

Cloud Detection and Removal Algorithm Based on Mean and Hybrid Methods

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Abstract

Satellite images are playing a major role in region structure planning, change detection which is used in defense for protection and also used for study and analysis of geographical structures of earth and space. Clouds are challenging issue in most of the satellite imaging based applications since appearance of cloud on input image will be treated as noise. Accurate detection and removal of cloud region either from an input image or from image acquisition is an important preprocessing phase on most of the applications especially in remote sensing. Algorithms such as, Mean, Second Highest (SH) value, Modified Maximum Average (MMA) and Hybrid methods (combination of Mean and MMA) are widely in use for cloud detection and removal. The result of exiting methods shows that Mean and SH algorithm will be appreciable for removing less number of clouds which have less in brightness (low pixel values). However, MMA and Hybrid algorithms are used for removing more number of clouds in an image that have both less and high brightness (Low and High pixel values). This paper focuses new enhanced method for cloud removal. The result of proposed method shows that it is able to remove the clouds of both low and high brightness values without affecting quality of the images and it is also suitable for all types of satellite images.
