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Upgrade of the “ActiveTectonics” on-line database of Pliocene-Quaternary fautls in the Baikal Region and adjacent areas

Anton Gladkov[1,2] and **Lunina Oxana**[1]
[1]Institute of the Earth's crust, Siberian Branch of the Russian Academy of Sciences, Russian Federation (anton90ne@rambler.ru)
[2]Center for the Development of Continuing Education of Children, Ministry of Education of Irkutsk Region

Studying and mapping of faults in the Earth’s crust is one of the priority objectives in structural geology and tectonophysics. Generally, faults are associated with mineral deposits, thermal springs, and earthquakes, and fault zones are areas of the most dangerous geological processes and various geophysical anomalies. In this regard, databases of faults are highly demanded by both science and practical applications. In this work, we present an on-line geospatial database containing faults, which were active in the Pliocene–Quaternary within the territory between 96–124°E to 49–58°N. The locations of the faults were mapped with using MapInfo GIS based on the extensive analysis of cartographic, published and own structural materials. The data about each fault were input via ActiveTectonics Information System developed by us. The interactive version of the database put out in the open (http://www.activetectonics.ru/) in Russian and English and anyone may get available information about a fault by a click. The geoportal is constantly developing and constitutes a base for the creation of an automated system for modeling geological hazards (seismic soil liquefaction, secondary rupturing, subsidence and slope processes) in the Baikal region.

Currently, as part of the modernization of the ActiveTectonics geographic information product, we are developing models and schemes of data and metadata to create a detailed geospatial database of seismogenic ruptures of the Baikal region. A modern user-friendly interface is being developed to automate the data collection process.

The creation of such a publicly accessible catalog of seismogenic ruptures will be useful for applied and fundamental research.

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