An application of Remote Sensing Technology on Chinese Inland Water-body research

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With the fast development of space technology, remote sensing technology became irreplaceable and advanced means in the fields of global changing and population-resources-environment. The arm of the work is to construct an International Scientific Data Platform for scientists to extract the Chinese Inland water-body information from the Landsat satellites remote sensing data. To be briefly, our research includes two parts: I. the inversion model. We introduce a model to build the relationship between the water-body characteristics and the remote sensing reflectance, and by invert the model, we could pick up reservoirs, ponds, broad rivers as well as small water areas data. II. the platform. A platform is developed to run the inversion model. In this platform, according to their empirical knowledge on the research area, scientists could set the model inversion parameters freely. In addition, the paper analyzed the spectrum characteristic of water-body having characteristics of (ETM2+ETM3)/ (ETM4+ETM5) >1 in ETM imagery, and the cloud also expresses a special reflectance characteristics on ETM2, so by assisting suitable threshold vale it was easy to separate water-body from all other surface complement. The results shows that the model, which we introduced in the International Scientific Data Platform, is not only effectively inversion the broad river information (including the river distribution, length and area etc.), but also greatly raises the accuracy of small water-body recognition compared to other methods.