

Interannual and interdecadal variability of the summertime western North Pacific subtropical high

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Abstract

The western North Pacific Subtropical High (WNPSH) in summer exhibits significant 2-3 years and 3-5 years oscillations with interdecadal variability. The 2-3-year oscillation is most evident after 1990. It is accompanied by anomalous meridional overturning circulation characterized by warm SST anomalies (SSTA) and ascending motion in the maritime continent and anomalous descending motion near the Philippine Sea, and by evolving warm to cold SSTA in the central-eastern Pacific from the preceding winter to the summer. The 3-5-year oscillation is most pronounced during the 1980s. It is accompanied by anomalous descending motion over the maritime continent and warm SSTA in the central-eastern equatorial Pacific that persists from the preceding winter to the summer; the complementary cooling and descending motion in the western Pacific are related to anomalous east-west circulation associated with ENSO.