

论文

短时间间隔的土地利用变化监测

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摘要:

传统的土地利用变化监测方法已无法完全满足当前经济的快速发展和城市急剧扩张的要求,利用光学遥感数据对地观测也受到天气和云层覆盖等诸多因素的限制。而Radarsat-1等雷达遥感数据可以在"全天候"的条件下对地表进行观测。论文以Radarsat-1图像获取的24 d时间周期为最短时间间隔,分析了24 d、48 d和72 d时间间隔下的土地利用变化监测,对短时间间隔内的土地利用变化监测的结果进行了总结。监测的结果需要在精度与时间间隔之间做出取舍。对于大部分的情况,24 d的时间间隔已可以得到60%以上精度的结果,部分月份的监测需要48 d的监测时间间隔。若需要更高的精度,则需要72 d甚至更长。

关键词: 遥感 雷达 土地利用变化 短时间间隔

Short-interval Land Use Change Detection

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Abstract:

As the fast economic development and urban expansion, it is difficult for traditional methods to monitor land use changes in short time interval. Moreover, remotely sensed data acquired by optical sensors is often limited by bad weathers and cloud cover. SAR images, such as Radarsat-1, are an ideal tool for weather-proof observation on ground surface. This paper analyzed the results of land use change detections with time lags of 24 days, 48 days and 72 days according to the period of acquisition dates of Radarsat-1. The results need a compromise between accuracies and efficiencies related to the time lags. For most of the situation, it is sufficient of using a time lag of 24 days to obtain accuracy of 60% or above. In some cases of months, a time lag of 48 days is needed. For obtaining higher accuracies, longer time lage such as 72 days are needed.

Keywords: remote sensing radar land use change short-interval

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