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Predictability of Sea Level Pressure Anomalies Over the North Pacific Ocean

Russ E. Davis

Scripps Institution of Oceanography, La Jolla, Calif. 92093

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ABSTRACT

The relationships between sea surface temperature (SST) and sea level pressure (SLP) anomalies over the North Pacific are examined using seasonally stratified statistics. These indicate that autumn and winter SLP anomalies are predictable from prior observations of either SST or SLP. The relationships are a strong function of season and therefore are not detectable in statistics generated by averaging over all seasons. Neither spring nor summer SLP anomalies appear predictable. The patterns of predictable SLP anomalies and the SST and SLP anomalies from which they can be predicted are found as principal estimator patterns. Statistical predictors of autumn and winter SLP anomalies, developed on a 20-year dependent data set, are found to be useful in forecasting a period of 10 other years.

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