# Dynamics of South California seismic activity before and after Hector Main earthquake (1999, m = 7.1)

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Investigation is devoted to the results of studying the features of the process of preparation and reaction of a seismically active region to a trigger - the main shock. The object of the analysis was the largest earthquake with M = 7.1 in Southern California, known as the earthquake Hector Mine.

The data from the regional catalogs of earthquakes in Northern California from 1968 to 2007 (http://www.ncedc.org) and Southern California from 1983 to 2008 (https://www.scec.org) have been used for analysis.

The dynamics of seismic activity before and after the main shock is considered. It is shown that in the focal zone and at distances of many large sizes of the focal zone, seismic silence (calm) before of the main shock and activation of seismic activity after the main shock are observed.

It has been found that throughout the territory of Southern California and even on parts of the territory of Northern California, signs of the preparation of the Hector Mine earthquake are recorded. There is a decrease of the average magnitude of earthquakes 10-30 days before the main shock. After the main shock throughout the territory of Southern California and partly in Northern California, an increase in the number of earthquakes is observed.

Presents the results of the search and analysis of similar main shocks with the property of "long-range action" in Northern and Southern California. Additionally considered the main shocks on data of the USGS/NEIC world catalog of earthquakes from 1973 to 2014 (https://www.usgs.gov).

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