Geophysical Research Abstracts
Vol. 14, EGU2012-1222-2, 2012
EGU General Assembly 2012


# Changes in China's Precipitation for Various Categories during 1957-2004

X.-L. Wang (1) and P.-M. Zhai (2)

(1) National Climate Center, China Meteorological Administration(xlwang@cma.gov.cn), (2) Chinese Academy of Meteorological Sciences

On the basis of 506 stations with complete daily precipitation records during 1957-2004, the trends of China's annual precipitation amounts are studied with a focus on different percentiles. The precipitation distribution is categorized into 10 class intervals, where each class interval has a width of 10 percentiles. The percentiles defined by intervals range from the lowest percentile to the 10th percentile, the 10th to the 20th percentile, ... and the 90th to the highest percentile. The contributions to trends in precipitation amounts attributed to changes in frequencies and intensities for various categories were further analyzed. Although the annual precipitation totals and frequencies in different regions of China don't show the same trends, uniform characteristics are found in trends in precipitation amounts for various categories in the regions analyzed in this paper. Trends in heavy precipitation amounts are more significant and changes in heavy precipitation primarily caused the variations in precipitation totals. For most of the categories, the variations of precipitation due to precipitation frequencies were much greater than those resulting from precipitation intensities. That is to say, trends in precipitation were mainly caused by the changes in precipitation frequencies. As for the upper 10 percentiles, frequencies and intensities both increased in most of southern China and western Northwest China while both decreased in North China and frequencies decreased while intensities increased in Northeast China and eastern Northwest China.