

World Conference on

Climate Change

October 24-26, 2016 Valencia, Spain

Precipitation over Zhejiang, Fujian and Jiangxi of China in June: Climatology

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Precipitation climatology over southern Zhejiang, northern Fujian and eastern Jiangxi (ZFJ) of China is documented through the analysis of observational precipitation data and NCEP Reanalysis data from 1971 to 2013. Annual precipitation amount in ZFJ is similar to that over Jiang-Huai (JH), where Meiyu front torrential rainfall usually occurs. The analysis of monthly mean data reveals maximum rainfall amount in June over ZFJ. The analysis of 3 ten-day mean data in June shows the maximum rainfall over ZFJ in the 2nd ten days associated with transport of water vapor by southwesterly winds in the lower troposphere. The 2nd ten days are the transition from cyclonic circulation anomaly at the east of ZFJ in the 1st ten days to anticyclonic circulation anomaly in the 3rd ten days in the lower troposphere and from westerly anomaly across ZFJ in the 1st ten days to easterly anomaly in the 3rd ten days in the upper troposphere. The time series of rainfall amount averaged over ZFJ in the 2 ten days reveals the 7 strong rainfall years (over the mean plus standard deviation). The strong rainfall years show an increasing decadal trend. The rainfall in the 2nd ten days over ZFJ for the strong rainfall years is associated with enhanced southwesterly winds in the lower troposphere and strengthened westerly winds in the upper troposphere. The rainfall in the 1st ten days over ZFJ for the weak rainfall years is related to the suppressed southwesterly winds in the lower troposphere.

Biography

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