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Remote Sensing and GIS as an Advance Space Technologies for Rare Vegetation Monitoring in Gobustan State National Park, Azerbaijan

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ABSTRACT

This paper describes remote sensing methodologies for monitoring rare vegetation with special emphasis on the Image Statistic Analysis for set of training samples and classification. At first 5 types of Rare Vegetation communities were defined and the Initial classification scheme was designed on that base. After preliminary Statistic Analysis for training samples, a modification algorithm of the classification scheme was defined: one led us to creating a 4 class ' s scheme (Final classification scheme). The different methods analysis such as signature statistics, signature separability and scatter plots are used. According to the results, the average separability (Transformed Divergence) is 1951.14, minimum is 1732.44 and maximum is 2000 which shows an acceptable level of accuracy. Contingency Matrix computed on the results of the training on Final classi- fication scheme achieves better results, in terms of overall accuracy, than the training on Initial classification scheme.

KEYWORDS

Remote Sensing, GIS, Seperability, Classification

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References

[1] J. R. Jensen, "Introductory Digital Image Processing: A Remote Sensing Perspective," Prentice Hall, London, 1996.

[2] T. Kavzoglu and P. Mather, "The Role of Feature Selection in Artificial Neural Network Applications," International Journal Remote Sensing, Vol. 23, 2002, pp. 2919- 2937.

[3] I. L. Thomas, V. M. Benning and N. P. Ching, "Classification of Remotely Sensed Images," Adam Hilger, London, 1987.

[4] L. V. Dutra and R. I. Huber, "Feature Extraction and Selection for ERS-1/2 in SAR Classification," International Journal of Remote Sensing, Vol. 20, 1999, pp. 993- 1016.

[5] B. M. Tso and P. M. Mather, "Crop Discrimination Using Multi-Temporal SAR Imagery," International Journal of Remote Sensing, Vol. 20, 1999, pp. 2443-2460.

[6] O. Mutanga, I. Riyad, A. Fethi and K. Lalit, "Imaging Spectroscopy (Hyperspectral Remote Sensing) in Southern Africa: An Overview," South African Journal of Science, Vol. 105, 2009, pp. 83-96.

[7] H. I. Mohd and J. Kamaruzaman, "Satellite Data Classification Accuracy Assessment Based from Reference Dataset," International Journal of Computer and Information Science and Engineering, 2008, pp. 96-102.