SPECTRAL EVOLUTION

Using a field spectroradiometer for burn scar identification

Wildfires and controlled burns have a major impact on vegetation, soil and the global climate. Burn scar measurements provide important information for researchers studying agriculture, vegetation, soil and climate change. Typically burn scar information is taken from satellite, flyover or UAV scans. The data captured by these systems requires field validation. A field spectroradiometer such as the Spectral Evolution SR-6500, RS-8800, RS-5400, PSR+ or RS-3500 can be used to acquire spectral data that supports, contradicts or fills-in the missing data for hyperspectral burn scar measurements.

The SR-6500 offers the highest resolution available in a field spectroradiometer.

Data acquired in the field can be enhanced using a number of Vegetation Indices, including the Normalized Difference Vegetation Index (NDVI), Soil Adjusted Vegetation Index (SAVI) and Enhanced Vegetation Index (EVI) all of which are available in our DARWin SP Data Acquisition software. Other Vegetation Indices like the Normalized Burn Ratio (NBR) can also be used along with different algorithms and programs like ENVI since all spectral data is saved as an ASCII file. NDVI is calculated by the formula

$$NDVI = \frac{(NIR - Red)}{(NIR + Red)}$$

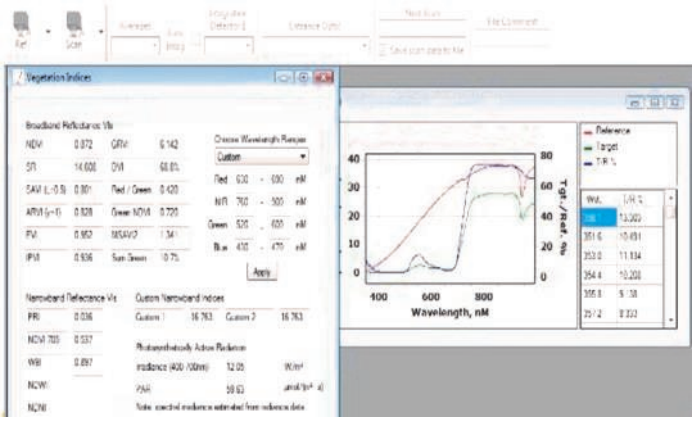
NBR is calculated by the formula

$$NBR = \frac{(NIR - SWIR)}{(NIR + SWIR)}$$

Spectral Evolution provides a range of spectroradiometers that can be used in burn scar studies including full range (350-2500nm) spectroradiometers such as the SR-6500, RS-8800, RS-5400, PSR+ and RS-3500. The SR-6500 delivers the highest resolution available in a field instrument:

- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

These spectroradiometers are rugged and reliable instruments with no moving optical components for *in situ* measurements. They offer high resolution/high sensitivity for accurate and precise spectra.



DARWin software includes pull-down menu access to 19 vegetation indices.

All Spectral Evolution instruments include DARWin SP Data Acquisition software that captures all spectra and metadata and stores it in an ASCII file for use with other analysis software programs. DARWin software also includes pull-down menu access to 19 vegetation indices including NDVI.

In addition, optional EZ-ID software allows you to capture spectra from known samples and build your own library to match target samples against.

All instruments are available with a range of accessories including multiple lens sizes, pistol grip, backpack, tripod and other accessories. Contact us today for additional information or to receive a quote.

26 Parkridge Road ◊ Suite 104
Haverhill, MA 01835 USA
Tel: 978 687-1833 ◊ Fax: 978 945-0372
Email: sales@spectralevolution.com
www.spectralevolution.com