



# NDVI & PRI Application Notes

A guide to calculating your NDVI/PRI values from raw sensor data.

Skye 2 and 4 channel radiometer light sensors are ideal for making 'ground truth' observations and comparing with measurements made by Earth observing satellites, such as LANDSAT, MODIS, AHVRR, Sentinel etc. These satellites map the Earth's surface at various wavelengths throughout the electromagnetic spectrum.

To work out NDVI and PRI values, simply use the equations below. Skye is happy to supply a template spreadsheet to help customers calculate this data.

## NDVI

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

The value range for NDVI is -1 to 1. Negative values of NDVI (values approaching -1) correspond to water. Values close to zero (-0.1 to 0.1) generally correspond to barren areas of rock, sand, or snow. Low, positive values represent shrub and grassland (approximately 0.2 to 0.4), while high values indicate temperate and tropical rainforests (values approaching 1).

## PRI

$$\text{PRI} = \frac{(\rho570\text{nm} - \rho531\text{nm})}{(\rho570\text{nm} + \rho531\text{nm})}$$

*Note* - The Rho ( $\rho$ ) symbol denotes a ratio of reflected to incident.

The range for a PRI is -1 to 1, where healthy vegetation generally falls between values of -0.2 to 0.2

If you require any further assistance with your NDVI or PRI calculations, please get in touch with us here at Skye Instruments.