

COMPUTER-BASED TECHNOLOGY FOR ELABORATION OF MORPHOMETRIC CHARACTERISTICS OF RESERVOIRS

Ekaterina Shikunova; Igor Zemlianov; Olga Gorelits; Andrew Pavlovsky

ABSTRACT

Water resources of reservoirs are used in different purposes. For effective water management it is important to know current morphometric characteristics of reservoirs. For getting them we need bottom and coastal zone digital elevation model (DEM). In 2008-2010 in State Oceanographic Institute (SOI) methodology and computer-based technology of creating DEM were developed and evaluated on 9 biggest and important Russian reservoirs. The input data are bathymetric survey data, large-scale maps and remote sensing. Bathymetric survey was made by SOI team using special technological complex. We used complex of GIS programs (ArcGIS, Golden Surfer, Global Mapper, GIS Panorama). To optimize process and increase efficiency we used batch processing combined with supplementary software which was developed in SOI. This technology is universally. It permits to create DEM's array with different type of input parameters in a short time for anyone reservoir. It also allows users to create DEMs with different cell size.

PALAVRA-CHAVE: Reservoir, Digital Elevation Model, technology, GIS