Modern Hydrological Programs

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Along with the study of hydrological regime of rivers in Georgia it's changes and improved hydrological methods. Today, with the help of modern technology working be more fast and trusty. Now we can calculate more information, together and make hydrological modeling, and our results is more informative for societies. Especially now when role of hydrology increasingly growing. Georgia will gradually follow the development of scientific and technical programs of the until 2000 year. modern hydrological programs slowly took root and developed.

In Lopota river in the region Kakheti, making Hydrological modeling by different softwar (EX: GIS, MIKE 11, HEC-HMS, EXCEL, GPS). I was Intern in National Environmental Agency (NEA) in a Polish project (Hydrological modeling in Georgian rivers). When we working in Hydrological modeling in rivers, for this we have had Expedition in and making cross-sections, studying rivers Hydrological regimes, land use and other necessary option. For Maximum discharge and catastrophic cost results we need determine different components of the model and several parameters, firstly we caclualte maximum discharg for rivers and it make formulas which one is based for modeling (Ex 0.2%, 0.1%, and 10%); Catastrophic costs and the level of interaction between the different parts of the river (cross-sections); Preparing the model start in GIS program, which include design parameters, such as a river catchment area, average height, the slope of the basin, river slope, length of the river and it's tributaries, CN, and other parameters. Then at HEC-HMS-as well as for use, where we present a GIS program in the form of a file and take pictures with the modeling of the maximum flow in the first phase, during which the rainfall and flow distribution around the pool. The last stage will be MIKE-11, where our field work in cross-section and export GIS and HEC-HMS data and accept the result of the longitudinal sections of the calculated levels. After MIKE-11 based on data from the GIS system to photograph the river and the surrounding area zoning map with the appropriate training.