

## Land classification in Surkhandarya region, southeastern Uzbekistan

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In the Surkhandarya river basin, southeastern Uzbekistan, there are many Buddhism temple excavations which were established after 1st century. The aim of this study is to clarify the distribution landforms and geomorphic environment in this area as a part of excavation of the Kara-Tepe Buddhism temple, which is one of the most important temples between 1st century and 3rd century.

The land classification map was created by interpretation of counter maps derived by Alos-2 data and satellite images of Google earth. Field surveys were also performed in September 2016 in southern part of the Surkhandarya valley.

The region consists of major five topographic regions: high mountain range, frontal mountain range, Surkhandarya valley floor, central hill, Amdarya river floodplain. The high mountain ranges are including the Hisor mountain range, which is the west extension of the Pamir, the Bobotag mountain range and Kohitangdog mountain range, whose elevation are up to about 4700m. The frontal mountain ranges are located on the front of the high mountain ranges facing the eastern and western fringe of the Surkhandarya valley. They consist of several rows of ranges whose elevation is up to about 1000m. The Surkhandarya valley floor is formed by the Surkhandarya River. That is consists of terraced flat surfaces, alluvial fans formed by tributaries flowing down through the frontal ranges, which includes dissected alluvial fans, the Surkhandarya flood plain. Although terraced flat surfaces are extended, the floodplain along the Surkhandarya is narrow. The central hill divides the terraced flat surface of the Surkhandarya valley. The hill is raised a couple of hundred meters from the terraces flat surface of the Surkhandarya valley and have five levels of backs. The Amdarya river floodplain is several tens of kilometers wide and eroding the lower ends of terraced flat surface of the Surkhandarya valley creating the boundary between Uzbekistan and Afganistan.

After formation of the Surkhandarya valley floor the central part of the valley floor and frontal zone of the high mountain ranges began to be uplifted and formed the central hill and frontal mountain ranges.

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