

ARs are identified using the integrated water vapour transport (IVT), which is the product of the specific humidity (q) and the zonal (u) and meridional (v) wind integrated over the troposphere. Grid points with values below the 1979-2020 85th percentile are masked out.

From the masked IVT field we identify continuous "blobs" of unusually high IVT as the initial AR features. The features are filtered based on their length and width.

For the remaining features we calculate the center-lines based on following the maximum IVT intensity and its direction, using an approach from Pan and Lu (2019).