



Simulation results of two types of El Nino events in zebiak-Cane Model

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Recent studies demonstrated that there existed eastern Pacific El Nino (EP El Nino) and central Pacific El Nino (CP El Nino), based on spatial distributions of sea surface temperature (SST) anomaly, propagating characteristics and global impacts. Further more, CP El Nino events appear to be more frequent and persistent occurrences during recent decades.

In this study, by assimilating the observed SST, two types of El Nino are optimally simulated in the Zebiak-Cane model (ZC model). The numerical results show that there are significant differences between the simulating skills of two types of El Nino. For EP El Nino, ZC model can give a better simulation. For CP El Nino, the maximal SST warming simulated by ZC model locates over the Nino3.4 area, not the observed Nino4 area. Meanwhile, there exists the warming in the eastern tropical Pacific. These results imply that there may exist distinct model errors when ZC model is used to simulate CP El Nino event.