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Analysis and assessment of land desertification in Xinjiang based on RS and GIS

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The land desertification in Xinjiang was monitored and analyzed based on RS and GIS techniques. Satellite data interpretation was adopted to obtain the general situation of Xinjiang's land desertification in assistance with the sampling method and on-the-spot investigations. Related monitoring and investigations showed that Xinjiang was facing with severe wide range land desertification, and its desertified area made up 77.08% of the total monitoring area. As for land types, the desertified farmland accounted for 1.92% of the total monitoring area, desertified woodland 4%, desertified grassland 45%, and unused land 49%. Accordingly, as for desertification degrees, non-desertified land occupied 22.92%, weak desertified land 5.69%, medium-degree desertified land 16.58%, severe desertified land 33.19% and super severe desertified land 21.61%. Finally, as for inducing factors, wind-eroded desertification made up 58.23%, water-eroded desertification 8.69%, salinization desertification 6.52% and frozen-melt eroded desertification 3.64%. Xinjiang's land desertification tended to get worse and the harnessing mission remained hard.

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关键词: Xinjiang; land desertification; remote sensing; GIS; monitoring and analysis doi: 10.1360/gso40204