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Medicanes: A prognostic analysis of November 7, 2014, case study based on ECMWF medium range products

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Mediterranean basin is a well-known European region for cyclone formation. The so-called medicanes (MEDIterranean hurriCANES) are cyclones that develop over the Mediterranean basin and exhibit some similarities to tropical cyclones. These rare meteorological phenomena are rare warm-core cyclones that may cause significant impact at coastal regions.
In this paper, we present an analysis of prognostic products derived from the European Centre for Medium-Range Weather Forecasts (ECMWF) investigating the development of a medicane case study. All forecast products are based on the 12:00 UTC ECMWF run.
On November 7, 2014, a medicane developed over central Mediterranean, first hitting Lampedusa on the island of Linosa, then Malta (at around 16.30 UTC), and finally the eastern coast of Sicily. The analysis revealed that ECMWF 240 forecast products highlighted the central Mediterranean basin as an area of deep cyclonic circulation. In addition, results from 240 to 24 forecast analysis, demonstrated that this cyclonic signature became more constant.