عنوان مقاله:

Investigation of boxwood blight disease using satellite image processing

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خلاصه مقاله:

In recent years, boxwood dieback has become one of the essential concerns of practitioners and managers of the natural resources of the country. Blight and Box tree moth outbreaks are two of the most critical factors contributing to the dieback of these natural masses. Therefore, to reduce the risk of extinction of the box species, the necessity of planning and devising appropriate strategies to combat this phenomenon is inevitable. To control the expansion of the factors contributing to the dieback of box trees, the early detection and preparation of distribution maps are required. In this respect, remote sensing data play an essential role. Pests and diseases can cause a variety of reactions in plants. These reactions can range from changes in color, shape, or leaf size to photosynthesis, transpiration. Through remote sensing techniques, the variation of thermal and visual characteristics of the plant can use to measure and even illustrate the symptoms of the disease. In this study, five vegetation indices, e.g., DVI, NDVI, SAVI, SR, and PHI , extracted from landsat 8 satellite were used. Pilot study areas include six regions in Guilan province)Field measurements of healthy and diseased plants are available in these areas(. The evaluation results have been extracted from 150 maps for the 2014-2018 period, and the disease progression model in the years mentioned above has been obtained separately for rural districts and indices. Among these indices, according to the results of the models, SR and NDVI indices are more useful for evaluations, respectively. The coefficient of determination obtained from the models confirms the validation of the model in future estimates and the possibility of using it to assess the extent of the affected areas and the evolution of progress in all regions

کلمات کلیدی:

Buxus Hyrcania Pojark, Lavandvil, Remote sensing, Vegetation indices

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