

## **DATA PROCESSING SYSTEM FOR ECOLOGICAL CONTROL OVER OIL PRODUCING AREAS AND THE USE OF FRESH UNDERGROUND WATER RESOURCES**

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Exploration Dept. of TatNeft Co., Russia, has created an automatic system for processing hydromonitoring data. The system provides 1) storage and use of drinking water monitoring data, 2) processing and analysis of vast volumes of newly-acquired data, 3) monitoring data visualization, 4) location of water pollution sources, 5) modelling the dynamics of water pollution for taking preventive measures, 6) natural drinking water pollution forecast.

The system consists of: 1) data banks in turn consisting of databases such as Water Points, Geology, Hydrodynamics, Hydrochemistry, Pollution Sources, a number of auxiliary databases RiverMonitoring, Topography, Standards, Literature, and a database management system; 2) data analysing subsystems that evaluate water quality, pollution trends, and prepare data for a cartographic study and modelling; 3) cartographic analysis subsystems storing and processing eco-hydro-geological data based on cartographic modelling; 4) natural water conditions modelling subsystems that provide continuous computer modelling of pollution sources or underground natural water sources during their exploitation.