Weatherman's Guide to the Sun: Third Edition

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Abstract

The field of solar-terrestrial physics is growing in depth and reach. Space weather has become a recognized actor in weather, long-term climate change, seismicity, technological performance and biology. Combined with cosmic rays from the galaxy and beyond, the light, particles and magnetic fields of the sun interact with various layers of the earth from the outer magnetosphere down through the ionosphere and atmosphere, and even affecting the crust, mantle and perhaps the core. This third edition of the literature review covers ~500 of the most-important studies describing the interactions of earth and sun, including a new chapter on extreme solar activity.

Keywords: Solar, Space Weather, Climate, Cosmic Rays, Geophysics

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