Current state of snow cover in the area of Ukrainian Antarctic research base "Academician Vernadsky"

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The paper analyzes the results of comprehensive observations of the snow cover in the area of the Ukrainian Antarctic research base "Academician Vernadsky" for 1986-2019.
It has been established that the formation of a snow mass of 2-3 m high in the region occurs under relatively warm conditions (average January temperature of 0.7 °C, the sum of the temperatures of the winter months is -23.7 °C) and during long (6-7 months) winter. Because of it, snow falls wet, its temperature is close to 0 °C, the dynamic factor increases its density to 0.5 g/cm3 and higher.
The analysis showed a shift of the snow cover existence period in the study area to a later date, while its duration remains stable. The seasonal component (annual cycle) with a period of 366.04 days (which explains the shift) describes 58% of the total variability, and the long-period (period of 11 years) - 17.6%. The increase in snow depth by the monthly section turned out to be a very informative and promising characteristic.
The delving of snow cover revealed the following features: during the snow accumulation season, the 6-7 permanent layers are usually formed during the season, although in some unstable winters their number may be greater. These layers are formed during specific time intervals, close in different years, under the influence of certain synoptic formations; the snowmelt period is characterized by 3-4 stable periods; an avalanche-hazardous layer of insignificant vertical thickness is formed during the period of maximum snow growth (July-August).

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