
**Update of digital map in 1:100,000 scale
for Omsk Oblast Territory by space images using PHOTOMOD system**

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In accordance with state contract, digital map of Omsk oblast of 1:100,000 scale is created in Western-Siberian branch of VISHAGI.

Mapping was executed in two stages:

- orthophotomaps creation in 1:100,000 scale;
- creation of thematic layers of digital map.

The initial data for orthophotomaps building were space images acquired by LandSat-7 satellite. Colored images were obtained by pan-sharpening from set of white-black multispectral images, corresponding to one image. Ground control points for images referencing were taken from topographic maps in 1:25,000 scale.

In order to improve the accuracy of GCP coordinates, the coordinates of quasi GCP were measured. This methodology is based on change of GCP's group by the only ground control point what is resulting in improving the accuracy of images orientation. Images orientation using quasi GCP and images transformation was executed in PHOTOMOD GeoMosaic software module.

In parallels with orthophotomaps building, the following thematic layers of digital map were created: geodetic base, settlements, rivers network, vegetation, roads, utilities, and administrative boundaries. PHOTOMOD VectOr software module was used for line objects vectorization using topographic maps of 1:100,000 scale. In order to update changed objects created orthophotos were used and also agricultural maps of 1:25,000 and 1:100,000 scales. For semantic data update we collected necessary information from appropriate organizations. Updated metric and semantic data about objects was input into appropriate layers and visualized on digital map.

The presentation contains accuracy features of particular work stages, and also wishes for Racurs company developers.