



## **A 250 year drought catalogue for the island of Ireland (1765-2015)**

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This work created a 250 year historic drought catalogue by applying the Standardised Precipitation Index (SPI) to the Island of Ireland Precipitation (IIP) network (1850-2015) and a reconstructed precipitation series from 1765. Documentary sources from newspaper archives spanning the last 250 years, together with other historical sources are used to (i) add confidence to the quantitative detection of drought episodes and (ii) gain insight to the socio-economic impacts of historic droughts. The results show that Ireland is drought prone but recent decades are unrepresentative of the longer-term drought climatology. A large decline in 30-year accumulated SPI-12 values is evident from around the 1990s onwards. During the years 1850-2015 seven major drought rich periods were identified with an island-wide fingerprint in 1854-1860, 1884-1896, 1904-1912, 1921-1923, 1932-1935, 1952-1954 and 1969-1977. These events exhibit substantial diversity in terms of drought development, severity and spatial occurrence. Two exceptionally long events are found in the record: the continuous drought of 1854-1860 and the drought of 1800-1809 (in fact a series of three droughts with brief interludes). Over the last 250 years droughts have resulted in agricultural hardship, water resource crises and failures and preceded some of the major famines of the 18th and 19th centuries. This work shows that newspaper archives can be used to trace the progression of drought events and impacts and thus advocate their wider use in corroborating quantitative assessments. The resulting catalogue challenges prevailing perceptions about drought in Ireland whilst strengthening the evidence base for future drought and water resource planning across the island.