



98th Annual Meeting
AUSTIN | 7-11 JANUARY 2018

5.1: Climatology of Coastal Low-Level Jets over the Bohai Sea and Yellow Sea Using Local and Spatial-Pattern-Based Techniques



Tuesday, 9 January 2018

09:45 AM - 10:00 AM

Austin Convention Center and Hilton - 616 AB (Hilton)

Two regional climatologies (means, annual cycle and interannual variability) of coastal low level jets (CLLJ) over the Bohai and Yellow Sea (BYS) are presented. Two different approaches are used – first a local identification based on Bonner (1968), which employs the maximum wind speed and wind shear in the lowest 3 km – and second a method assembling connected locations fulfilling Bonner’s criterion across space and time, resulting in spatial patterns.

The two approaches are applied to a 35-year (1979–2013) high resolution (7 km) atmospheric hindcast product using the regional climate model COSMO-CLM driven by the ERA-Interim reanalysis dataset. Using the first method, we have found a good correspondence between the statistics of CLLJs in the hindcast and in the limited observational evidence.

Both methods generate consistent climatologies, but the second generates additional distributions of horizontal size, and horizontal movements (speed and direction), as well as information about life cycles of CLLJs.

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