

Electronic Air Temperature and relative humidity Methodology

(Last rev. 13/11/2024)

Air temperature and relative humidity are measured electronically at 2m on the Celestino meteorological tower (see Figure 1 & 2) using combination sensors housed in naturally aspirated radiation shields*

*(From the manufacturer: the naturally aspirated 6 and 10-plate radiation shields' louvered construction allows air to pass freely through the shield, keeping the probe at or near ambient temperature. The shields' white color reflects solar radiation.)

Temperature and relative humidity are measured using Campbell Sci. HygroVue10 sensors (see Figure 3 & 4).

Air temperature and relative humidity are sampled every 10 seconds. The average, minimum and maximum values are recorded at the end of every 15 minute interval.

Sensor elements are replaced every year according to the manufacture's recommendations.

Records are provided with two Quality Control flags. Flag one indicates the fitness for use of each record. Possible values are: good, bad, doubtful, missing. Records are marked as bad if they fail one or more QC tests. Likewise, records are marked as doubtful if they are potentially bad, but without sufficiently strong evidence to be marked as bad. The second QC variable provides that reason for marking a variable as bad or doubtful. Potential values are: range, step, persistence, drift. At this time only range tests have been applied.

Figure 1



Location of the Agua Salud research plots (red polygons) and the Celestino Meteorology Station

Figure 2



Celestino tower

Figure 3



Campbell Sci. HygroVue10 sensor inside 6-gill naturally aspirated radiation shield

Figure 4



Campbell Sci. HygroVue10 sensor