

## **DEVELOPMENT OF THE INFORMATION SYSTEM FOR INVESTIGATION OF GROUNDWATER DISCHARGE INTO THE BASINS OF CENTRAL ASIA LAKES**

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Recognition of the importance of groundwater flow into surface waters in arid and semi-arid climatic zones has increased dramatically in the last few years. Among various desert regions of the world, the environmental degradation in the vicinity of the Central Asia Lakes and especially in the Aral Sea Basin is the most severe. Environmental consequences of any changes in fresh water budget of the sea that will occur in the nearest future are becoming issues of highest priority. Long-term environmental changes cause dramatic effect on economical and social life of several countries in the region. The Aral Sea region thus deserves proper environmental assessment and management that must draw upon a reliable information system for investigation of groundwater discharge into the lake. The objective of this research was to design and produce a versatile multidisciplinary Information System on the region of Aral Sea (ASIS) as a tool for tracing, description and investigation of the processes pertinent to the problem of disastrous desertification in the region related to the changes in groundwater contribution to the total water budget. The work was broken down into four dependent, interwoven directions: (1) data pooling, (2) software development, (3) data processing, (4) compilation of the final product. The ASIS can help to notably improve dissemination of realistic information facilitating formulation of scientifically based recommendations for decision-makers. For the scientific community, it provides the efficient and easily accessible basis for research.