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A new global climatology of cut-off lows based on re-analysis: trends, drivers and implications

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We present the results of what we believe to be the first global cut-off low climatology, based on ERA-Interim re-analysis data. We show that over the last 50 years there have been increasing trends in the frequency of cut-off lows and that these trends occur across a range of definitions of cut-off low intensity. The location of favoured areas for these features has also been changing, especially in the eastern North Pacific.

We relate these changing frequencies to variability in latitudinal temperature gradients and other possible large-scale drivers and comment, for example, upon potential implications in terms of short and long term precipitation extremes.