

## Geodynamic Background of Earthquake Prediction

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Following specific possibilities for earthquake prediction are opened by the new data bases, theoretical models and the relevant know how developed in structural geology and geological prospecting: *fL* Mapping of the structures where strong earthquakes and slow destructive movements are nucleated. Those are the nodes - hierarchical mosaic structures formed around the faults *f†* intersections. *fL* Mapping the faults *f†* system, nodes included, by integrated analysis of satellite observations, tectonic history from Precambrian to Holocene, geological, geophysical and geomorphological maps.

Both of the above methodologies has been successfully applied to platforms, where possibility of rare but devastating earthquakes may be underestimated. *fL* Determination of a quantitative measure of instability of the faults system, and monitoring its temporal changes, the approach of a strong earthquake possibly included.

*fL* Incorporation of geometry and kinematics of faults system into a next generation of earthquake prediction algorithms. In particular, correlation of activity of the different branches of fault *f†*s system seems to open a promise for short - term prediction.

*fL* Integration of different types of precursors by their common geodynamical framework. Specific possibilities are discussed for integration of data on seismicity, fluid regime, geochemistry, and GPS.

*fL* Those are parts of a broader issue: emergence of the newly integrated geodynamics, which will extend from a fundamental concept, succeeding the plate tectonics, to prediction and control of geological disasters; it will be linked with the study of a wide class of other critical phenomena in nature and society.