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CHANGES PARAMETERS OF SEISMIC ACTIVITY AND TECTONIC STRESS FIELD IN TIME AFTER LARGE EARTHQUAKE

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Chuya earthquake that occurred September 27, 2003 (Ms = 7.3) is the strongest over half a century of instrumental seismological observations in the Altai-Sayan region (Russia). This earthquake created a unique for the duration of seismic activity: strong earthquakes with a magnitude of up to five were recorded in the epicentral area ten years later. Moreover, two earthquakes with a magnitude of about six occurred in adjacent areas in 2012-2013.

Observations with temporary seismic stations (up to 30 stations during up to3 months) are held annually for 10 years after Chuya earthquake in its epicentral area. Information about more than 50 thousand earthquakes with precision location of hypocenters from a few hundred meters to a few kilometers is received on the basis of seismic monitoring in the epicentral area.

In this paper, we present an analysis of the spatial structure of the aftershock area, its changes over time and its relation with block structure. It is discovered that 10 years after a major earthquake the seismic process develops into adjacent structures: to the north, north-west and south.

Tectonic stress field was reconstructed on the basis of data about parameters of focal mechanisms of 495 Chuya earthquake aftershocks in the energy range $7.3 \geq Ms \geq 1.0$ occurred in epicentral zone in 2003-2012. Parameters of stress field were calculated for three hierarchical levels: regional, subregional and local. It is obtained that the tectonic stress field in regional and subregional levels is stability but in the local level its parameters change in time and depth.

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