

Climate change in southern Africa after 1950s

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Observed wide area around Africa, Shinoda(1989) described the linkage of the climate of north and south Africa, Shinoda and Kawamura(1996) described that the annual variability is related as ENSO and decadal variability is related as the SST rising in the southern Atlantic Ocean.

In my study, it will be clarified that the rainfall factor in the southern Africa is distinguished by the synoptic weather charts, and its seasonal and inter-annual rainfall variability after 1950s.

In this study the data were analyzed the daily reanalysis by NCEP/NCAR, the CMAP precipitation data by CPC, and, the NCDC daily observation data. The season with rainfall was selected by CMAP rainfall data. In the result, we could get mainly 3 patterns of rainfall factor: (1)the ITCZ went southward and the rainfall was found wide area, (2)the regional disturbance with lightning was found, (3)the cyclone came westward from the Indian Ocean. In the eastern Botswana, the main rainfall factor is the ITCZ which came from north. From western Botswana to Namibia, many times of regional thermal disturbance with lightning were found. The effect of cyclone from the Indian Ocean was met sometimes in Botswana, but little in Namibia and Angora. The regional thermal disturbance was held many times in the first term and the end term of the rainy season, and it shows the high variation. Otherwise, movement of ITCZ southwards was often shown in middle term of the rainy season, and the low variation.