



Abstract

On 25 and 26 October 1859, the British Isles were hit by a severe storm, named after the ship “Royal Charter” that sank nearby Anglesey, England. At that time Robert FitzRoy, a former officer of the Royal Navy, recorded the course of events and produced hand-drawn weather maps. Today the Twentieth Century Reanalysis (20CR) version 2c provides new insight into the incident. 20CRv2c is used in this study to analyse the development and evolution of the storm. Further, the reanalysis is assessed in a comparison with historical documents. During the analysed period (24-27 October 1859), the 20CRv2c ensemble mean describes a trough with an embedded low-pressure system centred over the British Isles with a cyclonic circulation at the surface. However, the associated winds underestimate the values reported in the historical sources. The jet stream at higher levels is not co-located but south of the storm. A deeper look into individual members of 20CRv2c shows a large variability among them with a different position, timing and intensity of the low-pressure system. Although some members do produce a strong storm, the ensemble does not cover the observed strength and timing of the storm.