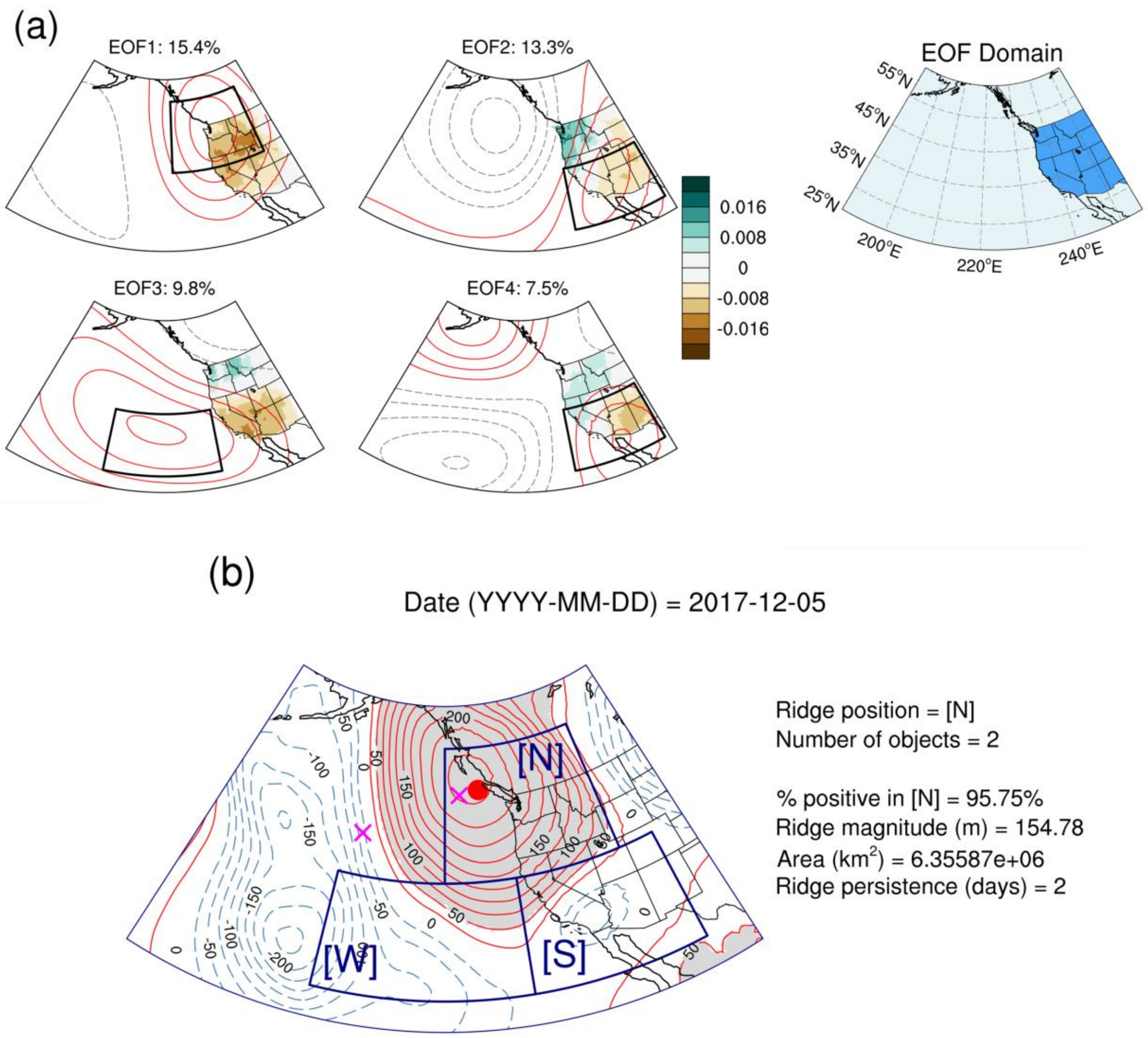
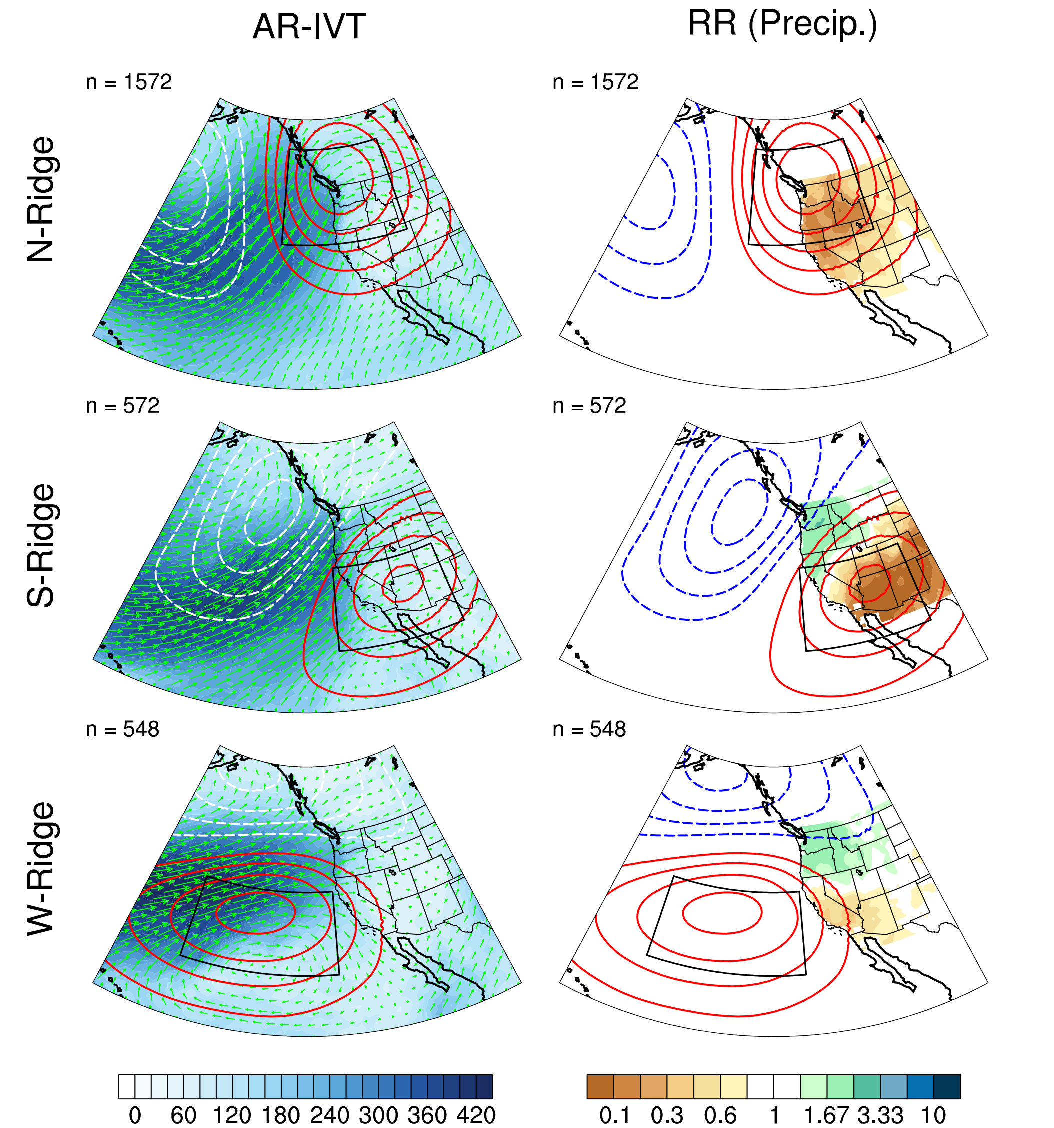


Methodology for ridge tracking

(a) Combined EOF analysis between daily precipitation and Z500 was used to determine the broad regions where ridging (red contours) influences precipitation deficits (brown shading)

(b) These regions were used to focus the ridge tracking. The ridge tracking automatically finds Z500 anomaly objects greater than 50m and returns descriptive statistics about these ridge features based on their centroid location in the [N], [S] or [W] domain



How each ridge type typically influences precipitation

Left: Maps showing the average influence of each ridge type (red contours) on integrated vapor transport (IVT, blue shading indicates greater moisture transport, arrows indicate direction) during atmospheric river events

Right: Maps showing the 'Relative Risk' (RR) of precipitation under each ridge type. Brown shading indicates a reduced chance of precipitation when ridging occurs. For example, a RR value of 0.2 indicates a 5-fold reduction in the likelihood of precipitation

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Reference: Gibson et al. (2020) Journal of Climate