

## Annual change of saline deposit soils using MODIS data

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In this study, we try to detect the distribution of saline deposit soils using remote sensing data for the oasis around the aksu located on the north edge of the Taklimakan desert. A final target of this research to evaluate the region made a vast expanse of by the saline deposit soils, to clarify the factor, and to propose the solution.

It aimed at the development of the technique that used the remote sensing data that was able to be observed as a technique for evaluating the saline deposit soils region from the satellite data.

In the process of the development of the evaluation technique of the saline soil that uses current satellite data, the saline soil was understood that the land cover is greatly different according to the season. It is necessary to understand the change of the season of the saline soil to evaluate the secular distortion of making of the soil salts. Then, it was assumed that the realities related to the change of the season of the saline soil were understood by using the MODIS data that was able to be observed at high frequency for the large area.

The data used was assumed to use the data of the ground level reflectivity that the composite was done every 32 days from the data of MODIS observed every day. It has been understood that the saline soil divides from the tendency to the change of the season of the ground surface reflectance of the saline soil into some regions. The obtained finding is arranged as follows.

Area1: Region that hardly changes from trend of change at season of ground surface reflectance through one year. The soil moisture of the ground cover is low, and it is guessed to rock salt to make it to solid soil. It leaves the oasis, and underground water is guessed to be low from the result of the field investigation.

Area2: From the trend of the change at the season of the ground surface reflectance, the reflectance of visible range of spring is high, but the same reflectance of summer decreases. It is thought that it begins to dry in summer, and salts are made solid soil on the surface in spring though the soil moisture of the ground cover is high, and salts accumulate in white on the surface.

Area3: From the trend of the change at the season of the ground surface reflectance, the reflectance of visible range is high from spring to summer, and the same reflectance decreases from summer to autumn. It is thought that it accompanies so that underground water may decrease from autumn to winter, and salts are made solid soil though the soil moisture on the surface is high from spring to summer, and salts accumulate on the surface.

Area4: From the trend of the change at the season of the ground surface reflectance region where reflectance of visible region improves from spring to summer, and the reflectance decreases in autumn. The soil moisture rises in summer, and salts accumulate on the surface in spring though the soil moisture is low. It is dry in autumn and winter as well as spring. Chiefly, it is thought that the moisture of the upstream has moved from distribution in the downstream region.

It actually influences the seasonal change of the saline deposit soils from the temperature and the amount of the rainfall different depending on the age, and it is not possible to do easily though it is necessary to analyze after the above-mentioned seasonal change is understood enough when the grasp of the annual change of the saline deposit soils is tried. Then, it proposed the method understood easily by the trend of the climatic variation by using the correlation matrix table of MODIS for every 32 days composite image.