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Graphic representation of the parameters of hydrogeochimical composition of mineral water in central Armenia

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Abstract

The possibilities of graphic representation of the geochemical parameters of the composition of mineral water is shown. In order to represent visually the results of the chemical composition of water, formulas were designed; hydrogeochemical profiles of the ionic and cationic composition of water were constructed in a certain direction and in time. Vertical sections of changes in concentration are made for a separate chemical component of the composition of water along the locations of mineral springs. The analysis and the results of hydrochemical observations are accurate if the obtained data is systematized and processed. The graphic method of systematization of hydrogeochemical materials is applied. These are hydrogeochemical maps. The maps of separate components such as magnesium, chlorine, sulfate-ion etc., profiles and sections are of the greatest interest. M.G. Kurlov's formula is applied for the results of single analyses of the chemical composition of underground water and graphic representation [1]. This formula allows to show graphically the composition of water as a pseudo fraction in which numerator indicates the content of anions, and denominator - the content of cations in a % equivalent form in decreasing order. In order to determine changes of the chemical composition of underground water in a certain direction (along borehole), the hydrochemical profile was constructed according to A.A. Brodsky [2]. . Analysis and systemization of hydrogeochemical information allows broadening the basis for quick decision making during the interpretation of results Seismological sections along the I and II profiles reflect the distribution of seismic centers of the occurred earthquakes deep in the earth crust in the territory of Central Armenia. The formed hydrochemical profiles allow to track the changes of ionic and cationic composition of mineral water for each mineral source as well as to give quantitative assessment of the ionic and cationic composition. Vertical sections are formed on a separate chemical element of water composition [3]. The analysis of changes of concentration (increase or decrease) of chemical element is assessed by increase of the activation of seismicity and stress-strain state of earth crust of Central Armenia.

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