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Spatio -temporal transformation of groundwater recharge in Rostov region

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Groundwater level became higher in the Don valley during last decade. This was noticed not only in urban areas, but in natural reservoirs as well. To identify climate influence on groundwater study was held in different parts of Rostov region. This exploration was held in two parts of Rostov region with different climatic conditions: Veshenskaya and Morozovsk.

The research gives an opportunity to compare climate and human influence on groundwater level. To estimate climate influence on groundwater level, temporal analyze of groundwater level as well as change of temperature, humidity, precipitation and evaporation was studied in two districts.

The difference between tw districts is given in the table 1.

	Veshenskaya	Morozovsk
Temperature	7.4	8.1
Precipitation	400	350
Coefficient of moistening	0.53 (dry)	0.4 (very dry)
Level of surface water	High	Low
Landscape	Meadow	Very dry steppe

Veshenskaya is situated in the northern part of Rostov region. Main source of recharge is precipitation. Exploration showed high mineralization in summer and low in cold season. More over, it was found that in years with high temperature of the air and soil was high mineralization (1967, 1972, 1979). The result of the raising temperature and precipitation was in raising groundwater recharge. The change of the groundwater

level is 0,87 – 1 m.

Morozovsk is situated in the central part of Rostov region. This part of the region is characterized by drier climate and this resulted in the groundwater recharge. It was noticed that there is no correlation between precipitation and groundwater level. The change of groundwater level is 1,14 - 1,26 m.

Due to the conducted research, it was found that there is close correlation between groundwater level and climate and natural reservation, while correlation of the same factors in industrial region is not so high. Still the results of correlation are closed to each other.