

CARTOGRAPHIC METHOD OF INVESTIGATION IN COMPARATIVE PLANETOLOGY

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Maps of the Moon and planets are widely used for solving important scientific tasks. They have been used for obtaining such quantitative indices as the areas of maria on the Moon and plains on the planets, sizes of large basins and craters for revealing spatial regularities, as well analysis of the distribution of typical topographic forms in comparative planetology.

Using the cartographic methods of investigation allow to reveal the global features of relief of the Moon, Mercury, Venus, The Earth and Mars. Analysis of hypsometrical maps have shown that there are many relationships among terrestrial planets and the Moon:

- with increasing distance of planets from the Sun, topographic relief increases (on Mercury it is about 6 km, on Venus - 15 km, on the Earth - 20 km, on Mars - more than 30 km);
- the planets with the period of rotation of about twenty-four hours (the Earth and Mars), have a multimodal distribution of the height levels but the Moon and Venus which rotate slowly feature an unimodal distribution of height levels;
- the average heights in the southern hemisphere are higher than in the southern hemisphere on the Moon, Venus and Mars, but on the Earth - vice versa.;
- study of height distribution in longitudinal zones for the Moon, Earth and Mars shows that their surfaces can be arbitrarily divided into two hemispheres one of which has more heights range than the other;
- the basaltic lowlands occupy greater areas in the northern than in the southern hemisphere on Venus, Mars, Mercury and the Moon. Moreover these areas are dependent on the planetary size and mass.
- there are much more craters on the southern hemisphere of Mars, Mercury and the Moon than in the northern one;
- in contrast to the Moon and Mercury martian craters density in the dark regions exceeds on the average the density in the light regions.