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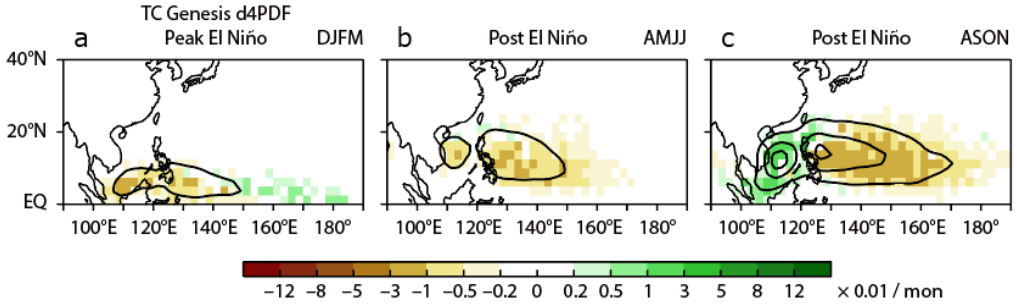
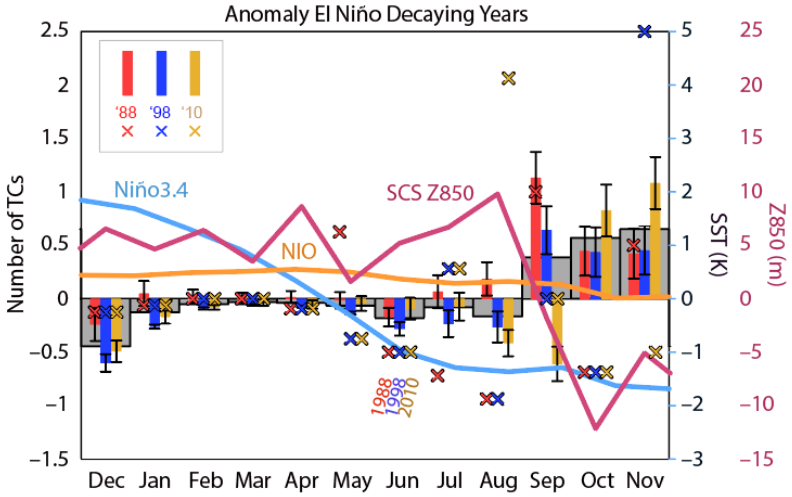
https://doi.org/10.2151/jmsj.2018-044



↑ Figure 1. Anomalies of TCF from the climatological mean based on the d4PDF (shading; ×0.01/month) during post El Niño years for the season (a) DJFM, (b) AMJJ and (c) ASON. Contours (1, 3, 5 ×0.01/month) show the TC climatology in each season.



←Figure 2. Evolution of TC population in the South China Sea during decaying phase of El Niño focusing on typical events obtained from d4PDF (filled bar) and the best track data (cross mark). Blue/orange line shows the composite Niño3.4/ North IO SST anomaly. Purple line denotes geopotential height anomalies.

- The influence of ENSO together with the basin-wide warming in the tropical IO on TC activity are analyzed with particular focus on the decaying phase of El Niño.
- Our analysis reveals a sharp decrease in TC number in the tropical western Pacific during the post El Niño years until the early winter (Fig.1). The dominance of AAC over the western Pacific caused by the prolonged warming in the tropical IO is crucial factor rather than the local SSTA.
- In contrast, the South China Sea exhibits the opposing response during the post El Niño season from September, showing remarkable increase of the TC count. This can be ascribed to the weakening of subsidence anchored with the positive IO SST anomalies, which diminish in September (Fig. 2).
- We demonstrate that the effect of the IO warming should be taken into account when the ENSO is considered as an environmental factor for predicting TC activity.