Dear WWLLN Data Users,

These files contain lightning location data from the World Wide Lightning Location Network (WWLLN). You are free to use the data for your research, and we would appreciate it if you would acknowledge the WWLLN network in any publications (any media) (please see http://wwlln.net/publications for our recommended acknowledgement, along with a list of research papers explaining WWLLN and research using WWLLN data.)

The format for the AE files contained in the Storm-named folders is:
Each AE file is an ascii text file, labeled with the date and time of the data (AEYearMoDa.loc)
Format (13 parameters on each line, one line per stroke):

YYYY/MM/DD	hh:mm:ss.fract	lat	lon	resid	Nstn	Energy (J)	Energy uncertainty (J)	Estn
41022.00	00:00.2	26.5463	135.4961	13.2	9	2741.38	332.49	5
41022.00	00:00.8	10.797	125.8763	6.2	7	1744.95	131.47	6
41022.00	00:00.9	19.4564	-70.9303	17.2	6	298	118.1	4
41022.00	00:00.9	14.1879	-90.7451	24	16	507.86	136.14	13
41022.00	00:00.9	19.3481	-70.9295	16.4	5	212.37	48.31	4
41022.00	00:01.2	14.2636	-90.4189	14	11	140.89	33.33	9

Where: Date/time are in UTC to the nearest microsecond
Lat, Lon is in fractional degrees (geographic coordinates)
resid is the residual fit error in Microseconds (always <30)
Nstn is the number of WWLLN stations participarting in the location fit (always >=5)
energy is the far field VLF energy (in Joules) of the stroke (from 1.3 ms waveform sampling between 7 and 18 kHz)
energy uncertainty (energy error of the fit in Joules)
Estn is the subset of Nstn stations between 1000 and 8000 km from this stroke whose energy data were used in the energy estimate.

More Questions?
Contact Prof. Robert Holzworth, Director of WWLLN, and Professor of Earth and Space Sciences
University of Washington, Box 351310, Seattle, WA 98195   (bobholz@uw.edu)

Robert Holzworth
Director of WWLLN, Professor of Earth and Space Sciences
 University of Washington, Box 351310,
Seattle, WA 98195
bobholz@uw.edu

Global Hawk Atlantic Tropical Cyclones