



# SOIL CLASSIFICATION

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By utilizing unsupervised classification techniques on multispectral satellite data, it is possible to interpret surface spectral response over specified areas. This response provides the ability to distinguish between areas (depending on surface cover) thus providing a "paint-by-numbers-map". This ultimately allows for improved first pass interpretation of an area of interest.

The images on the right are examples from recent soil surveys. The comparison images clearly show the correspondence between the unsupervised outputs and those of a semi-detailed field soil survey.

The aim of the unsupervised techniques is not to define specific areas as a certain soil type, but rather to differentiate between areas based on the spectral similarities, or lack thereof. This result is rapidly achievable and is ideal as a first pass survey technique.

The output of this survey technique over an area of interest may then be used as a guideline for improved planning of semi-detailed soil surveys. This allows for an augmented sampling grid, which would save an unnecessary duplication of sampling within areas of similar soils.

## ABOUT SOUTHERN MAPPING

Southern Mapping provides LiDAR, Hyperspectral, Thermal surveys and mapping; as well as satellite imagery and associated product and GIS services for a variety of industries and sectors. These include civil engineering and infrastructure development, mineral exploration and mine management, environmental planning and rehabilitation, and urban and agricultural planning.

