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Investigating typical patterns for co-occurring heatwaves

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The typicality of extreme weather and climate events denotes their property to exhibit similarities in spatial patterns, temporal evolution, and underlying physical processes, with this resemblance intensifying as events become more extreme. Recent findings highlight that highly intense heatwaves, defined as prolonged local temperature anomalies, are consistently associated with specific large-scale circulation patterns. This suggests that there is a typical way to realise very extreme local temperature anomalies. Here, I will explore typical ways for the emergence of extremely intense hemispheric anomalies, characterized by notably large zonal variations in air temperature or geopotential height. This investigation aims to shed light on preferred atmospheric configurations leading to the simultaneous occurrence of heatwaves on a hemispheric scale.