), H. L. Cloke (2), G. Balsamo (1), S. Boussetta (1), and F. Pappenberger (1)

(1) ECMWF, Reading, United Kingdom (emanuel.dutra@ecmwf.int), (2) Department of Geography, King's College London, UK

Rainfall plays a major role in determining agricultural production in areas dependent on traditional rainfed agriculture, such as the Horn of Africa (HoA), and persistent anomaly in this precipitation is thought to be the main cause of drought in those regions. It is estimated that the recent 2010-11 drought in the HoA affected approximately 12 million people, and the worst in the last 60 years. This study evaluates the use of ECMWF products, in monitoring and forecasting drought conditions during the recent event in the HoA. The drought resulted from a precipitation deficit in both the Oct-Dec 2010 and Mar-May 2011 rainy seasons, and this was captured by the ECMWF ERA-Interim reanalysis (ERA1). Soil moisture anomalies of ERA1 also identified the onset of the drought condition early in Oct 2010 with a persistent drought still present in December 2011. The precipitation deficit in Oct-Dec 2010 was associated with a strong La Niña event. The ECMWF seasonal forecasts for the Oct-Dec 2010 season predicted the La Niña event from June 2010 onwards, and also a dry precipitation anomaly for the region from July 2010 onwards. The HoA region and its population are highly vulnerable to future droughts, thus global monitoring and forecasting of drought, such as that presented here, is going to become increasingly important in the future.