REDME FILE

**Data Supplement – 3 Automated Weather Station –** (AWS)**;** Wireless Vantage Pro2™ Station daytime fan-aspirated radiation shield for the temperature and humidity devices)

|  |  |  |
| --- | --- | --- |
| Variables | Variable description | Applicable for (Urban-U/Rural-R) Sites |
| DD/MM/YYYY | Date-month-year format (for example 11/02/2017) | U & R |
| Time | Hourly interval. All sensors were measured at an interval of 1 min and the readings were  subsequently averaged or summed to obtain hourly values. These hourly values were stored and uploaded to a server | U & R |
| Hours | 24 hours’ time, start from 1 to 24 | U & R |
| Temp Out | Outdoor temperature, averaged over one hour, PN Junction Silicon Diode, range -40° to +65°C, 0.5 °C accuracy | U & R |
| Hi Temp | Maximum temperature over one hour | U & R |
| Low Temp | Minimum temperature as measured over one hour | U & R |
| Out Hum | 0 to 100% RH, Film capacitor element, accuracy ±3% (0 to 90% RH), ±4% (90 to 100% RH) | U & R |
| Dew Pt. | Range -76° to +54°C, ±1.5°C accuracy, WMO Equation with respect to saturation of moist air over water using Instant Outside Temperature and Instant Outside Relative Humidity | U |
| Wind Speed | Wind cups with magnetic switch, Range 1 to 80 m/s, Accuracy 1 ms−1 or ± 5% | U & R |
| Wind Dir | Wind vane with potentiometer, direction from which wind originates, 360°s | U & R |
| Wind Run | The total distance of the traveled wind | U |
| Hi Speed | Highest wind speed as measured over one hour | U |
| Hi Dir | Direction of highest wind speed | U |
| Wind Chill | Equation based on Osczevski (1995) (adopted by United States National Weather Service (NWS)/NOAA in 2001), using Instant Outside Temperature and 10-min. Avg. Wind Speed, range -79° to +57°C, accuracy ±1°C | U |
| Heat Index | Measure of heat exposure, calculated based on Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use, in °C, range (-40° to +74°C, accuracy ±1.5°C | U |
| THW Index | Measure of heat exposure uses Heat Index as base temperature, effects of wind is either added or subtracted from this base to give an overall effective temperature. United States National Weather Service (NWS)/NOAA Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use and allow for cold weather use. Variables Used : Instant Outside Temperature, Instant Outside Relative Humidity, 10-minute Average Wind Speed, in °C | U |
| THSW Index | Measure of heat exposure, uses Heat Index as base temperature, effects of wind and solar radiation are either added or subtracted from this base to give an overall effective temperature. United States National Weather Service (NWS)/NOAA Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use and allow for cold weather use. Variables Used: Instant Outside Temperature, Instant Outside Relative Humidity, 10-minute Average Wind Speed, 10-minute Average Solar Radiation, range -68° to +64°C, accuracy ±2°C | U |
| Bar | Barometric Pressure, range 540 to 1100 hPa/mb, equation source Smithsonian Meteorological Tables, accuracy ±1.0 hPa/mb | U |
| Rain | Tipping bucket (0.2 mm per tip with metric rain adapter), 214 cm2 collection area | U |
| Rain Rate | Measures time between successive tips of tipping bucket. Elapsed time greater than 15 minutes or only one tip of the rain collector constitutes a rain rate of zero. 0.2 mm resolution, range 0 to 2438 mm/hr, accuracy ±5% for rates less than 127 mm/hr | U |
| Solar Rad. | Silicon photodiode. Solar radiation in W/m2. Range 0 to 1800 W/m2, accuracy ±5% of full scale (Reference: Eppley PSP at 1000 W/m2 ) | U |
| Solar Energy |  | U |
| Hi Solar Rad. | Highest solar radiation measures over an hour | U |
| UV Index | 0 to 16 Index, accuracy ±5% of full scale (Reference: Yankee UVB-1 at UV index 10 (Extremely High)) | U |
| UV Dose | 0.1 MEDs to 19.9 MEDs, range 0 to 199 MEDs, accuracy ±5% of daily total | U |
| Hi UV | Highest UV Index measured over an hour | U |
| Heat D-D | NA | U |
| Cool D-D | NA | U |
| In Temp | Inside Temperature (sensor located in console) | U |
| In Hum | Inside relative humidity (sensor located in console) | U |
| In Dew | Inside dewpoint Temperature | U |
| In Heat | NA | U |
| In EMC | Inside Equilibrium Moisture Content | U |
| In Air Density | Inside air density, kg/m³ | U |
| ET | Evapotranspiration. Modified Penman Equation as implemented by CIMIS (California Irrigation Management Information System) including Net Radiation calculation. In 0.2 mm. Accuracy 0.25 mm or ±5% | U |
| Wind Samp | NA | U |
| Wind Tx | NA | U |
| ISS Receipt | NA | U |
| Arc. Int. | NA | U |
| Pressure | Air pressure (hpa) | Not Available |