

CHANGES IN VEGETATION ASSOCIATED WITH CHANGES IN LITHOLOGY: ITS USE FOR ULTRAMAFIC ROCKS DISCRIMINATION IN TOTALLY VEGETATED TERRAINS AS THE COLOMBIAN PACIFIC COAST

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The western flank of the western Cordillera in south-western Colombia, is a totally vegetated terrain composed by tertiary plutonic rocks, cretaceous metasediments, ultramafic sequences, tertiary volcanic rocks, tertiary sedimentary rocks and quaternary deposits.

Image digital processing was carried out in a Landsat TM subscene. As the ultramafic rocks commonly cause the vegetation density to decrease in normally vegetated areas, satellite data processing by simple technics like band combinations and principal components analysis, provided imagens where these rocks are well enhanced, due to subtle spectral responses of vegetation, caused by differences in canopy density generated by contrasts of soil composition, which are related with underground lithology.

As the ultramafic sequence defines a N-S to NE-SW trending belt exposed throughout the study area, the mapping of its tectonic contacts with the cretaceous metasediments to the east, and with the tertiary volcanic rocks to the west, allowed to improve the study area previous geological mapping. The major limitation of these multispectral imagens for the selected area, was the presence of clouds in very relevant portions of the subscene, which is caused by the specific meteorological conditions of the Colombian Pacific Coast.