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High solar irradiance episode in 2001/2002 and relevant Earth's climate anomalies

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One of the most significant peculiarities of solar cycle 23 is an enhancement in solar irradiance during the second solar maximum in the end 2001-beginning of 2002. During the solar episode the UV irradiance has been higher than ever earlier for the same level of sunspot activity. In this paper, using the original analysis and different results reported in the literature the chain of global-scale climatic anomalies occurred just in 2001/2002 and in which the solar contribution might be important are considered. In particular, it is shown that during the period of interest the ionospheric ionization and the thermospheric neutral zonal wind were significantly enhanced. In the mesosphere-upper stratosphere the equatorial winds were anomalously easterly. The diurnal mesospheric tide amplitudes during the Antarctic summer were extremely high. In the tropical troposphere ever wide tropical belt was observed. The AAO (AO) index was extremely low (relatively high). In the Antarctic sea ice area the negative anomalies consequently occurred in each month from November of 2001 to June of 2002. An event-oriented approach applicable to the particularly distinctive 2001/2002 solar episode is discussed. It may allow one to recognize specific forms of solar forcing, where and when the solar contribution is important.