be explained by the flow of arctic cold air. There is some quasiperiodic oscillation of number of lightning strokes with period of 1-3 years.

1.19 Possibilities of single-frequency GPS/GLONASS data for vertical total electron content estimation

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We present a new technique for estimating the absolute vertical and slant total electron content (TEC). The estimation is based on single-frequency joint phase and pseudorange GPS/GLONASS measurements at single stations. Estimated single-frequency vertical TEC agrees qualitatively and quantitatively with the dual-frequency vertical TEC. For analyzed stations a typical value of the difference between the single-frequency vertical TEC and dual-frequency those generally does not exceed \(~1.5\) TECU with RMS up to \(~3\) TECU.

1.20 Regularities of spatio-temporal distribution of the radiation balance of the earth surface in the Araks basin in the Republic of Armenia

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The radiation balance of the spreading surface, i.e. difference of arrival expense of a radiant energy of the Sun, is one of the major climate factors of this territory. Distribution of heat in sublayers of the soil and in a ground layer of air generally is defined by the size of a radiation balance of the spreading surface. Considering above told, in work the object to study, reveal and estimate regularities of spatiotemporal distribution of radiation balance of the spreading
surface, in the conditions of global climate change of the mountainous territory of the Republic of Armenia. For the purpose of the solution of objectives in work the corresponding researches, the published works formed a theoretical and informational basis. As a starting material in work results of the actual actinometric observations of the Ministry of Emergency Situations of the Republic of Armenia «Service for Hydrometeorology and active influence on atmospheric phenomena», and also reference books of a sunshine are used. On network of actinometric stations of the Republic of Armenia overseeing a radiation balance is made since 1957. As a methodological basis in work geographical, mathematical-statistical, extrapolation and also methods of comparison, the analysis and correlation are used. Calculations showed that the greatest value of intensity of a radiation balance in the daily course falls on midday for all heights, the maximum value in the annual course is observed in May-June at a clear palate and in July at an average cloudiness. Decrease of the monthly sums of a radiation balance with area height almost from September to April (is well traced at a clear palate) and from October to May (at an average cloudiness) that corresponds to increase in albedo with area height. From May to October and from June to September, on the contrary, respectively, with height of the area some increase in the monthly sums of a radiation balance while the albedo tends to decrease is noted. It is at the same time possible to notice that the considerable decrease of size of a radiation balance happens to height of the area, since height of 1900-2000 m that is explained by a sharp increase of albedo at these heights. Thus, the radiation balance has legibly expressed daily course corresponding to the daily course of height of the Sun with the maximum value at noon, with minimum - in the morning clocks. The annual course of a radiation balance almost follows the annual course of midday heights of the Sun, especially in summertime, and reaches the maximum value in May-June, under the real conditions of weather - in July. Minimum value of a radiation balance both at a clear palate, and under the real conditions of weather is observed in January. The annual sums of a radiation balance with height of the area is marked out decrease both at a clear palate, and at an average cloudiness. The monthly sums of a radiation balance during the autumn and winter periods with area height, as a rule, decrease, and in the second half of the spring period and during the summer period sluggishly increase. Great change of monthly sums of radiation balance with area height happens since the height 1500-2000 m and above.