README: WWLLN MONTHLY THUNDER HOUR DATA

Basic information
This thunder hour dataset is based on lightning observations from the World-Wide Lightning Location Network (WWLLN) for 2005-present. The data are provided at 0.05° latitude/longitude resolution.

The following processing is applied to the stroke data:

- Buddy-checking: From 2 February 2015 onward, the WWLLN processing system has applied buddy-checking to reduce noise. Strokes detected by only 5 or 6 stations are matched to "buddy" strokes located by 6 or more stations within the previous 60 minutes and +/-0.75 latitude/longitude. If no "buddy" is found, the stroke is discarded. For this dataset, buddy-checking has also been applied to WWLLN data prior to 2 February 2015.
- De-duplication: Duplicates strokes occur when the WWLLN processing system receives sufficient wave packets to locate a stroke, pauses to calculate the location, and then receives additional wave packets such that the stroke is recorded again. The result is a duplicate stroke that is very close in space and time. For this dataset, for strokes within 50 μs and 15 km of each other, the stroke that is located by fewer stations or with a later timestamp is discarded.

File name convention
WWLLN_th_????.nc: Monthly summed thunder hours during the indicated year

File contents
WWLLN_th_????d.nc

- *lat(nlat)*: Latitude coordinates for center of grid boxes.
- *lon(nlon)*: Longitude coordinates for center of grid boxes.
- *thunder_hours(nmon,nlat,nlon)*: Total monthly thunder hours at indicated location. Units are hours.
- *mon(nmon)*: Month (1 = January, 2 = February, etc.). Lightning associated with January is summed from 01 January to 31 January.