MAMMOTH

Mammoth Wave Propagation Experiment

May 1997 - September 1997

PASSCAL Data Report 99-001

IRIS DATA MANAGEMENT SYSTEM

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Mammoth Wave Propagation Experiment

The Duke University Seismology group conducted an extensive microearthquake study in Long Valley Caldera during the summer of 1997. Thirty-six 3-components surface seismometers, with 1 km spacing, were deployed around the Casa Diablo area during the period between May 15 and September 30. Four Broadband instruments were deployed during most of this time frame. See Figure 1 for location map and station locations.

Station with name starting with "M' is a triggered short period L22 sensor, sampled at 500 sps. Station with name starting with "BB" is a continues data Broad Band CMG30T sensor, sampled at 100 sps. No more than 36 short period stations were deployed at any given time. Some of the short period station sites were occupied for only part of the experiment duration.

Stations list

Name	Latitude	Longitude	Elevation
M01	37.6419	-118.9266	2237
M02	37.6467	-118.9305	2279
M03	37.6318	-118.9256	2251
M04	37.6629	-118.9092	2306
M05	37.6449	-118.9030	2205
M06	37.6321	-118.9077	2192
M07	37.6173	-118.9036	2230
M08	37.6271	-118.8687	2141
M09	37.6367	-118.8603	2134
M10	37.6086	-118.8731	2208
M11	37.6340	-118.8432	2138
M12	37.6177	-118.8533	2222
M13	37.6597	-118.9706	2464
M14	37.6547	-118.9457	2344
M15	37.6849	-118.9478	2372
M16	37.6969	-118.9286	2393
M17	37.6819	-118.9049	2356
M18	37.6704	-118.9272	2327
M19	37.6601	-118.8877	2150
M20	37.6450	-118.8796	2152
M21	37.6513	-118.8598	2214
M22	37.6799	-118.8723	2200
M23	37.6771	-118.8491	2171
M24	37.6583	-118.8348	2126
M25	37.6242	-118.9484	2355
M26	37.6127	-118.9255	2386
M27	37.6652	-118.8624	2270
M28	37.6375	-118.9559	2362
M29	37.6287	-118.8813	2168

M30	37.6402	-118.8483	2144
M31	37.6280	-118.8366	2137
M32	37.6504	-118.8668	2153
M33	37.6663	-118.8834	2374
M34	37.6541	-118.9091	2323
M35	37.6488	-118.8627	2163
M36	37.6523	-118.8691	2194
M37	37.6620	-118.8818	2325
M38	37.6999	-118.8915	2144
M39	37.6769	-118.8208	2100
M40	37.5970	-118.9870	2800
M41	37.6721	-118.9587	2458
M42	37.6751	-118.9864	2573
BB007	37.5970	-118.9870	2800
BB008	37.6173	-118.9036	2230
BB012	37.7264	-119.0174	2448
BB013	37.7216	-118.9228	2231

Data format and archive

All the data is in SEGY format. The PASSCAL software sets dates and file names.

Short Period (triggered)

Only associated events were archived from the triggered data. This data is arranged by Julian date where each day is "tar" as a separate file into 4-mm tape. The first date is 97.139 (5/19/97) but the first quality data is from 97.147 (5/27/97). The last date with data is 97.270 (9/27/97). The only day without data during that period is 97.152.

In the first half of the experiment we recorded 20 seconds of data with 5 seconds pretrigger. At some time after the swarms started we reduce the recording time to 12 seconds with 3 second pretrigger. During the transition period (7/10 - 7/20) some of the stations recorded 20 seconds and some 12 seconds.

Example of reading one day (97.214) from the tape:

1. Find the tape with the right date (it is the one with data from 97.209 to 97.216).
2 Calculate that tar file number on the tape (in this case it is the sixth tar file on the tape)
3. Insert the tape into the tape reader (/dev/rmt/0 in this example)
4. Type:

```
mt -f /dev/rmt/0n fsf 5
tar xvf /dev/rmt/0n
```

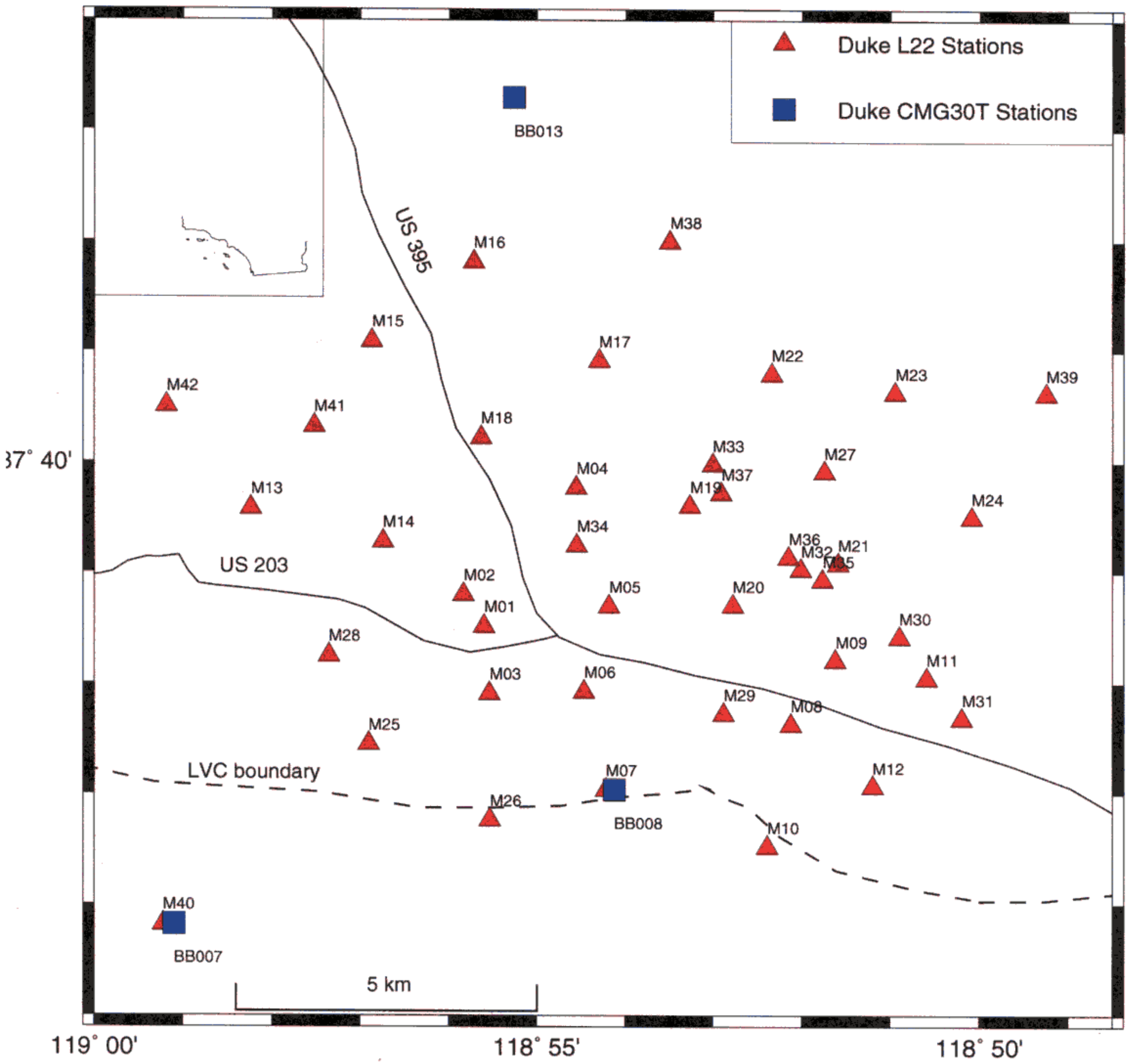
Broad Band (continuous)

This data was recorded as 60 minutes files. Each instrument was downloaded once a week and the data was "tared" into the tape. The two weeks between JD 226 and JD 239 were "tared" as one large tar file for each week on days 8/20/97 and 8/29/97.

Example of finding data from Julian day 210:

1. Find the tape with the right date (BB007, BB008, BB012, BB013, 205-211)
2. Read 4 tar files from the tape for the 4 instruments.
3. Locate the right time from the file name.

Mammoth Stations



POSTSCRIPT ERROR: undefined OFFENDING COMMAND: untitled
VMSTATUS max: 5519232 avail: 5383944 level: 6