Data format description:

Two types of data are included in these files. The first type includes files with names starting with ASOS. These are data with ensemble averages of 5-min intervals using UTC time string. The second type includes files with names a five-digit number 64060. These are data at 1-min intervals using Local Standard Time (LST) and UTC. The data cover the first month of 2022. These data are used in the analysis of the globally propagating spherical shockwaves caused by the Tonga underwater volcano eruption on Jan. 15, 2022.

Note that the UTC time string provided in the second type of files only has hour and minute in UTC but not the date in UTC. The date information in UTC is better converted from the local time to avoid mistakes. The time difference from UTC is provided in the files in their headers. For example:

FAA INFORMATION EFFECTIVE 16 JUNE 2022

Location

FAA Identifier: 6R6

Lat/Long: 30-02-47.3000N 102-12-47.4000W

30-02.788333N 102-12.790000W

30.0464722,-102.2131667

(estimated)

Elevation: 2323.4 ft. / 708.2 m (surveyed)

Variation: 09E (1985)

From city: 5 miles W of DRYDEN, TX

Time zone: UTC -5 (UTC -6 during Standard Time)

Zip code: 78851

For the ASOS xxx.dat files, time is in UTC, and

=============

Year Month Day Hour Min, longitude, latitude, barometric pressure (inch Hg.)

=============

2022 01 01 00 00,-176.6460,51.8780,30.41

=============

For the 64060 xxx.dat files, time is in LST, and

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Station ID WBAN# & 4 letter call sign | Year | Month | Day | Time LST, UTC | Precip ID | Precip amt | Frozen precip sensor freq. | Station pressure from 3 sensors (inches Hg.) | temperature | Dew point T |
| 03032K6R6 | 2022 | 01 | 01 | 00000600 |  |  |  | 27.324 27.329 | 56 | 47 |

**ACKNOWLEDGEMENTS**

1. These data were used in Li (2022b).
2. The original sources of the data include Iowa State University (the 5-min ASOS data) and NOAA (the 1-min data): Thanks to Iowa State University for providing the 5-min. interval ASOS data. Thanks to Blake Lasher of NOAA for providing the 1-min. interval air pressure data.
3. These data were used with higher resolution data (Li, 2022a) sampled at 3 sec and 21 sec intervals, and used in Li (2022b) for the Tonga underwater volcano eruption induced spherical shockwaves in January 2022.

**References**

Li, C. (2022a). High-Resolution Air Pressure Measured from Ground Stations. <https://doi.org/10.31390/oceanography_coastal_wavcis.02>

Li, C. (2022b). Global Shockwaves of the Hunga Tonga-Hunga Ha**'**apai Volcano Eruption Measured at Ground Stations. *iScience 25*, 105356, November 18, 2022. <https://doi.org/10.1016/j.isci.2022.105356>.