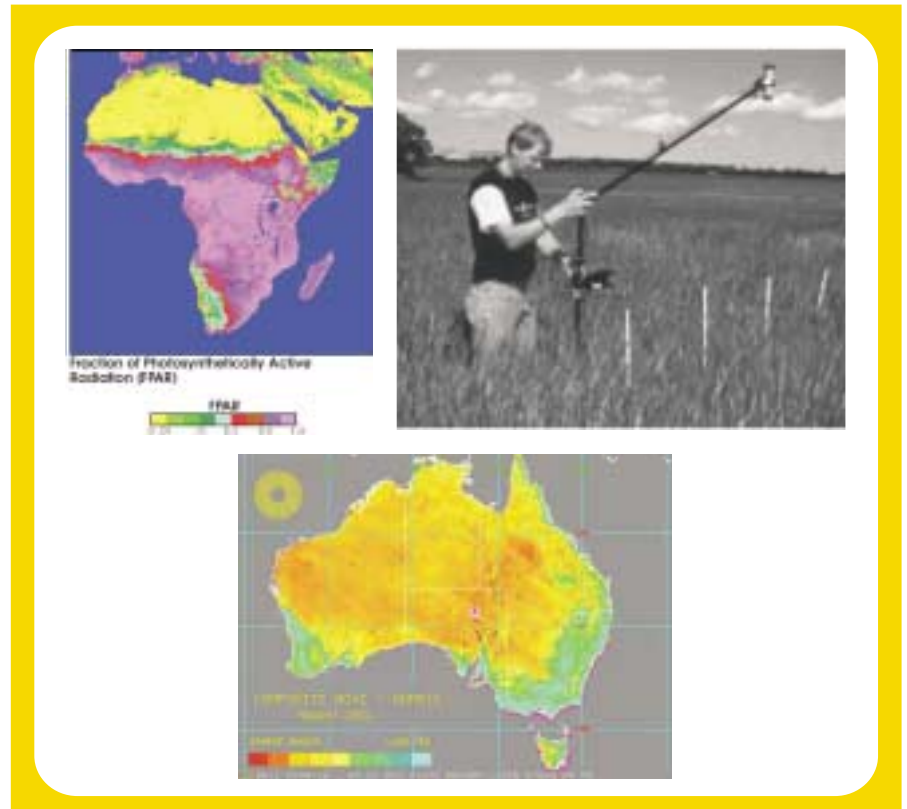


LIGHT

Sensors for NDVI

- 1, 2 and 4 channel sensors
- Incident and reflected radiation measurement
- Ground truth readings for Earth observation satellites
- Weed cover mapping
- Crop yield / density estimates



NDVI is defined as the Normalised Difference Vegetation Index. NDVI is calculated from observations made by earth orbiting meteorological satellites such as LANDSAT, SPOT, NOAA AVHRR, MODIS etc.

The satellites record spectral reflectivity of solar radiation at specific wavelengths, allowing the monitoring of the density and vigour of green vegetation growth.

Errors in the satellite readings are caused by several atmospheric conditions such as small area clouds, scattering by dust and aerosols, large solar zenith

angles etc. Skye sensors are used to make 'ground truth' observations to make corrections to the satellite recorded data.

NDVI data is used for climate services, flood or drought monitoring, crop production coverage, desert encroachment, deforestation, insect breeding grounds, forest fire potential etc.

The 2 or 4 channel sensors have a removable cosine correcting diffuser. With the diffuser in place the sensor is fully cosine corrected for incident light measurements. When the diffuser is removed the sensor has a narrow light



acceptance angle and is thus suitable for measuring reflected light from crops, soil, rocks, etc.

Simultaneous measurements of both incident and reflected radiation are required for the NDVI calculation.

Sensor channels can be individually specified with wide or narrow wavebands calibrated between 280 and 1100nm. Choose a waveband to match the earth observing satellite bands, for example Red and Far-red, or custom wavelengths according to your own study interests.



SPECIFICATIONS

Dimensions & Weight	Dimensions & Weight	Head	Material	Cable	Construction
<p>SKR 1800 2 channel</p>  <p>180g. (with 3m cable)</p>	<p>SKR 1850 4 channel</p>  <p>400g (with 3m cable)</p>	Removable cosine corrector head. Narrow Angle (25° cone) acceptance with head removed	<p>SKR 1800 - Dupont Delrin</p> <p>SKR 1850 - Black anodised aluminium</p>	3m screened DEF std (longer lengths available)	Sealed to IP68. Submersible to 4m depth
Operating Range	Detector	Filters	Output	Power Supply	Accuracy
-25 to +75°C, 0-100% RH	Si, GaP or GAsP depending on wavebands chosen	Metal interference and / or glass depending on wavebands chosen	<p>SKR 1800 and SKR 1850 - microamps</p> <p>SKR 1850A - 0-1volts</p>	<p>SKR 1800 and SKR 1850 - None required</p> <p>SKR 1850A - 5-15VDC</p>	Typically better than ±3%, Maximum ± 5%

NOTES

Normalised Differential Vegetation Index

$$NDVI = \frac{(\text{Chan 2} - \text{Chan 1})}{(\text{Chan 2} + \text{Chan 1})}$$

ORDERING INFORMATION

Sensor

SKR 1800	2 Channel sensor (Please specify centre wavelength and bandwidth for each channel)
SKR 1850	4 Channel sensor (Please specify centre wavelength and bandwidth for each channel)
SKR 1850A	4 channel sensor with amplifier (Please specify centre wavelength and bandwidth for each channel)

Accessories

SKM 222	Sensor levelling /mounting unit
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Dataloggers

SDL 5000 series	DataHog datalogger
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