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Fault kinematics of Sakhalin Island based on geological and seismological data

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Abstract PDF ENG Резюме PDF RUS Full text PDF ENG PDF RUS

Абстракт. The paper presents a tectonic map of Sakhalin Island showing digitized faults derived from 1:1,000,000 scale tectonic maps and identified by geological surveys (detailed on 1:200,000 and 1:50,000 scale maps). The structural geological data on the kinematics of faults have been compared with seismological data on the earthquake focal mechanisms. A reasonable correspondence of these data has been obtained. The predominant kinematic type of faults is thrust/throw in the southern and northern parts of Sakhalin Island. In the central part of Sakhalin, a mixing of fault kinematic types is observed, mainly thrust faults with rare normal and strike-slip faults. Two uninformative zones have been identified with virtually no data on both structural geology and seismology. The earthquake focal mechanisms with a strike-slip component are dominant at their boundaries.

Ключевые слова:

fault, thrust, normal fault, strike-slip fault, GIS, digital map, Sakhalin,

earthquake focal mechanisms

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