Development of forecasting methods of water inflow into the Krasnodar reservoir based on using remote sensing information

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This paper analyses an opportunity of integrating remote sensing data in forecasting scheme of river inflow to the Krasnodar reservoir. MODIS MOD10A2 eight-day composite snow cover product was selected as basic remote sensing information. Based on these data, a database which consists of maximal snow extent maps covering the Kuban River basin over the period from March 2000 to present along with the technique of operative monitoring of maximal snow covered area for the main basins of the rivers flowing into the Krasnodar reservoir were developed. It was revealed, that the snow cover distribution data could be useful in prediction of flooding in the basin. In addition, the Snowmelt-Runoff Model, application of which based on snow cover remote sensing data as input information, was tested as a short-term forecasting model. The obtained results enable to conclude that the model can be used for short-term runoff forecast in the mountain and foothill areas of the Krasnodar reservoir basin.

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