

GC34A-06 Increasing precipitation intensity under a warming climate over Northern Eurasia

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One of the manifestations of accelerated hydrological cycle under a warming climate over high latitudes is the changing precipitation characteristics. Studies have suggested increasing precipitation extremes and quantity (especially in winter), and changing frequency of solid versus liquid precipitation. This study tries to understand the changes in average daily precipitation intensity under a background of increasing air temperature for all seasons. We found a prevailing increase in daily precipitation intensity associated with increasing air temperature at an inter-decadal time scale for all seasons, including summer when precipitation total decreases. These relationships are independent of the impacts of Arctic Oscillation over the region. The results suggest that the warming climate over Northern Eurasia would bring higher intensity but less frequent precipitation with little changes in annual precipitation total.

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