

Data base for radionuclides in the north-western Black Sea

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A data base has been developed to include the results of a monitoring programme performed beginning with 1984 by the Romanian Marine Research Institute (RMRI) and the Environmental Radioactivity Laboratory (ERL) of the Institute of Environmental Research and Engineering (formerly affiliated to the Institute of Meteorology and Hydrology).

Samples of sediment, water, macrophytes, molluscs and fish have been collected by the RMRI and prepared according to standard methodologies (IAEA, 1970). High resolution, low background gamma spectrometrical analyses have been performed on the samples at the ERL.

A dedicated software, elaborated at ERL, has been used for the development of the data base, which is implemented on IBM-PC compatible computers.

Presently the data base contains information on 600 samples collected in the area delimited by 43°44' and 45°09' N latitude, 28°35' and 30°40' E longitude. The following types of samples are included:

- shoreline (emerged) and bottom sediment, sampled up to depths of 56 m and distances of 39 Nm offshore
- surface and bottom water, sampled up to depths of 55 m and distances of 90 Nm offshore, not filtrated
- 12 species of macro-algae
- 4 species of molluscs (bivalvs and gastropods)
- 13 species of fish.

The data base contains concentrations of natural and artificial gamma emitters as well as data characterizing the samples and their environment. It also contains gamma emitting radionuclide specific activities in atmospheric deposition sampled at 2 locations on the coast.

The transfer of data to LOTUS 123 compatible files is in progress.

A similar data base is currently being developed based on a ERL project on Danube and Danube Delta radioactivity, containing also data which define the radioactivity input of the Danube into the Black Sea.

REFERENCES

IAEA, 1970 - Reference Methods for Marine Radioactivity Studies, Technical Reports Series No. 118, International Atomic Energy Agency, Vienna

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