



Contemporary condition of geodynamic situation in Rostov-on-Don

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Rostov-on-Don, a city of 1,000,000 inhabitants, is located on a high left bank of Don River, southwestern Russia. Location of the agglomeration within the river delta causes sufficient influence on groundwater level. Increasing of groundwater level and landslide activation create a danger for population. This paper is devoted to the most sever problems of the city. On the left bank of Don River there is highly increased groundwater level caused by several reasons. One of them is building on the low bank of the river that create barrier for groundwater and caused flooding in the town. Another reason is leakage from water supplying system. High left bank is under threat of slope instabilities, water erosion and swelling. Slope instabilities mainly consist of landslides. They are occurred due to the following engineering geological attributes: unconsolidated materials of small thickness and high permeability; high slopes of predominantly $> 45^\circ$; geological - structural characteristics of the massifs; groundwater level. Water erosions occurs in two zones: on the coast caused by stream shore current, and in the interior by runoff flow. As a consequence of coastal erosion, progressive coastline regression has occurred. Sedimentation of rivers is the main damage resulting from water erosion by runoff flow, affecting salt-pits, fishing and potable water sources. Main slope types in Rostov region are: 1) slopes of low to moderate inclination in which high pore water pressures can develop, cleared sloping area; 2) relating steep slopes with high relief in cleared areas, slopes near natural gullies, colluvium or residual soil develop; 3) slopes in which high pore pressure can develop. The main factors generating instability are human activity, relief and lithology. Continued sampling for groundwater level monitoring should be constant and used for monitoring of slides.