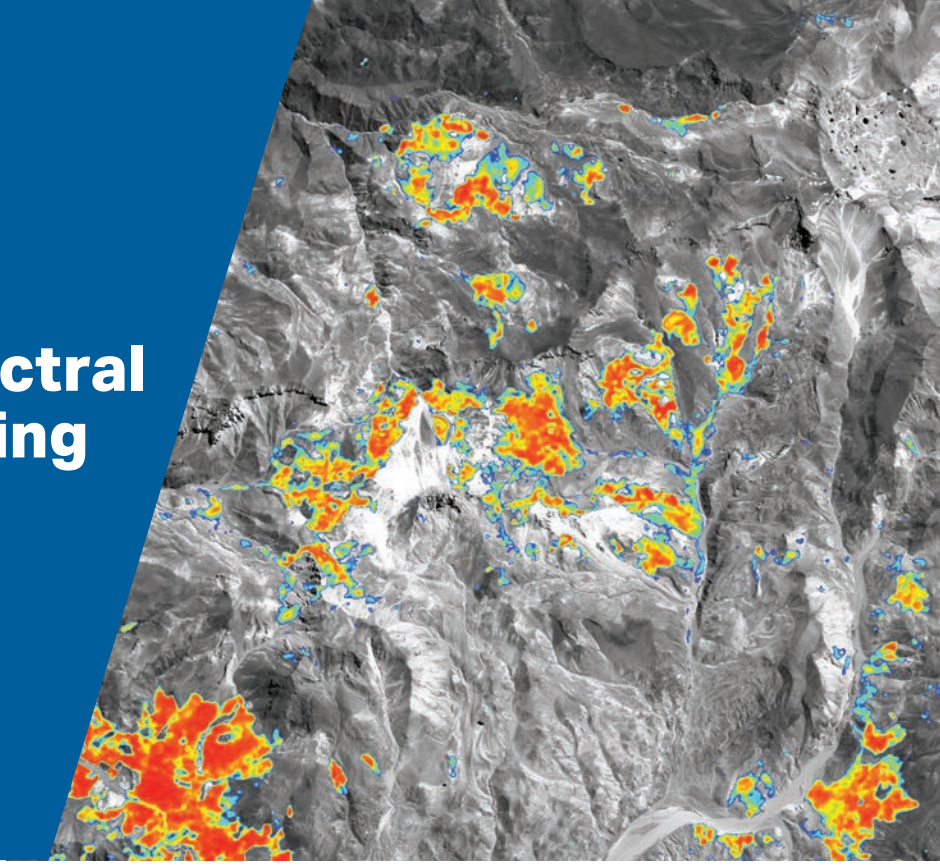
PHOTOSAT

MINERAL EXPLORATION

Regional Hyperspectral Exploration Targeting (R-HET)

Discover what others missed with the next generation of satellite alteration mineral mapping



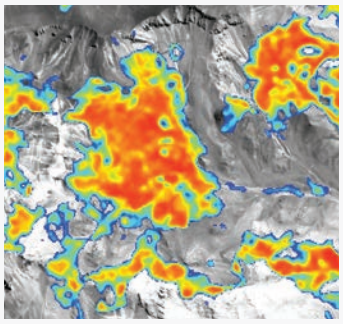
HIGHLIGHTS

Capability
Detect 20+ alteration minerals (more than 2x multispectral technology).

Coverage
1000s – 10,000s of km^2.

Subpixel Alteration
Deep-learning models detect subtle subpixel alteration mineral responses in heavily mixed spectra, leading to more complete and accurate results.

Processing Time
Approximately 2 to 3 weeks.



Better Data for Better Decisions

Hyperspectral satellite imaging significantly surpasses traditional multispectral solutions by collecting hundreds of continuous spectral bands. This technology enables us to detect more than twice as many minerals as traditional multispectral solutions, distinguish subtle changes in mineral compositions and crystallinities, and estimate relative mineral abundances all with greater accuracy and fewer false positives.

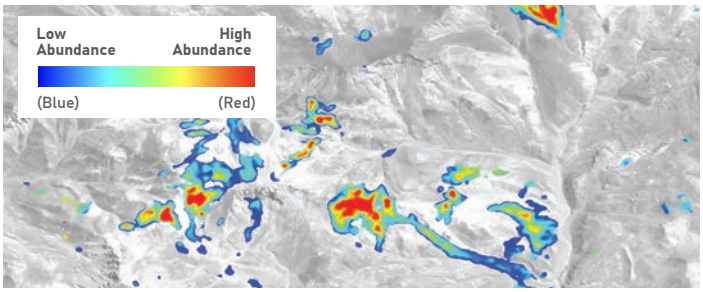
Identifiable Minerals, Compositions, and Relative Abundances

Mineral	Resolution
Opal / Chalcedony	25 m
Alunite Abundance	25 m
K-Alunite	25 m
Na-Alunite	25 m
Kaolinite	25 m
Dickite	25 m
Pyrophyllite	25 m
Muscovite Abundance	25 m
High Al Muscovite	25 m
Low Al Muscovite	25 m
Illite	25 m
Montmorillonite	25 m

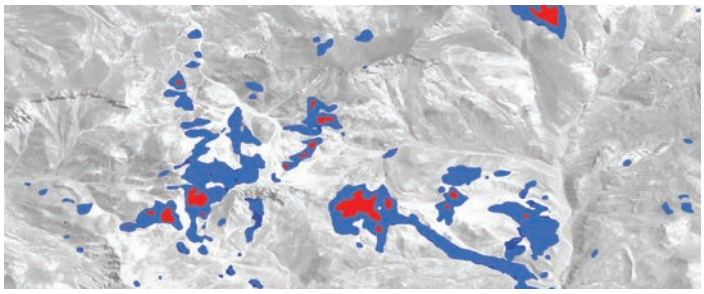
Mineral *(Continued)*	Resolution
Buddingtonite	25 m
Calcite	25 m
Chlorite/Epidote Abundance	25 m
Fe-Chlorite	25 m
Mg-Chlorite	25 m
Epidote	25 m
Goethite	25 m
Jarosite	25 m
Hematite	25 m
Iron Oxide Gossans	10 m
Silica	75 m

Core Deliverables

Our standard deliverables include alteration images, vectors, and context imagery such as geology-enhanced images, colour images, greyscale images, vegetation indices and false colour composite images.

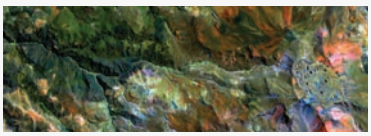


Alteration Images (GeoTIFF)
RGB alteration image per mineral (2D distribution from possible to probable) and a customizable single band image for colour changes and further analysis.

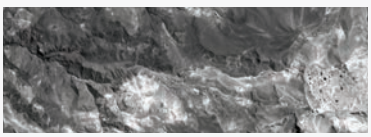


Alteration Vectors (Shapefile)
Two 2D alteration vector files will be provided, one for each mineral distribution and another for strongest alteration responses. These files facilitate the creation of mineral compilation maps to visualize alteration mineral assemblages.

Colour Image
Orthorectified image of your region or project area, in colour.
Pixel size: 10 m



Geology Enhanced Image
VNIR and SWIR bands accentuate additional surface details that are not visible in a regular orthophoto.
Pixel size: 10 m

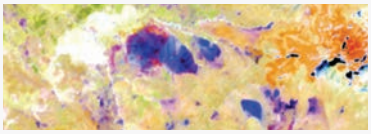


Greyscale Image
Orthorectified image of your region or project area, in greyscale.
Pixel size: 10 m

Vegetation Index
Orthorectified image of your region or project area displaying vegetation.
Pixel size: 10 m

Sabins Composite
A combination of spectral indices shown as RGB, which highlights changes in primary lithologies and alteration, especially ferric oxides.
Pixel size: 10 m

Sultan Composite
A combination of spectral indices is shown as RGB, which highlights changes in primary lithologies and alteration, especially clay minerals.
Pixel size: 10 m



SWIR-Enhanced Image
Shows subtle mineral or compositional changes in clays, white micas, and carbonates not visible in other images.
Pixel size: 25 m

R-HET FS 112025