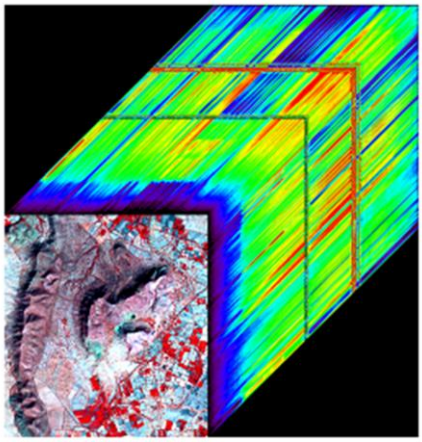
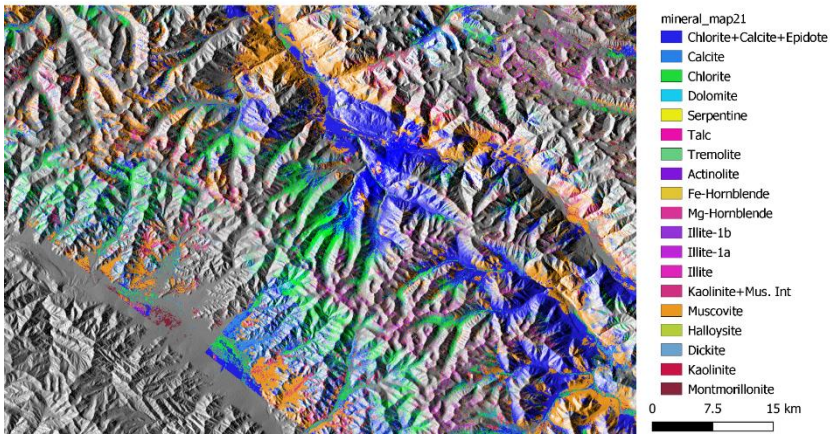




Mineral Exploration

Space Applications Centre (SAC) has developed algorithms for detecting minerals using multispectral and hyperspectral remote sensing. The algorithms can map distribution of non-metallic minerals such as limestones, locate marble deposits and can identify prospect zones for base metal (Pb, Cu, Zn), iron oxides and noble metals such as gold. The algorithm uses absorption features of minerals to detect and map their presence. The wavelength range of diagnostic absorption features of minerals are identified based on analysis of library/field reflectance spectra. The spectral shape matching is performed in spectral range of diagnostic absorption features with unknown image spectra and fit scores are generated. Based on fit scores and other constraints such as band depth, continuum slope, band asymmetry mineral is identified.

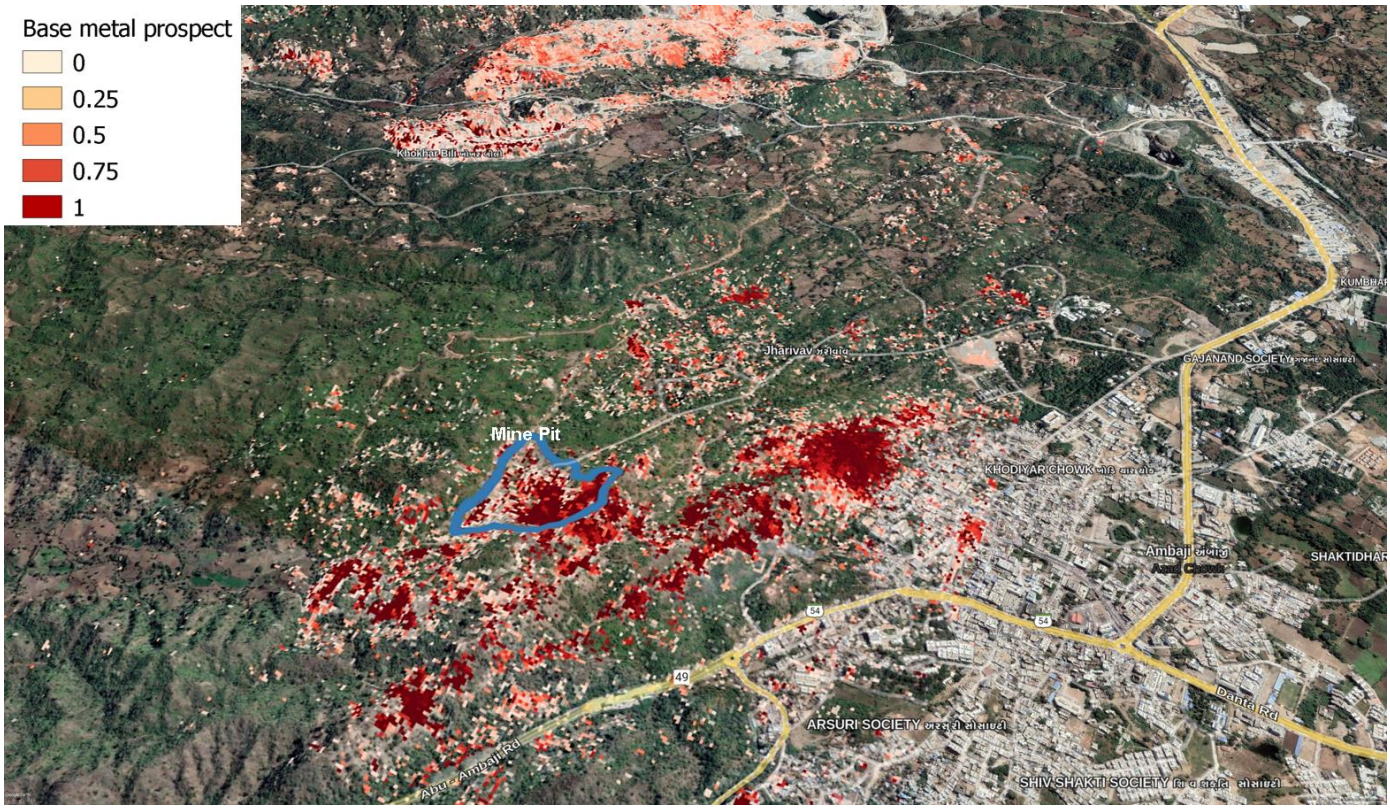
Applications area

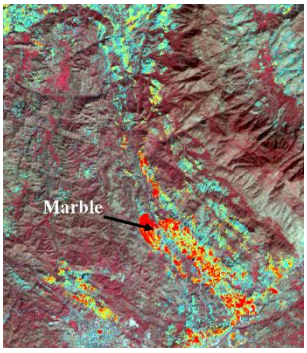
To reduce the economic cost and time in complex mineral exploration projects, it is important to identify the geographical area/prospect zone for detailed field based investigations. The developed algorithm can use used to identify the prospect zone with high confidence thereby maximizing the success potential of the mineral exploration projects.

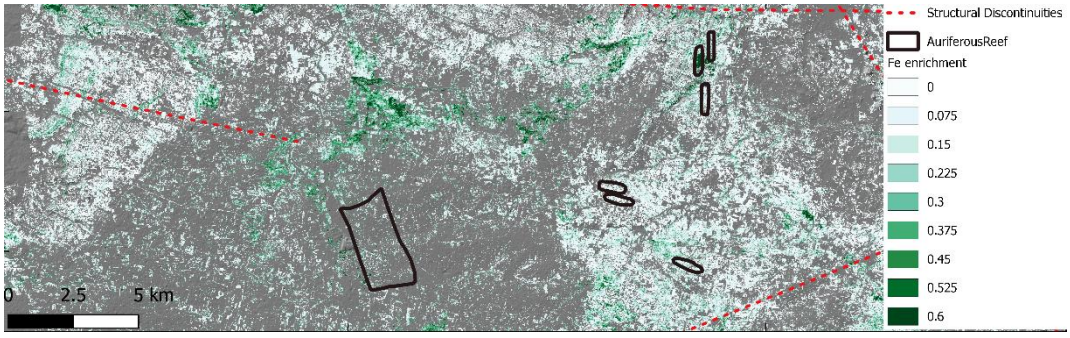
It can be highly beneficial for exploration of base metal deposits, iron oxides and gold.

SAC Technologies

Capabilities:







Technology Transfer

SAC/ISRO, offers to transfer this technology of the **Mineral Mapping using Hyperspectral Data** developed by SAC to industries in India with adequate experience and facilities. Enterprises interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

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