



## **Seismic monitoring of Central Asia territory in KNDC.**

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The Central Asia territory includes the territory of five post-Soviet countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Every country has its own independent network of seismic observations and Data Processing Center aimed at every day seismic monitoring of one country territory. However, seismic hazard of Central Asia territory is stipulated by one geodynamic system that generates simultaneous large earthquakes on the territory of different countries. Thus, it is necessary to observe seismic situation for the whole region for emergency situations and for compilation of joint seismic bulletins of Central Asia region.

A new contemporary network of seismic observations operated by the Institute of Geophysical Researches has been installed in Kazakhstan during last 15 years. Mainly, these are seismic arrays located throughout the country perimeter. The arrays were constructed under support of the CTBTO, and AFTAC. There are also IRIS and CAREMON stations. All data arrive to KNDC (Kazakhstan National Data Center) in real time mode. In addition, KNDC receives data in real time from stations Zalesovo (Russia), Alibek (Turkmenistan), Ala-Archa and Tokmak (Kyrgyzstan). Arrival times in the form of tables are received with 24-hours delay from almost 20 Kazakhstan stations belonging to SEME MES RK. This observation system allows monitoring the Central Asian seismicity by earthquakes with representative magnitude more than 3.5. In some regions, the events with magnitude 1.5 are recorded.

As result, different products with different operativity are created for Central Asia territory:

- bulletin of urgent alerts;
- automatic seismic bulletin;
- interactive seismic bulletin;
- joint seismic operative bulletin by data arrived on-line and in table form.

After that, in retrospective mode, the events nature is identified to discriminate mining explosions (up to 4000 per year) and natural earthquakes (up to 15000 per year). The results are available at KNDC web-site ([www.kndc.kz](http://www.kndc.kz)), and are sent to Data Centers of different countries via e-mail. In addition, processing data are submitted to EMSC, ISC, and GSRAS.