U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

THE SOUTHERN CALIFORNIA NETWORK BULLETIN JANUARY - DECEMBER 1992

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Errata

The following are corrections to the 1991 Network Bulletin, Open-File Report 92-335 (Wald *et al.,* 1992):

1) On page 7, the table referred to as Table 5 should be Table 4. Also the table itself on that page should be Table 4, not Table 5.

2) The gain factors for the ULP channels of all the broad-band instruments except SVD in Table 3 of the 1990 Network Bulletin, Open-File Report 91-255 (Wald *et al.*, 1991) and those in the Errata of the 1991 Network Bulletin, Open-File Report 92-335 (Wald *et al..*, 1992) were found to be incorrect. See the section labelled TERRAscope Update in this Network Bulletin for the correct values.

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INTRODUCTION

The Pasadena Office of the U.S. Geological Survey together with the California Institute of Technology operates a network of approximately 300 remote seismometers in southern California. Signals from these sites are telemetered to the central processing site at the Caltech Seismological Laboratory in Pasadena. These signals are continuously monitored by computers that detect and record thousands of earthquakes each year. Phase arrival times for these events are picked by analysts and archived along with digital seismograms. Data acquisition, processing and archiving is achieved using the CUSP system. These data are used to compile the Southern California Catalog of Earthquakes, a list beginning in 1932 that currently contains more than 230,000 events. This data set is critical to the evaluation of earthquake hazards in California and to the advancement of geoscience as a whole.

This and previous Network Bulletins are intended to serve several purposes. The most important goal is to make Network data more accessible to current and potential users. It is also important to document the details of Network operation, because only with a full understanding of the process by which the data are produced can researchers use the data responsibly.

NETWORK CONFIGURATION

New Stations

Many new sites have been added since publication of the last Network Bulletin. An explanation for the addition of each station is provided, followed by Table 1 which contains information about each station. Figure 1 is a current station map.

BRS

A network portable station (Wald *et al.*, 1991) was moved from Thousand Palms (THP) to Banning Ranger Station after the Landers earthquake.

CCR

A new network portable station (Wald *et al.*, 1991) was installed at Crystal Creek. It lacks only the vertical FBA component.

CDY

A high-gain vertical receiver was installed in the Cody Mountains after the Landers earthquake to replace the Lavic Lake (LAV) station that had been previously turned off in the area.

EWC

A three-component FBA was added to this pre-existing site in East Wide Canyon after the Joshua Tree earthquake.

FLS

A three-component FBA was added to this pre-existing site on Flash Peak after the Landers earthquake.

LCL

Two horizontal components were added to this pre-existing high-gain vertical site maintained and run by USC at the Los Cerritos Museum . The data is now telemetered and also recorded by the USGS along with the vertical component.

LRL

This three-component FBA was installed near the Laurel Mountain (LRM) vertical site one day after the Landers earthquake. It has a slightly different location than the pre-existing component.

RCP

USC's high-gain vertical component at Recreation Park was replaced by one low-gain vertical and two horizontal components. This data is telemetered and recorded by the USGS in place of the previous component.

RMM

A network portable station (Wald *et al.*, 1991) was moved from Azusa (AZU) to Rodman Mountain after the Landers earthquake.

SKY

A high-gain vertical was installed at Sky Mesa to replace the Double Butte (DB2) site that was terminated.

STO

A new network portable station (Wald *et al.*, 1991) was installed at Stoddard Mountain after the Landers earthquake.

THP

A network portable station (Wald *et al.*, 1991) was installed at Thousand Palms after the Joshua Tree earthquake that was later moved to Banning Ranger Station (BRS).

TOP

A high-gain vertical and a three-component FBA were installed at Toro Peak after the Landers earthquake.

WI2

A high-gain vertical and an east-west horizontal component were installed at a site near Wister to replace the old Wister station.

WRV

Two high-gain and FBA horizontal components were installed at a pre-existing site in Rose Valley after the Coso Swarm and were removed later in the year.

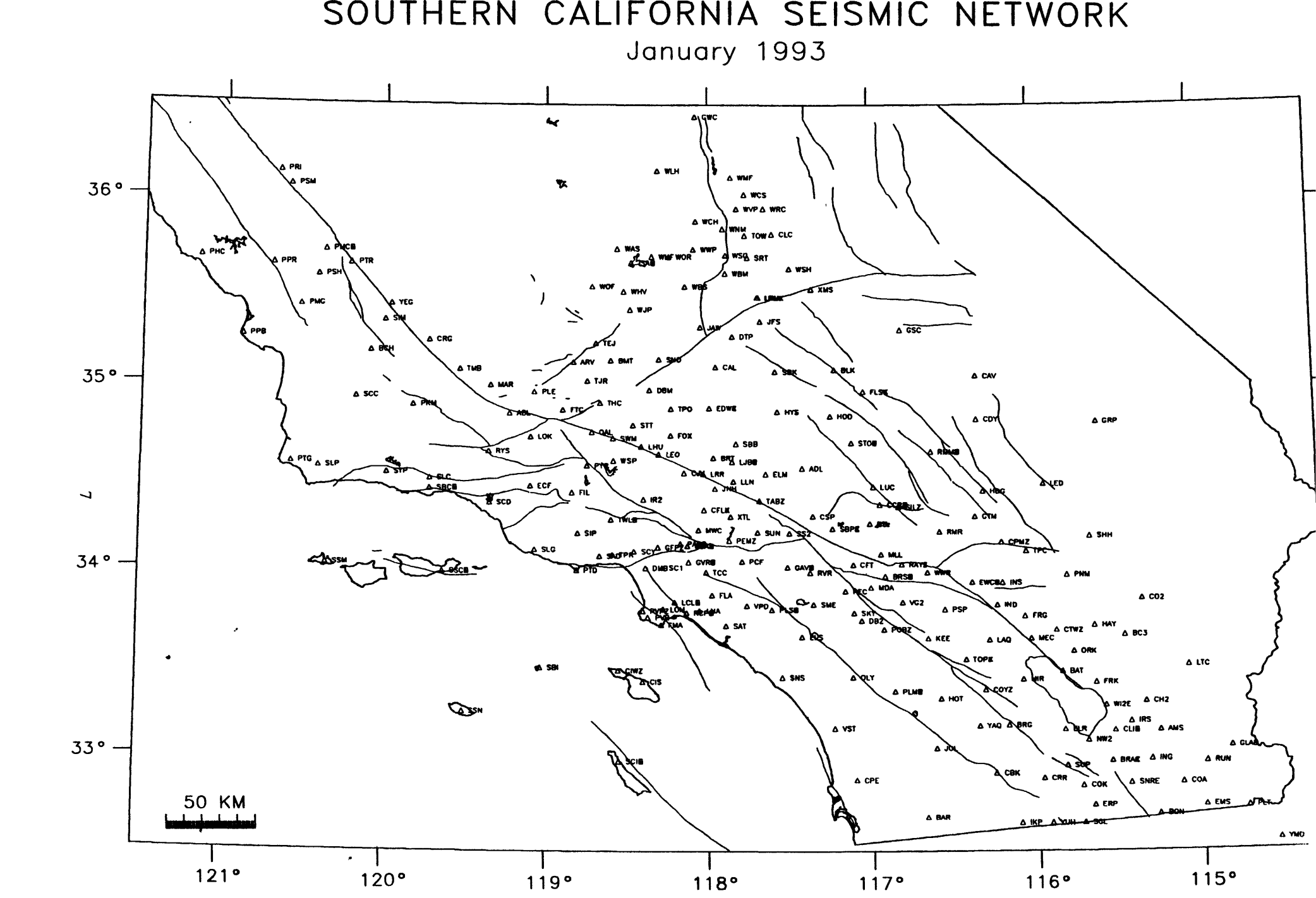

Figure 1. Southern California Seismic Network. Map of all stations operated and maintained by the Pasadena Field Office as well as several stations operated by other agencies that are also digitally recorded.

Table 1. New Stations

Code	Site Name	Lat.	Long.	Elev. (m)	Date Installed	Instr.	Orient.
BRS VHZ	Banning Ranger Station	33° 58.29' N (33.972 °)	116° 54.71' W (116.912°)	1037	07/03/92	L4	vertical
BRS VLZ	"	"	"	"	"	L4	vertical low-gain
BRS VLE	"	"	"	"	"	L4	East
BRS VLN	"	"	"	"	"	L4	North
BRS ASZ	"	"	"	"	"	FBA	vertical
BRS ASN	"	"	"	"	"	FBA	North
BRS ASE	"	"	"	"	"	FBA	East
CCR VHZ	Crystal Creek	33° 46.56' N (33.776 °)	117° 06.38' W (117.106°)	812	12/10/92	L4	vertical
CCR VLZ	"	"	"	"	"	L4	vertical low-gain
CCR VLE	"	"	"	"	"	L4	East
CCR VLN	"	"	"	"	"	L4	North
CCR ASE	"	"	"	"	"	FBA	East
CCR ASN	"	"	"	"	"	FBA	North
CDY VHZ	Cody Mountains	34° 49.13' N (34.819 °)	116° 20.33' W (116.339°)	949	07/07/92	L4	vertical
EWC ASZ	East Wide Canyon	33° 56.24' N (33.937 °)	116° 22.86' W (116.381°)	512	05/14/92	FBA	vertical
EWC ASN	"	"	"	"	"	FBA	North
EWC ASE	"	"	"	"	"	FBA	East
FLS ASZ	Flash2 Peak	34° 58.13' N (34.969 °)	117° 2.19' W (117.037°)	330	07/14/92	FBA	vertical
FLSC ASN	"	"	"	"	"	FBA	North
FLSC ASE	"	"	"	"	"	FBA	East
GTM VHZ	Goat Mountain	34° 17.68' N (34.295°)	116° 21.32' W (116.355°)	953	06/28/92	L4	vertical
LCLS VLE	Los Cerritos Museum	33° 50.38' N (33.840°)	118° 11.66' W (118.194°)	-68	07/22/92	FBA	East
LCLS VLN	"	"	"	"	"	FBA	North
LRLC ASZ	Laurel Mtn. Radio Facility	35° 28.65' N (35.478°)	117° 40.96' W (117.683°)	1360	07/29/92	FBA	vertical
LRLC ASN	"	"	"	"	"	FBA	North
LRLC ASE	"	"	"	"	"	FBA	East
RCPS VLE	Recreation Park	33° 46.64' N (33.777°)	118° 7.96' W (118.133°)	10	07/22/92	L4	East
RCPS VLN	"	"	"	"	"	L4	North
RCPS VLZ	"	"	"	"	05/28/92	L4	vertical low-gain
RMM VHZ	Rodman Mountain	34° 38.59' N (34.643 °)	116° 37.42' W (116.624°)	1805	06/30/92	L4	vertical
RMM VLZ	"	"	"	"	"	L4	vertical low-gain
RMM VLE	"	"	"	"	"	L4	East
RMM VLN	"	"	"	"	"	L4	North
RMM ASZ	"	"	"	"	"	FBA	vertical
RMM ASN	"	"	"	"	"	FBA	North
RMM ASE	"	"	"	"	"	FBA	East
SKY VHZ	Sky Mesa	34° 21.65' N (34.361 °)	116° 56.40' W (116.940°)	1432	12/10/92	L4	vertical
SMO VHZ	Santa Rosa Mtn.	33° 32.15' N (33.536 °)	116° 27.70' W (116.462°)	2437	07/21/92	L4	vertical
STO VHZ	Stoddard Mountain	34° 41.52' N (34.692 °)	117° 6.99' W (117.117°)	1194	07/09/92	L4	vertical
STO VLZ	"	"	"	"	"	L4	vertical low-gain
STO VLE	"	"	"	"	"	L4	East
STO VLN	"	"	"	"	"	L4	North

Table 1. New Stations (continued)

Code	Site Name	Lat.	Long.	Elev. (m)	Date Installed	Instr.	Orient.
STO ASZ	"	"	"	"	"	FBA	vertical
STO ASN	"	"	"	"	"	FBA	North
STO ASE	"	"	"	"	"	FBA	East
THP VHZ	Thousand Palms	33° 49.90' N (33.832 °)	116° 20.29' W (116.338°)	122	05/14/92	L4	vertical
THP VLZ	"	"	"	"	"	L4	vertical low-gain
THP VLE	"	"	"	"	"	L4	East
THP VLN	"	"	"	"	"	L4	North
THP ASZ	"	"	"	"	"	FBA	vertical
THP ASN	"	"	"	"	"	FBA	North
THP ASE	"	"	"	"	"	FBA	East
TOP VHZ	Toro Peak	33° 31.44' N (33.524 °)	116° 25.47' W (116.425°)	2657	07/21/92	L4	vertical
TOP ASZ	"	"	"	"	"	FBA	vertical
TOP ASN	"	"	"	"	"	FBA	North
TOP ASE	"	"	"	"	"	FBA	East
WRV VLN	Rose Valley	36° 00.47' N (36.008 °)	117° 53.42' W (117.890°)	1066	02/21/92	L4	North
WRV VLE	"	"	"	"	"	L4	East
WRV ASN	"	"	"	"	"	FBA	North
WRV ASE	"	"	"	"	"	FBA	East
WI2 VHZ	Wister	33° 16.58' N (33.276 °)	115° 34.84' W (115.581°)	-68	09/21/92	L4	vertical
WI2 VLE	"	"	"	"	"	"	East

Discontinued Stations

Six stations have been removed since the last Bulletin was released. The removal dates are shown below. The network portable station at AZU was moved to the Rodman Mountain (RMM) site after the Landers earthquake. The vertical component at SMO was removed and placed at Toro Peak (TOP) along with a three-component FBA after the Landers earthquake. The network portable station at THP was also moved to a new site at the Banning Ranger Station after the Landers earthquake. The network portable site VET was terminated and moved to another site. WIS was removed due to vandalism and replaced with WI2, a short distance away. Several components of WRV were removed in order to better record the Landers aftershocks at other sites. These removals are summarized in Table 2.

Table 2. Discontinued Stations

Station Code	Date Discontinued
AZU	03/17/92
SMO	07/21/92
THP	07/03/92
VET	02/21/92
WIS	04/30/92
WRV (high-gain vertical & vertical FBA still on)	06/30/91

Portable Seismometers Deployed Following Landers Earthquake

Table 3 contains information about the portable seismometers that were installed by the Southern California Earthquake Center after the Landers earthquake. Institutions involved with the deployment include the USGS, Caltech, U.C. Santa Barbara, U.C. San Diego, Univ. of Southern California, and San Deigo State University. Blanks in the table indicate that this information was not recorded or was unavailable at the time of this report. A map with the station locations is shown in Figure 2.

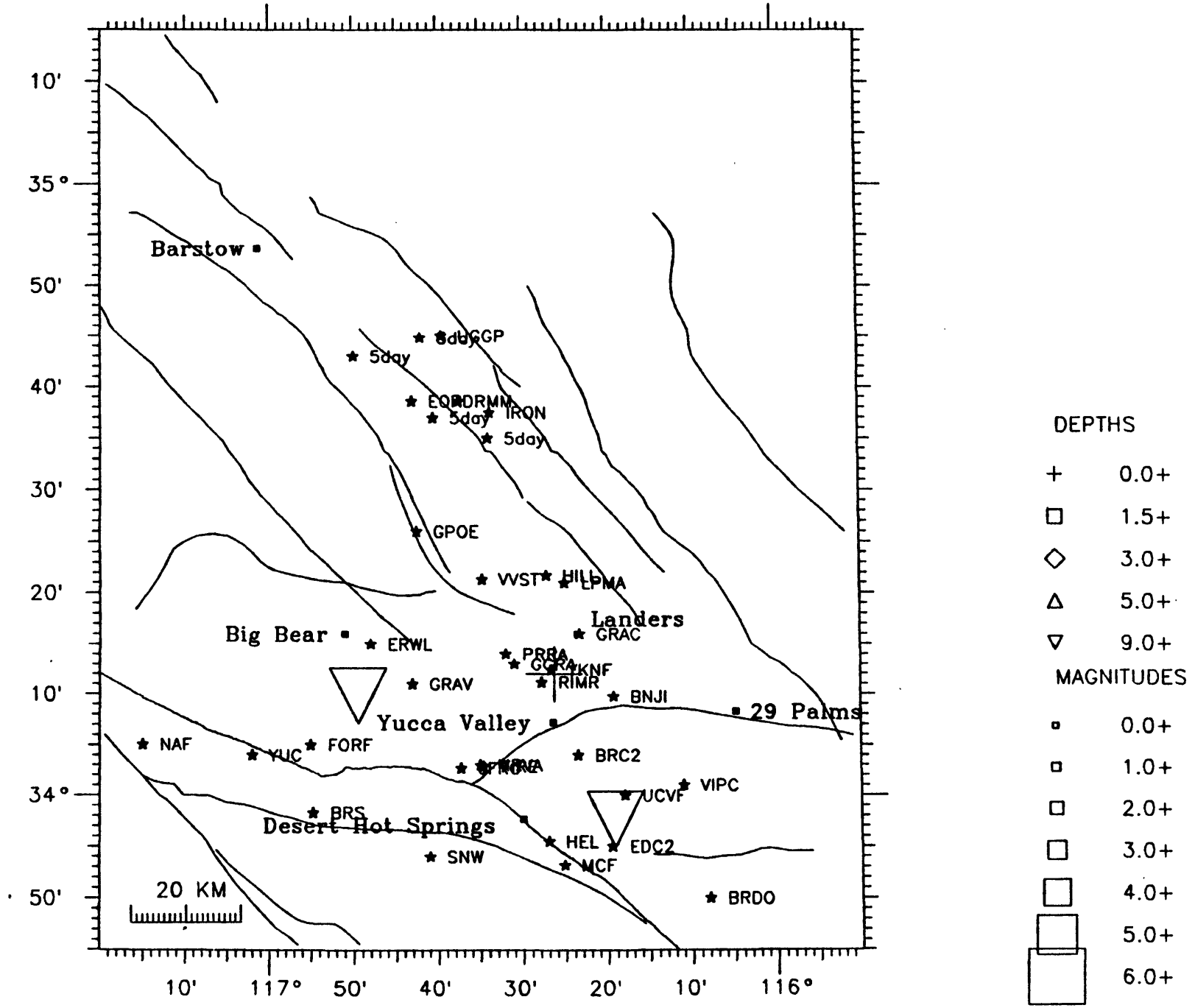

Figure 2. Map of portable seismometers deployed after the Landers earthquake, June 28, 1992.

Table 3. Portable Seismometers Deployed Following Landers Earthquake

Station Code	Station Name	Location		Elev (m)	Install. Date	Instrument Type
REFTEK sites - RT72A loggers:						
BNJI	Benji Road	34.1620	116.3210	860	06/29/92	FBA-23, L22-3D, SCEC v2.46
BRCC	Black Rock Canyon	34.0684	116.3910	1260	06/29/92	UCSD STS-2 hi/low, SCEC v2.46
BRDO	Berdoo Canyon Rd	33.8330	116.1330	610	06/28/92	CMG-3, FBA-23, Caltech v2.44
CGTS	Calico Ghost Town	34.9333	116.8500	707	07/06/92	CMG-3, FBA-23, Caltech v2.44
EDC2	East Deception canyon	33.9170	116.3250	500	06/28/92	CMG-3, FBA-23, Caltech v2.44
EORD	East Ord Mountain	34.6430	116.7170		06/29/92	FBA-23, L22-3D, Passcal v2.46
ERWL	Erwin Lake, Big Bear area	34.2500	116.8000	2060	06/28/92	USC L4C-3D, FBA-23, SCEC v2.46
FIRE	Morongo Valley Fire Station	34.0480	116.5770	792	06/29/92	SDSU Kin. SSR1 logger, FBA-23
FORF	Forest Falls	34.0833	116.9170	1770	06/28/92	L4C-3D, FBA-23, SCEC v2.46
GPOE	George Poe Ranch off Bessemer Mine Rd	34.4330	116.7080	915	06/29/92	L22-3D, Passcal LN mod. chn. 4-6, v2.46
GRAC	Green Acres	34.2670	116.3870	912	06/28/92	FBA-23, L22-3D, SCEC v2.46
GRAV	Grace Valley, Big Bear area	34.1830	116.7170		06/28/92	L4C-3D, FBA-23, SCEC v2.46
HILL		34.3620	116.4532	920	06/29/92	SDSU Kin. SSR1 logger, FBA-23
IRON	Iron Ridge	34.6170	116.5670	1157	07/03/92	UCSD Golden L22-3D, Passcal v2.46
JFRG	Jumping Frog-Mockingbird Spring Ln.	34.4569	116.6210	900	06/30/92	UCSD STS-2 hi/low, SCEC v2.46
LADY	Joshua Tree Fire Station	34.1323	116.1460	841	07/29/92	Kin. SSR1 logger, FBA-23
LPMA	Los Padre Mine Access	34.4569	116.6210	808	06/29/92	FBA-23, L22-3D, Passcal v2.46
RIMR		34.1863	116.4626	1125	06/29/92	Kin. SSR1 logger, FBA-23
UCVF	Upper Covington Flat	34.0110	116.3050	1484	06/30/92	L22-3D, SCEC v2.45
UGGP	Underground Gas Pipeline	34.5830	116.6600	835	07/02/92	Golden L22-3, Oregon v2.46
VIPC	Lost Horse Ranger Station VIP Campground	34.0175	116.5790	1293	07/02/92	UCSD STS-2 hi/low, Passcal LN module chn. 4-6, v2.46
VVST	Valley Vista Rd	34.3550	116.5790	916	06/29/92	FBA-23, L22-3D, Passcal v2.46
YKNF	Yellowknife Rd	34.2070	116.4440	1091	06/28/92	FBA-23, L22-3D, SCEC v2.46
USGS GEOS's:						
YUC		34 04.0	117 02.0			L-22, FBA
MCF		33 53.2	116 25.2			L-22, FBA
HEL		33 55.5	116 27.0			L-22, FBA
SNW		33 54.0	116 41.0			L-22, FBA
SBE	Perris Hill, Elks Club	34 08.022	117 15.528			L-22, FBA
TOP	mountain top	34 08.790	117 11.868			L-22, FBA
LKS	Lankershim School	34 07.062	117 14.016			L-22, FBA
The following are mini-arrays:						
NA1	USGS Norton A.F.B. Array	34 05.802	117 16.152			GEOS's, L-22, FBA
NA2	"	34 05.748	117 16.098			
NA3	"	34 05.652	117 16.122			
NA4	"	34 05.820	117 16.032			
	"					
SGW	San Gorgonia High School	34 07.683	117 14.219			GEOS's, L-22, FBA
SGW	"	34 07.684	117 14.105			
SGW	"	34 07.604	117 14.183			
	"					
SBA	San Berdu High School	34 07.86	117 17.64			GEOS's, L-22, FBA
SBB	"	34 07.98	117 17.64			
SBC	"	34 07.92	117 17.76			
SBG	govt.	34 06.36	117 17.22			GEOS's, L-22, FBA
SBF	fire	34 06.30	117 16.86			

Table 3. Portable Seismometers Deployed Following Landers Earthquake (continued)

Station Code	Station Name	Location		Elev (m)	Install. Date	Instrument Type
GGRA	Gamma Gulch Rd Array	34 13.0	116 31.00			SSA-2's
PRRA	Parsons Ranch Rd Array	34 14.0	116 32.00			SSA-2's
MRVA	Morongo Valley Array	34 03.0	116 35.00		removed 7/7	GEOS's
5 day analog recorders:						
5DFR	Bessemer Mine Rd, E of fault scarp	34 34.7	116 37.6		(7/2-7/6)	
5DCS	Copper Strand Mine	34 39.5	116 41.0		(6/29-7/5)	
5DMT	Mountain Rd.	34 43.7	116 49.2		(6/30-7/5)	
5DTY	"Troy Rd"	34 39.9	116 40.0		(7/1-7/5)	

Discontinuation of Caltech Photographic Stations

All photographic recording have been discontinued as of December 31, 1992. Table 4 indicates the dates that each photographic station was discontinued. For further information about the history of these stations and the transition to digital recording, see the article entitled *Phasing-Out of Photographic Stations: Kathy Watt's Final Notes* in the Network Operations section.

TABLE 4. Discontinuation of Photographic Stations

Station	Instr.	Comp.	Discontinued
CWC	WLN	north	27 December 1992
	WLE	east	27 December 1992
	Benioff	vertical	27 December 1992
	1-90	vertical	never activated
	SM (LG torsion)	vertical, north, east	October 1991
PLM	WLN	north	16 January 1993
	WLE	east	16 January 1993
	1-90	vertical	9 December 1991
	SM	vertical, north, east	31 December 1992
RVR	WLN	north	13 January 1993
	WLE	east	13 January 1993
	1-90	vertical	18 September 1991
	1-90	north, east	18 September 1991
	SM	vertical, north, east	31 December 1992
SBC	WLN	north	31 August 1992
	WLE	east	31 August 1992
	SM	vertical, north, east	31 December 1992
TIN	WLN	north	27 December 1992
	WLE	east	27 December 1992
	Benioff	vertical	27 December 1992
	1-90	vertical	27 December 1992
	1-90	north, east	28 August 1991
GSC	Sprengnether	vertical	1 April 1991
	Sprengnether	north	1 April 1991
	Sprengnether	east	1 April 1991

TABLE 4. Discontinuation of Photographic Stations (continued)

Station	Instr.	Comp.	Discontinued
PAS	Benioff	vertical	31 August 1992
	Benioff	north, east	31 August 1992
	30-90	vertical	31 August 1992
	30-90	north	31 August 1992
	30-90	east	31 August 1992
	1-90	vertical	31 August 1992
	1-90	north, east	31 August 1992
	WLN	north	22 January 1993
	WLE	east	22 January 1993
	Lp	vertical	31 August 1992
	ULP/LG	north	31 August 1992
	ULP/LG	east	31 August 1992
	SM	vertical, north, east	31 December 1992
	SM	vertical, north, east	31 December 1992

NETWORK OPERATIONS

Status of Processing

The status of each month of the catalog data since the advent of digital recording is described in Table 5. Events for months marked preliminary (**P**) have been timed but have not yet run the gauntlet of quality checking, addition of helicorder amplitudes and rearchiving necessary to become final (**F** with shading). For months marked "pinked" (**PNK**), larger events (~3.0) have only been timed crudely on a few stations and smaller events are absent. A period in 1980-1981 has actually been timed and digital seismograms are available, but the "pinked" version is still used for any purpose requiring good magnitudes or completeness for large earthquakes; some events and magnitudes are missing otherwise. An increased effort has been made in the last couple of years to finalize the backlog of incomplete data . The second half of 1981 and all of 1982 are finalized except for a few missing events. August - December 1983 is also finalized.

Table 5. Processing Status of Network Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1932-1974	PRE-DIGITAL RECORDING - COMPLETE FOR M≥3.0											
1975-1976	ALL PRELIMINARY											
1977	P	P	P	P	P	P	P	P	P	P	P	P
1978	F	F	F	F	F	F	F	F	F	F	F	F
1979	P	P	P	P	P	P	P	P	P	P	P	P
1980	PNK	PNK	PNK	PNK	PNK	PNK	PNK	PNK	PNK	PNK	PNK	PNK
1981	PNK	PNK	P	P	P	P	F	F	F	F	F	F
1982	F	F	F	F	F	F	F	F	F	F	F	F
1983	P	PNK	PNK	PNK	PNK	PNK	PNK	F	F	F	F	F
1984	F	F	F	F	F	F	F	F	F	F	F	F
1985	F	F	F	F	F	F	F	F	F	F	F	F
1986	F	F	F	F	F	F	F	F	F	F	F	F
1987	F	F	F	F	F	F	F	F	F	F	F	F
1988	F	F	F	F	F	F	F	F	F	F	F	F
1989	F	F	F	F	F	F	F	F	F	F	F	F
1990	F	F	F	F	F	F	F	F	F	F	F	F
1991	F	F	F	F	F	F	F	F	F	F	F	F
1992	F	F	F	P	P	P	P	P	P	P	P	P

Figure 3 is a schematic showing the flow of data through the system from the seismometers to the archiving and real-time distribution of earthquake data.

Because of the large numbers of earthquakes produced by the Joshua Tree and Landers earthquake sequences, many events have not been processed yet. Figure 4 shows a comparison of the number of events that triggered the network and were recorded as an earthquake, versus the number of events that had been timed and processed as of November 1992. Now that the seismicity rate has dropped back to a manageable level, data analysts are working on the unprocessed events from those 1992 sequences.

The list of events discussed in the Synopsis of Seismicity section includes only those events that have been processed, although most of the events of magnitude 3.0 or greater have been processed.

Poles and Zeroes for USGS Short-period Instrument

The following poles and zeroes for a typical USGS short-period instrument response were taken from a program written by Mary O'Neill and described in Stewart and O'Neill (1980). The sign convention is changed to conform to the SAC and SEED formats. The combined instrument response in this configuration consists of a seismometer, VCO-amplifier, and discriminator with 10 poles and 5 zeros.

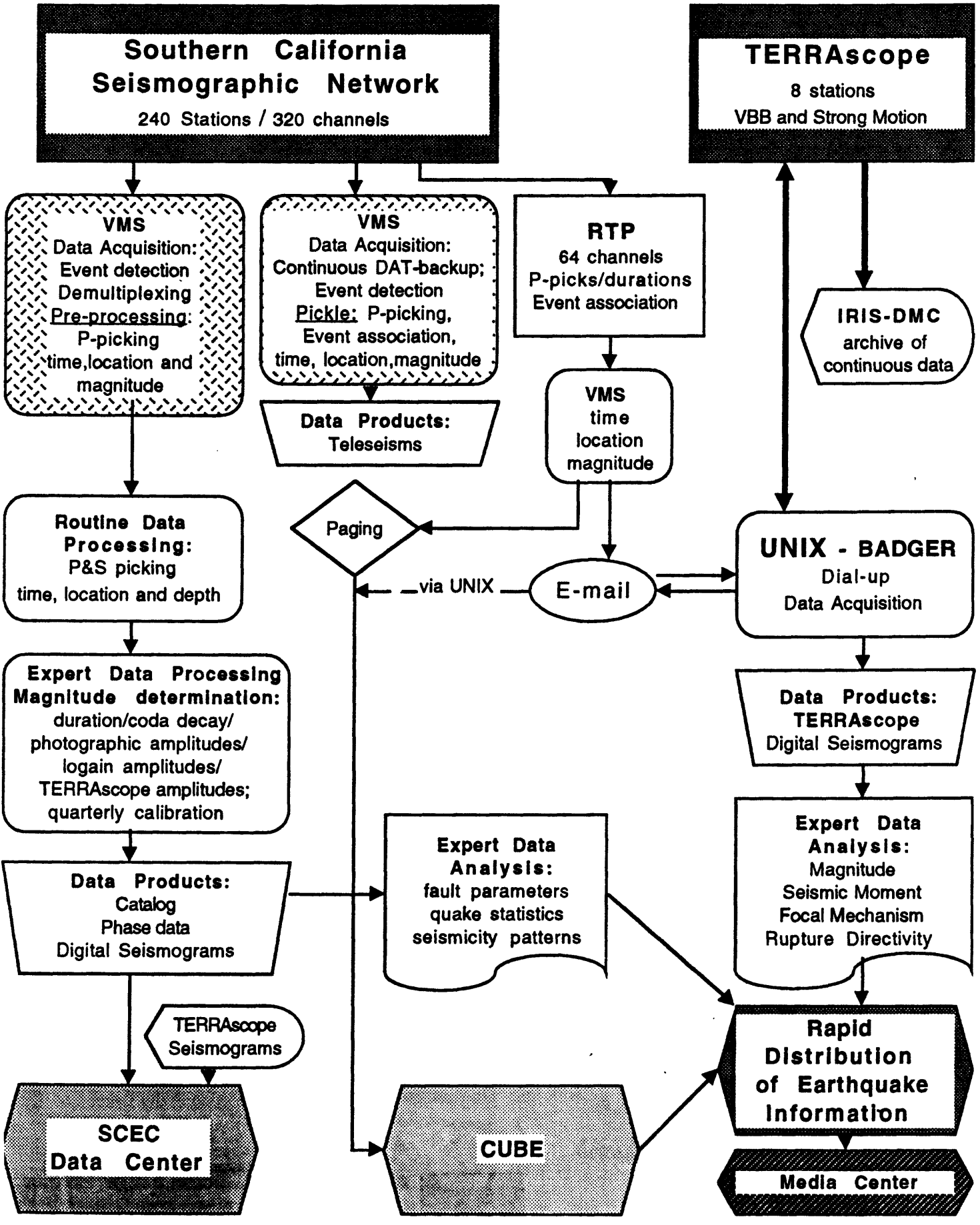

Figure 3. Schematic of data flow for earthquake monitoring in southern California. (Courtesy of Egill Hauksson)

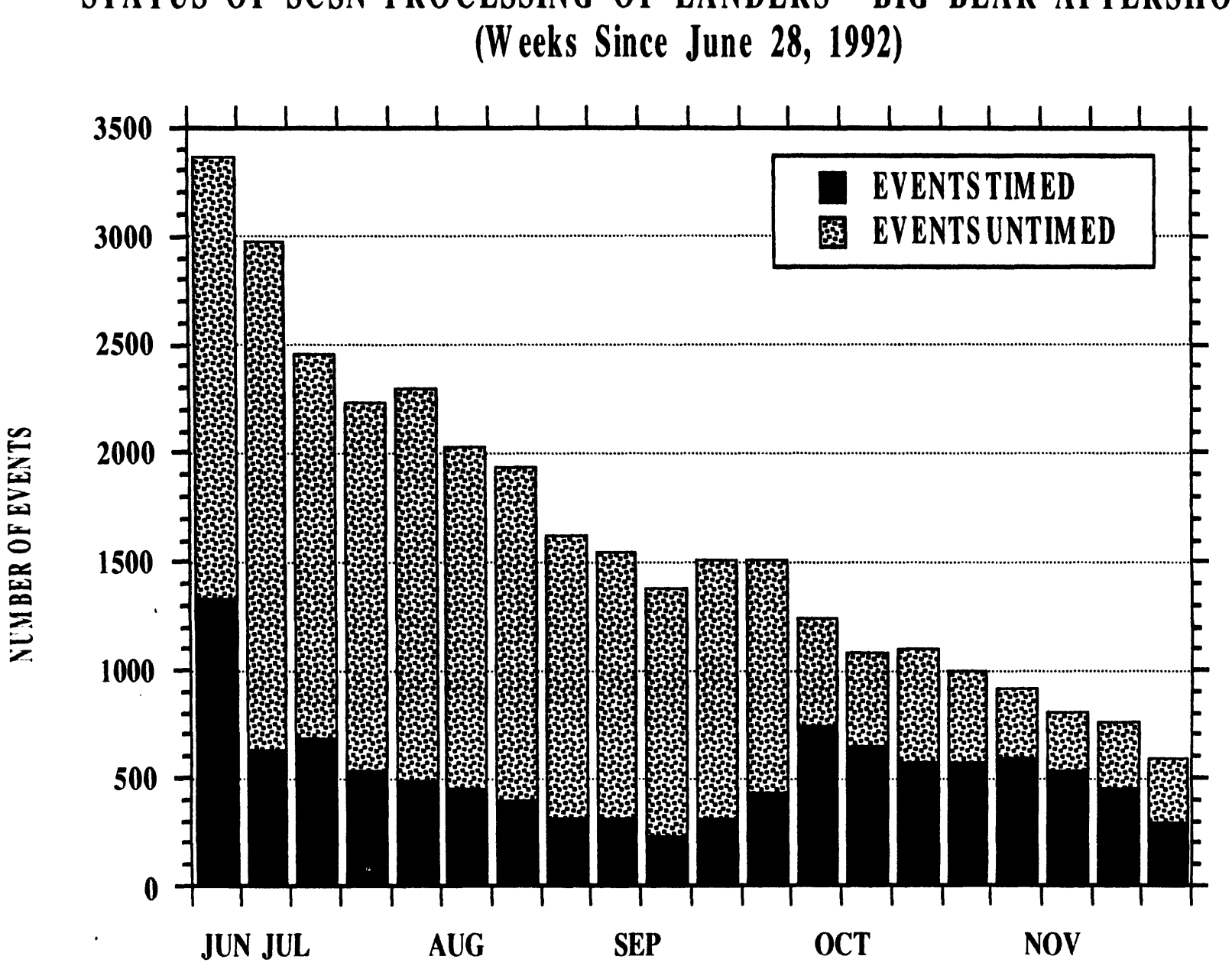

Figure 4. Status of SCSN processing of earthquakes since the Landers earthquake. The bar graph shows the number of events that triggered the network versus the number of those triggered events that have been processed.

	f_0	β	Poles	Zeroes	Constant
Seismometer					
$\frac{i\omega^3}{(\omega-\alpha_j)(\omega-\alpha_k)}$	1.0 hz	0.8	-5.0265+3.7699i -5.0265-3.7699i	0.0+0.0i 0.0+0.0i 0.0+0.0i	1.0
VCO - Amplifier					
$\frac{\omega^2}{(\omega-\alpha_j)(\omega-\alpha_k)}$	0.095	1.0	-0.5969+0.0i	0.0+0.0i 0.0 + 0.0i	1.0
$\frac{-1}{(\omega-\alpha_j)(\omega-\alpha_k)}$	44.0	1.0	-276.46+0.0i -276.46-0.0i		7.6429×10^4
Discriminator (J120)					
$\frac{-1}{(\omega-\alpha_j)(\omega-\alpha_k)}$	20.0	0.3827	-48.092+116.10i -48.092-116.10i		1.5792×10^4
$\frac{-1}{(\omega-\alpha_j)(\omega-\alpha_k)}$	20.0	0.9239	-116.10+48.083i -116.10-48.083i		1.5792×10^4

There have been several discriminators with different frequency responses. Another widely used model in southern California was the J101M with the following characteristics.

	f_0	β	Poles	Zeroes	Constant
Discriminator (J101M)					
$\frac{-i}{(\omega-\alpha_j)}$	3.0	0.0	-18.850+ 0.0i		18.850
$\frac{-1}{(\omega-\alpha_j)(\omega-\alpha_k)}$	60.0	1.0	-376.99+0.0i -376.99-0.0i		1.4212×10^5

The constants given above are for a normalized velocity response of 1 unit per cm/sec (in the frequency range where the response is flat to velocity). To obtain the absolute gain of the system, one has to include the following constants. The numbers in this example are for a typical instrument running with an attenuation of 24 db in southern Callifornia.

Gain =	(Seis. constant)	(Amp. gain)	(VCO dev)	(Disc. dev)	(Digitizer gain)
=	1.0v/cm/sec	2089	100.0 hz/2.7v	2.2 v/125 hz	2048 counts/2.5 v
=	1.1156×10^6 counts / cm/sec				

Current and past values of these instrument constants are stored in a database at the Pasadena office.

The poles and zeroes given above along with a constant which is a product of all the gain factors, can be used to remove the instrument response using the SAC program. Figure 5 shows an example of a digitally recorded seismogram from the Southern California Network and the ground displacement calculated first using a program originally written by Stewart and O'Neill (1980) and the ground displacement calculated using the poles and zeroes in the SAC program. The poles and zeroes in the SEED format follow the same convention as the SAC format.

SCEC Update

The Southern California Earthquake Center Data Center continues to load seismic data onto the mass storage device and refine programs for accessibility.

The following types of data are currently stored by the SCEC Data Center:

1) Southern California Seismic Network (SCSN) **catalog** listings from 1932 to the present.

2) **Digital seismograms** for local, regional and teleseismic events recorded by the SCSN from July 1983 through December 1992, and July 1981 through December 1982.

3) **ASCII data files** containing event information associated with each digital seismogram; e.g. phase, epicentral location, magnitude, and coda decay information. (Essentially, this is the ASCII equivalent of much of the .MEM file.)

4) Triggered **TERRAscope data** for teleseisms (May 1990 through present) and local southern California events (September 1990 through present).

Digital waveforms recorded by portable instruments deployed by SCEC and other institutions, as well as strong-motion and geodetic data are anticipated to be online in the near future. The strong-motion data will include recordings from 1933 to present not only from portable instruments, but also from the USGS strong-motion network, and the CDMG strong-motion network in southern California. Except for data from the Landers earthquake sequence, the strong-motion data will be available by early 1993.

Data stored at the SCEC Data Center is accessible to users with an account on the data center UNIX machine. An account may be requested as follows:

telnet scec2.gps.caltech.edu
(IP address: 131.215.65.16)
username: addme (no password required)
or
rlogin scec2.gps.caltech.edu -l addme

Upon logging in as *addme*, you will be asked a series of questions concerning user name, affiliation, phone number, and internet/bitnet address. You will receive information regarding your account within 24 hours of making the request. Information about accessing the various data types is available through the man pages upon logging into the SCEC Data Center.

Digital seismograms online at the SCEC Data Center are also readily available to CUSP (VAX) users. To access the data:

telnet bombay.gps.caltech.edu
username: spigot (no password required)

A program called **GETSEIS** will appear as one of the options available to this account. This program will retrieve a seismogram from the SCEC Data Center mass storage device, byte-swap the file from SUNsparc short to DECVAX short binary format order, and return a xcuspid.grm file into the **SPIGOT** directory. To use this program simply type:

GETSEIS CUSPID# e.g. GETSEIS 52035

where *cuspid#* is the number of the event you are interested in (obtained from a catalog listing or by using **CATREAD**).

A program called **GETMEM** will similarly retrieve the associated *.MEM file (not currently stored on the mass storage device). To use this program, type:

GETMEM CUSPID# e.g. GETMEM 52035

CUSP Meeting

A CUSP meeting was held June 24-26 to discuss network/project five-year goals at each of the institutions using CUSP: Hawaiian Volcano Observatory (HVO), Reno, University of Southern California (USC), USGS at Menlo Park, and USGS at Pasadena. At least one representative from each location was present at the meeting. Long-term goals, improvements, changes, and additions to CUSP were discussed as well as data/format issues such as the interface with regional data centers, integration of "exotic" data, and data access by outside users.

HVO's goals are to keep up with the current CUSP version, to implement an early warning system for eruptions, and to become more automated. Reno is most concerned with Quality Assurance documentation since this is now being required of them by the Department of Energy. USC would like to increase the density of stations in the Los Angeles basin, keep up with the current version of CUSP, and exchange data with USGS Pasadena. The Menlo Park USGS plans to implement an early warning system for earthquakes, merge data from all the CUSP networks, and focus energy on maintenance of CUSP. The Pasadena USGS is most interested in yielding products for the community, in being able to obtain faster, more accurate

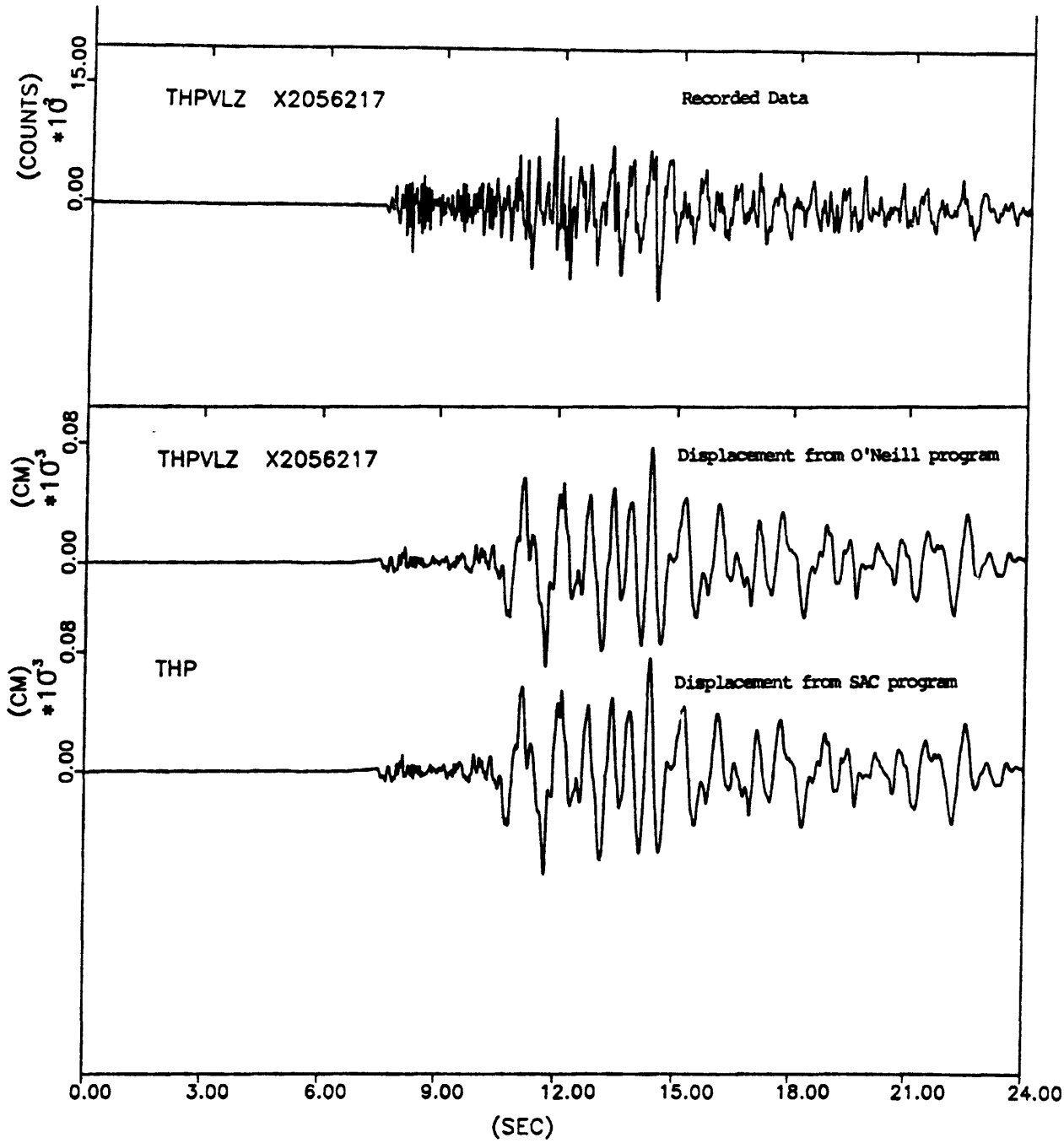

Figure 5. Example of the deconvolution of short-period instrument response for the Thousand Palms (THP) station using a SAC program and using the poles and zeroes from the O'Neill program (1980).

information following an earthquake, and installing more broadband and acceleration instruments.

Many new features that have been implemented in the most current version of CUSP, in addition to features in progress and those in the planning stage, were discussed. PICKLE is a real-time picker with custom site parameters that produces locations and magnitudes. SQUIRREL provides continuous digital recording to a magnetic tape device (any media) and is meant to replace the continuous FM analog recording which has no easy retrieval capabilities. TISK is the program which has been written to access the continuous data on the tape and copy any part of it to a file on-line. SCOPE allows the technicians to see seismograms in real-time for a small set of stations.

There is now on-line help for most CUSP procedures.

Allan Walter has been working on modifying the CUSP procedures to run in a UNIX environment. He also has written codes to convert the CUSP data into AH, XDR, SEGY, and SAC formats.

The Joshua Tree earthquake sequence brought up new problems that had not been encountered before with GENERIC CUSP (or just GENERIC, for short). The following are the problems and the solutions: the 18 minute trigger caused a substantial delay in processing the data since all the other processing programs had to wait until the entire trigger had been completed. The trigger will be broken up into smaller files so the next step can start before the trigger is complete. The DECNET connection that is being used to communicate between systems is too slow, so another connection will be investigated. REFORM, the demultiplexing component, was much too slow and has since been modified.

It was noted that system configurations now have an impact on the on-line and off-line processes and need to be addressed on a site-by-site basis, especially the TIMIT program used by the analysts to locate the events.

An agreement was reached that GENERIC has become too unmanageable and complicated to be easily built from scratch. This is mostly due to different sites creating multiple modified versions of the original code. This lead to a discussion of the need for version numbers and periodic GENERIC releases. Various suggestions were made as to how to go about this task, but a definite decision was not made.

A short discussion ensued on types of media on which to store digital data, followed by a discussion on components of real-time location and notification.

The infamous issue of station naming came up yet again and, again, was left with no decision.

The integration of "exotic" data was a complicated issue since there are many ways to go about accomplishing the task. The program Q_TO_CUSP takes broadband TERRAscope data and makes a .MEM and .GRM file that are then merged with the CUSP data, but this is not done in real-time. Reno said they were merging some data in real-time. Menlo Park has a need to communicate data triggers from a seperate system to the on-line system. It was noted that the Anza network data is available and ready to be merged as soon as that mechanism is working.

The main problem with the interface with regional data centers is that the .MEM file (event information file) is sometimes changed and updated long after the event has been initially timed. If people want the data quickly, the .MEM file will have to be transferred to the data center before it is completely finalized. The .MEM file may undergo subsequent changes which would not be reflected in the data center copy. However, if the .MEM file is not transferred to the data center until it is finalized, it may be months or even longer in some cases. This problem was not entirely resolved. At present, the .MEM files are being transferred to the data center in Pasadena as soon as possible, even if they are not final.

There is a problem with the MASK that tags an event as a teleseism, regional, quarry blast or local event. Different sites are using different tags for local events. A decision must be reached on how to tag these events and implemented by all sites.

Last but not least, Bob Dollar informed us that some northern California network data up to mid-September of 1990 and some southern California data up to December 1987 may have some missing sampling points in the seismogram file. It was a random occurrence and is very difficult to detect in the data. The **maximum** missing amount of data is estimated to be about 4 seconds per 50 seconds of data, however this could have a detrimental effect on spectral studies and velocity studies. This bug no longer exists in the data as of the above-mentioned dates.

Media Center in Caltech Seismo Lab

On November 19, members of the local and national print and broadcast news media were invited to preview the newly opened media center in the Caltech Seismo Lab. The renovations were made possible partly with the support of the Times-Mirror Foundation. Most of the news personnel had already seen the unfinished product after the Joshua Tree and Landers earthquakes, but the invited preview included a tour of the Seismo Lab and media center, a short presentation with an opportunity to ask questions, and a luncheon.

The new media center and adjoining operations room are the result of a major remodeling of the old measuring room. Since photographic records were being phased out, the measuring room space devoted to that effort could be reallocated. The measuring room activities have now been moved to the old timing room. The operations center houses two SUN workstations networked to the SUN UNIX system, five VAX workstations networked to the VAX VMS system, and one graphics terminal. All of the routine analysis and processing of the network data now occurs in this room. There are several phone lines and phone sets in the room including a direct line to the Los Angeles Fire Department and a direct line to Los Angeles Police Department. The operations center is connected to the media center by an entry through a soundproof wall. The wall is glassed from the ceiling to a few feet above the floor so that camera crews can film what is going on in the operations center after an earthquake without interfering. For more privacy, mini-blinds can be drawn and the door between the two rooms can be locked.

The media center contains many special features to accomodate communication between scientists and spokespersons and the news media. A media cabinet with hookups for eight individual stations connects television stations to their vans via a matching connection on the street

level. Each hookup includes two video, two audio and one intercom station. A 100 kw emergency generator and a 30 kw UPS system will provide power to the center in case of a power outage.

Special lighting and air-conditioning has been installed, and a podium and a collection of maps will help the spokespersons communicate in a more professional manner than in the past. There is a panel of helicorders and four monitors on the wall showing current information on southern California seismicity, northern California seismicity, world seismicity, and southern California shaking probabilities. A phone was installed for use by the news personnel so they will no longer have to go into private offices to borrow the phones.

When the media center is not actively being used as part of an earthquake response, it is used as a small conference room.

Phasing-Out of Photographic Records: Kathy Watt's Final Notes

On September 1, 1992, the TERRAscope station became the primary source of seismograms at the Pasadena station. The "traditional" measuring room procedure for processing earthquakes from the paper records came to an end on July 1, 1992. The phasing-out of paper records plus the start of the Landers earthquake sequence made this an easy decision.

Pasadena station's card file of teleseisms and local events goes back to the late 1920's. Hand-written on these thousands of cards are phase and amplitude data, times of quarry blasts, large sonic booms, and, of course, clock corrections. In the 1930's and 40's, torsion seismometers were built for a modest network of "outside stations" with on-site photographic records that were mailed in to Pasadena once a week.

In the 1960's, the first telemetered helicorder records appear. Donnelley Laboratory now used the real-time ink records from several stations. This was the start of the visual display of 15 drums that we have in the new Media Center. In 1969, the measuring room analyzed 770 paper records each week.

In the early 1980's, the measuring room handled 47 records each day. For the occasional M4.0+ event, there would be as many as 22 strong motion films (35 mm film records of 100X and 10X torsion-style seismometers). This is already less than half the record-reading done in the 1960's. Most stations were telemetered directly to computers and arrival times were read by analysts at graphics terminals.

The card file continued independently of the growing computer-generated catalog and the two data bases never were completely integrated. The card file was maintained as follows:

Manila cards with right tabs were made for all teleseisms seen on two or more stations. The arrival time for the first phase, P or not, was read to the whole second, always rounded to the earlier second. If a teleseism appeared on the Pasadena long-period photographics that was overlooked on the ink records (as happened for large shadow zone events), a card was added. Whenever possible, the distance, body wave magnitude and surface wave magnitude were determined from arrival times and photographic records. Instrument #14, the vertical short-period Benioff, was the primary source of m_b. The Press-Ewings (#34A,B,and C) were the source of M_S. For events over magnitude 7 and closer than 30 degrees (Central America or Alaska, for example), the 34's were underexposed and M_S came from amplitude readings on the #20's (the horizontal Benioff 1-90's).

For teleseisms read on the PAS photographics, the right tab card was followed by a white card with all the readings, phase identifications, distance, magnitude data, and checkmarks beside whatever was reported to NEIS (now NEIC).

For local events, a center tab card was made for any earthquake with a readable P and S arrival and at least 25 seconds in duration. This eliminated most events seen at only one station. It guaranteed that even if the event was not located, there would be an S-P distance from one station. P arrivals were read to 0.1 second on the verticals. S arrivals were read on the horizontals, and on the verticals if seen well, also to 0.1 second. The S-P was done using the earliest times for each station, often the P and S having been read on different components. Amplitudes of the S wave were read on both verticals (the source of M_H) and horizontals (for M_L). The largest, smoothest cycle in the S wave package was read (in mm) from maximum to minimum deflection, then divided by two. That amplitude was written on the manila card, along with a checkmark if any arrival time for that station had been read, plus the S-P if there was one. The manila card was followed by a white card with whatever arrival times had been read.

Left tab cards were made for quarry blasts, NTS collapses, large sonic booms, Space Shuttle re-entry sonics, and any other large disturbance that affected more than one station, for example, the jet fuel plant explosion in Henderson, Nevada.

By May 1985, almost all local earthquakes were being timed and located on computer and it no longer made sense to get arrival times routinely from the paper records unless the computer on-line system missed an event greater than about M2.5 or was felt by the public. (On rare occasion, someone would feel a magnitude 1.9.) At first amplitudes were read only from torsion records, but this resulted in too many cards that were blank or full of zeroes. We resumed reading amplitudes from all the helicorder and photographic records and read arrival times routinely only for teleseisms and local events missed by the computer. These events were called "rereads" since the paper records had been filed away by the time the need for extra readings was known.

This procedure worked well until April 1992. It maintained an independent catalog of events more or less consistent with criteria used since the 1930's. There were no data gaps in the card file and all records had been read going back from present to the Kern County sequence in 1952. Most of the bookkeeping and bulletin writing once done by measuring room staff now was automated and there was time for the record readers to participate in call list activities whenever a large newsworthy earthquake happened.

On April 22, 1992, the Joshua Tree earthquake occurred. Cards were made for all the aftershocks and other southern California events, but before all the amplitudes could be read, the Landers/Big Bear sequence began. Life in the measuring room began to resemble accounts of the days following the M7.7 Kern County earthquake of July 1952.

With the CUBE project in full swing, large uncomplicated aftershocks below about magnitude 3.6 were automatically located and preliminary information was distributed by e-mail and pagers. For larger aftershocks, Jim Mori's LOGAIN program generated an M_L and automatically updated the information send out by CUBE. With all the computers up and all the programs working, it made possible what might have been almost impossible -- the real-time monitoring of the aftershock sequence from a local M_S7.6 earthquake.

At this time, the rack of helicorders was in the telemetry room. The ISA E/W and PAS E/W simulated torsions provided a tentative aftershock list of all events above magnitude 4.0, but this was merely a visual check on work done by computer. There were enough computer and program problems that it was a non-trivial check, but it was not the primary aftershock list.

Now it made sense to read amplitudes on only the torsion records. Seismicity was high enough on a daily basis that the workload presented by the helicorder records was overwhelming. As was done in 1952, the larger events were processed preferentially. As the aftershocks diminish, we will work backwards in time to process the magnitude 2.5+ events that had to be skipped in order to do the 3.0+ events.

As of July 1, 1992, manila cards are being made for all local events seen well on the simulated torsions, and for all local events big enough to clip on at least 4 stations. This is meant to include all magnitude 4.0's, and seems to work out to all 3.5+ events in the Landers sequence. Each week's catch of earthquakes is typed into an ASCII file and e-mailed for use in the preparation of the Weekly Earthquake Report.

How teleseisms will be processed remains to be seen. But the IRIS catalog is an obvious source of phase data. For teleseisms less that M6.0 (that often do not make it into the IRIS catalog) but seen well by PAS (this includes the M5.5's from Alaska and Central America), the TERRAscope at PAS can be dialed directly and the seismograms gotten from the Streckeisen.

Regardless, the present needs and interests of the USGS/Caltech community and those of NEIC will play a big role in the future procedures for processing and distributing preliminary and finalized data. The days of teletyped messages and airletters are long gone. We are in the age of CUBE, Gopher, SPIGOT, and worldwide e-mail distribution lists.

The measuring room provided endless hours of work for Charles Richter, John Nordquist, Vi Taylor, Barbara Reed, Kathy Watts, and countless part-time analysts and students. Over the years, generous help and advice have come to baffled analysts from Beno Gutenberg, Charles Richter, and Hiroo Kanamori. Now the ruler and magnifying glass go to Paul Roberts, who did the darkroom work to develop the photographic records. Hiroo Kanamori is still here for help, as well as Kate Hutton. And there remains plenty of work for part-time analysts to complete the record-reading from April 23 through June 30, 1992, plus the remaining few photographics in operation till the end of the year.

TERRAscope Update

In 1992 two broadband stations were added to the TERRAscope network: BAR at Barrett Dam and MLA at Mammoth. Table 6 below contains the installation dates and locations of all currently operating TERRAscope stations and Table 7 is a summary of the gain settings.

Please note that the horizontal components of the ISA (Isabella) station were slightly misaligned during the initial installation and have not been corrected yet. They are rotated 20° counter-clockwise from north and east.

Another note of interest is that all the data that is requested from the data logger using the K (kermit) option currently is transferred in the as SEED data of 4096-byte blocks with Steim compression. The data for some stations had been in 512-byte blocks. The following are the start dates during which the data loggers transferred the two formats of data:

station	512-bytes	4096-bytes
BAR	N/A	10/01/92
GSC	08/08/90	03/23/92
ISA	02/07/91	08/29/91
MLA	N/A	11/04/92
PAS	12/87	08/23/91
PFO	10/31/91	02/27/92
SBC	12/20/90	06/05/92
SVD	12/04/90	Spring 1991

Table 6. TERRAscope Site Information

Station	Station Name	Installation Date	Latitude	Longitude	Elevation (meters)	Modem #
BAR	Barrett Dam	10/01/92	32.680	116.672	548	619-468-9202
GSC	Goldstone	08/08/90	35.302	116.805	990	619-386-1408
ISA	Isabella	02/07/91	35.663	118.473	835	619-379-8208
MLA	Mammoth	11/04/92	37.631	118.834	2170	619-934-6578
PAS	Pasadena	12/87	34.148	118.172	308	818-449-9792
PFO	Pinyon Flat	10/31/91	33.612	116.459	1288	619-349-3513
SBC	Santa Barbara Channel	12/20/90	34.442	119.713	90	805-569-1283
SVD	Seven Oaks Dam	12/04/90	34.105	117.098	600	714-794-9288

Table 7. TERRAscope Gain Settings

Station	Station Name	LG 100sps	VSP 80sps	VBB 20sps	LP 1sps	VLP 0.1sps	ULP 0.01sps
BAR	Barrett Dam	54000 (80sps)	1.04×10^9	1.04×10^9	1.04×10^9	4.16×10^9	4.16×10^9
GSC	Goldstone	3330	-----	9.88×10^8	3.95×10^9	1.58×10^{10}	1.58×10^{10}
ISA	Isabella	3330	-----	9.88×10^8	3.95×10^9	1.58×10^{10}	1.58×10^{10}
MLA	Mammoth	54000 (80sps)	5.99×10^8	5.99×10^8	5.99×10^8	2.39×10^9	2.39×10^9
PAS	Pasadena	3738	-----	1.04×10^9	4.16×10^9	1.66×10^{10}	1.66×10^{10}
PFO	Pinyon Flat	3330	-----	9.88×10^8	3.95×10^9	1.58×10^{10}	1.58×10^{10}
SBC	Santa Barbara Channel	3330	-----	9.88×10^8	3.95×10^9	1.58×10^{10}	1.58×10^{10}
SVD	Seven Oaks Dam	2.14×10^5 (80sps)	5.99×10^8	5.99×10^8	5.99×10^8	2.39×10^9	2.39×10^9

LG value is counts/m/sec^2. All others are counts/m/sec.

RESEARCH NOTES

The Joshua Tree/Landers/Big Bear Earthquake Sequence

The magnitude 6.1 Joshua Tree earthquake occurred on 22 April 1992 at 9:50pm PDT with an epicenter about 16 km east of Desert Hot Springs in the southwest Mojave Desert (Figure 6). Although the event was felt throughout southern California, the immediate area received only minor damage. The mainshock was preceded by several foreshocks which began at 7:25pm the same evening with a magnitude 4.6.

The mechanism was a right-lateral strike-slip trending 15 degrees west of north. Analysis of waveform directivity indicated a northward rupture propagation. The earthquake occurred on a previously unmapped fault, and no surface rupture was found following this event.

A level B alert was issued after the earthquake, indicating a 10-25% probability that a magnitude 7.0 or larger event would follow within 72 hours on the Coachella Valley segment of the San Andreas fault. The mainshock was followed by an abundant aftershock sequence that was rejuvenated by the Landers earthquake and continues up to the present.

On 28 June 1992 at 4:58am PDT a magnitude 7.6 earthquake ruptured a north-northwest trending 70 km long series of faults about 95 km east of San Bernardino in the Landers area. The reported moment release from this event ranges from $0.8 - 1.1 \times 10^{27}$ units. Three hours later, at 8:04am PDT, a magnitude 6.5 earthquake occurred on a different fault near Big Bear Lake less than 45 km away from the Landers mainshock (Figure 6).

The history of earthquakes in this area include the 1946 M6.5 Desert Hot Springs earthquake, the 1975 M5.2 Galway Lake earthquake, the 1979 M4.9 Homestead Valley-Johnson Valley earthquake, and, most recently, the 1986 M6.1 Palm Springs earthquake.

Four hours after the Landers mainshock a public warning was issued advising residents of San Bernardino and Riverside Counties to "avoid non-essential activity, including use of the freeway system." The warning was accompanied by a B level alert for a large earthquake in southern California for the next 24 hours. After the California Department of Transportation was able to inspect freeway bridges, ramps and overpasses, the advisory was lifted.

The Landers earthquake occurred on a series of north- to northwest-trending faults just north of the northern end of the Joshua Tree aftershock zone. The mechanism was right-lateral strike-slip. The TERRAscope stations were able to provide quick information that showed two major subevents along the fault as the rupture propagated northward. Aerial and ground mapping detailed ground rupture along the Johnson Valley fault, the Homestead Valley fault, the Emerson fault, the Camp Rock fault, and a new fault dubbed the Landers fault. The fault that produced the Joshua Tree event was also involved in this event. The Emerson segment produced the largest slip of about 6.5 meters. Along the length of all the faults involved, The average slip was approximately 1-3 meters.

The Big Bear earthquake produced no ground rupture, but aftershock locations and focal mechanisms concur that the mechanism was left-lateral strike-slip on a northeast-trending fault plane.

At least two faults near Barstow have displayed sympathetic slip since the Landers mainshock, and the Bullion fault to the east had a magnitude 5.7 earthquake several days after the Landers event. The southern California seismic network has recorded over 30,000 aftershocks from the Landers/Big Bear sequence alone. There is general agreement that these two events decreased the right-lateral shear stress on the Mojave segment of the San Andreas fault and increased the right-lateral shear stress stress on the Coachella Valley segment.

The Landers and Big Bear earthquakes and the associated seismic activity raised some new and unexpected questions associated with earthquake hazards in California. The most alarming of these is that the Landers earthquake ruptured four separate adjacent faults simultaneously. In the past, separate fault segments were generally thought to behave independently, rupturing in earthquakes at different times. It was assumed that the length of a fault places a limit on the size of the earthquake it can produce, and therefore the potential damage it can cause, and the focus has been on those faults that are long enough to produce a sizeable and damaging earthquake. Now that we have seen that several fault segments can rupture together to produce a larger earthquake, we must reconsider the earthquake potential of many of the adjacent small fault segments that exist throughout southern California, especially the intricate system of faults in the Los Angeles Basin.

Another interesting observation, although far less threatening, was the increased rate in seismicity all over California immediately following the Landers earthquake. As the seismic wave passed through the crust in areas as far away as over 950 km at Mount Shasta, a dramatic increase in the number of small earthquakes there was observed. This phenomenon had not been previously observed in association with other large earthquakes. It may be a common occurrence that we have not focused on before, or a rare occurrence that was associated with this particular earthquake. In any case, it raises many questions about the triggering mechanisms of earthquakes and the potential effect they could have over a very large geographical area.

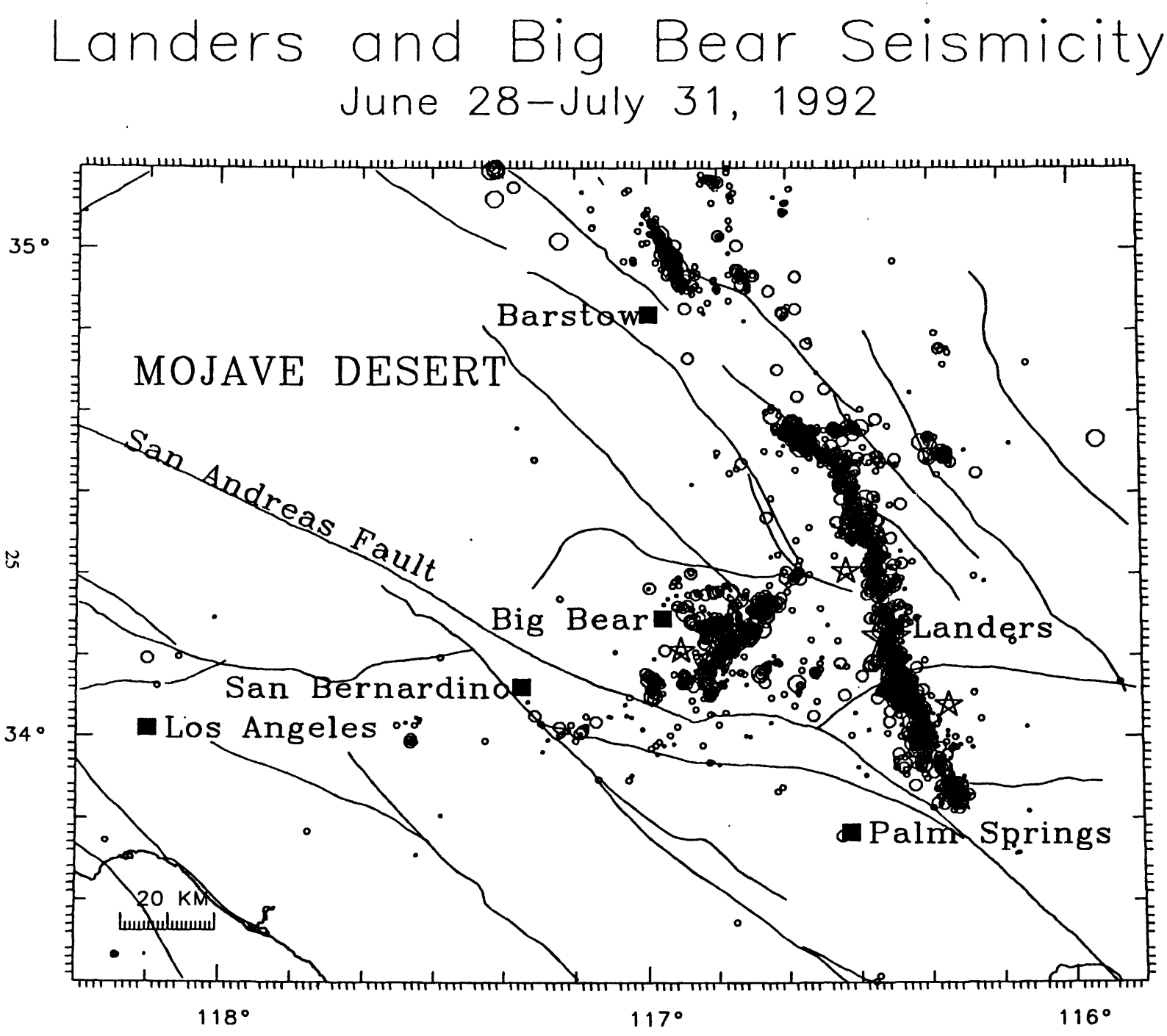

Figure 6. Seismicity in the Landers-Big Bear areas from June 28 through July 31, 1992.

SYNOPSIS OF SEISMICITY

A total of 25441 earthquakes and 602 blasts were cataloged for 1992 (Figure 7) at the time of this writing. This represents all the events that had been located, but certainly not all of the events that had occurred. Of the cataloged events, 1264 were greater than or equal to M_L3.0 (Appendix A, Figure 8). The largest earthquake in 1992 had an M_S of 7.6 and was located near Landers. Focal mechanisms for 17 events ($M_L \geq 4.0$) are shown in Figure 9.

For the following discussion southern California has been divided into eleven sub-regions (Figure 10). These regions are arbitrary, but useful for discussing characteristics of seismicity in a manageable context. Figures 11a and 11b summarize the activity of each sub-region over the past four years. A separate discussion section follows for those regions with notable activity.

Imperial Valley - Region 1

A small swarm of events occurred in the Obsidian Butte area in July including an M3.6 on July 8 and an M4.1 on July 27 (Figure 7, Number 11).

South San Jacinto - Region 2

On April 10 in Clark Valley, 15 km NNE of Borrego Springs, an M3.4 earthquake occurred that was felt in the Palm Springs area. This event was probably associated with the south San Jacinto fault.

South Elsinore - Region 3

On March 27 an M3.5 was located 27 km SSW of Ocotillo Wells. An M4.1 was felt 19 km WNW of Ocotillo (or 55 km W of El Centro) on May 24. These locations are both near the Elsinore fault.

San Diego - Region 4

The only significant event in this region was an M3.6 earthquake offshore WSW of Oceanside on September 21.

Los Angeles Coast - Region 5

The largest event was an M4.2 offshore just west of San Clemente Island on March 4 (Figure 7, Number 2). It was followed by an M3.7 in the same area on July 21. An M3.6 was felt in Baldwin Hills on August 30 that was probably associated with the Newport-Inglewood fault.

North Elsinore - Region 6

An M3.9 was felt in the Pasadena area on June 29. On October 22 an M3.5 occurred near Lake Elsinore.

San Bernardino - Region 7

This region, as usual, experienced the most seismic activity in 1992. The Brawley Seismic Zone had the usual swarms of small events throughout the year.

An M3.4 event was felt in the Lytle Creek area near Mt. Baldy on April 15. On April 22 an M6.1 earthquake occurred 16 km east of Desert Hot Springs at 9:50pm Pacific time. This event, called the Joshua Tree earthquake because of its proximity to the Joshua Tree National Monument, was preceded by a number of small foreshocks beginning with an M4.6 event at 7:25 earlier that same evening. The aftershocks defined a north-south trend that agreed with the focal mechanism indicating a right-lateral strike-slip movement along a vertical fault. This fault had not been previously mapped. Figure7, Number 7 shows the focal mechanism for most of the events associated with the mainshock.

In late May there was a cluster of events near the Lucerne Valley that included an M3.5, and another cluster with an M3.5 occurred in late June. These were probably pre-shocks to the Landers earthquake on June 28.

The M_S7.5 Landers earthquake happened at 4:57am Pacific time on June 28, and was followed at 8:05am by the M6.5 Big Bear earthquake. The Landers earthquake was the largest seismic event in southern California since 1952. The Landers earthquake was a right-lateral strike-slip and the Big Bear earthquake was a left-lateral strike-slip. The combination of these events caused the triangular crustal block these faults bounded to move away from the San Andreas fault, thus bringing it closer to failure (see Figure 7, Numbers 3,4,8, and 9,).

On July 24 there was an M4.9 and several aftershocks in the Indio area, or the southern end of the Joshua Tree aftershock zone.

Big Bear aftershocks as large as M5.0+ have occurred as recently as August 17 (M5.2), November 27 (M5.4) (Figure 7, Number 17), and December 3 (M5.1). The last event had a thrust mechanism along an ENE trend.

For more details on the Joshua Tree, Landers, and Big Bear earthquakes, see the Research Notes section.

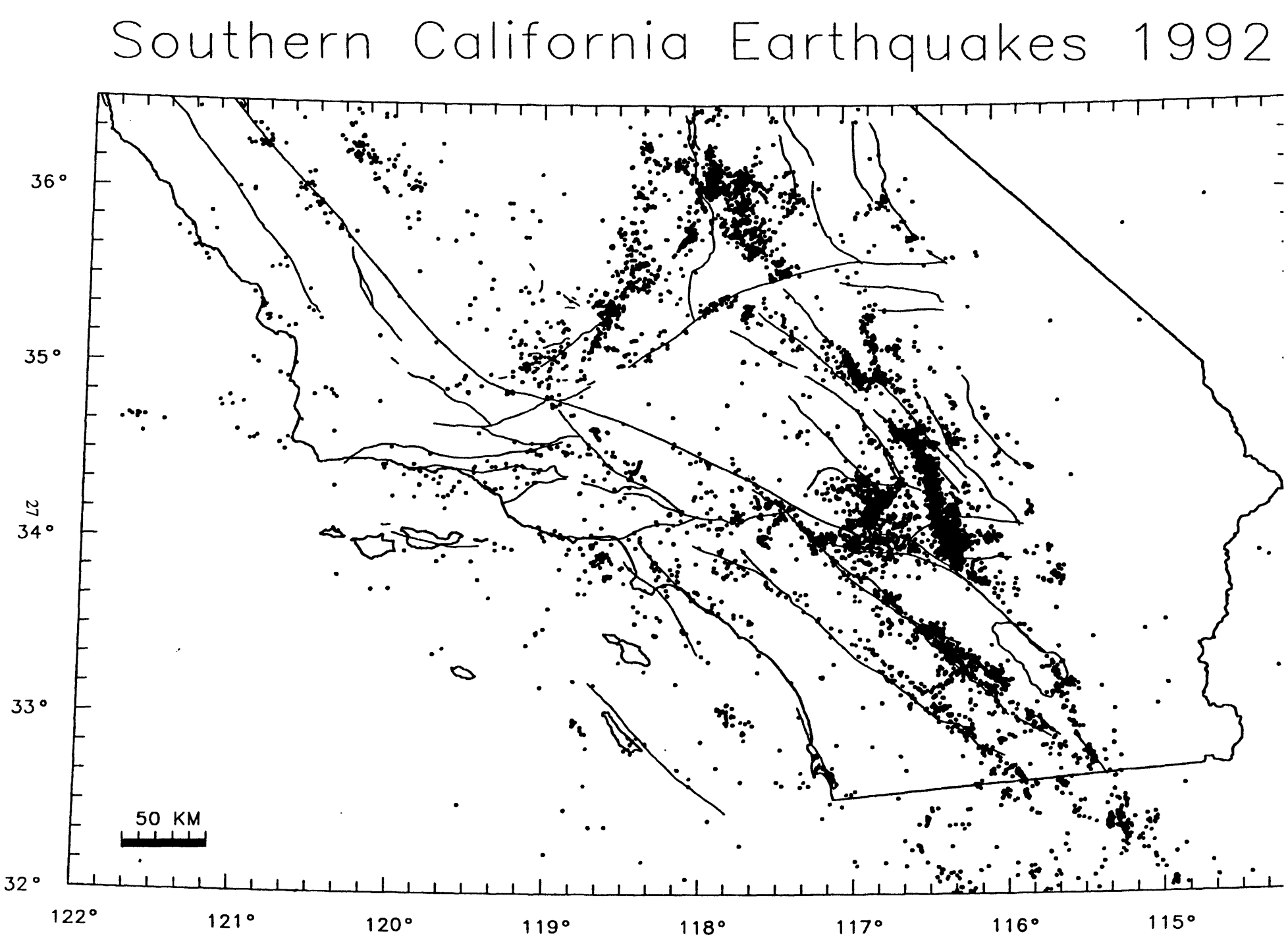

Figure 7. Map of all located earthquakes in southern California for the period of January through December 1992.

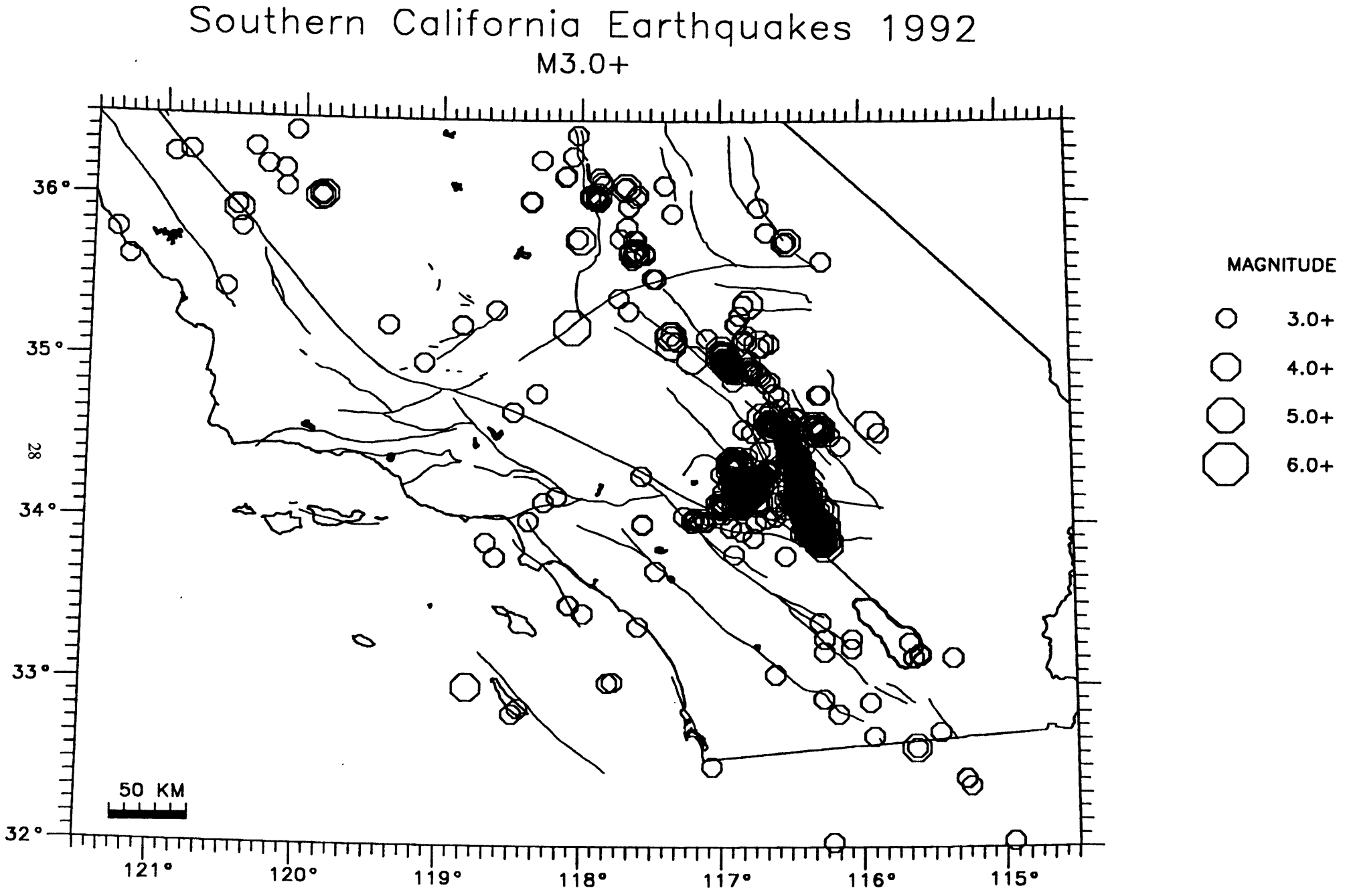

Figure 8. Map of located earthquakes of magnitude 3.0 and larger in southern California for the period of January through December 1992.

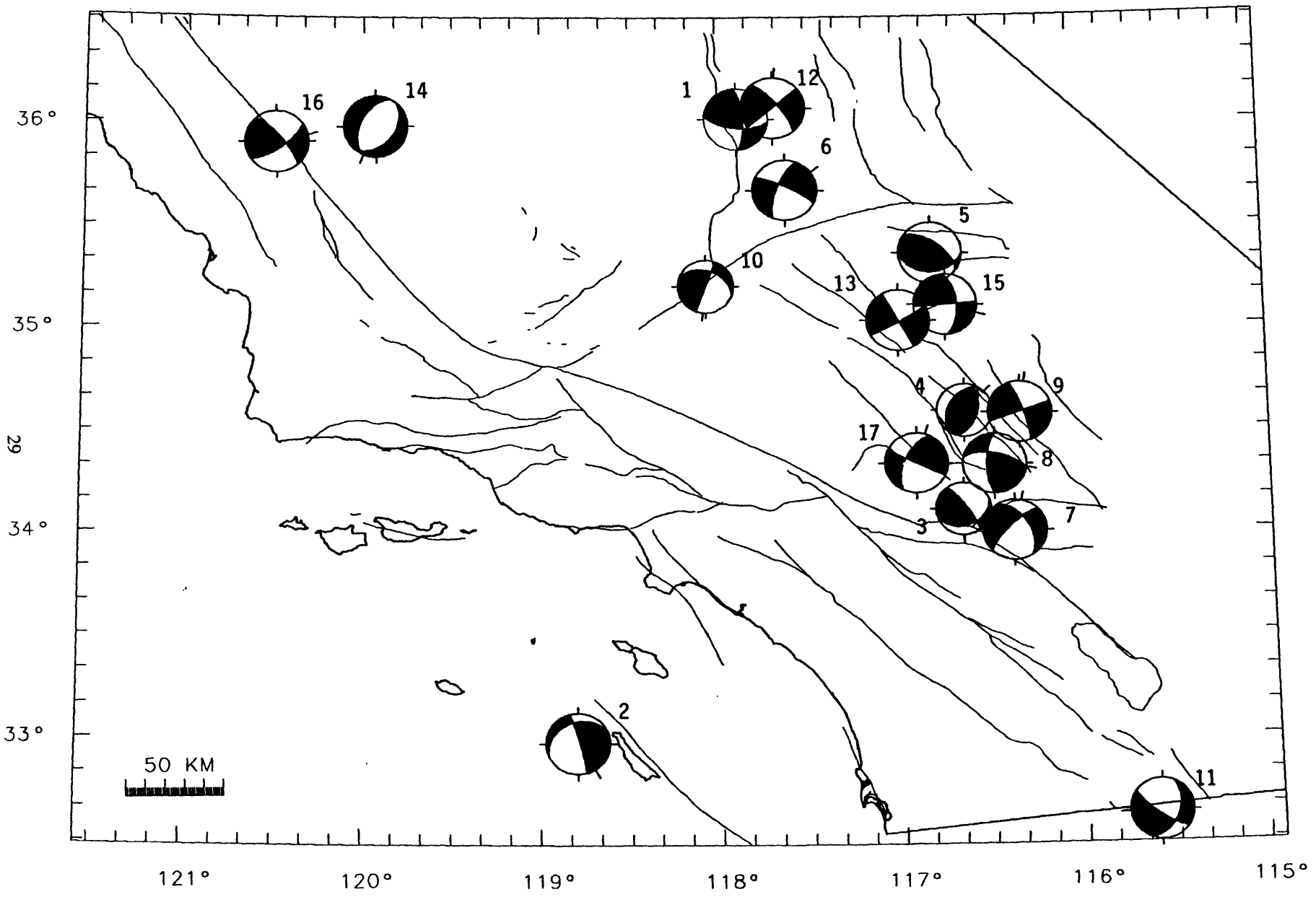

Figure 9. Lower hemisphere focal mechanisms for selected events for the period January through December 1992. Event numbers correspond to numbers in FM column of Appendix A.

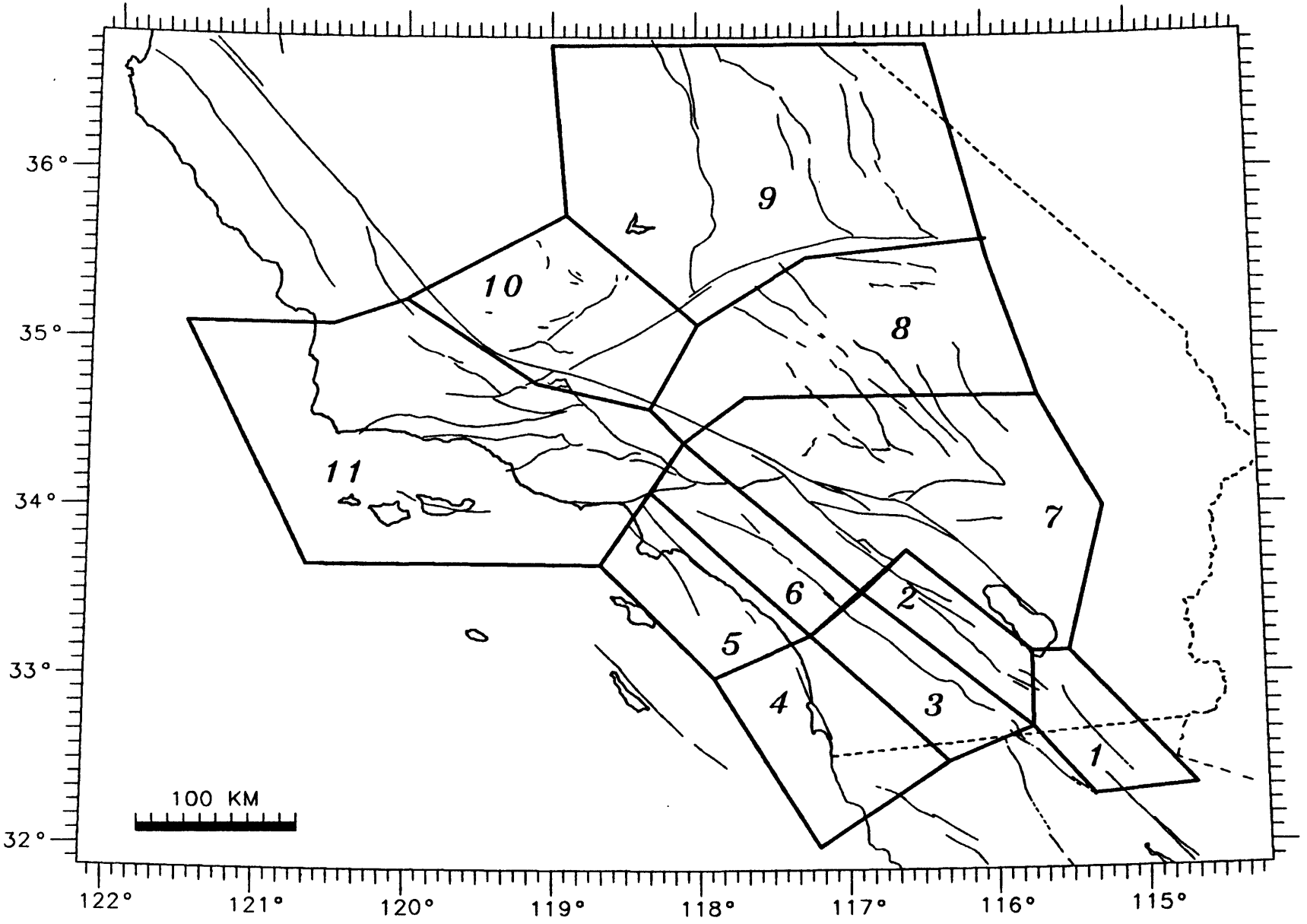

Figure 10. Map of sub-regions used in Figures 11a and 11b. The geographic name of each sub-region, as used in the text, can be found in the headings of Figures 11a and 11b.

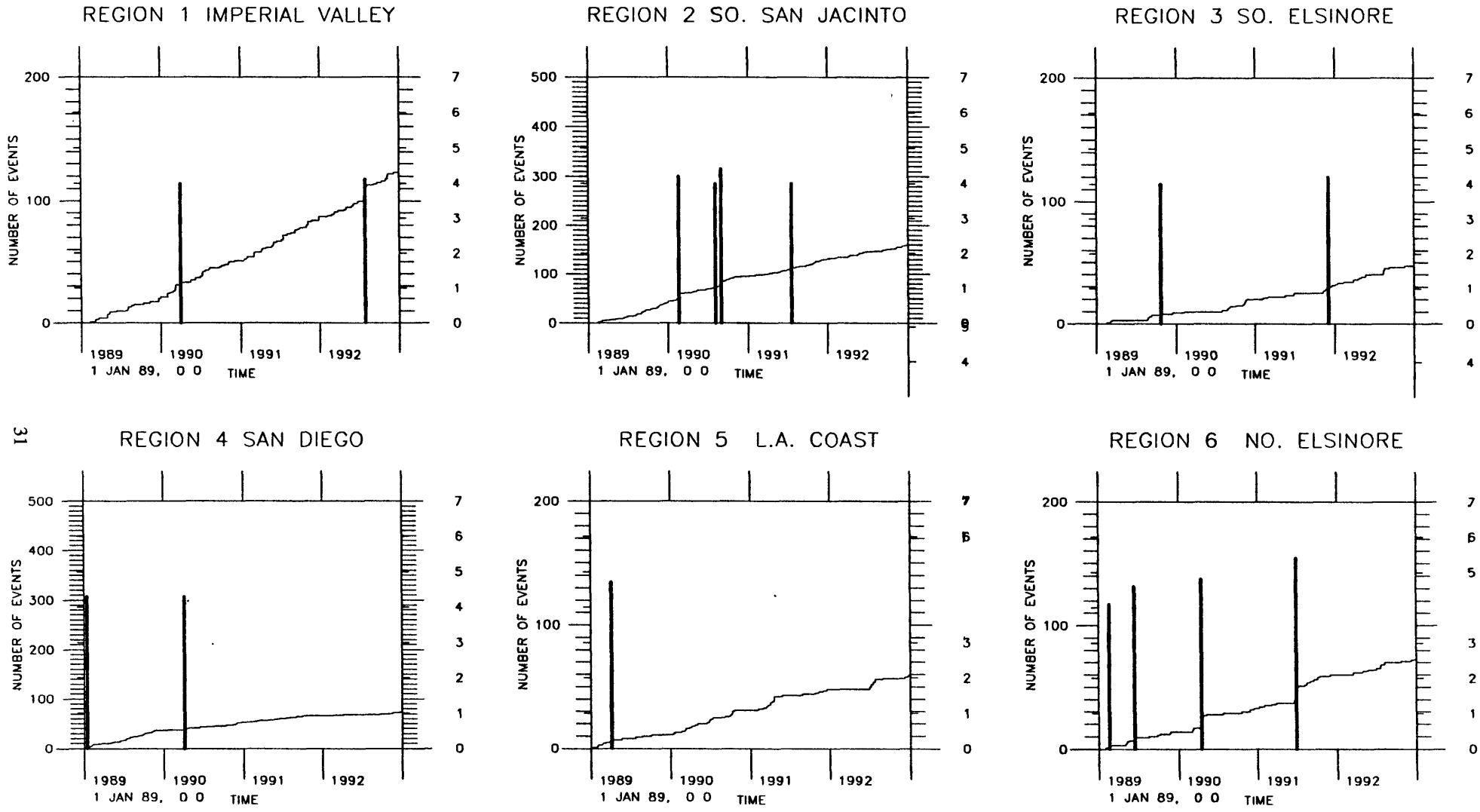

Figure 11a. Cumulative number of events ($M_L \geq 2.5$) in sub-regions 1 through 6 over the four year period ending December 1992. The boundaries of the sub-regions are shown in Figure 10. Vertical bars represent time and magnitude (scale on right) of large events ($M_L \geq 4.0$). Note that the vertical scales of the plots may not be the same.

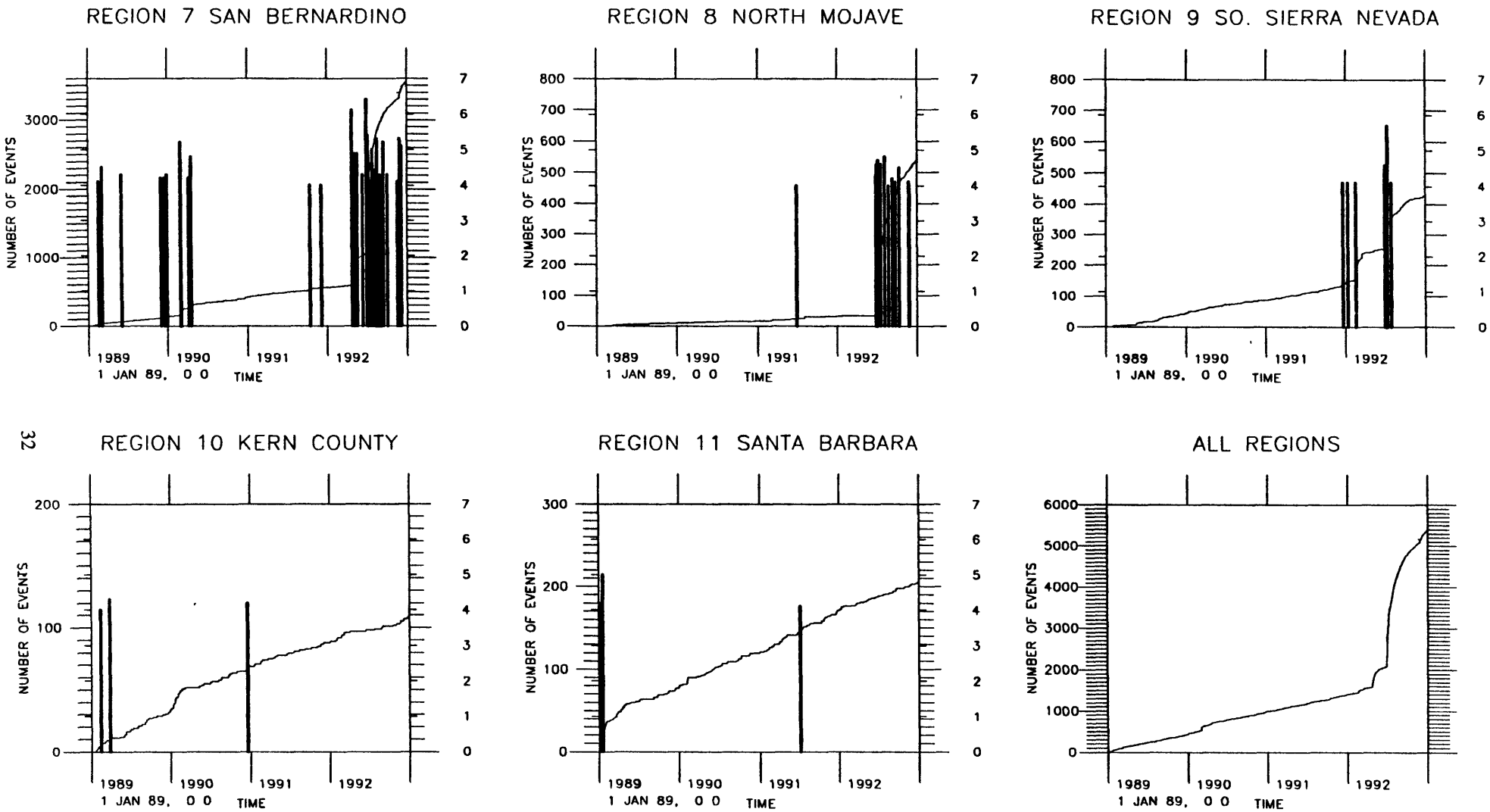

Figure 11b. Cumulative number of events ($M_L \geq 2.5$) in sub-regions 7 through 11 and for all sub-regions over the four year period ending December 1992. The boundaries of the sub-regions are shown in Figure 10. Vertical bars represent time and magnitude (scale on right) of large events ($M_L \geq 4.0$). Note that the vertical scales of the plots may not be the same.

North Mojave - Region 8

Following the Landers earthquake on June 28, the Barstow area began experiencing swarms of seismic activity. The Barstow area seismicity was prolific with at least 14 earthquakes of magnitude 4.0 or greater (Figure 7, Numbers 5,13, and 15).

South Sierra Nevada - Region 9

The Rose Valley swarm began on February 15 just ESE of Coso Junction and continued through the beginning of April. The largest event was an M4.1 that occurred on February 19 (Figure 7, Number 1). This earthquake had a strike-slip mechanism with a small thrust component along a north-south or east-west fault plane Hypocentral distribution of the events suggest the north-south plane was the rupture plane. Most of the events had an epicentral depth of about 3-5 km. By the beginning of April, this swarm had produced around 1473 earthquakes. A few more small events occurred in this area in the beginning of May.

The Walker Pass area also had a cluster of events that began on March 3 and tapered off in the beginning of April. The sequence produced about 50 events.

After the Landers earthquake On June 28, there were swarms of events at Ridgecrest and Haiwee Reservoir. The largest events in the Ridgecrest area included an M4.1 and an M4.0 on July 2. Figure 7, Number 6 shows the focal mechanism for the events in that area. Near the south end of the Haiwee Reservoir the swarm included an M3.9 on September 4 and an M3.7 on October 8.

An M3.7 occurred on July 6 in Lone Pine, and an M3.5 occurred near the town of Lake Isabella on July 13.

In addition, an M5.7 earthquake happened 19 km north of the town of Mojave on July 11 that was widely felt Figure 7, Number 10). It had very few aftershocks and none greater than M3.0. Although this earthquake was near the Garlock fault, the oblique-slip mechanism along a northerly trend indicates the Garlock fault was not the fault that broke.

Kern County - Region 10

The only mentionable events in this region were an M3.5 and an M3.7 on February 21 near the Interstate 5-Highway 99 interchange, and an M3.5 on November 21 that was felt near Tehachapi.

Santa Barbara - Region 11

The only interesting event is this area was an M3.8 near Taft in the San Joaquin Valley on March 5.

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Given, D. D., Hutton, L. K. and L. M. Jones (1987). The Southern California Network Bulletin, July - December, 1986: U.S. Geological Survey Open-File Report 87-488, 40 pp.

Stewart, S.A. and M.E. O'Neill (1980). Calculation of the Frequency Response of the USGS Telemetered Short-Period Seismic System, USGS Open-File Report 80-143, 83pp.

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Appendix A

Significant Southern California Earthquakes

All **located** events of $M_L \geq 3.0$ for the period January to December 1992. (This does not include all events that occurred.) Times are GMT, Z is the depth in km, Q is the overall quality of the location, RMS is the root-mean-square of the location error, and PH is the number of phases picked. The CUSPID is the unique number assigned to the event by the CUSP system. FM denotes the number of the accompanying focal mechanism in Figure 9. Note that these events have not been finalized, therefore their magnitudes may not be correct. In most cases, if the magnitude is incorrect, it is really larger than indicated.

DATE			TIME			LOCATION				Q	MAG	Z	PHS	RMS	CUSPID	FM
1992	1	4	3	36	47.17	36	14.95	118	17.40	A	3.1	3.54	39	0.20	2038579	
1992	1	4	21	14	13.98	33	48.36	116	54.29	A	3.1	13.40	81	0.19	2038619	
1992	1	10	15	42	27.42	32	2.05	114	56.86	D	3.3	6.00	15	0.47	2039139	
1992	1	11	21	1	34.34	36	24.43	118	1.84	C	3.1	6.00	34	0.27	2039232	
1992	1	12	23	7	51.78	35	45.23	118	0.30	C	4.1	6.00	8	0.04	2039287	
1992	1	15	4	58	50.97	36	18.49	120	21.67	C	3.7	6.00	52	0.42	2039481	
1992	1	23	7	55	28.79	35	37.51	116	16.62	C	3.3	6.00	28	0.24	2040061	
1992	1	26	18	20	23.74	35	45.01	116	31.67	C	3.5	6.00	63	0.31	2040304	
1992	1	29	20	57	45.97	35	13.05	118	50.60	C	3.1	6.00	21	0.25	3003166	
1992	2	12	7	26	33.56	34	28.81	116	9.14	C	3.1	6.00	5	0.15	2041615	
1992	2	18	13	57	24.46	32	29.68	117	3.85	D	3.4	6.00	24	0.30	2042210	
1992	2	19	11	19	24.87	36	1.55	117	53.36	A	4.1	2.92	102	0.21	2042321	1
1992	2	19	11	21	54.80	36	1.56	117	52.63	C	3.1	1.68	4	0.00	3004505	
1992	2	19	12	24	39.95	36	1.90	117	53.39	A	3.7	2.74	75	0.19	3004598	
1992	2	19	16	23	57.83	36	1.74	117	53.45	A	3.4	3.12	42	0.26	2042359	
1992	2	20	13	48	32.94	36	1.81	117	53.72	A	3.1	2.99	37	0.18	3004668	
1992	2	20	14	26	48.50	36	1.36	117	53.28	C	3.1	5.52	7	0.05	3004864	
1992	2	20	15	24	14.17	36	1.69	117	53.57	A	3.4	3.70	43	0.20	2042511	
1992	2	20	15	24	44.41	36	1.78	117	53.27	B	3.9	5.86	6	0.10	3004870	
1992	2	20	20	30	44.58	36	2.12	117	56.36	C	3.9	3.96	7	0.11	2042548	
1992	2	21	4	17	54.80	36	1.22	117	53.46	A	3.7	2.84	66	0.21	2042620	
1992	2	21	10	4	25.52	36	0.83	117	56.24	B	3.1	3.00	8	0.24	3005309	
1992	2	21	14	59	44.84	36	1.54	117	53.50	A	3.7	3.28	45	0.20	2042712	
1992	2	21	16	12	34.35	36	1.15	117	53.39	A	3.5	3.25	49	0.20	2042716	
1992	2	21	19	19	43.13	34	59.02	119	6.78	A	3.5	14.34	70	0.27	2042746	
1992	2	22	3	32	20.62	36	1.77	117	53.96	A	3.9	0.88	53	0.20	2042795	
1992	2	24	13	42	47.74	36	0.95	117	53.34	C	3.0	6.00	28	0.28	2043028	
1992	2	28	3	29	19.53	36	16.54	120	49.77	C	3.5	6.00	53	0.61	2043463	
1992	2	28	6	11	14.51	36	2.29	117	53.55	A	3.1	2.91	44	0.20	3005823	
1992	2	28	6	11	14.52	36	2.39	117	53.55	A	3.1	3.15	42	0.19	2043489	
1992	3	2	22	13	2.47	33	15.64	115	40.38	A	3.1	3.60	34	0.26	2043876	
1992	3	3	8	7	49.50	35	45.57	118	1.59	A	3.4	3.99	100	0.18	2043917	
1992	3	4	19	6	26.95	32	58.52	118	47.45	C	4.2	6.00	123	0.54	3007288	2
1992	3	5	18	24	22.84	35	12.89	119	22.43	A	3.8	23.80	119	0.32	2044220	
1992	3	7	2	0	27.40	33	9.98	115	21.88	C	3.5	5.93	2	0.00	2044357	
1992	3	7	5	13	52.45	34	47.91	118	18.54	A	3.1	13.08	69	0.16	2044364	
1992	3	16	18	23	28.11	36	0.45	117	52.97	A	3.0	2.63	29	0.18	2045050	
1992	3	16	19	20	22.32	36	0.18	117	52.92	A	3.5	1.10	48	0.19	2045058	
1992	3	17	11	56	35.86	36	0.57	117	52.50	A	3.8	2.64	54	0.20	2045099	
1992	3	18	6	56	10.16	36	12.15	120	16.11	C	3.1	6.00	38	0.31	3010129	
1992	3	27	19	41	53.82	32	54.85	116	16.66	A	3.5	14.51	45	0.28	2045846	
1992	4	6	14	12	52.91	33	13.47	116	5.03	A	3.1	9.36	32	0.23	2046492	
1992	4	7	19	10	33.51	36	15.64	120	56.26	D	3.2	6.00	12	0.10	2046668	
1992	4	10	20	13	22.98	33	23.12	116	17.97	A	3.4	12.18	72	0.28	2046936	
1992	4	15	19	5	47.24	34	17.47	117	33.81	A	3.4	3.33	133	0.27	2047228	
1992	4	22	16	52	55.24	36	10.59	120	8.54	C	3.6	6.00	61	0.50	2047657	
1992	4	23	2	25	29.85	33	57.42	116	19.03	A	4.6	11.93	121	0.25	2047709	
1992	4	23	2	27	12.71	33	57.61	116	19.53	A	3.1	8.35	48	0.16	3017129	
1992	4	23	4	50	23.22	33	57.67	116	19.05	A	6.1	12.38	151	0.27	3019681	
1992	4	23	4	55	27.96	34	0.59	116	20.88	C	3.4	5.72	16	0.18	3027925	
1992	4	23	4	56	21.68	33	59.88	116	19.73	A	3.6	9.62	69	0.22	3027929	
1992	4	23	4	57	2.92	33	59.97	116	19.88	A	3.3	10.22	40	0.21	3027931	
1992	4	23	5	10	9.38	34	0.74	116	19.51	A	4.3	2.95	11	0.11	3027825	

DATE			TIME			LOCATION			Q	MAG	Z	PHS	RMS	CUSPID	FM
1992	4	23	5	10	10.39	34	0.59	116	19.45	A	4.3	3.04	112	0.25	2047719	
1992	4	23	5	10	28.09	33	57.46	116	19.78	A	4.4	3.18	32	0.17	3027826	
1992	4	23	5	11	37.80	34	0.90	116	19.79	A	3.3	10.26	37	0.19	3027831	
1992	4	23	5	24	41.27	34	1.30	116	19.54	A	3.2	0.36	38	0.17	3017249	
1992	4	23	5	36	49.36	33	57.35	116	19.57	A	3.4	5.17	42	0.15	2047724	
1992	4	23	5	45	59.30	34	1.32	116	19.43	B	3.1	6.95	18	0.17	2047725	
1992	4	23	5	53	16.66	33	59.48	116	18.21	A	3.2	3.44	34	0.14	2047726	
1992	4	23	5	56	14.32	33	56.91	116	19.01	A	3.2	8.71	57	0.17	2047727	
1992	4	23	5	58	7.90	33	58.63	116	14.00	A	3.4	2.81	76	0.22	2047728	
1992	4	23	6	6	43.05	33	57.59	116	19.46	A	3.3	9.30	32	0.26	3017321	
1992	4	23	6	11	55.34	34	1.70	116	19.23	A	3.6	9.58	98	0.26	2047731	
1992	4	23	6	15	50.49	33	59.35	116	19.62	B	3.1	5.90	43	0.19	2047732	
1992	4	23	6	17	32.41	33	57.01	116	19.05	A	3.3	5.80	82	0.21	2047733	
1992	4	23	6	18	44.85	33	57.10	116	19.14	A	3.1	5.07	64	0.19	3017562	
1992	4	23	6	27	41.83	33	58.70	116	20.04	A	3.1	2.44	38	0.21	2047735	
1992	4	23	6	34	29.49	33	58.45	116	22.47	A	3.1	0.01	23	0.58	2047736	
1992	4	23	6	36	28.83	34	2.88	116	20.34	A	3.5	10.42	48	0.16	3017753	
1992	4	23	6	40	14.22	33	57.13	116	18.95	A	3.8	6.01	30	0.15	2047739	
1992	4	23	6	50	45.98	33	57.89	116	18.83	A	3.3	2.45	13	0.13	3017808	
1992	4	23	6	51	37.90	33	55.96	116	19.26	A	3.2	3.26	38	0.20	3017810	
1992	4	23	6	59	10.98	34	5.72	116	16.19	B	3.1	0.01	14	0.22	3017179	
1992	4	23	7	4	4.45	34	0.67	116	18.89	A	3.0	5.07	20	0.16	3017181	
1992	4	23	7	46	49.16	33	58.89	116	19.87	A	3.0	7.88	31	0.18	2047748	
1992	4	23	7	47	11.85	33	59.77	116	19.55	B	3.3	5.68	53	0.22	3019115	
1992	4	23	7	49	39.76	33	59.41	116	19.79	A	3.1	0.00	15	0.19	3019164	
1992	4	23	8	40	25.18	33	57.58	116	18.67	A	3.1	0.24	31	0.12	3028644	
1992	4	23	8	44	29.85	33	56.85	116	18.57	A	3.2	0.01	50	0.20	2047763	
1992	4	23	13	37	5.34	33	57.25	116	18.29	A	3.5	2.55	10	0.08	3017865	
1992	4	23	18	1	48.41	34	1.54	116	19.98	A	3.0	0.85	36	0.17	3017771	
1992	4	23	18	6	40.74	33	59.28	116	15.42	A	3.7	2.70	61	0.23	3017773	
1992	4	23	18	56	3.02	33	59.47	116	17.06	A	3.1	3.49	151	0.26	3027819	
1992	4	23	22	29	47.18	34	1.75	116	19.69	C	3.1	5.48	47	0.17	3017824	
1992	4	23	23	22	30.52	33	59.64	116	19.96	A	3.0	6.03	50	0.17	3017842	
1992	4	24	9	42	38.20	34	1.38	116	19.92	A	3.1	1.58	49	0.20	3018054	
1992	4	24	21	9	50.86	33	58.47	116	17.85	A	3.1	1.76	34	0.19	3018282	
1992	4	24	23	27	19.68	34	0.13	116	18.20	A	3.3	5.38	75	0.21	2048330	
1992	4	25	2	14	27.08	33	55.88	116	18.47	A	3.2	0.00	23	0.12	3027843	
1992	4	25	4	40	52.61	34	3.14	116	18.46	A	3.1	0.00	79	0.18	2048385	
1992	4	25	10	1	38.95	33	59.19	116	17.05	A	3.2	1.27	55	0.22	3018495	
1992	4	25	19	39	24.46	33	57.31	116	21.38	A	3.5	4.30	135	0.23	2048575	
1992	4	26	3	7	58.18	33	59.59	116	19.94	A	3.6	8.73	68	0.24	3018817	
1992	4	26	6	26	8.01	33	57.07	116	18.65	A	3.4	0.64	159	0.25	2048693	
1992	4	26	9	49	53.81	33	58.14	116	16.83	A	3.4	4.72	121	0.24	2048739	
1992	4	26	9	55	45.64	33	56.58	116	21.57	A	3.6	6.61	129	0.23	2048740	
1992	4	26	9	57	5.98	33	58.93	116	18.23	C	3.4	0.01	7	0.13	3027627	
1992	4	26	17	14	13.25	34	0.04	116	19.22	A	3.3	4.97	59	0.19	2048830	
1992	4	26	17	21	38.01	34	2.97	116	20.11	A	3.3	0.70	144	0.25	2048832	
1992	4	26	17	48	44.74	33	51.16	116	16.21	A	3.2	1.24	59	0.20	2048837	
1992	4	26	18	4	18.90	34	3.06	116	20.32	A	3.4	1.04	82	0.19	2048839	
1992	4	26	22	27	7.10	33	46.82	118	36.14	A	3.3	1.00	2	20.83	2048883	
1992	4	27	3	11	19.29	33	56.00	116	18.13	A	3.2	0.01	86	0.20	2048937	
1992	4	27	3	52	12.31	33	58.04	116	19.32	A	3.4	7.86	73	0.20	2048947	
1992	4	27	8	29	7.80	33	56.60	116	17.50	A	3.2	0.08	59	0.18	2048998	
1992	4	27	13	21	10.40	33	56.65	116	20.46	A	3.0	3.50	61	0.17	2049051	
1992	4	28	7	32	44.45	33	56.33	116	18.56	A	3.0	1.08	90	0.24	2049255	
1992	4	28	11	33	8.46	34	1.87	116	17.21	C	3.2	6.00	7	0.07	3020730	
1992	4	28	14	27	32.39	33	57.07	116	17.85	A	3.6	2.93	15	0.16	3026440	
1992	4	28	14	32	46.36	33	56.91	116	17.91	A	3.0	0.01	44	0.18	2049322	
1992	4	28	15	25	16.43	33	57.60	116	19.50	A	3.4	4.41	84	0.22	2049333	
1992	4	28	19	31	58.71	33	57.59	116	15.40	B	3.1	7.28	10	0.15	3072949	
1992	4	30	13	32	44.12	33	56.77	116	18.95	A	3.1	4.86	65	0.18	2049830	
1992	4	30	20	36	32.54	33	57.49	116	17.70	A	3.0	0.24	61	0.17	2049899	
1992	5	1	6	3	27.42	34	2.11	116	19.28	C	3.4	5.50	55	0.20	2049987	
1992	5	1	19	53	28.74	34	2.13	116	17.11	C	3.0	18.00	6	0.23	3021479	
1992	5	2	12	46	41.42	33	59.38	116	17.21	A	4.2	4.03	85	0.21	2050243	
1992	5	2	13	29	54.50	33	59.72	116	16.98	A	3.0	3.54	55	0.21	2050247	

DATE	TIME	LOCATION	Q	MAG	Z	PHS	RMS	CUSPID	FM
1992 5 2	13 41 59.37	33 59.68 116 16.78	A	3.2	4.95	58	0.19	2050248	
1992 5 2	19 10 23.74	33 59.50 116 17.17	A	3.6	3.71	84	0.28	2050291	
1992 5 2	19 35 54.99	33 53.25 116 18.89	B	3.8	7.63	8	0.06	3021835	
1992 5 3	0 37 9.88	33 56.42 116 18.19	A	3.4	0.96	59	0.20	2050343	
1992 5 3	8 13 53.57	33 56.56 116 22.61	A	3.1	1.30	36	0.17	2050402	
1992 5 4	1 16 2.55	33 56.37 116 20.44	A	4.1	5.97	96	0.21	2050538	
1992 5 4	7 24 14.09	34 3.76 116 19.15	A	3.1	0.01	70	0.19	2050583	
1992 5 4	16 19 49.71	33 56.50 116 18.25	A	4.9	12.54	105	0.24	2050647	
1992 5 5	0 55 30.17	34 0.14 116 20.16	A	3.3	1.54	77	0.21	2050724	
1992 5 5	1 6 44.77	34 0.59 116 19.11	A	3.0	1.35	43	0.20	2050725	
1992 5 6	1 40 21.38	34 1.90 116 18.83	A	3.1	3.23	61	0.20	2050929	
1992 5 6	2 38 43.33	33 56.59 116 18.88	A	4.7	7.31	124	0.25	2050937	
1992 5 6	3 20 8.96	33 57.07 116 19.21	A	3.2	4.01	74	0.21	2050942	
1992 5 6	5 10 43.90	33 56.43 116 18.91	A	3.4	7.01	78	0.22	2050956	
1992 5 6	16 31 43.37	33 56.01 116 18.95	A	3.2	5.01	42	0.18	2051024	
1992 5 6	17 41 19.22	33 56.80 116 18.88	A	3.6	5.07	58	0.19	2051032	
1992 5 7	2 34 54.12	34 1.70 116 18.56	A	3.4	0.42	78	0.22	2051110	
1992 5 7	12 24 30.20	33 58.15 116 21.24	A	3.2	1.59	80	0.20	2051165	
1992 5 8	15 10 59.06	34 2.58 116 19.75	A	3.1	1.38	67	0.23	2051341	
1992 5 9	19 32 47.32	33 58.72 116 15.72	A	3.1	5.12	79	0.23	2051520	
1992 5 10	2 26 26.58	33 58.65 116 15.53	A	3.2	5.66	80	0.22	2051558	
1992 5 10	17 51 5.28	33 55.77 116 18.91	A	3.2	4.93	59	0.18	2051659	
1992 5 12	2 31 11.00	33 58.91 116 15.58	A	3.9	6.67	96	0.23	2051863	
1992 5 12	2 31 27.94	33 58.77 116 15.55	A	4.5	0.21	23	0.28	3024922	
1992 5 12	2 32 52.54	33 59.09 116 15.49	A	3.9	4.89	54	0.22	3024923	
1992 5 12	2 59 21.84	33 58.77 116 15.45	A	3.5	4.99	67	0.22	2051868	
1992 5 12	8 41 44.65	33 58.75 116 15.70	B	3.1	5.67	47	0.19	2051911	
1992 5 12	18 55 46.70	36 0.21 117 53.54	A	3.1	3.08	53	0.19	2051984	
1992 5 15	1 36 50.36	33 57.06 116 19.02	A	3.1	8.24	57	0.20	2052311	
1992 5 17	6 21 31.50	33 57.60 116 18.97	A	3.3	9.50	74	0.22	2052572	
1992 5 18	0 22 34.22	33 57.02 116 21.60	A	3.6	7.67	68	0.19	2052663	
1992 5 18	15 44 17.96	33 57.08 116 20.27	A	4.9	7.10	137	0.27	2052730	
1992 5 18	20 36 56.69	33 56.88 116 20.27	A	3.1	4.67	33	0.17	2052768	
1992 5 18	23 50 20.21	33 57.66 116 20.39	A	3.2	5.43	37	0.15	2052792	
1992 5 19	12 15 27.64	33 56.69 116 20.50	A	3.1	4.80	61	0.20	2052858	
1992 5 21	18 9 28.92	35 46.88 121 20.18	D	3.1	6.00	20	0.39	2053145	
1992 5 24	12 22 25.84	32 49.29 116 10.47	A	4.1	12.09	74	0.35	2053458	
1992 5 24	15 31 14.49	33 56.51 116 20.95	A	3.0	3.05	63	0.22	2053471	
1992 5 26	14 10 7.65	33 53.68 116 15.08	A	3.1	5.19	8	0.15	3027512	
1992 5 28	21 52 30.21	33 57.50 116 20.35	A	3.3	5.78	72	0.21	2053960	
1992 5 29	17 3 2.14	35 48.57 120 26.61	B	3.2	26.30	37	0.26	2054031	
1992 5 31	10 53 16.72	34 34.91 116 50.21	A	3.2	1.63	84	0.18	2054193	
1992 5 31	11 38 45.29	34 34.90 116 50.17	A	3.7	2.45	106	0.23	2054196	
1992 6 4	17 9 28.17	33 57.17 116 18.67	A	3.1	5.02	67	0.20	2054645	
1992 6 5	3 25 37.11	34 41.41 121 41.72	D	3.1	6.00	21	0.66	2054686	
1992 6 5	3 44 16.12	33 59.65 116 17.28	A	3.0	3.58	44	0.16	2054689	
1992 6 5	20 49 6.10	32 42.58 115 27.53	A	3.0	15.74	37	0.27	2054754	
1992 6 9	22 11 52.01	34 10.20 116 18.86	A	3.0	0.58	73	0.17	2055233	
1992 6 11	0 24 19.18	34 10.49 116 20.99	A	4.3	0.82	100	0.21	2055346	
1992 6 11	2 41 0.94	34 10.70 116 21.11	A	3.3	0.74	71	0.17	2055360	
1992 6 12	23 24 48.24	33 12.20 116 16.28	A	3.3	9.26	56	0.24	2055511	
1992 6 14	15 50 47.11	34 1.45 116 21.15	A	3.1	1.96	80	0.23	2055624	
1992 6 15	22 55 50.06	36 3.99 120 7.73	C	3.2	6.00	21	0.30	2055746	
1992 6 22	16 3 49.04	34 6.54 116 20.92	C	3.5	14.54	5	0.00	2056439	
1992 6 22	17 17 25.68	33 59.61 116 18.94	A	3.0	9.73	73	0.18	2056454	
1992 6 24	8 4 44.59	34 24.74 116 48.50	A	3.5	1.12	91	0.19	2056607	
1992 6 26	14 16 31.06	34 2.33 116 18.95	A	3.2	8.03	75	0.20	2056787	
1992 6 28	5 48 36.23	34 11.86 116 26.41	A	3.1	2.64	22	0.15	3031221	
1992 6 28	9 42 30.54	34 11.68 116 26.32	A	3.0	0.07	64	0.18	2056955	
1992 6 28	11 57 34.12	34 12.07 116 26.13	A	7.6	1.11	109	0.22	3031111	
1992 6 28	12 0 45.00	34 7.84 116 24.49	B	5.8	0.01	11	0.19	3043549	
1992 6 28	12 1 16.16	34 3.99 116 17.50	C	5.6	22.67	6	0.22	3043630	
1992 6 28	12 26 2.61	35 6.15 117 21.17	B	4.3	10.07	26	0.29	3031163	
1992 6 28	12 26 42.47	34 5.85 116 21.06	D	3.2	6.00	8	0.47	3031161	
1992 6 28	12 27 39.12	34 27.01 116 43.01	D	3.9	6.00	19	0.40	3031160	
1992 6 28	12 36 40.60	34 8.36 116 25.84	C	5.4	10.17	32	0.25	2056979	

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1992	6	28	12	40	53.51	34	20.47	116	31.74	D	5.2	6.00	23	0.27	2056980	
1992	6	28	12	43	59.35	34	5.97	116	26.14	D	4.5	6.00	6	0.04	3031152	
1992	6	28	12	49	56.53	35	57.95	117	39.53	A	3.1	11.70	19	0.33	2056981	
1992	6	28	13	10	50.52	34	24.83	116	27.63	C	4.8	10.54	38	0.24	2056985	
1992	6	28	13	18	15.94	34	5.60	116	23.44	A	4.1	0.00	41	0.21	3055321	
1992	6	28	13	23	45.10	34	13.07	116	26.83	A	4.9	1.02	46	0.19	3054996	
1992	6	28	13	26	5.14	34	9.69	116	24.31	C	4.9	6.00	95	0.38	2056989	
1992	6	28	13	40	55.49	34	11.21	116	25.62	C	3.9	6.00	23	0.21	2056995	
1992	6	28	13	50	16.76	34	4.02	116	23.43	A	3.9	10.11	108	0.32	2056998	
1992	6	28	13	50	45.71	34	6.64	116	24.60	C	4.9	0.01	35	0.26	3031243	
1992	6	28	13	57	31.09	35	39.81	117	32.38	C	3.1	6.91	17	0.16	2057000	
1992	6	28	14	9	28.81	34	6.65	116	38.76	A	4.1	7.84	74	0.19	2057003	3
1992	6	28	14	10	26.52	34	21.92	116	27.79	B	3.0	0.01	23	0.22	3031203	
1992	6	28	14	29	1.93	34	36.72	116	38.75	A	3.8	0.02	65	0.23	2057004	
1992	6	28	14	39	6.91	34	5.34	116	25.53	A	4.3	0.24	128	0.28	2057007	
1992	6	28	14	43	21.77	34	9.78	116	51.03	A	5.5	12.84	51	0.15	2057008	
1992	6	28	14	59	14.16	34	11.40	116	51.82	A	3.3	13.31	35	0.19	2057009	
1992	6	28	15	4	51.46	34	9.75	116	49.64	A	4.4	12.23	112	0.21	2057011	
1992	6	28	15	5	30.70	34	12.15	116	49.62	A	6.5	5.00	37	0.23	3031425	
1992	6	28	15	18	33.10	34	12.15	116	45.67	B	4.5	3.65	51	0.27	3031129	
1992	6	28	15	23	20.42	35	7.59	117	18.52	C	3.6	6.00	32	0.39	3031133	
1992	6	28	15	24	29.31	34	12.67	116	45.57	C	4.8	6.00	77	0.32	3031134	
1992	6	28	15	25	19.95	34	12.67	116	48.04	C	4.2	2.28	15	0.13	3031248	
1992	6	28	15	45	44.19	34	36.58	115	56.23	D	4.1	6.00	12	0.66	3066232	
1992	6	28	15	45	54.82	34	4.82	116	23.89	A	4.2	2.59	53	0.23	3045923	
1992	6	28	15	46	56.85	34	6.52	116	51.88	C	3.8	6.00	20	0.44	3066230	
1992	6	28	15	48	14.21	34	8.40	116	51.31	B	3.3	17.41	30	0.26	3031135	
1992	6	28	15	53	14.09	34	13.30	116	43.68	B	4.1	0.78	51	0.21	3031137	
1992	6	28	15	55	17.74	34	14.63	116	28.35	C	3.3	0.01	12	0.21	3045469	
1992	6	28	15	55	41.28	34	10.64	116	25.12	A	3.7	0.82	13	0.26	3045872	
1992	6	28	15	56	11.69	34	13.11	116	45.06	A	3.8	1.70	113	0.21	3045876	
1992	6	28	15	57	1.59	34	3.97	116	23.51	A	3.0	3.33	23	0.21	3045886	
1992	6	28	16	1	15.17	34	1.82	116	22.71	C	4.1	1.52	29	0.28	3031140	
1992	6	28	16	8	37.58	34	13.17	116	45.24	A	4.1	4.89	84	0.22	3031141	
1992	6	28	16	9	53.88	34	3.44	116	22.23	A	4.1	3.91	86	0.25	3031690	
1992	6	28	16	15	28.57	34	8.66	116	51.25	A	3.3	3.58	17	0.17	3045463	
1992	6	28	16	17	19.18	34	12.43	116	45.41	C	4.2	3.77	61	0.22	3031142	
1992	6	28	16	27	12.40	33	57.91	116	24.51	D	3.6	6.00	5	0.12	3031145	
1992	6	28	16	32	10.16	34	35.67	116	37.30	A	4.4	0.00	72	0.19	3031146	4
1992	6	28	16	33	8.34	34	35.54	116	38.12	A	4.0	0.01	75	0.28	3031747	
1992	6	28	16	40	41.60	34	9.49	116	48.90	A	3.6	12.74	27	0.17	3031147	
1992	6	28	16	45	50.51	33	57.79	116	17.87	B	3.4	0.00	11	0.22	3045521	
1992	6	28	16	49	10.73	34	14.76	116	52.70	A	3.6	3.73	40	0.21	3031149	
1992	6	28	17	1	31.91	34	10.70	116	55.31	A	5.1	13.94	67	0.30	3031154	
1992	6	28	17	5	57.54	34	15.36	116	54.71	A	4.6	8.45	101	0.24	3031157	
1992	6	28	17	10	41.88	34	14.47	116	53.95	A	3.4	10.03	30	0.16	3031158	
1992	6	28	17	16	35.21	35	44.84	116	31.53	D	4.1	6.00	21	0.21	3031164	
1992	6	28	17	18	29.97	34	11.16	116	48.40	A	4.1	9.10	57	0.17	3031166	
1992	6	28	17	21	27.31	34	13.50	116	51.75	A	4.2	1.36	73	0.20	3031168	
1992	6	28	17	25	42.18	34	14.21	116	45.01	A	3.4	3.20	18	0.12	3031169	
1992	6	28	17	31	21.51	34	17.63	116	27.17	B	4.1	6.77	63	0.19	3031170	
1992	6	28	17	32	30.23	34	11.91	116	49.14	A	3.9	2.16	59	0.19	3032263	
1992	6	28	17	42	32.37	34	14.29	116	54.08	A	3.9	8.22	73	0.20	3031172	
1992	6	28	17	44	30.15	34	9.59	116	51.13	A	4.1	5.31	94	0.21	3031173	
1992	6	28	17	45	34.54	34	8.00	116	51.58	A	3.6	1.23	32	0.22	3031360	
1992	6	28	17	48	32.37	34	13.09	116	45.07	A	4.4	1.18	78	0.22	3031176	
1992	6	28	17	52	22.79	34	11.96	116	47.02	A	3.3	3.79	16	0.17	3031177	
1992	6	28	17	52	38.94	34	10.87	116	47.67	A	3.5	4.57	29	0.14	3042302	
1992	6	28	18	18	20.47	34	1.48	116	20.81	A	3.7	2.51	35	0.25	3031187	
1992	6	28	18	25	30.36	34	12.88	116	49.00	C	3.5	5.50	17	0.11	3031191	
1992	6	28	18	26	33.35	34	15.35	116	26.25	A	3.6	3.97	27	0.15	3042326	
1992	6	28	18	27	33.32	34	34.50	116	34.56	B	3.3	0.01	16	0.16	3042334	
1992	6	28	18	35	10.70	34	57.96	116	56.14	B	3.3	4.14	30	0.24	3031193	
1992	6	28	18	48	26.50	34	11.70	116	47.44	A	3.3	2.75	34	0.17	3031196	
1992	6	28	18	53	18.81	34	11.92	116	47.59	A	3.4	9.09	46	0.14	3031197	
1992	6	28	18	55	2.32	34	13.62	116	52.10	A	3.5	2.68	52	0.18	3031198	

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1992	6	28	19	0	26.20	34	15.26	116	44.75	A	3.7	0.00	68	0.19	3031201	
1992	6	28	19	11	17.24	34	9.20	116	27.61	A	3.8	4.59	59	0.21	3031205	
1992	6	28	19	13	6.90	34	5.49	116	23.55	A	3.6	2.87	44	0.23	3032411	
1992	6	28	19	19	9.49	34	17.78	116	50.66	A	3.6	1.81	57	0.19	3031207	
1992	6	28	19	26	37.56	34	10.95	116	48.12	A	4.2	1.00	76	0.19	3031208	
1992	6	28	19	36	14.30	35	55.48	117	20.76	C	3.4	6.00	8	0.24	3031211	
1992	6	28	19	36	35.90	34	31.37	116	31.66	C	3.4	4.41	55	0.19	3031828	
1992	6	28	19	42	14.46	34	11.27	116	26.42	A	3.7	2.33	46	0.27	3031212	
1992	6	28	19	46	53.92	34	14.58	116	26.18	A	3.4	3.23	20	0.18	3031214	
1992	6	28	19	53	28.76	34	14.68	116	27.31	A	3.2	11.81	25	0.15	3031216	
1992	6	28	19	55	2.73	34	3.74	116	24.25	A	3.5	2.57	43	0.21	3031217	
1992	6	28	19	58	51.33	34	13.81	116	51.11	A	3.2	2.42	31	0.22	3031219	
1992	6	28	20	1	17.49	34	14.55	116	27.60	A	3.5	0.49	31	0.19	3031220	
1992	6	28	20	4	25.22	33	51.80	116	18.20	A	3.6	1.75	43	0.31	3031222	
1992	6	28	20	5	31.12	34	38.04	116	39.39	C	3.1	6.00	16	0.27	3066225	
1992	6	28	20	10	4.50	33	47.88	116	32.48	B	3.1	0.01	11	0.27	3031224	
1992	6	28	20	23	18.41	34	7.42	116	25.50	A	3.6	2.30	57	0.23	3031228	
1992	6	28	20	34	28.27	34	58.92	116	56.59	A	3.2	3.07	27	0.29	3065343	
1992	6	28	20	37	47.31	34	27.31	116	30.77	A	3.1	3.11	33	0.17	3031230	
1992	6	28	20	46	22.61	34	2.60	117	15.61	A	3.2	14.98	19	0.09	3031232	
1992	6	28	20	46	46.99	34	5.20	116	32.05	C	3.2	6.00	13	0.21	3031902	
1992	6	28	20	49	13.18	34	35.93	116	33.64	C	3.0	1.31	16	0.24	3076059	
1992	6	28	20	51	31.96	34	12.31	116	46.70	A	4.1	11.05	46	0.16	3031235	
1992	6	28	21	13	16.46	34	5.72	116	25.62	A	4.6	3.76	75	0.26	3031245	
1992	6	28	21	27	7.79	34	6.32	116	53.57	A	3.3	3.16	24	0.14	3031252	
1992	6	28	21	30	42.85	34	58.33	116	57.13	C	3.2	6.00	20	0.29	3031253	
1992	6	28	21	34	22.01	34	25.39	116	31.04	D	3.2	6.00	18	0.18	3073350	
1992	6	28	21	34	29.86	34	6.70	116	23.22	B	3.0	10.00	14	0.23	3031254	
1992	6	28	21	45	12.86	34	37.18	116	39.53	B	3.3	0.01	20	0.15	3031260	
1992	6	28	21	46	43.51	34	8.03	116	52.07	A	3.5	10.47	75	0.17	2057132	
1992	6	28	21	56	46.03	34	12.33	116	46.31	A	3.5	1.16	42	0.15	2057135	
1992	6	28	22	13	12.02	34	3.45	116	21.30	B	4.0	7.01	78	0.23	2057138	
1992	6	28	22	17	16.63	34	9.58	116	50.02	A	3.3	9.02	34	0.16	3031272	
1992	6	28	22	17	58.11	34	7.04	116	24.87	A	3.6	2.37	15	0.19	3031866	
1992	6	28	22	21	39.12	34	10.75	116	48.76	A	3.6	3.42	72	0.17	3031273	
1992	6	28	22	23	46.40	34	28.89	116	29.57	B	3.2	5.47	32	0.24	3031274	
1992	6	28	22	41	31.81	34	5.08	116	24.13	C	3.4	5.40	27	0.17	3031283	
1992	6	28	22	48	22.85	34	9.09	116	28.06	A	4.1	11.04	71	0.21	3031284	
1992	6	28	22	50	49.92	34	13.68	116	52.77	A	3.1	1.82	69	0.17	3031286	
1992	6	28	22	51	55.55	34	5.98	116	23.04	A	3.2	3.10	45	0.21	3031287	
1992	6	28	23	23	21.15	34	7.43	116	23.69	A	3.5	1.77	55	0.20	3031298	
1992	6	28	23	24	51.11	34	11.79	116	26.26	A	3.4	0.01	60	0.19	3074189	
1992	6	28	23	41	48.99	34	35.78	116	37.55	B	3.1	0.00	50	0.21	3031303	
1992	6	28	23	43	2.83	34	37.48	116	38.89	B	3.1	0.00	43	0.22	3073358	
1992	6	29	0	30	34.46	33	54.11	116	22.21	B	3.7	10.41	7	0.19	2057180	
1992	6	29	0	34	28.30	34	30.69	116	30.60	C	3.1	6.00	21	0.38	2057181	
1992	6	29	0	37	9.87	34	25.33	116	30.54	A	3.2	0.48	31	0.14	3071418	
1992	6	29	0	39	40.78	34	6.04	116	22.62	A	3.9	2.88	73	0.23	3068585	
1992	6	29	0	40	58.38	35	0.43	116	55.98	A	3.6	2.85	58	0.26	2057183	
1992	6	29	0	40	59.02	34	59.35	116	58.01	A	3.6	3.83	73	0.27	3073372	
1992	6	29	0	48	9.76	34	38.22	116	31.55	C	3.0	6.00	16	0.36	2057185	
1992	6	29	0	54	15.99	34	21.11	116	28.73	A	3.3	0.00	70	0.22	2057186	
1992	6	29	0	55	6.58	34	8.86	116	27.86	A	3.2	3.32	45	0.22	3071809	
1992	6	29	1	17	18.16	34	7.51	116	59.98	A	3.3	4.38	62	0.21	3031332	
1992	6	29	1	18	13.40	35	9.60	117	21.72	A	4.6	4.21	27	0.15	3040295	
1992	6	29	1	19	49.11	34	33.68	116	46.61	B	3.2	0.42	10	0.14	3031945	
1992	6	29	1	20	18.86	34	19.60	116	27.15	A	3.3	0.70	21	0.17	3040310	
1992	6	29	1	23	19.78	35	9.99	117	21.15	C	3.9	6.01	40	0.23	3031983	
1992	6	29	1	23	46.71	34	2.64	116	36.45	B	3.3	0.55	8	0.13	3040279	
1992	6	29	1	26	15.58	35	9.65	117	20.97	C	4.1	6.00	46	0.22	3031336	
1992	6	29	1	51	13.01	34	36.50	116	36.53	C	3.2	6.00	39	0.23	2057202	
1992	6	29	1	58	8.84	34	29.26	116	32.41	C	3.8	5.50	77	0.19	3031344	
1992	6	29	2	9	13.26	34	56.27	116	54.47	B	3.1	0.00	31	0.24	3031346	
1992	6	29	2	17	20.42	34	10.54	116	49.73	A	3.3	0.79	64	0.20	2057211	
1992	6	29	2	19	36.17	34	37.31	116	39.77	A	3.1	0.01	47	0.16	2057212	
1992	6	29	2	21	24.10	34	28.36	116	30.79	A	3.2	1.71	11	0.12	3031351	

DATE	TIME	LOCATION	Q	MAG	Z	PHS	RMS	CUSPID	FM
1992 6 29	2 51 24.14	34 13.85 116 26.52	A	3.6	4.91	86	0.22	2057222	
1992 6 29	2 59 51.92	33 52.33 116 17.01	A	3.1	3.34	9	0.10	3072366	
1992 6 29	3 0 0.35	34 11.68 116 48.78	A	3.1	1.40	40	0.18	2057225	
1992 6 29	3 1 56.38	34 14.32 116 26.58	A	4.4	7.54	71	0.27	3031947	
1992 6 29	3 1 56.42	34 13.95 116 26.38	C	3.2	5.44	49	0.15	3031364	
1992 6 29	3 8 51.11	34 16.24 116 54.38	A	3.5	9.76	44	0.16	2057227	
1992 6 29	3 19 49.98	34 30.70 116 32.58	B	3.4	2.24	42	0.19	3073540	
1992 6 29	3 19 52.29	34 9.74 116 26.29	A	3.3	10.65	30	0.26	3031368	
1992 6 29	3 28 49.23	34 22.35 116 27.61	A	3.1	1.12	20	0.14	3031370	
1992 6 29	3 36 26.79	35 21.70 116 48.01	A	4.1	10.76	52	0.22	3031954	5
1992 6 29	4 12 19.75	34 21.42 116 23.91	A	3.0	2.30	51	0.24	3031391	
1992 6 29	4 13 24.78	34 36.45 116 32.13	C	3.0	5.50	35	0.30	3074171	
1992 6 29	4 13 25.28	34 36.21 116 36.94	B	3.0	0.01	32	0.16	3073695	
1992 6 29	4 16 42.61	35 0.99 117 12.19	A	4.1	3.45	51	0.18	3031395	
1992 6 29	4 29 55.10	34 4.31 116 22.46	A	3.1	3.54	9	0.23	3031401	
1992 6 29	4 34 26.79	34 11.55 116 25.22	B	3.8	6.28	100	0.25	3031402	
1992 6 29	4 36 54.03	34 36.80 116 38.56	A	3.4	0.02	42	0.19	3041109	
1992 6 29	5 44 46.88	34 11.78 116 26.17	B	3.2	1.28	16	0.16	3073708	
1992 6 29	5 45 10.24	34 13.57 116 26.95	C	3.0	8.22	29	0.28	3073709	
1992 6 29	6 2 1.92	34 10.66 116 25.63	C	3.0	5.87	40	0.19	3031436	
1992 6 29	6 16 53.74	34 38.24 116 31.53	C	3.6	3.69	45	0.25	3031442	
1992 6 29	6 20 13.07	34 27.03 116 28.51	A	3.0	0.95	51	0.19	3031444	
1992 6 29	6 25 16.45	35 21.33 116 50.33	C	3.0	7.21	34	0.22	3031447	
1992 6 29	6 44 54.19	34 48.39 116 37.15	A	3.4	1.00	33	0.21	3031453	
1992 6 29	7 6 13.41	34 1.22 117 12.20	A	3.2	2.53	10	0.13	3031461	
1992 6 29	7 6 22.57	34 34.11 116 31.94	A	3.4	0.00	59	0.20	3031730	
1992 6 29	7 36 56.00	34 3.95 116 24.49	A	3.1	0.92	43	0.20	3031473	
1992 6 29	7 49 3.51	34 11.86 116 48.72	A	3.2	1.04	41	0.17	3031475	
1992 6 29	7 50 58.53	34 31.24 116 32.74	A	3.8	0.01	71	0.22	3031771	
1992 6 29	7 52 14.58	34 37.40 116 40.48	A	3.7	0.01	74	0.21	3031772	
1992 6 29	8 4 27.90	34 6.57 116 23.05	A	3.4	1.00	46	0.21	3031482	
1992 6 29	8 7 45.32	34 3.21 116 20.72	A	3.0	3.95	13	0.43	3031483	
1992 6 29	8 47 10.26	33 57.41 116 18.80	A	3.2	2.06	24	0.22	3031495	
1992 6 29	9 9 55.19	34 34.67 116 31.50	A	3.3	0.01	59	0.20	3031502	
1992 6 29	9 10 56.51	34 6.88 116 22.68	A	3.2	3.73	17	0.16	3031889	
1992 6 29	9 20 20.39	34 22.62 116 27.62	A	3.1	1.63	38	0.16	3031504	
1992 6 29	9 29 19.16	34 58.13 116 56.15	A	3.1	4.43	33	0.16	3031510	
1992 6 29	9 53 40.23	34 36.18 116 37.98	A	3.0	0.00	61	0.20	3031527	
1992 6 29	10 0 3.74	34 11.97 116 49.07	A	3.0	1.24	46	0.24	3031532	
1992 6 29	10 2 38.53	34 58.88 116 56.33	A	4.2	2.51	50	0.26	3031533	
1992 6 29	10 9 2.02	34 35.88 116 38.49	A	3.4	0.00	68	0.21	3031536	
1992 6 29	10 18 14.41	34 13.14 116 44.75	A	3.2	10.72	37	0.15	3032058	
1992 6 29	10 22 49.59	34 4.81 116 23.36	A	3.7	1.02	46	0.23	3031538	
1992 6 29	10 26 59.32	35 0.52 116 57.14	A	3.4	3.00	63	0.29	3031539	
1992 6 29	12 10 20.05	35 8.20 116 50.55	B	3.1	1.08	33	0.23	3031577	
1992 6 29	12 16 53.99	34 17.95 116 50.67	A	3.2	1.82	68	0.18	3031581	
1992 6 29	12 42 30.87	34 54.89 116 42.59	B	3.1	0.65	41	0.22	3075832	
1992 6 29	12 54 15.68	34 32.53 116 13.36	C	3.5	6.00	22	0.27	3031588	
1992 6 29	13 1 23.51	34 0.75 117 9.05	A	3.6	4.84	88	0.23	3031591	
1992 6 29	13 4 44.03	34 0.42 117 9.35	A	3.4	3.19	37	0.19	3031592	
1992 6 29	13 8 32.29	34 3.48 116 21.35	A	3.8	3.83	37	0.19	3031594	
1992 6 29	13 19 34.49	34 15.68 116 45.24	A	3.1	0.33	47	0.18	3031599	
1992 6 29	13 20 3.16	34 38.06 116 29.62	B	4.1	0.00	64	0.23	3032289	
1992 6 29	13 33 36.61	34 30.80 116 32.49	B	3.0	0.00	15	0.16	3031603	
1992 6 29	13 59 10.47	34 34.57 116 33.42	B	3.2	0.00	61	0.23	3031612	
1992 6 29	14 8 37.70	34 6.33 116 24.14	A	4.9	11.20	95	0.31	3031935	
1992 6 29	14 13 38.78	34 6.49 116 24.23	A	5.4	9.88	103	0.31	3031615	
1992 6 29	14 21 32.51	34 28.65 116 23.99	C	3.3	0.00	14	0.24	3031617	
1992 6 29	14 21 48.69	34 6.30 116 25.33	A	3.1	2.76	25	0.24	3075856	
1992 6 29	14 31 30.23	34 4.60 116 23.12	A	4.6	3.41	68	0.26	3031618	
1992 6 29	14 41 26.00	34 7.18 116 59.85	A	4.4	4.71	64	0.24	3031622	
1992 6 29	14 44 46.29	34 8.07 116 23.80	C	3.1	6.00	16	0.19	3031624	
1992 6 29	14 54 6.87	34 6.20 116 25.10	A	4.2	3.67	50	0.21	3031625	
1992 6 29	14 55 22.27	33 52.25 116 16.51	A	3.6	0.00	24	0.17	3032239	
1992 6 29	15 5 26.76	34 5.60 116 25.08	A	3.1	4.94	36	0.23	3031626	
1992 6 29	15 6 52.29	34 7.42 116 51.46	A	3.1	0.98	29	0.21	3031627	

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1992	6	29	15	11	28.83	34	37.19	116	30.64	B	3.1	0.00	16	0.12	3031634	
1992	6	29	15	18	43.15	34	13.20	116	45.03	A	3.6	0.93	54	0.17	3031635	
1992	6	29	15	26	17.66	34	11.15	116	26.51	C	3.0	7.37	29	0.20	3031639	
1992	6	29	15	31	52.63	34	59.60	116	56.63	A	3.0	1.33	14	0.14	3031641	
1992	6	29	15	37	36.42	34	31.74	116	31.11	A	3.5	0.35	65	0.19	3072376	
1992	6	29	15	46	58.20	34	6.72	116	24.71	A	3.3	3.83	60	0.19	3031644	
1992	6	29	15	52	49.36	34	14.12	116	54.03	A	3.1	2.53	36	0.19	3031645	
1992	6	29	15	59	35.53	34	24.73	116	30.57	A	3.1	1.30	37	0.17	3031648	
1992	6	29	16	1	42.77	33	52.54	116	16.02	A	5.2	1.86	71	0.23	3031649	
1992	6	29	16	7	36.85	33	51.85	116	15.95	A	3.0	1.04	20	0.23	3031650	
1992	6	29	16	9	43.61	33	54.11	116	17.56	A	3.3	0.02	19	0.27	3031653	
1992	6	29	16	10	53.93	34	7.08	116	59.36	A	3.2	5.38	48	0.19	3075997	
1992	6	29	16	15	6.18	33	53.67	116	17.40	A	3.5	1.71	49	0.25	3031656	
1992	6	29	16	19	59.04	33	52.09	116	15.94	A	3.6	2.41	48	0.24	3031658	
1992	6	29	16	24	57.13	33	52.04	116	15.78	A	3.4	3.05	18	0.29	3076015	
1992	6	29	16	25	29.53	34	5.49	116	25.34	A	4.0	3.17	65	0.29	3031661	
1992	6	29	16	41	41.92	34	14.97	116	43.14	A	4.7	1.79	90	0.23	3031666	
1992	6	29	16	44	46.29	33	54.40	116	16.36	A	3.0	1.49	11	0.14	3032608	
1992	6	29	16	46	6.99	33	51.94	116	19.18	A	3.0	0.14	24	0.19	3031669	
1992	6	29	17	2	1.49	33	53.26	116	16.90	A	3.4	0.00	30	0.20	3031673	
1992	6	29	17	2	20.20	34	30.81	116	31.01	B	3.1	0.58	17	0.15	3076079	
1992	6	29	17	11	13.99	33	53.53	116	16.95	A	3.5	2.43	31	0.18	3076029	
1992	6	29	17	13	15.85	34	35.46	116	36.23	A	3.1	0.00	36	0.15	3031676	
1992	6	29	17	42	11.00	34	35.51	116	37.56	A	3.2	0.01	35	0.16	3031680	
1992	6	29	17	52	9.15	34	1.24	116	21.62	A	3.4	3.67	32	0.22	3031684	
1992	6	29	17	55	9.31	34	21.17	116	25.07	A	3.4	2.52	38	0.21	3076174	
1992	6	29	17	55	10.37	34	9.01	116	25.19	A	3.3	0.66	27	0.25	3031685	
1992	6	29	18	6	9.18	34	24.59	116	30.72	A	3.4	0.88	63	0.19	3031687	
1992	6	29	18	24	40.75	34	37.44	116	39.78	A	3.2	0.01	61	0.19	3031697	
1992	6	29	18	35	8.93	34	37.43	116	36.96	B	3.2	0.01	37	0.21	3031700	
1992	6	29	19	10	30.82	33	52.97	116	16.98	A	3.4	2.49	18	0.17	3031710	
1992	6	29	20	7	35.45	33	53.34	116	17.37	A	4.1	2.50	80	0.24	3031728	
1992	6	29	20	21	59.48	34	8.77	116	28.45	A	3.2	2.16	42	0.17	3031734	
1992	6	29	20	22	1.44	33	53.71	116	16.88	A	3.2	2.08	21	0.17	3076939	
1992	6	29	20	34	0.50	34	25.58	116	29.10	C	3.1	5.50	34	0.19	3031736	
1992	6	29	20	42	24.04	34	26.99	116	31.35	C	3.6	9.43	22	0.13	3032586	
1992	6	29	20	44	25.47	34	39.56	116	42.08	A	4.4	0.01	36	0.20	3031740	
1992	6	29	21	1	43.20	34	10.25	116	50.22	A	3.1	0.84	58	0.20	3031749	
1992	6	29	21	17	36.24	33	59.07	116	22.87	A	3.0	15.11	11	0.26	3077096	
1992	6	29	21	17	37.45	34	0.53	116	23.32	A	3.1	4.28	49	0.20	3031752	
1992	6	29	21	41	9.62	34	17.98	116	27.32	A	3.2	1.20	38	0.22	3031761	
1992	6	29	21	54	32.73	34	38.12	116	33.30	C	3.1	0.01	44	0.27	3031764	
1992	6	29	22	3	40.95	33	54.50	116	17.39	A	3.0	3.92	55	0.22	3031767	
1992	6	29	22	52	16.06	34	9.65	118	10.05	A	3.9	3.22	66	0.24	3031787	
1992	6	29	23	13	28.27	34	17.85	116	26.87	A	3.2	2.49	63	0.19	3031797	
1992	6	29	23	44	8.80	34	9.11	116	26.28	A	3.5	4.35	55	0.20	3031809	
1992	6	30	0	6	8.61	34	7.50	116	24.07	A	4.4	3.22	23	0.16	3031817	
1992	6	30	0	49	45.33	33	54.04	116	15.70	A	3.7	1.44	47	0.20	3031830	
1992	6	30	0	54	33.58	33	54.32	116	15.84	A	3.3	4.37	18	0.16	3078804	
1992	6	30	0	54	38.94	34	5.51	116	26.32	A	3.2	0.76	51	0.18	3031831	
1992	6	30	1	54	49.44	34	15.43	116	43.20	A	3.1	0.85	44	0.14	3079453	
1992	6	30	1	59	49.11	34	21.99	116	28.26	A	3.1	1.15	56	0.14	3031860	
1992	6	30	2	3	12.42	34	4.69	116	24.57	A	3.3	0.59	49	0.18	3031861	
1992	6	30	2	5	59.47	34	5.34	116	23.83	A	3.0	0.07	32	0.16	3031862	
1992	6	30	2	32	12.22	35	9.89	117	21.09	A	4.0	4.94	97	0.24	3042717	
1992	6	30	4	27	56.23	34	57.50	116	57.03	A	3.3	4.24	8	0.15	3043079	
1992	6	30	4	28	2.17	34	16.15	116	55.74	A	3.3	7.03	17	0.15	3042303	
1992	6	30	4	28	6.42	34	59.79	116	57.07	A	3.6	0.00	103	0.25	3043081	
1992	6	30	5	18	38.88	34	16.41	116	47.45	A	3.7	1.68	81	0.16	3031918	
1992	6	30	5	33	48.00	34	13.27	116	44.74	A	3.7	1.71	68	0.19	3031923	
1992	6	30	5	39	15.42	35	30.96	117	27.84	A	3.2	2.67	51	0.19	3031924	
1992	6	30	6	13	4.60	34	34.40	116	34.51	A	3.1	4.41	41	0.15	3081007	
1992	6	30	6	13	4.62	34	34.40	116	34.32	A	3.1	4.38	70	0.17	3031943	
1992	6	30	7	14	25.86	34	5.08	116	25.16	A	3.2	8.40	66	0.21	3031982	
1992	6	30	7	19	39.14	33	54.09	116	18.54	A	3.1	3.03	10	0.17	3072918	
1992	6	30	7	19	47.79	34	29.56	116	27.81	A	3.2	2.68	49	0.18	3072915	

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1992	6	30	7	36	21.97	34	9.40	116	49.97	B	3.3	13.37	14	0.08	3072933	
1992	6	30	7	36	28.15	34	9.68	116	25.52	A	3.5	0.52	49	0.17	3031990	
1992	6	30	8	57	44.22	34	34.18	116	24.80	C	3.5	6.00	78	0.24	3032025	
1992	6	30	11	30	29.22	34	5.55	116	25.01	A	4.4	11.65	160	0.29	3041864	
1992	6	30	11	41	40.54	34	32.75	116	30.47	C	3.1	5.50	65	0.30	3032091	
1992	6	30	12	14	49.73	34	5.23	116	24.99	A	4.2	11.86	163	0.28	3032109	
1992	6	30	12	21	7.26	34	21.94	116	27.03	A	3.4	2.65	58	0.15	3032111	
1992	6	30	12	26	19.25	34	1.41	116	21.19	A	3.7	0.77	113	0.28	3032113	
1992	6	30	12	34	54.53	34	19.34	116	26.86	A	4.2	4.57	79	0.19	3032116	
1992	6	30	13	5	36.49	35	40.87	117	36.85	C	4.6	5.44	91	0.19	3032127	6
1992	6	30	13	8	10.93	35	41.30	117	36.50	C	3.2	5.90	26	0.16	3032415	
1992	6	30	13	8	22.06	35	41.14	117	36.09	C	3.2	6.00	16	0.13	3032416	
1992	6	30	13	10	3.36	34	24.36	116	28.53	B	3.1	0.00	36	0.27	3032128	
1992	6	30	13	10	48.91	34	1.38	116	21.89	A	3.1	0.29	59	0.23	3083144	
1992	6	30	13	52	59.22	34	1.01	116	22.19	A	3.4	2.08	34	0.15	3032151	
1992	6	30	14	27	24.28	34	9.23	116	25.09	A	3.0	3.46	49	0.15	3032163	
1992	6	30	14	27	54.84	34	8.59	116	21.94	A	3.3	3.33	16	0.22	3082381	
1992	6	30	14	33	19.13	35	41.63	117	36.37	A	3.1	4.79	45	0.17	3032164	
1992	6	30	14	38	11.59	34	0.26	116	21.63	A	5.0	0.84	84	0.25	3032166	7
1992	6	30	14	47	31.72	34	1.17	116	20.96	A	3.4	0.71	73	0.22	3032168	
1992	6	30	15	9	29.89	33	59.21	116	21.70	A	3.1	1.60	63	0.22	3032186	
1992	6	30	15	17	29.07	34	0.87	116	20.88	A	3.1	0.72	48	0.24	3032561	
1992	6	30	15	19	5.01	34	10.26	116	24.51	A	4.1	0.39	99	0.26	3032189	
1992	6	30	15	20	8.28	34	15.68	116	44.57	C	4.2	0.01	71	0.20	3032563	
1992	6	30	15	38	33.79	34	6.42	116	22.68	A	3.1	2.85	74	0.20	3032194	
1992	6	30	15	55	50.16	34	0.18	116	21.76	A	3.2	0.00	41	0.17	3032208	
1992	6	30	15	55	50.85	34	26.60	116	29.35	A	3.2	3.05	43	0.16	3083432	
1992	6	30	16	6	52.50	34	9.23	116	50.36	A	3.6	11.91	70	0.16	3032710	
1992	6	30	16	8	13.69	34	9.20	116	25.31	B	3.5	6.77	61	0.20	3032709	
1992	6	30	16	36	55.32	34	13.95	116	26.64	A	3.1	3.56	35	0.11	3083542	
1992	6	30	16	39	12.82	34	0.60	116	21.67	C	3.4	0.17	10	0.15	3083648	
1992	6	30	17	14	21.16	34	3.89	116	22.44	A	3.1	0.00	118	0.30	3032243	
1992	6	30	17	26	29.68	34	38.66	116	39.36	A	4.4	0.01	81	0.21	3032246	
1992	6	30	17	31	15.46	34	58.66	116	56.23	A	3.3	0.01	88	0.24	3032247	
1992	6	30	17	48	46.20	34	19.99	116	27.91	A	3.6	0.01	48	0.14	3032258	
1992	6	30	18	24	3.63	34	34.71	116	33.63	A	3.3	4.15	75	0.19	3032281	
1992	6	30	18	24	51.27	34	13.34	116	44.46	A	3.1	0.84	43	0.15	3083770	
1992	6	30	18	37	47.13	34	9.34	116	26.72	A	3.2	3.22	69	0.17	3083793	
1992	6	30	19	42	29.40	34	24.61	116	30.71	A	3.1	0.93	62	0.14	3032323	
1992	6	30	20	0	25.44	34	38.59	116	39.19	A	4.3	0.00	79	0.19	3032337	
1992	6	30	20	2	0.18	34	28.59	116	29.13	A	3.1	1.28	19	0.11	3032743	
1992	6	30	20	5	6.59	33	59.32	116	21.71	A	4.1	0.57	87	0.24	3032338	
1992	6	30	20	17	31.85	34	15.70	116	44.59	C	3.3	6.00	48	0.19	3032340	
1992	6	30	20	36	20.67	34	29.50	116	31.06	C	3.7	4.77	73	0.20	3032345	
1992	6	30	21	22	54.44	34	7.82	116	44.02	A	4.8	12.47	174	0.24	3038550	
1992	6	30	21	24	59.44	34	7.89	116	43.92	A	3.5	11.33	60	0.17	3039676	
1992	6	30	21	29	14.56	34	24.44	116	30.97	A	3.6	0.78	65	0.13	3032365	
1992	6	30	21	49	0.29	34	5.07	116	59.33	A	4.4	3.56	118	0.22	3032368	
1992	6	30	22	9	8.18	35	25.95	120	32.85	B	3.5	0.01	7	0.15	3032379	
1992	6	30	22	9	28.83	34	5.64	116	24.48	A	3.0	3.38	17	0.27	3074994	
1992	6	30	22	9	49.84	34	5.44	116	59.24	A	3.3	3.11	41	0.15	3074995	
1992	6	30	22	54	32.97	34	8.22	116	51.03	A	3.3	12.48	53	0.20	3033063	
1992	6	30	23	21	54.21	34	57.11	116	46.97	A	3.1	0.91	59	0.24	3032407	
1992	6	30	23	52	52.68	34	3.99	116	21.97	A	3.3	2.34	59	0.20	3032426	
1992	7	1	0	4	43.08	34	27.03	116	29.58	A	3.2	1.18	66	0.14	3032907	
1992	7	1	0	8	49.62	33	57.54	116	20.86	A	3.0	1.86	47	0.17	3032433	
1992	7	1	0	12	5.49	34	12.12	116	50.06	A	3.5	1.28	65	0.16	3032434	
1992	7	1	0	14	26.82	34	4.86	116	59.31	A	3.6	4.08	106	0.21	3032435	
1992	7	1	0	32	25.74	34	15.70	116	43.78	A	3.2	3.20	77	0.18	3034394	
1992	7	1	1	43	34.06	34	26.91	116	28.18	A	3.2	2.85	104	0.30	3032466	
1992	7	1	2	24	1.38	34	23.82	116	27.38	A	3.4	1.55	88	0.19	3032488	
1992	7	1	5	43	56.67	34	1.16	116	21.02	A	3.3	1.67	54	0.25	3032868	
1992	7	1	6	16	56.72	35	40.67	117	36.77	A	4.6	3.91	69	0.21	3032594	
1992	7	1	6	20	20.04	34	29.34	116	31.11	A	3.0	1.76	22	0.07	3032596	
1992	7	1	7	1	49.19	34	5.80	116	22.91	A	4.3	0.01	86	0.26	3032618	
1992	7	1	7	4	24.44	34	3.44	116	22.34	A	3.6	0.95	51	0.17	3032825	

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1992 7 1	7 4 24.59	34 2.91 116 22.65	A	3.6	1.58	68	0.20	3032816	
1992 7 1	7 13 17.44	34 6.13 116 23.24	A	3.8	0.07	44	0.17	3032623	
1992 7 1	7 18 9.29	34 5.54 116 22.77	A	3.3	0.46	34	0.18	3032625	
1992 7 1	7 19 51.56	36 2.26 117 35.30	A	3.1	4.36	15	0.14	3032627	
1992 7 1	7 20 0.07	34 3.73 116 22.09	A	3.4	0.01	76	0.26	3033126	
1992 7 1	7 34 44.28	34 37.11 116 38.32	A	3.2	0.00	33	0.17	3032640	
1992 7 1	7 35 18.88	34 4.86 116 22.29	A	3.0	0.30	16	0.15	3033132	
1992 7 1	7 36 35.68	34 56.87 116 57.02	A	3.1	4.84	9	0.19	3033160	
1992 7 1	7 36 48.62	34 55.57 116 53.44	A	3.3	3.44	36	0.18	3032642	
1992 7 1	7 40 29.87	34 19.92 116 27.74	A	5.4	9.00	121	0.26	3032643	8
1992 7 1	8 39 50.04	34 12.29 116 51.64	A	3.3	2.52	86	0.23	3032673	
1992 7 1	9 28 53.24	34 55.77 116 55.63	A	3.4	0.01	79	0.22	3032694	
1992 7 1	9 33 24.86	34 6.17 116 23.20	A	3.2	1.30	18	0.18	3032695	
1992 7 1	9 44 43.30	34 5.14 116 24.66	A	3.6	8.90	76	0.21	3032700	
1992 7 1	10 0 10.05	33 58.20 116 22.36	A	3.1	2.65	24	0.17	3032703	
1992 7 1	10 29 47.66	34 58.23 116 56.23	A	4.3	0.64	90	0.27	3032715	
1992 7 1	10 32 10.05	34 34.09 116 33.62	A	3.1	0.00	37	0.13	3032951	
1992 7 1	10 32 52.27	34 58.38 116 56.14	A	4.1	0.35	76	0.28	3032953	
1992 7 1	11 54 36.05	34 1.12 116 20.30	A	3.4	1.71	14	0.14	3033119	
1992 7 1	11 54 48.77	34 11.24 116 48.06	A	3.4	1.44	37	0.14	3032757	
1992 7 1	15 48 4.01	34 37.72 116 33.07	B	3.1	0.01	37	0.14	3032887	
1992 7 1	17 7 15.09	34 16.43 116 41.51	A	4.2	4.75	85	0.17	3032928	
1992 7 1	17 13 46.68	34 18.02 116 49.93	A	3.1	2.62	48	0.22	3032930	
1992 7 1	18 25 22.42	34 26.50 116 30.52	A	3.8	0.77	55	0.14	3032962	
1992 7 1	19 25 22.86	34 7.24 116 24.12	A	3.0	0.00	60	0.28	3032988	
1992 7 1	19 36 28.19	34 10.29 116 24.65	A	3.2	0.36	60	0.19	3033212	
1992 7 1	19 46 34.35	34 36.47 116 39.32	D	3.1	0.96	15	0.05	3033216	
1992 7 1	20 22 51.51	34 20.23 116 27.56	A	3.4	0.01	84	0.21	3033008	
1992 7 1	20 41 17.98	34 15.44 116 26.94	A	3.3	0.01	39	0.13	3033012	
1992 7 1	20 45 45.87	34 16.89 116 43.44	A	4.2	0.87	87	0.17	3033015	
1992 7 1	20 53 56.77	34 16.85 116 43.87	A	4.0	1.43	73	0.17	3033016	
1992 7 1	22 58 42.02	34 9.67 116 24.09	A	3.7	0.00	73	0.18	3033087	
1992 7 1	23 5 53.66	33 56.83 116 18.81	A	3.0	3.97	26	0.16	3042306	
1992 7 1	23 6 17.15	34 56.80 116 55.64	A	3.0	0.00	65	0.23	3033088	
1992 7 1	23 46 47.17	34 20.57 116 28.03	A	3.6	1.33	81	0.18	3033105	
1992 7 1	23 50 50.32	34 0.51 116 22.37	A	3.5	1.31	76	0.22	3033106	
1992 7 2	0 16 22.37	34 18.78 116 26.61	A	4.0	6.82	78	0.29	3033120	
1992 7 2	1 40 26.03	35 40.60 117 36.67	A	3.0	5.45	51	0.18	3033153	
1992 7 2	1 51 11.88	33 58.73 116 20.22	A	3.4	0.79	67	0.22	3033161	
1992 7 2	2 56 29.39	34 47.74 116 18.47	A	3.3	0.00	48	0.18	3033191	
1992 7 2	3 21 4.67	35 41.31 117 36.92	C	3.6	5.45	64	0.19	3033202	
1992 7 2	3 31 18.18	34 1.91 117 7.19	A	3.1	5.15	39	0.17	3033742	
1992 7 2	3 33 45.83	34 16.87 116 42.37	A	3.0	1.30	51	0.19	3033209	
1992 7 2	4 26 53.55	34 57.39 116 47.14	A	3.5	2.53	61	0.19	3033232	
1992 7 2	5 16 32.24	34 22.92 116 27.09	A	4.0	0.72	71	0.19	3033256	
1992 7 2	5 20 31.67	35 41.07 117 36.93	C	3.6	5.45	55	0.17	3033258	
1992 7 2	6 13 43.54	34 7.92 116 51.38	A	3.5	7.88	81	0.20	3033486	
1992 7 2	6 24 57.14	34 15.45 116 44.29	A	3.6	3.27	80	0.19	3033282	
1992 7 2	7 1 4.87	35 41.00 117 37.04	B	4.2	5.95	61	0.16	3033295	
1992 7 2	7 56 26.34	34 8.28 116 51.35	A	3.6	3.10	82	0.20	3033319	
1992 7 2	8 7 53.10	34 35.96 116 38.12	C	3.0	6.00	62	0.24	3033326	
1992 7 2	8 13 51.49	34 7.08 116 59.51	A	3.3	4.55	69	0.18	3033328	
1992 7 2	8 25 4.53	34 0.13 116 23.14	A	3.0	1.21	40	0.13	3033330	
1992 7 2	8 31 44.23	34 57.57 116 47.11	A	3.3	2.17	70	0.25	3033332	
1992 7 2	8 45 17.59	34 7.76 116 25.56	A	3.3	0.77	37	0.18	3033529	
1992 7 2	8 45 27.74	34 25.39 116 31.98	A	3.6	2.11	46	0.15	3033344	
1992 7 2	9 23 2.35	34 16.79 116 44.56	A	3.0	0.00	45	0.21	3033360	
1992 7 2	9 41 59.72	33 59.19 116 20.49	A	3.5	2.29	45	0.18	3033369	
1992 7 2	9 42 9.18	34 5.84 116 59.55	A	3.5	2.87	50	0.20	3033503	
1992 7 2	9 49 27.58	34 36.61 116 37.97	A	3.0	0.01	46	0.18	3033566	
1992 7 2	9 51 59.20	34 30.86 116 31.63	A	3.8	0.49	76	0.18	3033371	
1992 7 2	10 43 55.31	33 55.31 116 17.64	A	3.4	0.01	72	0.19	3033396	
1992 7 2	10 51 31.16	34 35.08 116 33.01	A	3.2	0.01	60	0.16	3033397	
1992 7 2	11 31 24.05	34 4.36 116 25.26	A	3.7	0.29	83	0.19	3033421	
1992 7 2	11 54 48.90	34 36.90 116 37.07	A	3.0	0.01	42	0.16	3033433	
1992 7 2	12 16 46.49	34 35.41 116 36.49	A	3.5	0.01	30	0.16	3033804	

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1992 7 2	12 17 41.11	34 34.50 116 34.39	A	3.4	0.02	54	0.13	3033805	
1992 7 2	12 56 32.46	34 33.06 116 32.64	A	3.1	0.00	37	0.11	3033461	
1992 7 2	13 0 4.94	35 1.73 116 58.19	A	3.3	3.68	45	0.18	3033462	
1992 7 2	13 59 20.98	35 36.92 121 14.52	D	3.3	6.00	21	0.34	3033485	
1992 7 2	15 11 56.81	34 2.17 116 21.11	A	3.4	1.34	67	0.24	3033518	
1992 7 2	16 32 46.56	34 20.42 116 40.17	A	3.2	0.15	51	0.15	3033562	
1992 7 2	18 20 10.50	34 2.55 116 20.99	A	3.6	1.42	46	0.19	3033609	
1992 7 2	18 21 39.52	34 2.68 116 20.99	A	3.6	1.58	29	0.17	3033956	
1992 7 2	18 33 42.16	34 2.21 116 21.36	A	4.0	4.73	24	0.24	3033612	
1992 7 2	18 34 26.17	34 23.02 116 27.41	A	3.1	2.65	36	0.13	3033964	
1992 7 2	19 13 12.35	35 40.62 117 37.11	A	3.2	4.73	49	0.17	3033635	
1992 7 2	20 11 53.46	34 37.07 116 39.41	A	3.0	0.02	70	0.16	3033657	
1992 7 2	20 31 36.75	33 21.51 117 35.29	B	3.0	10.00	43	0.18	3033671	
1992 7 2	20 49 24.88	33 58.93 116 20.74	A	3.2	3.30	63	0.20	3033679	
1992 7 2	21 3 22.54	34 12.09 116 46.90	A	3.5	2.42	73	0.17	3033682	
1992 7 2	22 25 29.09	35 40.49 117 37.20	A	4.3	5.32	58	0.18	3033740	
1992 7 2	22 37 4.15	34 58.73 116 56.21	A	3.1	0.94	57	0.21	3033747	
1992 7 3	1 38 36.25	34 34.41 116 29.97	A	3.3	0.00	50	0.13	3033825	
1992 7 3	2 37 46.89	33 9.89 115 38.46	A	3.0	4.85	29	0.27	3033848	
1992 7 3	2 40 50.98	33 10.15 115 38.66	A	3.2	4.37	32	0.24	3033898	
1992 7 3	4 15 50.37	34 12.57 116 46.23	A	3.6	10.87	108	0.18	3033884	
1992 7 3	5 55 42.23	34 1.05 116 20.88	A	3.4	2.99	37	0.17	3033926	
1992 7 3	19 14 8.94	34 4.65 116 24.71	A	3.0	0.88	57	0.19	3034158	
1992 7 3	19 49 56.68	34 7.35 116 24.76	A	3.9	2.48	85	0.17	3034177	
1992 7 3	20 52 46.21	34 17.48 116 43.20	A	3.7	0.01	72	0.19	3034207	
1992 7 3	20 58 2.35	34 32.52 116 32.98	A	3.2	4.16	34	0.16	3034209	
1992 7 3	21 18 22.95	34 37.17 116 38.56	A	3.8	4.85	81	0.19	3034218	
1992 7 3	21 52 20.52	34 3.33 116 22.82	A	3.4	1.99	69	0.18	3034478	
1992 7 3	22 4 25.17	34 30.74 116 32.68	C	3.3	2.00	21	0.13	3034479	
1992 7 3	22 25 1.29	34 34.54 116 27.27	C	3.3	0.01	68	0.22	3034238	
1992 7 3	22 25 41.67	34 4.38 116 25.24	A	3.2	0.02	38	0.20	3034344	
1992 7 3	22 58 30.85	34 12.59 116 50.25	C	3.0	6.00	43	0.14	3034257	
1992 7 3	23 2 57.36	34 0.88 116 20.26	A	3.0	0.82	66	0.19	3034261	
1992 7 4	2 32 0.06	34 5.31 116 51.36	A	3.3	2.77	80	0.19	3034362	
1992 7 4	4 48 50.89	33 55.65 116 19.63	A	3.4	2.84	84	0.21	3034430	
1992 7 4	4 54 15.42	34 13.36 116 46.38	A	3.1	2.87	81	0.16	3034431	
1992 7 4	5 52 4.09	34 5.44 116 22.73	A	3.1	1.73	29	0.16	3034453	
1992 7 4	6 9 52.47	34 5.35 116 51.38	A	3.1	2.97	54	0.15	3034457	
1992 7 4	6 50 1.23	34 37.24 116 36.75	A	3.2	6.66	31	0.14	3034471	
1992 7 4	7 31 12.96	34 57.41 116 55.76	A	3.0	0.00	33	0.16	3034493	
1992 7 4	9 35 26.63	36 1.15 117 36.30	A	3.4	1.15	25	0.16	3034540	
1992 7 4	9 36 1.20	34 17.59 116 53.16	A	3.5	3.44	91	0.17	3035032	
1992 7 4	10 32 45.99	34 20.84 116 28.13	B	3.4	7.68	34	0.11	3034560	
1992 7 4	10 33 40.45	34 18.68 116 25.70	A	3.4	7.09	77	0.20	3035065	
1992 7 4	12 11 47.33	34 38.61 116 39.47	C	3.2	5.00	55	0.20	3034601	
1992 7 4	13 23 15.99	34 14.65 116 44.60	A	3.1	3.22	64	0.17	3034625	
1992 7 4	14 47 24.95	34 34.90 116 34.79	A	3.2	6.05	69	0.19	3034657	
1992 7 4	17 54 35.99	35 40.63 117 32.67	C	3.0	10.56	9	0.11	3034712	
1992 7 4	17 55 1.03	34 36.12 116 38.18	A	3.1	0.17	65	0.21	3035283	
1992 7 4	21 6 51.49	34 11.95 116 26.06	A	3.7	0.00	76	0.19	3034783	
1992 7 4	21 8 47.27	34 11.51 116 25.95	A	3.3	0.00	56	0.16	3035209	
1992 7 5	1 58 18.85	34 18.85 116 27.27	A	3.3	7.81	74	0.19	3034889	
1992 7 5	2 0 18.74	34 26.62 116 30.15	A	3.0	1.61	60	0.17	3035273	
1992 7 5	3 16 26.54	34 34.14 116 28.64	C	3.3	5.51	43	0.30	3035242	
1992 7 5	3 16 27.41	34 4.27 116 22.26	A	3.3	2.19	43	0.20	3034910	
1992 7 5	4 31 18.34	34 38.68 116 39.43	A	3.6	4.74	48	0.18	3034930	
1992 7 5	4 45 44.23	34 38.72 116 39.22	A	3.0	4.24	48	0.16	3034932	
1992 7 5	5 49 38.15	33 56.70 116 23.94	A	4.0	3.21	104	0.21	3034959	
1992 7 5	6 53 3.94	34 23.42 116 27.40	A	3.8	1.44	59	0.13	3035014	
1992 7 5	10 55 43.29	35 1.82 116 58.09	A	4.7	0.89	112	0.22	3035113	
1992 7 5	11 14 38.04	34 4.08 116 21.85	A	3.8	2.53	83	0.25	3035120	
1992 7 5	12 1 54.33	34 14.71 116 47.40	A	3.2	7.46	80	0.17	3035139	
1992 7 5	18 48 27.28	34 16.31 116 24.32	A	3.6	2.28	69	0.17	3035298	
1992 7 5	19 0 39.49	34 5.55 116 50.93	A	3.5	2.30	45	0.18	3035514	
1992 7 5	19 1 36.40	34 5.80 116 51.31	A	3.4	2.29	27	0.17	3035513	
1992 7 5	19 15 20.02	34 5.63 116 50.87	A	3.6	2.22	61	0.18	3035308	

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1992 7 5	19 50 56.86	34 5.56 116 51.13	A	3.0	2.49	54	0.18	3035322	
1992 7 5	20 3 3.09	34 17.88 116 48.23	A	4.0	3.09	98	0.20	3035325	
1992 7 5	20 8 11.94	34 56.71 116 46.52	A	3.1	1.26	38	0.16	3035327	
1992 7 5	20 26 31.42	34 20.26 116 38.45	A	3.0	0.01	76	0.15	3035333	
1992 7 5	21 18 27.14	34 34.99 116 19.12	A	5.4	0.36	115	0.33	3035348	9
1992 7 5	22 8 31.54	34 34.99 116 17.86	A	3.8	0.62	95	0.28	3035369	
1992 7 5	22 33 45.54	34 34.98 116 18.24	C	4.4	0.00	75	0.23	3035375	
1992 7 5	22 36 0.94	34 12.78 116 26.10	A	3.1	3.08	72	0.19	3035530	
1992 7 5	22 45 14.03	34 34.96 116 17.86	A	3.3	0.00	52	0.20	3035376	
1992 7 5	23 11 9.78	34 35.06 116 17.52	A	3.5	0.01	86	0.32	3035388	
1992 7 6	0 15 30.06	34 6.07 116 23.90	A	3.0	4.77	70	0.19	3035416	
1992 7 6	1 11 37.65	34 13.35 116 51.77	A	3.6	2.59	89	0.17	3035441	
1992 7 6	2 10 1.92	34 34.34 116 17.66	A	3.2	0.01	63	0.17	3035475	
1992 7 6	2 13 58.87	34 33.86 116 17.00	A	3.4	0.01	77	0.22	3035477	
1992 7 6	3 18 41.71	34 36.89 116 20.11	A	3.1	0.00	56	0.19	3035812	
1992 7 6	4 48 34.48	34 3.15 116 25.68	A	3.7	10.19	93	0.23	3035540	
1992 7 6	4 48 40.28	34 0.16 117 12.14	A	3.1	14.86	19	0.12	3036986	
1992 7 6	4 49 30.17	34 34.89 116 18.23	A	3.5	0.00	41	0.17	3036979	
1992 7 6	6 0 44.44	34 6.07 116 23.00	A	3.3	2.84	71	0.22	3035564	
1992 7 6	10 14 48.71	35 41.23 117 36.40	C	3.1	6.31	28	0.16	3035737	
1992 7 6	11 3 13.90	34 9.89 116 49.70	A	3.1	10.76	69	0.14	3035679	
1992 7 6	11 35 33.36	34 5.59 116 26.75	A	3.9	10.15	71	0.18	3035691	
1992 7 6	11 38 3.44	34 5.65 116 26.86	A	3.2	9.25	74	0.17	3035723	
1992 7 6	11 42 53.47	34 7.65 116 54.96	A	3.2	5.67	58	0.15	3035692	
1992 7 6	11 46 34.63	34 13.24 116 44.69	A	3.3	2.00	59	0.15	3035694	
1992 7 6	12 0 59.19	34 5.51 116 22.14	A	4.5	1.80	93	0.25	3035697	
1992 7 6	12 26 12.34	34 2.79 116 21.89	A	3.2	1.71	32	0.14	3035710	
1992 7 6	12 48 25.61	34 18.74 116 27.50	A	3.5	4.40	95	0.20	3035715	
1992 7 6	14 19 45.52	34 22.23 116 27.98	A	3.0	3.85	66	0.23	3035749	
1992 7 6	17 10 15.80	34 20.21 116 25.43	A	3.0	9.17	33	0.17	3036761	
1992 7 6	17 10 23.35	34 36.02 116 38.03	A	3.1	4.05	46	0.18	3036743	
1992 7 6	17 22 1.50	34 15.80 116 26.42	A	3.3	0.95	64	0.16	3036642	
1992 7 6	18 6 36.31	34 27.44 116 28.56	A	4.3	0.49	37	0.14	3036655	
1992 7 6	18 27 27.73	34 9.11 116 24.36	A	3.6	1.12	77	0.20	3036662	
1992 7 6	19 41 37.89	34 4.92 116 22.70	A	4.4	3.27	98	0.24	3036688	
1992 7 6	19 42 43.64	34 4.82 116 22.99	A	3.1	2.91	21	0.19	3037043	
1992 7 6	23 43 12.64	35 0.90 116 57.93	A	3.2	3.60	65	0.21	3036774	
1992 7 7	1 12 49.93	34 37.83 116 37.66	A	3.0	7.28	48	0.16	3036814	
1992 7 7	1 45 38.37	34 13.92 116 53.67	C	3.3	5.52	63	0.15	3036828	
1992 7 7	1 50 25.27	36 5.78 117 50.32	A	3.1	2.71	35	0.22	3036829	
1992 7 7	3 12 47.50	36 6.02 117 50.17	A	3.7	2.79	49	0.25	3036861	
1992 7 7	5 33 41.47	34 38.14 116 30.47	A	3.4	3.83	81	0.22	3036915	
1992 7 7	5 59 59.74	34 35.34 116 35.76	A	3.4	7.45	85	0.22	3036923	
1992 7 7	8 21 3.14	34 4.16 116 22.90	A	4.0	3.24	96	0.22	3036970	
1992 7 7	8 38 3.20	34 12.62 116 45.94	A	3.5	1.76	69	0.15	3036972	
1992 7 7	9 26 41.76	34 18.59 116 24.90	A	3.5	5.39	16	0.19	3037215	
1992 7 7	9 29 47.76	34 12.39 116 46.24	A	3.6	1.71	76	0.17	3036991	
1992 7 7	13 38 3.72	34 13.82 116 49.95	A	3.6	0.01	104	0.20	3037082	
1992 7 7	13 53 28.57	34 23.86 116 27.81	A	3.4	0.46	79	0.16	3037091	
1992 7 7	14 51 55.37	34 17.92 116 28.30	A	3.0	0.00	63	0.17	3037114	
1992 7 7	15 39 58.62	34 9.64 116 25.52	A	3.4	0.33	69	0.16	3037136	
1992 7 7	16 17 54.76	34 14.82 116 42.91	A	3.1	0.90	49	0.12	3037150	
1992 7 7	16 47 35.94	34 25.88 116 28.74	A	3.2	0.81	50	0.12	3037159	
1992 7 7	17 13 57.62	34 14.25 116 23.58	A	3.2	0.00	70	0.16	3037167	
1992 7 7	17 55 54.73	34 18.61 116 28.14	A	3.0	0.02	36	0.15	3037180	
1992 7 7	19 24 57.01	34 52.76 116 54.62	A	3.3	0.00	64	0.22	3037217	
1992 7 7	21 1 10.84	33 57.13 116 21.43	A	3.7	7.79	57	0.16	3037254	
1992 7 7	22 9 28.34	34 20.49 116 28.01	A	4.4	2.54	82	0.21	3037284	
1992 7 7	22 21 45.47	34 16.40 116 43.50	A	3.1	0.32	57	0.14	3037286	
1992 7 8	2 23 11.31	34 34.56 116 20.14	C	4.9	6.00	121	0.38	3038139	
1992 7 8	7 14 38.09	33 11.09 115 35.65	A	3.1	3.96	36	0.25	3039735	
1992 7 8	8 5 38.71	34 36.30 116 21.05	A	4.4	10.54	76	0.31	3038252	
1992 7 8	11 38 38.89	33 29.05 118 4.66	C	3.5	6.00	100	0.36	3038347	
1992 7 8	15 19 19.43	34 55.46 116 55.45	B	3.0	0.17	14	0.13	3038440	
1992 7 8	15 34 8.19	34 20.82 116 27.77	A	3.6	1.32	30	0.10	3038445	
1992 7 8	16 49 14.36	35 14.03 116 53.44	A	3.7	0.00	79	0.25	3038464	

DATE			TIME			LOCATION			Q	MAG	Z	PHS	RMS	CUSPID	FM
1992	7	8	17	47	13.71	33	29.31	118	4.92	C	3.4	6.00	98	0.30	3038989	
1992	7	8	18	19	12.36	34	17.58	116	28.79	A	3.2	0.81	75	0.24	3039300	
1992	7	8	19	34	48.87	35	0.39	116	57.72	A	3.1	5.02	35	0.19	3039692	
1992	7	8	21	25	15.31	35	10.06	116	48.88	A	3.0	0.01	44	0.25	3039766	
1992	7	8	23	0	25.24	33	10.98	115	35.94	A	3.6	4.78	40	0.26	3039804	
1992	7	8	23	58	22.60	34	14.05	116	50.16	A	3.4	0.00	51	0.19	3039838	
1992	7	9	0	20	46.40	34	42.83	116	34.61	A	3.0	0.51	44	0.18	3039848	
1992	7	9	1	43	57.60	34	14.33	116	50.23	A	4.9	0.01	143	0.24	3039881	
1992	7	9	2	27	43.25	34	38.64	116	39.24	A	3.1	4.82	54	0.19	3039890	
1992	7	9	2	34	35.04	34	13.48	116	50.65	A	4.1	0.67	110	0.22	3039891	
1992	7	9	2	34	36.41	34	8.46	116	25.38	A	3.3	0.01	19	0.18	3040289	
1992	7	9	2	37	24.44	34	13.64	116	50.68	A	3.9	0.01	90	0.22	3040288	
1992	7	9	2	40	53.09	34	13.70	116	49.97	A	3.1	1.00	25	0.16	3039892	
1992	7	9	2	41	53.01	34	13.44	116	50.65	A	3.4	1.28	40	0.18	3039894	
1992	7	9	2	43	38.73	34	13.80	116	49.81	A	3.5	0.39	74	0.20	3039895	
1992	7	9	2	56	50.57	34	13.57	116	50.81	A	3.1	0.32	71	0.17	3039899	
1992	7	9	2	56	54.29	34	13.62	116	51.05	A	3.8	0.01	71	0.23	3040313	
1992	7	9	3	14	18.17	34	25.53	116	28.95	A	3.1	1.81	49	0.18	3039906	
1992	7	9	6	3	28.97	34	13.94	116	49.73	A	3.8	0.51	83	0.17	3039963	
1992	7	9	7	41	45.97	34	17.18	116	40.95	A	3.0	8.64	82	0.42	3039994	
1992	7	9	8	14	54.43	34	1.52	116	21.02	A	3.1	1.15	53	0.19	3040330	
1992	7	9	12	23	17.83	34	12.98	116	48.47	A	3.6	1.25	37	0.14	3040107	
1992	7	9	15	59	5.11	34	41.88	116	38.51	A	3.1	10.54	26	0.11	3040180	
1992	7	9	17	8	59.65	34	9.13	116	32.59	A	3.3	8.59	37	0.13	3040203	
1992	7	10	1	14	54.17	34	6.04	116	26.05	A	3.1	3.31	66	0.24	3040401	
1992	7	10	1	29	40.00	34	13.91	116	50.74	A	4.2	0.53	117	0.20	3040406	
1992	7	10	1	32	2.41	34	19.89	116	38.85	A	3.0	0.00	47	0.26	3040429	
1992	7	10	1	56	37.79	34	13.70	116	49.16	A	3.3	0.08	79	0.19	3040417	
1992	7	10	3	40	15.35	34	19.52	116	39.09	A	3.0	1.17	77	0.19	3040449	
1992	7	10	5	48	43.24	34	6.50	116	24.01	A	3.3	3.63	80	0.24	3040486	
1992	7	10	6	1	37.26	34	59.89	116	57.49	A	3.3	5.04	88	0.21	3040488	
1992	7	10	7	52	12.34	34	18.82	116	27.46	A	3.2	5.22	82	0.23	3040526	
1992	7	10	9	45	46.84	34	26.59	116	29.89	A	3.1	1.74	54	0.13	3040563	
1992	7	10	14	23	18.84	34	28.14	116	30.04	A	3.1	0.65	56	0.21	3040658	
1992	7	10	14	51	32.20	34	12.20	116	48.38	A	3.2	3.12	65	0.15	3040663	
1992	7	10	16	1	37.49	34	28.14	116	30.37	A	3.4	1.89	37	0.11	3040693	
1992	7	10	16	14	2.77	34	57.56	116	47.23	A	3.4	2.31	30	0.16	3040696	
1992	7	10	16	48	22.03	34	57.58	116	55.94	A	3.7	3.44	24	0.15	3040706	
1992	7	10	17	43	31.83	34	52.28	116	40.71	A	3.1	0.01	22	0.16	3040727	
1992	7	10	19	6	27.98	34	39.08	116	27.47	B	3.1	0.81	29	0.21	3041441	
1992	7	10	23	55	51.60	34	37.62	116	32.72	A	3.3	2.79	61	0.19	3041060	
1992	7	11	18	7	7.31	34	28.32	116	31.35	A	3.4	0.01	20	0.08	3041387	
1992	7	11	18	14	16.15	35	12.59	118	3.94	A	5.7	10.68	83	0.19	3041390	10
1992	7	11	19	45	22.53	34	11.41	116	48.07	A	3.2	2.42	27	0.13	3041415	
1992	7	12	3	46	6.29	36	7.11	117	51.11	A	3.8	18.00	1	0.00	3041558	
1992	7	12	5	35	13.44	34	33.08	116	32.13	A	3.9	8.72	70	0.19	3041594	
1992	7	12	7	0	18.40	34	7.88	117	0.37	A	3.3	4.20	72	0.17	3041614	
1992	7	12	8	38	31.64	35	3.08	116	59.07	A	3.1	1.13	37	0.19	3041636	
1992	7	12	10	35	40.68	34	55.71	116	46.57	C	3.1	6.00	45	0.15	3041657	
1992	7	12	11	13	27.33	34	33.10	116	31.99	A	3.0	9.97	45	0.14	3041669	
1992	7	12	13	40	4.50	34	24.01	116	28.36	A	3.1	0.47	36	0.16	3041712	
1992	7	12	16	36	14.06	34	14.70	116	26.30	A	3.3	3.59	77	0.18	3041761	
1992	7	12	22	36	50.85	34	15.85	116	27.27	A	3.6	5.38	83	0.16	3041872	
1992	7	12	23	9	29.40	34	4.37	116	24.76	A	3.0	0.01	55	0.19	3041880	
1992	7	12	23	18	20.81	34	1.92	116	21.77	A	3.2	1.73	33	0.21	3042122	
1992	7	12	23	19	2.51	34	58.82	116	56.41	A	3.0	3.64	31	0.16	3041881	
1992	7	12	23	48	0.59	34	58.72	116	56.73	A	3.0	4.07	35	0.18	3041889	
1992	7	13	0	11	51.08	34	19.56	116	40.34	A	3.9	0.00	81	0.15	3041900	
1992	7	13	5	0	0.80	34	5.20	116	24.57	A	3.8	3.27	74	0.21	3041981	
1992	7	13	8	25	37.73	35	59.63	118	21.67	A	3.5	0.10	37	0.18	3042035	
1992	7	13	10	8	58.72	34	58.81	116	56.92	A	3.9	4.29	25	0.62	3042059	
1992	7	13	10	9	18.05	34	58.52	116	56.24	A	3.7	2.81	37	0.13	3042202	
1992	7	14	0	24	59.09	35	59.25	118	21.88	A	3.6	0.02	71	0.19	3042346	
1992	7	14	3	43	53.63	34	11.55	116	26.07	A	3.3	0.68	63	0.22	3042403	
1992	7	14	12	41	55.03	34	36.03	116	37.60	A	3.2	3.63	51	0.18	3042553	
1992	7	14	13	4	2.65	34	11.19	116	48.06	A	3.5	1.70	48	0.15	3042555	

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1992	7	14	15	9	15.69	34	13.14	116	46.22	A	3.7	2.06	55	0.14	3042589	
1992	7	14	15	9	57.06	34	12.93	116	46.00	A	3.2	4.90	14	0.10	3042677	
1992	7	14	16	15	35.42	34	58.75	116	56.26	A	3.1	0.35	76	0.24	3042605	
1992	7	14	17	24	37.05	34	14.53	116	27.52	C	3.3	2.21	75	0.20	3042621	
1992	7	14	20	36	51.51	34	38.70	116	38.63	A	3.8	7.12	90	0.18	3042689	
1992	7	14	20	46	43.03	34	14.78	116	26.39	B	3.2	6.04	68	0.18	3042690	
1992	7	14	22	33	13.06	33	56.20	116	23.81	A	3.1	0.00	69	0.19	3042732	
1992	7	15	0	18	56.88	34	19.93	116	27.66	A	3.9	0.02	92	0.19	3042764	
1992	7	15	1	5	9.35	35	46.01	117	43.18	B	3.7	7.75	15	0.15	3042775	
1992	7	15	4	5	20.29	34	16.52	116	41.60	A	3.1	4.68	39	0.13	3042834	
1992	7	15	10	56	54.67	34	58.50	116	56.78	A	3.2	4.26	27	0.18	3042933	
1992	7	15	12	45	20.95	34	7.02	116	22.53	A	3.8	1.73	45	0.18	3042953	
1992	7	16	1	37	51.16	34	25.05	116	28.10	A	3.6	2.40	44	0.19	3043345	
1992	7	16	1	39	27.78	33	56.23	116	18.56	A	3.4	1.45	84	0.22	3043301	
1992	7	16	11	38	11.66	33	52.92	116	14.82	A	3.2	4.69	13	0.18	3045626	
1992	7	16	11	38	48.39	34	8.48	116	43.26	B	3.3	6.42	83	0.17	3043457	
1992	7	16	17	19	17.38	34	26.60	116	27.18	A	3.8	2.74	91	0.20	3043567	
1992	7	16	21	58	21.05	34	56.29	116	55.33	A	3.7	0.33	88	0.22	3043675	
1992	7	16	22	28	5.75	35	14.14	116	52.90	A	3.4	0.02	62	0.21	3043683	
1992	7	17	4	48	10.06	35	8.23	116	49.86	A	3.2	0.00	73	0.24	3043806	
1992	7	17	17	4	51.96	34	28.60	116	30.26	A	3.1	3.70	49	0.15	3044040	
1992	7	17	17	46	41.95	34	1.84	116	25.82	A	3.2	8.94	82	0.19	3044058	
1992	7	17	21	38	31.47	34	32.68	116	32.57	A	3.2	5.01	63	0.17	3044119	
1992	7	18	0	6	11.24	34	5.74	116	25.02	A	4.0	2.62	56	0.15	3044164	
1992	7	18	0	36	16.96	34	4.02	116	23.05	A	3.4	2.92	74	0.22	3044169	
1992	7	18	1	1	15.06	34	5.98	116	23.97	A	3.5	3.71	74	0.20	3044172	
1992	7	18	1	6	18.56	34	55.94	116	54.86	A	3.0	0.51	43	0.19	3044174	
1992	7	18	2	13	18.11	34	58.46	116	55.99	A	3.3	4.37	39	0.14	3044190	
1992	7	18	4	0	23.47	34	58.75	116	56.16	A	3.1	3.57	38	0.13	3044213	
1992	7	18	6	49	26.96	35	1.94	116	58.42	A	3.0	3.95	35	0.19	3044257	
1992	7	18	9	4	6.77	34	58.76	116	56.39	A	3.2	4.91	41	0.19	3044292	
1992	7	18	12	0	52.45	34	24.47	116	25.41	A	3.3	0.53	70	0.15	3044333	
1992	7	18	16	40	8.19	33	59.37	117	33.30	A	3.2	2.96	41	0.17	3044409	
1992	7	18	20	9	4.76	34	19.11	116	24.70	B	3.1	0.34	54	0.16	3044455	
1992	7	18	22	14	4.97	34	16.66	116	43.80	A	3.0	0.97	61	0.15	3044484	
1992	7	19	12	44	16.28	34	55.86	116	54.84	A	3.6	0.00	70	0.22	3044693	
1992	7	19	16	22	50.05	34	32.44	116	32.46	A	3.0	4.11	53	0.18	3044748	
1992	7	19	19	35	19.48	35	0.46	116	47.18	A	3.1	0.01	39	0.23	3044794	
1992	7	20	0	37	28.56	35	1.78	116	58.34	A	3.5	3.99	39	0.18	3044835	
1992	7	20	4	8	22.57	34	11.89	116	25.91	A	4.1	0.41	60	0.22	3044893	
1992	7	20	4	48	1.51	34	58.27	116	56.32	A	4.6	4.59	70	0.20	3044898	
1992	7	20	6	9	25.26	34	58.13	116	56.40	A	3.1	4.77	37	0.19	3044925	
1992	7	20	6	16	34.08	34	6.76	116	43.38	A	3.4	11.10	63	0.17	3044929	
1992	7	20	7	10	13.15	34	17.01	116	26.54	A	3.6	0.00	62	0.16	3044944	
1992	7	20	8	45	49.00	34	3.33	116	22.73	A	3.2	3.04	46	0.18	3044960	
1992	7	20	10	35	11.53	34	58.66	116	56.48	A	3.7	4.45	45	0.20	3044984	
1992	7	20	13	13	19.42	34	59.51	116	56.87	A	4.6	0.02	89	0.21	3045013	
1992	7	20	15	36	6.13	33	59.71	117	33.23	A	3.1	2.92	42	0.18	3045040	
1992	7	20	23	4	11.22	34	30.83	116	31.92	A	3.3	0.01	79	0.18	3045146	
1992	7	21	6	1	59.00	34	57.91	116	56.00	A	3.2	0.02	70	0.24	3045271	
1992	7	21	9	22	16.73	32	50.78	118	25.91	C	3.0	6.00	43	0.39	3045313	
1992	7	21	12	21	37.07	34	57.67	116	56.17	A	3.1	2.67	12	0.14	3045367	
1992	7	21	12	21	38.59	34	59.19	116	56.44	A	3.0	0.95	51	0.18	3045599	
1992	7	21	13	30	1.72	34	9.00	116	50.83	A	3.7	11.88	69	0.17	3045384	
1992	7	21	18	0	50.77	33	56.45	116	20.72	A	3.3	4.35	50	0.18	3045453	
1992	7	21	21	10	29.03	34	13.13	116	46.26	A	4.1	1.86	102	0.18	3045519	
1992	7	21	21	12	45.04	34	12.99	116	46.26	A	3.3	1.93	66	0.15	3045554	
1992	7	21	22	3	36.59	32	48.76	118	28.46	C	3.9	6.00	60	0.42	3045582	
1992	7	21	23	22	10.15	34	7.99	116	36.14	A	3.9	1.72	87	0.18	3045548	
1992	7	22	4	13	56.48	34	20.98	116	28.84	A	3.1	0.01	65	0.14	3045630	
1992	7	22	5	28	55.32	34	34.40	116	32.67	A	3.1	5.06	59	0.16	3045652	
1992	7	22	7	10	4.29	34	18.79	116	28.73	A	3.1	1.71	58	0.17	3045683	
1992	7	22	10	41	58.00	34	6.69	116	55.07	C	3.1	5.51	68	0.17	3045738	
1992	7	22	18	56	37.58	34	18.37	116	59.77	A	3.1	6.89	86	0.18	3045879	
1992	7	22	20	18	26.27	35	59.71	118	22.05	A	3.1	0.01	55	0.20	3049320	
1992	7	22	22	19	11.37	34	59.80	116	57.20	A	3.4	4.92	64	0.19	3045942	

DATE			TIME			LOCATION				Q	MAG	Z	PHS	RMS	CUSPID	FM
1992	7	23	2	8	12.03	34	8.16	116	51.87	A	3.1	12.26	122	0.27	3046010	
1992	7	23	5	52	14.38	35	38.00	117	38.16	A	3.2	5.15	49	0.19	3046073	
1992	7	23	6	39	0.58	35	1.59	116	49.81	A	3.1	1.67	51	0.22	3046086	
1992	7	23	7	37	25.64	34	10.42	116	48.33	B	3.5	6.10	108	0.18	3046103	
1992	7	23	12	51	6.51	34	3.75	116	24.60	A	3.0	0.10	53	0.18	3046169	
1992	7	23	22	42	6.17	34	5.06	116	51.22	A	3.2	2.41	63	0.17	3046344	
1992	7	23	23	5	7.95	34	5.08	116	51.25	A	3.5	2.56	80	0.20	3046349	
1992	7	24	6	37	37.74	34	19.46	116	38.19	A	3.0	3.13	61	0.15	3046488	
1992	7	24	7	23	56.05	34	29.31	116	28.95	A	4.0	8.97	92	0.21	3046496	
1992	7	24	12	19	25.16	34	56.92	116	53.95	A	3.5	3.68	121	0.23	3046562	
1992	7	24	12	26	10.18	34	11.60	116	52.10	A	3.1	4.32	115	0.18	3046563	
1992	7	24	18	14	36.23	33	54.11	116	17.04	A	4.9	9.08	169	0.25	3046661	
1992	7	24	18	16	53.28	33	54.22	116	17.36	A	3.3	7.07	45	0.16	3047952	
1992	7	24	18	21	24.23	33	54.09	116	17.14	A	3.4	8.88	64	0.15	3046662	
1992	7	24	18	21	45.34	33	53.72	116	18.27	C	3.4	7.01	9	0.04	3047675	
1992	7	24	22	31	49.34	34	16.82	116	46.63	A	3.2	2.50	70	0.18	3046731	
1992	7	25	0	35	29.19	34	16.30	116	43.56	A	3.1	1.63	70	0.17	3046765	
1992	7	25	4	11	47.34	34	4.78	116	22.60	A	3.2	0.01	69	0.19	3046816	
1992	7	25	4	31	59.97	33	56.23	116	18.33	A	4.9	5.85	139	0.26	3046818	
1992	7	25	6	35	54.59	34	11.64	116	25.85	A	3.2	0.00	55	0.19	3046851	
1992	7	25	8	20	12.81	34	58.59	116	56.43	A	3.6	0.02	17	0.14	3046876	
1992	7	25	8	21	40.38	34	6.63	116	55.14	A	3.4	6.07	87	0.19	3047103	
1992	7	25	10	23	19.84	34	52.67	116	38.73	A	3.2	0.12	45	0.19	3046906	
1992	7	25	10	27	10.40	34	16.00	116	54.98	A	3.9	5.32	100	0.19	3046907	
1992	7	25	12	37	9.45	34	56.80	116	44.79	A	3.0	0.01	39	0.20	3047035	
1992	7	25	12	41	42.55	33	54.08	116	17.35	A	3.1	6.16	53	0.16	3046937	
1992	7	25	15	11	14.29	35	57.75	116	43.66	C	3.6	6.00	27	0.21	3046985	
1992	7	25	17	2	20.24	33	56.45	116	18.21	A	3.9	6.45	154	0.25	3047019	
1992	7	25	19	1	53.76	32	25.51	115	16.87	C	3.1	6.00	22	0.44	3047047	
1992	7	26	0	18	50.30	32	25.21	115	16.66	C	3.2	6.00	18	0.32	3049480	
1992	7	26	11	19	58.20	33	54.01	116	16.93	A	3.0	6.25	53	0.16	3047296	
1992	7	26	19	25	2.83	34	24.53	116	29.15	A	3.1	0.21	31	0.22	3047423	
1992	7	26	19	26	2.68	34	18.82	116	27.02	C	3.3	5.54	67	0.15	3047800	
1992	7	26	19	53	35.87	34	59.02	116	56.74	A	3.1	0.01	41	0.17	3047808	
1992	7	27	4	33	5.48	33	26.07	117	58.74	C	3.0	6.00	19	0.24	3047541	
1992	7	27	11	12	13.85	34	14.36	116	50.14	A	3.1	3.43	68	0.18	3047641	
1992	7	27	20	37	0.70	34	58.02	116	56.33	A	3.3	4.14	95	0.20	3047809	
1992	7	27	20	40	8.79	32	36.73	115	37.67	A	4.1	15.94	63	0.44	3047812	11
1992	7	27	22	10	59.79	36	5.07	117	40.72	A	4.1	1.15	64	0.19	3047839	12
1992	7	27	22	17	14.87	34	17.61	116	51.86	A	3.3	5.51	93	0.17	3047843	
1992	7	27	22	54	35.02	32	36.80	115	37.49	A	3.0	15.06	31	0.35	3047853	
1992	7	28	5	40	10.34	34	21.05	116	26.87	A	3.1	0.00	63	0.18	3047956	
1992	7	28	17	41	8.97	34	26.82	116	29.02	A	3.0	1.43	43	0.12	3048156	
1992	7	28	18	27	3.88	34	6.74	116	24.88	A	4.6	0.01	142	0.19	3048163	
1992	7	29	0	32	40.91	34	2.90	116	24.19	A	3.1	4.47	84	0.22	3048298	
1992	7	29	1	4	8.72	34	7.01	116	25.16	A	3.1	0.00	71	0.20	3048307	
1992	7	29	7	43	59.76	34	37.67	116	39.85	A	3.1	3.17	65	0.22	3048415	
1992	7	29	13	20	44.56	35	17.08	116	51.80	A	3.2	0.00	27	0.18	3048505	
1992	7	29	13	33	22.59	34	19.60	116	27.07	A	3.5	1.35	36	0.13	3048508	
1992	7	29	13	34	43.73	34	12.16	116	51.78	A	3.3	2.57	66	0.16	3048929	
1992	7	29	16	48	59.20	34	21.17	116	28.06	C	3.0	6.49	44	0.13	3048571	
1992	7	29	17	1	11.04	34	34.18	116	32.69	A	3.0	4.73	69	0.18	3048936	
1992	7	29	17	1	11.07	34	34.14	116	32.68	A	3.0	4.84	48	0.16	3048575	
1992	7	29	17	39	26.77	35	17.23	116	51.89	A	3.4	0.00	36	0.18	3048584	
1992	7	30	7	40	15.36	34	23.63	116	27.42	A	3.2	3.52	68	0.19	3048833	
1992	7	30	20	59	51.80	33	55.10	116	17.80	A	3.0	2.91	55	0.16	3049016	
1992	7	30	21	8	20.90	33	56.45	116	21.35	A	3.4	7.25	65	0.19	3049019	
1992	7	31	6	3	14.38	35	45.59	117	37.22	A	3.6	12.47	41	0.15	3049150	
1992	7	31	6	20	19.35	34	2.37	116	21.21	A	3.0	0.65	77	0.19	3049155	
1992	7	31	8	48	46.97	35	23.57	117	43.68	A	3.4	9.22	45	0.21	3049182	
1992	7	31	10	51	25.90	34	7.73	116	52.49	B	3.3	6.01	68	0.15	3049208	
1992	7	31	11	29	54.16	34	26.66	116	27.32	A	3.5	3.45	53	0.12	3049214	
1992	7	31	14	27	29.15	34	56.27	116	55.45	A	3.0	0.01	33	0.22	3049246	
1992	7	31	16	30	45.00	34	36.01	116	37.36	A	3.5	5.29	7	0.09	3049305	
1992	7	31	16	31	1.84	34	20.19	116	53.89	A	3.6	1.34	93	0.19	3049275	
1992	7	31	18	3	52.40	34	5.96	116	25.12	A	3.7	0.07	81	0.19	3049302	

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1992	7	31	18	21	18.76	34	6.25	116	25.22	A	3.1	0.12	63	0.17	3049303	
1992	7	31	22	37	16.93	34	19.55	116	27.28	A	3.6	7.57	82	0.16	3049370	
1992	7	24	19	2	45.87	35	48.49	116	40.42	D	3.2	13.29	16	0.18	3084447	
1992	8	1	4	57	6.93	34	7.17	116	23.61	A	3.3	1.54	69	0.21	3049458	
1992	8	1	8	38	16.46	33	56.84	116	18.69	A	3.1	4.42	43	0.18	3049510	
1992	8	1	14	40	53.06	34	21.98	116	27.35	A	3.3	1.13	77	0.20	3049586	
1992	8	4	5	50	27.47	33	57.03	116	51.12	A	3.1	7.83	41	0.15	3050459	
1992	8	4	9	59	40.09	36	4.91	117	41.08	A	3.6	1.18	40	0.18	3050524	
1992	8	4	19	6	12.28	34	6.13	116	22.97	A	4.0	0.01	75	0.20	3050647	
1992	8	4	21	53	23.06	34	5.10	116	22.81	A	3.2	0.01	45	0.18	3050700	
1992	8	5	4	56	43.32	32	22.72	115	14.78	D	3.0	6.00	17	0.32	3050827	
1992	8	5	6	19	59.67	35	7.38	116	48.59	A	3.2	0.01	50	0.22	3050853	
1992	8	5	12	49	6.40	34	2.38	116	21.67	A	3.3	1.31	21	0.16	3050942	
1992	8	5	15	5	7.53	34	2.33	116	21.42	A	3.1	1.36	63	0.18	3051130	
1992	8	5	15	41	54.36	34	38.79	116	31.74	A	3.1	4.21	82	0.21	3051552	
1992	8	5	17	0	18.82	34	30.95	116	30.96	C	3.2	5.87	56	0.18	3051001	
1992	8	5	17	26	10.95	34	5.88	116	26.92	B	3.6	8.43	51	0.17	3051004	
1992	8	5	20	3	56.52	34	16.22	116	52.08	A	3.2	5.04	55	0.15	3051038	
1992	8	5	22	22	40.82	34	58.74	116	57.13	A	4.8	0.00	119	0.22	3051065	
1992	8	6	2	6	32.01	35	39.99	117	37.43	C	3.1	5.97	36	0.17	3051119	
1992	8	6	2	21	6.59	34	7.39	118	15.63	A	3.1	11.70	56	0.17	3051120	
1992	8	6	13	14	43.11	34	20.66	116	27.17	A	3.1	4.33	100	0.18	3051256	
1992	8	6	14	49	18.78	34	37.73	116	37.71	A	3.1	8.49	84	0.20	3051283	
1992	8	6	16	50	59.98	35	1.55	116	58.05	A	4.0	4.80	101	0.19	3051305	
1992	8	6	17	23	7.82	34	36.09	116	34.42	A	3.5	9.34	79	0.20	3051512	
1992	8	7	2	4	24.71	34	6.91	116	23.41	A	3.2	0.97	88	0.24	3051639	
1992	8	7	2	11	33.01	34	6.75	116	23.59	A	3.1	0.01	68	0.16	3051641	
1992	8	7	2	21	30.82	34	6.27	116	23.18	B	3.4	3.33	7	0.14	3052322	
1992	8	7	19	4	8.53	34	13.15	116	44.63	A	3.4	2.37	60	0.15	3051871	
1992	8	8	15	37	43.34	34	22.60	116	27.49	A	4.4	2.84	80	0.15	3052180	
1992	8	8	23	46	57.35	34	56.78	116	55.58	A	3.2	0.00	72	0.19	3052291	
1992	8	9	4	57	31.14	35	0.88	116	57.82	A	3.2	0.00	66	0.19	3052358	
1992	8	9	8	45	49.75	34	35.77	116	37.77	A	3.5	4.58	9	0.15	3052398	
1992	8	10	2	6	0.48	34	58.53	116	57.21	A	3.2	0.17	73	0.23	3052616	
1992	8	10	19	44	47.28	34	0.05	116	19.07	B	3.2	7.69	14	0.11	3053567	
1992	8	11	6	11	17.25	34	3.64	116	22.42	A	4.3	0.75	100	0.24	3052987	
1992	8	11	11	28	39.55	34	37.50	116	36.50	A	3.4	5.00	85	0.23	3053037	
1992	8	11	23	8	25.00	34	14.86	116	25.99	A	3.5	3.21	80	0.17	3053187	
1992	8	11	23	27	29.50	34	14.88	116	25.89	A	3.7	3.67	97	0.23	3053192	
1992	8	12	3	26	21.69	33	3.87	116	36.94	A	3.1	15.47	48	0.25	3053239	
1992	8	12	3	26	36.22	33	3.92	116	36.86	B	3.3	23.58	34	0.26	3053268	
1992	8	12	15	12	1.65	34	6.71	116	59.49	A	3.4	4.20	102	0.25	3053417	
1992	8	13	7	25	26.48	34	6.90	116	59.17	A	3.1	4.47	72	0.16	3053641	
1992	8	13	8	14	22.37	34	37.41	116	39.92	A	3.3	5.69	66	0.16	3053652	
1992	8	13	9	45	23.79	34	38.61	116	31.03	C	3.1	5.54	65	0.16	3053660	
1992	8	13	19	53	41.23	34	37.13	116	39.65	A	3.3	4.37	57	0.19	3053775	
1992	8	14	1	31	6.53	34	13.90	116	51.20	A	3.1	11.00	69	0.15	3053850	
1992	8	14	10	50	10.37	34	6.23	116	26.53	A	3.2	9.34	93	0.23	3054091	
1992	8	14	14	43	44.50	34	5.40	116	22.07	A	3.9	0.95	87	0.20	3054010	
1992	8	14	23	25	1.91	34	25.03	116	30.23	A	3.1	1.47	78	0.15	3054168	
1992	8	15	0	19	22.56	33	55.80	116	18.34	A	3.5	4.86	89	0.16	3054179	
1992	8	15	2	57	22.37	34	26.74	116	29.52	A	3.1	1.28	75	0.11	3054212	
1992	8	15	6	12	1.80	32	40.98	115	55.52	A	3.0	1.23	40	0.28	3054259	
1992	8	15	7	37	31.36	34	21.49	116	27.28	A	3.1	0.70	62	0.18	3054283	
1992	8	15	8	24	14.66	34	5.26	116	24.12	A	4.8	0.61	76	0.21	3054293	
1992	8	15	8	54	34.36	34	25.21	116	28.66	A	3.4	9.56	72	0.14	3054300	
1992	8	15	9	27	13.23	34	5.49	116	24.06	A	3.3	0.26	75	0.21	3054302	
1992	8	15	13	34	24.57	34	58.37	116	57.70	A	3.1	0.01	59	0.20	3054355	
1992	8	15	16	47	30.65	34	36.52	116	38.31	A	3.2	6.17	64	0.17	3054396	
1992	8	15	18	18	6.18	34	6.93	116	59.30	A	3.6	4.15	75	0.19	3054415	
1992	8	15	19	9	6.20	34	6.82	116	59.44	A	3.4	4.66	50	0.15	3054427	
1992	8	16	6	15	50.99	34	25.22	116	28.60	A	3.2	3.05	53	0.14	3054581	
1992	8	16	6	30	59.51	34	1.79	116	40.62	A	3.8	10.23	77	0.15	3054583	
1992	8	17	4	20	9.13	34	47.17	116	34.92	B	3.2	8.26	46	0.17	3054824	
1992	8	17	12	49	42.07	34	5.42	116	25.70	A	3.1	2.59	52	0.20	3054931	
1992	8	17	18	39	54.96	34	7.34	116	23.62	A	3.3	1.56	58	0.18	3055006	

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1992	8	17	20	41	52.10	34	11.70	116	51.73	A	5.2	11.73	141	0.20	3055028	
1992	8	17	20	55	27.69	34	11.96	116	52.45	A	3.0	11.89	70	0.17	3055033	
1992	8	17	21	1	33.50	34	11.64	116	52.62	A	3.6	12.18	107	0.17	3055035	
1992	8	17	22	4	28.06	34	3.09	116	23.05	A	3.2	1.44	52	0.20	3055149	
1992	8	18	9	46	40.70	34	11.85	116	51.70	A	4.2	12.82	138	0.21	3055197	
1992	8	19	3	10	7.36	34	29.84	116	31.06	A	3.1	1.15	54	0.16	3055426	
1992	8	19	7	50	12.26	34	24.87	116	30.44	A	3.3	3.75	62	0.12	3055470	
1992	8	19	12	4	25.67	34	59.34	116	57.45	A	3.0	0.15	51	0.15	3055513	
1992	8	20	12	36	46.34	34	34.14	116	18.76	A	4.2	0.00	16	0.16	3056124	
1992	8	22	1	52	59.81	34	6.50	116	59.08	A	3.3	3.88	95	0.20	3056221	
1992	8	23	2	55	11.59	34	12.90	116	44.20	A	3.2	2.40	120	0.21	3056472	
1992	8	23	5	30	24.00	34	13.10	116	46.56	A	3.4	2.01	119	0.20	3056494	
1992	8	23	6	40	44.48	35	1.99	116	59.40	A	4.0	4.06	146	0.25	3056509	13
1992	8	23	7	36	6.18	34	8.53	116	50.25	B	3.1	6.03	79	0.13	3056516	
1992	8	23	13	46	4.42	34	6.63	116	59.02	A	3.2	3.79	84	0.17	3056567	
1992	8	23	13	46	24.63	34	6.66	116	59.28	A	3.0	3.61	32	0.16	3056859	
1992	8	23	17	49	31.55	34	7.35	116	44.08	A	3.4	10.53	94	0.18	3056618	
1992	8	23	18	50	59.22	34	9.64	116	49.12	A	3.1	7.20	81	0.14	3056626	
1992	8	24	5	47	10.75	35	40.98	117	36.61	C	3.1	6.00	15	0.16	3056737	
1992	8	24	5	47	44.15	34	16.21	116	24.26	A	3.0	2.26	60	0.17	3056936	
1992	8	24	13	51	46.04	34	16.40	116	46.42	A	4.3	1.84	109	0.17	3056815	
1992	8	24	16	45	33.20	34	11.02	116	48.47	A	3.4	9.57	71	0.12	3056839	
1992	8	24	18	21	42.49	34	16.62	116	46.59	A	3.5	1.53	76	0.15	3056869	
1992	8	24	20	24	43.17	34	56.45	116	47.17	C	3.0	3.52	56	0.17	3056901	
1992	8	26	13	21	57.47	34	3.62	116	22.03	A	3.8	0.01	77	0.17	3057371	
1992	8	26	13	50	49.65	34	6.34	116	59.06	A	3.4	4.11	72	0.16	3057380	
1992	8	26	20	9	19.92	34	30.57	116	31.83	C	3.1	6.00	8	0.06	3057808	
1992	8	26	20	29	1.23	34	56.57	116	47.29	A	3.0	0.61	53	0.19	3057464	
1992	8	27	1	44	37.70	34	56.48	116	47.38	A	3.5	0.76	58	0.19	3057527	
1992	8	27	2	53	35.17	34	58.64	116	58.29	C	3.7	6.00	58	0.23	3057542	
1992	8	28	3	20	5.21	34	16.44	116	46.35	A	3.2	1.53	61	0.14	3057821	
1992	8	28	6	24	20.99	34	36.26	116	38.07	A	3.1	3.62	56	0.18	3057856	
1992	8	28	11	50	45.11	34	7.26	116	58.81	A	3.7	3.73	15	0.25	3059015	
1992	8	28	16	42	20.61	35	1.31	116	57.94	A	3.1	0.01	62	0.16	3057957	
1992	8	28	19	5	5.22	34	37.68	116	33.23	A	3.1	3.64	79	0.20	3057974	
1992	8	29	21	30	0.96	35	1.31	116	58.29	A	3.4	0.01	26	0.27	3058246	
1992	8	30	8	15	12.47	34	0.37	118	22.08	A	3.6	14.35	37	0.21	3058332	
1992	8	31	9	25	40.61	34	27.34	116	28.12	A	4.3	11.30	84	0.21	3058571	
1992	8	31	22	54	24.53	34	59.25	116	56.84	C	3.3	6.00	50	0.18	3058708	
1992	9	1	12	17	24.78	34	35.91	116	19.30	A	3.9	0.01	66	0.21	3059325	
1992	9	1	21	17	57.89	34	15.98	116	46.12	A	3.0	2.94	64	0.15	3058874	
1992	9	2	0	48	41.76	34	19.63	116	27.56	A	3.2	2.96	55	0.13	3058844	
1992	9	2	9	28	21.52	34	6.97	116	59.37	C	3.1	5.50	75	0.17	3058939	
1992	9	3	6	17	38.44	34	22.33	116	26.43	A	3.8	3.49	70	0.14	3059381	
1992	9	4	8	24	2.16	35	0.36	116	57.16	A	3.1	3.66	53	0.14	3059657	
1992	9	4	15	2	58.26	36	8.61	117	52.21	A	3.9	3.01	51	0.20	3059709	
1992	9	5	3	29	27.12	34	5.70	116	24.82	A	3.9	3.45	70	0.17	3059832	
1992	9	5	23	43	14.40	34	15.41	116	26.16	A	3.3	2.94	85	0.17	3060005	
1992	9	6	2	56	11.45	34	27.24	116	31.86	A	3.4	4.26	54	0.09	3060041	
1992	9	6	6	55	32.32	34	1.39	117	11.54	A	3.1	6.23	58	0.13	3060090	
1992	9	6	15	23	53.33	34	58.60	116	57.58	A	3.2	0.01	57	0.21	3060177	
1992	9	6	17	51	6.69	34	1.36	117	11.48	A	3.6	6.00	78	0.14	3060198	
1992	9	6	22	16	53.68	34	1.51	117	11.67	A	3.1	6.29	77	0.15	3060243	
1992	9	6	22	47	29.61	35	0.71	116	57.89	A	3.5	4.10	67	0.20	3060248	
1992	9	7	8	55	30.35	35	6.85	116	39.02	A	3.1	0.01	46	0.15	3060347	
1992	9	7	23	50	59.68	34	13.97	116	50.38	A	3.3	2.79	88	0.16	3060492	
1992	9	8	3	44	32.18	34	6.50	116	58.70	A	3.1	4.23	28	0.12	3060876	
1992	9	8	4	40	2.87	34	11.82	116	25.50	A	3.3	2.44	20	0.14	3060534	
1992	9	8	18	28	17.47	34	30.91	116	32.05	B	3.1	0.96	33	0.12	3060666	
1992	9	9	4	17	11.22	33	59.62	116	20.73	A	3.0	1.18	60	0.18	3060882	
1992	9	9	7	16	48.93	35	4.49	117	0.05	A	3.1	0.65	38	0.22	3060896	
1992	9	9	11	41	36.11	35	4.59	117	0.01	A	3.6	3.37	29	0.21	3060923	
1992	9	9	11	44	55.00	35	4.64	116	59.78	A	4.2	0.60	94	0.24	3060924	
1992	9	9	12	50	45.14	33	56.83	116	19.78	A	4.3	5.28	79	0.20	3060932	
1992	9	9	12	52	56.22	33	57.04	116	19.95	A	3.5	5.13	42	0.16	3060966	
1992	9	9	14	1	28.43	33	56.73	116	20.00	A	3.3	5.89	69	0.19	3060943	

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1992 9 11	18 58 21.92	35 1.88 116 58.35	A	3.7	3.57	70	0.20	3061565	
1992 9 13	13 33 49.91	33 53.57 116 17.09	A	3.3	8.30	47	0.15	3062012	
1992 9 13	23 16 59.05	33 58.63 116 16.25	A	3.1	5.32	62	0.17	3062115	
1992 9 14	7 54 17.47	35 1.87 116 58.37	A	3.2	3.51	64	0.16	3062207	
1992 9 15	8 47 11.27	34 3.83 116 21.64	A	5.2	9.16	171	0.26	3062563	
1992 9 15	9 34 3.48	34 4.19 116 21.59	A	3.0	0.20	77	0.21	3062582	
1992 9 16	6 14 34.10	36 0.63 119 53.19	C	4.2	30.00	67	0.39	3063078	14
1992 9 16	6 15 31.21	36 1.40 119 52.24	C	3.5	18.00	24	0.38	3063274	
1992 9 16	6 37 42.90	36 0.75 119 52.32	C	3.1	14.56	43	0.34	3063085	
1992 9 16	12 27 22.02	34 3.25 116 23.20	A	3.7	0.98	68	0.19	3063225	
1992 9 16	14 31 3.87	34 16.42 116 28.50	B	3.2	7.04	53	0.13	3063266	
1992 9 17	11 22 32.90	34 24.82 116 27.50	A	3.8	9.67	68	0.12	3064031	
1992 9 18	10 52 58.93	34 3.16 116 23.16	A	3.3	1.30	74	0.18	3064456	
1992 9 18	12 51 54.32	34 3.09 116 22.98	A	3.9	1.46	60	0.18	3064484	
1992 9 18	12 53 35.51	34 3.13 116 23.02	A	3.7	1.43	68	0.18	3064607	
1992 9 18	12 54 33.84	34 3.44 116 22.53	C	3.7	5.96	63	0.20	3064608	
1992 9 18	23 9 33.68	35 50.35 117 40.16	A	3.2	8.21	49	0.17	3064659	
1992 9 19	23 5 32.78	34 57.85 116 57.33	A	3.2	6.88	50	0.15	3064987	
1992 9 20	14 19 33.37	33 54.61 116 46.07	A	3.3	18.72	51	0.15	3065257	
1992 9 21	7 35 8.18	36 5.91 117 24.08	A	3.4	0.01	38	0.16	3065442	
1992 9 21	12 40 54.96	33 0.86 117 45.94	C	3.6	6.00	81	0.32	3065582	
1992 9 22	1 43 10.33	34 33.25 116 31.67	A	3.1	4.30	70	0.14	3065738	
1992 9 22	13 21 51.42	34 8.31 116 35.86	A	3.1	1.04	64	0.14	3065839	
1992 9 22	18 52 33.31	35 6.87 116 43.40	A	4.1	7.29	109	0.24	3065895	15
1992 9 23	3 34 36.61	36 8.84 118 7.06	A	3.0	0.01	36	0.16	3065968	
1992 9 23	4 9 46.61	36 9.28 118 6.67	A	3.0	1.81	39	0.10	3065976	
1992 9 23	17 56 6.83	35 0.64 116 57.54	A	3.2	4.09	93	0.24	3066136	
1992 9 23	20 5 7.26	35 5.71 116 43.31	A	3.0	0.02	40	0.18	3066164	
1992 9 24	21 44 26.80	34 20.26 116 40.41	A	3.2	0.01	97	0.18	3066432	
1992 9 25	14 59 13.12	34 16.33 116 26.73	C	3.5	6.00	22	0.31	3067106	
1992 9 27	16 59 14.51	36 1.35 119 51.43	C	4.1	10.00	30	0.52	3067045	
1992 9 28	12 7 26.22	34 7.63 116 23.85	A	3.5	0.89	68	0.17	3067202	
1992 9 28	23 56 24.85	35 31.22 117 29.13	A	3.0	2.59	61	0.20	3067306	
1992 9 29	10 24 35.67	34 58.57 116 56.36	A	3.2	0.01	83	0.20	3067380	
1992 9 29	22 16 46.32	34 3.51 116 22.37	A	3.8	1.24	93	0.19	3067508	
1992 10 1	3 11 27.12	34 58.62 116 56.26	A	3.6	0.01	85	0.21	3067791	
1992 10 1	20 47 36.48	34 21.37 116 26.98	A	3.1	0.97	74	0.15	3067929	
1992 10 2	7 19 57.35	34 36.09 116 38.07	A	4.3	3.52	81	0.20	3068003	
1992 10 2	12 12 14.12	34 36.29 116 37.58	A	3.5	3.74	68	0.20	3068081	
1992 10 2	15 6 18.66	34 36.05 116 37.67	A	3.0	3.05	68	0.20	3068110	
1992 10 2	15 49 16.53	35 1.72 116 59.01	A	3.2	0.59	24	0.24	3068180	
1992 10 2	15 49 56.17	33 58.37 116 23.07	A	3.1	8.35	72	0.16	3068133	
1992 10 2	21 42 18.03	34 2.08 117 11.22	A	3.1	6.21	76	0.14	2060135	
1992 10 3	14 0 27.65	34 47.80 116 17.46	A	3.0	4.26	30	0.16	3068314	
1992 10 4	22 28 40.40	34 57.70 116 56.00	A	3.3	0.06	54	0.21	3068583	
1992 10 5	10 6 26.66	34 24.94 116 28.83	A	3.7	1.35	55	0.11	3068696	
1992 10 5	23 16 3.09	34 22.30 116 25.72	A	3.4	2.86	63	0.13	3068824	
1992 10 6	21 32 4.13	34 11.90 116 26.11	A	3.7	1.13	68	0.16	3069069	
1992 10 7	17 26 17.35	33 11.38 115 36.12	A	3.3	3.25	25	0.21	3069332	
1992 10 8	17 44 59.02	36 5.13 117 40.57	A	3.7	3.32	39	0.18	3069466	
1992 10 11	3 57 54.23	35 59.71 117 52.32	A	3.0	2.97	46	0.19	3069941	
1992 10 11	12 38 12.46	34 56.65 116 47.88	A	4.5	2.83	78	0.18	3069999	
1992 10 11	22 34 54.96	34 56.64 116 48.01	A	3.7	2.52	60	0.17	3070081	
1992 10 12	0 17 36.31	34 56.53 116 48.26	A	3.1	3.17	36	0.17	3070093	
1992 10 13	8 7 17.96	34 34.67 116 19.16	C	3.1	6.00	44	0.21	3070319	
1992 10 13	15 57 3.04	34 37.52 116 40.07	A	3.4	7.49	91	0.17	3070374	
1992 10 14	1 54 13.29	35 4.62 117 0.20	A	3.4	3.80	34	0.18	3070467	
1992 10 16	19 58 16.97	34 36.41 116 19.71	A	3.4	0.00	69	0.16	3071007	
1992 10 16	22 36 9.16	35 1.57 116 57.69	A	3.1	1.06	72	0.19	3071030	
1992 10 17	18 57 52.32	35 4.26 116 59.60	A	3.1	3.00	48	0.21	3071200	
1992 10 17	20 15 55.74	35 4.12 116 59.46	A	3.6	0.28	103	0.23	3071206	
1992 10 17	23 39 0.82	35 4.29 116 59.96	A	3.2	3.34	42	0.18	3071257	
1992 10 18	3 7 18.70	34 21.39 116 27.04	A	3.3	0.04	89	0.21	3071282	
1992 10 18	21 50 40.44	34 36.13 116 40.54	C	3.3	0.02	13	0.15	3071739	
1992 10 20	0 25 44.40	34 15.38 116 26.03	A	3.3	4.83	69	0.16	3071654	
1992 10 20	5 28 9.56	35 55.36 120 28.33	B	4.3	13.26	49	0.36	3071691	16

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1992 10 22	4 23 53.16	33 56.57 116 18.56	A	3.3	5.00	44	0.16	3072062	
1992 10 22	8 39 29.18	33 42.18 117 27.76	A	3.8	10.32	76	0.19	3072095	
1992 10 22	16 21 8.59	34 18.27 116 26.89	A	3.3	0.83	63	0.14	3072162	
1992 10 22	17 51 20.84	33 57.81 116 20.19	A	3.4	5.79	62	0.16	3072175	
1992 10 23	6 35 53.51	33 0.56 117 48.13	C	3.4	6.00	27	0.34	3072293	
1992 10 23	10 37 25.46	34 9.21 116 25.53	A	3.1	2.71	62	0.17	3072316	
1992 10 23	14 15 52.99	34 33.99 116 18.26	A	3.0	0.00	40	0.13	3072343	
1992 10 24	14 23 24.75	34 24.36 116 30.57	A	3.1	1.03	65	0.11	3072528	
1992 10 25	1 23 1.12	33 52.23 118 40.11	A	3.5	13.36	73	0.32	3072612	
1992 10 25	14 54 42.45	34 0.56 116 18.89	A	3.3	9.89	13	0.13	3073737	
1992 10 26	1 48 3.20	34 23.17 116 27.49	A	3.2	2.82	11	0.12	3073604	
1992 10 26	7 44 58.53	34 36.60 116 34.51	A	3.0	8.62	47	0.17	3072841	
1992 10 27	21 22 7.62	34 37.21 116 36.87	A	3.2	4.32	10	0.14	3073236	
1992 10 28	7 51 21.91	34 19.95 116 27.46	A	3.5	8.89	61	0.13	3073242	
1992 10 31	15 53 40.62	33 58.41 116 55.61	A	3.0	4.46	92	0.19	3073837	
1992 11 3	6 0 26.06	32 53.62 115 57.13	A	3.3	9.28	35	0.32	3074255	
1992 11 3	9 28 8.17	34 59.97 116 57.40	A	3.4	7.61	63	0.17	3074286	
1992 11 4	10 29 40.30	34 34.83 116 34.82	A	3.0	7.19	43	0.12	3074474	
1992 11 6	14 47 3.28	34 0.25 116 44.85	A	3.8	19.79	160	0.25	3074958	
1992 11 6	19 38 27.38	33 58.52 116 55.50	B	3.1	6.00	9	0.15	3075217	
1992 11 9	18 55 18.53	34 13.08 116 26.77	A	3.2	3.17	65	0.15	3075482	
1992 11 10	2 24 47.56	33 16.97 116 16.26	A	3.4	1.15	46	0.17	3075564	
1992 11 11	8 41 28.10	34 2.26 116 21.33	A	3.1	0.02	54	0.18	3075775	
1992 11 12	6 22 56.88	34 58.35 116 47.79	A	3.1	2.54	36	0.15	3075925	
1992 11 12	11 8 48.06	35 45.37 117 36.28	A	3.1	4.91	41	0.16	3075947	
1992 11 13	5 45 59.69	34 33.75 115 52.66	C	3.0	6.00	6	0.13	3076077	
1992 11 14	7 1 3.93	34 58.01 116 56.32	A	3.5	4.46	29	0.16	3076491	
1992 11 14	7 17 16.40	34 58.38 116 56.38	A	3.4	4.49	27	0.18	3076493	
1992 11 18	14 10 11.57	34 0.52 117 6.35	A	3.7	12.99	141	0.21	3078242	
1992 11 20	4 20 33.62	32 1.66 116 12.89	D	3.4	6.00	34	0.60	3078805	
1992 11 21	15 11 42.48	35 18.87 118 36.23	A	3.5	3.19	50	0.17	3079016	
1992 11 21	19 3 59.05	35 8.92 117 5.75	B	3.5	7.52	63	0.16	3079045	
1992 11 23	4 1 34.44	34 57.27 116 56.31	A	3.5	4.22	75	0.23	3079225	
1992 11 23	6 7 59.34	34 24.41 116 28.04	A	3.1	3.71	49	0.13	3079235	
1992 11 23	9 7 36.30	34 20.17 116 54.18	A	3.3	1.54	57	0.18	3079240	
1992 11 23	10 50 15.68	34 20.25 116 54.20	A	3.4	2.57	101	0.16	3079249	
1992 11 24	2 24 6.14	34 3.71 116 21.97	A	3.1	3.53	52	0.17	3079361	
1992 11 24	9 6 26.98	34 8.66 116 52.82	A	3.8	9.55	86	0.15	3079392	
1992 11 25	2 40 24.86	35 2.71 116 58.55	A	4.1	3.74	116	0.25	3079533	
1992 11 25	7 50 34.99	34 9.78 116 25.26	A	3.8	1.15	94	0.21	3079557	
1992 11 26	21 41 17.23	34 58.72 116 57.08	A	4.0	0.01	81	0.18	3079813	
1992 11 27	16 0 57.48	34 20.41 116 53.98	A	5.4	1.54	161	0.22	3079915	17
1992 11 27	16 11 11.55	34 21.75 116 53.12	A	3.7	3.66	60	0.16	3079918	
1992 11 27	16 11 53.76	34 21.83 116 53.03	A	3.6	3.32	52	0.17	3079951	
1992 11 27	16 17 15.57	34 20.32 116 53.78	A	3.1	2.57	39	0.16	3079919	
1992 11 27	16 17 30.08	34 20.71 116 54.85	A	3.1	0.21	15	0.19	3080044	
1992 11 27	16 23 48.05	34 21.32 116 53.42	A	3.6	3.97	38	0.14	3079920	
1992 11 27	16 27 50.42	34 20.25 116 53.63	A	3.1	1.80	37	0.14	3079921	
1992 11 27	17 38 45.62	34 21.88 116 53.17	A	3.1	3.53	62	0.18	3080074	
1992 11 27	18 30 39.02	34 20.38 116 53.81	A	3.1	1.55	48	0.15	3080021	
1992 11 27	18 32 24.96	34 21.82 116 54.24	A	4.1	1.04	85	0.19	3080022	
1992 11 27	18 33 1.71	34 22.21 116 54.95	A	3.7	0.00	17	0.20	3080118	
1992 11 27	18 37 49.19	34 21.66 116 54.44	A	3.4	3.09	39	0.15	3080023	
1992 11 27	18 39 18.52	34 21.99 116 54.41	A	3.4	2.95	60	0.18	3080024	
1992 11 27	19 34 37.91	34 20.71 116 54.25	A	3.0	2.77	76	0.18	3080143	
1992 11 27	20 15 20.49	34 20.70 116 54.20	A	3.6	2.94	54	0.15	3080045	
1992 11 27	22 38 26.06	34 20.95 116 53.17	A	3.3	1.47	49	0.16	3080094	
1992 11 27	23 15 45.41	34 22.19 116 52.87	A	3.4	3.40	56	0.16	3080102	
1992 11 28	0 24 29.24	34 22.07 116 52.87	A	3.2	3.54	45	0.16	3080124	
1992 11 28	0 24 43.86	34 21.76 116 54.98	A	3.2	1.85	17	0.18	3080157	
1992 11 28	2 31 37.03	34 21.40 116 53.19	A	3.1	0.00	84	0.20	3080148	
1992 11 28	6 21 14.82	35 4.25 116 59.36	A	3.3	3.23	34	0.15	3080179	
1992 11 28	12 18 22.64	34 23.40 116 27.38	A	3.0	5.62	42	0.11	3080219	
1992 11 29	0 15 4.92	34 21.83 116 55.32	A	3.5	0.01	71	0.18	3080328	
1992 11 29	14 21 20.50	34 22.22 116 52.77	A	4.0	3.40	51	0.13	3080406	
1992 11 29	21 2 53.99	34 8.78 116 52.66	A	3.5	9.30	57	0.15	3080450	

DATE	TIME	LOCATION	Q	MAG	Z	PHS	RMS	CUSPID	FM
1992 11 29	23 53 27.75	34 21.15 116 54.17	A	3.2	4.24	69	0.16	3080469	
1992 11 30	3 6 6.35	34 0.88 117 6.41	A	3.1	9.17	96	0.19	3080494	
1992 11 30	15 29 38.73	34 21.81 116 53.39	A	3.2	3.52	78	0.18	3080554	
1992 11 18	2 12 21.83	34 28.80 116 28.77	B	4.1	2.05	11	0.14	3078150	
1992 12 1	17 49 45.47	35 3.66 116 59.31	A	3.1	4.86	22	0.14	3080740	
1992 12 2	5 42 6.22	34 21.36 116 54.04	A	3.2	4.49	69	0.16	3081027	
1992 12 4	2 8 57.50	34 22.12 116 53.85	A	5.1	3.09	149	0.22	3081404	
1992 12 4	2 13 46.04	34 21.68 116 53.96	A	3.3	4.36	8	0.11	3081434	
1992 12 4	2 13 48.52	34 21.55 116 55.27	A	3.2	0.90	34	0.15	3081406	
1992 12 4	3 14 38.33	34 21.76 116 55.42	A	3.1	1.79	47	0.14	3081469	
1992 12 4	3 25 41.85	34 22.34 116 54.36	A	3.1	2.78	67	0.15	3081425	
1992 12 4	5 25 7.44	34 22.39 116 54.68	A	3.5	3.61	36	0.14	3081485	
1992 12 4	5 25 11.22	34 22.61 116 55.09	A	4.5	2.90	155	0.24	3081464	
1992 12 4	12 59 42.10	34 21.68 116 54.80	A	4.0	0.67	129	0.21	3081531	
1992 12 5	2 52 57.37	36 24.97 120 4.00	C	3.4	6.00	23	0.23	3081642	
1992 12 5	5 20 35.59	34 21.77 116 55.31	A	3.2	3.12	39	0.14	3081659	
1992 12 5	18 28 16.28	35 3.58 116 59.38	A	3.2	3.56	75	0.20	3081748	
1992 12 6	2 40 50.80	34 8.87 116 25.62	A	3.1	5.21	55	0.16	3081812	
1992 12 7	0 49 23.58	34 22.65 116 54.05	A	3.2	3.38	82	0.17	3081964	
1992 12 7	3 31 2.16	34 21.76 116 55.68	A	3.1	0.82	53	0.14	3081989	
1992 12 7	3 33 31.47	34 21.73 116 55.37	A	3.9	1.07	73	0.15	3081990	
1992 12 7	7 50 33.30	35 4.09 116 59.51	A	3.7	3.60	77	0.21	3082026	
1992 12 7	17 58 9.25	33 16.96 116 4.73	C	3.1	6.00	7	0.26	3082090	
1992 12 8	20 6 35.38	34 30.91 116 32.04	A	3.0	0.01	44	0.14	3082298	
1992 12 9	3 39 34.50	34 21.20 116 54.22	A	3.2	3.87	55	0.15	3082362	
1992 12 9	19 47 7.54	34 18.59 116 25.91	A	3.2	7.58	80	0.12	3082466	
1992 12 10	0 2 12.04	34 33.98 116 33.21	A	3.0	5.10	68	0.19	3082514	
1992 12 10	1 3 14.63	35 44.25 116 32.54	C	3.2	6.00	35	0.24	3082522	
1992 12 10	2 26 27.51	34 58.28 116 56.01	A	3.4	0.01	81	0.21	3082527	
1992 12 10	18 23 34.37	34 9.13 116 24.75	C	3.4	5.50	70	0.14	3082607	
1992 12 11	0 45 9.59	34 22.54 116 52.45	A	3.0	3.10	72	0.17	3082654	
1992 12 11	1 38 34.21	34 16.31 116 24.16	A	3.9	2.78	75	0.16	3082658	
1992 12 12	0 31 44.42	34 21.38 116 53.75	A	3.4	4.54	40	0.12	3082801	
1992 12 12	5 36 19.83	34 16.53 116 24.32	A	3.1	2.92	56	0.14	3082832	
1992 12 13	4 14 3.66	34 58.87 116 56.78	A	3.7	4.20	67	0.18	3082940	
1992 12 13	5 30 58.39	34 0.95 116 20.63	A	3.1	1.26	51	0.17	3082942	
1992 12 14	1 15 55.52	34 18.50 116 24.95	B	3.0	5.75	7	0.06	3083039	
1992 12 14	9 58 55.22	34 57.17 116 56.64	A	3.2	0.00	21	0.11	3083079	
1992 12 14	17 46 57.34	34 20.44 116 54.71	A	3.0	2.57	63	0.17	3083131	
1992 12 14	19 52 8.29	34 58.52 116 47.86	A	3.2	1.45	45	0.19	3083137	
1992 12 15	20 7 2.94	34 20.11 116 53.18	A	3.2	2.71	57	0.14	3083299	
1992 12 16	9 55 56.20	34 37.50 116 32.71	A	3.3	3.37	73	0.16	3083389	
1992 12 16	22 31 40.31	34 59.40 116 56.98	A	3.3	5.09	45	0.15	3083480	
1992 12 19	16 24 38.36	34 32.99 116 32.88	A	3.2	0.01	36	0.12	3083885	
1992 12 21	11 44 2.88	34 5.50 116 24.82	A	3.8	3.57	66	0.16	3084155	
1992 12 21	13 39 27.00	34 13.99 116 44.35	A	3.4	1.28	74	0.15	3084163	
1992 12 22	2 20 53.09	35 1.38 116 58.37	A	3.2	5.50	37	0.11	3084255	
1992 12 22	13 2 17.37	34 55.76 116 43.80	A	3.1	0.63	44	0.15	3084340	
1992 12 22	19 52 26.64	35 18.92 117 39.43	A	3.1	6.36	47	0.12	3084380	
1992 12 23	9 22 48.57	36 16.47 118 3.76	D	3.4	6.00	7	0.25	3084580	
1992 12 23	12 38 24.33	34 40.93 118 28.68	A	3.1	10.60	104	0.26	3084505	
1992 12 24	9 25 7.46	35 1.39 116 55.44	C	3.3	5.96	62	0.17	3084625	
1992 12 25	3 35 7.60	35 56.49 120 28.92	C	3.1	12.82	14	0.18	3084739	
1992 12 25	22 15 27.16	33 57.63 116 19.76	A	3.1	5.41	50	0.16	3084841	
1992 12 27	0 18 38.00	34 21.11 116 53.63	A	3.7	4.44	67	0.14	3084992	
1992 12 27	20 45 39.64	34 16.06 116 27.44	A	3.0	0.84	42	0.15	3085101	
1992 12 28	17 51 20.89	33 56.83 116 18.38	A	3.2	4.38	46	0.18	3085226	
1992 12 28	18 0 29.20	33 56.74 116 18.34	A	3.6	4.53	53	0.17	3085227	
1992 12 31	7 49 10.60	34 16.01 116 27.00	A	3.2	0.91	41	0.13	3085547	

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