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Research of environmental impact due to anthropogenic activites in coastal zone of Black Sea.

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The various researches carried out on environmental protection of Black Sea coastal zone identifies the main sources of surface waters pollution of the region as follows: waters polluted by the enterprises existing in the region, the rainfall waters flowing from the land area engaged for the agriculture, the waters flown from the dumping areas. Additionally, municipal waters and the waste waters used by the farms are determining the Black Sea environment pollution.

1 The present investigation (years of 2000-2002) is studied the transport of pollutants, resulted from the anthropogenic activities, through the relatively small polluted water bodies (river, lake) to the Black Sea basin.

The one of the main objectives of the research is the study of processes related to the chemical behaviours, transport and accumulation of pollutants in estuarine environment of small-polluted rivers in Georgia.

The rivers represent oligotropic system; the estuaries of the small rivers are the links between the marine and freshwater environment, as well as the estuarine zones are considered as the sites of major discharge of urban and industrial pollutants.

The another aim of the investigation is to study current pollution rate of the lake Paliastomi and its estuary. It must be mentioned that the Lake Paliastomi is characterised by unique and endemic biodiversity and its territory is protected by Ramsar convention. This system is affected mainly from urban (municipal and industrial) wastes of the City of Poti and from the agricultural activities.

Hydrochemical analyses were carried out according to methodological guidance of surface waters chemical analyses, which is corresponding to the ISO standards .

Dissolved oxygen and temperature were measured in situ, Photocolorimeter was used for the determination of concentration of phenols and nutrients, fluorimeter - for oil products, chloride ions definition was carried out by sample titration.

The molecular mass distribution of the microelements has been investigated by gel chromatographic method (Sephadex G-25): h=45cm, d=1.5cm; Standards: polyethilenglicols with MW 1000, 600, 300.The samples of water were concentrated by freezing.