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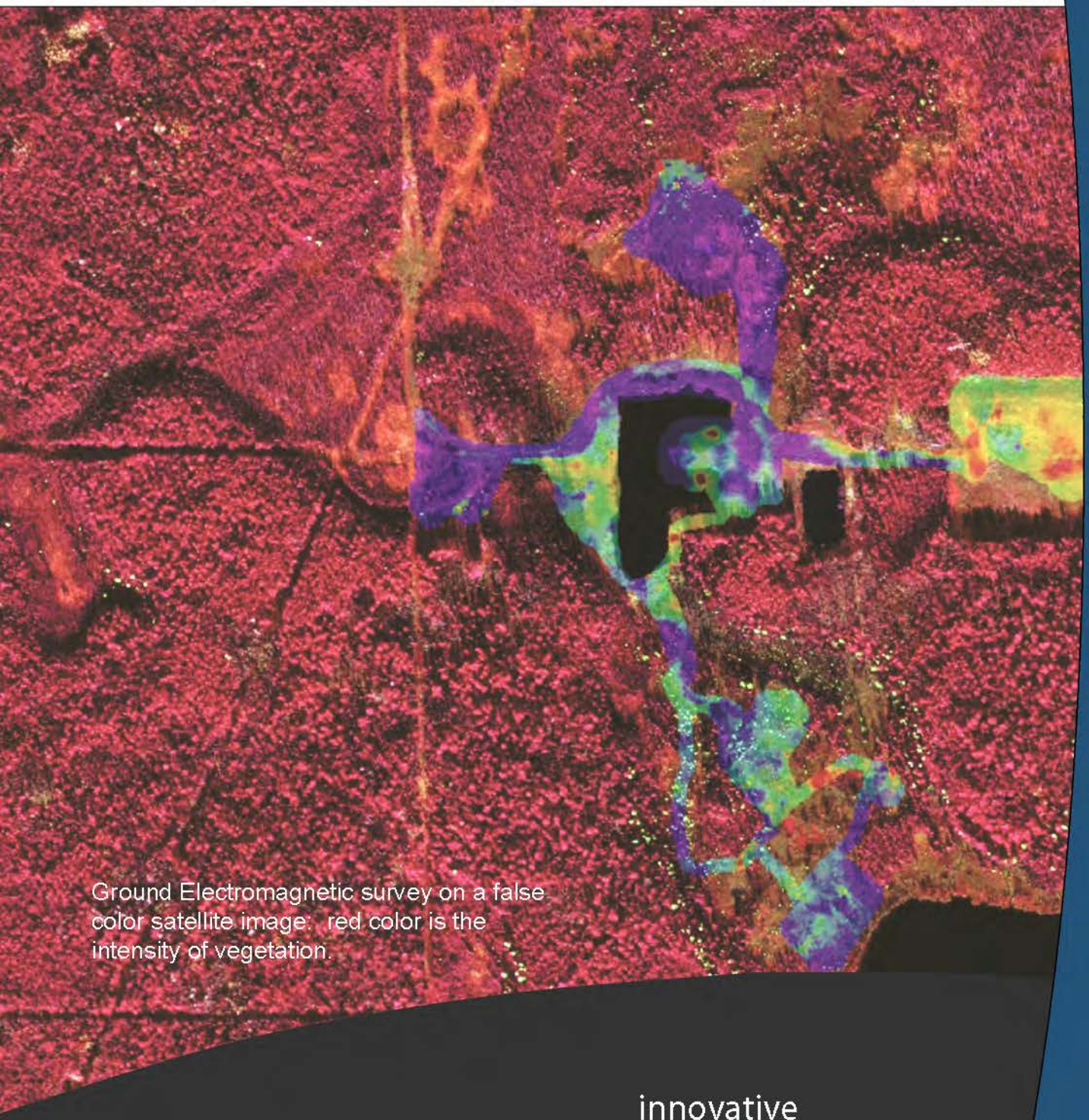
NEAR-SURFACE GEOPHYSICS AND SATELLITE IMAGING



Ground Electromagnetic survey on a false color satellite image: red color is the intensity of vegetation.

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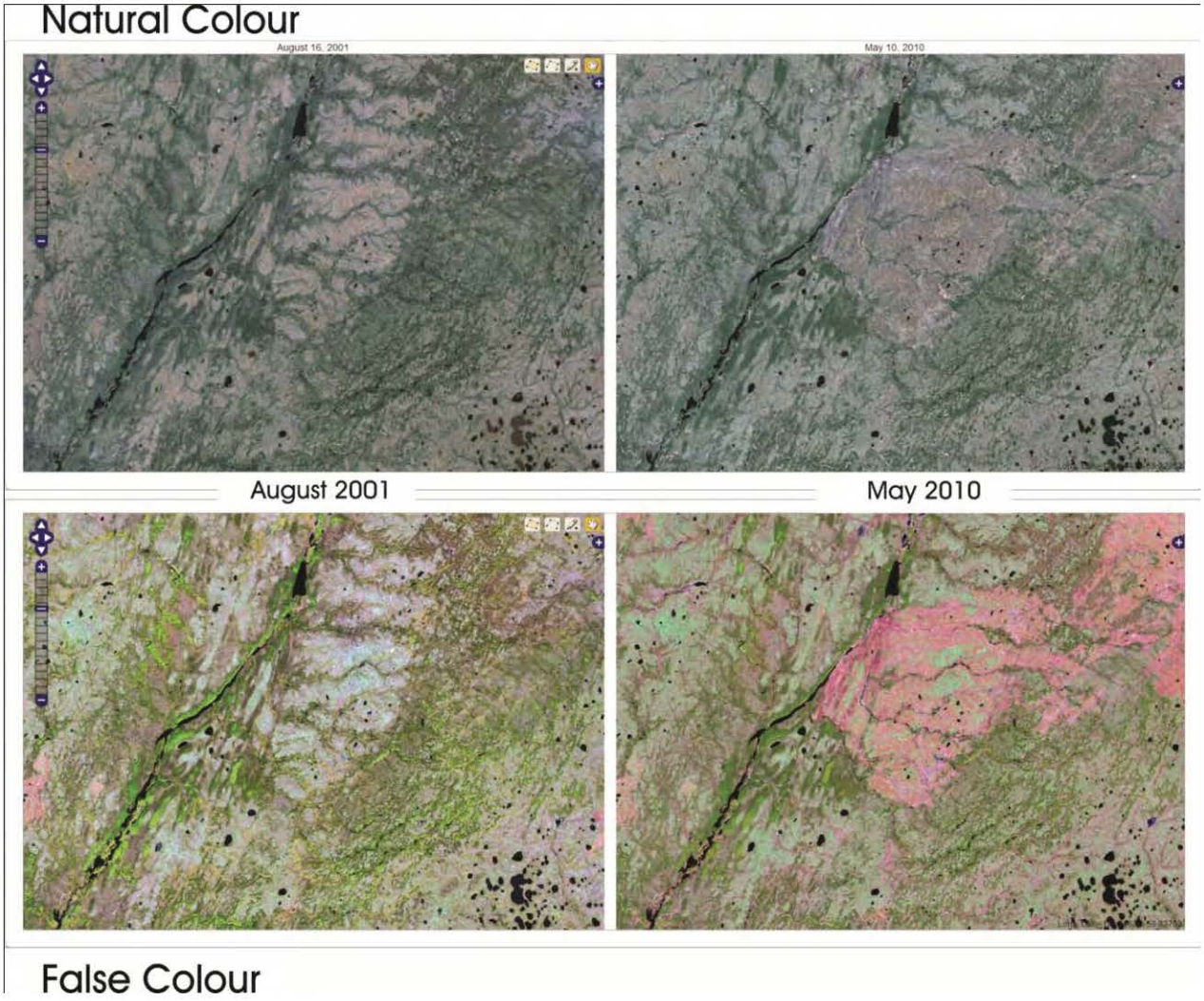
MULTISPECTRAL ANALYSIS

What does this do for me?

Multispectral sensors measure solar reflectance at wavelengths beyond those visible with the naked eye. Subtle variations in vegetation, water content, or mineral outcrop can each have a large effect on the spectral response, making it possible to identify feature not readily apparent in a photograph



For example, the above scene is two vintages of the same area, an 30 km X 20 km region in northeast British Columbia. The top two frames are compositions derived from spectra most similar to a photograph, i.e. "natural colour", whereas the bottom two frames are composed of spectra which are sensitive to vegetation. The large pink area in the central part of the frame from May 2010 is a region of dead forest (pine beetle kill).

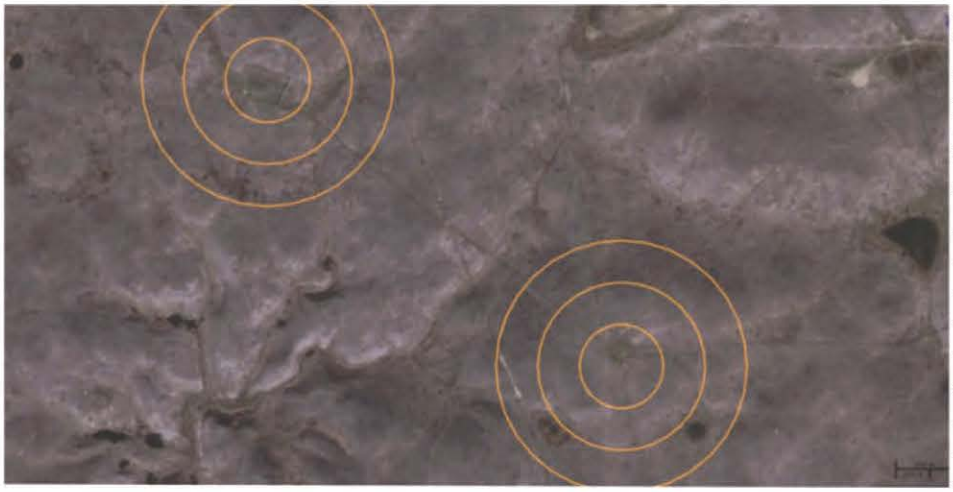
ONLINE MAP

AN INTERACTIVE MAP OF THE ABOVE DATA IS AVAILABLE AT:

HTTP:// www.aksmaps.com/webmaps/pinebeetle/pb_map2.html

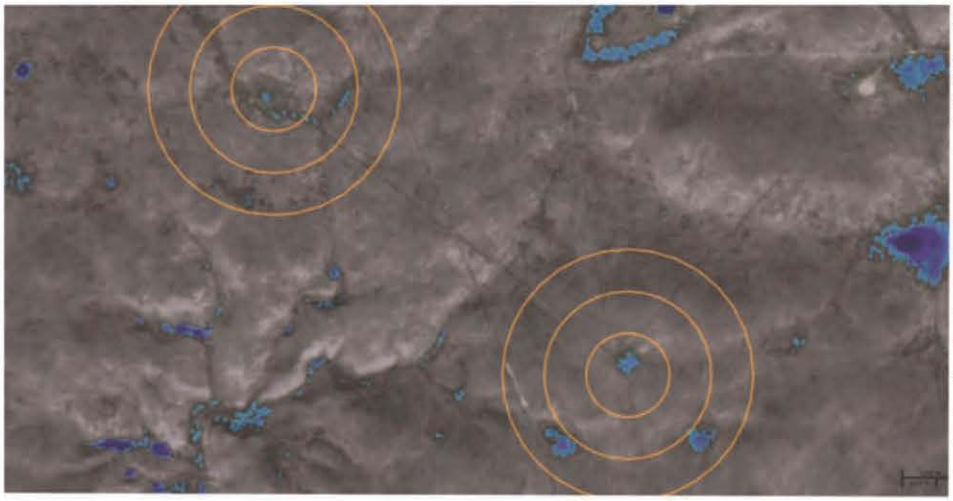
CLASSIFICATION

Characterization which matters



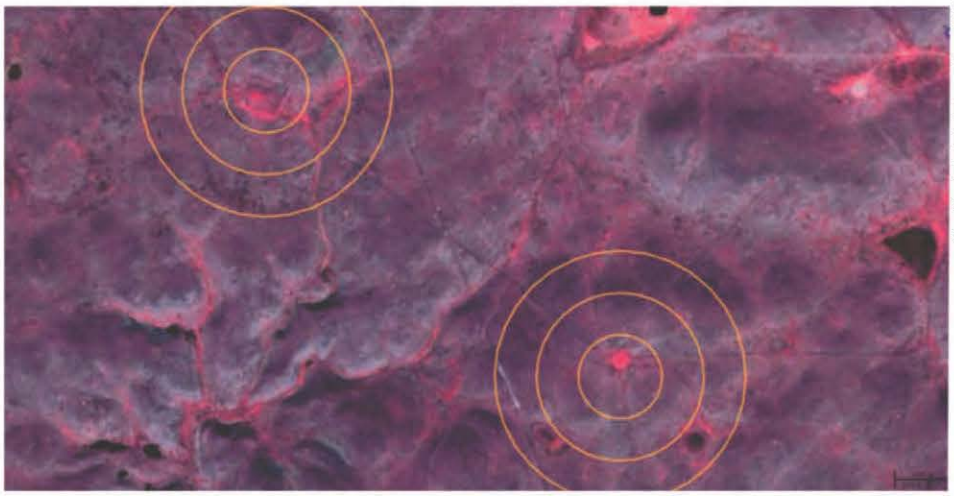
Targeted Analysis:

Two abandoned well sites undergoing reclamation. Circles are 50 m radii. April 2006, SE Alberta.



Surface Features:

Seasonal water-bodies identified spectral analysis.



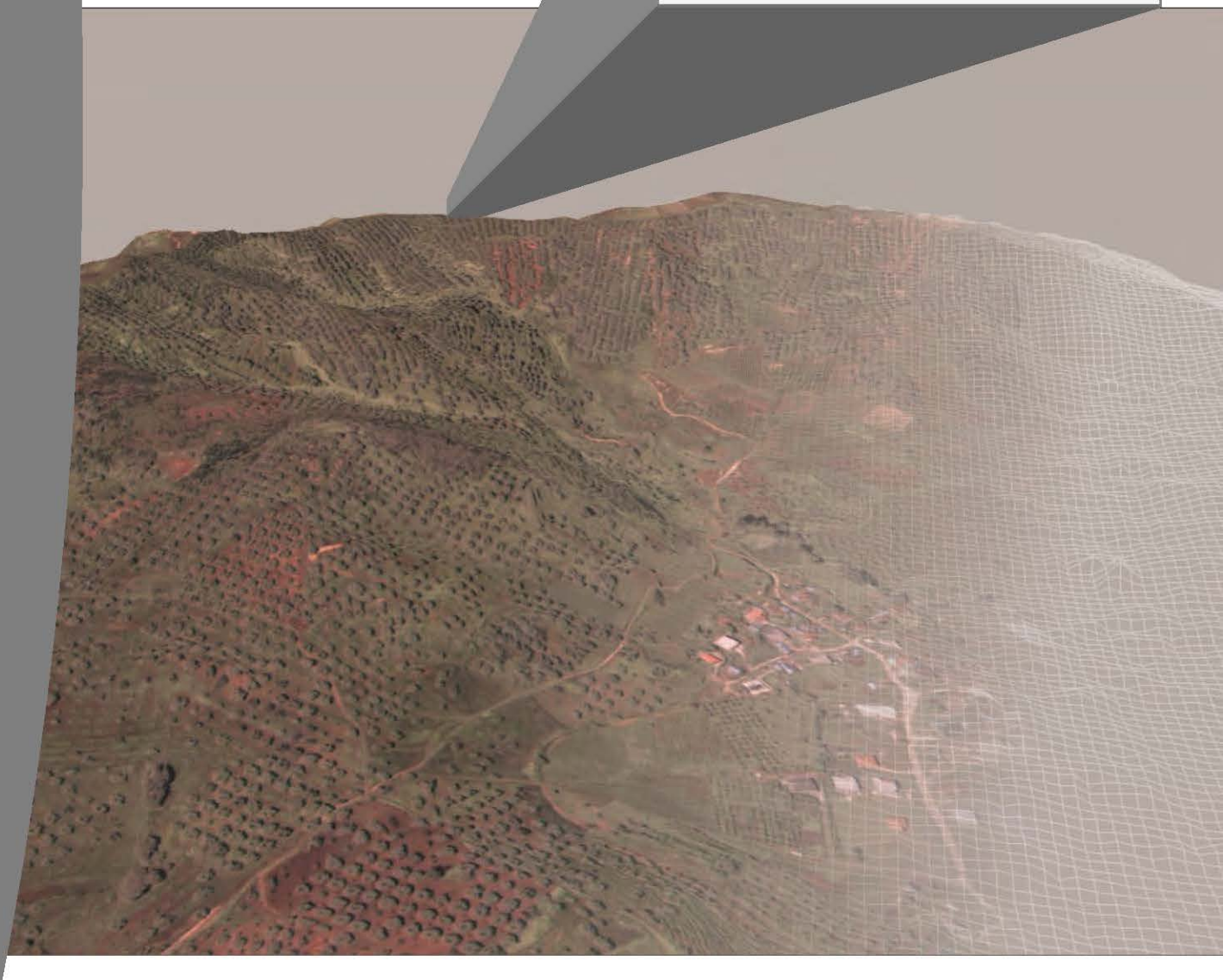
Vegetation Analysis:

Intensity of vegetation indicated by intensity of near-infrared reflectance, in this case brighter red zones indicates presence of crested wheat grass.

EM FROM SPACE

Through research funding and support from the NRC, AKS is pursuing the feasibility of measuring terrain conductivity from multispectral satellite data.To date efforts are targeted towards determining how subsurface terrain conductivity can effectsurface features such as moisture and vegetation, which are measurable quantities through multispectral analysis.

Complete site characterization maps include the generation of digital elevation models with accuracy rivaling Lidar. Engineering grade ortho-images with accuracy of 2 m (circular error 90%)



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