Possible imprint of helio-geo-physical conditions on the atmospheric parameter variations

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Abstract: Investigation of the possible relationship between interplanetary, geophysical conditions, global weather and climate changes in the Earth is one of central direction of Space Weather program. We have analyzed (1) the experimental database on atmospheric conditions (atmospheric pressure, relative humidity, cloud boundary location, etc.) obtained at weather-stations in Republic Kazakhstan in 2000-2010, (2) the results of cosmic ray measurements by ground based neutron monitors and interplanetary plasma parameters and (3) the possible relationship of cosmic ray Forbush-decreases, geomagnetic perturbations and short-time variations of atmospheric conditions. Obtained results of analysis are presented in this paper.

Keywords: Cosmic rays, interplanetary and geomagnetic disturbances, Forbush decreases, atmosphere