PhotoSat launches New Regional Hyperspectral Exploration Targeting Solution

PhotoSat's NEW R-HET Solution is the next generation in Satellite-Based Alteration Mapping for Mineral Exploration

VANCOUVER, BRITISH COLUMBIA, CANADA, December 29, 2025 /EINPresswire.com/ -- PhotoSat Launches Regional Hyperspectral Exploration Targeting (R-HET), the next generation in Satellite-Based Alteration Mapping for Mineral Exploration

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> *Gerry Mitchell, M.Geophys, Former CEO and Founder of PhotoSat*

PhotoSat, a global leader in satellite alternation mineral mapping solutions, today announced the launch of its new Regional Hyperspectral Exploration Targeting (R-HET) product, providing mineral exploration companies worldwide with the tools to detect more alteration minerals with greater accuracy and discover what others missed.

R-HET leverages next-generation hyperspectral satellite systems and PhotoSat's proprietary deep-learning algorithms to deliver high-confidence, regional-scale mineral mapping with unprecedented spectral detail. This solution represents a significant evolution from traditional multispectral approaches, enabling exploration teams to identify more alteration minerals, detect subtle mineralogical variations, and uncover previously overlooked exploration targets—from space.

"This innovative technology represents a significant leap forward in our ability to gather and analyze data with unparalleled precision." said Gerry Mitchell, M.Geophys, Former CEO and Founder of PhotoSat. "Having spent years in mineral exploration as a geophysicist, I understand the crucial importance of high-quality data for the success of any project. Our hyperspectral capabilities will empower our clients to make more informed decisions faster than ever before. I believe this product will redefine the standards of excellence in the industry, and I can't wait to see the impact it will have on our clients' exploration efforts."

R-HET: Next-Generation Regional Alteration Mapping

Built on continuous hyperspectral spectral bands that far exceed the capabilities of traditional

multispectral sensors such as ASTER, PhotoSat's R-HET solution enables exploration teams to:

- Identify more than twice the number of alteration minerals previously detectable through multispectral data.
- Differentiate mineral compositions and crystallinities, such as K-alunite vs. Na-alunite or high-Al versus low-Al muscovite—key parameters for understanding hydrothermal systems.
- Detect multiple minerals within the same pixel, even when vegetation is present, using advanced subpixel deep-learning techniques.
- Map relative mineral abundances to better understand alteration footprints and generate more accurate targets at district scale.
- Reduce early-stage exploration costs by identifying priority zones before mobilizing field teams.

These capabilities give geologists a richer, more quantitative foundation for regional project generation and early-stage exploration prioritization.

Case Study: Cerro Casale–Caspiche, Maricunga Belt

A recently completed case study demonstrates the power of R-HET over the Cerro Casale and Caspiche region in the southern Maricunga Volcanic Belt—an area known for world-class gold-copper deposits.

Using true hyperspectral satellite data combined with PhotoSat's proprietary deep-learning processing, R-HET successfully mapped additional key alteration minerals and mineral assemblages not confidently detectable with multispectral datasets. These results highlighted mineralogical patterns consistent with known porphyry-epithermal systems and identified subtle alteration zones that can help exploration teams more effectively direct field programs.

This case study confirms that hyperspectral data, when processed with PhotoSat's models, can reveal mineralogical features that materially improve early targeting decisions at regional scales. In addition, PhotoSat has delivered R-HET projects supporting exploration efforts in Argentina and Chile.

Building the Future of Hyperspectral Exploration

R-HET is the first in PhotoSat's new suite of hyperspectral products. The company is also developing Property-Scale Hyperspectral Exploration Targeting (P-HET), scheduled for release in 2026. P-HET will apply PhotoSat's hyperspectral deep-learning models to higher-resolution datasets, enabling detailed mineral identification at the property scale for on-the-ground exploration support.

"Exploration teams need accurate, data-rich inputs to make confident decisions," said Veronique Nell, P.Eng., Vice-President, Product & Solutions. "Our regional hyperspectral exploration targeting solutions delivers the clarity and depth required to minimize uncertainty, reduce field

costs, and accelerate discoveries.”

About PhotoSat
PhotoSat is a leading provider of satellite-based mapping and analysis solutions for mineral exploration, resource development, and mine engineering. With more than 200 years of combined geoscience and engineering expertise, PhotoSat delivers accurate, reliable products using advanced proprietary processing methods and state-of-the-art deep-learning models. The company supports safe, responsible exploration and development projects in over 75 countries.

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For more information or to request the full case study, visit photosat.ca/hyperspectral-analysis or contact info@photosat.ca.
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