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Pollution Monitoring of the Azerbaijani sector of the Caspian Sea.

Executive summary

In the frame of the EC TACIS project “Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern, (CaspianMAP)” the pollution surveys in the Azerbaijani sector of the Caspian sea were organized and executed by Caspian Complex Environmental Monitoring Administration (CCEMA) of the Ministry of Environment and Natural Resources, between 10th and 17th of November, 2008.

The main objectives of the expedition were:

- Indicate the main characteristics of water and bottom sediments in the potential impact areas of pollution sources, i.e. land based sources, as well as those located offshore
- Demonstrate capacities of the monitoring organizations and analytical laboratories in Azerbaijan, in order to establish an agreed cooperation for water quality monitoring in the Caspian Sea. And to assess the technical capacities and the required level of methodical provision, for the execution of future monitoring in the frame of the imminent regional monitoring program.

To achieve the mentioned objectives, a special sampling program was developed in the preparation phase, with the participation of the main organizations for future partaking in the regional monitoring program.

Not only Azerbaijani experts, but also international ones participated in the expedition, which fulfilled the training of the participants and were in charge of qualified execution of the procedures of sampling and sample preparation. The following experts participated in the expedition:

1. Jabbarov M. – leader of the expedition, deputy of CCEMA
2. Osmanly A. – leader of the group and deck works, key specialist of the monitoring sector of CCEMA
3. Gasanov N. – hydro chemist, CCEMA
4. Namazly P. - hydro chemist, CCEMA
5. Suleimanov D. – hydrologist/meteorologist, CCEMA
6. Derkach G. – TACIS expert of bottom sediment sampling, CMSET
7. Laptev G. - TACIS expert - hydro chemist, CMSET

And other staff of the team, which maintained all the duties at the vessel.

The pollution survey was executed with the scientific vessel “Alif Gadjev” of the Caspian Complex Ecological Monitoring Administration.

The samples were taken in the Azerbaijan coastal waters, in the vicinity of Baku Bay, and relatively deep part of the south part of the Caspian sea, taking in consideration historical sample locations which were operational in USSR-times.



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The expedition with the "Alif Gadjiev" was executed between the 10th and 14th of November. The following research was done on board:

- Complex of hydro-meteorological observations
- Changes of physico-chemical characteristics of sea water on the shipboard
- Sampling, packing and conservation of the sea water and bottom sediment samples in the freezer at the temperature – 15⁰C for the following hydrochemical analysis at the coastal laboratory "Azecolab"

Total amount of the sample stations is 15.

During the sampling the hydro meteorological observations were conducted, which included the following measurements: temperature, wind velocity and its direction, atmospheric pressure and weather conditions.

Water sampling was selected according to the methods, accepted in the labs of "CCEMA". The sampling was taken on three horizons: surface, 30m and near-bottom, accordingly.

The bottom samples were taken for fulfillment of the following chemical analysis on heavy metal, hydrocarbons content and radiation. Sampling was made at 15 stations.

At the sample stations the following characteristics were defined: electroconductivity, pH, temperature, and oxygen content. With the help of portative spectrophotometer "Hach DREL 2800" the following biogenic combinations were defined: nitrites, phosphates, sulphates, silicates, ammonium, nitrates.

In follow up to the successful executed expedition, the regulations and programs of annual water quality monitoring in the Caspian sea will be developed, with the optimal list of sampling stations, basic sea hydrologic characteristics. This program will be suggested to the countries in the frame of a regional water quality monitoring program for the Caspian sea, as part of the caspianMap project.