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Ancient sites mapping in Mesopotamian marshland region based on remote sensing data

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This paper describes mapping of ancient sites using remote sensing techniques, which has been no detailed map of the ancient sites lying in Iraq.

We begin to make map especially from South Iraq, where fieldwork cannot be carried out by Japanese and the urgent actions are demanded for protection of the Ancient sites.

In order to protect the ancient sites, an accurate database for the geographical distribution of the ancient sites should be developed and then, it is advisable to utilize it for managing and patrolling these sites. We have been developing the digitalized database based on the existent research reports and maps of the ancient sites. But, the locations of the all the ancient sites have not been fully comprehended, so the investigation into their geographical distribution needs to be conducted.

Iraq is homeland of the ancient Mesopotamian civilization. Marshland stretching the southern part of Iraq is called Mesopotamian marshland and, this region is very important as the cradle of the first Mesopotamian civilization.

These sites have been newly identified as a result of the diversion and drainage and pumping out of water of this marshland in order to use it for agriculture by the Saddam Hussein's regime from 1990th downward. However, since 2003, when this regime was collapsed, this region's inhabitants have destroyed the water canals and banks, and opened the water gates in order to recover this lost marshland. This region has been gradually submerged again by these activities, and many ancient sites are now under the condition of submergence. Before these sites are completely submerged, making of their distribution map is urgently needed.

The satellite data set which we used are CORONA, LANDSAT, ASTER, FORMOSAT-2, and ALOS.

Landscape of this area changed greatly in the past 40 years. But, many remains are distributed over a flat place and relative height is low. Therefore extraction of remains is not possible from satellite data set.

Keywords: Ancient sites, Mesopotamian marshland