



## **PRESS RELEASE**

### **Measure soil salinity with Spectral Evolution's PSR+ spectroradiometer**

### **Create a comprehensive picture of soil salinity in an area using satellite imagery and field measurements**

*Lawrence, MA – February 9, 2015* – Measuring soil salinity is important for efficient soil and water management in arid and semi-arid environments. Excess salinity can be caused by nature or man: lack of rainfall, erosion, and rising water tables can cause salts to accumulate in the upper soil layers; so too can improper irrigation practices.

Soil salinity has a direct effect on the variety and quality of vegetation that can grow in an area. Excess salinity can diminish water uptake in plants while the presence of high salinity in clay can destroy good soil structure.

The PSR+ field spectroradiometer offers an accurate, non-destructive instrument for measuring salinity in soils *in situ* that is faster and less expensive than traditional lab-based electrical conductivity tests. Used alone or in conjunction with multi-spectral and hyperspectral imaging from flyovers and satellites, the PSR+ can offer a more complete picture of soil salinity across a large area.

Spectra collected in the field or the lab with a PSR+ portable spectroradiometer are saved as ASCII files for analysis using third party software, for example the R software analysis program or a chemometrics package. For researchers who want to use vegetation indices such as the Normalized Difference Vegetation Index (NDVI) or Soil Adjusted Vegetation Index (SAVI) have access to 19 vegetation indices from the PSR+ built-in DARWin SP Data Acquisition software.

In addition, for those working with an existing soil spectral library or who want to build their own library, the optional EZ-ID sample identification software with Custom Library Builder module is available.

Spectral resolution of our PSR+ is enhanced for high resolution scans in applications such as vegetation studies, canopy research, climate and environmental research, species identification, soil studies, and more. Spectral resolution:

- $\leq 3.0\text{nm}$  @ 700nm (FWHM)
- $\leq 8.0\text{nm}$  @ 1500nm (FWHM)
- $\leq 6.0\text{nm}$  @ 2100nm (FWHM)

The PSR+ also offers improved electronic control circuitry for best-in-class signal-to-noise ratio (with 4° lens):

- $\leq 0.5 \times 10^{-9} \text{ W/cm}^2/\text{nm/sr}$  @ 400nm
- $\leq 0.8 \times 10^{-9} \text{ W/cm}^2/\text{nm/sr}$  @ 1500nm
- $\leq 1.0 \times 10^{-9} \text{ W/cm}^2/\text{nm/sr}$  @ 2100nm

The PSR + can be combined with a wide range of accessories including a range of FOV options such as direct attaching 4°, 8°, or 14° lenses, 25° fiber optic, diffuser, or integrating sphere. Fiber mount options include 1, 2, 3, 4, 5, 8, and 10° lenses. It can be used with a sample contact probe, leaf clip, or benchtop probe with sample compactor and can store 1,000 spectra on the instrument without a computer. Communications interfaces include USB and Class 1 Bluetooth.

For more information, visit:

[http://www.spectralevolution.com/spectroradiometer\\_PS\\_R\\_plus.html](http://www.spectralevolution.com/spectroradiometer_PS_R_plus.html)

Or:

[http://www.spectralevolution.com/applications\\_soil\\_salinity.html](http://www.spectralevolution.com/applications_soil_salinity.html)

#### **About SPECTRAL EVOLUTION**

Established in 2004, SPECTRAL EVOLUTION is a leading manufacturer of laboratory and handheld portable spectrometers, spectroradiometers and spectrophotometers. SPECTRAL EVOLUTION spectrometers are used worldwide for many mission-critical lab and field applications in mining, remote sensing, vegetative studies, ground truthing, environmental and climate studies, developing satellite calibrations, and more, due to their reliable, robust, rugged design and user-friendly one-touch features.

SPECTRAL EVOLUTION maintains a facility in Lawrence, Massachusetts which houses design, prototyping, manufacturing and service facilities for the instruments that it markets and sells worldwide, either through direct sales, OEM sales or through distributor agents.

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