**source: http://harvardforest.fas.harvard.edu:8080/exist/apps/datasets/showData.html?id=hf001**

**hf001-10: 15-minute (metric) since 2005**

1. datetime: date and time at end of sampling period
2. jd: Julian day (unit: nominalDay)
3. airt: air temperature. Average of 1-second measurements. (unit: celsius / missing value: NA)
4. f.airt: flag for air temperature
   1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
   2. Q: Questionable. Possible problem with instrument.
   3. E: Estimated. Value estimated from incomplete measurements or from other sources.
5. rh: relative humidity. Average of 1-second measurements. (percent) (unit: number / missing value: NA)
6. f.rh: flag for relative humidity
   1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
   2. Q: Questionable. Possible problem with instrument.
   3. E: Estimated. Value estimated from incomplete measurements or from other sources.
7. dewp: dew point. Average of 1-second values calculated from air temperature and relative humidity. (unit: celsius / missing value: NA)
8. f.dewp: flag for dew point
   1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
   2. Q: Questionable. Possible problem with instrument.
   3. E: Estimated. Value estimated from incomplete measurements or from other sources.
9. prec: precipitation. Includes water equivalent of snow. Total value for 15-minute period. Measured in increments of 0.01 inch. (unit: millimeter / missing value: NA)
10. f.prec: flag for precipitation
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
11. slrr: global solar radiation. Average of 1-second measurements. (unit: wattPerMeterSquared / missing value: NA)
12. f.slrr: flag for global solar radiation
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
13. parr: photosynthetically active radiation. Average of 1-second measurements. (unit: micromolePerMeterSquaredPerSecond / missing value: NA)
14. f.parr: flag for photosynthetically active radiation
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
15. netr: net radiation. Includes short and long wave. Average of 1-second measurements. Corrected for wind speeds above 5 m/s using Cambell Scientific equation. (unit: wattPerMeterSquared / missing value: NA)
16. f.netr: flag for net radiation
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
17. bar: barometric pressure. Corrected for elevation. Average of 1-second measurements. (unit: millibar / missing value: NA)
18. f.bar: flag for barometric pressure
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
19. wspd: horizontal scalar wind speed. Average of 1-second measurements. (unit: metersPerSecond / missing value: NA)
20. f.wspd: flag for horizonal scalar wind speed
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
21. wres: horizontal resultant vector wind speed. Vector average of 1-second measurements. (unit: metersPerSecond / missing value: NA)
22. f.wres: flag for horizonal resultant vector wind speed
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
23. wdir: horizontal vector wind direction. Vector average of 1-second measurements. Measured in degrees clockwise from true north. (unit: degree / missing value: NA)
24. f.wdir: flag for horizonal vector wind direction
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
25. wdev: standard deviation of wind direction. Calculated from 1-second measurements using Campbell Scientific equation. (unit: degree / missing value: NA)
26. f.wdev: flag for standard deviation of wind direction
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
27. gspd: gust speed. Maximum of 1-second measurements. (unit: metersPerSecond / missing value: NA)
28. f.gspd: flag for gust speed
    1. Q: Questionable. Possible problem with instrument.
    2. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.
29. s10t: soil temperature at 10cm depth. Average of 1-second measurements. (unit: celsius / missing value: NA)
30. f.s10t: flag for soil temperature
    1. M: Missing. Instrument not installed, instrument not working correctly, or measured value out of range.
    2. Q: Questionable. Possible problem with instrument.
    3. E: Estimated. Value estimated from incomplete measurements or from other sources.