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Results of the Field-and-Scientific Study in the Water Area of the Estuaries of the Major Rivers of the Black Sea and Sea Ports on the Territory of Georgia

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Abstract : The field-and-scientific studies to evaluate the modern ecological state in the water area of the estuaries of the major water-abundant rivers in the coastal line of the Black Sea (Chorokhi, Kintrishi, Natanebi, Supsa, Khobistskali, Rioni and Enguri) and sea ports (Batumi, Poti) and sea terminals of the oil pipeline (Baku-Tbilisi-Supsa, Kulevi) were accomplished in the months of June and July of 2015. GPS coordinates and GIS programs were used to fix the areas of the estuaries of the above-listed rivers on a digital map, with their values varying within the limits of 0,861 and 20,390 km2. Water samples from the Black Sea were taken from the river estuaries and sea ports during the field works, with their statistical series of 125 points. The temperatures of air (t2) and water in the Black Sea (t1) were measured locally, and their relative value is (t1 /t2) = 0,69 – 0,92. 125 water samples taken from the study object in the Black Sea coastal line were subject to laboratory analysis, and it was established that the Black Sea acidity (pH) changes within the limits of 7,71 – 8,22 in the river estuaries and within 8,42 - 8,65 in the port water areas and at oil terminals. As for the Sea water salinity index (TDS), it changes within the limits of 6,15 – 12,67 in the river estuaries, and (TDS) = 11,80 – 13,67 in the port water areas and at oil terminals. By taking the gained data and climatic changes into account, by using the theories of reliability and risk at the following stage, the nature of the changes of the function of the Black Sea ecological parameters will be established.

Keywords : acidity, estuary, salinity, sea
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