

MAPPING OF DESERTIFICATION PROCESS BASED ON SPACE PHOTOS IN THE MOUNTAIN ZONE OF TAJIKISTAN

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Over the last years for drawing up of a soil-erosive map and the maps of vegetation and anthropogenous influence on soil - vegetative cover space and space snapshots have been used. The space information, due to the large visibility, one-time scope of large territory, represents a valuable cartographic material for study of dynamics (changes) of many natural objects and processes, including erosive phenomena and soil-vegetative cover. Therefore, decipherment of processes of degradation of soil and vegetation and the features of their development on space photo screen, with the purpose of creation of a thematic map, has a large theoretical and practical meaning.

Study and analysis of available space photos and Automatic space photos and comparison with traditional soil-erosive and vegetative cartographic materials have shown, that the space snapshots have high information capability. On them soil-erosive and vegetative objects (the contours) are distinguished depending on change of phototone, textures, structure, figure, form, size of the image and their combinations about presence of close correlation connection with reflective ability of soil and vegetative cover.

The application of space photo snapshots at study of mapping of eroded soil and degradation of vegetation and comparison of results of decipherment with the traditional erosive and vegetative materials which have been carried out in different terms, enables objectively to develop a way of display water, irrigation, ravine erosion and deflation with division them on gradation wash-off and deflation on a soil-erosive map and various category of degradation of vegetation of mountain territory of the south of Central Asia and on their basis to give the forecast development of degradation of land and vegetation. Besides ACPH is a good material for drawing up a map of density, length and area of the gully erosion.

For revealing regularity of spread of the soil degradation and vegetation, we, on the basis of existing SPH made a map of soil erosion, soil, salinization, gully erosion of mountain territory of the south of Central Asia. At drawing up a map of soil erosion and degradation of vegetation above examined region, we took into account first of all basic reflective abilities of eroded soil and vegetative cover according to their deciphered attributes (indirect and direct) on the different space information. Mountain territory of Tajikistan, is known to be characterized by complexity and variety of natural and economic conditions. Notwithstanding, the analysis of the space information shows, that development of different types and sub-types of soil and the erosive processes, accompanying them, are attributed to certain soil - geomorphologic landscapes and files of newly irrigated, irrigated and old-irrigated regions.

So, analysis and the comparison of space photo images with traditional soil - erosive materials shows, that with the large accuracy and reliability on snapshots water, wind, ravine and irrigation types of soil erosion and different category of degradation of vegetation are distinguished. Among these soil - erosive types and degradation of vegetation on space snapshots are precisely

allocated weakly,-medium and strongly eroded soils caused by various development on their surface of vegetative communities, and contents humus, moisture, salts, carbonates, depending on attribution of them to the certain conditions of macro - and micro - relief. These geographic – genetic properties and the ecological features of eroded mountain soils of Tajikistan are well reflected on various phototone of space photos, by texture and figure, that has given us an opportunity to establish and contour on space snapshots various groups of eroded soils and on their basis to make a map of soil erosion.

The received results allow not only to specify areas of spread of eroded soil of this region, but they are necessary for the correct account of dynamic soil resources with the purposes of their rational use and protection.

Besides the use of occurring at different times space snapshots give to us the basis to use them for monitoring a soil and vegetative cover. The cartographic monitoring of mountain territory of Tajikistan gives us an opportunity to predict the further condition of soil- of a vegetative cover, which is necessary for planning steady development of the mountain country.