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论文

北京地区气温的年代际变化和热岛效应

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摘要： 用北京地区20个气象观测站41年(1960~2000年)的年平均气温记录,研究了北京地区的大尺度气温变化及其热岛效应.结果认为,(1)北京地区气温的年际变化具有大尺度的特点,1981年是显著的跃变点,跃变点比跃变前北京地区气温增加了0.55℃,近40年的增温率为0.25℃/10年.(2)北京城市热岛效应具有典型性.1960~2000年北京城市热岛平均强度接近1℃.随着北京城市建设和城市化速度的加快,北京城市热岛强度也在明显地增加,近40年热岛强度的增温率为0.31℃/10年.

关键词： 热岛效应 年代际气候振荡 温度 大气科学

INTERDECADAL CHANGES OF TEMPERATURE IN THE BEIJING REGION AND ITS HEAT ISLAND EFFECT

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Abstract: We study large scale temperature changes and heat island effect in the Beijing region are investigated in this paper using the annual mean temperature data from 1960 to 2000 at 20 meteorological stations. Main conclusions are the following two points. First, the interannual changes of the temperature in

the region show a feature of large-scale temperature change. 1981 is a remarkable jump point, the temperature increases by 0.55℃ after the jump compared with that before the jump and the warming rate in the recent 40-year is 0.25℃/10-year. Second, the urban heat island effect in the Beijing region is typical. The averaged urban heat island intensity over 1960-2000 is about 1℃. Along with the acceleration of urban construction and urbanization, the urban heat island intensity is also increasing, and its growth rate in the recent 40-year is 0.31℃/10-year.