

The influence of El Niño upon surface shortwave radiation forcing over China

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Six years of incident shortwave radiation at the surface over China have been estimated from Geostationary Meteorological Satellite (GMS-5) data by a newly developed scheme. This period encompasses the 1997/1998 El Niño event, which reached a peak during the year of 1998, led to high temperature and drought in northern China and then warm winter in the following year, whereas low temperature and flood in southern China. The present study investigates the possible influence of this El Niño upon the temporal and spatial variations of incident surface shortwave radiation over China. According to previous studies of El Niño evolution (from early stage of development to mature phase and then to decay phase), incident shortwave radiation at the surface of this data set, extending from April 1997 through March 2003, has been further processed to identify the large abnormal within surface shortwave radiation anomaly time-series. These results provide large-scale observational evidence for inter-annual sensitivity to El Niño of surface shortwave radiation over China.

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