



Problems in the Study of lineaments

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The study of linear objects in upper crust, called lineaments, led at one time to a major scientific results - discovery of the planetary regmatic network, the birth of some new tectonic concepts, establishment of new search for signs of mineral deposits. But now lineaments studied not enough for such a promising research direction.

Lineament geomorphology has a number of problems.

1. Terminology problems. Lineament theme still has no generally accepted terminology base. Different scientists have different interpretations even for the definition of lineament We offer an expanded definition for it: lineaments – line features of the earth's crust, expressed by linear landforms, geological linear forms, linear anomalies of physical fields may follow each other, associated with faults. The term "lineament" is not identical to the term "fault", but always lineament - reasonable suspicion to fault, and this suspicion is justified in most cases. The structure lineament may include only the objects that are at least presumably can be attributed to the deep processes. Specialists in the lineament theme can overcome terminological problems if together create a common terminology database.

2. Methodological problems. Procedure manual selection lineaments mainly is depiction of straight line segments along the axes of linear morphostructures on some cartographic basis. Reduce the subjective factors of manual selection is possible, following a few simple rules:

- The choice of optimal projection, scale and quality of cartographic basis;
- Selection of the optimal type of linear objects under study;
- The establishment of boundary conditions for the allocation lineament (minimum length, maximum bending, the minimum length to width ratio, etc.);
- Allocation of an increasing number of lineaments - for representative sampling and reduce the influence of random errors;
- Ranking lineaments: fine lines (rank 3) combined to form larger lineaments rank 2; which, when combined capabilities in large lineaments rank 1;
- Correlation of the resulting pattern of lineaments with a pattern already known of faults in the study area;
- Separate allocation lineaments by several experts with correlation of the resulting schemes and create a common scheme.

The problem of computer lineament allocation is not solved yet. Existing programs for lineament analysis is not so perfect to completely rely on them. In any of them, changing the initial parameters, we can get pictures lineaments any desired configuration. Also a high probability of heavy and hardly recognized systematic errors. In any case, computer lineament patterns after their creation should be subject to examination Real.

3. Interpretive problems. To minimize the distortion results of the lineament analysis is advisable to stick to a few techniques and rules:

- use of visualization techniques, in particular, rose-charts, which are submitted azimuth and length of selected lineaments;
- consistent downscaling of analysis. A preliminary analysis of a larger area that includes the area of interest with surroundings;
- using the available information on the location of the already known faults and other tectonic linear objects of the study area;
- comparison of the lineament scheme with schemes of other authors - can reduce the element of subjectivity in the schemes.

The study of lineaments is a very promising direction of geomorfology and tectonics.

Challenges facing the lineament theme, are solvable. To solve them, professionals should meet and talk to each other.

The results of further work in this direction may exceed expectations.