United States Department of the Interior
Geological Survey

The Geophysical Expression of Selected Mineral Deposit Models

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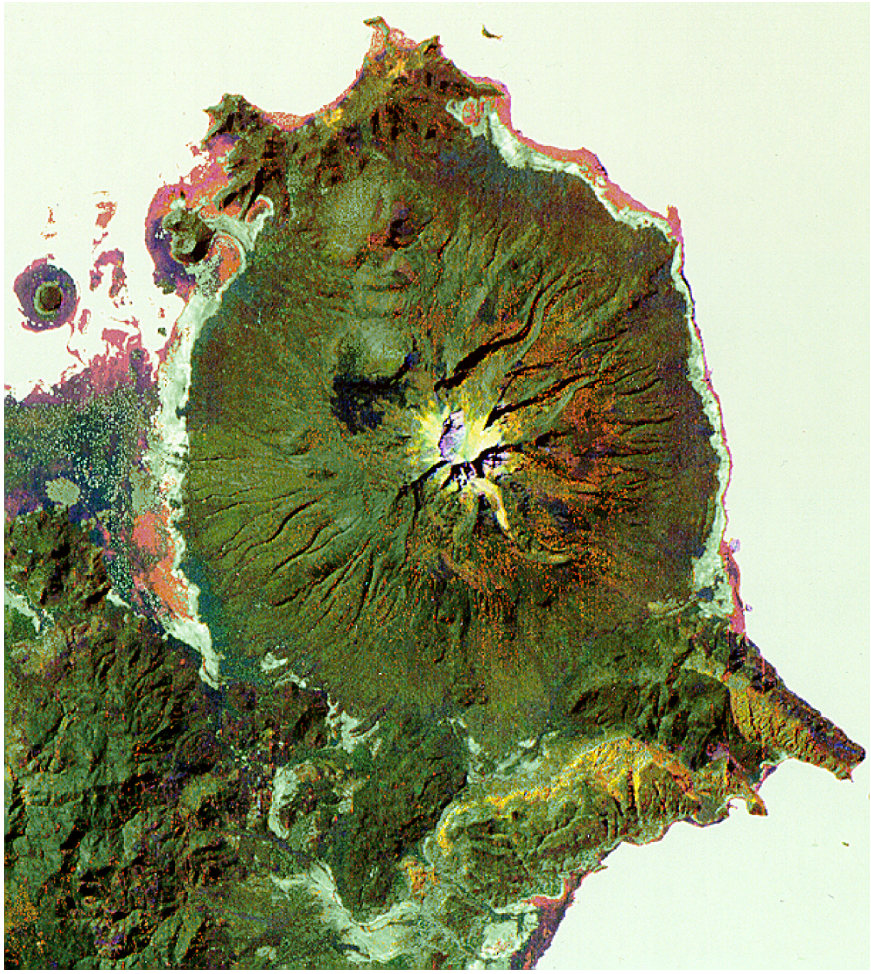

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

Cover: An example of remote sensing applied to mineral exploration
LANDSAT TM Image, Color Ratio Composite, Bands 5/7, 3/1, 3/4
Volcanic form in the Altiplano high plains of Bolivia showing hydrothermal alteration patterns as determined by spectral-reflectance characteristics of the surface derived from measurements made by the Thematic Mapper (TM) systems on LANDSATS 4 and 5.
Resultant color ratios of channels:

- Reds--clays and carbonate
- Greens--iron oxide (limonite)
- Yellows--mix

Knepper, D.H., and Simpson, S.L., 1992, Geology and mineral resources of the Altiplano and Cordillera Occidental, Bolivia: U.S. Geological Survey Bulletin 1975, p. 46-55.