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Are Recurrent Rossby wave packets linked to persistent extreme weather events in the Southern Hemisphere?

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Synoptic-scale Rossby wave-packets have a recurrent pattern during several episodes of persistent surface weather which is termed as 'recurrent Rossby wave-packets' (RRWP). They result in a statistically significant increase in winter cold and summer hot spells over large areas of the Northern Hemisphere mid-latitudes.

We present a global climatology of the RRWPs to study its spatial and seasonal variation. We also investigate the link of RRWPs to persistent surface extremes in the Southern Hemisphere (SH). We find that RRWPs result in a statistically significant increase in winter cold and summer hot spells over broad areas in Australia and South America. Furthermore, we discuss the effects of climatological oscillations (Madden Julian Oscillation, ENSO, etc) on influencing the RRWPs.