

Description of EMESH Station

EMESH (Environmental Monitoring Economical Sensor Hub) monitors standard meteorological variables as well as soil moisture and temperature at two levels. Each station is constructed from galvanized steel on an aluminum tripod for quick-deployment and survivability. Solar power with onboard battery enables long-term deployments.

Sensors and their known accuracies are listed below:

2m Air Temperature -

SHT 75, Accuracy 0.3 K

BMP 180, Accuracy 1.0 K

2m Air pressure -

BMP 180, Accuracy 0.12 hPa

2m Relative Humidity -

SHT 75, Accuracy 1.8 %RH

3m Wind -

Vantage Pro 2 Anemometer, Accuracy 1ms^{-1} and 3°

Rainfall -

Sparkfun Tipping Gauge Rain Bucket, Precision 0.2794 mm

5 cm and 30 cm Soil Moisture -

EC-5, Accuracy $0.03\text{ m}^3\text{m}^{-3}$

5 cm and 30cm Soil Temperature -

DS18B20, Accuracy 0.5K

