



Intensified reduction in summertime light rainfall over mountains compared with plains in Eastern China

Jing Yang

Beijing Normal University, State Key Lab of Earth process and Resources Ecology, China (yangjing@bnu.edu.cn)

Based on daily rainfall data from 1960 to 2007, this study investigated the difference in rainfall trends between seven mountain stations and 21 nearby plain stations in eastern China for the months June–August. The amount and frequency of light rain (≤ 2.5 mm/day) over the mountain areas showed a greater decreasing trend than over the surrounding plain regions. The trend of light-rainfall frequency at mountain stations is -4.8% /decade, approximately double that at plain stations (-2.3% /decade). The trend in light-rainfall amount at mountain stations is -5.0% /decade, approximately three times that at plains station (-1.4% /decade). Reduced wind speed may explain the enhanced decrease in light rainfall over mountain areas through the weakened orographic lifting. Further study is needed to determine whether the precipitation difference between mountain and plain (urban) regions is exacerbated by air pollution in East China through its indirect effects and influence on regional air stability and wind speed