

Supplementary data

EA. 1. Description of instrumentation employed and data recorded including resolution, range and accuracy where available.

Parameter	Resolution	Range	Accuracy \pm
Davis Vantage Pro2™ Weather Station			
BARROMETRIC PRESSURE			
Barometric Pressure (Elevation range: -600 to +4570 m)	0.1 mb	540 to 1100 mb or hPa	1.0 mb or hPa
HUMIDITY			
Inside humidity	1%	1% to 100%	3%
Outside humidity	1%	1% to 100%	3%
RAINFALL			
Rainfall	0.2 mm	0 to 6553 mm	4%
Rate of rainfall	0.1 mm/hr	0 to 2438 mm/hr	$5\% \leq 127 \text{ mm/hr}$
TEMPERATURE			
Inside temperature	0.1°C	0° to +60°C	0.5°C
Outside temperature	0.1°C	-40° to +65°C	0.5°C
WIND			
Wind direction	1°	0° to 360°	3°
Wind speed	1 km/hr	1 to 320 km/hr	5%
Stevens Hydra Probe® Soil Sensor			
Temperature	-	-10° to +55°C	0.6°C
Soil moisture wfv	-	From completely dry to fully saturated	0.01 (for most soils) 0.03 $\text{m}^3 \text{m}^{-3}$ (max for fine textured soils)
Electrical Conductivity	-	0.01 to 1.5 S/m	$\pm 2.0\%$ or 0.005 S/m whichever is typically greater
Dielectric constant	-	1 to 80	$\pm 1.5\%$ or 0.2 whichever is typically greater
Vaisala GMP343 Carbon dioxide probe			
Soil CO_2	-	0 – 2 %	10 ppm CO_2

EA. 2. Dripwater $\ln(\text{Sr/Ca})$ vs. $\ln(\text{Mg/Ca})$ ratios at site HW1 and HW3 are graphed together with the bedrock ratios.

