

**SOLAR MAGNETIC ACTIVITY AS DRIVER OF  
CAUSAL CHAIN SOLAR ACTIVITY-SPACE  
WEATHER-EARTH ATMOSPHERIC  
ABNORMALITIES-AGRICULTURE MARKET  
REACTION: NECESSARY CONDITIONS AND  
POSSIBLE SCENARIOS.**

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Solar magnetic activity is driver of Space Weather on all time scales from seconds up to thousands years. Main transmissions in this mechanism are: a) solar wind (SW) modulated earth magnetosphere and flux of cosmic ray (CR) from Galaxy, b) solar UV controlled high atmosphere. Numerous arguments were obtained during last decade confirmed existence of space weather impact on the Earth weather resulted to weather abnormalities. Evidently, that for regions with high risk agriculture state these abnormalities are able to lead to impact on crop and on state of agriculture market. It is shown that to implement the possible effect of space weather on the terrestrial harvests and prices, a simultaneous fulfillment of three conditions is required: 1) sensitivity of local weather (cloud cover, atmospheric circulation) to the state of space weather; 2) sensitivity of the area-specific agricultural crops to the weather anomalies (belonging to the area of risk farming); 3) relative isolation of the market, making it difficult to damp the price hikes by the external food supplies. Four possible scenarios of the market response to the modulations of local terrestrial weather via the solar activity are described. The data sources and analysis methods applied to detect this relationship are characterized. We describe the behavior of 22 European markets during the medieval period, in particular, during the Maunder minimum (1650-1715). We demonstrate a reliable manifestation of the influence of space weather on prices, discovered in the statistics of intervals between the price hikes and phase price asymmetry. We show that the effects of phase price asymmetry persist even during the early modern period in the U.S. in the production of the durum wheat semolina. Within the proposed approach, we analyze the statistics of depopulation in the eighteenth and nineteenth century Iceland, induced by the famine due to a sharp livestock reduction owing to, in its turn, the lack of foodstuff due to the local weather anomalies. A high statistical significance of temporal matching of these events with the periods of extreme solar activity is demonstrated. We discuss the possible consequences of the observed global climate change in the formation of new areas of risk farming, sensitive to space weather.