



Oceanic excitation of polar motion: the interpretation of regionally derived signals.

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The influence of different geographic regions of the ocean on the excitation of polar motion was estimated with the ECCO/JPL data assimilating model. Our attention focuses on time scales of the regional distribution of oceanic polar motion excitation: annual and the wide band around the Chandler period. Correlations and covariances between regional values of oceanic excitation functions of polar motion and non atmospheric excitation derived from geodetic and atmospheric observations are computed.

In the case of the annual oscillation, maps of the covariances for the prograde and retrograde term are both dominated by changes in regions such as the southern Indian Ocean. The oceanic excitation functions in the area southwest of Australia and southeastern Pacific, Atlantic and North Pacific have a consistent phase. However, the South Atlantic and South Pacific are out of phase with each other.

In the case of the Chandler band, maps of covariances for the prograde term show that the changes in the southeastern Pacific, the southern Indian Ocean, the North Atlantic dominate. The South Atlantic, South Pacific, and the northern Indian Ocean are regions that are out of phase with each other.