

# 北太平洋海洋前線付近での初夏SST偏差の持続と関連する大気海洋循環 Persistence of the sea surface temperature anomalies near the North Pacific oceanic front in early summer and the associated atmospheric and oceanic circulations

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This work examines the persistence of sea surface temperature (SST) anomalies in the early summer (June and July) along the North Pacific oceanic front and the associated atmospheric and oceanic circulations. Dividing the region of this oceanic front into two, i.e., the western(160°E-170°W, 35°-45°N) and the eastern(170°-140°W, 35°-45°N) parts, the discussion is enhanced through the comparison of anomalous circulations in these two regions. In the west, the early summer SST anomalies exhibit strong persistence from spring to fall. In the east, the persistence is rapidly weaken in fall.

The western SST anomalies have feedback with the lower stratus during summer, which enhances the persistence from spring to fall. On the other hand, the eastern SST anomalies decrease the amplitude by fall due to damping by surface heat flux. In addition, the sea water temperature (SWT) anomalies show significant differences in the depth profiles between the two regions. In the west, the SWT anomalies keep the strong persistence from the surface to at least 300m depth below the seasonal thermocline, while the persistence is weaken near the surface shallower than 25m by fall in the east, although the persistence is strong until winter in the deeper depth in the east. The eastern SWT anomalies in this deep depth reemerge near the surface with strong vertical convective mixing from fall to winter.

キーワード：北太平洋海洋前線、夏季SST偏差の持続

Keywords: the North Pacific oceanic front, persistence of summer SST anomalies