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Interdecadal change of the types of El Nino in GFDL CM2.1

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The GFDL CM2.1 output were analyzed to examine interdecadal change of types of El Nino that are characterized as Central Pacific-type El Nino (maximum loading over the central Pacific; CP El Nino) and Eastern Pacific-type El Nino (maximum loading over the eastern Pacific; EP El Nino). We found that there was a seesaw between numbers of CP El Nino and those of EP El Nino in an interdecadal time scale. When CP El Nino was more frequent, zonal gradient of the mean SST was larger and both mean mixed layer depth and thermocline over the western Pacific were deeper, implying a suppressed thermocline feedback and an intensifed zonal advective feedback. Opposite case of the climate state was also true for the period of frequent EP El Nino. The role of latent heating was also discussed.