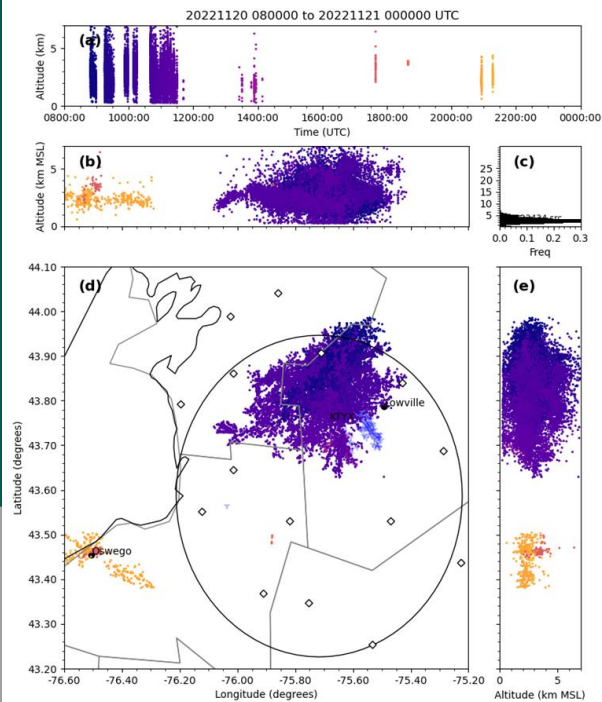# Project LEE Data Analysis ~Special~

Thomas Weist
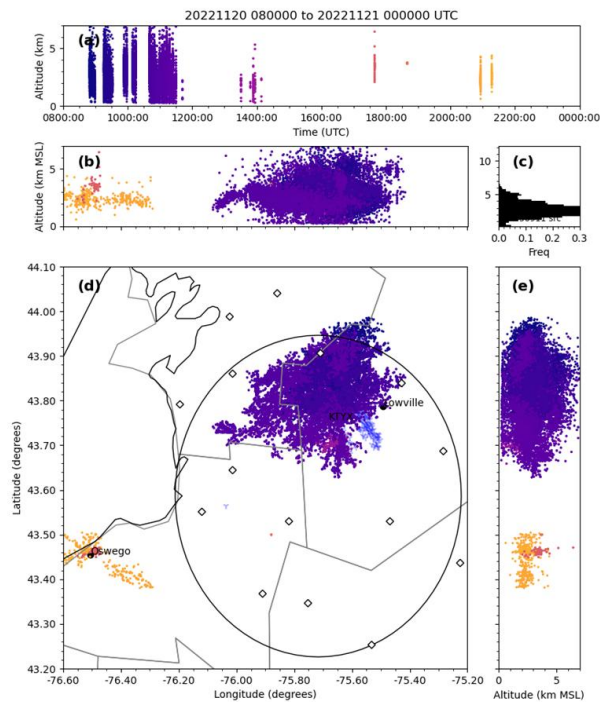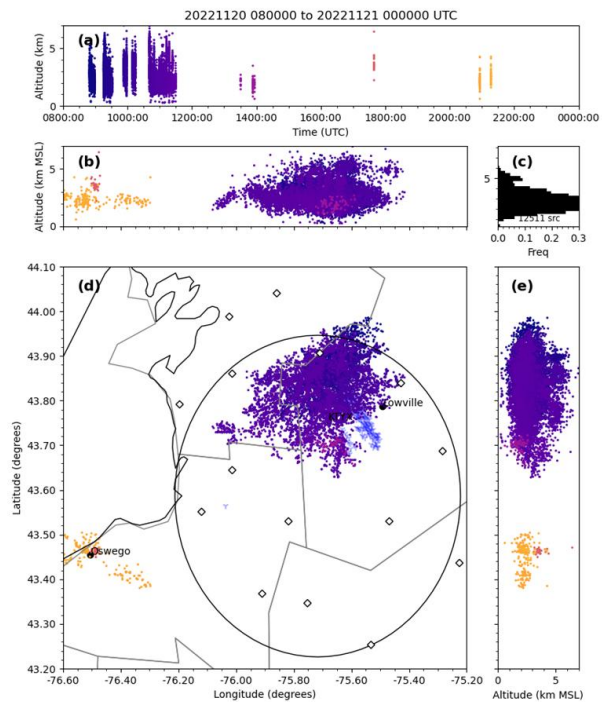
Our Process

1. Create an .nc file and LMA plot for an IOP using LMA data files and Python code
   a. IOP time based on lake-effect band duration
   b. Made a file for stationmin=5; 6; 7
   c. χ^2=1; min_sources=5
2. Look for vertical section of sources on Altitude vs. Time plot (Figure A)
3. Record flash's start time (rounded down to the nearest second; rounded to the nearest hundredth of a second for several flashes within a second)
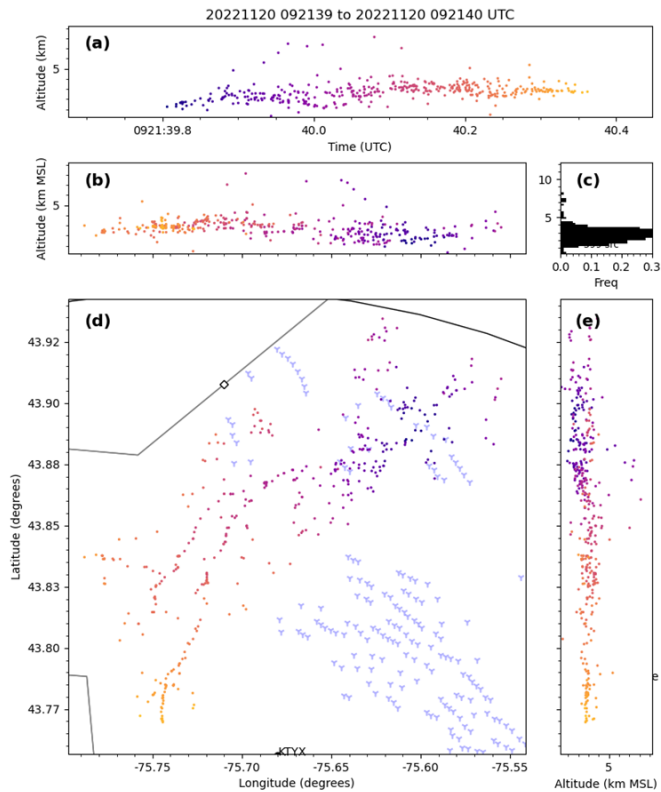
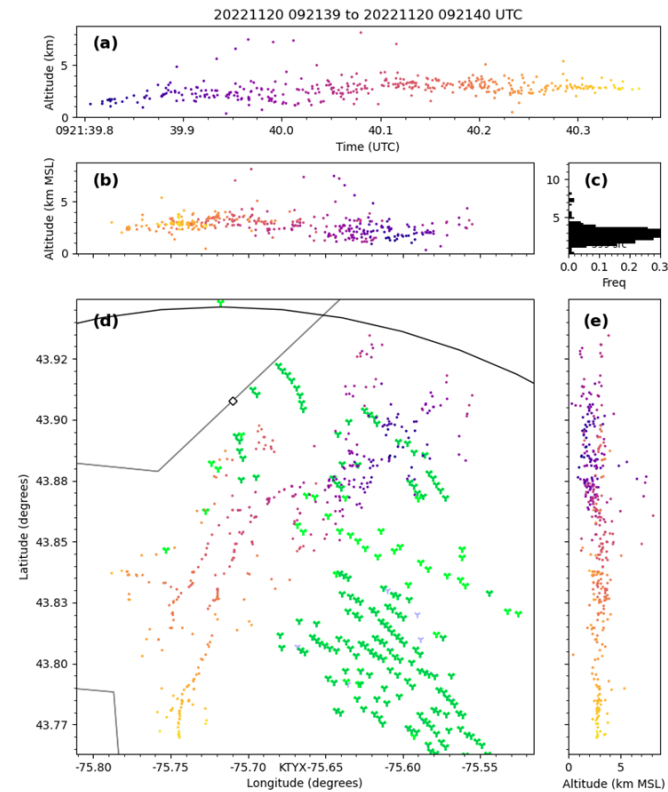IOP 3 (11/20/2022 08Z - 11/21/2022 00Z) stationmin=5

IOP 3 (11/20/2022 08Z - 11/21/2022 00Z) stationmin=6

IOP 3 (11/20/2022 08Z - 11/21/2022 00Z) stationmin=7

IOP 3 Flash 0939:40Z LMA Plot
(Turbines)

IOP 3 Flash 0939:40Z LMA Plot
(Turbines & Obstacles)

Old Spreadsheet

E	F
IOP 3	IOP 4
2022-11-20 @ 10:00 to 2022-11-20 @ 22:30	2022-12-17 @ 23:00 to 2022-12-18 @ 15:00
2022-11-20 @ 08:00 to 2022-11-21 @ 13:30	2022-12-17 @ 09:30 to 2022-12-19 @ 05:00
16 Stations (code) 15 Stations (report)	15 Stations (code) 14 Stations (report)
2022-11-20 @ 08:39 2022-11-20 @ 11:21	2022-12-18 @ 22:00
	5 Flashes
2022-11-20 @ 08:49:23	

E	F
2022-11-20 @ 08:49:23 2022-11-20 @ 08:51:37 2022-11-20 @ 08:52:44 2022-11-20 @ 08:53:22 2022-11-20 @ 08:54:31 2022-11-20 @ 08:55:28 2022-11-20 @ 08:56:24 2022-11-20 @ 08:57:55 2022-11-20 @ 08:58:53 2022-11-20 @ 08:59:14 2022-11-20 @ 09:15:30 2022-11-20 @ 09:16:18 2022-11-20 @ 09:17:22 2022-11-20 @ 09:18:08 2022-11-20 @ 09:19:04 2022-11-20 @ 09:19:36	2022-12-18 @ ~2035:20 2022-12-18 @ ~2206:22 2022-12-19 @ ~0419:16 2022-12-19 @ ~0422:43 2022-12-19 @ ~0424:32
#Source to flash chi2max=1.0 stationsmin=7 min_events_per_flash=5	#Source to flash chi2max=1.0 stationsmin=6 min_events_per_flash=5
stationmin=6	

T **Thomas Weist**
3:10 PM Jun 28

***Note: these are estimated times (I mostly rounded down to the nearest second (there are a few I rounded up for the 1st clump)

~93 Flashes Counted Manually~
From 08Z to 12Z there are 5 clumps of flashes

*1st Clump: 10 flashes (0849:23 - 0859:14); flashes generally move eastward over time
- 0849:23; 0851:37; 0852:44; 0853:22; 0854:31; 0855:28; 0856:24; 0857:55; 0858:53; 0859:14

*2nd Clump: 22 flashes (0915:30 - 0931:59); flashes generally move eastward over time
- 0915:30; 0916:18; 0917:22; 0918:08; 0919:04; 0919:36; 0920:04; 0921:39; 0922:56; 0923:28; 0924:27; 0925:02; 0925:32; 0926:22; 0926:58; 0927:23;

New Spreadsheet