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# An interdecadal change in the relationship between January-March Arctic Oscillation and North Pacific Precipitation

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An analysis of variability in the relationships between the winter (January-March) Arctic Oscillation and precipitation over the Northern Pacific during the period of 1979 to 2011 is presented based on the monthly precipitation data (CMAP) and NCEP/NCAR Reanalysis, after subtracting ENSO signals from all datasets. The sliding correlation analysis demonstrates there is a prominent weakening in the AO-precipitation relation around the early 1990s. In the total 33 years a high (low) AO phase more likely accompanies with a stronger (weaker) precipitation in the subtropical Pacific, and the mainly significant correlation area ranges from 10°-30°N,150°E-190°W. During the year 1979 to 1989, the positive correlations over the tropical Pacific are significant and widely-ranged; however, the correlations weaken over the whole region and even negative over the central Pacific after the early 1990s. In addition, the Model BCCR-BCM2 is capable of simulating the correct overall AO-precipitation relation over North Pacific.