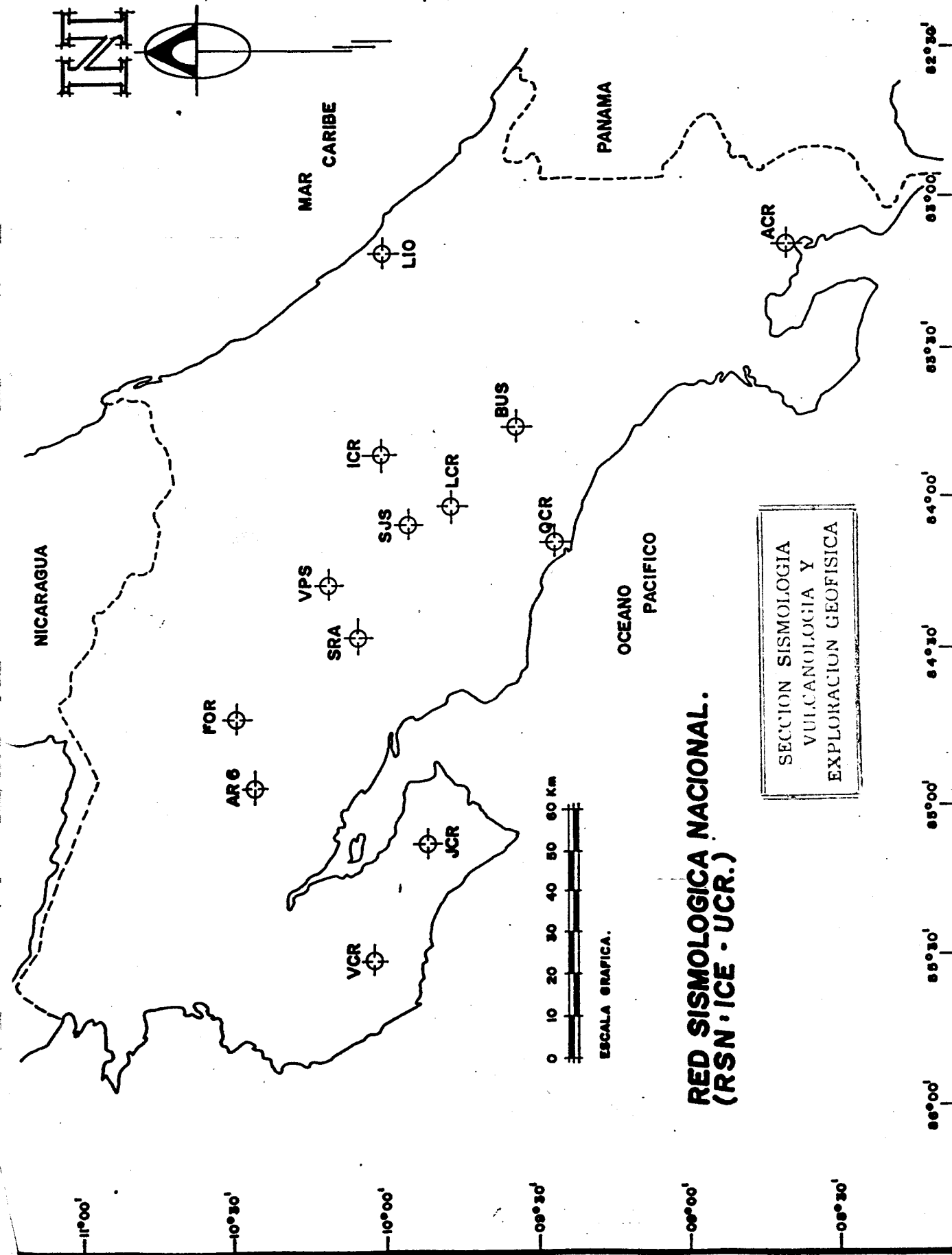




### EXPLICACION DE LOS DATOS

El presente boletín sismológico mensual contiene la siguiente información:

**PARTE A:** Eventos locales y parámetros de los sismos localizados mensualmente por las estaciones de la Red Sismológica Nacional (RSN: ICE-UCR).

**PARTE B:** La lectura de los tiempos de arribo para los eventos locales registrados por la RSN con  $M \geq 4.0$ , sismos regionales y telesismos: en las estaciones ACR, BUS, AR6, LCR2, LIO, OCR, SRA, SJS, VCR, ICR, VPS2, ya que estas son, actualmente las que tienen sus respectivos códigos reconocidos internacionalmente.

- 1-EST : Código de la estación que registro el evento.
- 2-DIA : Todas las fechas estan reportadas en el tiempo medio de Greenwich (TMG).
- 3-TIEMPO : Tiempo de origen (**PARTE A**) y tiempo de arribo de las fases (**PARTE B**), estan dados en horas.minutos segundos y decimas de segundo (TMG).
- 4-FASE : Una "i" o "e" precede el nombre de la fase para indicar el caracter del arribo:  
"i" (impetu), indica que el primer arribo fue impulsivo y la dirección del primer movimiento es evidente "e" (emersio), indica un comienzo gradual en el cual la dirección del movimiento es dudosa.
- 5-COMP. : Designa la componente (N, E o Z), de la estación sismográfica donde el tiempo de arribo fue medido
- 6-POL. : Polaridad. una "C" o una "D" representan un movimiento de compresión o dilatación. respectivamente. Indicada especialmente para las fases designadas con impetu (i).
- 7-PER. : Si se trata de la estación LCR2, entonces se anota si el dato es de período corto (PC), período medio (PM), o período largo (PL).
- 8-MAG(Md) : La magnitud reportada para los eventos locales. esta basada en la duración de la señal sísmica en la estación SJS.  $MD = -1.21 + 2.38 \log (dur) + 0.0012 (dist. hipoc.)$ .
- 9-PROF. : Indica la profundidad en kilómetros a que se produjo el evento.

- 10-RMS. : Indica el error medio estándar, que da como resultado la localización por computadora. a través del programa HYPO71 (versión 1978).
- 11-ERH,ERZ: Datos de errores de la localización horizontal (H) y vertical (V), en kilómetros.
- 12-\*\*\* : Datos omitidos por la computadora o localización manual.
- 13- COMEN-  
TARIOS: Indica si el epicentro es de sismos locales (con magnitud  $\geq 4.0$ ). Para telesismos y/o regionales se utiliza el reporte del NEIS. Los regionales se refieren a sismos fuera de las zonas limítrofes de Costa Rica.

PARTE A

SISMOS LOCALIZADOS

PARAMETROS DE LOS EVENTOS

ENERO 1990

| DIA | TIEMPO OR. | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EZ     |
|-----|------------|----------|----------|------|-----|-----|------|------|--------|
| 03  | 084442.39  | 09047.80 | 84049.71 | 36.0 | 3.1 | 329 | 0.24 | ***  | ***    |
| 03  | 095058.39  | 09057.22 | 84003.35 | 68.7 | 2.9 | 181 | 0.19 | ***  | 3.1    |
| 04  | 114136.80  | 09036.38 | 84000.28 | 24.4 | 3.2 | 295 | 0.37 | 11.1 | 12.0 * |
| 05  | 091605.84  | 09028.60 | 83041.36 | 33.9 | 3.2 | 323 | 0.02 | 0.7  | 0.7    |
| 05  | 082312.45  | 09038.68 | 84008.49 | 55.5 | 2.7 | 307 | 0.28 | 6.7  | 4.3    |
| 05  | 132821.00  | 09009.49 | 84005.46 | 40.2 | 3.2 | 313 | 0.42 | 11.9 | 5.3    |
| 06  | 144015.21  | 09046.16 | 84049.95 | 45.0 | 3.3 | 321 | 0.06 | 13.8 | 25.0   |
| 06  | 205451.31  | 10004.80 | 84026.99 | 55.8 | 2.9 | 261 | 0.42 | 5.9  | 3.5    |
| 07  | 070249.54  | 09026.46 | 84018.92 | 35.8 | 2.9 | 303 | 0.27 | 6.3  | 9.2    |
| 08  | 052239.07  | 09041.83 | 83051.99 | 16.9 | 2.8 | 242 | 0.28 | 4.8  | 4.7 *  |
| 09  | 011744.75  | 09029.75 | 84017.29 | 15.0 | 3.2 | 284 | 0.27 | 3.2  | 4.3    |
| 09  | 032440.00  | 09032.38 | 84056.16 | 35.0 | 3.1 | 324 | 0.27 | 4.0  | 3.8    |
| 11  | 003108.88  | 10030.41 | 85020.49 | 34.0 | 4.0 | 341 | 0.31 | 6.8  | 2.5    |
| 11  | 114312.50  | 08029.62 | 82015.14 | 30.0 | 3.9 | 355 | 0.51 | ***  | ***    |
| 11  | 192608.64  | 09045.91 | 84049.66 | 50.4 | 3.1 | 318 | 0.33 | 11.7 | 15.8   |
| 11  | 224339.47  | 09030.55 | 83040.56 | 11.8 | 3.3 | 328 | 0.39 | 4.1  | *** *  |
| 12  | 141811.07  | 08035.35 | 83012.81 | 4.7  | 3.2 | 313 | 0.71 | ***  | ***    |
| 13  | 020033.74  | 09026.96 | 83056.20 | 28.9 | 3.8 | 263 | 0.33 | 5.3  | 5.8    |
| 14  | 024804.90  | 09010.05 | 84002.63 | 35.5 | 3.1 | 336 | 0.24 | 0.8  | 1.3    |
| 16  | 010828.28  | 09048.26 | 84000.03 | 1.6  | 2.7 | 156 | 0.32 | 1.4  | 1.1 *  |
| 16  | 113103.60  | 08040.29 | 82058.42 | 50.4 | 2.2 | 353 | 0.54 | 5.8  | ***    |
| 17  | 045528.41  | 09040.40 | 84021.91 | 40.0 | 2.7 | 202 | 0.30 | 5.4  | 8.7    |
| 18  | 141045.04  | 09030.33 | 84031.28 | 5.0  | 3.4 | 257 | 0.38 | ***  | ***    |
| 19  | 132401.93  | 09040.48 | 84012.05 | 18.1 | 2.7 | 157 | 0.18 | 0.7  | 2.8 *  |
| 20  | 070341.15  | 09041.03 | 84017.39 | 70.0 | 3.0 | 260 | 0.23 | 4.3  | 3.2    |
| 20  | 154738.44  | 09032.27 | 84003.86 | 56.0 | 2.8 | 299 | 0.05 | 13.6 | 14.5   |
| 21  | 035235.31  | 08027.51 | 82058.34 | 0.2  | 4.5 | 312 | 0.47 | ***  | ***    |
| 21  | 104459.08  | 10000.85 | 84042.46 | 39.1 | 3.1 | 319 | 0.11 | 3.6  | 1.7    |
| 22  | 072307.87  | 09048.56 | 83058.73 | 6.8  | 3.3 | 162 | 0.18 | 1.0  | 0.7 *  |
| 22  | 090219.25  | 09033.42 | 83039.51 | 10.7 | 2.8 | 303 | 0.26 | 4.4  | 4.8 *  |
| 22  | 111929.74  | 09038.32 | 84013.37 | 45.0 | 3.3 | 233 | 0.31 | 3.6  | 7.9    |
| 23  | 081436.16  | 09041.63 | 84052.43 | 34.7 | 2.9 | 321 | 0.23 | 2.9  | 1.6    |
| 24  | 222846.60  | 09005.12 | 83031.71 | 35.7 | 3.0 | 256 | 0.19 | 6.1  | 4.9    |
| 26  | 205729.34  | 09041.23 | 84007.80 | 57.3 | 2.7 | 310 | 0.04 | 1.3  | 0.7    |
| 28  | 071802.91  | 09008.33 | 85053.56 | 11.6 | 2.8 | 331 | 0.14 | 2.2  | 1.9    |

ENERO 1990

| DIA | TIEMPO OR. | LAT. N   | LONG. W  | PROF  | MAG | GAP | RMS  | EH  | EZ  |
|-----|------------|----------|----------|-------|-----|-----|------|-----|-----|
| 28  | 213108.16  | 09023.43 | 84007.08 | 33.5  | 3.0 | 301 | 0.03 | 1.3 | 1.7 |
| 29  | 202517.39  | 09043.38 | 84044.77 | 11.6  | 3.4 | 195 | 0.35 | 2.3 | 5.6 |
| 31  | 075009.70  | 10049.04 | 85018.50 | 172.8 | 3.5 | 280 | 0.19 | 7.5 | 5.5 |
| 31  | 094611.23  | 09019.60 | 84003.84 | 28.9  | 3.0 | 305 | 0.23 | 5.1 | 5.7 |

PARTE B

LECTURA DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON  $M \geq 4,0$

ENERO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 01  | 235216.00 | eP   | Z    |     |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 03 | 084813.20 | iP | Z | C |
| SRA | 03 | 084816.20 | iP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 04 | 054536.00 | iP | Z | C |
| LCR2 | 04 | 054526.50 | iP | Z | D |

Mb = 6,4 Isla Samoa.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 04 | 061354.00 | eP | Z |  |
| SRA | 04 | 061341.00 | eP | Z |  |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 05 | 183214.30 | iP | Z | C |
| SRA | 05 | 183208.00 | eP | Z |   |

Mb = 5,4 Frente a la Costa de Jalisco, México.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 06 | 104147.10 | eP | Z |  |
| SRA | 06 | 104138.50 | eP | Z |  |

Regional.

ENERO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 06  | 151601.10 | eP   | Z    |     |
| SRA  | 06  | 151651.20 | iP   | Z    | C   |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 07 | 030055.00 | iP | Z | C |
| SRA | 07 | 030045.30 | eP | Z | C |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 07 | 091230.20 | iP | Z | C |
| SRA | 07 | 091232.00 | iP | Z | C |

Mb = 5,9 Cerca de la Costa del Perú.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 044131.20 | iP | Z | D |
| SRA  | 08 | 044130.60 | iP | Z | C |
| LCR2 | 08 | 044132.10 | iP | Z | D |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 08 | 153039.20 | iP | Z | D |
| SRA | 08 | 153032.00 | iP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 234021.10 | iP | Z | D |
| SRA  | 08 | 234024.80 | iP | Z | D |
| VPS2 | 08 | 234022.50 | eP | Z |   |
| LCR2 | 08 | 234012.60 | eP | Z |   |

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 10 | 030006.00 | eP | Z |  |
|-----|----|-----------|----|---|--|

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 11 | 003133.80 | iP | Z | C |
|      |    | 3153.20   | S  | Z |   |
| SRA  | 11 | 003127.00 | iP | Z | C |
|      |    | 3137.50   | S  | Z |   |
| QCR  | 11 | 003136.50 | iP | Z | C |
|      |    | 3156.70   | S  | Z |   |
| LCR2 | 11 | 003135.60 | iP | Z | D |
|      |    | 3155.10   | S  | Z |   |

Mb = 4,0 8 Km al Oeste de Bagaces, Costa Rica.

ENERO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 11  | 081056.00 | eP   | Z    |     |
| SRA  | 11  | 081042.50 | eP   | Z    |     |

Telesismo.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 11 | 133345.30 | eP | Z |  |
| SRA | 11 | 133337.00 | eP | Z |  |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 11 | 202730.30 | iP | Z | D |
|      |    | 2820.10   | S  | Z |   |
| LCR2 | 11 | 202730.80 | eP | Z |   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 11 | 213543.30 | iP | Z | D |
| LCR2 | 11 | 213542.30 | eP | Z |   |

Costa Central de Chile.

|        |    |           |    |   |   |
|--------|----|-----------|----|---|---|
| SJS    | 12 | 032603.40 | iP | Z | C |
|        |    | 2706.00   | S  | Z |   |
| LCR2 X | 12 | 032604.90 | eP | Z |   |
| LIO    | 12 | 032613.60 | eP | Z |   |

Mb = 5,3 Frente a la Costa Pacífica de Nicaragua.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 12 | 154752.80 | iP | Z | C |
| LCR2 | 12 | 154754.70 | eP | Z |   |

Mb = 5,5 Islas Talavel.

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SJS  | 14 | 163152.20 | eP | Z |  |
| LCR2 | 14 | 163153.50 | eP | Z |  |
| SRA  | 14 | 163141.00 | eP | Z |  |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 16 | 195701.20 | iP | Z | C |
| SRA  | 16 | 195658.00 | iP | Z | C |
| LCR2 | 16 | 195703.00 | eP | Z |   |

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 18 | 211528.40 | eP | Z |  |
|-----|----|-----------|----|---|--|

Mb = 5,6 Islas Fiji.

ENERO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 19  | 182344.30 | eP   | Z    |     |
| AR6  | 19  | 182323.00 | eP   | Z    |     |

Telesismo.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 20 | 011007.80 | eP | Z |  |
| AR6 | 20 | 010955.00 | eP | Z |  |
| SRA | 20 | 010958.00 | eP | Z |  |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 21 | 035306.00 | iP | Z | D |
|      |    | 5330.80   | S  | Z |   |
| LCR2 | 21 | 035309.10 | iP | Z | C |
|      |    | 5336.20   | S  | Z |   |
| ICR  | 21 | 035307.80 | eP | Z |   |
| SRA  | 21 | 035314.70 | eP | Z |   |
|      |    | 5345.70   | S  | Z |   |
| BUS  | 21 | 035301.30 | iP | Z | C |
|      |    | 5320.20   | S  | Z |   |
| LIO  | 21 | 035304.80 | iP | Z | C |
| AR6  | 21 | 035324.30 | iP | Z | D |

Mb = 4,5 22Km al Sur de Ciudad Nelly, Costa Rica.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 23 | 075219.30 | iP | Z | C |
| SRA | 23 | 075221.80 | iP | Z | C |
| BUS | 23 | 075214.80 | iP | Z | C |

Mb = 5,6 Cerca de la Costa del Perú.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 26 | 073634.00 | iP | Z | D |
| LCR2 | 26 | 073631.00 | iP | Z | C |
| BUS  | 26 | 073627.50 | iP | Z | C |

Regional.

ICM ANALISIS Ver 2.0

Diseño:

Guillermo Á Avila R

FEC m:01-01-1990

FEC M:31-01-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LOM=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

CIU ●

BASE.:RSN1990

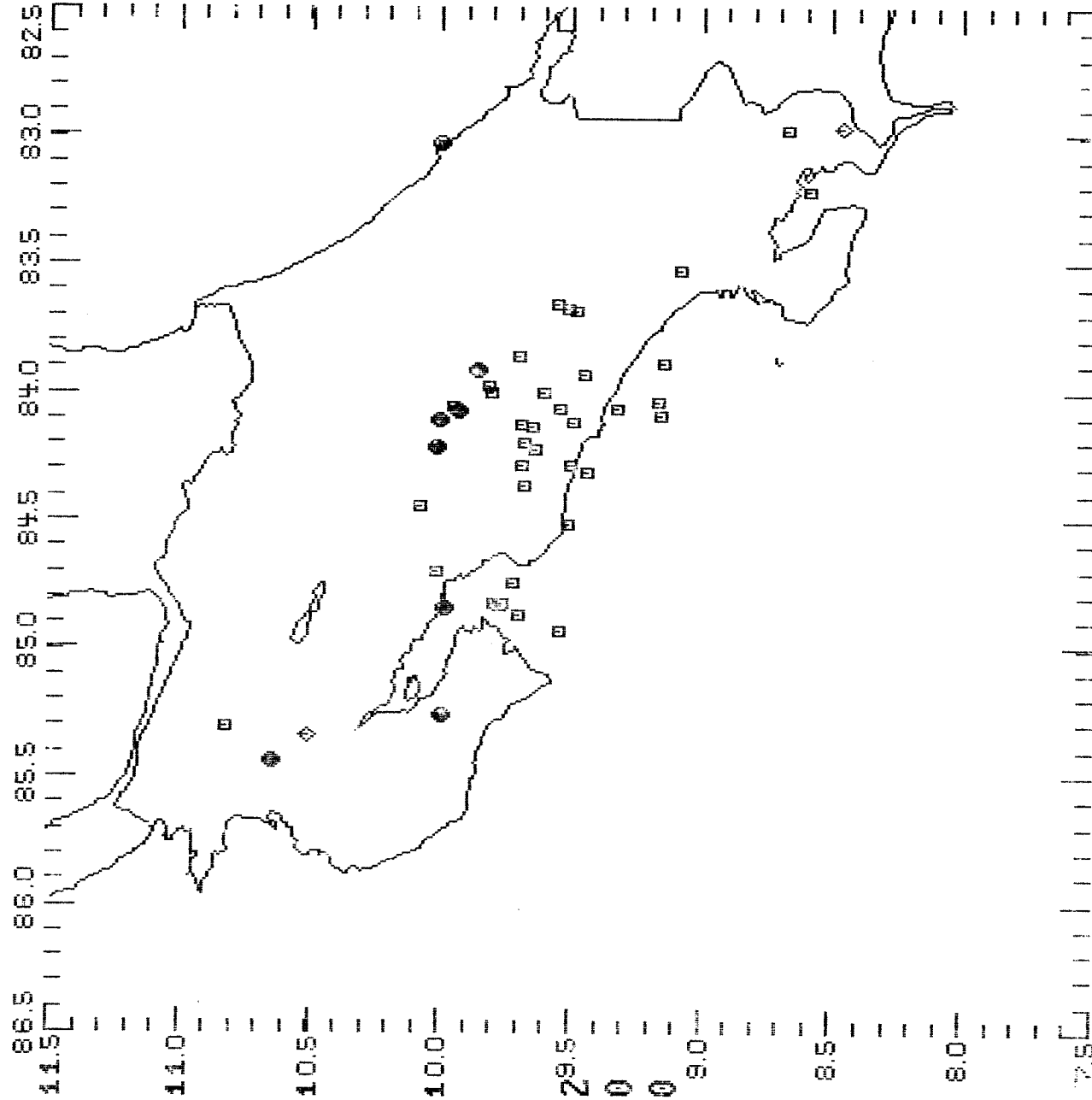
N SIS: 38

M<3.9: 36 4<M<5: 295

5<M<6: 0 6<M<7: 0

7<M<8: 0 M>8 : 0

RED SISMOLÓGICA NACIONAL, ICE-UCH  
MAPA DE EPICENTROS DE COSTA RICA



PARTE A

SISMOS LOCALES

PARAMETROS DE LOS EVENTOS LOCALIZADOS

FEBRERO 1990

| DIA | TIEMPO    | OR. | LAT. N | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EE   |
|-----|-----------|-----|--------|----------|------|-----|-----|------|------|------|
| 01  | 111501.47 | 09  | 30.00  | 84 49.64 | 45.0 | 2.7 | 195 | 0.10 | ***  | ***  |
| 01  | 170342.42 | 09  | 30.24  | 82 54.26 | 31.5 | 3.2 | 295 | 0.26 | 6.4  | 2.6  |
| 02  | 061526.05 | 09  | 06.00  | 83 56.75 | 11.9 | 2.9 | 330 | 0.30 | 8.2  | 11.3 |
| 02  | 125424.30 | 09  | 28.00  | 84 47.91 | 34.4 | 3.8 | 195 | 0.40 | 4.8  | 5.9  |
| 02  | 161811.60 | 09  | 29.86  | 84 47.37 | 35.9 | 3.7 | 223 | 0.46 | 4.5  | 3.0  |
| 04  | 064534.11 | 10  | 26.85  | 84 54.69 | 37.0 | 3.8 | 345 | 0.48 | 7.9  | 7.5  |
| 04  | 094422.60 | 10  | 14.42  | 84 11.54 | 45.0 | 3.7 | 270 | 0.31 | 1.2  | 5.8  |
| 04  | 121622.67 | 10  | 07.96  | 84 00.43 | 30.0 | 2.6 | 253 | 0.07 | ***  | ***  |
| 04  | 124845.22 | 09  | 34.27  | 84 06.11 | 45.6 | 3.2 | 234 | 0.48 | 8.2  | 5.9  |
| 05  | 083112.89 | 09  | 32.51  | 83 07.63 | 30.0 | 2.7 | 267 | 0.26 | 6.4  | 11.4 |
| 05  | 132339.23 | 09  | 57.98  | 84 26.89 | 60.5 | 3.1 | 195 | 0.47 | 10.2 | 3.3  |
| 06  | 071751.51 | 10  | 05.07  | 84 05.07 | 45.0 | 2.5 | 237 | 0.12 | 0.4  | 0.3  |
| 06  | 093056.00 | 09  | 09.87  | 82 33.81 | 15.0 | 2.8 | 321 | 0.17 | ***  | ***  |
| 06  | 213137.87 | 09  | 30.26  | 83 32.10 | 15.0 | 3.8 | 240 | 0.12 | 0.1  | 0.1* |
| 06  | 223741.87 | 09  | 14.67  | 83 45.87 | 31.6 | 2.8 | 320 | 0.29 | 0.5  | 0.6  |
| 07  | 070211.00 | 09  | 37.08  | 83 35.90 | 35.9 | 3.7 | 216 | 0.33 | 4.5  | 2.6  |
| 07  | 084141.08 | 10  | 05.07  | 84 17.27 | 15.0 | 3.3 | 226 | 0.02 | 1.2  | 1.6* |
| 07  | 110656.44 | 10  | 34.28  | 83 56.73 | 15.0 | 2.8 | 304 | 0.23 | 0.3  | 0.3* |
| 08  | 142528.17 | 09  | 32.35  | 84 00.43 | 30.0 | 3.2 | 289 | 0.27 | 1.2  | 1.5* |
| 08  | 200639.28 | 09  | 56.34  | 83 59.85 | 46.6 | 2.8 | 231 | 0.03 | ***  | ***  |
| 10  | 033322.50 | 09  | 05.96  | 85 14.18 | 17.5 | 3.5 | 266 | 0.39 | 2.0  | 5.4  |
| 10  | 075337.08 | 08  | 23.38  | 83 34.57 | 22.0 | 3.2 | 320 | 0.21 | 6.8  | 8.2  |
| 10  | 081240.34 | 09  | 44.41  | 84 50.90 | 20.9 | 3.2 | 199 | 0.15 | 2.8  | 7.3  |
| 11  | 004646.39 | 09  | 32.17  | 84 43.09 | 9.1  | 3.0 | 217 | 0.10 | 2.6  | 3.7  |
| 11  | 065514.16 | 09  | 33.07  | 84 00.43 | 43.8 | 2.9 | 264 | 0.20 | 10.8 | 4.1  |
| 11  | 194607.91 | 09  | 54.59  | 84 19.00 | 65.5 | 3.2 | 190 | 0.23 | 10.4 | 3.6  |
| 13  | 002745.05 | 10  | 16.47  | 85 27.86 | 42.5 | 3.7 | 224 | 0.21 | 6.8  | 7.3  |
| 13  | 074858.77 | 10  | 21.59  | 83 10.60 | 41.8 | 4.1 | 253 | 0.13 | 2.2  | 5.6  |
| 14  | 061346.42 | 09  | 28.11  | 83 32.09 | 15.0 | 3.7 | 339 | 0.24 | 1.3  | 2.6  |
| 14  | 082719.85 | 09  | 09.90  | 83 55.18 | 11.1 | 2.7 | 306 | 0.20 | 3.7  | 7.2  |
| 14  | 111524.44 | 09  | 25.37  | 83 40.73 | 15.0 | 2.6 | 267 | 0.17 | ***  | ***  |
| 15  | 033118.90 | 08  | 21.18  | 83 17.82 | 16.4 | 4.0 | 326 | 0.22 | 11.8 | 5.3  |
| 15  | 034921.99 | 08  | 11.35  | 83 12.90 | 30.0 | 3.7 | 329 | 0.39 | 6.8  | 4.9  |
| 16  | 074928.14 | 08  | 33.38  | 83 18.41 | 7.5  | 5.0 | 296 | 0.34 | 5.4  | 4.9  |
| 16  | 175910.25 | 09  | 42.14  | 83 09.32 | 29.9 | 3.1 | 336 | 0.01 | 0.5  | 0.3  |

FEBRERO 1990

| DIA | TIEMPO DR. | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | ERR  | ERZ   |
|-----|------------|----------|----------|------|-----|-----|------|------|-------|
| 17  | 045309.29  | 08 07.35 | 82 59.03 | 8.8  | 3.7 | 276 | 0.31 | 11.6 | 9.6   |
| 17  | 065641.86  | 09 22.02 | 84 12.29 | 21.0 | 4.7 | 243 | 0.27 | 6.3  | 2.4   |
| 17  | 073515.45  | 09 38.87 | 84 53.86 | 8.8  | 3.7 | 281 | 0.29 | 4.0  | 5.8   |
| 18  | 034405.27  | 09 27.14 | 82 56.45 | 30.0 | 3.0 | 293 | 0.05 | 0.9  | 2.2   |
| 18  | 083806.54  | 09 18.03 | 83 37.95 | 1.5  | 3.1 | 340 | 0.25 | ***  | ***   |
| 19  | 122929.03  | 10 11.88 | 85 32.96 | 14.4 | 4.1 | 250 | 0.13 | 4.2  | 2.2   |
| 20  | 072836.09  | 09 31.86 | 84 03.75 | 5.2  | 2.5 | 276 | 0.30 | 4.5  | 3.7 * |
| 24  | 035426.80  | 09 22.80 | 84 13.27 | 15.0 | 3.4 | 252 | 0.36 | 6.4  | 4.0   |
| 24  | 093823.87  | 09 16.23 | 83 58.79 | 42.0 | 2.7 | 316 | 0.02 | 1.4  | 1.1   |

## 6

REGIONALES, TELESISMOS Y EVENTOS LOCALES CON 4.0

FEBBRE 1990

| EST                     | DIA | TIEMPO    | FASE | COMP | POL | PER |
|-------------------------|-----|-----------|------|------|-----|-----|
| LCR2                    | 01  | 085442.40 | iP   | Z    | D   |     |
| BUS                     | 01  | 085438.40 | iP   | Z    | D   |     |
| Regional.               |     |           |      |      |     |     |
| LCR2                    | 01  | 093217.40 | iP   | Z    | C   |     |
| VCR                     | 01  | 093204.20 | iP   | Z    | C   |     |
| Regional.               |     |           |      |      |     |     |
| VCR                     | 01  | 124851.00 | iP   | Z    |     |     |
| Regional.               |     |           |      |      |     |     |
| LCR2                    | 01  | 145011.80 | iP   | Z    | C   |     |
| AR6                     | 01  | 145022.00 | iP   | Z    | C   |     |
| Regional.               |     |           |      |      |     |     |
| LCR2                    | 01  | 152049.50 | iP   | Z    | C   |     |
| BUS                     | 01  | 152044.30 | iP   | Z    | D   |     |
| Regional.               |     |           |      |      |     |     |
| SRA                     | 02  | 094026.80 | iP   | Z    | D   |     |
|                         |     | 4110.90   | S    | Z    |     |     |
| LCR2                    | 02  | 094035.90 | iP   | Z    | D   |     |
| BUS                     | 02  | 094039.50 | iP   | Z    | D   |     |
| VCR                     | 02  | 094112.40 | iP   | Z    | C   |     |
| AR6                     | 02  | 094040.00 | iP   | Z    | C   |     |
| Telesismo.              |     |           |      |      |     |     |
| BUS                     | 03  | 073532.00 | iP   | Z    | D   |     |
| LCR2                    | 03  | 073533.80 | iP   | Z    | D   |     |
| SRA                     | 03  | 073511.30 | iP   | Z    | D   |     |
| Islas Virgines Mb = 5.0 |     |           |      |      |     |     |

FEBRERO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| LCR2 | 03  | 094110.00 | eP   | Z    |     |     |
| BUS  | 03  | 094103.80 | iP   | Z    | C   |     |
| SRA  | 03  | 094147.80 | eP   | Z    | D   |     |

Regional.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| SJS | 05 | 053541.50 | eP | Z | D |  |
| SRA | 05 | 053540.90 | P  | Z |   |  |
| BUS | 05 | 053541.50 | iP | Z | C |  |

Frontera entre Afganistan y Unión Soviética Mb = 6.1

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 06 | 035258.50 | iP | Z | C |  |
|      |    | 5314.20   | S  | Z |   |  |
| BUS  | 06 | 035254.20 | iP | Z | D |  |
|      |    | 5256.80   | S  | Z |   |  |
| LIO  | 06 | 035304.00 | iP | Z | D |  |
| SJS  | 06 | 035250.10 | iP | Z | D |  |
| SRA  | 06 | 035259.00 | eP | Z | D |  |

Regional.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| BUS | 07 | 081927.30 | iP | Z | C |  |
|     |    | 1931.20   | S  | Z |   |  |
| SJS | 07 | 081932.80 | iP | Z | D |  |
| SRA | 07 | 081933.80 | iP | Z | D |  |

Regional.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| SJS | 08 | 073513.00 | eP | Z |   |  |
| SRA | 08 | 073509.20 | eP | Z |   |  |
| BUS | 08 | 073513.20 | iP | Z | D |  |

Islas Filipinas Mb = 6.2

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| SJS | 08 | 080637.80 | eP | Z |   |  |
| SRA | 08 | 080638.00 | eP | Z |   |  |
| BUS | 08 | 080640.80 | iP | Z | C |  |
|     |    | 0710.20   | S  | Z |   |  |
| LIO | 08 | 080648.80 | iP | Z | C |  |

Regional.

FEBRERO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| VCR  | 09  | 223028.20 | iP   | Z    | D   |     |
| LCR2 | 09  | 223036.10 | iP   | Z    | C   |     |
| BUS  | 09  | 223033.30 | iP   | Z    | C   |     |
| SJS  | 09  | 223038.90 | iP   | Z    | C   |     |

Regional.

|      |    |           |    |   |   |   |
|------|----|-----------|----|---|---|---|
| VCR  | 10 | 064653.20 | iP | Z |   |   |
| LCR2 | 10 | 064644.10 | iP | Z | D |   |
| BUS  | 10 | 064640.80 | iP | Z | D |   |
| SJS  | 10 | 064647.50 | iP | Z | C | * |
| SRA  | 10 | 064650.20 | eP | Z | C |   |

Sur de Panamá Mb = 5.0

|      |    |           |    |   |   |   |
|------|----|-----------|----|---|---|---|
| VCR  | 10 | 065759.20 | iP | Z | C |   |
| LCR2 | 10 | 065747.00 | iP | Z | C |   |
| BUS  | 10 | 065744.20 | iP | Z | C | * |
| SJS  | 10 | 065750.10 | iP | Z | C |   |

Sur de Panamá Mb = 5.1

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 10 | 072241.40 | iP | Z | C |  |
| BUS  | 10 | 072238.90 | iP | Z | C |  |
| SRA  | 10 | 072140.50 | iP | Z | C |  |

Regional.

|      |    |           |    |   |   |   |
|------|----|-----------|----|---|---|---|
| VCR  | 10 | 080514.80 | iP | Z | D |   |
| LCR2 | 10 | 080502.30 | iP | Z | C |   |
| BUS  | 10 | 080459.90 | iP | Z | D | * |
| AR6  | 10 | 080515.80 | iP | Z | D |   |
| SJS  | 10 | 080506.60 | iP | Z | D |   |

Sur de Panamá Mb = 4.8

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 10 | 171519.00 | iP | Z | D |  |
| VCR  | 10 | 171528.00 | iP | Z | C |  |
| BUS  | 10 | 171516.40 | iP | Z | C |  |
| AR6  | 10 | 171532.20 | iP | Z | D |  |
| SJS  | 10 | 171525.50 | iP | Z | D |  |

Frontera entre Perú y Ecuador Mb = 5.6

FEBRERO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| LIO  | 13  | 074908.50 | iP   | Z    | D   |     |
| SJS  | 13  | 074916.60 | iP   | Z    | C   |     |
|      |     | 4930.50   | S    | Z    |     |     |
| BUS  | 13  | 074917.10 | iP   | Z    | D   |     |
|      |     | 4932.00   | S    | Z    |     |     |
| LCR2 | 13  | 074917.70 | iP   | Z    | D   |     |
| FOR  | 13  | 074923.80 | iP   | Z    |     |     |

32 Km al NE de Matina; costa Caribe Costa Rica Md = 4.1

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 15 | 033149.80 | eP | Z |   |  |
|      |    | 3214.10   | S  | Z |   |  |
| BUS  | 15 | 033142.20 | iP | Z | D |  |
| LCR2 | 15 | 033146.90 | eP | Z | D |  |
| LIO  | 15 | 033147.80 | iP | Z | D |  |

2 Km al Sur de Cabo Matapalo; Peninsula de Osa Costa Rica Md = 4.0

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 16 | 075056.10 | iP | Z | C |  |
| VCR  | 16 | 075015.00 | iP | Z | C |  |
| LIO  | 16 | 074954.00 | iP | Z | D |  |
| FOR  | 16 | 075008.00 | iP | Z | D |  |
|      |    | 5044.00   | S  | Z |   |  |
| BUS  | 16 | 074948.90 | iP | Z | D |  |
| AR6  | 16 | 075010.90 | iP | Z | D |  |
| LCR2 | 16 | 074952.80 | iP | Z | D |  |

2 Km al N de Puerto Jiménez, zona Sur Costa Rica Md = 5.0

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| SJS | 17 | 065646.80 | iP | Z | C |  |
| VCR | 17 | 065703.80 | iP | Z | D |  |
|     |    | 5735.40   | S  | Z |   |  |
| LIO | 17 | 065657.90 | iP | Z | C |  |
| BUS | 17 | 065643.80 | iP | Z | C |  |
|     |    | 5716.90   | S  | Z |   |  |
| AR6 | 17 | 065657.50 | iP | Z | D |  |
| QCR | 17 | 065638.20 | iP | Z | D |  |

7 Km al Sur SW de Quepos, Costa Rica Md = 4.7

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| VCR  | 19 | 122932.20 | iP | Z | C |  |
| AR6  | 19 | 122942.00 | iP | Z | D |  |
| SRA  | 19 | 122949.40 | iP | Z | D |  |
| SJS  | 19 | 122955.90 | iP | Z | D |  |
| LCR2 | 19 | 122957.60 | iP | Z | C |  |
| BUS  | 19 | 123002.40 | iP | Z | D |  |

12 Km al NW de Nicoya Costa Rica M = 4.1

FEBRERO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| BUS  | 21  | 182503.80 | iP   | Z    | C   |     |
| AR6  | 21  | 182510.80 | iP   | Z    | C   |     |
| LCR2 | 21  | 182505.20 | iP   | Z    | D   |     |

Islas Leeward Mb = 5.8

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 27 | 093323.80 | eP | Z |   |  |
| LCR2 | 27 | 093314.60 | iP | Z | D |  |
| BUS  | 27 | 093346.20 | iP | Z | D |  |
| ACR  | 27 | 093352.80 | iP | Z | D |  |

Bolivia Mb = 5.5

# CARTA SISMOLOGICA

DE COSTA RICA 11.5

GUILLERMO.A.AVILA.R

FEC m:01-02-1990 11.0

FEC M:24-02-1990

TMP=00h-24h GMT

LAT= 7.50°-90.00° 10.5

LON=82.50°-180 °

PRF= 0.00-999.99 Km

MAG= 0.00- 9.90 10.0

SIMBOLOGIA:

MAG: <= 3.99 □

MAG:4.00-4.99 ◇

MAG:5.00-5.99 +

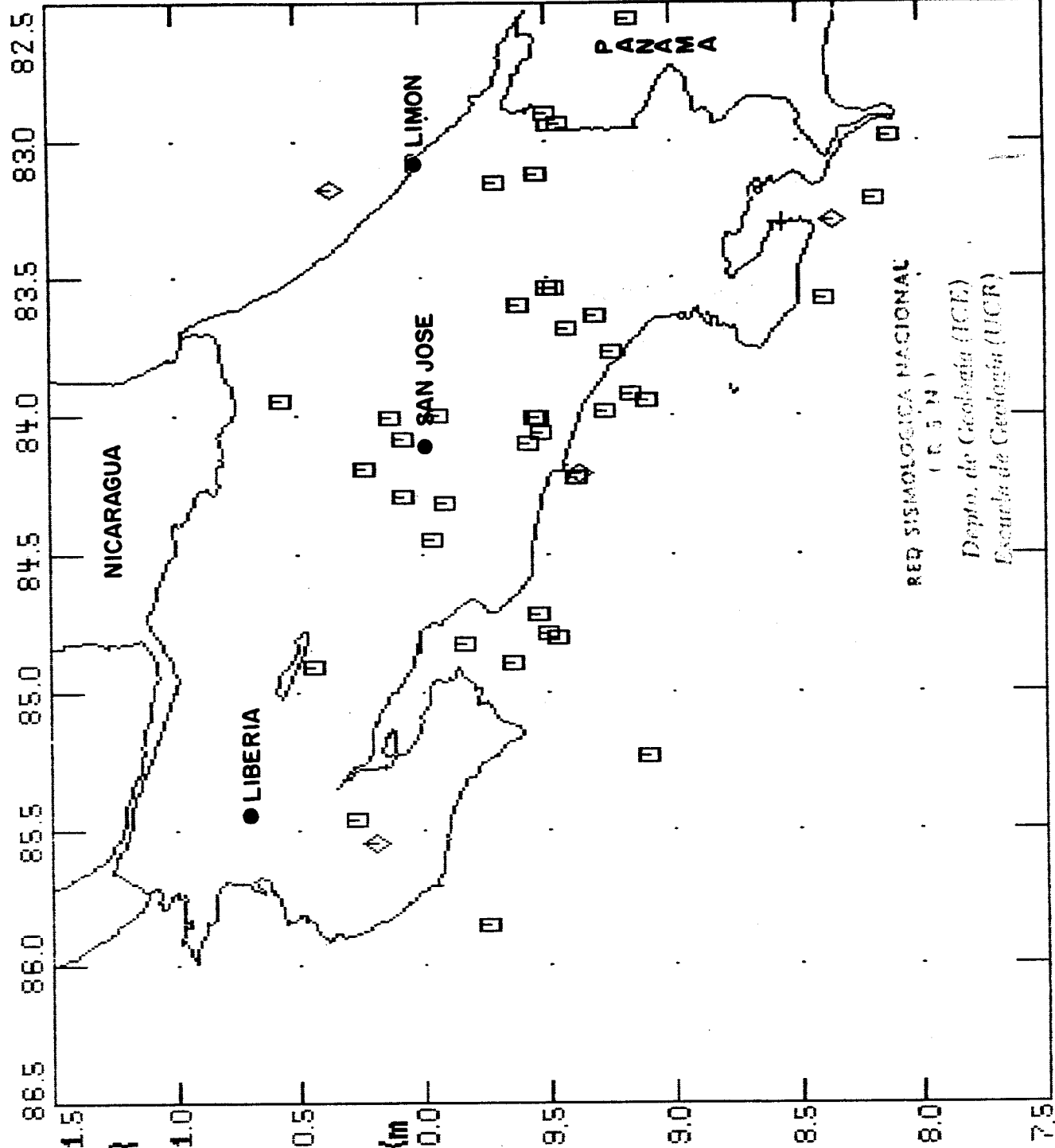
MAG:6.00-6.99 △

MAG:7.00-7.99 ▽

MAG: >= 8.00 ○

N° SIS= 44

BASE..=RSN1990



RED SISMOLOGICA NACIONAL

( C 5 74 )

Depto. de Geología (IGE)

Escuela de Geología (UCR)

PARTE A

MARZO 1990

| DIA | TIEMPO OR | LAT. N   | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ   |
|-----|-----------|----------|----------|-------|------|-----|------|------|------|
| 01  | 135653.62 | 09 25.37 | 84 02.86 | 38.3  | 3.5  | 189 | 0.37 | 3.3  | 1.4  |
| 02  | 083042.41 | 09 05.07 | 83 50.79 | 43.2  | 2.4  | 224 | 0.20 | 14.4 | 19.6 |
| 02  | 125422.95 | 09 30.57 | 84 51.39 | 37.4  | 3.6  | 192 | 0.40 | 4.3  | 2.9  |
| 02  | 161810.24 | 09 30.93 | 84 52.08 | 21.4  | 3.6  | 221 | 0.42 | 1.7  | 15.3 |
| 02  | 214540.76 | 10 08.55 | 84 40.33 | 25.0  | 3.3  | 199 | 0.13 | 8.7  | 4.7  |
| 03  | 003232.18 | 10 06.51 | 84 32.44 | 96.5  | 3.2  | 153 | 0.27 | 7.5  | 2.9  |
| 04  | 002639.23 | 10 23.21 | 84 22.06 | 126.4 | 3.2  | 228 | 0.43 | 9.0  | 3.4  |
| 05  | 012408.78 | 09 50.99 | 83 51.83 | 29.4  | 3.1  | 208 | 0.36 | 7.7  | 5.4  |
| 07  | 084840.48 | 09 41.43 | 83 40.40 | 115.5 | 3.2  | 336 | 0.05 | 7.6  | 2.1  |
| 08  | 093434.13 | 09 26.15 | 83 44.13 | 17.3  | 2.8  | 175 | 0.38 | 2.6  | 7.1  |
| 10  | 060316.10 | 09 31.04 | 84 51.88 | 7.6   | 2.9  | 308 | 0.32 | 3.9  | 6.9  |
| 10  | 102421.47 | 09 25.14 | 84 15.36 | 19.2  | 2.6  | 306 | 0.16 | 3.9  | 20.2 |
| 11  | 115955.73 | 09 40.24 | 84 57.90 | 31.0  | 2.5  | 213 | 0.05 | 3.7  | 0.9  |
| 11  | 201152.98 | 09 43.57 | 84 54.92 | 15.9  | 2.4  | 171 | 0.03 | ***  | ***  |
| 13  | 070922.03 | 09 44.63 | 84 07.87 | 59.6  | 3.2  | 226 | 0.13 | 1.6  | 1.2  |
| 14  | 030519.18 | 09 56.45 | 83 56.09 | 122.3 | 3.2  | 206 | 0.69 | 50.9 | 14.5 |
| 15  | 051630.52 | 09 03.11 | 83 45.60 | 45.0  | 3.2  | 326 | 0.47 | 17.1 | 24.6 |
| 15  | 074653.40 | 08 57.06 | 83 59.02 | 7.1   | 3.0  | 318 | 0.33 | 14.8 | 15.9 |
| 15  | 082915.61 | 08 59.17 | 84 00.98 | 33.5  | 3.3  | 314 | 0.38 | 10.8 | 6.0  |
| 15  | 083933.93 | 09 35.72 | 83 59.44 | 51.2  | 3.2  | 217 | 0.17 | 2.3  | 1.6  |
| 18  | 055852.70 | 08 56.13 | 83 46.29 | 0.6   | 3.2  | 229 | 0.17 | 9.1  | 2.3  |
| 18  | 114232.73 | 09 34.31 | 84 04.59 | 55.4  | 3.9  | 189 | 0.11 | 2.7  | 2.3  |
| 19  | 025951.59 | 09 30.89 | 84 50.21 | 15.7  | 3.7  | 220 | 0.32 | 2.8  | 9.24 |
| 20  | 115231.46 | 09 16.58 | 84 14.32 | 23.3  | 3.7  | 210 | 0.48 | 4.3  | 21.2 |
| 23  | 080156.93 | 09 46.28 | 84 24.03 | 44.8  | 2.9  | 219 | 0.21 | 3.1  | 2.7  |
| 23  | 093306.80 | 09 42.28 | 84 25.52 | 33.5  | 2.9  | 197 | 0.19 | 1.3  | 1.1  |
| 23  | 162837.85 | 09 44.37 | 84 20.51 | 51.2  | 2.9  | 235 | 0.26 | 3.7  | 3.8  |
| 23  | 165206.32 | 09 21.45 | 83 35.60 | 44.9  | 2.9  | 187 | 0.30 | 19.0 | 8.3  |
| 25  | 131605.23 | 09 33.26 | 84 56.90 | 16.3  | 5.7  | 193 | 0.36 | 3.0  | 7.3  |
| 25  | 131927.35 | 09 41.34 | 84 46.67 | 3.3   | 3.9  | 211 | 0.52 | 7.9  | 14.3 |
| 25  | 132255.36 | 09 37.27 | 84 55.68 | 16.9  | 6.5  | 187 | 0.45 | 3.5  | 10.6 |
| 25  | 133621.56 | 09 40.10 | 84 53.23 | 30.0  | 4.1  | 222 | 0.84 | 15.0 | 19.1 |
| 25  | 140349.29 | 09 31.57 | 84 48.91 | 77.1  | 3.8  | 245 | 0.05 | 1.1  | 2.0  |
| 25  | 140628.35 | 09 45.73 | 84 45.67 | 94.1  | 3.7  | 217 | 0.11 | 2.9  | 3.4  |
| 25  | 145159.80 | 09 30.56 | 84 24.80 | 5.0   | 3.4  | 257 | 0.81 | 9.8  | 8.0  |
| 25  | 150751.67 | 09 26.87 | 84 41.87 | 109.5 | 2.9  | 254 | 0.28 | 7.0  | 7.9  |
| 25  | 150930.89 | 09 00.68 | 84 04.19 | 45.0  | 3.3  | 286 | 0.18 | ***  | ***  |
| 25  | 151409.49 | 09 35.72 | 84 52.17 | 15.7  | 3.7  | 238 | 0.20 | 1.5  | 4.1  |
| 25  | 154221.65 | 09 31.52 | 84 55.44 | 15.4  | 3.7  | 246 | 0.27 | 1.9  | 3.8  |
| 25  | 154605.45 | 09 28.27 | 84 00.14 | 15.0  | 3.5  | 253 | 0.30 | 2.5  | 8.9  |

MARZO 1990

| DIA | TIEMPO OR | LAT. N   | LONG. W  | PROF | MAG. | GAP | RMS  | EH   | EZ   |
|-----|-----------|----------|----------|------|------|-----|------|------|------|
| 25  | 160716.45 | 09045.50 | 84050.20 | 40.6 | 3.1  | 218 | 0.55 | 11.0 | 6.7  |
| 25  | 160902.55 | 09032.00 | 84047.85 | 58.5 | 3.7  | 244 | 0.16 | 2.9  | 8.5  |
| 25  | 161225.97 | 09031.70 | 84047.58 | 6.3  | 3.2  | 245 | 0.02 | 0.4  | 0.5  |
| 25  | 161923.22 | 09042.74 | 84056.44 | 82.2 | 3.5  | 226 | 0.01 | ***  | ***  |
| 25  | 163007.44 | 09032.35 | 84055.89 | 15.3 | 3.9  | 245 | 0.15 | 2.1  | 4.9  |
| 25  | 164651.12 | 09037.20 | 84047.68 | 44.3 | 3.0  | 235 | 0.17 | 3.7  | 11.6 |
| 25  | 164847.58 | 09031.14 | 84048.18 | 7.3  | 3.9  | 246 | 0.23 | 2.4  | 4.8  |
| 25  | 165845.82 | 09032.76 | 84056.71 | 10.0 | 3.9  | 244 | 0.37 | 3.3  | 4.5  |
| 25  | 171141.98 | 09024.31 | 83047.10 | 0.7  | 3.4  | 257 | 0.45 | 5.1  | 2.4  |
| 25  | 172259.57 | 09036.66 | 84045.90 | 37.4 | 3.1  | 236 | 0.45 | 9.1  | 8.0  |
| 25  | 174138.52 | 09024.83 | 84048.60 | 76.3 | 3.3  | 256 | 0.43 | 12.9 | 22.8 |
| 25  | 174344.80 | 09036.16 | 83042.52 | 28.2 | 3.8  | 237 | 0.37 | 8.7  | 25.3 |
| 25  | 175249.68 | 09028.95 | 84048.76 | 27.7 | 3.1  | 235 | 0.35 | 5.9  | 18.3 |
| 25  | 180419.76 | 09026.88 | 84045.68 | 32.9 | 2.4  | 253 | 0.25 | 7.4  | 22.2 |
| 25  | 183521.52 | 09033.97 | 84047.10 | 12.0 | 3.7  | 227 | 0.36 | 2.4  | 3.9  |
| 25  | 190729.88 | 09031.01 | 84046.63 | 6.5  | 3.6  | 231 | 0.42 | 3.1  | 3.9  |
| 25  | 192756.35 | 09029.66 | 84051.22 | 5.0  | 4.0  | 223 | 0.20 | 1.6  | 1.5  |
| 25  | 202416.30 | 09024.19 | 84043.40 | 29.7 | 3.3  | 228 | 0.42 | 4.4  | 9.0  |
| 25  | 202920.94 | 09020.15 | 84046.85 | 5.0  | 3.3  | 235 | 0.36 | 5.0  | 8.1  |
| 25  | 210614.88 | 09027.72 | 84056.16 | 10.4 | 3.2  | 229 | 0.36 | 4.9  | 8.1  |
| 25  | 213519.40 | 09018.64 | 84050.69 | 25.3 | 4.9  | 205 | 0.26 | 3.6  | 5.0  |
| 25  | 215300.03 | 09025.93 | 84046.95 | 13.0 | 3.0  | 194 | 0.36 | 3.3  | 3.9  |
| 25  | 220249.31 | 09034.40 | 84043.55 | 20.0 | 3.2  | 211 | 0.36 | 2.4  | 5.4  |
| 25  | 221318.70 | 09040.98 | 84048.24 | 25.8 | 3.1  | 313 | 0.51 | 10.4 | 15.6 |
| 25  | 222737.22 | 09036.34 | 84047.15 | 29.3 | 2.9  | 209 | 0.13 | 2.0  | 3.2  |
| 25  | 223037.84 | 09033.17 | 84049.44 | 27.1 | 3.0  | 216 | 0.33 | 2.7  | 10.0 |
| 25  | 223443.25 | 09043.90 | 84046.91 | 27.3 | 3.9  | 214 | 0.27 | 2.7  | 1.7  |
| 25  | 230635.17 | 09038.83 | 84048.13 | 32.4 | 3.5  | 257 | 0.30 | 2.5  | 3.1  |
| 25  | 231641.09 | 09036.55 | 84057.57 | 23.7 | 3.0  | 215 | 0.32 | 1.8  | 6.1  |
| 25  | 232025.75 | 09036.43 | 84047.28 | 26.8 | 3.1  | 209 | 0.34 | 2.1  | 3.0  |
| 25  | 234841.44 | 09035.97 | 84056.64 | 29.2 | 4.0  | 270 | 0.18 | 2.9  | 5.6  |
| 26  | 000512.37 | 09022.88 | 84046.56 | 13.7 | 3.2  | 197 | 0.34 | 2.4  | 3.2  |
| 26  | 002110.99 | 09016.52 | 84052.26 | 21.9 | 2.9  | 282 | 0.25 | 3.7  | 28.9 |
| 26  | 004459.55 | 09035.98 | 84042.98 | 17.2 | 3.0  | 207 | 0.32 | 1.8  | 4.2  |
| 26  | 005216.39 | 09035.93 | 84054.95 | 14.3 | 3.4  | 214 | 0.55 | 2.6  | 3.8  |
| 26  | 014607.25 | 09026.31 | 84046.88 | 2.6  | 3.1  | 226 | 0.40 | 3.8  | 4.5  |
| 26  | 014750.95 | 09051.09 | 85001.70 | 66.1 | 3.1  | 184 | 0.45 | 18.9 | 8.8  |
| 26  | 015304.24 | 09031.81 | 84046.85 | 11.4 | 3.1  | 217 | 0.44 | 2.7  | 4.2  |
| 26  | 021057.07 | 09044.37 | 84043.89 | 30.6 | 3.0  | 186 | 0.51 | 2.6  | 4.8  |
| 26  | 021453.66 | 09057.95 | 84052.85 | 23.1 | 2.2  | 182 | 0.27 | ***  | ***  |

## MARZO 1990

| DIA | TIEMPO OR | LAT. N   | LONG. W  | PROF | MAG. | GAP | RMS  | EH   | EZ   |
|-----|-----------|----------|----------|------|------|-----|------|------|------|
| 26  | 021943.11 | 09013.80 | 84047.69 | 22.5 | 3.0  | 245 | 0.28 | 3.1  | 18.5 |
| 26  | 022821.40 | 09031.36 | 84047.78 | 25.8 | 3.8  | 218 | 0.44 | 2.6  | 5.0  |
| 26  | 024018.46 | 09031.93 | 84054.23 | 9.8  | 3.3  | 221 | 0.34 | 2.3  | 3.5  |
| 26  | 024706.32 | 09025.78 | 84040.95 | 22.9 | 2.5  | 232 | 0.45 | 17.1 | 61.0 |
| 26  | 025117.51 | 09030.26 | 84045.68 | 0.9  | 2.5  | 219 | 0.07 | ***  | ***  |
| 26  | 031350.21 | 10014.33 | 84051.51 | 15.6 | 3.2  | 108 | 0.24 | 0.9  | 1.3  |
| 26  | 033044.65 | 09019.25 | 84050.74 | 9.3  | 3.4  | 238 | 0.34 | 2.7  | 4.2  |
| 26  | 033323.20 | 09023.74 | 84043.04 | 1.4  | 3.0  | 228 | 0.43 | 4.8  | 4.0  |
| 26  | 035511.32 | 10037.75 | 85016.35 | 63.1 | 2.2  | 270 | 0.06 | ***  | ***  |
| 26  | 043134.48 | 09033.41 | 84057.07 | 14.9 | 3.2  | 220 | 0.36 | 2.6  | 2.2  |
| 26  | 045507.19 | 09038.11 | 84048.42 | 15.0 | 2.5  | 223 | 0.39 | 9.2  | 16.8 |
| 26  | 045653.72 | 09056.80 | 85000.39 | 2.5  | 2.7  | 120 | 0.38 | 3.0  | 6.4  |
| 26  | 053949.39 | 09035.10 | 84050.19 | 13.0 | 3.1  | 213 | 0.36 | 1.4  | 2.0  |
| 26  | 055046.05 | 09028.02 | 84051.18 | 5.2  | 3.8  | 225 | 0.41 | 2.9  | 4.3  |
| 26  | 060204.21 | 09035.36 | 84047.67 | 22.3 | 2.9  | 211 | 0.38 | 10.9 | 33.4 |
| 26  | 060336.50 | 09041.17 | 84054.59 | 12.9 | 2.7  | 205 | 0.27 | ***  | ***  |
| 26  | 061731.87 | 09035.60 | 84050.96 | 25.7 | 3.3  | 213 | 0.46 | 2.5  | 4.0  |
| 26  | 062502.75 | 09036.95 | 84057.52 | 21.6 | 3.1  | 215 | 0.37 | 2.9  | 4.1  |
| 26  | 065555.95 | 09027.14 | 84047.29 | 36.5 | 3.2  | 225 | 0.52 | 5.0  | 2.9  |
| 26  | 071740.63 | 09040.07 | 84055.16 | 22.6 | 2.4  | 207 | 0.14 | 11.0 | 6.6  |
| 26  | 075354.17 | 09025.32 | 84053.76 | 43.8 | 3.0  | 260 | 0.44 | 5.9  | 12.3 |
| 26  | 080136.23 | 09010.52 | 84015.76 | 40.7 | 3.3  | 263 | 0.51 | 9.6  | 13.4 |
| 26  | 082725.70 | 09022.68 | 84046.77 | 63.2 | 3.1  | 247 | 0.42 | 7.4  | 7.6  |
| 26  | 083746.96 | 09032.95 | 84047.76 | 26.3 | 2.9  | 215 | 0.32 | 3.2  | 15.8 |
| 26  | 093617.54 | 09037.27 | 84021.98 | 2.5  | 2.7  | 191 | 0.03 | ***  | ***  |
| 26  | 093944.41 | 09038.44 | 84046.68 | 11.0 | 2.4  | 205 | 0.01 | ***  | ***  |
| 26  | 103847.02 | 09035.43 | 84044.78 | 23.9 | 3.1  | 181 | 0.54 | 2.7  | 6.0  |
| 26  | 104034.48 | 09025.08 | 84046.48 | 8.2  | 2.8  | 228 | 0.31 | 2.4  | 5.0  |
| 26  | 104816.72 | 09046.74 | 84055.53 | 23.4 | 4.2  | 168 | 0.29 | 1.8  | 2.0  |
| 26  | 110951.79 | 09015.48 | 84051.62 | 0.9  | 2.8  | 244 | 0.30 | 5.0  | 3.3  |
| 26  | 120119.75 | 09016.12 | 84048.31 | 40.2 | 3.0  | 242 | 0.24 | 4.6  | 9.0  |
| 26  | 121232.70 | 09038.86 | 84051.79 | 6.4  | 3.2  | 207 | 0.24 | 5.0  | 6.7  |
| 26  | 123445.19 | 09037.16 | 84045.13 | 36.2 | 2.4  | 206 | 0.06 | 1.4  | 0.7  |
| 26  | 125633.40 | 09057.13 | 84048.61 | 7.6  | 2.8  | 214 | 0.03 | ***  | ***  |
| 26  | 130307.99 | 09027.42 | 84045.45 | 31.1 | 2.6  | 191 | 0.52 | 3.8  | 10.4 |
| 26  | 132958.63 | 09017.58 | 84051.33 | 32.2 | 3.1  | 206 | 0.34 | 4.0  | 6.1  |
| 26  | 133918.17 | 09028.49 | 84035.50 | 34.1 | 2.9  | 258 | 0.39 | 4.2  | 10.4 |
| 26  | 134004.55 | 09039.73 | 84044.23 | 27.3 | 3.1  | 201 | 0.28 | 2.5  | 4.0  |
| 26  | 150210.91 | 09034.76 | 84056.44 | 25.6 | 3.2  | 217 | 0.35 | 3.4  | 4.9  |
| 26  | 154136.09 | 09047.02 | 84053.66 | 5.0  | 3.8  | 194 | 0.21 | 1.7  | 2.7  |

## MARZO 1990

| DIA | TIEMPO OR | LAT. N   | LONG. W  | PROF | MAG. | GAP | RMS  | EH   | EZ   |
|-----|-----------|----------|----------|------|------|-----|------|------|------|
| 26  | 163120.00 | 09016.29 | 84048.59 | 24.2 | 2.7  | 242 | 0.44 | 5.3  | 29.7 |
| 26  | 165513.93 | 09025.55 | 84046.67 | 9.3  | 3.4  | 227 | 0.42 | 2.6  | 4.4  |
| 26  | 170702.00 | 09027.12 | 84044.43 | 24.8 | 2.7  | 266 | 0.56 | ***  | ***  |
| 26  | 183103.30 | 09031.56 | 84045.07 | 22.6 | 3.1  | 216 | 0.37 | 3.5  | 10.0 |
| 26  | 183956.85 | 09030.49 | 84059.28 | 35.5 | 4.2  | 199 | 0.24 | 2.8  | 3.2  |
| 26  | 191359.29 | 09036.66 | 84000.89 | 33.7 | 3.0  | 218 | 0.57 | 6.4  | 5.9  |
| 26  | 191509.87 | 09038.83 | 84050.15 | 24.1 | 3.1  | 206 | 0.36 | 2.6  | 6.9  |
| 26  | 212906.70 | 08051.70 | 84052.44 | 10.0 | 2.9  | 271 | 0.98 | 38.1 | ***  |
| 26  | 235631.27 | 09041.90 | 85006.22 | 34.5 | 2.9  | 213 | 0.31 | 4.4  | 3.6  |
| 27  | 000251.94 | 09051.10 | 84053.76 | 26.2 | 2.9  | 167 | 0.28 | 1.1  | 2.5  |
| 27  | 000648.53 | 09024.66 | 84050.73 | 10.4 | 2.7  | 230 | 0.35 | 3.0  | 5.5  |
| 27  | 000808.49 | 09053.10 | 84055.95 | 14.1 | 2.5  | 169 | 0.38 | 2.4  | 3.1  |
| 27  | 003637.31 | 09037.98 | 84058.35 | 20.6 | 3.1  | 271 | 0.33 | 3.2  | 8.9  |
| 27  | 004649.19 | 09025.97 | 85004.55 | 51.3 | 3.7  | 237 | 0.50 | 5.5  | 11.3 |
| 27  | 013041.38 | 09014.74 | 84047.82 | 30.5 | 3.5  | 281 | 0.10 | 1.3  | 2.4  |
| 27  | 014656.04 | 09034.69 | 84039.13 | 28.5 | 2.8  | 208 | 0.41 | 2.3  | 3.9  |
| 27  | 034944.02 | 09039.49 | 84055.69 | 28.5 | 3.6  | 209 | 0.30 | 3.1  | 3.3  |
| 27  | 035257.36 | 09039.97 | 84047.53 | 19.7 | 2.5  | 204 | 0.35 | 2.2  | 3.5  |
| 27  | 042544.54 | 09025.90 | 84042.28 | 18.4 | 2.9  | 225 | 0.48 | 4.3  | 8.2  |
| 27  | 052727.46 | 09035.59 | 84057.21 | 13.0 | 3.1  | 217 | 0.41 | 2.3  | 3.5  |
| 27  | 075847.34 | 09045.57 | 84051.61 | 14.2 | 1.9  | 182 | 0.10 | 0.8  | 0.7  |
| 27  | 084602.38 | 09015.83 | 85003.78 | 28.8 | 3.2  | 250 | 0.36 | 4.6  | 6.7  |
| 27  | 090133.65 | 09017.42 | 85006.81 | 49.2 | 3.3  | 220 | 0.47 | 7.2  | 12.2 |
| 27  | 112049.13 | 09028.48 | 84043.02 | 23.6 | 3.0  | 264 | 0.48 | 4.4  | 3.9  |
| 27  | 112851.17 | 09021.45 | 84046.76 | 16.5 | 2.9  | 233 | 0.42 | 2.3  | 9.0  |
| 27  | 120837.04 | 09017.81 | 85023.80 | 39.9 | 4.0  | 263 | 0.36 | 13.6 | 18.4 |
| 27  | 142405.48 | 08056.83 | 84054.82 | 6.3  | 4.0  | 261 | 0.23 | 5.0  | 7.1  |
| 27  | 145219.47 | 09031.18 | 84045.54 | 20.6 | 4.6  | 220 | 0.31 | 3.3  | 3.5  |
| 27  | 181504.61 | 09041.78 | 84048.98 | 20.3 | 2.6  | 200 | 0.43 | 2.6  | 2.6  |
| 27  | 201529.87 | 09013.99 | 85015.66 | 31.1 | 3.8  | 232 | 0.31 | 2.8  | 2.2  |
| 27  | 221916.75 | 09019.50 | 85006.38 | 11.5 | 3.7  | 247 | 0.66 | 6.4  | 8.1  |
| 27  | 230509.40 | 10004.10 | 84000.56 | 20.9 | 3.5  | 320 | 0.06 | ***  | ***  |
| 28  | 004700.50 | 10007.10 | 84000.09 | 15.4 | 3.8  | 213 | 0.01 | 0.3  | 0.2  |
| 28  | 011435.88 | 09042.26 | 84056.06 | 13.1 | 2.2  | 180 | 0.33 | 2.1  | 1.7  |
| 28  | 011503.45 | 09039.46 | 84052.20 | 11.3 | 2.6  | 197 | 0.51 | 4.3  | 4.5  |
| 28  | 042849.98 | 09045.02 | 84050.76 | 4.2  | 3.5  | 151 | 0.46 | 2.1  | 2.3  |
| 28  | 143130.16 | 10004.40 | 84001.47 | 17.1 | 3.0  | 242 | 0.12 | 1.0  | 0.6  |
| 28  | 172443.35 | 09021.12 | 84042.79 | 23.6 | 4.2  | 196 | 0.18 | 3.0  | 4.3  |
| 28  | 185208.48 | 09030.24 | 84050.69 | 19.6 | 3.7  | 218 | 0.53 | 3.9  | 6.7  |
| 28  | 201716.04 | 09014.15 | 83048.70 | 46.3 | 3.5  | 193 | 0.26 | 2.2  | 5.1  |

## MARZO 1990

| DIA | TIEMPO    | OR | LAT.     | LONG.    | PROF | MAG | GAP | RMS  | EH   | EZ   |
|-----|-----------|----|----------|----------|------|-----|-----|------|------|------|
| 28  | 211123.00 |    | 09035.25 | 85000.04 | 13.9 | 3.3 | 219 | 0.33 | 1.4  | 1.3  |
| 29  | 000727.15 |    | 09043.83 | 84046.62 | 26.8 | 2.5 | 150 | 0.36 | 2.2  | 2.4  |
| 29  | 074433.48 |    | 09028.56 | 84048.00 | 28.4 | 3.6 | 223 | 0.31 | 2.2  | 3.7  |
| 29  | 120632.58 |    | 09022.74 | 84026.28 | 25.5 | 3.5 | 227 | 0.26 | 1.9  | 4.3  |
| 29  | 143347.99 |    | 09021.70 | 84026.05 | 21.5 | 3.3 | 253 | 0.30 | 3.1  | 8.4  |
| 29  | 164227.90 |    | 09020.41 | 85014.12 | 36.5 | 4.2 | 252 | 0.56 | 6.3  | 3.1  |
| 29  | 182947.19 |    | 09020.20 | 84051.10 | 11.8 | 3.4 | 237 | 0.19 | 2.0  | 2.1  |
| 29  | 222258.74 |    | 10007.04 | 84022.52 | 35.0 | 2.3 | 209 | 0.21 | ***  | ***  |
| 29  | 225315.55 |    | 10039.52 | 84044.79 | 25.0 | 2.2 | 262 | 0.10 | ***  | ***  |
| 30  | 005453.68 |    | 09037.28 | 84024.13 | 11.5 | 2.0 | 311 | 0.49 | ***  | ***  |
| 30  | 031955.80 |    | 09052.98 | 84003.86 | 12.8 | 3.1 | 205 | 0.47 | 3.5  | 9.0  |
| 30  | 142104.77 |    | 09035.18 | 84045.78 | 25.0 | 3.0 | 192 | 0.38 | 1.6  | 2.1  |
| 30  | 145046.62 |    | 09014.24 | 84048.80 | 0.1  | 3.1 | 245 | 0.36 | 4.2  | 3.1  |
| 30  | 212420.44 |    | 09021.91 | 84039.64 | 33.1 | 3.5 | 230 | 0.51 | 3.2  | 5.8  |
| 31  | 005700.98 |    | 09028.80 | 84041.02 | 35.7 | 3.0 | 210 | 0.50 | 3.1  | 7.0  |
| 31  | 112150.00 |    | 09039.78 | 85003.60 | 52.0 | 4.1 | 210 | 0.50 | 11.1 | 13.9 |

PARTE B

LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON M  $\geq$  4.0

MARZO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 01  | 080658.60 | iP   | Z    | C   |
|      |     | 86.00     | S    | Z    |     |
| BUS  | 01  | 080651.00 | iP   | Z    | D   |
|      |     | 69.50     | S    | Z    |     |
| AR6  | 01  | 080713.80 | eP   | Z    |     |
| LCR2 | 01  | 080655.10 | iP   | Z    | C   |
|      |     | 79.50     | S    | Z    |     |
| ACR  | 01  | 080628.40 | iP   | Z    | C   |
| FOR  | 01  | 080710.60 | iP   | Z    | D   |

18Km al Noroeste de Puerto Armuelles, frontera entre Costa Rica y Panam , MD= 4.2

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 03 | 084428.40 | eP | Z |   |
| LCR2 | 03 | 084430.50 | iP | Z | C |
| BUS  | 03 | 084434.50 | iP | Z | D |
| VPS2 | 03 | 084426.20 | eP | Z |   |
| VCR  | 03 | 084410.30 | eP | Z |   |
| SRA  | 03 | 084423.20 | iP | Z | C |

Oxaca México, Mb= 5.4

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 04 | 042440.00 | iP | Z | D |
| LCR2 | 04 | 042436.90 | iP | Z | C |
| BUS  | 04 | 042433.00 | iP | Z | D |
| VCR  | 04 | 042455.10 | iP | Z | C |
| LIO  | 04 | 042436.00 | iP | Z | D |
| AR6  | 04 | 042453.30 | iP | Z | C |
| SRA  | 04 | 042444.50 | iP | Z | D |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 11 | 075657.20 | iP | Z | D |
| SRA | 11 | 075651.30 | iP | Z | D |
| VCR | 11 | 075635.30 | iP | Z | C |
| BUS | 11 | 075703.00 | iP | Z | C |

54Km al Oeste de la Península de Santa Elena Costa Rica, MD= 4.4

MARZO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 13  | 194404.10 | iP   | Z    | C   |
| SRA  | 13  | 194408.00 | iP   | Z    | C   |
| VPS2 | 13  | 194408.50 | iP   | Z    | C   |
| LCR2 | 13  | 194402.00 | iP   | Z    | C   |
| BUS  | 13  | 194357.60 | iP   | Z    | C   |

Norte de Perú, Mb= 5.8

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 14 | 033830.30 | eP | Z | D |
|-----|----|-----------|----|---|---|

Oceano Atlantico Norte cerca de Trinidad, Mb= 5.4

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 17 | 223051.00 | iP | Z | C |
|-----|----|-----------|----|---|---|

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 20 | 184233.00 | eP | Z |   |
| LCR2 | 20 | 184235.80 | iP | Z | D |
| LIO  | 20 | 184301.60 | eP | Z |   |
| SRA  | 20 | 184229.90 | iP | Z | C |

Perú, Intensidad IV Lima, Mb= 4.0

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 24 | 025721.00 | eP | Z |  |
| SRA | 24 | 025712.20 | eP | Z |  |

Telesismo.

|      |    |           |     |   |   |
|------|----|-----------|-----|---|---|
| SJS  | 25 | 131623.60 | iP  | Z | + |
|      |    | 35.80     | S   | Z |   |
| VCR  | 25 | 131621.80 | iP  | Z | D |
|      |    | 32.10     | S   | Z |   |
| LCR2 | 25 | 131621.80 | iP  | Z | D |
| AR6  | 25 | 131621.90 | iP  | Z | D |
| FOR  | 25 | 131623.00 | iP  | Z | - |
| LIO  | 25 | 131638.70 | iPn | Z | C |
| BUS  | 25 | 131627.50 | iP  | Z | C |
| ACR  | 25 | 131638.10 | ePn | Z |   |

17Km al Este de Cabo Blanco (Puntarenas), Int. V Jacó y Cabuya IV en San José, Costa Rica, MD= 5.7

## MARZO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 25  | 132313.00 | iP   | Z    | +   |
|      |     | 25.70     | S    | Z    |     |
| LCR2 | 25  | 132312.50 | iP   | Z    | D   |
|      |     | 24.10     | S    | Z    |     |
| AR6  | 25  | 132311.20 | iP   | Z    | D   |
| FOR  | 25  | 132312.00 | eP   | Z    |     |
| LIO  | 25  | 132328.20 | iPn  | Z    | +   |
| VCR  | 25  | 132311.90 | iP   | Z    | D   |
|      |     | 22.70     | S    | Z    |     |
| BUS  | 25  | 132317.10 | eP   | Z    | C   |
| ACR  | 25  | 132327.70 | ePn  | Z    | -   |

17Km al Este de Cabuya (Puntarenas), Int. VII-VIII Mata Limón y Cóbano, VII Jacó y Tivives y VI en San José, Costa Rica, MD= 6.5

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 25 | 133638.00 | iP | Z |   |
|     |    | 49.00     | S  | Z |   |
| AR6 | 25 | 133638.30 | iP | Z | D |
| FOR | 25 | 133637.10 | eP | Z |   |
|     |    | 48.60     | S  | Z |   |
| VCR | 25 | 133637.20 | iP | Z | D |
|     |    | 49.00     | S  | Z |   |
| LIO | 25 | 133652.20 | eP | Z | + |
|     |    | 74.80     | S  | Z |   |

23Km Este sureste de Cóbano (Puntarenas), Int. III Tambor y II en San José, Costa Rica, MD= 4.1

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 25 | 192814.30 | eP | Z | C |
|      |    | 27.40     | S  | Z |   |
| FOR  | 25 | 192815.90 | iP | Z | D |
| LIO  | 25 | 192829.60 | iP | Z | C |
| VCR  | 25 | 192816.00 | iP | Z | D |
|      |    | 30.40     | S  | Z |   |
| LCR2 | 25 | 192814.10 | iP | Z | D |
| AR6  | 25 | 192815.00 | eP | Z |   |
| BUS  | 25 | 192818.00 | eP | Z |   |
| ACR  | 25 | 192828.50 | eP | Z |   |
| VPS2 | 25 | 192814.50 | iP | Z | D |
| SRA  | 25 | 192810.95 | iP | Z | C |

26Km Suroeste de Jacó (Puntarenas), Int. II Puntarenas y San José, Costa Rica, MD= 4.0

MARZO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 25  | 213538.30 | iP   | Z    | C   |
|      |     | 48.30     | S    | Z    |     |
| LCR2 | 25  | 213537.20 | iP   | Z    | D   |
| FOR  | 25  | 213541.70 | iP   | Z    | D   |
| BUS  | 25  | 213540.90 | iP   | Z    | D   |
| AR6  | 25  | 213540.95 | iP   | Z    | D   |
| VCR  | 25  | 213540.20 | iP   | Z    | D   |
| SRA  | 25  | 213535.90 | iP   | Z    | C   |
| VPS2 | 25  | 213539.30 | iP   | Z    | D   |
| LIO  | 25  | 213552.50 | iP   | Z    | C   |
| ACR  | 25  | 213551.00 | iP   | Z    | C   |
|      |     | 71.20     | S    | Z    |     |

40Km al Suroeste de Jacó (Puntarenas), Int. III Herradura y II en San José, Costa Rica, MD= 4.9

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 25 | 234859.35 | iP | Z | C |
|      |    | 72.50     | S  | Z |   |
| AR6  | 25 | 234857.60 | iP | Z | D |
| BUS  | 25 | 234903.90 | iP | Z | C |
| FOR  | 25 | 234858.80 | iP | Z | D |
| LCR2 | 25 | 234859.00 | iP | Z | D |
| SRA  | 25 | 234855.00 | iP | Z | C |

18Km al Este sureste de Cabuya (Puntarenas), Int. III Tambor y II en San José, Costa Rica, MD= 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 26 | 104833.40 | iP | Z | C |
|      |    | 45.00     | S  | Z |   |
| BUS  | 26 | 104838.50 | iP | Z | D |
| AR6  | 26 | 104829.90 | iP | Z | D |
| SRA  | 26 | 104827.70 | iP | Z | C |
| LIO  | 26 | 104850.00 | iP | Z | D |
| LCR2 | 26 | 104833.80 | iP | Z | C |
| VCR  | 26 | 104832.10 | iP | Z | D |
|      |    | 42.50     | S  | Z |   |
| ACR  | 26 | 104851.70 | eP | Z |   |
| FOR  | 26 | 104830.80 | iP | Z | D |

7Km al Sur de Paquera (Puntarenas), Int. III Puntarenas y II en San José, Costa Rica, MD= 4.2

MARZO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 26  | 184016.20 | iP   | Z    | C   |
|      |     | 28.70     | S    | Z    |     |
| VPS2 | 26  | 184015.40 | iP   | Z    | D   |
| SRA  | 26  | 184012.00 | iP   | Z    | C   |
| BUS  | 26  | 184019.80 | iP   | Z    | D   |
| VCR  | 26  | 184014.00 | iP   | Z    | C   |
| FOR  | 26  | 184015.00 | iP   | Z    | C   |
| LIO  | 26  | 184030.30 | iP   | Z    | C   |
| LCR2 | 26  | 184015.40 | iP   | Z    | D   |
| ACR  | 26  | 184029.80 | iP   | Z    | C   |

15Km al Sureste de Cabuya (Puntarenas), Int. III Puntarenas y II en San José, Costa Rica, MD= 4.2

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 27 | 120902.50 | iP | Z | D |
| LIO  | 27 | 120916.80 | iP | Z | C |
| BUS  | 27 | 120905.00 | iP | Z | D |
| LCR2 | 27 | 120901.00 | iP | Z | C |
| VCR  | 27 | 120853.70 | iP | Z | D |
|      |    | 66.50     | S  | Z |   |
| SRA  | 27 | 120858.80 | iP | Z | D |
|      |    | 75.00     | S  | Z |   |

50Km al Suroeste de Cabuya (Puntarenas), Costa Rica, MD= 4.0

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 27 | 142429.70 | iP | Z | D |
|     |    | 48.00     | S  | Z |   |
| SRA | 27 | 142428.10 | iP | Z | D |
| LIO | 27 | 142442.40 | iP | Z | C |
| BUS | 27 | 142430.00 | iP | Z | C |
| VCR | 27 | 142421.30 | iP | Z | C |
| ACR | 27 | 142437.30 | iP | Z | C |
| AR6 | 27 | 142432.90 | iP | Z | C |

74Km al Sureste de Cabo Blanco (Puntarenas), Costa Rica, MD= 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 27 | 145235.00 | iP | Z | C |
|      |    | 46.70     | S  | Z |   |
| PLN  | 27 | 145225.00 | iP | Z | D |
| TIV  | 27 | 145226.80 | iP | Z | D |
| JCR  | 27 | 145228.90 | iP | Z | D |
| SRA  | 27 | 145232.00 | iP | Z | C |
| LCR2 | 27 | 145234.00 | iP | Z |   |
| VCR  | 27 | 145238.00 | iP | Z | C |
|      |    | 50.90     | S  | Z |   |
| BUS  | 27 | 145237.90 | iP | Z | D |
| LIO  | 27 | 145249.80 | iP | Z | C |

18Km al Sur de Jacó, Int. III Herradura. II San José, Costa Rica.  
MD= 4.6

MARZO 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 28  | 172459.80 | eP   | Z    | +   |
| LCR2 | 28  | 172458.80 | iP   | Z    | D   |
| VPS2 | 28  | 172500.60 | iP   | Z    | D   |
| SRA  | 28  | 172457.30 | iP   | Z    | C   |
| ACR  | 28  | 172512.80 | eP   | Z    |     |
| VCR  | 28  | 172505.30 | iP   | Z    | D   |
| LIO  | 28  | 172514.20 | iP   | Z    | D   |
| BUS  | 28  | 172502.00 | iP   | Z    | C   |

40Km al Suroeste de Jacó (Puntarenas), Int. III Jacó y II en San José, Costa Rica, MD= 4.2

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 29 | 164253.10 | eP | Z | + |
|      |    | 67.90     | S  | Z |   |
| SRA  | 29 | 164247.30 | eP | Z | C |
|      |    | 62.00     | S  | Z |   |
| BUS  | 29 | 164253.80 | iP | Z | C |
| VCR  | 29 | 164245.20 | eP | Z | - |
| AR6  | 29 | 164249.70 | iP | Z | + |
| VPS2 | 29 | 164251.30 | eP | Z | + |

28Km al Suroeste de Cabo Blanco (Puntarenas), Costa Rica, MD= 4.2

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 31 | 112208.70 | iP | Z | C |
|      |    | 23.50     | S  | Z |   |
| VPS2 | 31 | 112208.60 | eP | Z |   |
| LIO  | 31 | 112224.00 | eP | Z |   |
| LCR2 | 31 | 112225.70 | iP | Z | D |
| SRA  | 31 | 112205.20 | iP | Z | C |
|      |    | 09.60     | S  | Z |   |
| ACR  | 31 | 112222.90 | eP | Z |   |

11Km al Sureste de Cóbano (Puntarenas), Int II Cóbano, Costa Rica, MD= 4.1

PGM ANASIS Ver 2.0

Diseño:

Guillermo Á Avila R

FEC m:01-03-1990

FEC M:31-03-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:MAR90

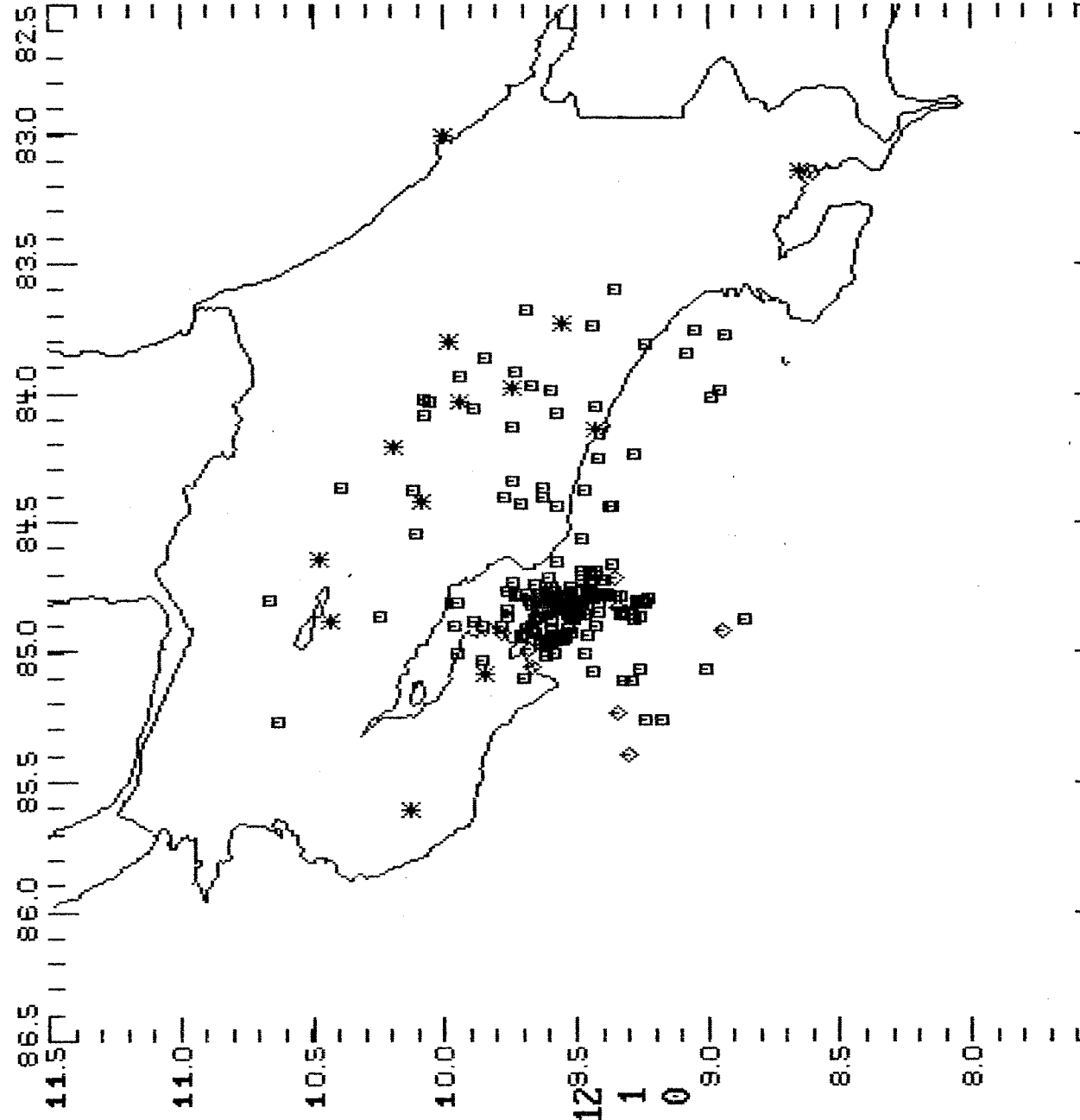
N SIS: 176

M≤3.9: 162 4≤M<5: 12<sup>9.5</sup>

5≤M<6: 1 6≤M<7: 1

7≤M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



PARTE A

SISMOS LOCALES

PARAMETROS DE LOS EVENTOS LOCALIZADOS

ABRIL 1990

| DIA | TIEMPO     | OR. | LAT. N | LONG. W  | PROF. | MAG | DHP | AMS  | EH   | ED   |
|-----|------------|-----|--------|----------|-------|-----|-----|------|------|------|
| 01  | 013351.37  | 09  | 17.58  | 83 58.73 | 4.1   | 2.1 | 305 | 0.16 | 0.2  | 0.3  |
| *01 | 080410.29* | 10  | 11.51  | 84 15.73 | 6.7   | 2.8 | 307 | 0.36 | 3.3  | 0.9* |
| 01  | 081106.90* | 10  | 11.39  | 84 11.13 | 3.8   | 2.7 | 244 | 0.31 | 3.4  | 1.9* |
| 01  | 164336.49  | 09  | 58.74  | 84 21.53 | 45.0  | 2.6 | 219 | 0.15 | 3.7  | 0.2  |
| 02  | 014110.42  | 09  | 37.57  | 84 33.01 | 11.1  | 2.7 | 187 | 0.46 | 6.6  | 6.1  |
| 02  | 022314.28  | 09  | 28.76  | 84 49.13 | 0.6   | 3.0 | 220 | 0.08 | 2.9  | 1.2  |
| 02  | 031000.51  | 09  | 36.64  | 84 49.69 | 45.0  | 2.7 | 189 | 0.05 | 0.1  | 0.1  |
| 02  | 031513.98  | 10  | 07.62  | 84 49.33 | 30.0  | 2.7 | 206 | 0.32 | 0.1  | 0.1  |
| 02  | 042030.32  | 09  | 16.90  | 84 32.23 | 33.4  | 3.7 | 211 | 0.23 | 6.3  | 4.8  |
| 02  | 080027.77  | 09  | 17.63  | 84 47.88 | 30.0  | 2.7 | 239 | 0.03 | 0.2  | 0.2  |
| 02  | 080458.37  | 09  | 43.83  | 84 43.94 | 33.1  | 2.9 | 158 | 0.13 | 4.4  | 4.4  |
| 02  | 081721.91  | 09  | 33.40  | 84 56.79 | 114.0 | 2.5 | 168 | 0.21 | 2.1  | 4.3  |
| 02  | 083705.18  | 09  | 32.99  | 84 46.50 | 45.0  | 2.7 | 197 | 0.01 | 1.3  | 2.5  |
| 02  | 084229.77  | 09  | 43.95  | 84 50.57 | 62.2  | 2.5 | 186 | 0.09 | 3.9  | 5.1  |
| 02  | 103414.09  | 09  | 38.31  | 84 54.84 | 30.0  | 2.6 | 184 | 0.03 | 3.7  | 4.2  |
| 02  | 110613.37  | 09  | 26.01  | 83 05.71 | 45.0  | 3.6 | 243 | 0.43 | 15.6 | 5.0  |
| 02  | 113228.69  | 09  | 33.91  | 84 44.33 | 9.9   | 2.7 | 196 | 0.34 | 9.1  | 3.7  |
| 02  | 121219.01  | 09  | 35.59  | 84 34.95 | 6.7   | 3.5 | 202 | 0.43 | 7.3  | 18.1 |
| 02  | 133100.71  | 09  | 39.99  | 84 34.27 | 10.6  | 3.3 | 173 | 0.42 | 3.8  | 3.1  |
| 02  | 144657.06  | 10  | 02.37  | 84 49.21 | 15.0  | 2.8 | 193 | 0.23 | 3.1  | 3.4  |
| 02  | 132635.64  | 09  | 39.80  | 84 36.26 | 13.0  | 3.2 | 184 | 0.47 | 14.0 | 7.4  |
| 02  | 164900.37  | 09  | 43.93  | 84 33.07 | 42.2  | 3.2 | 337 | 0.04 | 2.3  | 1.3  |
| 02  | 165150.93  | 09  | 44.03  | 84 30.72 | 45.0  | 2.7 | 167 | 0.38 | 3.6  | 4.2  |
| 02  | 163437.70  | 09  | 35.09  | 84 40.02 | 3.1   | 2.7 | 199 | 0.34 | 3.2  | 1.7  |
| 02  | 191633.02  | 09  | 31.09  | 84 34.73 | 15.0  | 2.5 | 176 | 0.30 | ***  | ***  |
| 03  | 030835.80* | 10  | 08.19  | 84 10.59 | 7.0   | 2.6 | 197 | 0.14 | 2.4  | 2.1* |
| 03  | 030903.43* | 10  | 11.39  | 84 12.72 | 3.8   | 3.3 | 242 | 0.24 | 3.5  | 1.6* |
| 03  | 060910.12  | 08  | 59.30  | 82 53.39 | 24.0  | 3.9 | 183 | 0.46 | 4.6  | 7.2  |
| 03  | 035156.95* | 10  | 08.68  | 84 09.47 | 1.2   | 2.3 | 221 | 0.29 | 3.4  | 3.1* |
| 03  | 113212.10* | 10  | 07.62  | 83 41.71 | 30.0  | 4.3 | 324 | 0.26 | 11.7 | 2.0  |
| 03  | 132046.13  | 08  | 44.47  | 83 07.23 | 15.0  | 2.6 | 246 | 0.22 | 7.1  | 4.8  |
| 03  | 134619.39  | 09  | 42.17  | 84 49.64 | 30.7  | 3.4 | 163 | 0.18 | 3.0  | 4.1  |
| 03  | 182935.46  | 09  | 43.37  | 84 25.74 | 45.0  | 2.7 | 134 | 0.04 | ***  | ***  |
| 03  | 201410.97  | 10  | 12.15  | 83 22.24 | 23.8  | 4.3 | 216 | 0.03 | 0.0  | 7.5  |
| 03  | 223539.37  | 09  | 29.22  | 83 00.67 | 1.5   | 3.9 | 185 | 0.39 | 6.2  | 3.4  |

ABRIL 1990

| DIA | TIEMPO    | GR. | LAT. N   | LONG     | M    | PROF | MAG | GAP  | RMS  | ERR  | ERR |
|-----|-----------|-----|----------|----------|------|------|-----|------|------|------|-----|
| 03  | 225703.70 | Y   | 10 38 46 | 86 18 53 | 13.3 | 5.9  | 332 | 0.29 | 11.5 | 6.7  |     |
| 03  | 234116.80 |     | 09 33 04 | 84 53 23 | 13.0 | 5.7  | 229 | 0.17 | 3.3  | 1.1  |     |
| 04  | 015513.01 |     | 10 10 46 | 85 21 55 | 15.0 | 3.9  | 222 | 0.11 | 3.1  | 7.2  |     |
| 04  | 081349.43 | *   | 10 03 41 | 84 20 47 | 16.1 | 5.5  | 154 | 0.30 | 4.9  | 6.7  | *   |
| 04  | 162812.62 |     | 09 38.83 | 84 53 52 | 48.0 | 2.7  | 209 | 0.01 | ***  | ***  |     |
| 04  | 170512.81 |     | 09 33.55 | 85 35 20 | 03.3 | 4.2  | 374 | 0.12 | 5.7  | 4.8  |     |
| 04  | 171238.45 |     | 09 39 89 | 84 53 46 | 32.2 | 3.0  | 210 | 0.20 | 6.0  | 8.7  |     |
| 04  | 172634.09 |     | 10 01.72 | 85 32 99 | 21.0 | 4.2  | 324 | 0.06 | 9.4  | 7.5  |     |
| 04  | 172903.14 |     | 09 23.17 | 84 51 15 | 57.7 | 3.4  | 249 | 0.00 | 0.1  | 0.1  |     |
| 04  | 180219.95 |     | 10 09.81 | 85 32 46 | 21.4 | 3.5  | 248 | 0.15 | 0.2  | 0.5  |     |
| 05  | 013127.78 |     | 09 31.90 | 83 07 07 | 48.0 | 3.4  | 291 | 0.23 | 4.3  | 1.3  |     |
| 05  | 223006.20 |     | 10 12 24 | 84 12.78 | 0.8  | 1.4  | *** | 0.12 | 0.2  | 1.0  | *   |
| 05  | 232033.30 |     | 10 10.44 | 84 13.02 | 5.1  | 1.0  | *** | 0.12 | 1.7  | 0.9  | *   |
| 06  | 074451.05 |     | 09 36 46 | 84 18 74 | 2.0  | 3.9  | 172 | 0.30 | 3.6  | 8.0  | *   |
| 06  | 100823.39 | *   | 09 23.12 | 84 42.41 | 23.5 | 4.1  | 196 | 0.41 | 3.0  | 5.9  |     |
| 06  | 174028.34 |     | 09 35.95 | 84 54 38 | 36.9 | 3.8  | 230 | 0.36 | 6.3  | 2.3  |     |
| 06  | 193939.50 |     | 10 12.00 | 84 12.60 | 3.0  | 2.3  | *** | 0.06 | 0.2  | 0.9  | *   |
| 06  | 201240.62 |     | 09 21.34 | 84 40 46 | 3.3  | 3.3  | 231 | 0.29 | 6.7  | 6.3  |     |
| 07  | 033909.54 |     | 10 10 33 | 84 26.39 | 45.3 | 3.8  | 137 | 0.37 | 7.6  | 3.4  |     |
| 07  | 040436.78 |     | 09 43.02 | 84 45 37 | 13.0 | 3.2  | 248 | 0.13 | 6.1  | 2.1  |     |
| 07  | 040610.30 |     | 10 43.18 | 84 12.62 | 27.9 | 2.9  | 273 | 0.31 | 4.3  | 2.3  |     |
| 07  | 043825.96 |     | 09 41.37 | 84 30.96 | 3.3  | 3.2  | 238 | 0.47 | 9.5  | 8.2  |     |
| 07  | 054759.37 |     | 09 22 28 | 84 32.36 | 0.3  | 3.1  | 267 | 0.34 | 7.4  | 6.5  |     |
| 07  | 133411.35 |     | 09 03 47 | 83 32.02 | 24.7 | 2.6  | 236 | 0.05 | 1.6  | 3.9  |     |
| 07  | 193404.37 |     | 10 11.21 | 83 49 79 | 15.0 | 2.5  | 273 | 0.26 | 10.3 | 24.9 | *   |
| 07  | 193754.50 |     | 10 12 50 | 84 14.27 | 1.5  | 1.7  | *** | 0.12 | 1.2  | 1.2  | *   |
| 07  | 224321.26 |     | 10 20.87 | 83 52 21 | 6.5  | 2.9  | 284 | 0.17 | 5.3  | 6.5  | *   |
| 08  | 014804.63 |     | 10 18.64 | 84 26 24 | 52.3 | 2.7  | 218 | 0.27 | ***  | ***  |     |
| 08  | 031413.31 |     | 09 24.91 | 83 45.39 | 15.0 | 2.5  | 180 | 0.24 | ***  | ***  |     |
| 08  | 134326.93 |     | 10 23 71 | 84 11 46 | 42.1 | 3.6  | 302 | 0.23 | 11.2 | 31.1 |     |
| 08  | 191317.14 | *   | 09 41.52 | 84 42 73 | 29.4 | 3.8  | 221 | 0.25 | 2.1  | 1.5  |     |
| 09  | 021323.50 |     | 09 24.80 | 83 01 50 | 35.1 | 3.7  | 234 | 0.05 | 4.5  | 5.2  |     |
| 09  | 214340.74 |     | 09 24 45 | 84 54 41 | 57.4 | 3.9  | 304 | 0.24 | ***  | ***  |     |
| 10  | 204241.00 | *   | 09 39.99 | 84 23 19 | 10.4 | 3.8  | 224 | 0.01 | ***  | ***  | *   |
| 11  | 023918.62 |     | 09 21.38 | 83 37 11 | 15.0 | 3.9  | 296 | 0.13 | ***  | ***  |     |
| 11  | 040306.34 |     | 10 40.75 | 86 15 02 | 25.9 | 3.9  | 328 | 0.07 | 1.8  | 0.9  |     |
| 11  | 102523.48 |     | 10 33.63 | 84 48 07 | 0.2  | 2.5  | 267 | 0.16 | 17.5 | 19.3 |     |
| 11  | 111036.61 |     | 10 31.93 | 84 09 39 | 37.7 | 3.2  | 233 | 0.06 | 1.6  | 1.1  |     |
| 11  | 045914.50 |     | 10 13.71 | 84 14 22 | 1.0  | 2.6  | *** | 0.43 | 1.2  | 0.5  | *   |
| 11  | 201701.70 |     | 10 11.39 | 84 14 22 | 0.3  | ***  | *** | 0.27 | 2.2  | 0.4  | *   |

ABRIL 1990

| DIA | TIEMPO DR. | LAT. N     | LONG. W  | PROF  | MAG | GAP | RMS  | ERH  | ERZ   |
|-----|------------|------------|----------|-------|-----|-----|------|------|-------|
| 11  | 224056.96  | 10 08 53   | 83 39.17 | 13.1  | 2.9 | 321 | 0.03 | ***  | ****  |
| 12  | 025642.30  | 10 12 50   | 84 12.50 | 1.0   | 1.7 | *** | 0.45 | 4.0  | 4.6*  |
| 12  | 193240.20  | 10 12.48   | 84 12.60 | 0.9   | 2.0 | *** | 0.39 | 1.4  | 6.5*  |
| 12  | 201701.80  | 10 11 54   | 84 14.22 | 0.5   | 1.7 | *** | 0.29 | 1.2  | 0.4*  |
| 12  | 075516.94  | 09 22.05   | 84 50.29 | 15.4  | 3.2 | 234 | 0.17 | 2.0  | 16.7  |
| 13  | 030300.32  | 10 15.37   | 84 55.04 | 14.5  | 3.3 | 241 | 0.01 | 1.0  | 0.4   |
| 13  | 080103.13  | 09 28.34   | 85 00.49 | 13.0  | 3.3 | 230 | 0.26 | 4.1  | 10.1  |
| 13  | 145228.52  | 09 34.25   | 84 54.59 | 45.0  | 3.5 | 242 | 0.32 | ***  | ***   |
| 13  | 175541.36  | 09 57.27   | 84 44.09 | 8.2   | 3.3 | 235 | 0.16 | 3.9  | 3.5   |
| 13  | 230410.55  | 09 33.94   | 85 03.29 | 29.7  | 3.3 | 234 | 0.01 | ***  | ***   |
| 14  | 150147.85  | 109 30.67  | 84 08.11 | 106.4 | 3.3 | 161 | 0.05 | 1.9  | 1.1   |
| 14  | 190136.43  | 09 22.02   | 85 03.70 | 99.2  | 3.2 | 232 | 0.19 | 3.0  | 3.1   |
| 15  | 063854.98  | *08 35.99  | 84 01.54 | 36.8  | 4.1 | 199 | 0.23 | 7.5  | 7.7   |
| 15  | 153259.31  | 08 59.00   | 84 03.56 | 27.1  | 4.1 | 220 | 0.32 | 3.2  | 3.5   |
| 16  | 062239.21  | 109 53.77  | 83 58.02 | 122.2 | 3.2 | 208 | 0.22 | ***  | ***   |
| 16  | 062334.02  | 09 19.02   | 84 33.25 | 30.6  | 3.3 | 244 | 0.31 | 4.8  | 4.1   |
| 16  | 191640.51  | *109 40.09 | 85 07.39 | 47.7  | 4.0 | 213 | 0.20 | 21.0 | 13.9  |
| 16  | 205444.54  | 10 10.32   | 85 19.25 | 20.4  | 3.6 | 154 | 0.05 | 1.3  | 1.6   |
| 16  | 210824.84  | *109 42.35 | 85 09.55 | 70.6  | 4.4 | 199 | 0.41 | 7.5  | 14.6  |
| 17  | 101640.39  | *09 52.15  | 83 54.70 | 0.3   | 3.3 | 217 | 0.28 | ***  | ****  |
| 17  | 134023.66  | 09 32.43   | 84 43.52 | 27.1  | 3.2 | 262 | 0.17 | 4.6  | 3.1   |
| 17  | 221951.01  | 10 14.29   | 84 00.43 | 45.0  | 3.0 | 244 | 0.07 | ***  | ***   |
| 17  | 031232.33  | 09 34.09   | 85 10.71 | 9.0   | 2.6 | 191 | 0.05 | ***  | ****  |
| 18  | 040757.49  | *09 47.40  | 84 00.53 | 12.8  | 3.6 | 164 | 0.38 | 3.2  | 1.0*  |
| 18  | 060855.11  | 10 26.33   | 84 55.39 | 15.0  | 2.5 | 233 | 0.02 | ***  | ***   |
| 20  | 014011.24  | 09 44.03   | 84 05.51 | 13.0  | 3.3 | 204 | 0.22 | ***  | ****  |
| 20  | 014851.10  | 09 37.43   | 84 12.04 | 10.7  | 3.2 | 236 | 0.24 | 7.1  | 34.0* |
| 20  | 080323.57  | 09 35.53   | 84 29.37 | 95.5  | 3.1 | 250 | 0.34 | 2.7  | 4.8   |
| 20  | 100045.30  | 09 33.43   | 83 52.09 | 15.0  | 2.5 | 231 | 0.12 | ***  | ****  |
| 20  | 100214.61  | 09 16.53   | 85 29.29 | 37.0  | 3.3 | 252 | 0.32 | 0.5  | 0.3   |
| 20  | 121306.99  | 109 20.99  | 84 00.43 | 93.3  | 3.5 | 181 | 0.19 | 20.5 | 11.6* |
| 20  | 132023.97  | 09 04.51   | 85 46.11 | 42.0  | 3.3 | 215 | 0.17 | 3.0  | 4.6   |
| 21  | 020929.18  | 09 48.42   | 84 00.43 | 50.0  | 2.3 | 162 | 0.14 | 0.2  | 0.3   |
| 21  | 135923.97  | 09 59.78   | 84 19.54 | 22.7  | 3.7 | 333 | 0.03 | 6.8  | 6.1*  |
| 21  | 162956.02  | *09 41.00  | 85 12.59 | 74.0  | 3.2 | 232 | 0.13 | 3.2  | 4.2   |
| 21  | 192026.78  | 09 26.42   | 84 49.25 | 1.6   | 3.3 | 227 | 0.27 | 1.0  | 1.5   |
| 21  | 214014.63  | 109 42.34  | 84 53.71 | 81.7  | 3.0 | 221 | 0.33 | 34.8 | 14.3  |
| 22  | 053435.70  | 09 35.68   | 84 09.84 | 12.3  | 2.8 | 282 | 0.36 | 6.9  | 7.5*  |
| 23  | 012913.55  | 09 27.93   | 85 09.27 | 30.0  | 3.4 | 238 | 0.14 | 8.6  | 3.5   |
| 23  | 072624.32  | 09 19.85   | 84 39.26 | 30.0  | 3.7 | 195 | 0.10 | 3.3  | 3.8   |

APRIL 1990

| DIA | TIEMPO    | GR. | LAT | N     | LONG. | W     | PROF | MAO | UAP | RMS  | ERR  | ERR  |
|-----|-----------|-----|-----|-------|-------|-------|------|-----|-----|------|------|------|
| 24  | 024159.83 |     | 109 | 37.19 | 84    | 47.02 | 51.7 | 3.1 | 207 | 0.14 | 4.1  | 7.5  |
| 26  | 232314.38 |     | 09  | 27.38 | 84    | 49.07 | 0.9  | 3.3 | 225 | 0.22 | 1.7  | 2.0  |
| 26  | 040657.90 |     | 10  | 10.44 | 84    | 15.44 | 1.0  | 1.4 | *** | 0.44 | 1.4  | 1.4* |
| 26  | 111755.40 |     | 10  | 11.09 | 84    | 11.09 | 0.9  | 1.4 | *** | 0.28 | 0.7  | 0.5* |
| 26  | 191646.00 |     | 10  | 10.44 | 84    | 12.42 | 3.5  | 3.1 | *** | 0.08 | 1.0  | 1.7* |
| 27  | 012309.36 | *   | 08  | 39.22 | 83    | 38.26 | 23.7 | 3.4 | 217 | 0.37 | 5.7  | 5.6  |
| 27  | 030512.41 |     | 08  | 48.79 | 84    | 03.28 | 36.6 | 3.9 | 228 | 0.09 | 0.7  | 0.9  |
| 27  | 033834.04 |     | 09  | 52.70 | 83    | 07.44 | 65.6 | 3.5 | 195 | 0.00 | 4.6  | 3.4  |
| 27  | 032048.58 |     | 09  | 52.22 | 84    | 50.77 | 72.9 | 3.2 | 235 | 0.07 | 9.5  | 3.5  |
| 27  | 064347.27 |     | 09  | 24.26 | 84    | 19.30 | 72.5 | 3.2 | 243 | 0.05 | 0.7  | 1.9  |
| 27  | 070647.63 |     | 09  | 44.05 | 84    | 44.20 | 42.0 | 3.4 | 204 | 0.08 | ***  | ***  |
| 27  | 073448.30 |     | 10  | 11.31 | 84    | 15.77 | 2.0  | 3.3 | *** | 0.28 | 1.6  | 1.9* |
| 28  | 012309.20 |     | 08  | 40.60 | 83    | 37.50 | 27.9 | 3.2 | 217 | 0.15 | 3.6  | 1.5  |
| 28  | 013003.57 |     | 08  | 27.24 | 83    | 38.33 | 24.2 | 3.1 | 222 | 0.36 | 0.5  | 15.9 |
| 28  | 013151.30 |     | 08  | 32.95 | 83    | 37.21 | 22.4 | 3.3 | 223 | 0.31 | 0.2  | 0.2  |
| 28  | 013454.34 |     | 08  | 42.32 | 83    | 27.24 | 32.1 | 3.0 | 222 | 0.20 | 9.2  | 3.1  |
| 28  | 013555.22 |     | 08  | 42.77 | 83    | 32.07 | 12.6 | 3.1 | 216 | 0.33 | 2.7  | 3.5  |
| 28  | 013742.34 |     | 08  | 36.24 | 83    | 34.33 | 33.7 | 3.3 | 235 | 0.22 | 1.7  | 3.0  |
| 28  | 014054.11 |     | 08  | 43.95 | 83    | 40.27 | 4.3  | 3.4 | 240 | 0.49 | 9.2  | 9.4  |
| 28  | 022246.43 |     | 08  | 23.41 | 83    | 40.57 | 25.4 | 3.3 | 272 | 0.41 | 3.0  | 3.0  |
| 28  | 022450.00 |     | 09  | 06.11 | 82    | 52.96 | 25.0 | 3.3 | 250 | 0.43 | 7.2  | 5.4  |
| 28  | 022602.92 |     | 09  | 17.23 | 83    | 43.14 | 15.0 | 3.3 | 231 | 0.36 | ***  | ***  |
| 28  | 023116.35 |     | 08  | 32.32 | 83    | 40.33 | 28.9 | 3.7 | 223 | 0.20 | 3.1  | 2.0  |
| 28  | 031120.13 |     | 08  | 32.13 | 83    | 37.33 | 11.7 | 3.3 | 226 | 0.31 | 10.4 | 3.3  |
| 28  | 033640.60 |     | 09  | 03.22 | 83    | 43.39 | 20.0 | 3.2 | 223 | 0.32 | 6.0  | 4.1  |
| 28  | 034432.51 |     | 109 | 37.13 | 84    | 53.00 | 7.5  | 4.0 | 192 | 0.27 | 3.1  | 3.5* |
| 28  | 035313.16 |     | 08  | 36.48 | 83    | 10.18 | 23.0 | 3.3 | 223 | 0.21 | 7.2  | 1.5  |
| 28  | 040300.58 |     | 08  | 34.29 | 83    | 27.34 | 40.3 | 3.3 | 243 | 0.27 | 4.3  | 0.4  |
| 28  | 052058.56 |     | 08  | 39.29 | 83    | 50.70 | 32.6 | 3.1 | 243 | 0.29 | 7.3  | 3.5  |
| 28  | 052112.33 |     | 109 | 33.43 | 83    | 35.32 | 10.0 | 3.3 | 214 | 0.32 | ***  | **** |
| 28  | 060330.31 |     | 09  | 13.37 | 82    | 45.30 | 32.5 | 3.3 | 223 | 0.22 | 4.2  | 2.3  |
| 28  | 060629.56 |     | 08  | 30.75 | 83    | 13.20 | 30.2 | 3.1 | 237 | 0.30 | 3.2  | 3.6  |
| 28  | 062046.72 |     | 08  | 38.57 | 83    | 40.37 | 24.2 | 3.3 | 224 | 0.29 | 3.1  | 3.7  |
| 28  | 134638.40 |     | 09  | 01.32 | 82    | 55.35 | 30.2 | 3.0 | 234 | 0.23 | 3.9  | 0.6  |
| 28  | 162437.10 |     | 09  | 08.43 | 83    | 43.42 | 31.4 | 3.3 | 223 | 0.43 | 3.6  | 1.3  |
| 28  | 203013.10 |     | 10  | 07.23 | 84    | 02.40 | 1.3  | 1.5 | *** | 0.31 | ***  | **** |
| 29  | 011327.10 |     | 10  | 05.91 | 84    | 08.30 | 4.4  | 1.5 | *** | 0.02 | 0.2  | 0.2* |
| 30  | 013018.00 |     | 08  | 46.73 | 83    | 32.12 | 21.1 | 3.3 | 243 | 0.44 | 3.3  | 3.0  |
| 30  | 043921.69 |     | 109 | 31.71 | 83    | 35.15 | 12.1 | 3.0 | 133 | 0.10 | 1.4  | 2.0* |

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LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON 4 0

| EST       | DIA | TIEMPO    | FASE | COMP | POL | PER |
|-----------|-----|-----------|------|------|-----|-----|
| LCR2      | 01  | 170820.10 | iP   | Z    | D   |     |
| BUS       | 01  | 170822.20 | iP   | Z    | D   |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 02  | 031016.50 | iP   | Z    | D   |     |
| BUS       | 02  | 031020.20 | iP   | Z    | C   |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 02  | 040948.90 | iP   | Z    |     |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 02  | 060535.50 | iP   | Z    | D   |     |
| BUS       | 02  | 060530.60 | iP   | Z    | D   |     |
| Regional. |     |           |      |      |     |     |
| BUS       | 02  | 074251.40 | iP   | Z    | D   |     |
| LCR2      | 02  | 074248.00 | iP   | Z    | C   |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 02  | 092337.70 | iP   | Z    | D   |     |
| BUS       | 02  | 092355.90 | iP   | Z    | D   |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 03  | 111534.90 | iP   | Z    | D   |     |
| BUS       | 03  | 111542.90 | iP   | Z    | D   |     |
| Regional. |     |           |      |      |     |     |
| LCR2      | 03  | 113115.30 | iP   | Z    | C   |     |
| Regional. |     |           |      |      |     |     |

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| SJS  | 03  | 115240.80 | iP   | Z    | C   |     |
|      |     | 5301.00   | S    | Z    |     |     |
| BUS  | 03  | 115245.40 | iP   | Z    | C   |     |
| ACR  | 03  | 115257.20 | iP   | Z    | +   |     |
|      |     | 5328.70   | S    | Z    |     |     |
| VCR  | 03  | 115218.10 | iP   | Z    | C   |     |
|      |     | 5223.10   | S    | Z    |     |     |
| FDR  | 03  | 115233.80 | iP   | Z    | D   |     |
|      |     | 5244.80   | S    | Z    |     |     |
| LCR2 | 03  | 115241.50 | eP   | Z    |     |     |

12 Km al noroeste de Santa Cruz, Costa Rica. Md = 4.3, Int = III en Filadelfia.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 03 | 155438.70 | iP | Z | C |
|------|----|-----------|----|---|---|

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 03 | 172926.30 | iP | Z | C |
|------|----|-----------|----|---|---|

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 03 | 220551.80 | iP | Z | D |
| VCR  | 03 | 220552.20 | eP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| VCR  | 03 | 225720.80 | iP | Z | C |
|      |    | 5735.50   | S  | Z |   |
| LID  | 03 | 225735.00 | eP | Z |   |
| FDR  | 03 | 225732.50 | iP | Z |   |
| ACR  | 03 | 225743.00 | iP | Z |   |
| LCR2 | 03 | 225744.10 | iP | Z |   |
| SJS  | 03 | 225743.00 | eP | Z |   |

150 Km al Suroeste de Masachapa, Nicaragua Int V en Caujiniquil (Costa Rica) IV Managua.

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| SJS  | 03  | 231259.00 | eP   | Z    |     |     |
| LCR2 | 03  | 231300.20 | iP   | Z    | C   |     |
|      |     | 1334.60   | S    | Z    |     |     |
| VP52 | 03  | 231254.20 | eP   | Z    |     |     |
| FDR  | 03  | 231248.00 | eP   | Z    |     |     |
|      |     | 1314.90   | S    | Z    |     |     |
| VCR  | 03  | 231235.20 | iP   | Z    | C   |     |
|      |     | 1251.70   | S    | Z    |     | *   |
| ACR  | 03  | 231318.00 | eP   | Z    |     |     |

Frente a Costa Pacifica de Nicaragua. Md = 5.2 , Int III Liberia Costa Rica.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 04 | 004546.40 | eP | Z | + |  |
| VP52 | 04 | 004541.80 | eP | Z |   |  |
| AR6  | 04 | 004529.70 | eP | Z |   |  |
| LIO  | 04 | 004557.00 | eP | Z |   |  |
| BUS  | 04 | 004550.00 | eP | Z | C |  |
| FDR  | 04 | 004534.00 | eP | Z |   |  |
|      |    | 4600.10   | S  | Z |   |  |
| VCR  | 04 | 004522.50 | iP | Z | C |  |

Frente a la Costa Pacifica de Nicaragua Md = 4.45, Int II La Cruz Costa Rica.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 04 | 042011.00 | eP | Z |   |  |
| VCR  | 04 | 041947.00 | S  | Z |   |  |
| FDR  | 04 | 041958.00 | eP | Z | C |  |
|      |    | 2025.00   | S  | Z |   |  |
| ACR  | 04 | 042029.00 | iP | Z | D |  |
| LCR2 | 04 | 042011.50 | eP | Z | C |  |
|      |    | 2045.80   | S  | Z |   |  |
| BUS  | 04 | 042015.90 | eP | Z |   |  |
| LIO  | 04 | 042021.10 | eP | Z |   |  |
| AR6  | 04 | 041954.80 | iP | Z | D |  |
|      |    | 2019.30   | S  | Z |   |  |
| VP52 | 04 | 042006.00 | eP | Z |   |  |

Frente a la Costa Pacifica de Nicaragua. Md = 5.2, Int II en San José.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 04 | 151254.90 | iP | Z | C |  |
|------|----|-----------|----|---|---|--|

Regional.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 04 | 152920.30 | iP | Z | C |  |
|------|----|-----------|----|---|---|--|

Regional.

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| SJS  | 04  | 232837.50 | eP   | Z    |     |     |
|      |     | 2910.20   | S    | Z    |     |     |
| LCR2 | 04  | 232838.00 | eP   | Z    |     |     |
|      |     | 2812.40   | S    | N    |     |     |
| VCR  | 04  | 232814.00 | iP   | Z    | C   |     |
|      |     | 2830.20   | S    | N    |     |     |
| FDR  | 04  | 232826.00 | eP   | N    |     |     |
|      |     | 2832.90   | S    | N    |     |     |
| VP52 | 04  | 232833.50 | P    | Z    |     |     |

Frente a la Costa Pacifica de Nicaragua Md = II La Cruz Costa Rica.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 05 | 013720.90 | iP | Z | C |  |
|------|----|-----------|----|---|---|--|

Regional.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 06 | 100839.00 | iP | Z | D |  |
| SJS  | 06 | 100840.20 | iP | Z | D |  |
|      |    | 0853.00   | S  | N |   |  |
| BUS  | 06 | 100842.70 | iP | Z | D |  |
| FDR  | 06 | 100844.10 | iP | N | D |  |
|      |    | 0859.00   | S  | N |   |  |
| VCR  | 06 | 100845.10 | iP | N |   |  |
|      |    | 0900.00   | S  | N |   |  |
| ACR  | 06 | 100853.00 | iP | Z | D |  |
| LID  | 06 | 100855.00 | iP | Z | C |  |

Entrada Golfo de Nicoya Costa Rica Int III Puntarenas Md = 4.1

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 06 | 202035.00 | eP | Z |   |  |
| LCR2 | 06 | 202035.40 | iP | Z |   |  |
| BUS  | 06 | 202038.90 | iP | Z | C |  |

Telesismo.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LCR2 | 07 | 154454.20 | iP | Z | D |  |
|      |    | 4514.90   | S  | Z |   |  |
| BUS  | 07 | 154458.40 | iP | Z |   |  |

Regional.

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| SJS  | 12  | 121602.00 | iP   | Z    |     |     |
| BUS  | 12  | 121606.70 | iP   | Z    |     |     |
| LIO  | 12  | 121612.70 | iP   | Z    |     |     |
| VCR  | 12  | 121638.50 | iP   | Z    | D   |     |
| LCR2 | 12  | 121603.40 | iP   | Z    | C   |     |

Regional.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| LIO  | 13 | 144944.30 | iP | Z | C |  |
| LCR2 | 13 | 145006.80 | iP | Z |   |  |
| BUS  | 13 | 145011.50 | iP | Z | D |  |
| AR6  | 13 | 145046.90 | iP | Z | D |  |
| ACR  | 13 | 145020.40 | iP | Z | D |  |

Regional.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| BUS | 14 | 112434.20 | iP | Z | C |  |
| ACR | 14 | 112437.10 | iP | Z | D |  |
| SJS | 14 | 112440.90 | iP | Z | C |  |

Regional.

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 15 | 065913.70 | eP | Z | C |  |
|      |    | 5926.70   | S  | Z |   |  |
| BUS  | 15 | 065908.20 | iP | Z | C |  |
| ACR  | 15 | 065911.80 | iP | Z | D |  |
| LIO  | 15 | 065922.00 | eP | Z |   |  |
| VCR  | 15 | 065927.50 | eP | Z |   |  |
| LCR2 | 15 | 065910.20 | iP | Z |   |  |
| VPS2 | 15 | 065917.20 | iP | Z | C |  |

28 Km al Sursureste de Dominical, Costa Rica Md = 4.1 Int II en Quepos.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| SJS | 15 | 195714.70 | eP | Z |   |  |
| LIO | 15 | 195728.40 | iP | Z | C |  |
| BUS | 15 | 195717.00 | iP | Z | C |  |
| AR6 | 15 | 195713.40 | iP | Z | D |  |

Regional.

|     |    |           |    |   |   |  |
|-----|----|-----------|----|---|---|--|
| ACR | 16 | 023237.40 | iP | Z | D |  |
|-----|----|-----------|----|---|---|--|

Regional.

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| VCR  | 16  | 191654.20 | iP   | Z    | D   |     |
| AR6  | 16  | 191656.30 | iP   | Z    | D   |     |
| SJS  | 16  | 191659.90 | iP   | Z    | C   |     |
| LCR2 | 16  | 191700.70 | iP   | Z    | C   |     |
| BUS  | 16  | 191704.50 | iP   | Z    | D   | *   |
| ACR  | 16  | 191716.00 | eP   | Z    |     |     |

2 Km al Este de Cabuya, Costa Rica Md = 4.0

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| VCR  | 16 | 210839.70 | iP | Z | D |  |
| AR6  | 16 | 210841.40 | iP | Z | D |  |
| SJS  | 16 | 210846.30 | iP | Z | C |  |
|      |    | 0902.10   | S  | Z |   |  |
| LCR2 | 16 | 210846.00 | iP | Z | C |  |
| BUS  | 16 | 210850.90 | iP | Z | C |  |
| ACR  | 16 | 210800.90 | iP | Z |   |  |

7 Km al Oeste de Cóbano, Costa Rica M = 4.4 Int IV Paquera

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| ACR  | 25 | 044411.80 | iP | Z | C |  |
| LCR2 | 25 | 044432.10 | iP | Z | C |  |
| BUS  | 25 | 044428.60 | iP | Z | D |  |
| LIO  | 25 | 044403.70 | iP | Z | C |  |
| SJS  | 25 | 044435.20 | iP | Z | D |  |

Regional.

|      |    |           |    |   |   |   |
|------|----|-----------|----|---|---|---|
| SJS  | 27 | 012333.90 | iP | Z | C |   |
| ACR  | 27 | 012319.00 | iP | Z | D |   |
| LIO  | 27 | 012335.00 | eP | Z | D |   |
| BUS  | 27 | 012326.50 | eP | Z | C |   |
| VPS2 | 27 | 012338.30 | iP | Z | D |   |
| FDR  | 27 | 012346.00 | iP | Z | C |   |
| JCR  | 27 | 012341.00 | iP | Z | D | * |
| VCR  | 27 | 012351.20 | iP | Z | C |   |
| LCR2 | 27 | 012330.20 | iP | Z | C |   |

Península de Osa, Costa Rica Int V Puerto Cortez, IV Golfito,  
III y IV San José. Md = 5.6

|      |    |           |    |   |   |  |
|------|----|-----------|----|---|---|--|
| SJS  | 27 | 044647.90 | iP | Z | C |  |
| LCR2 | 27 | 044644.80 | iP | Z | D |  |
| BUS  | 27 | 044641.50 | iP | Z | D |  |

Regional.

ABRIL 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL | PER |
|------|-----|-----------|------|------|-----|-----|
| JCR  | 28  | 034440.00 | iP   | Z    | C   |     |
| BUS  | 28  | 034455.00 | iP   | Z    | D   |     |
| LIO  | 28  | 034505.10 | iP   | Z    |     |     |
| VCR  | 28  | 034449.90 | iP   | Z    | C   |     |
| LCR2 | 28  | 034450.50 | iP   | Z    | D   |     |
| ACR  | 28  | 034508.00 | eP   | Z    |     |     |
| SJS  | 28  | 034451.20 | iP   | Z    | C   | *   |

Golfo de Nicoya Costa Rica M = 4.0

|      |    |           |    |   |   |   |
|------|----|-----------|----|---|---|---|
| LCR2 | 30 | 012330.00 | iP | Z | D |   |
| ACR  | 30 | 012319.00 | iP | Z | D |   |
| LIO  | 30 | 012335.00 | iP | Z | D |   |
| VCR  | 30 | 012351.20 | iP | Z | C |   |
| JCR  | 30 | 012341.00 | iP | Z | D |   |
| FOR  | 30 | 012346.00 | iP | Z | C |   |
| BUS  | 30 | 012326.50 | iP | Z | D |   |
| SJS  | 30 | 012333.90 | iP | Z | C | * |

50 Km al Oeste de Golfito Md = 5.2

PGM ANASIS Ver 2.0

Diseño:

Guillermo Á Avila R

FEC m:01-04-1990

FEC M:30-04-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

BASE.:RSN1990

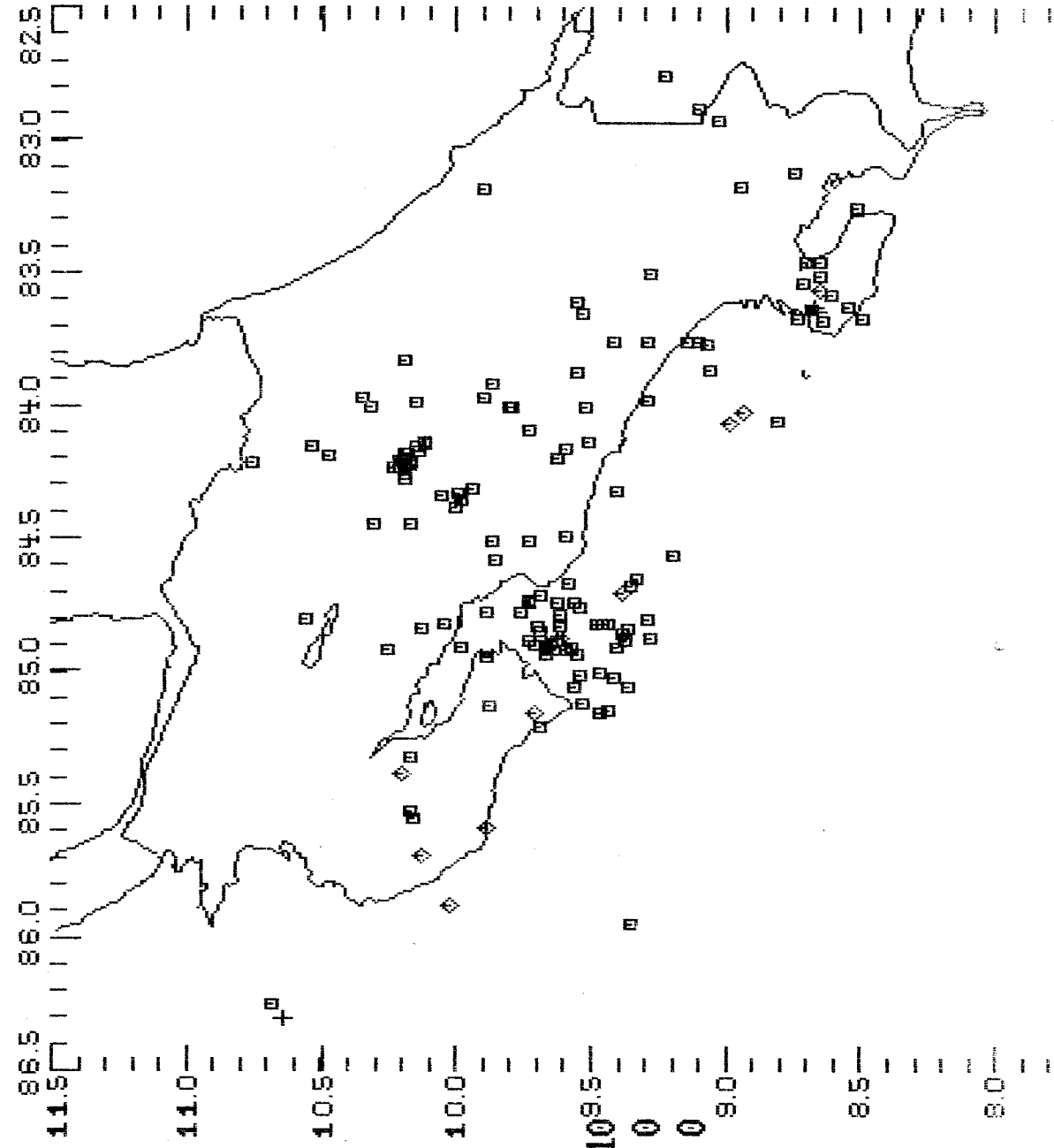
N SIS: 148

M≤3.9: 135 4<M<5: 109.5

5<M<6: 3 6<M<7: 0

7<M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



## PARTE A

MAYO 1990

Pag. 4

| DIA | TIEMPO OR | LAT. N    | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ                 |
|-----|-----------|-----------|----------|-------|------|-----|------|------|--------------------|
| 01  | 025751.71 | 09249.71  | 84220.89 | 4.3   | 4.0  | 168 | 0.40 | 6.1  | 9.3                |
| 01  | 032818.13 | 09255.13  | 84216.76 | 22.5  | 4.5  | 166 | 0.34 | 10.3 | 6.3                |
| 01  | 053106.03 | 09256.46  | 84213.58 | 35.8  | 3.7  | 173 | 0.19 | 9.7  | 5.1                |
| 01  | 073236.18 | 09259.21  | 84202.43 | 12.6  | 3.5  | 175 | 0.24 | 4.1  | 3.0 <sup>(2)</sup> |
| 01  | 103739.61 | 09252.14  | 84212.96 | 23.8  | 3.9  | 253 | 0.02 | 0.7  | 0.7 <sup>(3)</sup> |
| 01  | 175933.18 | 08242.30  | 83239.15 | 30.1  | 3.2  | 245 | 0.39 | 5.1  | 5.7                |
| 01  | 181919.40 | 08238.61  | 83243.19 | 1.5   | 3.9  | 244 | 0.31 | 3.4  | 1.9                |
| 02  | 031635.86 | *10206.40 | 84215.84 | 12.6  | 3.8  | 185 | 0.35 | 4.2  | 3.8*               |
| 02  | 093001.12 | 09232.48  | 84247.90 | 18.2  | 3.0  | 279 | 0.28 | ***  | ***                |
| 03  | 113018.90 | 09249.49  | 84216.43 | 13.9  | 2.7  | 305 | 0.05 | 1.0  | 0.9                |
| 03  | 135452.31 | 09227.59  | 82215.92 | 30.3  | 3.9  | 331 | 0.34 | ***  | ***                |
| 03  | 143324.68 | 09225.88  | 82221.22 | 28.1  | 3.5  | 279 | 0.05 | 0.8  | 0.3                |
| 05  | 162148.11 | 09247.28  | 84210.72 | 1.8   | 3.1  | 280 | 0.31 | 6.3  | 4.7                |
| 07  | 052546.96 | 09251.79  | 84215.69 | 19.9  | 2.8  | 159 | 0.42 | 2.0  | 3.4                |
| 07  | 065108.58 | 09253.19  | 84217.34 | 26.5  | 2.8  | 315 | 0.03 | ***  | ***                |
| 07  | 074328.90 | 09252.11  | 84216.11 | 23.8  | 3.0  | 313 | 0.08 | ***  | ***                |
| 07  | 082548.07 | 09251.35  | 84214.83 | 14.2  | 2.7  | 305 | 0.18 | ***  | *** <sup>(4)</sup> |
| 07  | 112212.42 | 09251.64  | 84217.00 | 32.9  | 3.5  | 311 | 0.22 | 2.0  | 8.2                |
| 08  | 000017.32 | *10203.96 | 83258.05 | 11.4  | 3.0  | 304 | 0.07 | 3.7  | 7.5                |
| 08  | 000141.20 | 06255.26  | 82242.54 | 32.7  | 5.7  | 264 | 0.32 | 24.1 | ****               |
| 08  | 104353.61 | 07254.33  | 82246.94 | 36.7  | 3.9  | 335 | 0.64 | ***  | ***                |
| 08  | 105927.47 | 09244.63  | 84230.59 | 110.8 | 3.3  | 185 | 0.49 | ***  | ***                |
| 08  | 114054.17 | 09223.76  | 83222.46 | 3.0   | 3.5  | 267 | 0.18 | 2.1  | 3.2                |
| 08  | 152443.32 | 08251.67  | 82251.67 | 25.0  | 3.9  | 325 | 0.15 | ***  | ***                |
| 08  | 165906.38 | 08251.21  | 84214.06 | 3.0   | 3.9  | 324 | 0.43 | ***  | ***                |
| 08  | 185843.40 | 09251.39  | 84215.14 | 18.5  | 2.9  | 306 | 0.12 | ***  | ***                |
| 08  | 213546.70 | 09250.72  | 84216.68 | 3.0   | 2.8  | 177 | 0.12 | ***  | ***                |
| 09  | 182202.25 | 09251.69  | 84213.96 | 15.0  | 2.8  | 303 | 0.10 | 1.8  | 1.3 <sup>(5)</sup> |
| 09  | 192924.96 | 10201.48  | 84232.54 | 1.5   | 3.1  | 339 | 0.15 | ***  | ***                |
| 09  | 210103.59 | 10207.80  | 84201.81 | 5.3   | 2.7  | 328 | 0.33 | ***  | ***                |
| 09  | 210447.65 | 09238.40  | 84242.61 | 10.6  | 3.2  | 305 | 0.31 | 5.1  | 7.3                |
| 09  | 234619.51 | 09246.92  | 83259.00 | 7.8   | 2.4  | 160 | 0.07 | ***  | ***                |
| 10  | 025901.30 | 10201.30  | 83257.38 | 13.5  | 2.6  | 302 | 0.17 | 4.7  | 8.2                |
| 10  | 031747.86 | 10205.34  | 84214.22 | 25.8  | 2.9  | 215 | 0.25 | 12.6 | 4.5                |
| 10  | 211534.60 | 09219.74  | 84250.31 | 18.6  | 4.8  | 206 | 0.13 | 0.3  | 2.9*               |
| 10  | 215108.79 | *09246.99 | 84200.28 | 25.0  | 2.6  | 165 | 0.02 | ***  | ***                |
| 11  | 053213.88 | 09229.23  | 84245.49 | 40.6  | 4.0  | 220 | 0.41 | 6.8  | 5.0                |
| 11  | 103909.48 | 09252.22  | 84218.79 | 14.3  | 3.4  | 161 | 0.22 | 3.0  | 4.0                |
| 11  | 112354.99 | 09225.27  | 84237.40 | 38.9  | 3.1  | 312 | 0.39 | 7.5  | 5.3                |
| 11  | 140413.56 | 09251.40  | 84218.17 | 14.7  | 3.3  | 208 | 0.37 | 6.5  | 7.7                |

| DIA  | TIEMPO OR   | LAT. N   | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ    |
|------|-------------|----------|----------|-------|------|-----|------|------|-------|
| 11   | 143834.67   | 09942.01 | 85909.24 | 1.0   | 3.4  | 234 | 0.33 | 7.4  | 3.0   |
| 11   | 230142.58   | 09926.97 | 84948.29 | 7.5   | 3.1  | 305 | 0.25 | 3.2  | 5.1   |
| 12   | 003530.04   | 09934.73 | 83942.62 | 5.6   | 2.7  | 284 | 0.16 | 4.4  | 2.9   |
| 12   | 013650.07   | 09949.14 | 84901.46 | 6.7   | 2.1  | 178 | 0.03 | 0.6  | 0.5   |
| 12   | 062332.81   | 09908.67 | 83959.01 | 36.6  | 2.9  | 215 | 0.28 | 2.7  | 2.0   |
| 13   | 010207.54   | 09950.11 | 84918.47 | 2.0   | 3.0  | 154 | 0.48 | 3.3  | 4.8   |
| 13   | 115030.44   | 10904.90 | 84909.66 | 19.6  | 2.5  | 288 | 0.26 | 8.9  | 7.6   |
| 13   | 134945.31   | 10902.27 | 84911.52 | 17.3  | 2.7  | 270 | 0.01 | 0.2  | 0.2   |
| 13   | 163433.31   | 09949.82 | 85903.49 | 6.0   | 2.9  | 203 | 0.46 | 4.9  | 4.6   |
| 14   | 065603.34   | 09929.35 | 84950.31 | 30.0  | 4.1  | 223 | 0.56 | 4.8  | 5.6   |
| 14   | 102531.60 * | 10910.44 | 84903.24 | 4.4   | 4.2  | 148 | 0.30 | 1.9  | 3.5 * |
| 14   | 110009.39   | 09937.34 | 84923.75 | 15.0  | 2.6  | 285 | 0.09 | ***  | ***   |
| 14   | 161227.48   | 09950.07 | 84918.87 | 6.3   | 2.5  | 136 | 0.80 | 4.5  | 1.7   |
| 14   | 233537.46   | 09950.07 | 84917.04 | 5.3   | 2.6  | 158 | 0.48 | 3.8  | 2.7   |
| 15   | 073206.43   | 09917.44 | 84951.04 | 1.5   | 3.1  | 259 | 0.53 | 14.0 | 9.4   |
| 15   | 123358.73   | 09948.19 | 84915.73 | 4.6   | 3.7  | 244 | 0.63 | 1.5  | 2.0   |
| 15   | 123445.03   | 09952.32 | 84918.87 | 5.0   | 3.1  | 222 | 0.49 | 5.1  | 1.7   |
| 15   | 123858.30   | 09951.60 | 84918.87 | 6.6   | 3.0  | 202 | 0.42 | 3.5  | 1.2   |
| 15   | 124124.57   | 09951.59 | 84918.87 | 6.6   | 2.8  | 204 | 0.41 | 1.9  | 0.8   |
| 15   | 131347.01   | 09949.82 | 84917.63 | 6.3   | 2.6  | 170 | 0.44 | 1.3  | 0.9   |
| 15   | 131627.79   | 09950.07 | 84917.04 | 3.9   | 2.8  | 149 | 0.31 | 5.0  | 4.0   |
| 16   | 133233.40 * | 10938.43 | 85954.54 | 51.2  | 5.1  | 313 | 0.10 | 4.6  | 6.5 * |
| 16   | 175957.43   | 09953.02 | 84915.49 | 6.0   | 4.0  | 167 | 0.25 | ***  | ***   |
| 17   | 022454.33   | 09953.97 | 84910.30 | 14.0  | 3.8  | 164 | 0.26 | 6.6  | 8.0   |
| ⑥ 17 | 055759.08   | 09956.45 | 84909.64 | 4.5   | 3.5  | 203 | 0.04 | ***  | ***   |
| 19   | 164306.17   | 09930.72 | 84935.22 | 11.5  | 3.3  | 235 | 0.29 | 8.1  | 11.0  |
| 20   | 030502.57   | 09953.02 | 84918.46 | 1.2   | 1.6  | 249 | 0.36 | 5.0  | 2.8   |
| 20   | 043939.06   | 10911.51 | 84907.53 | 36.1  | 3.2  | 255 | 0.56 | 16.8 | 11.8  |
| 20   | 231110.41   | 09907.63 | 84952.94 | 0.6   | 3.9  | 288 | 0.49 | ***  | ***   |
| 21   | 054654.51   | 09951.62 | 84920.21 | 7.7   | 2.1  | 275 | 0.35 | 3.6  | 2.4   |
| 21   | 080658.92   | 09950.39 | 84917.01 | 3.9   | 2.6  | 145 | 0.31 | 1.7  | 1.7   |
| 21   | 103727.49   | 09949.66 | 84918.86 | 3.1   | 3.2  | 220 | 0.19 | 4.3  | 4.8   |
| 21   | 175522.55   | 09951.95 | 84919.28 | 0.5   | 1.5  | 161 | 0.15 | 0.7  | 3.8   |
| 22   | 131739.15   | 09951.77 | 84918.29 | 2.4   | 2.7  | 244 | 0.02 | ***  | ***   |
| 23   | 161124.74   | 09925.13 | 84957.23 | 30.0  | 3.3  | 319 | 0.06 | ***  | ***   |
| 23   | 203434.30   | 09950.10 | 84918.48 | 3.5   | 3.6  | 160 | 0.17 | 1.7  | 1.8   |
| 23   | 221501.12   | 09944.63 | 84908.22 | 76.6  | 3.2  | 266 | 0.34 | ***  | ***   |
| 24   | 162227.96   | 09957.47 | 84909.22 | 15.4  | 3.9  | 195 | 0.44 | 11.0 | 4.3   |
| 24   | 230428.74   | 09951.64 | 84917.51 | 15.2  | 3.2  | 250 | 0.13 | 4.2  | 5.4   |
| 25   | 025414.61   | 09952.49 | 83943.79 | 7.8   | 2.3  | 264 | 0.26 | ***  | ***   |
| 25   | 101118.30   | 09952.71 | 84903.35 | 25.0  | 3.0  | 203 | 0.38 | 18.2 | 9.5   |

| DIA | TIEMPO DR | LAT. N    | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ      |
|-----|-----------|-----------|----------|-------|------|-----|------|------|---------|
| 25  | 174247.22 | 09245.23  | 84209.84 | 13.9  | 3.2  | 274 | 0.04 | ***  | ***     |
| 26  | 230011.56 | 09231.93  | 84219.47 | 35.2  | 3.1  | 271 | 0.09 | 1.4  | 2.1     |
| 27  | 030412.14 | 08250.83  | 83246.63 | 10.7  | 4.7  | 330 | 0.10 | ***  | ***     |
| 28  | 044921.44 | 09227.33  | 83252.68 | 3.0   | 2.2  | 287 | 0.14 | ***  | ***     |
| 28  | 050038.15 | 09235.47  | 83248.66 | 4.8   | 3.2  | 184 | 0.11 | ***  | ***     |
| 29  | 060025.24 | 09251.62  | 84220.21 | 15.0  | 2.6  | 295 | 0.45 | 3.0  | 3.9     |
| 29  | 195651.76 | *09251.54 | 84215.85 | 15.0  | 4.7  | 155 | 0.30 | 7.9  | 9.0*    |
| 29  | 201359.49 | 09252.55  | 84217.26 | 1.6   | 3.0  | 146 | 0.22 | 2.4  | 2.9     |
| 29  | 202857.26 | 09253.02  | 84218.47 | 4.0   | 2.7  | 210 | 0.40 | 6.1  | 1.7     |
| 29  | 204233.69 | 09251.95  | 84217.37 | 1.2   | 2.4  | 188 | 0.13 | 1.4  | 3.6     |
| 29  | 220410.67 | 09250.95  | 84217.98 | 2.6   | 2.4  | 166 | 0.37 | 5.0  | 7.7     |
| 29  | 221849.63 | 09253.89  | 84214.76 | 13.6  | 3.9  | 161 | 0.08 | 0.9  | 2.7①    |
| 29  | 222650.83 | 09249.33  | 84217.80 | 1.0   | 3.0  | 197 | 0.45 | 2.9  | 4.6     |
| 29  | 225619.86 | 09252.23  | 84218.46 | 8.5   | 3.3  | 126 | 0.39 | 2.2  | 2.9     |
| 30  | 010252.63 | 09251.86  | 84218.87 | 15.0  | 3.2  | 208 | 0.51 | 7.3  | 5.7     |
| 30  | 012954.41 | 09251.68  | 84218.47 | 6.2   | 3.0  | 175 | 0.38 | 9.0  | 5.3     |
| 30  | 023515.90 | 09253.05  | 84219.47 | 9.7   | 2.3  | 271 | 0.38 | 2.3  | 2.3     |
| 30  | 025220.23 | 09251.62  | 84218.47 | 6.0   | 3.2  | 174 | 0.49 | 7.7  | 5.2 100 |
| 30  | 053132.37 | 09253.60  | 84216.96 | 3.9   | 2.9  | 195 | 0.52 | 10.8 | 8.5     |
| 30  | 162801.99 | 09251.69  | 84218.15 | 15.6  | 3.5  | 209 | 0.27 | 3.6  | 3.2     |
| 30  | 163010.46 | 09250.25  | 84214.07 | 20.4  | 2.6  | 300 | 0.16 | 3.7  | 3.9 ①   |
| 30  | 183423.14 | 10218.52  | 83215.37 | 6.0   | 2.8  | 329 | 0.03 | ***  | ***     |
| 30  | 185142.94 | 09254.67  | 84213.28 | 29.1  | 3.2  | 312 | 0.22 | 11.9 | 8.5 ①   |
| 30  | 194917.66 | 09256.45  | 84203.35 | 29.9  | 3.1  | 330 | 0.30 | 12.4 | 3.7     |
| 30  | 220521.39 | *09251.19 | 84216.45 | 13.9  | 4.7  | 162 | 0.13 | 1.9  | 2.4     |
| 30  | 221303.50 | 09257.57  | 84215.00 | 2.0   | 3.3  | 240 | 0.57 | 7.4  | 5.1     |
| 30  | 221734.46 | 10200.09  | 84222.29 | 25.0  | 3.4  | 310 | 0.57 | ***  | ***     |
| 30  | 222107.69 | 09251.52  | 84219.32 | 5.9   | 3.0  | 275 | 0.01 | ***  | ***     |
| 30  | 223226.05 | 09251.57  | 84218.84 | 4.3   | 2.8  | 260 | 0.30 | 1.0  | 0.5     |
| 30  | 225827.56 | 09249.08  | 84219.23 | 5.2   | 3.5  | 257 | 0.16 | 2.1  | 0.8     |
| 30  | 230204.78 | 09253.02  | 84219.24 | 6.0   | 2.9  | 267 | 0.24 | 8.9  | 3.5     |
| 30  | 230423.68 | 09253.84  | 84217.09 | 4.5   | 3.0  | 245 | 0.46 | 0.8  | 0.5*    |
| 30  | 231710.73 | 09253.02  | 84218.47 | 6.5   | 3.0  | 252 | 0.46 | 15.5 | 7.9     |
| 30  | 235934.33 | 09250.87  | 84219.39 | 10.8  | 3.3  | 240 | 0.53 | 6.7  | 8.5     |
| 31  | 030028.82 | 09255.54  | 84212.40 | 29.0  | 2.9  | 186 | 0.26 | 7.6  | 4.5     |
| 31  | 040732.38 | 09248.75  | 84214.83 | 2.6   | 3.6  | 169 | 0.32 | 2.2  | 2.9     |
| 31  | 063118.57 | 09253.92  | 84214.67 | 23.9  | 3.9  | 153 | 0.46 | 5.7  | 7.3     |
| 31  | 073528.70 | 09251.70  | 84215.82 | 4.6   | 3.4  | 134 | 0.25 | 2.5  | 2.6     |
| 31  | 074805.75 | 09253.02  | 84221.56 | 15.0  | 3.0  | 302 | 0.46 | 12.5 | 6.3     |
| 31  | 075602.94 | 09252.61  | 84218.47 | 7.7   | 3.0  | 192 | 0.53 | 15.1 | 14.8    |

| DIA | TIEMPO OR | LAT. N   | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ  |
|-----|-----------|----------|----------|-------|------|-----|------|------|-----|
| 31  | 085453.45 | 09051.32 | 84016.93 | 4.0   | 3.5  | 113 | 0.37 | 2.3  | 2.6 |
| 31  | 085923.43 | 09053.02 | 84018.47 | 3.9   | 4.0  | 252 | 0.44 | 9.5  | 4.3 |
| 31  | 091008.13 | 09053.02 | 84018.47 | 3.0   | 2.8  | 252 | 0.59 | ***  | *** |
| 31  | 101132.89 | 09053.02 | 84018.47 | 3.9   | 3.0  | 252 | 0.55 | 7.6  | 4.6 |
| 31  | 114101.72 | 09053.34 | 83058.54 | 26.6  | 3.0  | 204 | 0.13 | 7.5  | 4.2 |
| 31  | 115721.01 | 09053.02 | 84019.43 | 12.5  | 3.2  | 270 | 0.34 | 5.7  | 6.5 |
| 31  | 134937.30 | 09053.02 | 84017.08 | 3.0   | 2.5  | 171 | 0.48 | 5.7  | 4.7 |
| 31  | 142937.47 | 09053.02 | 84018.47 | 5.8   | 2.7  | 252 | 0.51 | 10.8 | 6.6 |
| 31  | 163036.56 | 09040.40 | 83047.65 | 15.0  | 2.7  | 207 | 0.22 | 8.5  | 6.3 |
| 31  | 200512.01 | 09050.07 | 84018.87 | 8.3   | 2.6  | 293 | 0.14 | 1.4  | 1.3 |
| 31  | 221942.94 | 09048.51 | 83059.35 | 4.2   | 2.6  | 164 | 0.52 | ***  | *** |
| 31  | 231736.08 | 09050.13 | 84016.49 | 14.6  | 2.8  | 306 | 0.08 | 2.6  | 2.5 |

PARTE B

LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON  $M \geq 4.0$

MAYO 1990

Pag. 8

| EST.                                               | DIA | TIEMPO    | FASE | COMP | POL |
|----------------------------------------------------|-----|-----------|------|------|-----|
| SJS                                                | 01  | 025758.40 | iP   | Z    | D   |
| LID                                                | 01  | 025816.00 | iP   | Z    | C   |
|                                                    |     | 5832.50   | S    | Z    |     |
| BUS                                                | 01  | 025805.00 | iP   | Z    |     |
| VCR                                                | 01  | 025816.10 | iP   | Z    | C   |
| ACR                                                | 01  | 025823.00 | ip   | Z    | D   |
| LCR2                                               | 01  | 025759.10 | iP   | Z    | D   |
| 4Km, al Suroeste de Puriscal, Costa Rica, MD= 4,0. |     |           |      |      |     |
| SJS                                                | 01  | 032823.50 | iP   | Z    | D   |
|                                                    |     | 2827.50   | S    | Z    |     |
| QCR                                                | 01  | 032827.10 | iP   | Z    | D   |
| LID                                                | 01  | 032841.00 | iP   | Z    | C   |
| BUS                                                | 01  | 032830.00 | iP   | Z    | D   |
| VCR                                                | 01  | 032841.10 | iP   | Z    | C   |
| ACR                                                | 01  | 032847.20 | iP   | Z    |     |
| LCR2                                               | 01  | 032824.10 | iP   | Z    | D   |
| 7Km, al Norte de Puriscal, Costa Rica, MD= 4,5     |     |           |      |      |     |
| SJS                                                | 01  | 111838.10 | ep   | Z    |     |
| Telesismo.                                         |     |           |      |      |     |
| SJS                                                | 01  | 114641.20 | iP   | Z    | C   |
| Guatemala Mb= 5,3                                  |     |           |      |      |     |
| SJS                                                | 01  | 162248.00 | iP   | Z    | C   |
| VCR                                                | 01  | 162221.70 | eP   | Z    |     |
| LCR2                                               | 01  | 162247.90 | iP   | Z    | C   |
| BUS                                                | 01  | 162252.10 | iP   | Z    | D   |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 01  | 204337.50 | iP   | Z    | C   |
| BUS                                                | 01  | 204341.90 | iP   | Z    | C   |
| LCR2                                               | 01  | 204338.10 | iP   | Z    | C   |
| VCR                                                | 01  | 204313.20 | eP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 02  | 003042.90 | eP   | Z    |     |
| Telesismo.                                         |     |           |      |      |     |
| SJS                                                | 02  | 085654.00 | eP   | Z    |     |
| Telesismo.                                         |     |           |      |      |     |

| EST                                                | DIA | TIEMPO    | FASE | COMP | POL |
|----------------------------------------------------|-----|-----------|------|------|-----|
| SJS                                                | 03  | 044145.30 | eP   | Z    |     |
| VCR                                                | 03  | 044121.00 | eP   | Z    |     |
| LCR2                                               | 03  | 044143.00 | iP   | Z    | C   |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 03  | 072920.50 | eP   | Z    |     |
| VCR                                                | 03  | 072855.50 | eP   | Z    |     |
| LCR2                                               | 03  | 072920.00 | eP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 06  | 054435.80 | eP   | Z    |     |
| Telesismo.                                         |     |           |      |      |     |
| SJS                                                | 06  | 091102.80 | iP   | Z    | C   |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 06  | 133013.90 | iP   | Z    | C   |
| Telesismo.                                         |     |           |      |      |     |
| SJS                                                | 08  | 000233.00 | iP   | Z    | D   |
| BUS                                                | 08  | 000226.50 | iP   | Z    | D   |
| LCR2                                               | 08  | 000230.00 | iP   | Z    | C   |
| FDR                                                | 08  | 000244.00 | iP   | Z    | C   |
| LID                                                | 08  | 000231.90 | iP   | Z    | D   |
| VCR                                                | 08  | 000245.90 | iP   | Z    | C   |
| ACR                                                | 08  | 000211.00 | iP   | Z    | C   |
| 130Km, al Sureste de Punta Burica, Panamá, MD= 5,7 |     |           |      |      |     |
| SJS                                                | 08  | 031749.10 | iP   | Z    | C   |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 032214.00 | iP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 033946.60 | iP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 035053.90 | eP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 081451.00 | iP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 083440.00 | eP   | Z    |     |
| Regional.                                          |     |           |      |      |     |
| SJS                                                | 08  | 141540.80 | eP   | Z    |     |
| Telesismo.                                         |     |           |      |      |     |

| EST                                            | DIA | TIEMPO    | FASE | COMP | POL |
|------------------------------------------------|-----|-----------|------|------|-----|
| SJS                                            | 08  | 145535.00 | eP   | Z    |     |
| Sur de Panamá, Mb= 4,7.                        |     |           |      |      |     |
| SJS                                            | 08  | 150009.00 | eP   | Z    |     |
| Regional.                                      |     |           |      |      |     |
| SJS                                            | 08  | 231837.50 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 08  | 234024.00 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 09  | 023728.60 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 09  | 043325.10 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 09  | 074550.50 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 09  | 094240.10 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 09  | 115434.10 | eP   | Z    |     |
| Telesismo.                                     |     |           |      |      |     |
| SJS                                            | 10  | 160416.00 | iP   | Z    | C   |
| ICR                                            | 10  | 160416.90 | eP   | Z    |     |
| SRA                                            | 10  | 160414.80 | iP   | Z    | C   |
| Telesismo                                      |     |           |      |      |     |
| SJS                                            | 10  | 211552.80 | iP   | Z    | C   |
|                                                |     | 1607.80   | S    | Z    |     |
| LCR2                                           | 10  | 211551.90 | iP   | Z    | D   |
|                                                |     | 1607.00   | S    | Z    |     |
| BUS                                            | 10  | 211555.00 | iP   | Z    | D   |
| LID                                            | 10  | 211607.00 | iP   | Z    | C   |
| VCR                                            | 10  | 211554.10 | iP   | Z    | D   |
| FDR                                            | 10  | 211555.20 | iP   | Z    | D   |
| ACR                                            | 10  | 211606.00 | iP   | Z    | D   |
| 34Km, al Suroeste de Jacó, Costa Rica, MD= 4,8 |     |           |      |      |     |
| SJS                                            | 11  | 024021.90 | iP   | Z    | C   |
| LCR2                                           | 11  | 024023.90 | iP   | Z    | C   |
| BUS                                            | 11  | 024030.00 | eP   | Z    |     |
| VCR                                            | 11  | 024040.00 | iP   | Z    |     |
| Regional.                                      |     |           |      |      |     |

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 11  | 053230.40 | iP   | Z    | C   |
|      |     | 3246.10   | S    | Z    |     |
| LCR2 | 11  | 053229.50 | iP   | Z    | D   |
| LID  | 11  | 053241.10 | eP   | Z    |     |
| BUS  | 11  | 053233.20 | eP   | Z    |     |
| VCR  | 11  | 053233.90 | iP   | Z    |     |
| VPS2 | 11  | 053231.10 | eP   | Z    |     |
| SRA  | 11  | 053227.50 | iP   | Z    | D   |
|      |     | 3238.10   | S    | Z    |     |

18Km, al Suroeste de Jacó, Costa Rica, MD=4,0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 13 | 025739.90 | iP | Z | D |
| LCR2 | 13 | 025739.30 | iP | Z |   |
| VCR  | 13 | 025716.20 | eP | Z |   |
| JCR  | 13 | 025724.90 | iP | Z |   |

Telesismo

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 14 | 065620.50 | iP | Z | C |
|      |    | 5635.50   | S  | Z |   |
| LCR2 | 14 | 065619.60 | iP | Z | C |
| LID  | 14 | 065631.20 | eP | Z |   |
| VCR  | 14 | 065622.10 | eP | Z |   |
|      |    | 5641.10   | S  | Z |   |
| BUS  | 14 | 065623.70 | iP | Z | D |
| SRA  | 14 | 065617.60 | iP | Z | C |

27Km, al Suroeste de Jacó, Costa Rica, MD=4,1

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 14 | 102544.80 | iP | Z | C |
| LCR2 | 14 | 102542.90 | iP | Z | C |
|      |    | 2602.10   | S  | Z |   |
| LID  | 14 | 102558.20 | iP | Z |   |
| VCR  | 14 | 102605.00 | iP | Z |   |
| BUS  | 14 | 102553.00 | iP | Z | C |
| SRA  | 14 | 102547.50 | iP | Z | D |

2Km, al Sur del Volcán Cacho Negro, MD= 4,2.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 15 | 093207.90 | eP | Z |  |
|-----|----|-----------|----|---|--|

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 15 | 103141.70 | iP | Z |  |
|-----|----|-----------|----|---|--|

Regional.

| EST                                                              | DIA | TIEMPO    | FASE | COMP | POL |
|------------------------------------------------------------------|-----|-----------|------|------|-----|
| SJS<br>Regional.                                                 | 15  | 103141.70 | iP   | Z    |     |
| SJS                                                              | 16  | 133305.30 | iP   | Z    | D   |
|                                                                  |     | 3332.80   | S    | Z    |     |
| VCR                                                              | 16  | 133246.70 | iP   | Z    | D   |
| FDR                                                              | 16  | 133255.00 | iP   | Z    | D   |
| ACR                                                              | 16  | 133326.00 | iP   | Z    | D   |
| LIO                                                              | 16  | 133317.90 | iP   | Z    | D   |
| LCR2                                                             | 16  | 133307.00 | iP   | Z    | D   |
| JCR                                                              | 16  | 133253.00 | iP   | Z    | C   |
| 25Km, al Noroeste de Sardinal de Guanacaste, Costa Rica, MD= 5,1 |     |           |      |      |     |
| SJS<br>Regional.                                                 | 16  | 200314.00 | eP   | Z    |     |
| SJS<br>Telesismo.                                                | 17  | 003442.10 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 17  | 112409.00 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 21  | 061638.60 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 21  | 090926.70 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 22  | 082912.10 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 26  | 031057.90 | iP   | Z    |     |
| SJS<br>Regional.                                                 | 27  | 033125.10 | eP   | Z    |     |
| SJS<br>Regional.                                                 | 27  | 165233.00 | eP   | Z    |     |
| SJS                                                              | 29  | 195657.70 | iP   | Z    | D   |
|                                                                  |     | 5702.50   | S    | Z    |     |
| ACR                                                              | 29  | 195720.40 | eP   | Z    |     |
| LCR2                                                             | 29  | 195658.10 | eP   | Z    |     |
| QCR                                                              | 29  | 195701.10 | eP   | Z    |     |
| FDR                                                              | 29  | 195705.50 | eP   | Z    |     |
| BUS                                                              | 29  | 195703.90 | eP   | Z    |     |
| LIO                                                              | 29  | 195715.00 | eP   | Z    |     |
| 5Km, al Noreste de Puriscal, Costa Rica, MD= 4,7                 |     |           |      |      |     |

| EST                                               | DIA | TIEMPO    | FASE | COMP | POL |
|---------------------------------------------------|-----|-----------|------|------|-----|
| SJS                                               | 30  | 023809.10 | eP   | Z    |     |
| Norte de Perú, Mb= 6,0                            |     |           |      |      |     |
| SJS                                               | 30  | 164525.00 | eP   | Z    |     |
| Regional.                                         |     |           |      |      |     |
| SJS                                               | 30  | 220527.00 | iP   | Z    | D   |
|                                                   |     | 0530.80   | S    | Z    |     |
| LCR2                                              | 30  | 220527.80 | iP   | Z    | D   |
| QCR                                               | 30  | 220530.20 | iP   | Z    | D   |
| BUS                                               | 30  | 220533.40 | iP   | Z    | C   |
| LIO                                               | 30  | 220544.00 | iP   | Z    | C   |
| FOR                                               | 30  | 220534.80 | iP   | Z    |     |
| ACR                                               | 30  | 220549.60 | eP   | Z    |     |
|                                                   |     | 0612.30   | S    | Z    |     |
| 6.5Km, al Este de Puriscal, Costa Rica, MD= 4,7   |     |           |      |      |     |
| SJS                                               | 31  | 073939.00 | eP   | Z    |     |
| Guerrero, México, Ms= 6,0.                        |     |           |      |      |     |
| SJS                                               | 31  | 085930.10 | iP   | Z    | D   |
| LCR2                                              | 31  | 085931.00 | iP   | Z    | D   |
| BUS                                               | 31  | 085936.50 | iP   | Z    | C   |
| 6Km, al Noroeste de Puriscal, Costa Rica, MD= 4,0 |     |           |      |      |     |
| SJS                                               | 31  | 223942.00 | eP   | Z    |     |
| Regional.                                         |     |           |      |      |     |

PGM ANASIS Ver 2.0

Diseño:

Guillermo Á Avila R

FEC m:01-05-1990

FEC M:31-05-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \* CIU ●

BASE.:RSN1990

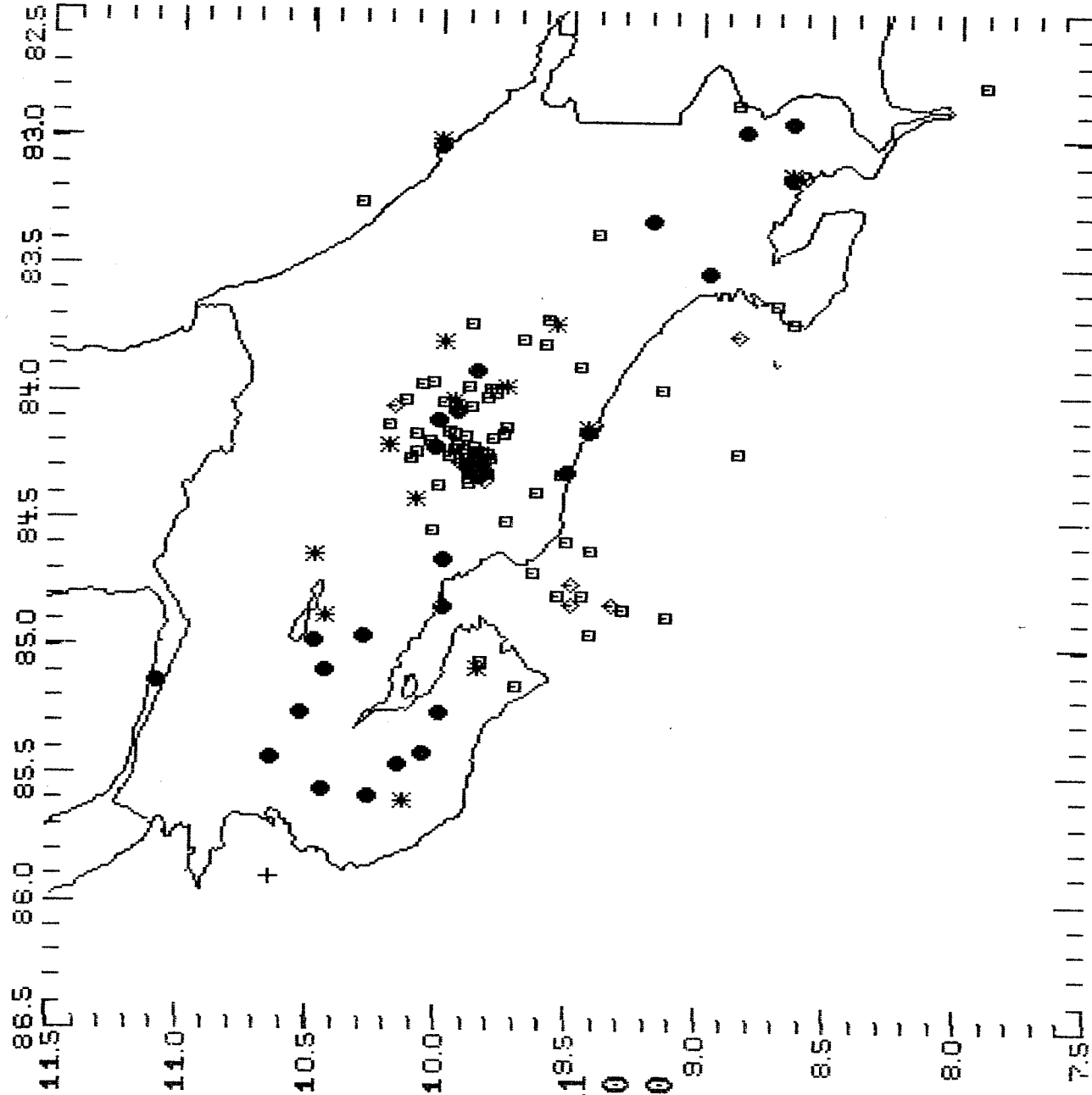
N SIS: 130

M<3.9: 118 4<M<5: 119.5

5<M<6: 1 6<M<7: 0

7<M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



# PARTE A

## SISMOS LOCALIZADOS

### PARAMETROS DE LOS EVENTOS

JUNIO 1990

Pag. 2

| DIA | TIEMPO OR. | LAT. N    | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EZ   |
|-----|------------|-----------|----------|------|-----|-----|------|------|------|
| 01  | 014902.15  | 09056.45  | 84011.17 | 35.7 | 3.3 | 313 | 0.16 | 11.2 | 4.3  |
| 01  | 025750.15  | 09053.68  | 84023.78 | 4.4  | 4.0 | 218 | 0.39 | 5.3  | 2.4  |
| 01  | 032817.06  | *09052.53 | 84018.47 | 4.8  | 4.5 | 95  | 0.24 | 2.9  | 1.3* |
| 01  | 034540.42  | 09039.11  | 84026.17 | 24.4 | 3.4 | 333 | 0.47 | ***  | ***  |
| 01  | 041306.55  | 09053.02  | 84018.80 | 5.4  | 3.4 | 157 | 0.38 | 3.5  | 2.0  |
| 01  | 042154.26  | 09058.77  | 84016.29 | 5.7  | 3.7 | 174 | 0.36 | 7.7  | 10.2 |
| 01  | 044155.29  | 09044.05  | 84037.31 | 12.6 | 3.1 | 190 | 0.37 | 20.8 | 9.8  |
| 01  | 053106.03  | 09056.46  | 84013.58 | 35.9 | 3.7 | 173 | 0.19 | 5.7  | 5.1  |
| 01  | 073236.74  | 09057.47  | 84000.56 | 9.3  | 3.3 | 201 | 0.21 | 4.3  | 4.9  |
| 01  | 074330.64  | 09047.84  | 84022.38 | 5.2  | 3.3 | 173 | 0.36 | 3.4  | 1.9  |
| 01  | 101250.63  | 09049.17  | 84016.72 | 6.3  | 3.2 | 174 | 0.45 | 8.2  | 7.2  |
| 01  | 103738.67  | 09053.90  | 84018.38 | 19.4 | 3.9 | 161 | 0.34 | 3.8  | 6.2  |
| 01  | 111819.53  | 09053.20  | 84019.69 | 6.6  | 3.5 | 159 | 0.22 | 3.1  | 1.3  |
| 01  | 133730.23  | 09051.62  | 84020.21 | 5.0  | 3.1 | 275 | 0.24 | 2.7  | 1.0  |
| 01  | 221905.41  | 09048.41  | 84018.47 | 5.9  | 3.0 | 234 | 0.39 | 10.0 | 3.7  |
| 02  | 080636.29  | 09040.16  | 84054.48 | 45.0 | 3.1 | 194 | 0.38 | 5.9  | 18.8 |
| 02  | 123904.00  | 08020.38  | 83027.87 | 16.1 | 4.0 | 315 | 0.30 | ***  | ***  |
| 02  | 190229.36  | 09045.46  | 84016.67 | 0.7  | 3.3 | 344 | 0.40 | ***  | ***  |
| 02  | 193604.42  | 09050.80  | 84011.66 | 15.9 | 3.3 | 292 | 0.05 | 1.4  | 0.9  |
| 02  | 210023.71  | 09054.13  | 84006.81 | 30.8 | 2.6 | 270 | 0.03 | 1.7  | 0.4  |
| 03  | 025852.37  | 09058.64  | 84003.36 | 25.0 | 3.2 | 327 | 0.25 | 8.9  | 2.9  |
| 03  | 212201.35  | 09052.01  | 84018.35 | 19.9 | 3.2 | 161 | 0.41 | 4.1  | 7.2  |
| 03  | 214704.13  | 09044.05  | 84018.15 | 25.0 | 2.7 | 302 | 0.55 | 13.3 | 16.3 |
| 03  | 215416.26  | 09049.52  | 84016.69 | 13.5 | 3.1 | 305 | 0.28 | 7.4  | 12.5 |
| 04  | 065748.50  | 09049.27  | 84014.18 | 4.8  | 3.3 | 298 | 0.48 | 1.8  | 1.2  |
| 04  | 070555.82  | 09054.03  | 84014.55 | 25.7 | 3.0 | 313 | 0.10 | 2.1  | 1.6  |
| 04  | 072546.97  | 09050.28  | 84024.97 | 11.0 | 3.5 | 321 | 0.24 | 9.8  | 7.7  |
| 04  | 173149.25  | 09051.29  | 84020.78 | 3.3  | 3.4 | 165 | 0.29 | 3.1  | 2.1  |
| 05  | 102712.20  | 09019.02  | 83042.17 | 17.7 | 3.2 | 184 | 0.17 | ***  | ***  |
| 06  | 084658.47  | 09050.48  | 84018.43 | 1.8  | 2.1 | 268 | 0.40 | 1.7  | 1.8  |
| 06  | 092551.41  | 09051.29  | 84016.95 | 3.7  | 2.2 | 237 | 0.1  | 3.2  | 3.6  |
| 06  | 161532.22  | 09033.12  | 83036.18 | 13.0 | 2.2 | 221 | 0.23 | 6.9  | 8.1  |
| 06  | 162242.75  | 09052.59  | 84017.56 | 5.0  | 1.9 | 250 | 0.10 | ***  | ***  |
| 06  | 181613.86  | 09050.48  | 84016.01 | 4.7  | 3.1 | 306 | 0.27 | 2.2  | 2.0  |
| 07  | 051648.56  | 09054.99  | 84017.08 | 6.2  | 2.5 | 186 | 0.11 | 8.4  | 3.0  |
| 07  | 061818.92  | 09057.16  | 84018.47 | 4.7  | 3.1 | 236 | 0.36 | 3.0  | 2.4  |
| 07  | 153037.63  | 09052.62  | 84008.94 | 21.5 | 3.2 | 281 | 0.21 | 4.9  | 2.8  |
| 07  | 155546.36  | 09047.31  | 84014.14 | 12.6 | 3.1 | 266 | 0.20 | 7.3  | 9.9  |
| 07  | 171206.28  | *09052.69 | 84018.26 | 7.0  | 4.6 | 114 | 0.34 | 2.2  | 1.4* |
| 07  | 171947.93  | 09050.07  | 84016.52 | 8.1  | 3.5 | 157 | 0.08 | 1.3  | 2.1  |
| 07  | 172033.41  | 09047.94  | 84016.99 | 6.3  | 3.6 | 204 | 0.22 | 13.9 | 12.3 |
| 07  | 174111.67  | 09049.51  | 84020.79 | 7.3  | 3.0 | 224 | 0.33 | 4.1  | 1.9  |
| 07  | 183533.03  | 09048.53  | 84015.61 | 2.3  | 2.8 | 178 | 0.34 | 3.6  | 6.1  |

JUNIO 1990

Pag. 3

| DIA | TIEMPO OR.  | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EZ    |
|-----|-------------|----------|----------|------|-----|-----|------|------|-------|
| 07  | 221019.63   | 09052.86 | 84018.87 | 7.5  | 2.6 | 128 | 0.16 | 2.3  | 4.4   |
| 08  | 003148.38 * | 09051.05 | 84020.88 | 8.9  | 4.8 | 229 | 0.38 | 5.4  | 4.1 * |
| 08  | 003534.76   | 09057.68 | 84018.17 | 7.2  | 3.1 | 145 | 0.07 | ***  | ***   |
| 08  | 005102.40   | 09050.54 | 84018.84 | 14.3 | 3.0 | 223 | 0.67 | 9.8  | 12.0  |
| 08  | 005514.82   | 09058.05 | 84018.35 | 17.8 | 3.0 | 182 | 0.50 | 4.1  | 4.7   |
| 08  | 010111.47   | 09053.73 | 84019.48 | 8.1  | 3.9 | 165 | 0.22 | ***  | ***   |
| 08  | 012244.19   | 10000.88 | 84003.36 | 53.5 | 3.3 | 232 | 0.45 | 4.7  | 6.0   |
| 08  | 013148.54   | 10005.70 | 84015.27 | 9.2  | 3.1 | 222 | 0.18 | ***  | ***   |
| 08  | 014339.67   | 09050.07 | 84018.87 | 1.0  | 3.3 | 197 | 0.51 | 5.0  | 2.0   |
| 08  | 020037.65   | 09053.64 | 84020.59 | 10.9 | 3.3 | 177 | 0.48 | 3.7  | 4.4   |
| 08  | 020219.49   | 09052.55 | 84018.39 | 28.6 | 3.4 | 208 | 0.37 | 8.2  | 8.9   |
| 08  | 021440.97   | 09055.51 | 84012.97 | 23.4 | 2.5 | 312 | 0.03 | 1.3  | 0.9   |
| 08  | 021816.48   | 09054.19 | 84018.20 | 15.7 | 2.7 | 196 | 0.54 | 12.2 | 11.2  |
| 08  | 023553.74   | 09050.45 | 84014.18 | 20.0 | 2.8 | 300 | 0.12 | ***  | ***   |
| 08  | 024227.93   | 09050.99 | 84015.49 | 15.4 | 3.1 | 206 | 0.34 | 3.7  | 3.1   |
| 08  | 025140.72   | 09050.07 | 84021.43 | 7.2  | 2.7 | 225 | 0.49 | 3.9  | 1.4   |
| 08  | 030131.99   | 09051.48 | 84019.62 | 8.7  | 2.4 | 181 | 0.13 | 2.7  | 4.2   |
| 08  | 030354.96   | 09055.78 | 84018.87 | 6.4  | 2.7 | 140 | 0.31 | 10.5 | 11.0  |
| 08  | 030930.88   | 09056.16 | 84018.36 | 6.2  | 3.1 | 133 | 0.27 | 0.9  | 1.0   |
| 08  | 031439.32   | 09052.25 | 84018.87 | 12.6 | 2.6 | 150 | 0.36 | 3.7  | 5.9   |
| 08  | 031952.91   | 09054.21 | 84020.19 | 15.7 | 2.6 | 167 | 0.39 | 4.0  | 8.7   |
| 08  | 032827.02   | 09056.46 | 84008.61 | 29.1 | 3.2 | 304 | 0.22 | 4.7  | 1.9   |
| 08  | 040218.13   | 09050.96 | 84020.15 | 6.4  | 3.0 | 224 | 0.47 | 2.2  | 2.9   |
| 08  | 042505.13   | 09047.93 | 84018.11 | 10.9 | 3.2 | 306 | 0.19 | ***  | ***   |
| 08  | 044726.80   | 09056.46 | 84012.93 | 28.2 | 2.9 | 316 | 0.17 | 11.7 | 6.2   |
| 08  | 051214.16   | 09048.92 | 84015.58 | 5.0  | 3.1 | 171 | 0.38 | 7.0  | 9.5   |
| 08  | 054654.94   | 09050.07 | 84018.87 | 13.9 | 2.6 | 197 | 0.41 | 3.2  | 3.1   |
| 08  | 055142.46   | 09054.11 | 84019.52 | 8.9  | 3.1 | 156 | 0.37 | 2.3  | 5.4   |
| 08  | 055543.70   | 09049.76 | 84016.34 | 12.9 | 3.7 | 163 | 0.45 | 6.6  | 3.9   |
| 08  | 105802.47   | 09052.46 | 84018.87 | 15.0 | 3.3 | 150 | 0.43 | 3.0  | 3.9   |
| 08  | 134628.01   | 09054.32 | 84018.96 | 5.3  | 4.0 | 104 | 0.36 | 1.8  | 1.1 * |
| 08  | 134656.32   | 09053.91 | 84016.53 | 7.0  | 4.5 | 104 | 0.25 | 3.6  | 1.8 * |
| 08  | 134911.80   | 09054.77 | 84014.50 | 27.7 | 3.7 | 151 | 0.20 | 2.7  | 3.1   |
| 08  | 154745.42 * | 09052.26 | 84018.19 | 9.6  | 4.0 | 114 | 0.39 | 2.5  | 4.4 * |
| 08  | 163033.69   | 09051.80 | 84018.34 | 10.9 | 3.2 | 134 | 0.26 | 1.6  | 2.2   |
| 08  | 163530.12   | 09058.95 | 84014.87 | 7.1  | 3.0 | 195 | 0.48 | 2.3  | 2.5   |
| 08  | 173227.33   | 09052.61 | 84020.26 | 7.6  | 3.6 | 173 | 0.47 | 2.5  | 3.1   |
| 08  | 173425.00   | 09052.76 | 84020.84 | 13.4 | 3.8 | 190 | 0.31 | 2.4  | 2.4   |
| 08  | 181520.07   | 09055.58 | 84019.80 | 9.1  | 3.0 | 153 | 0.40 | 3.6  | 11.0  |
| 08  | 185846.87   | 09058.54 | 84015.31 | 9.9  | 3.0 | 161 | 0.49 | 2.9  | 6.5   |
| 08  | 184214.86   | 09053.08 | 84019.74 | 8.9  | 4.2 | 159 | 0.48 | 1.9  | 1.9 * |
| 08  | 200722.68   | 09054.32 | 84020.41 | 14.6 | 3.2 | 114 | 0.37 | 2.9  | 2.3   |
| 08  | 202121.65   | 09055.31 | 84018.86 | 16.0 | 3.3 | 126 | 0.38 | 3.5  | 4.1   |
| 08  | 202346.16   | 09053.91 | 84020.02 | 12.2 | 2.9 | 131 | 0.35 | 2.9  | 3.5   |
| 08  | 203218.55   | 09053.74 | 84019.95 | 8.6  | 3.2 | 208 | 0.35 | ***  | ***   |
| 08  | 214055.34   | 09056.90 | 83057.68 | 15.0 | 2.9 | 249 | 0.04 | ***  | ***   |
| 08  | 221035.72   | 09053.94 | 84018.77 | 10.7 | 2.8 | 202 | 0.39 | ***  | ***   |
| 08  | 222436.61   | 09054.04 | 84020.53 | 6.8  | 3.5 | 209 | 0.45 | 1.0  | 1.4   |
| 08  | 223534.79   | 09051.90 | 84018.29 | 5.9  | 3.7 | 120 | 0.51 | 3.2  | 2.2   |
| 08  | 224121.70   | 09053.70 | 84019.04 | 7.0  | 3.0 | 115 | 0.46 | 3.4  | 2.8   |

| DIA | TIEMPO OR. | LAT. N    | LONG. W  | PROF | MAG | GAP | RMS  | EH  | EZ   |
|-----|------------|-----------|----------|------|-----|-----|------|-----|------|
| 08  | 230347.37  | 09050.07  | 84016.85 | 7.1  | 3.8 | 149 | 0.33 | 2.6 | 2.0  |
| 08  | 235257.33  | 09054.12  | 84018.40 | 6.1  | 2.8 | 119 | 0.32 | 2.1 | 1.4  |
| 09  | 003446.16  | *09053.91 | 84018.57 | 9.5  | 4.8 | 140 | 0.39 | 2.0 | 3.9* |
| 09  | 003939.56  | 09052.39  | 84019.32 | 17.0 | 3.4 | 162 | 0.28 | 2.8 | 3.3  |
| 09  | 004425.76  | 09053.91  | 84019.29 | 9.4  | 2.3 | 153 | 0.31 | 4.0 | 4.2  |
| 09  | 004616.79  | 09054.30  | 84019.42 | 6.1  | 3.0 | 154 | 0.30 | 5.1 | 5.4  |
| 09  | 005619.98  | 09050.48  | 84018.81 | 3.7  | 2.5 | 156 | 0.40 | 5.2 | 3.0  |
| 09  | 004730.46  | 09052.30  | 84019.30 | 13.5 | 3.0 | 162 | 0.40 | 2.8 | 3.3  |
| 09  | 012932.02  | 09054.56  | 84019.16 | 10.4 | 3.0 | 148 | 0.43 | 1.8 | 3.7  |
| 09  | 013218.33  | 09053.91  | 84019.81 | 11.2 | 3.9 | 212 | 0.58 | 3.3 | 2.9  |
| 09  | 014947.86  | 09056.95  | 84019.21 | 13.5 | 3.4 | 140 | 0.44 | 2.9 | 4.7  |
| 09  | 020342.92  | 09052.76  | 84018.87 | 11.2 | 3.1 | 149 | 0.58 | 4.0 | 4.6  |
| 09  | 021659.39  | 09050.07  | 84020.19 | 7.7  | 3.4 | 220 | 0.37 | 2.6 | 1.6  |
| 09  | 023621.57  | 09054.31  | 84020.47 | 16.0 | 3.4 | 170 | 0.36 | 3.5 | 4.1  |
| 09  | 024016.24  | 09052.82  | 84021.40 | 10.5 | 2.3 | 217 | 0.39 | 2.3 | 11.2 |
| 09  | 024229.54  | 09052.66  | 84020.44 | 15.1 | 2.6 | 213 | 0.37 | 3.9 | 3.5  |
| 09  | 025407.73  | 09052.79  | 84019.30 | 9.0  | 3.0 | 208 | 0.44 | 4.0 | 2.8  |
| 09  | 031428.72  | 09052.49  | 84021.32 | 13.4 | 2.7 | 201 | 0.37 | 3.4 | 2.3  |
| 09  | 032503.48  | 09054.32  | 84020.07 | 6.2  | 3.5 | 116 | 0.48 | 2.5 | 1.0  |
| 09  | 035545.19  | 09054.28  | 84020.13 | 13.2 | 3.8 | 117 | 0.41 | 2.5 | 2.1  |
| 09  | 040800.72  | 09055.70  | 84019.68 | 17.9 | 2.7 | 199 | 0.44 | *** | ***  |
| 09  | 041129.08  | 09054.53  | 84021.16 | 15.0 | 3.7 | 179 | 0.39 | 2.9 | 2.7  |
| 09  | 042059.79  | 09051.30  | 84017.56 | 7.8  | 2.7 | 111 | 0.34 | 3.0 | 3.1  |
| 09  | 042501.57  | 09050.73  | 84020.01 | 7.4  | 2.8 | 213 | 0.34 | 2.9 | 2.3  |
| 09  | 042926.59  | 09054.69  | 84019.39 | 12.9 | 3.0 | 151 | 0.34 | 4.2 | 3.3  |
| 09  | 043309.51  | 09052.78  | 84021.64 | 9.5  | 2.7 | 202 | 0.44 | 4.2 | 3.9  |
| 09  | 045248.13  | 09054.95  | 84019.93 | 13.6 | 3.4 | 66  | 0.25 | 1.4 | 1.9  |
| 09  | 045632.23  | 09050.72  | 84021.09 | 8.8  | 2.8 | 222 | 0.32 | 2.6 | 1.8  |
| 09  | 050205.13  | 09054.17  | 84019.11 | 12.3 | 3.1 | 118 | 0.40 | 2.6 | 2.2  |
| 09  | 050723.08  | 09055.34  | 84019.42 | 7.1  | 2.5 | 124 | 0.41 | 2.9 | 2.0  |
| 09  | 051528.10  | 09053.91  | 84020.07 | 15.0 | 2.1 | 167 | 0.54 | 5.8 | 3.2  |
| 09  | 051627.87  | 09050.07  | 84017.34 | 8.4  | 2.5 | 148 | 0.45 | 3.5 | 3.3  |
| 09  | 060312.43  | 09053.00  | 84020.84 | 11.8 | 3.5 | 187 | 0.57 | 4.6 | 4.5  |
| 09  | 060455.32  | 09052.16  | 84018.87 | 15.0 | 2.9 | 141 | 0.39 | 2.6 | 2.3  |
| 09  | 061034.12  | 09054.16  | 84018.51 | 12.1 | 2.1 | 156 | 0.43 | 3.6 | 3.8  |
| 09  | 062714.87  | 09054.32  | 84019.89 | 10.0 | 2.9 | 116 | 0.35 | 2.2 | 2.5  |
| 09  | 065741.70  | 09052.64  | 84021.03 | 9.8  | 2.1 | 195 | 0.33 | 3.0 | 2.7  |
| 09  | 072246.46  | 09056.44  | 84019.12 | 12.2 | 2.1 | 132 | 0.49 | 3.0 | 4.5  |
| 09  | 073357.72  | 09054.32  | 84019.21 | 8.7  | 3.0 | 118 | 0.33 | 2.4 | 3.6  |
| 09  | 090553.70  | 09054.32  | 84019.22 | 7.7  | 2.5 | 149 | 0.28 | 2.8 | 2.6  |
| 09  | 091059.03  | 09054.32  | 84018.52 | 13.3 | 2.1 | 145 | 0.45 | 3.0 | 3.4  |
| 09  | 091746.88  | 09050.63  | 84016.22 | 5.9  | 3.2 | 136 | 0.42 | 2.5 | 2.0  |
| 09  | 095925.84  | 09051.44  | 84020.74 | 14.4 | 2.8 | 209 | 0.42 | 3.3 | 2.7  |
| 09  | 103222.42  | 09050.64  | 84020.84 | 11.6 | 2.1 | 245 | 0.40 | 3.6 | 2.5  |
| 09  | 104414.97  | 09051.10  | 84018.02 | 8.9  | 2.1 | 111 | 0.27 | 3.2 | 5.4  |
| 09  | 104748.77  | 09052.95  | 84020.84 | 6.4  | 2.9 | 188 | 0.44 | 3.6 | 1.3  |
| 09  | 110527.64  | 09052.23  | 84020.84 | 12.9 | 2.6 | 197 | 0.45 | 3.3 | 2.3  |
| 09  | 113039.15  | 09052.79  | 84018.32 | 9.1  | 2.5 | 112 | 0.53 | 2.4 | 2.0  |
| 09  | 115550.94  | 09056.62  | 84018.21 | 8.1  | 2.9 | 137 | 0.41 | 3.0 | 5.2  |
| 09  | 120213.19  | 09054.32  | 84019.69 | 11.3 | 2.1 | 117 | 0.39 | 2.6 | 2.3  |

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| DIA | TIEMPO OR. | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH  | EZ  |
|-----|------------|----------|----------|------|-----|-----|------|-----|-----|
| 09  | 123928.29  | 09054.32 | 84019.64 | 15.0 | 3.0 | 117 | 0.39 | 2.8 | 3.1 |
| 09  | 125537.29  | 09054.32 | 84017.94 | 6.1  | 1.8 | 122 | 0.42 | 3.2 | 1.5 |
| 09  | 130027.53  | 09054.32 | 84018.89 | 13.7 | 2.9 | 119 | 0.38 | 2.3 | 2.7 |
| 09  | 144056.81  | 09052.68 | 84019.48 | 10.1 | 4.0 | 116 | 0.53 | 1.8 | 1.4 |
| 09  | 144845.07  | 09054.99 | 84021.86 | 10.0 | 3.0 | 166 | 0.10 | 1.4 | 1.1 |
| 09  | 161205.57  | 09054.32 | 84018.23 | 7.4  | 2.6 | 158 | 0.35 | 5.1 | 7.8 |
| 09  | 190409.19  | 09054.81 | 84017.56 | 9.2  | 3.2 | 126 | 0.45 | 2.3 | 2.8 |
| 09  | 191958.01  | 09049.81 | 84017.56 | 11.0 | 3.0 | 160 | 0.40 | 2.3 | 2.7 |
| 09  | 195215.32  | 09052.69 | 84019.72 | 13.5 | 2.7 | 165 | 0.45 | 3.1 | 2.0 |
| 09  | 200820.41  | 09050.91 | 84017.56 | 5.7  | 2.3 | 113 | 0.31 | 2.3 | 1.7 |
| 09  | 214135.30  | 09055.60 | 84017.13 | 7.0  | 2.9 | 133 | 0.37 | 2.9 | 2.4 |
| 09  | 221417.47  | 09052.00 | 84012.67 | 23.3 | 3.3 | 251 | 0.34 | 4.0 | 5.3 |
| 09  | 222908.64  | 09057.23 | 84018.63 | 4.4  | 2.9 | 140 | 0.09 | 1.2 | 1.6 |
| 09  | 224801.71  | 09052.11 | 84016.40 | 8.4  | 2.5 | 112 | 0.47 | 3.5 | 4.4 |
| 09  | 230645.27  | 09050.83 | 84023.93 | 5.9  | 2.7 | 298 | 0.20 | 5.7 | 2.3 |
| 10  | 003841.98  | 09049.22 | 84018.95 | 8.8  | 3.0 | 225 | 0.18 | 1.9 | 4.6 |
| 10  | 012710.24  | 09052.89 | 84017.56 | 5.0  | 3.7 | 78  | 0.40 | 1.8 | 1.3 |
| 10  | 013203.03  | 09052.88 | 84019.29 | 9.6  | 3.1 | 143 | 0.27 | 2.3 | 2.6 |
| 10  | 013451.74  | 09052.00 | 84019.29 | 8.6  | 2.5 | 161 | 0.23 | 3.1 | 4.7 |
| 10  | 021925.67  | 09052.13 | 84018.00 | 5.9  | 2.2 | 126 | 0.25 | 4.5 | 3.9 |
| 10  | 022707.09  | 09053.56 | 84017.56 | 7.0  | 2.4 | 100 | 0.30 | 1.9 | 1.4 |
| 10  | 030205.83  | 09052.38 | 84017.56 | 5.0  | 2.8 | 94  | 0.43 | 2.7 | 2.0 |
| 10  | 035449.00  | 09052.20 | 84018.83 | 6.1  | 2.1 | 138 | 0.24 | 2.7 | 1.7 |
| 10  | 071534.34  | 09051.79 | 84015.92 | 2.9  | 1.9 | 175 | 0.28 | 1.7 | 1.8 |
| 10  | 075639.97  | 09052.68 | 84018.43 | 14.8 | 3.6 | 160 | 0.47 | 5.6 | 6.5 |
| 10  | 085015.74  | 09050.08 | 84016.63 | 6.2  | 2.9 | 148 | 0.42 | 3.4 | 3.1 |
| 10  | 092352.15  | 09053.23 | 84017.17 | 2.9  | 1.9 | 152 | 0.38 | 2.3 | 2.7 |
| 10  | 120553.59  | 09053.30 | 84017.56 | 7.2  | 2.8 | 86  | 0.46 | 3.2 | 2.2 |
| 10  | 122154.98  | 09053.12 | 84020.84 | 6.3  | 2.3 | 218 | 0.28 | 4.1 | 1.9 |
| 10  | 132004.58  | 09046.86 | 84035.18 | 44.1 | 3.1 | 183 | 0.30 | 6.1 | 4.0 |
| 10  | 150931.66  | 09032.86 | 84013.19 | 23.9 | 3.6 | 179 | 0.30 | 4.0 | 6.7 |
| 10  | 154727.77  | 09051.43 | 84019.63 | 7.1  | 2.3 | 220 | 0.19 | 2.4 | 1.4 |
| 10  | 155656.08  | 09051.03 | 84019.20 | 5.4  | 2.6 | 217 | 0.15 | 2.7 | 1.8 |
| 10  | 163351.17  | 09050.51 | 84018.23 | 5.7  | 3.5 | 164 | 0.36 | 2.0 | 1.0 |
| 10  | 164327.83  | 09049.89 | 84018.50 | 4.9  | 3.3 | 166 | 0.38 | 2.2 | 1.4 |
| 10  | 165242.67  | 09048.87 | 84017.56 | 9.6  | 2.6 | 257 | 0.28 | 3.5 | 8.5 |
| 10  | 171417.58  | 09051.17 | 84016.34 | 4.4  | 2.3 | 185 | 0.29 | 9.0 | 8.9 |
| 10  | 171912.46  | 09048.81 | 84019.48 | 3.3  | 2.5 | 232 | 0.25 | 4.1 | 4.3 |
| 10  | 173258.54  | 09048.93 | 84016.52 | 2.6  | 2.7 | 205 | 0.45 | 4.4 | 6.2 |
| 10  | 183437.95  | 09053.25 | 84017.36 | 3.0  | 3.2 | 84  | 0.44 | 2.6 | 4.0 |
| 10  | 192330.22  | 09054.96 | 84016.35 | 6.1  | 2.5 | 183 | 0.39 | 2.3 | 1.6 |
| 10  | 212224.87  | 09048.71 | 84017.71 | 4.1  | 2.6 | 204 | 0.40 | 2.7 | 2.4 |
| 10  | 215213.32  | 09049.89 | 84017.30 | 6.6  | 2.6 | 155 | 0.42 | 2.0 | 1.3 |
| 10  | 234006.94  | 09045.32 | 84014.56 | 22.7 | 2.5 | 248 | 0.01 | *** | *** |
| 10  | 234508.23  | 09049.07 | 84016.38 | 1.0  | 3.0 | 174 | 0.10 | 0.9 | 1.2 |
| 11  | 000932.85  | 09053.59 | 84020.84 | 6.7  | 3.0 | 218 | 0.34 | 2.8 | 1.4 |
| 11  | 004348.78  | 09050.75 | 84018.75 | 7.1  | 2.7 | 149 | 0.39 | 3.8 | 2.0 |
| 11  | 052943.93  | 09054.06 | 84019.36 | 3.2  | 3.2 | 105 | 0.39 | 1.7 | 1.9 |
| 11  | 074104.03  | 09050.67 | 84020.14 | 8.1  | 2.6 | 233 | 0.23 | 2.4 | 1.9 |
| 11  | 080001.75  | 09051.92 | 84012.88 | 2.2  | 2.4 | 145 | 0.16 | 1.9 | 2.9 |

| DIA | TIEMPO OR.  | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EZ     |
|-----|-------------|----------|----------|------|-----|-----|------|------|--------|
| 11  | 091300.04   | 09050.07 | 84016.76 | 6.8  | 1.8 | 149 | 0.30 | 3.3  | 2.5    |
| 11  | 102836.26   | 09052.57 | 84018.90 | 5.9  | 2.6 | 135 | 0.27 | 3.3  | 2.8    |
| 11  | 110016.33   | 09050.07 | 84016.26 | 5.0  | 2.2 | 149 | 0.35 | 5.8  | 7.1    |
| 11  | 130423.06   | 09052.87 | 84018.54 | 6.6  | 2.7 | 135 | 0.34 | 2.1  | 1.2    |
| 11  | 142445.94   | 09051.94 | 84017.55 | 7.4  | 2.2 | 126 | 0.33 | 2.2  | 4.2    |
| 11  | 165933.70   | 09051.42 | 84017.57 | 6.7  | 1.9 | 200 | 0.21 | 2.5  | 1.3    |
| 11  | 192425.12   | 09052.08 | 84019.36 | 14.2 | 2.4 | 163 | 0.40 | 5.0  | 9.8    |
| 12  | 033137.98   | 09050.07 | 84018.87 | 8.7  | 2.1 | 201 | 0.50 | 6.0  | 5.9 20 |
| 12  | 050351.04   | 09053.42 | 84017.48 | 5.9  | 2.9 | 154 | 0.38 | 5.8  | 6.5    |
| 12  | 081631.35   | 09051.34 | 84019.32 | 8.2  | 2.4 | 175 | 0.33 | 3.3  | 2.7    |
| 12  | 083354.20   | 10000.23 | 84001.46 | 20.2 | 2.9 | 257 | 0.35 | ***  | ***    |
| 12  | 113303.80   | 09050.07 | 84017.55 | 7.9  | 2.1 | 147 | 0.29 | 2.1  | 2.3    |
| 12  | 164157.57   | 09050.42 | 84023.40 | 11.7 | 3.2 | 232 | 0.24 | 2.5  | 3.3    |
| 12  | 173243.91   | 09051.68 | 84018.87 | 5.4  | 2.6 | 147 | 0.38 | 3.7  | 2.3    |
| 12  | 173657.06   | 09051.96 | 84019.22 | 6.1  | 2.6 | 159 | 0.29 | 2.5  | 1.4    |
| 12  | 233731.00   | 09051.73 | 84020.49 | 9.6  | 2.6 | 199 | 0.40 | 2.7  | 1.7    |
| 12  | 233809.00   | 09052.03 | 84020.56 | 8.3  | 2.9 | 158 | 0.28 | 1.8  | 1.7    |
| 13  | 024236.25 * | 09044.05 | 84006.45 | 17.6 | 2.7 | 184 | 0.25 | 4.5  | 6.7 *  |
| 13  | 030325.12   | 09051.91 | 83056.66 | 10.0 | 2.9 | 205 | 0.29 | ***  | *** *  |
| 13  | 030430.99 * | 09048.66 | 84000.43 | 15.0 | 2.0 | 161 | 0.44 | ***  | *** *  |
| 13  | 040223.18   | 09024.02 | 84007.66 | 15.0 | 4.1 | 239 | 0.23 | 7.7  | 5.1    |
| 13  | 050235.47 * | 09050.74 | 84020.34 | 0.2  | 4.2 | 125 | 0.17 | 0.5  | 0.5 *  |
| 13  | 060319.72 * | 09049.36 | 83056.98 | 6.3  | 2.0 | 186 | 0.42 | 3.2  | 2.7 *  |
| 13  | 064700.80   | 09052.63 | 84019.95 | 6.9  | 2.6 | 122 | 0.38 | 2.3  | 1.1    |
| 13  | 065604.38   | 09053.00 | 84019.38 | 8.5  | 2.6 | 101 | 0.24 | 1.4  | 1.7    |
| 13  | 065857.55   | 09051.65 | 84020.80 | 10.0 | 2.6 | 152 | 0.25 | 1.3  | 1.3    |
| 13  | 102113.35   | 09053.06 | 84019.84 | 7.9  | 3.0 | 109 | 0.40 | 2.1  | 2.0    |
| 13  | 130023.93   | 09053.74 | 84020.89 | 8.7  | 3.1 | 111 | 0.37 | 1.9  | 1.9    |
| 13  | 141530.80   | 09051.66 | 84003.35 | 29.7 | 3.0 | 205 | 0.32 | 3.6  | 0.7    |
| 13  | 211107.07   | 09050.07 | 84019.49 | 9.0  | 2.9 | 166 | 0.49 | 3.2  | 1.9    |
| 13  | 212345.25   | 09050.70 | 84018.27 | 5.9  | 2.6 | 215 | 0.11 | 1.1  | 0.6    |
| 14  | 044913.74   | 09045.44 | 83059.70 | 69.3 | 3.0 | 131 | 0.26 | 2.5  | 1.9    |
| 14  | 111902.47   | 09029.40 | 84014.72 | 28.6 | 3.1 | 271 | 0.20 | 3.6  | 7.8    |
| 14  | 131741.31   | 08036.36 | 85002.81 | 83.9 | 3.9 | 133 | 0.32 | 11.1 | 18.9   |
| 14  | 175211.41   | 09050.07 | 84018.22 | 6.9  | 3.0 | 142 | 0.23 | 1.1  | 0.6    |
| 14  | 190225.86   | 09050.48 | 84012.21 | 23.8 | 3.1 | 294 | 0.10 | 2.3  | 1.7    |
| 15  | 011639.57   | 09054.32 | 84021.73 | 9.2  | 3.1 | 109 | 0.45 | 2.3  | 2.4    |
| 16  | 012737.31   | 09053.01 | 84019.07 | 6.7  | 2.6 | 132 | 0.41 | 1.7  | 0.8    |
| 16  | 022247.97 * | 09052.27 | 84019.25 | 7.0  | 4.5 | 91  | 0.45 | 1.5  | 0.9 *  |
| 16  | 024133.68   | 09054.32 | 84019.94 | 7.0  | 2.4 | 116 | 0.35 | 2.5  | 1.1    |
| 16  | 024216.38   | 09051.50 | 84019.13 | 9.6  | 2.4 | 106 | 0.42 | 2.3  | 1.9    |
| 16  | 033647.86   | 09052.51 | 84020.32 | 8.7  | 2.5 | 184 | 0.40 | 3.5  | 2.0    |
| 16  | 040814.81   | 09051.57 | 84016.69 | 6.0  | 2.8 | 112 | 0.37 | 3.4  | 3.0    |
| 16  | 051648.55   | 09053.11 | 84022.16 | 5.8  | 2.2 | 147 | 0.31 | 2.1  | 1.2    |
| 16  | 075506.86   | 09050.07 | 84018.87 | 5.8  | 3.8 | 200 | 0.12 | 1.8  | 0.9    |
| 16  | 100344.36   | 09051.89 | 84018.07 | 5.8  | 2.2 | 111 | 0.31 | 2.6  | 2.2    |
| 16  | 165924.00   | 09049.11 | 84015.80 | 4.1  | 2.3 | 169 | 0.18 | 1.3  | 1.9    |
| 16  | 211242.91 * | 09046.27 | 84000.43 | 9.4  | 2.9 | 167 | 0.29 | 8.4  | 7.5 *  |
| 16  | 213828.47 * | 09048.38 | 83056.94 | 3.7  | 2.2 | 181 | 0.28 | 6.4  | 6.8 *  |
| 17  | 065211.86   | 09051.33 | 84018.87 | 8.0  | 2.5 | 152 | 0.19 | 1.8  | 1.9    |

| DIA | TIEMPO OR.  | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH   | EZ   |
|-----|-------------|----------|----------|------|-----|-----|------|------|------|
| 17  | 104231.37   | 09055.56 | 84019.19 | 8.2  | 3.5 | 126 | 0.48 | 2.6  | 3.1  |
| 17  | 125900.25   | 09052.52 | 84020.76 | 7.7  | 2.8 | 100 | 0.32 | 1.9  | 2.1  |
| 17  | 164423.54 * | 09056.46 | 84012.12 | 18.5 | 2.6 | 314 | 0.38 | 13.7 | 10.7 |
| 17  | 164958.10 * | 09056.46 | 84003.36 | 19.2 | 2.7 | 329 | 0.39 | 9.1  | 4.6  |
| 17  | 232552.52   | 10001.88 | 84016.15 | 31.2 | 3.1 | 187 | 0.36 | 9.1  | 4.3  |
| 17  | 232938.75   | 09053.53 | 84018.12 | 23.2 | 3.7 | 118 | 0.45 | 5.0  | 10.4 |
| 17  | 233059.64   | 09041.33 | 84022.16 | 2.1  | 2.1 | 187 | 0.36 | 6.6  | 6.5  |
| 17  | 235155.80   | 09056.95 | 84014.64 | 11.9 | 3.3 | 212 | 0.40 | 1.6  | 1.6  |
| 17  | 235432.39   | 09053.35 | 84018.78 | 9.2  | 2.3 | 114 | 0.29 | 1.7  | 1.8  |
| 18  | 013519.51   | 09041.05 | 84009.89 | 4.4  | 3.8 | 297 | 0.13 | 3.7  | 2.1  |
| 18  | 021141.93   | 09054.52 | 84019.97 | 10.5 | 2.7 | 117 | 0.45 | 2.7  | 2.4  |
| 18  | 052851.70   | 09053.01 | 84019.90 | 8.7  | 2.1 | 102 | 0.41 | 1.7  | 2.0  |
| 18  | 071059.62   | 09047.79 | 84023.36 | 5.3  | 3.7 | 185 | 0.19 | 2.2  | 3.0  |
| 18  | 090427.28   | 09048.76 | 84023.97 | 14.3 | 3.5 | 172 | 0.35 | 7.7  | 8.8  |
| 18  | 090807.91   | 09050.84 | 84022.27 | 10.0 | 3.2 | 226 | 0.41 | 4.9  | 3.2  |
| 18  | 090948.34   | 09052.56 | 84020.70 | 13.5 | 3.8 | 140 | 0.38 | 3.6  | 6.4  |
| 18  | 093629.04   | 09051.64 | 84019.49 | 8.6  | 3.0 | 152 | 0.38 | 2.2  | 2.2  |
| 18  | 103039.73   | 09049.39 | 84021.70 | 8.9  | 2.6 | 227 | 0.40 | 2.7  | 3.3  |
| 18  | 143425.20   | 09052.28 | 84022.48 | 15.0 | 2.9 | 219 | 0.45 | 3.5  | 3.7  |
| 19  | 102652.01   | 09051.25 | 84019.28 | 5.0  | 3.0 | 118 | 0.35 | 1.7  | 1.2  |
| 19  | 155835.30   | 09047.61 | 84021.39 | 5.5  | 3.3 | 254 | 0.11 | 4.0  | 2.1  |
| 19  | 174106.50   | 09047.65 | 84020.04 | 3.5  | 3.5 | 276 | 0.35 | 4.4  | 2.4  |
| 20  | 042900.35   | 09050.23 | 84018.87 | 4.5  | 3.8 | 122 | 0.45 | 2.7  | 5.6  |
| 20  | 065644.36   | 09053.08 | 84021.25 | 9.5  | 2.7 | 193 | 0.37 | 2.8  | 2.2  |
| 20  | 223156.94   | 09050.72 | 84018.98 | 11.4 | 3.1 | 213 | 0.17 | 1.5  | 3.8  |
| 21  | 130425.62   | 09050.48 | 84008.86 | 15.0 | 2.1 | 276 | 0.01 | ***  | ***  |
| 22  | 015600.58   | 09054.32 | 84018.81 | 8.3  | 2.6 | 120 | 0.37 | 2.7  | 3.8  |
| 22  | 023433.44   | 09032.95 | 84014.76 | 20.1 | 3.6 | 249 | 0.25 | 3.3  | 6.2  |
| 22  | 162544.76   | 09054.25 | 84020.84 | 7.0  | 3.4 | 119 | 0.24 | 2.0  | 1.4  |
| 22  | 172746.13   | 09054.22 | 84010.24 | 27.8 | 2.9 | 254 | 0.28 | 4.3  | 2.5  |
| 22  | 201836.99   | 09053.43 | 84019.19 | 8.8  | 2.8 | 205 | 0.48 | ***  | ***  |
| 22  | 211659.39 * | 10045.23 | 86001.39 | 19.9 | 5.0 | 317 | 0.48 | ***  | ***  |
| 23  | 065848.66 * | 09035.34 | 84040.77 | 27.4 | 4.3 | 178 | 0.22 | 2.8  | 3.0  |
| 24  | 160209.80   | 09053.85 | 84020.96 | 8.9  | 3.2 | 118 | 0.35 | 2.5  | 3.8  |
| 24  | 185528.11   | 09053.68 | 84020.29 | 8.3  | 2.8 | 111 | 0.27 | 2.6  | 3.5  |
| 24  | 202032.98   | 09052.18 | 84020.05 | 14.3 | 2.8 | 107 | 0.36 | 2.1  | 2.1  |
| 24  | 215230.67   | 09054.32 | 84020.06 | 14.8 | 3.3 | 181 | 0.23 | ***  | ***  |
| 25  | 105928.24   | 09054.19 | 84019.18 | 4.9  | 2.9 | 210 | 0.40 | 1.0  | 1.1  |
| 26  | 053014.95   | 09051.49 | 84018.20 | 5.9  | 2.5 | 129 | 0.15 | ***  | ***  |
| 26  | 194120.20   | 09053.09 | 84017.02 | 15.9 | 3.4 | 204 | 0.43 | 4.8  | 3.6  |
| 26  | 233031.88   | 09052.02 | 84020.84 | 6.5  | 2.5 | 200 | 0.38 | 2.5  | 0.8  |
| 27  | 071149.80   | 09044.63 | 84002.67 | 18.5 | 2.2 | 165 | 0.43 | 6.5  | 4.4  |
| 27  | 094127.31   | 09052.16 | 84018.46 | 5.9  | 2.3 | 74  | 0.42 | 1.5  | 0.9  |
| 27  | 164819.66   | 09053.21 | 84019.94 | 7.3  | 3.1 | 120 | 0.40 | 2.5  | 3.3  |
| 27  | 200200.28   | 09050.07 | 84018.87 | 8.8  | 2.8 | 159 | 0.36 | 1.8  | 2.0  |
| 29  | 035738.75   | 09047.21 | 84016.64 | 13.7 | 3.7 | 208 | 0.47 | 3.3  | 3.2  |
| 29  | 042812.13   | 09050.07 | 84016.39 | 11.6 | 2.6 | 149 | 0.44 | 2.7  | 4.2  |
| 29  | 201927.37   | 09051.95 | 84017.93 | 2.4  | 2.1 | 189 | 0.15 | 0.1  | 0.6  |
| 30  | 033635.62   | 09051.55 | 84018.93 | 2.3  | 1.9 | 152 | 0.06 | 0.1  | 0.8  |
| 30  | 075312.24   | 09052.17 | 84018.91 | 1.9  | 2.1 | 142 | 0.11 | 0.3  | 0.5  |

| DIA | TIEMPO OR.  | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH  | EZ      |
|-----|-------------|----------|----------|------|-----|-----|------|-----|---------|
| 30  | 090430.15   | 09057.08 | 84020.84 | 7.0  | 3.2 | 145 | 0.37 | 1.6 | 0.9     |
| 30  | 094134.17   | 09055.61 | 84021.15 | 5.3  | 2.1 | 312 | 0.05 | 1.5 | 0.7     |
| 30  | 114831.65   | 09050.07 | 84016.84 | 1.7  | 2.5 | 276 | 0.09 | 1.2 | 0.6     |
| 30  | 122035.26   | 09053.19 | 84018.40 | 2.9  | 1.9 | 130 | 0.02 | 0.2 | 0.4     |
| 30  | 124114.60   | 09049.60 | 84031.77 | 2.0  | 4.0 | 327 | 0.02 | *** | ***     |
| 30  | 130139.85   | 09052.84 | 84020.85 | 4.2  | 2.3 | 220 | 0.03 | 0.6 | 1.1     |
| 30  | 130327.83 * | 09052.30 | 84021.68 | 7.4  | 4.0 | 108 | 0.28 | 1.5 | 1.5 *   |
| 30  | 130503.37   | 09051.73 | 84022.07 | 2.7  | 2.1 | 270 | 0.12 | 1.1 | 5.1 3.0 |
| 30  | 130741.27   | 09051.55 | 84022.30 | 2.1  | 1.9 | 276 | 0.03 | 0.1 | 1.6     |
| 30  | 145106.78 * | 09049.50 | 84022.86 | 4.8  | 5.0 | 232 | 0.36 | 3.3 | 1.6 *   |
| 30  | 145521.12 * | 09054.05 | 84021.16 | 5.0  | 4.5 | 212 | 0.13 | *** | *** *   |
| 30  | 145745.52 * | 09050.07 | 84025.04 | 6.2  | 4.4 | 240 | 0.39 | 9.2 | 3.9 *   |
| 30  | 145906.80   | 09055.50 | 84017.85 | 19.5 | 4.4 | 192 | 0.13 | 6.5 | 10.0    |
| 30  | 150106.85 * | 09051.66 | 84025.10 | 13.1 | 4.3 | 237 | 0.03 | 0.1 | 0.2 *   |
| 30  | 150430.69   | 09053.28 | 84020.48 | 6.9  | 3.8 | 212 | 0.34 | 5.0 | 7.0     |
| 30  | 151303.17   | 09055.89 | 84020.75 | 18.3 | 3.2 | 203 | 0.38 | *** | ***     |
| 30  | 151432.76   | 09057.05 | 84018.96 | 18.7 | 3.3 | 190 | 0.46 | 6.6 | 8.5     |
| 30  | 152518.25   | 09052.37 | 84021.71 | 9.9  | 3.1 | 220 | 0.36 | 1.3 | 8.0     |
| 30  | 153153.02   | 09053.91 | 84020.96 | 23.9 | 3.7 | 212 | 0.38 | *** | ***     |
| 30  | 155458.57   | 09052.92 | 84020.57 | 7.1  | 2.9 | 213 | 0.50 | 2.4 | 3.2     |
| 30  | 160200.57   | 09053.19 | 84020.14 | 15.1 | 2.6 | 210 | 0.37 | 5.7 | 5.6     |
| 30  | 161818.70   | 09051.21 | 84021.02 | 14.3 | 2.5 | 220 | 0.41 | *** | ***     |
| 30  | 162803.53   | 09053.12 | 84019.95 | 13.6 | 3.2 | 210 | 0.36 | 5.6 | 8.1     |
| 30  | 164056.72   | 09055.03 | 84021.15 | 13.2 | 2.8 | 209 | 0.45 | 7.0 | 9.5     |
| 30  | 164356.75   | 09051.91 | 84022.92 | 9.9  | 2.8 | 227 | 0.47 | *** | ***     |
| 30  | 170119.89   | 09049.69 | 84022.39 | 15.0 | 3.1 | 230 | 0.39 | 6.7 | 9.0     |
| 30  | 171105.90   | 09053.52 | 84021.84 | 11.3 | 3.5 | 217 | 0.43 | *** | ***     |
| 30  | 172059.55   | 09056.43 | 84022.01 | 17.9 | 2.9 | 208 | 0.40 | 2.7 | 4.0     |
| 30  | 173828.77   | 09052.70 | 84022.40 | 18.6 | 2.9 | 222 | 0.48 | 4.1 | 8.4     |
| 30  | 174940.84 * | 09053.16 | 84021.75 | 7.4  | 4.0 | 218 | 0.43 | *** | *** *   |
| 30  | 183057.91   | 10000.58 | 84013.45 | 7.0  | 3.1 | 185 | 0.30 | 1.8 | 0.7     |
| 30  | 184117.17 * | 09052.76 | 84022.13 | 13.8 | 4.0 | 221 | 0.38 | 5.1 | 4.7 *   |
| 30  | 185814.37   | 09054.32 | 84019.19 | 15.0 | 2.8 | 144 | 0.46 | 3.4 | 2.7     |
| 30  | 192548.34   | 09057.01 | 84019.80 | 6.8  | 3.2 | 134 | 0.28 | 9.0 | 5.9     |
| 30  | 195721.38   | 09051.93 | 84023.22 | 7.5  | 2.8 | 228 | 0.33 | 3.6 | 3.2     |
| 30  | 200921.40   | 09052.74 | 84020.84 | 10.2 | 3.1 | 222 | 0.43 | 9.0 | 4.9     |
| 30  | 202340.86   | 09054.32 | 84020.84 | 6.6  | 3.2 | 195 | 0.35 | 4.5 | 0.9     |
| 30  | 203900.79   | 09053.05 | 84019.72 | 12.0 | 3.5 | 199 | 0.39 | 3.0 | 2.0     |
| 30  | 205019.96   | 09053.87 | 84020.84 | 13.6 | 2.6 | 211 | 0.39 | 3.8 | 3.5     |
| 30  | 215702.60   | 09054.32 | 84020.39 | 11.1 | 2.8 | 138 | 0.40 | 3.9 | 2.5     |
| 30  | 221313.80   | 09054.12 | 84022.19 | 8.5  | 3.0 | 217 | 0.46 | 5.3 | 2.2     |
| 30  | 235645.79   | 09053.01 | 84020.41 | 9.4  | 2.9 | 180 | 0.43 | 4.6 | 3.8     |

PARTE B

LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES COM M  $\geq$  4,0

JUNIO 1990

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| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 01  | 025758.70 | iP   | Z    | -   |
| LCR2 | 01  | 025759.50 | iP   | Z    | -   |
| BUS  | 01  | 025804.50 | iP   | Z    | -   |
| LIO  | 01  | 025815.90 | iP   | Z    | -   |
| VCR  | 01  | 025816.20 | iP   | Z    | C   |
| SRA  | 01  | 025755.20 | iP   | Z    | C   |
|      |     | 5758.45   | S    | Z    | +   |
| ACR  | 01  | 025822.00 | eP   | Z    | +   |

10 Km al Noroeste de Santiago de Puriscal, Costa Rica, MD= 4,0  
Intensidad, V Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 01 | 032823.50 | iP | Z | - |
| LCR2 | 01 | 032824.50 | iP | Z | - |
| QCR  | 01 | 032827.20 | iP | Z | D |
|      |    | 2833.80   | S  | Z | D |
| BUS  | 01 | 032829.90 | iP | Z | - |
| LIO  | 01 | 032840.80 | iP | Z | C |
| VCR  | 01 | 032841.20 | iP | Z | C |
|      |    | 2859.90   | S  | Z | C |
| ACR  | 01 | 032847.20 | iP | Z | C |
|      |    | 2907.90   | S  | Z | - |

4.8 Km al N-Noreste de Santiago de Puriscal, Costa Rica, MD= 4,5  
Intensidad, V Ciudad Colón, Puriscal, Piedras Negras y Balsa.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 02 | 123933.80 | iP | Z | C |
|      |    | 3953.10   | S  | Z | - |
| QCR  | 02 | 123927.30 | iP | Z | - |
| LCR2 | 02 | 123930.30 | iP | Z | C |
| LIO  | 02 | 123934.20 | iP | Z | D |
| VCR  | 02 | 123947.80 | iP | Z | C |
| BUS  | 02 | 123926.90 | iP | Z | D |
|      |    |           |    |   | C |

50 Km al Sur de Golfito, Costa Rica, MD=4,0 Intensidad, II Golfito

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 03 | 025005.00 | eP | Z | - |
| SRA | 03 | 025010.00 | eP | Z | - |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 06 | 020516.50 | eP | Z | - |
|-----|----|-----------|----|---|---|

Norte de Perú, MB= 5,2.

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 07  | 171212.40 | iP   | Z    | C   |
|      |     | 1216.20   | S    | Z    |     |
| LCR2 | 07  | 171213.00 | iP   | Z    | C   |
| BUS  | 07  | 171218.60 | iP   | Z    | D   |
| LIO  | 07  | 171229.50 | iP   | Z    | C   |
| ACR  | 07  | 171235.00 | iP   | Z    | D   |
|      |     | 1257.00   | S    | Z    |     |
| VCR  | 07  | 171230.80 | iP   | Z    | C   |
|      |     | 1249.00   | S    | Z    |     |
| FOR  | 07  | 171220.50 | iP   | Z    | D   |
| VPS2 | 07  | 171213.90 | iP   | Z    | D   |
| SRA  | 07  | 171212.05 | iP   | Z    | D   |
|      |     | 1215.65   | S    | Z    |     |

3Km al Noreste de Santiago Puriscal, Costa Rica, MD= 4,6  
Intensidad, VI Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 003155.15 | iP | Z | D |
| LCR2 | 08 | 003156.80 | iP | Z |   |
|      |    | 3201.40   | S  | Z |   |
| SRA  | 08 | 003154.60 | iP | Z | C |
|      |    | 3158.10   | S  | Z |   |
| VPS2 | 08 | 003156.40 | iP | Z | D |

4 Km al Oeste de Santiago Puriscal, Costa Rica, MD= 4,8  
Intensidad, VII Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 134634.25 | iP | Z | D |
|      |    | 4638.15   | S  | Z |   |
| QCR  | 08 | 134638.20 | iP | Z | D |
| FOR  | 08 | 134641.80 | iP | Z |   |
| LCR2 | 08 | 134635.70 | iP | Z |   |
| BUS  | 08 | 134640.90 | iP | Z | C |
| VPS2 | 08 | 134635.30 | iP | Z | D |
|      |    | 4639.80   | S  | Z |   |
| LIO  | 08 | 134651.40 | iP | Z | C |
| ACR  | 08 | 134648.20 | iP | Z |   |

8 Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,0  
Intensidad, V Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 134702.00 | iP | Z |   |
| QCR  | 08 | 134705.90 | iP | Z |   |
| VPS2 | 08 | 134703.70 | iP | Z | D |
|      |    | 4708.10   | S  | Z |   |
| ACR  | 08 | 134720.20 | iP | Z |   |
| LCR2 | 08 | 134703.10 | iP | Z |   |

8 Km al Noreste de Santiago Puriscal, Costa Rica, MD= 4,5  
Intensidad, VI Puriscal.

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 08  | 154751.95 | iP   | Z    | D   |
|      |     | 4755.55   | S    | Z    |     |
| SRA  | 08  | 154751.80 | iP   | Z    | C   |
|      |     | 4755.30   | S    | Z    |     |
| LCR2 | 08  | 154752.20 | iP   | Z    | D   |
| BUS  | 08  | 154758.00 | iP   | Z    | C   |
| LIO  | 08  | 154809.10 | iP   | Z    | C   |
| ACR  | 08  | 154816.50 | iP   | Z    |     |
| VPS2 | 08  | 154753.40 | iP   | Z    | D   |
|      |     | 4757.90   | S    | Z    |     |

3Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,0  
Intensidad, IV Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 08 | 194221.75 | iP | Z | D |
|      |    | 4225.20   | S  | Z |   |
| SRA  | 08 | 194220.40 | iP | Z | C |
|      |    | 4224.00   | S  | Z |   |
| LCR2 | 08 | 194222.50 | iP | Z | + |
|      |    | 4226.80   | S  | Z |   |
| QCR  | 08 | 194225.30 | iP | Z | D |
|      |    | 4231.30   | S  | Z |   |
| BUS  | 08 | 194228.00 | iP | Z | + |
| LIO  | 08 | 194238.00 | iP | Z | C |
| ACR  | 08 | 194244.20 | eP | Z | + |
| VPS2 | 08 | 194222.40 | iP | Z | D |
|      |    | 4227.30   | S  | Z |   |

6 Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,2  
Intensidad, IV Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 09 | 003452.20 | iP | Z | D |
|      |    | 3456.20   | S  | Z |   |
| SRA  | 09 | 003451.20 | iP | Z | C |
|      |    | 3454.30   | S  | Z |   |
| QCR  | 09 | 003456.95 | iP | Z | D |
|      |    | 3463.00   | S  | Z |   |
| VPS2 | 09 | 003453.80 | eP | Z | - |
| ACR  | 09 | 003515.40 | eP | Z | - |
| LCR2 | 09 | 003453.45 | iP | Z | C |
| BUS  | 09 | 003459.25 | iP | Z | C |
| LIO  | 09 | 003509.70 | eP | Z | + |
| FOR  | 09 | 003459.95 | iP | Z | C |

3Km al Norte de Santiago Puriscal, Costa Rica, MD= 4,8  
Intensidad, VI y VII Puriscal.

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 09  | 144103.10 | iP   | Z    | C   |
|      |     | 4106.90   | S    | Z    |     |
| SRA  | 09  | 144102.90 | iP   | Z    | D   |
| VPS2 | 09  | 144104.40 | eP   | Z    | -   |
| LCR2 | 09  | 144104.10 | iP   | Z    | C   |
| BUS  | 09  | 144109.80 | iP   | Z    | C   |
| FOR  | 09  | 144110.00 | iP   | Z    | D   |
| LIO  | 09  | 144120.20 | iP   | Z    | C   |
| VCR  | 09  | 144120.50 | iP   | Z    | C   |
|      |     | 4138.30   | S    | Z    |     |
| QCR  | 09  | 144107.50 | eP   | Z    | -   |
|      |     | 4113.20   | S    | Z    |     |
| ACR  | 09  | 144126.20 | eP   | Z    | +   |

3 Km al Norte de Santiago de Puriscal, Costa Rica, MD= 4,0  
Intensidad, III y IV Puriscal.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 11 | 185821.00 | eP | Z |   |
| SRA | 11 | 185813.70 | eP | Z | C |
| BUS | 11 | 185825.50 | eP | Z |   |

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 12 | 141250.80 | eP | Z |  |
|-----|----|-----------|----|---|--|

Cerca de la Costa de Nicaragua, MB= 4,7

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 13 | 050243.00 | iP | Z | D |
| SRA  | 13 | 050242.20 | iP | Z | D |
|      |    | 0245.20   | S  | Z |   |
| BUS  | 13 | 050250.00 | iP | Z | + |
| LIO  | 13 | 050300.00 | eP | Z |   |
| QCR  | 13 | 050245.80 | eP | Z |   |
| VCR  | 13 | 050301.00 | iP | Z |   |
| LCR2 | 13 | 050244.10 | eP | Z |   |

10 Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,2  
Intensidad, IV Puriscal.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 13 | 053915.90 | iP | Z | D |
|-----|----|-----------|----|---|---|

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 14 | 080040.00 | eP | Z |  |
| SRA | 14 | 080036.00 | ep | Z |  |
| BUS | 14 | 080038.00 | eP | Z |  |

Panaz, Islas Filipinas, MB= 5,2

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 16  | 022254.60 | iP   | Z    | D   |
|      |     | 2258.45   | S    | Z    |     |
| LCR2 | 16  | 022255.10 | iP   | Z    | C   |
|      |     | 2259.70   | S    | Z    |     |
| VCR  | 16  | 022312.05 | eP   | Z    | D   |
| LIO  | 16  | 022311.70 | iP   | Z    | D   |
| QCR  | 16  | 022258.00 | eP   | Z    |     |
| ACR  | 16  | 022317.30 | eP   | Z    |     |
| BUS  | 16  | 022200.80 | iP   | Z    | C   |

2.5 Km al Norte de Santiago Puriscal, Costa Rica, MD= 4,5  
Intensidad, VI Puriscal.

|            |    |           |    |   |   |
|------------|----|-----------|----|---|---|
| SJS        | 16 | 090851.50 | eP | Z |   |
| Telesismo. |    |           |    |   |   |
| SJS        | 22 | 211734.80 | iP | Z | C |
| VCR        | 22 | 211713.50 | iP | Z | D |
| LCR2       | 22 | 211736.10 | eP | Z |   |
|            |    | 1755.00   | S  | Z |   |
| QCR        | 22 | 211739.00 | eP | Z |   |
| BUS        | 22 | 211743.00 | eP | Z |   |
| LIO        | 22 | 211748.10 | eP | Z |   |
| ACR        | 22 | 211755.60 | eP | Z |   |
|            |    | 1836.00   | S  | Z |   |

15 Km al Norte de Bahía Tamarindo, Golfo de Papagayo, MD= 5,0  
Intensidad, IV Playa del Coco.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 23 | 065902.90 | iP | Z | C |
| QCR  | 23 | 065859.70 | iP | Z | C |
|      |    | 5905.70   | S  | Z |   |
| LCR2 | 23 | 065902.05 | iP | Z | D |
| BUS  | 23 | 065906.50 | iP | Z | D |
|      |    | 5912.80   | S  | Z |   |
| VCR  | 23 | 065908.70 | iP | Z | - |
| LIO  | 23 | 065918.10 | eP | Z |   |
| ACR  | 23 | 065919.00 | eP | Z |   |

6 Km al Suroeste de Jacó, Costa Rica, MD= 4,3  
Intensidad, IV Jacó.

| EST. | DIA | TIEMPO    | FASE | COMP | POL. |
|------|-----|-----------|------|------|------|
| SJS  | 30  | 130335.35 | iP   | Z    | D    |
|      |     | 0339.60   | S    | Z    |      |
| SRA  | 30  | 130333.15 | iP   | Z    | C    |
|      |     | 0336.85   | S    | Z    |      |
| VPS2 | 30  | 130336.00 | iP   | Z    | D    |
|      |     | 0341.20   | S    | Z    |      |
| BUS  | 30  | 130341.20 | eP   | Z    | +    |
| ACR  | 30  | 130359.70 | eP   | Z    | +    |
|      |     | 0420.00   | S    | Z    |      |
| LCR2 | 30  | 130335.80 | iP   | Z    | C    |

6 Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,0  
Intensidad, IV Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 145114.95 | iP | Z | D |
|      |    | 5120.00   | S  | Z |   |
| LCR2 | 30 | 145115.30 | iP | Z | C |
|      |    | 5120.80   | S  | Z |   |
| BUS  | 30 | 145120.60 | iP | Z | C |
| ACR  | 30 | 145137.10 | iP | Z | D |
| FOR  | 30 | 145122.10 | iP | Z | D |
| SRA  | 30 | 145112.85 | iP | Z | C |
| VPS2 | 30 | 145116.00 | iP | Z | + |

6 Km al O-Suroeste de Santiago Puriscal, Costa Rica, MD= 5,0  
Intensidad, VI y VII Cortezal y Piedades.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 145528.20 | iP | Z | D |
| SRA  | 30 | 145526.20 | iP | Z |   |
| LCR2 | 30 | 145529.40 | iP | Z | + |
| BUS  | 30 | 145535.50 | iP | Z |   |
| ACR  | 30 | 145551.80 | iP | Z | + |
|      |    | 5613.10   | S  | Z |   |

9 Km al Noroeste de Santiago Puriscal, Costa Rica, MD= 4,5  
Intensidad, IV y V Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 145754.00 | iP | Z | D |
| SRA  | 30 | 145751.65 | iP | Z | D |
|      |    | 5755.00   | S  | Z |   |
| LCR2 | 30 | 145754.70 | iP | Z | + |
| BUS  | 30 | 145759.50 | iP | Z | + |
| ACR  | 30 | 145815.90 | iP | Z | D |

11 Km al Suroeste-O de Santiago Puriscal, Costa Rica, MD= 4,4  
Intensidad, IV Puriscal y Atenas.

| EST. | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 30  | 145913.20 | iP   | Z    | D   |
|      |     | 5917.20   | S    | Z    |     |
| LCR2 | 30  | 145914.50 | iP   | Z    |     |
| ACR  | 30  | 145936.60 | iP   | Z    |     |
|      |     | 5957.00   | S    | Z    |     |
| BUS  | 30  | 145920.00 | iP   | Z    |     |
| SRA  | 30  | 145912.50 | iP   | Z    |     |

8 Km al Noreste de Santiago Puriscal, Costa Rica, MD= 4,4  
Intensidad, V Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 150114.80 | iP | Z | D |
|      |    | 0119.00   | S  | Z |   |
| SRA  | 30 | 150115.45 | iP | Z |   |
|      |    | 0116.30   | S  | Z |   |
| LCR2 | 30 | 150115.90 | iP | Z |   |
| BUS  | 30 | 150121.50 | iP | Z | + |
| ACR  | 30 | 150137.50 | iP | Z | D |
|      |    | 0159.50   | S  | Z |   |

11.5 Km al Suroeste de Santiago Puriscal, Costa Rica, MD= 4,3  
Intensidad, IV Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 174948.70 | iP | Z | D |
|      |    | 4952.60   | S  | Z |   |
| LCR2 | 30 | 174948.80 | iP | Z | C |
| SRA  | 30 | 174946.30 | iP | Z | C |
|      |    | 4949.50   | S  | Z |   |
| BUS  | 30 | 174954.10 | iP | Z | C |

2.1 Km al Norte de Santiago Puriscal, Costa Rica, MD= 4,0  
Intensidad, IV Puriscal.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 184125.00 | iP | Z | D |
|      |    | 4129.00   | S  | Z |   |
| BUS  | 30 | 184131.30 | iP | Z | C |
|      |    | 4140.30   | S  | Z |   |
| LCR2 | 30 | 184125.80 | iP | Z | C |
| SRA  | 30 | 184122.50 | iP | Z | C |

2.3 Km al Suroeste de Santiago Puriscal, Costa Rica, MD= 4,0  
Intensidad, IV Puriscal.

PGM ANASIS Ver 2.0

Diseño:

Guillermo Á Avila R

FEC m:01-06-1990

FEC M:31-06-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

CIU ●

BASE.:RSN1990

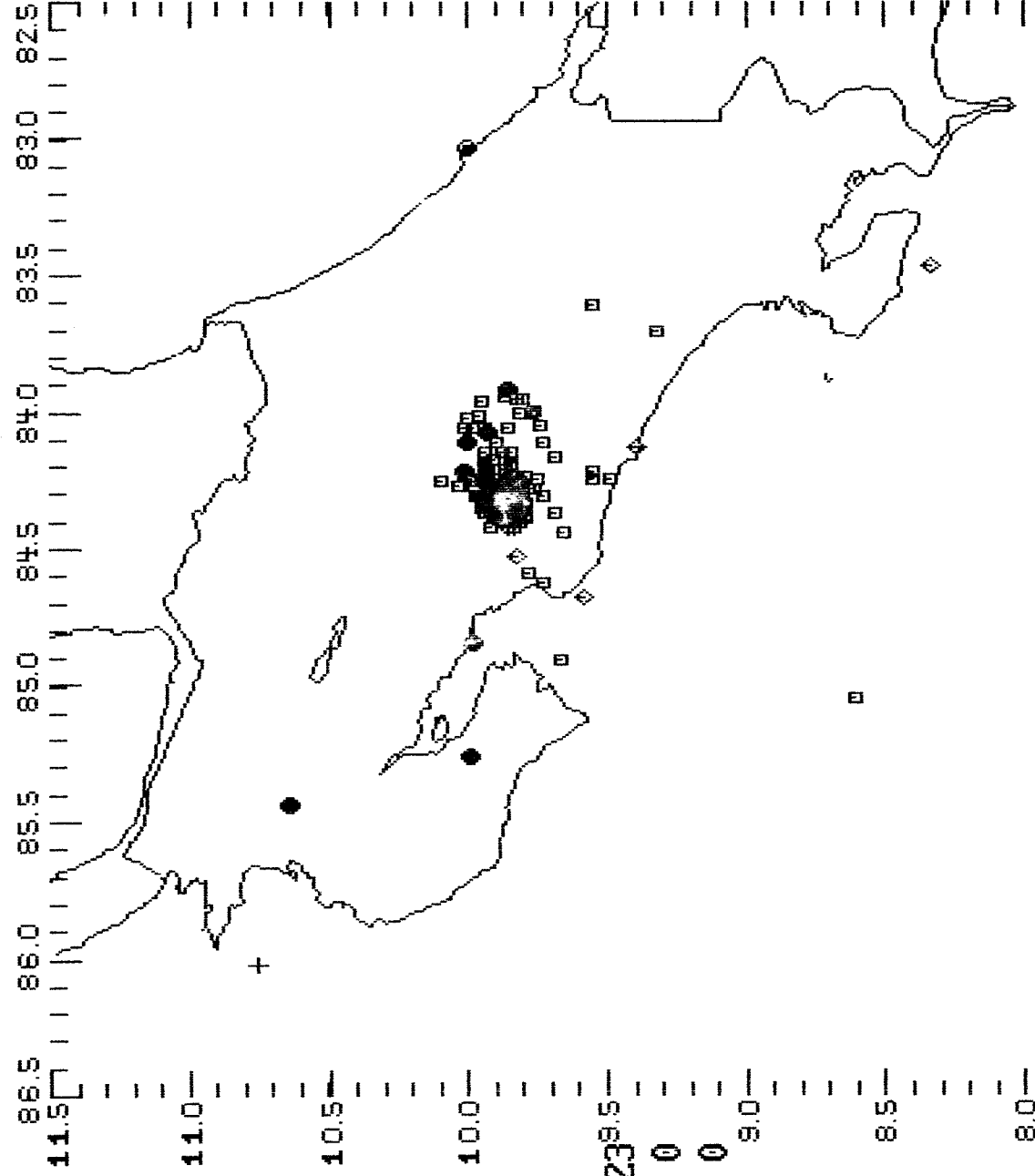
N SIS: 335

M≤3.9: 310 4≤M<5: 23

5≤M<6: 2 6≤M<7: 0

7≤M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



| DIA | TIEMPO OR   | LAT. N   | LONG. W  | PROF. | MAG. | GAP | RMS  | EH  | EZ    |
|-----|-------------|----------|----------|-------|------|-----|------|-----|-------|
| 01  | 142650.54 * | 09 50.43 | 84 20.84 | 03.6  | 3.5  | 226 | 0.15 | 6.2 | 8.2 ✕ |
| 01  | 162859.76   | 09 48.76 | 84 21.69 | 04.9  | 3.0  | 256 | 0.43 | 4.0 | 2.9   |
| 01  | 163257.48   | 09 47.01 | 84 20.91 | 02.5  | 2.5  | 276 | 0.22 | 2.4 | 2.7   |
| 01  | 164030.31   | 09 49.41 | 84 20.57 | 15.0  | 3.0  | 280 | 0.43 | 5.9 | 4.9   |
| 01  | 220828.73   | 09 50.39 | 84 20.84 | 07.3  | 2.8  | 246 | 0.43 | 4.8 | 6.1   |
| 02  | 000927.26   | 09 48.68 | 84 21.00 | 10.0  | 2.6  | 250 | 0.14 | 1.5 | 2.1   |
| 02  | 040210.03   | 09 51.69 | 84 20.54 | 06.1  | 2.9  | 221 | 0.35 | 3.0 | 1.4   |
| 02  | 052404.20   | 09 45.57 | 84 26.64 | 03.4  | 3.3  | 287 | 0.49 | 4.6 | 2.9   |
| 02  | 061440.12   | 09 49.19 | 84 20.84 | 04.0  | 2.9  | 247 | 0.33 | 4.8 | 4.6   |
| 02  | 053759.43   | 09 49.61 | 84 24.55 | 05.8  | 2.9  | 287 | 0.39 | 6.4 | 4.3   |
| 02  | 070000.78   | 09 47.77 | 84 22.55 | 05.3  | 3.3  | 250 | 0.41 | 5.0 | 2.9   |
| 02  | 165401.83   | 09 48.69 | 84 19.71 | 05.0  | 3.4  | 235 | 0.14 | 1.1 | 1.2   |
| 02  | 171611.65   | 09 48.23 | 84 20.84 | 04.0  | 2.5  | 248 | 0.27 | 5.9 | 6.5   |
| 02  | 202948.48   | 09 49.76 | 84 22.98 | 10.3  | 2.5  | 261 | 0.36 | 3.1 | 3.5   |
| 02  | 204339.78   | 09 49.37 | 84 22.01 | 06.9  | 3.4  | 235 | 0.39 | 3.7 | 1.0   |
| 03  | 040228.64   | 09 52.80 | 84 17.21 | 03.4  | 2.8  | 186 | 0.22 | 7.9 | 2.7   |
| 03  | 051009.08   | 09 47.95 | 84 20.88 | 04.7  | 2.7  | 224 | 0.31 | 8.8 | 9.6   |
| 03  | 100106.13   | 09 48.98 | 84 20.21 | 04.7  | 3.4  | 206 | 0.23 | 4.2 | 2.4   |
| 03  | 110424.31 * | 09 47.63 | 84 20.14 | 03.3  | 3.7  | 218 | 0.29 | 5.7 | 7.4 ✕ |
| 03  | 154915.78   | 09 49.49 | 84 21.32 | 04.6  | 2.9  | 218 | 0.28 | 5.1 | 5.5   |
| 04  | 165028.77   | 09 50.95 | 84 17.32 | 15.0  | 3.2  | 310 | 0.25 | 3.3 | 3.5   |
| 05  | 051449.22   | 09 50.07 | 84 21.13 | 10.0  | 2.2  | 328 | 0.20 | 4.1 | 1.4   |
| 05  | 084758.02   | 09 50.07 | 84 18.88 | 07.1  | 3.4  | 317 | 0.48 | 5.9 | 1.5   |
| 05  | 085028.66   | 09 53.66 | 84 20.97 | 08.7  | 2.9  | 326 | 0.23 | 8.0 | 2.4   |
| 05  | 090810.92   | 09 52.02 | 84 20.54 | 10.1  | 2.1  | 333 | 0.22 | 3.0 | 7.5   |
| 06  | 005416.61   | 10 03.08 | 83 57.85 | 17.7  | 2.7  | 299 | 0.22 | 7.7 | 2.2   |
| 06  | 011107.54   | 09 48.39 | 84 21.43 | 10.9  | 2.4  | 163 | 0.08 | 0.3 | 0.2   |
| 06  | 015444.88   | 09 46.18 | 84 23.25 | 08.5  | 2.0  | 216 | 0.29 | 7.0 | 5.7   |
| 06  | 051540.70   | 09 53.81 | 84 20.13 | 15.0  | 2.9  | 257 | 0.20 | 7.2 | 2.3   |
| 06  | 084703.19   | 09 48.39 | 84 24.84 | 08.6  | 2.9  | 294 | 0.14 | 2.6 | 1.2   |
| 06  | 124036.06 * | 09 48.09 | 84 23.79 | 06.2  | 3.8  | 174 | 0.28 | 2.2 | 3.2 ✕ |
| 06  | 232172.43   | 09 35.56 | 84 57.29 | 15.0  | 1.6  | 335 | 0.14 | 3.7 | 9.2   |
| 06  | 235205.16   | 09 54.53 | 84 18.14 | 05.3  | 2.5  | 218 | 0.20 | 2.6 | 2.1   |
| 07  | 062528.70   | 09 05.70 | 84 31.84 | 17.2  | 3.0  | 310 | 0.20 | *   | *     |
| 07  | 063459.31   | 09 50.71 | 84 21.78 | 08.8  | 2.1  | 146 | 0.27 | 1.6 | 2.4   |
| 07  | 075627.30   | 09 21.95 | 83 56.98 | 08.0  | 1.6  | 277 | 0.11 | 8.2 | 7.6   |
| 07  | 090250.37   | 09 56.50 | 83 50.74 | 76.4  | 2.5  | 250 | 0.14 | 9.9 | 3.3   |
| 07  | 134724.03   | 09 46.14 | 84 24.84 | 10.2  | 2.7  | 267 | 0.39 | *   | *     |
| 07  | 175600.95   | 09 48.49 | 84 19.39 | 12.1  | 2.5  | 151 | 0.07 | 0.9 | 0.6   |
| 07  | 194916.71   | 09 52.44 | 84 22.47 | 08.9  | 2.7  | 196 | 0.14 | 1.0 | 1.1   |

| DIA | TIEMPO OR   | LAT. N   | LONG. W  | PROF | MAG. | GAP | RMS  | EH  | EZ    |
|-----|-------------|----------|----------|------|------|-----|------|-----|-------|
| 07  | 213955.14   | 09 53.43 | 84 17.98 | 09.0 | 2.3  | 192 | 0.16 | 1.0 | 1.4   |
| 08  | 003929.52   | 09 31.04 | 83 44.40 | 18.8 | 1.7  | 322 | 0.10 | 1.0 | 0.5   |
| 08  | 010015.62   | 09 54.33 | 84 10.10 | 07.5 | 2.5  | 213 | 0.28 | 1.8 | 1.7   |
| 08  | 060211.10   | 11 19.97 | 85 27.27 | 60.0 | 3.9  | 291 | 0.48 | 3.1 | 3.7   |
| 08  | 095816.91   | 09 36.21 | 83 42.68 | 05.4 | 2.3  | 290 | 0.20 | 1.3 | 4.6   |
| 08  | 145317.83   | 09 24.81 | 84 48.39 | 46.4 | 2.7  | 321 | 0.48 | 7.7 | 9.9   |
| 08  | 210009.57   | 09 09.42 | 83 45.59 | 52.9 | 2.7  | 315 | 0.39 | 6.2 | 9.8   |
| 08  | 210127.56   | 09 47.94 | 84 24.14 | 05.0 | 3.7  | 174 | 0.13 | 1.7 | 2.6   |
| 08  | 224250.44   | 09 48.09 | 84 16.97 | 11.3 | 2.7  | 147 | 0.21 | 1.9 | 1.6   |
| 09  | 085900.95   | 09 51.11 | 84 25.42 | 12.6 | 3.3  | 249 | 0.13 | 1.2 | 0.8   |
| 09  | 090053.39   | 09 48.39 | 84 27.95 | 16.8 | 3.1  | 342 | 0.21 | 7.5 | 3.9   |
| 09  | 103722.81   | 09 49.41 | 84 25.23 | 10.3 | 2.7  | 246 | 0.14 | 1.2 | 1.4   |
| 09  | 120638.55   | 09 50.71 | 84 23.63 | 09.4 | 3.2  | 195 | 0.19 | 2.1 | 2.5   |
| 09  | 175905.08 * | 10 33.60 | 85 38.56 | 63.5 | 3.8  | 277 | 0.17 | 4.0 | 3.1 * |
| 10  | 063642.98   | 09 52.43 | 84 23.03 | 00.8 | 2.0  | 209 | 0.07 | 0.5 | 4.0   |
| 10  | 095411.53   | 09 53.10 | 84 18.04 | 04.5 | 2.2  | 235 | 0.10 | 1.0 | 1.7   |
| 10  | 112834.82   | 09 48.39 | 84 22.82 | 11.3 | 2.1  | 165 | 0.08 | 1.9 | 1.7   |
| 10  | 164939.43   | 09 49.20 | 84 22.22 | 05.8 | 2.3  | 139 | 0.08 | 1.0 | 1.6   |
| 10  | 222101.76   | 09 51.60 | 84 19.78 | 05.7 | 3.3  | 222 | 0.20 | 7.0 | 5.8   |
| 10  | 235009.46 * | 09 48.85 | 84 58.43 | 14.2 | 3.3  | 112 | 0.32 | 2.7 | 3.3 * |
| 11  | 041925.29   | 09 34.51 | 84 11.85 | 43.3 | 2.4  | 236 | 0.28 | 5.1 | 3.6   |
| 11  | 070237.78   | 09 27.55 | 84 55.54 | 15.4 | 1.3  | 253 | 0.25 | 5.6 | 4.9   |
| 11  | 142116.62   | 09 47.23 | 84 20.75 | 06.1 | 2.0  | 261 | 0.35 | 4.8 | 1.6   |
| 11  | 232908.20 * | 09 54.32 | 84 20.84 | 10.0 | 3.6  | 289 | 0.41 | 3.8 | 4.4 * |
| 12  | 004945.96   | 09 53.02 | 84 18.73 | 05.4 | 2.8  | 137 | 0.38 | 4.3 | 3.3   |
| 12  | 011111.97   | 09 54.32 | 84 17.75 | 10.0 | 2.0  | 213 | 0.25 | 5.4 | 2.7   |
| 12  | 012040.80   | 09 54.32 | 84 17.93 | 03.8 | 2.8  | 174 | 0.41 | 1.6 | 1.3   |
| 12  | 034702.50   | 09 52.88 | 84 19.36 | 05.2 | 2.9  | 146 | 0.20 | 4.2 | 2.8   |
| 12  | 050420.83   | 09 54.32 | 84 18.54 | 05.7 | 2.4  | 175 | 0.30 | 1.3 | 0.9   |
| 12  | 061413.63 * | 09 54.46 | 83 56.49 | 13.3 | 2.6  | 247 | 0.40 | 7.2 | 7.2 * |
| 12  | 104338.26   | 09 49.87 | 84 54.76 | 34.6 | 2.8  | 196 | 0.48 | 3.8 | 9.3   |
| 12  | 165254.85   | 09 53.29 | 84 18.88 | 02.7 | 2.8  | 224 | 0.16 | 1.5 | 4.7   |
| 12  | 173649.76   | 09 50.51 | 84 16.63 | 01.2 | 1.8  | 229 | 0.14 | 1.7 | 4.9   |
| 12  | 180636.31   | 09 51.65 | 84 17.14 | 00.5 | 1.9  | 229 | 0.25 | 2.0 | 3.0   |
| 12  | 190550.56   | 09 49.68 | 84 22.32 | 07.8 | 1.7  | 139 | 0.20 | 1.2 | 2.1   |
| 12  | 214402.00   | 09 53.37 | 84 19.51 | 07.0 | 1.7  | 211 | 0.08 | 1.6 | 2.1   |
| 13  | 101124.73   | 09 52.32 | 84 18.90 | 03.3 | 1.5  | 201 | 0.14 | 1.0 | 0.6   |
| 13  | 182313.04   | 09 50.83 | 84 21.29 | 07.0 | 1.6  | 136 | 0.05 | 0.1 | 0.1   |
| 13  | 205335.41   | 09 54.32 | 84 17.70 | 06.4 | 2.9  | 264 | 0.39 | 3.4 | 4.0   |
| 13  | 211651.76   | 09 55.20 | 84 20.84 | 10.0 | 1.9  | 304 | 0.12 | 2.4 | 1.3   |

| DIA | TIEMPO    | OR | LAT. N   | LONG. W  | PROF | MAG | GAP | RMS  | EH  | EZ   |
|-----|-----------|----|----------|----------|------|-----|-----|------|-----|------|
| 13  | 230303.54 |    | 09 54.90 | 84 16.79 | 03.8 | 2.5 | 279 | 0.48 | 4.7 | 4.8  |
| 13  | 231108.44 |    | 09 52.34 | 84 20.16 | 06.0 | 2.6 | 164 | 0.02 | 0.1 | 0.2  |
| 13  | 231913.68 |    | 09 52.90 | 84 20.84 | 06.7 | 2.8 | 219 | 0.08 | 8.0 | 2.0  |
| 14  | 052442.7  |    | 09 52.45 | 84 18.69 | 07.8 | 2.8 | 164 | 0.10 | 0.8 | 1.0  |
| 14  | 073756.28 |    | 09 55.04 | 84 16.79 | 02.7 | 2.7 | 281 | 0.16 | 1.2 | 5.0  |
| 14  | 100936.07 |    | 09 55.49 | 84 16.04 | 05.3 | 3.4 | 282 | 0.28 | 3.2 | 2.5  |
| 14  | 101132.22 |    | 09 54.07 | 84 17.38 | 02.6 | 2.3 | 262 | 0.28 | 2.5 | 5.7  |
| 14  | 120315.03 |    | 09 50.07 | 84 20.19 | 07.1 | 1.5 | 118 | 0.21 | 1.9 | 3.9  |
| 14  | 220312.02 |    | 09 51.14 | 84 23.44 | 05.0 | 3.2 | 249 | 0.44 | 3.2 | 1.4  |
| 14  | 224116.62 |    | 09 47.76 | 84 26.45 | 07.8 | 2.1 | 303 | 0.20 | 3.1 | 6.3  |
| 14  | 224224.00 |    | 09 51.24 | 84 25.26 | 03.6 | 3.3 | 267 | 0.33 | 2.3 | 1.2  |
| 15  | 024815.91 |    | 09 52.30 | 84 21.76 | 06.7 | 2.4 | 252 | 0.21 | 2.2 | 0.8  |
| 15  | 051620.02 |    | 09 49.01 | 84 23.46 | 08.4 | 2.1 | 282 | 0.06 | 0.4 | 0.1  |
| 15  | 061813.61 |    | 09 48.62 | 84 18.14 | 06.4 | 2.3 | 198 | 0.17 | 2.0 | 1.0  |
| 15  | 091228.89 |    | 09 49.39 | 84 21.93 | 07.2 | 2.4 | 260 | 0.40 | 3.4 | 1.0  |
| 15  | 093932.25 |    | 09 49.80 | 84 22.36 | 10.5 | 1.9 | 264 | 0.17 | 4.0 | 1.9  |
| 15  | 190748.73 |    | 09 51.24 | 84 18.95 | 04.3 | 3.3 | 169 | 0.25 | 1.7 | 2.0  |
| 15  | 193019.22 |    | 09 51.62 | 84 19.14 | 05.2 | 2.6 | 161 | 0.21 | 4.3 | 1.9  |
| 16  | 043052.32 |    | 09 48.67 | 84 23.76 | 07.5 | 2.1 | 286 | 0.21 | 2.2 | 1.0  |
| 16  | 093127.01 | ✕  | 09 49.89 | 85 01.36 | 15.0 | 3.7 | 181 | 0.44 | 3.9 | 9.5✕ |
| 17  | 020935.89 | ✕  | 09 19.17 | 84 57.07 | 36.3 | 4.1 | 333 | 0.09 | 4.8 | 1.7✕ |
| 17  | 023022.38 | ✕  | 09 22.71 | 84 50.67 | 34.7 | 3.5 | 329 | 0.42 | 5.6 | 2.5✕ |
| 17  | 232806.12 |    | 09 25.60 | 84 44.36 | 32.6 | 2.3 | 305 | 0.24 | 5.6 | 7.9  |
| 18  | 000836.02 |    | 09 55.64 | 84 15.95 | 02.9 | 2.7 | 233 | 0.29 | 1.8 | 1.5  |
| 18  | 054217.24 |    | 09 53.86 | 84 20.94 | 10.0 | 2.8 | 241 | 0.13 | 2.0 | 1.3  |
| 19  | 081844.23 |    | 09 50.07 | 84 22.02 | 06.4 | 2.4 | 258 | 0.21 | 2.3 | 0.7  |
| 19  | 154726.22 |    | 09 25.77 | 84 31.30 | 23.0 | 3.4 | 217 | 0.35 | 4.6 | 5.7  |
| 19  | 175137.47 | ✕  | 10 08.34 | 84 14.88 | 05.8 | 2.3 | 189 | 0.16 | 1.5 | 8.5✕ |
| 19  | 175311.55 | ✕  | 10 11.51 | 84 16.32 | 06.2 | 2.4 | 215 | 0.17 | 7.8 | 4.8✕ |
| 19  | 175343.14 | ✕  | 10 07.77 | 84 13.41 | 01.1 | 2.4 | 219 | 0.20 | 1.3 | 1.2✕ |
| 19  | 175408.52 | ✕  | 10 09.59 | 84 15.39 | 06.0 | 2.6 | 164 | 0.17 | 6.3 | 5.8✕ |
| 19  | 175725.09 | ✕  | 10 07.96 | 84 15.04 | 02.5 | 2.6 | 188 | 0.12 | 0.9 | 3.3✕ |
| 19  | 183646.91 | ✕  | 10 06.34 | 84 15.80 | 04.5 | 3.6 | 115 | 0.45 | 2.2 | 2.5✕ |
| 19  | 184022.58 | ✕  | 10 07.91 | 84 13.46 | 05.9 | 2.4 | 218 | 0.16 | 3.6 | 3.2✕ |
| 19  | 222159.96 |    | 09 54.38 | 84 24.15 | 06.0 | 3.3 | 162 | 0.46 | 3.2 | 6.2  |
| 20  | 012949.87 |    | 09 31.65 | 83 07.14 | 21.7 | 3.2 | 180 | 0.39 | 6.8 | 4.4  |
| 20  | 035401.43 |    | 09 52.38 | 84 21.20 | 08.2 | 2.6 | 196 | 0.40 | 4.2 | 2.6  |
| 20  | 040551.31 | ✕  | 06 32.60 | 83 09.77 | 37.9 | 4.4 | 324 | 0.52 | *   | *✕   |
| 21  | 062106.72 |    | 09 12.01 | 84 45.96 | 64.9 | 3.4 | 248 | 0.27 | 7.9 | 2.4  |
| 21  | 184436.24 |    | 09 26.91 | 84 36.33 | 12.0 | 3.3 | 211 | 0.40 | 3.6 | 5.0  |

| DIA | TIEMPO DR. | LAT.     | LONG.    | PROF | MAG | GAP | RMS  | EH   | EZ  |
|-----|------------|----------|----------|------|-----|-----|------|------|-----|
| 21  | 234150.90  | 09 48.39 | 84 26.25 | 13.0 | 2.8 | 306 | 0.19 | 4.0  | 2.1 |
| 21  | 235406.09  | 09 50.05 | 84 23.08 | 04.8 | 2.3 | 166 | 0.04 | 0.4  | 0.8 |
| 22  | 102457.79  | 09 39.60 | 84 31.69 | 46.0 | 3.1 | 276 | 0.24 | 4.6  | 7.2 |
| 22  | 180315.29  | 09 51.51 | 84 21.71 | 04.1 | 1.7 | 157 | 0.21 | 0.8  | 2.1 |
| 22  | 233813.15  | 09 45.76 | 84 40.14 | 39.3 | 4.0 | 167 | 0.32 | 9.4  | 4.5 |
| 23  | 034555.04  | 09 14.37 | 84 51.25 | 19.8 | 3.3 | 244 | 0.28 | 4.1  | 3.7 |
| 23  | 045537.51  | 09 17.41 | 85 01.85 | 25.0 | 3.8 | 244 | 0.47 | 4.0  | 9.0 |
| 23  | 052608.81  | 09 19.60 | 84 51.79 | 25.0 | 3.3 | 344 | 0.26 | 2.0  | 3.1 |
| 23  | 052704.83  | 09 20.24 | 84 47.61 | 25.0 | 5.1 | 201 | 0.34 | 4.0  | 6.1 |
| 23  | 053139.99  | 09 25.96 | 84 49.58 | 24.7 | 4.2 | 326 | 0.18 | 5.0  | 9.0 |
| 23  | 054910.30  | 09 10.43 | 84 43.68 | 36.9 | 3.8 | 251 | 0.45 | 9.6  | 6.5 |
| 23  | 065154.22  | 09 11.81 | 84 51.15 | 02.5 | 3.7 | 273 | 0.20 | 2.1  | 2.7 |
| 23  | 075113.92  | 09 20.96 | 84 51.25 | 25.0 | 3.4 | 329 | 0.27 | 11.4 | 8.5 |
| 23  | 093158.70  | 09 11.45 | 84 40.97 | 36.6 | 4.1 | 250 | 0.32 | 4.9  | 3.7 |
| 23  | 094939.75  | 09 05.41 | 84 10.02 | 85.1 | 3.1 | 346 | 0.10 | 7.5  | 3.1 |
| 23  | 103321.28  | 09 25.77 | 84 31.61 | 36.4 | 3.4 | 312 | 0.09 | *    | *   |
| 23  | 113030.49  | 09 18.23 | 84 28.27 | 54.3 | 3.5 | 325 | 0.21 | 8.3  | 9.8 |
| 23  | 214143.39  | 09 54.32 | 84 18.26 | 02.6 | 2.5 | 275 | 0.06 | 6.9  | 3.8 |
| 23  | 234225.55  | 09 20.80 | 84 30.46 | 45.7 | 3.8 | 228 | 0.16 | 7.1  | 9.1 |
| 23  | 234925.04  | 09 25.77 | 85 06.09 | 25.0 | 3.2 | 334 | 0.20 | *    | *   |
| 24  | 063330.45  | 09 52.35 | 84 20.84 | 03.5 | 2.8 | 228 | 0.19 | 4.4  | 2.4 |
| 24  | 115454.67  | 09 51.36 | 84 20.84 | 08.8 | 1.9 | 226 | 0.24 | 5.3  | 4.6 |
| 24  | 171506.73  | 09 38.15 | 84 16.82 | 11.5 | 3.0 | 346 | 0.17 | 4.2  | 4.9 |
| 24  | 185826.55  | 09 55.18 | 84 16.05 | 04.8 | 1.7 | 227 | 0.25 | 5.2  | 5.5 |
| 24  | 200653.84  | 09 53.74 | 84 15.08 | 04.7 | 2.8 | 295 | 0.13 | 6.3  | 6.5 |
| 24  | 204857.37  | 09 54.38 | 84 20.84 | 00.3 | 2.9 | 205 | 0.35 | 2.3  | 1.3 |
| 24  | 224219.94  | 09 14.81 | 84 38.13 | 48.4 | 3.2 | 331 | 0.11 | 4.8  | 5.1 |
| 25  | 024803.46  | 09 50.74 | 84 20.82 | 07.8 | 2.8 | 124 | 0.04 | 0.1  | 0.2 |
| 25  | 051506.96  | 09 39.81 | 83 30.83 | 07.5 | 2.9 | 309 | 0.21 | 3.4  | 7.7 |
| 25  | 052158.03  | 09 50.07 | 84 20.53 | 08.6 | 2.5 | 119 | 0.05 | 0.6  | 1.2 |
| 25  | 102533.63  | 09 20.38 | 84 44.43 | 37.9 | 3.9 | 230 | 0.27 | 3.3  | 2.1 |
| 25  | 104900.33  | 09 36.52 | 83 32.88 | 06.0 | 2.9 | 328 | 0.29 | *    | *   |
| 26  | 032931.44  | 09 54.32 | 84 20.84 | 10.0 | 2.9 | 283 | 0.22 | 6.5  | 4.0 |
| 26  | 102451.10  | 09 11.13 | 84 00.90 | 07.1 | 2.8 | 327 | 0.02 | *    | *   |
| 26  | 110127.43  | 09 25.77 | 84 07.49 | 13.6 | 3.8 | 246 | 0.29 | *    | *   |
| 26  | 135327.62  | 09 50.84 | 84 19.59 | 09.4 | 3.1 | 182 | 0.35 | 2.9  | 2.6 |
| 26  | 155528.08  | 09 24.33 | 84 43.66 | 18.6 | 3.9 | 281 | 0.26 | 3.5  | 3.8 |
| 26  | 170431.85  | 09 49.63 | 84 24.84 | 10.3 | 3.0 | 177 | 0.27 | 5.4  | 5.6 |
| 26  | 184100.90  | 09 25.77 | 84 24.18 | 40.8 | 2.8 | 304 | 0.09 | *    | *   |
| 26  | 211354.41  | 09 50.07 | 84 20.99 | 09.8 | 2.8 | 120 | 0.19 | 1.7  | 2.1 |

JULIO 1990

Pag 8

| DIA | TIEMPO    | OR | LAT.     | LONG.    | PROF | MAG | GAP | RMS  | EH  | EZ   |
|-----|-----------|----|----------|----------|------|-----|-----|------|-----|------|
| 27  | 011945.14 |    | 09 14.28 | 83 56.41 | 18.1 | 3.2 | 318 | 0.21 | 4.5 | 9.9  |
| 27  | 100220.91 |    | 09 55.46 | 84 15.54 | 00.9 | 2.8 | 292 | 0.13 | 0.9 | 5.9  |
| 27  | 105932.76 |    | 09 33.80 | 84 51.06 | 39.2 | 3.5 | 205 | 0.37 | 4.0 | 2.4  |
| 27  | 193244.67 |    | 09 51.01 | 84 23.29 | 11.3 | 2.8 | 190 | 0.08 | 0.8 | 1.0  |
| 27  | 193811.84 |    | 09 48.39 | 84 21.96 | 17.0 | 3.0 | 164 | 0.41 | 1.9 | 3.0  |
| 28  | 032700.13 |    | 09 19.45 | 83 44.43 | 36.5 | 3.2 | 288 | 0.07 | 1.1 | 1.1  |
| 28  | 051222.95 |    | 10 18.17 | 84 11.69 | 84.2 | 3.3 | 247 | 0.27 | 5.2 | 3.6  |
| 28  | 093809.05 |    | 09 46.53 | 84 10.07 | 55.3 | 2.9 | 285 | 0.17 | 3.3 | 2.5  |
| 28  | 110329.83 |    | 08 44.68 | 83 26.98 | 07.1 | 2.9 | 335 | 0.26 | 8.8 | 9.1  |
| 28  | 182741.35 |    | 09 02.44 | 84 07.47 | 10.6 | 2.9 | 319 | 0.07 | 1.3 | 9.7  |
| 28  | 203710.45 |    | 09 17.59 | 84 49.18 | 34.4 | 3.7 | 331 | 0.00 | 0.0 | 0.1  |
| 28  | 220302.48 |    | 09 57.46 | 84 17.96 | 12.5 | 2.7 | 327 | 0.03 | 1.6 | 3.1  |
| 28  | 220716.65 |    | 09 55.26 | 84 19.59 | 02.3 | 3.3 | 218 | 0.40 | 3.0 | 2.3  |
| 28  | 223910.50 |    | 09 30.21 | 84 57.91 | 25.0 | 2.9 | 341 | 0.35 | 4.7 | 7.0  |
| 29  | 025214.92 |    | 09 56.13 | 84 16.45 | 03.5 | 2.9 | 203 | 0.29 | 2.3 | 1.5  |
| 29  | 085728.15 |    | 09 18.58 | 85 01.45 | 25.0 | 3.2 | 335 | 0.13 | 2.0 | 8.8  |
| 29  | 191203.62 |    | 09 20.66 | 83 42.31 | 41.1 | 2.7 | 294 | 0.12 | 2.1 | 1.1  |
| 30  | 032503.29 | ✕  | 09 49.59 | 83 55.98 | 03.6 | 3.1 | 126 | 0.33 | 2.1 | 2.5✕ |
| 30  | 043406.28 |    | 10 27.67 | 83 09.96 | 39.3 | 3.1 | 303 | 0.23 | *   | *    |
| 30  | 131123.79 |    | 09 50.42 | 84 16.82 | 03.7 | 2.8 | 224 | 0.19 | 3.5 | 3.9  |
| 31  | 021915.19 | ✕  | 09 53.06 | 84 15.12 | 17.5 | 3.6 | 265 | 0.18 | 3.4 | 2.8✕ |
| 31  | 073905.59 | ✕  | 09 48.69 | 83 55.70 | 04.4 | 3.1 | 247 | 0.35 | 1.9 | 2.5✕ |
| 31  | 080134.41 | ✕  | 09 49.80 | 83 55.28 | 15.6 | 2.8 | 119 | 0.42 | 2.3 | 2.4✕ |
| 31  | 080940.72 |    | 09 41.19 | 84 04.37 | 50.8 | 2.7 | 165 | 0.45 | 5.9 | 5.5  |
| 31  | 091807.47 | ✕  | 09 58.84 | 84 01.10 | 09.3 | 3.2 | 229 | 0.37 | 3.1 | 3.5✕ |
| 31  | 111049.77 |    | 09 50.91 | 84 13.67 | 12.2 | 2.9 | 251 | 0.37 | 3.2 | 7.2  |
| 31  | 185851.76 | ✕  | 09 27.61 | 84 22.17 | 21.9 | 3.8 | 269 | 0.34 | 3.9 | 5.3✕ |

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LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON M  $\geq$  4.0

JULIO 1990

| EST. | DIA | TIEMPO    | FASE | COMP | FOL |
|------|-----|-----------|------|------|-----|
| SJS  | 10  | 020613.00 | eP   | Z    |     |
| VCR  | 10  | 020558.00 | iP   | Z    |     |
| BUS  | 10  | 020619.00 | iP   | Z    | C   |
| SJS  | 10  | 020614.80 | iP   | Z    | D   |
| LCR2 | 10  | 020615.00 | iP   | Z    | D   |

Regional

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SJS  | 10 | 153401.00 | eP | Z |  |
| LCR2 | 10 | 153404.00 | iP | Z |  |
| BUS  | 10 | 153408.70 | iP | Z |  |

Regional

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SJS  | 12 | 231335.00 | eP | Z |  |
| LCR2 | 12 | 231341.20 | eP | Z |  |
| BUS  | 12 | 231334.00 | eP | Z |  |

Islas Leeward Mb = 5.5 (Según L.D.G.; Francia)

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SJS  | 13 | 135148.30 | eP | Z |  |
| LCR2 | 13 | 135146.20 | eP | Z |  |
| VCR  | 13 | 135128.00 | eP | Z |  |

Telesismo

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 16 | 055836.00 | eP | Z |   |
| QCR  | 16 | 055832.00 | iP | Z | D |
| VCR  | 16 | 055809.50 | iP | Z | D |
| LCR2 | 16 | 055831.90 | iP | Z | D |

Islas Filipinas Mb = 6.3 (Según L.D.G.; Francia)

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 16 | 074612.00 | eP | Z |   |
| QCR  | 16 | 074616.00 | iP | Z | C |
| VCR  | 16 | 074611.80 | eP | Z | D |
| LCR2 | 16 | 074612.70 | eP | Z |   |

Filipinas

JULIO 1990

Pag 10

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| BUS  | 17  | 232825.00 | iP   | Z    | D   |
|      |     | 2838.80   | S    |      |     |
| LCR2 | 17  | 232821.20 | iP   | Z    | D   |
|      |     | 2832.00   | S    | Z    |     |
| QCR  | 17  | 232817.80 | iP   | Z    |     |
|      |     | 2826.10   | S    | Z    |     |
| SRA  | 17  | 232800.00 | iP   | Z    |     |

MD: 4.1 23 Km SW de Jacó, Costa Rica

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 20 | 040645.35 | iP | Z | D |
| ACR | 20 | 040625.00 | iP | Z |   |
| LIO | 20 | 040644.20 | iP | Z | D |
| VCR | 20 | 040655.00 | iP | Z | C |
| QCR | 20 | 040638.10 | iP | Z | C |
| ICR | 20 | 040646.00 | iP | Z | C |
| LCR | 20 | 040643.00 | iP | Z | C |

Mb : 4.4 Fractura de Panam

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 22 | 044358.00 | iP | Z | C |
|      |    | 4393.00   | S  | Z |   |
| LIO  | 22 | 044403.90 | iP | Z | D |
| VCR  | 22 | 044418.00 | iP | Z |   |
| LCR2 | 22 | 044401.50 | iP | Z | C |
| SJS  | 22 | 044405.00 | iP | Z | C |
|      |    | 4445.10   | S  | Z |   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 22 | 233826.90 | iP | Z | D |
| VCR  | 22 | 233832.00 | iP | Z | C |
| QCR  | 22 | 233824.90 | iP | Z |   |
|      |    | 3834.90   | S  | Z |   |
| SJS  | 22 | 233828.10 | iP | Z | C |
| SRA  | 22 | 233826.10 | iP | Z | D |
|      |    | 3837.00   | S  | Z |   |

MD : 4.0 Frente a T rcoles, Costa Rica

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 23 | 052721.80 | iP | Z | C |
| SRA  | 23 | 052719.60 | iP | Z | C |
| QCR  | 23 | 052716.90 | iP | Z | C |
| ACR  | 23 | 052735.00 | iP | Z | C |
| VCR  | 23 | 052726.00 | iP | Z | C |
| ICR  | 23 | 052725.00 | iP | Z | C |
| LCR2 | 23 | 052721.00 | iP | Z | C |

MD : 5.1 34 Km al SW de Jacó, Costa Rica

JULIO 1990

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| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| LCR2 | 23  | 053156.00 | iP   | Z    | D   |
|      |     | 3168.00   | S    | Z    |     |
| ICR  | 23  | 053202.30 | eP   | Z    |     |
| QCR  | 23  | 053152.50 | iP   | Z    |     |
|      |     | 3161.90   | S    | Z    |     |
| SJS  | 23  | 053158.50 | iP   | Z    |     |
| SRA  | 23  | 053157.00 | iP   | Z    |     |

MD : 4.2 30 Km al SW de Jacó, Costa Rica

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 23 | 093158.00 | iP | Z | D |
|      |    | 3171.90   | S  | Z |   |
| VCR  | 23 | 093204.00 | eP | Z |   |
| ICR  | 23 | 093203.90 | iP | Z |   |
| QCR  | 23 | 093154.10 | iP | Z | D |
| SJS  | 23 | 093200.00 | iP | Z | D |
|      |    | 3215.00   | S  | Z |   |
| SRA  | 23 | 093158.00 | iP | Z | C |
|      |    | 3169.00   | S  | Z |   |

MD: 4.1 45 Km al sur de Jacó, Costa Rica

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| LCR2 | 25 | 025236.00 | iP | Z |  |
| QCR  | 25 | 025239.00 | eP | Z |  |
| BUS  | 25 | 025232.00 | eP | Z |  |
| SJS  | 25 | 025240.00 | eP | Z |  |

Regional

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SRA  | 27 | 005630.30 | eP | Z |  |
| SJS  | 27 | 005635.00 | eP | Z |  |
| LCR2 | 27 | 005641.90 | eP | Z |  |
| QCR  | 27 | 005641.00 | eP | Z |  |
| VCR  | 27 | 005628.00 | eP | Z |  |

Mar Caribe Mb = 5.4 (Según L.D.G.; Francia)

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SRA | 27 | 012924.00 | eP | Z |  |
| SJS | 27 | 012929.00 | eP | Z |  |

Telesismo

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SRA | 27 | 014717.00 | eP | Z |  |
| SJS | 27 | 014718.00 | eP | Z |  |

Telesismo

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SRA | 27  | 132750.80 | eF   | Z    |     |
| SJS | 27  | 132751.00 | eF   | Z    |     |
| QCR | 27  | 132740.00 | eF   | Z    |     |

## Telesismo

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 31 | 095715.00 | eF | Z | D |
| SRA | 31 | 095709.00 | eF | Z | D |
| QCR | 31 | 095717.00 | eF | Z |   |
| BUS | 31 | 095721.00 | eF | Z | D |

## Telesismo

PGM ANASIS Ver 2.0

Diseño:

Guillermo Ávila R

FEC m:01-07-1990

FEC M:31-07-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:RSN1990

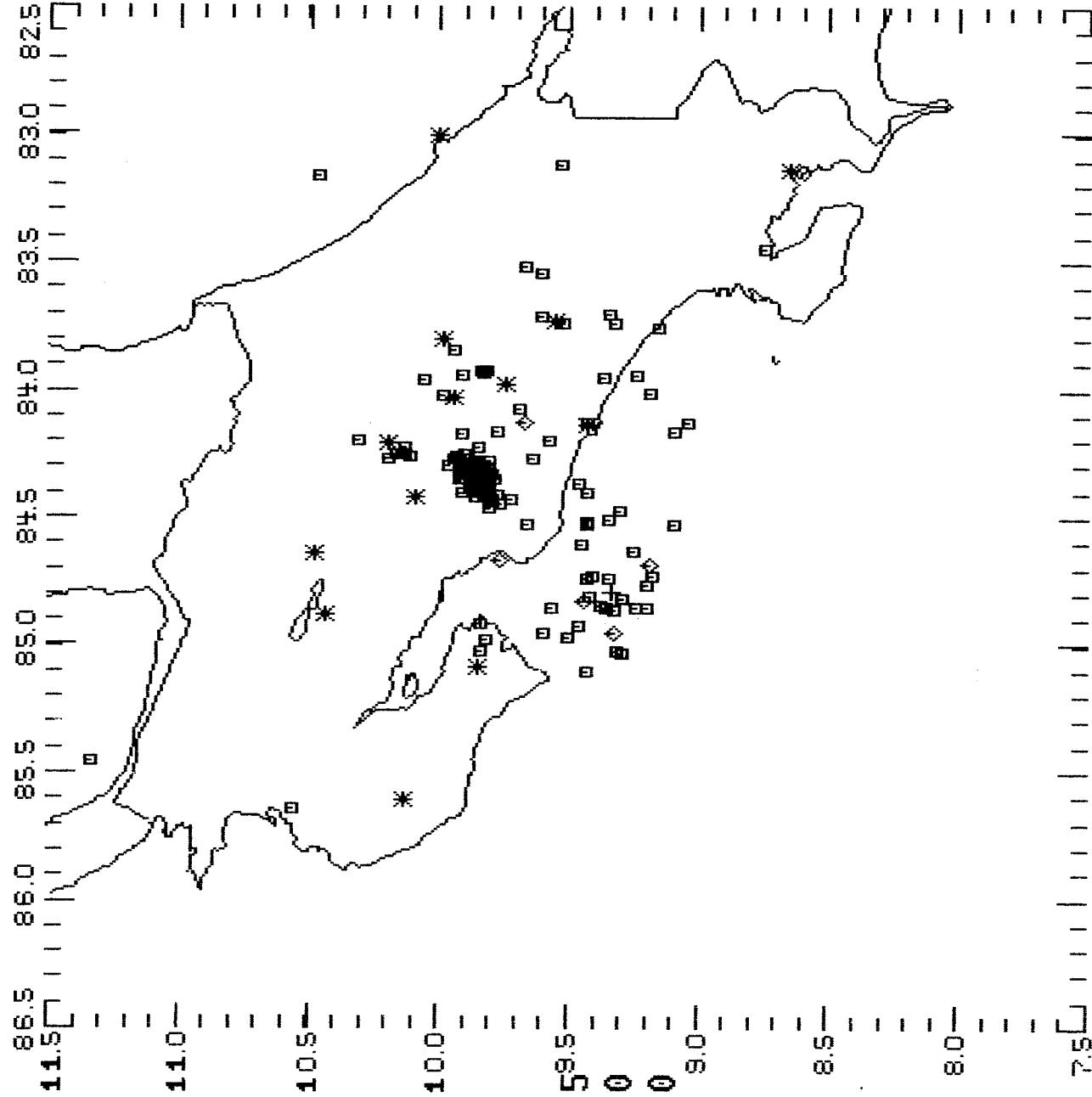
N SIS: 187

M<3.9: 181 4<M<5:

5<M<6: 1 6<M<7:

7<M<8: 0 M>8 :

RED SISMOLÓGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



# PARTE A

AGOSTO 1990

Pag. 4

| DIA | TIEMPO OR  | LAT. N   | LONG. W  | PROF. | MAG. | GAP | RMS  | EH   | EZ   |
|-----|------------|----------|----------|-------|------|-----|------|------|------|
| 01  | 032411.69  | 09040.11 | 84009.33 | 17.9  | 2.6  | 293 | 0.39 | 12.2 | 13.3 |
| 01  | 143903.71* | 09049.95 | 84020.76 | 08.3  | 3.2  | 127 | 0.60 | 1.4  | 1.8* |
| 01  | 214009.96  | 09019.90 | 84044.96 | 30.4  | 3.4  | 301 | 0.48 | 5.7  | 21.3 |
| 02  | 030118.83  | 09027.28 | 84031.04 | 22.2  | 3.6  | 207 | 0.45 | 2.0  | 4.9  |
| 02  | 031813.37  | 09020.67 | 84039.14 | 57.0  | 3.8  | 229 | 0.50 | 4.9  | 5.6  |
| 02  | 043323.27  | 09018.81 | 84037.22 | 39.0  | 3.6  | 233 | 0.42 | 3.5  | 1.9  |
| 02  | 043539.04  | 09026.04 | 84035.90 | 59.4  | 4.0  | 213 | 0.53 | 4.1  | 4.8  |
| 03  | 054653.23  | 09050.68 | 84020.12 | 09.0  | 2.5  | 96  | 0.41 | 2.2  | 5.4  |
| 03  | 061221.60  | 09002.96 | 84013.86 | 04.7  | 3.2  | 298 | 0.14 | 2.6  | 3.6  |
| 03  | 131957.83  | 08040.64 | 83020.58 | 21.1  | 3.5  | 302 | 0.49 | 2.2  | 3.6  |
| 04  | 081536.50  | 09054.92 | 84019.75 | 08.6  | 2.6  | 207 | 0.51 | 0.4  | 2.3  |
| 04  | 142933.81  | 08023.89 | 83007.97 | 4.2   | 3.5  | 161 | 0.58 | 24.5 | 17.1 |
| 04  | 210040.59  | 08048.47 | 83025.84 | 26.7  | 3.6  | 190 | 0.37 | 6.1  | 3.2  |
| 05  | 052554.55  | 09050.43 | 84023.54 | 06.4  | 2.9  | 140 | 0.24 | 3.2  | 2.2  |
| 05  | 053847.53  | 09010.10 | 83052.75 | 36.0  | 3.3  | 186 | 0.45 | 3.1  | 2.2  |
| 05  | 064953.69  | 09050.83 | 84021.44 | 15.8  | 2.8  | 125 | 0.46 | 4.7  | 4.8  |
| 05  | 120342.76  | 09048.39 | 84024.74 | 15.0  | 2.8  | 217 | 0.17 | 2.8  | 1.7  |
| 05  | 175924.44  | 10000.20 | 84018.05 | 73.9  | 3.2  | 153 | 0.32 | 2.5  | 1.7  |
| 06  | 002045.06  | 10010.39 | 85007.70 | 53.6  | 3.8  | 193 | 0.34 | 6.8  | 5.1  |
| 06  | 210216.59  | 09058.77 | 84004.05 | 15.4  | 2.6  | 287 | 0.37 | 4.8  | 2.9  |
| 07  | 033130.03  | 09048.66 | 83056.19 | 06.1  | 2.8  | 94  | 0.40 | 1.8  | 2.1  |
| 07  | 152730.71  | 09028.63 | 84023.49 | 39.4  | 2.6  | 252 | 0.28 | 2.3  | 2.1  |
| 09  | 084732.25  | 08021.59 | 83001.09 | 04.6  | 3.3  | 345 | 0.55 | 3.2  | 0.7  |
| 10  | 025208.83  | 09053.37 | 84019.77 | 05.2  | 3.0  | 111 | 0.44 | 2.7  | 4.1  |
| 10  | 094925.17  | 08006.46 | 82050.01 | 15.0  | 3.4  | 343 | 0.32 | 19.9 | 8.1  |
| 11  | 080123.07  | 09041.98 | 84006.42 | 42.6  | 3.8  | 97  | 0.46 | 3.4  | 4.9  |
| 12  | 031251.47  | 09053.19 | 84021.77 | 18.2  | 2.8  | 127 | 0.35 | 3.7  | 4.6  |
| 12  | 044027.58  | 09022.31 | 84059.39 | 34.2  | 3.0  | 311 | 0.36 | 6.0  | 19.8 |
| 12  | 053037.45* | 09051.34 | 84018.02 | 09.0  | 2.8  | 174 | 0.37 | 3.6  | 4.6* |
| 12  | 143545.64* | 09051.28 | 84022.41 | 12.0  | 3.2  | 186 | 0.27 | 0.1  | 0.1* |
| 12  | 191300.50  | 09026.55 | 84035.82 | 23.2  | 2.9  | 281 | 0.45 | 5.2  | 9.3  |
| 13  | 180046.10  | 09025.73 | 84041.13 | 15.4  | 3.3  | 217 | 0.16 | 2.5  | 9.2  |
| 14  | 030657.72  | 09053.15 | 84016.04 | 18.6  | 3.2  | 150 | 0.33 | 3.6  | 11.2 |
| 14  | 070012.54  | 09050.03 | 84016.68 | 01.3  | 2.8  | 167 | 0.34 | 1.4  | 1.4  |
| 14  | 192447.47  | 08016.53 | 83010.18 | 30.0  | 2.8  | 319 | 0.25 | ***  | ***  |
| 15  | 040139.16* | 09048.08 | 84012.05 | 15.1  | 3.0  | 232 | 0.20 | 1.4  | 1.6* |
| 15  | 131233.41  | 08056.11 | 84006.97 | 13.3  | 3.5  | 237 | 0.28 | 5.3  | 6.4  |
| 15  | 222759.13* | 09014.16 | 82028.78 | 30.0  | 4.1  | 316 | 0.12 | 3.8  | 2.3* |
| 16  | 042844.93  | 09032.67 | 84056.29 | 86.1  | 3.5  | 212 | 0.42 | 16.2 | 23.9 |
| 16  | 101106.81  | 09051.75 | 84022.67 | 13.2  | 2.6  | 234 | 0.42 | 4.8  | 11.5 |

| DIA | TIEMPO OR  | LAT. N   | LONG. W  | PROF  | MAG. | GAP | RMS  | EH   | EZ   |
|-----|------------|----------|----------|-------|------|-----|------|------|------|
| 16  | 200707.23  | 09051.98 | 84021.17 | 05.9  | 2.5  | 113 | 0.40 | 3.2  | 4.1  |
| 17  | 114200.43  | 09050.90 | 84036.98 | 24.3  | 2.8  | 262 | 0.40 | 4.6  | 7.2  |
| 17  | 173112.86  | 09034.49 | 83042.95 | 03.1  | 2.8  | 261 | 0.21 | 4.6  | 2.1  |
| 17  | 184441.69  | 09041.69 | 83058.18 | 10.0  | 2.3  | 164 | 0.18 | 1.3  | 2.5  |
| 17  | 220525.78  | 09024.19 | 84045.80 | 25.0  | 2.8  | 297 | 0.33 | 5.0  | 12.3 |
| 18  | 015503.15  | 08037.08 | 82046.86 | 1.6   | 3.4  | 288 | 0.52 | 18.5 | 11.7 |
| 18  | 053546.78  | 09037.56 | 84034.86 | 21.2  | 2.5  | 260 | 0.32 | 2.9  | 8.3  |
| 18  | 151655.12  | 09022.51 | 85002.09 | 10.0  | 3.3  | 313 | 0.49 | 6.8  | 8.9  |
| 18  | 160344.20  | 09033.14 | 85006.16 | 34.8  | 3.5  | 313 | 0.54 | 5.4  | 2.4  |
| 19  | 045607.95  | 09015.56 | 84003.44 | 16.9  | 3.5  | 282 | 0.30 | 6.3  | 9.8  |
| 19  | 092239.80  | 09050.73 | 83058.21 | 19.9  | 3.2  | 98  | 0.34 | 1.6  | 3.0  |
| 19  | 103150.25  | 09052.78 | 84020.13 | 12.9  | 3.4  | 106 | 0.31 | 1.3  | 2.6  |
| 19  | 123740.77  | 09011.87 | 84025.50 | 30.5  | 3.4  | 297 | 0.26 | 4.2  | 4.9  |
| 19  | 170611.18  | 08020.87 | 82049.90 | 16.7  | 3.5  | 346 | 0.59 | 13.6 | 4.7  |
| 19  | 224225.74  | 09052.55 | 84012.93 | 72.2  | 3.4  | 76  | 0.20 | 1.7  | 1.3  |
| 20  | 023942.81  | 09048.56 | 84052.23 | 14.3  | 3.4  | 298 | 0.42 | 7.8  | 7.7  |
| 20  | 035044.36  | 09053.45 | 84018.81 | 07.7  | 3.0  | 97  | 0.49 | 2.0  | 34.8 |
| 21  | 073555.23  | 09038.43 | 84036.53 | 31.8  | 2.9  | 264 | 0.45 | 4.2  | 4.5  |
| 21  | 191521.99* | 10004.56 | 83056.91 | 10.7  | 4.4  | 191 | 0.38 | 1.7  | 3.1* |
| 21  | 222511.76  | 09058.10 | 84003.35 | 15.1  | 3.2  | 282 | 0.25 | 3.5  | 2.3  |
| 22  | 052717.41  | 10001.42 | 83058.65 | 27.1  | 3.2  | 190 | 0.47 | 3.2  | 3.2  |
| 23  | 033853.42  | 09030.50 | 84050.67 | 26.3  | 2.9  | 294 | 0.25 | 4.9  | 12.5 |
| 23  | 035428.42  | 10000.87 | 83053.77 | 15.0  | 2.7  | 234 | 0.02 | ***  | ***  |
| 23  | 044347.89  | 10000.16 | 83055.53 | 11.2  | 2.4  | 220 | 0.15 | 3.0  | 5.8  |
| 23  | 080743.96  | 09053.39 | 84018.12 | 21.6  | 2.9  | 159 | 0.29 | 2.4  | 6.5  |
| 23  | 101527.41  | 09020.75 | 84058.48 | 31.0  | 3.3  | 311 | 0.23 | 8.6  | 21.2 |
| 24  | 041922.39  | 09001.99 | 83052.69 | 33.4  | 2.8  | 206 | 0.17 | 2.9  | 1.2  |
| 24  | 074212.20  | 09052.52 | 84020.51 | 09.9  | 2.6  | 112 | 0.45 | 5.6  | 16.9 |
| 24  | 081515.75  | 10010.15 | 84015.93 | 05.9  | 2.5  | 171 | 0.43 | 5.2  | 4.3  |
| 24  | 130759.47  | 09047.14 | 83013.86 | 24.6  | 3.2  | 325 | 0.24 | 6.4  | 33.7 |
| 24  | 193605.12  | 10003.00 | 83056.32 | 08.4  | 2.7  | 241 | 0.26 | 2.1  | 10.5 |
| 25  | 065705.28  | 08027.40 | 83010.18 | 14.91 | 3.9  | 314 | 0.47 | 14.9 | 8.3  |
| 25  | 095625.21  | 10008.02 | 85050.33 | 24.6  | 4.4  | 339 | 0.30 | 5.0  | 1.8  |
| 25  | 104414.93  | 08033.47 | 83013.54 | 13.8  | 3.5  | 282 | 0.43 | 9.2  | 7.1  |
| 25  | 105838.17  | 09057.78 | 84001.37 | 08.5  | 2.7  | 275 | 0.15 | 4.7  | 5.9  |
| 25  | 120558.10  | 08042.79 | 83012.26 | 07.7  | 3.3  | 182 | 0.47 | 43.7 | 92.6 |
| 25  | 194008.25  | 09018.36 | 84049.11 | 27.0  | 2.9  | 306 | 0.17 | 3.0  | 9.3  |
| 25  | 215347.18  | 09048.71 | 84019.17 | 09.7  | 2.7  | 163 | 0.23 | 1.7  | 4.1  |
| 26  | 010618.86  | 09051.53 | 83056.29 | 18.3  | 2.7  | 168 | 0.16 | 1.6  | 3.0  |
| 26  | 010727.70* | 10002.47 | 83059.30 | 17.2  | 3.8  | 231 | 0.31 | 1.9  | 1.5* |

| DIA | TIEMPO OR  | LAT. N   | LONG. W  | PROF  | MAG. | GAP | RMS  | EH   | EZ   |
|-----|------------|----------|----------|-------|------|-----|------|------|------|
| 26  | 012004.26  | 09053.44 | 83057.70 | 31.0  | 2.6  | 140 | 0.04 | 1.1  | 1.1  |
| 26  | 012214.41  | 09058.37 | 84008.08 | 08.6  | 2.7  | 298 | 0.01 | ***  | ***  |
| 26  | 013652.80  | 09059.34 | 83058.27 | 07.9  | 2.9  | 215 | 0.39 | 6.0  | 30.3 |
| 26  | 032318.94  | 09058.23 | 83056.67 | 07.7  | 2.7  | 191 | 0.25 | 3.1  | 22.2 |
| 26  | 061343.56  | 10000.01 | 83056.19 | 07.8  | 3.0  | 218 | 0.20 | 2.4  | 11.6 |
| 26  | 093527.80  | 10003.18 | 83056.97 | 11.4  | 3.2  | 209 | 0.39 | 3.4  | 6.8  |
| 26  | 095455.92* | 10022.58 | 84034.08 | 109.3 | 4.0  | 165 | 0.37 | 4.6  | 2.4* |
| 26  | 231755.60  | 09048.39 | 84018.92 | 05.0  | 2.6  | 167 | 0.32 | 5.1  | 9.1  |
| 27  | 044747.99  | 09052.39 | 84022.52 | 22.5  | 3.2  | 186 | 0.44 | 4.9  | 9.5  |
| 27  | 162725.10  | 08058.43 | 83040.95 | 36.1  | 3.1  | 191 | 0.30 | 3.1  | 1.5  |
| 27  | 191406.60* | 09048.79 | 84014.21 | 15.9  | 3.3  | 245 | 0.19 | 1.3  | 1.3* |
| 27  | 213222.36  | 09030.84 | 84035.67 | 37.9  | 3.9  | 180 | 0.58 | 5.3  | 4.2  |
| 27  | 223539.51  | 09051.10 | 84020.70 | 04.8  | 3.1  | 102 | 0.50 | 3.6  | 5.1  |
| 29  | 022817.72  | 09017.86 | 84039.96 | 30.9  | 3.2  | 300 | 0.30 | 3.9  | 12.5 |
| 29  | 064709.87* | 09004.78 | 84008.62 | 29.4  | 3.4  | 208 | 0.28 | 2.4  | 1.7* |
| 29  | 102818.70  | 09010.03 | 84006.89 | 00.7  | 3.1  | 298 | 0.17 | 5.7  | 3.7  |
| 30  | 021033.69  | 08040.73 | 82059.48 | 16.2  | 3.4  | 347 | 0.36 | 13.3 | 7.4  |
| 30  | 053022.56  | 10005.05 | 85027.07 | 30.0  | 3.7  | 333 | 0.40 | 13.1 | 4.4  |
| 30  | 060333.89  | 09049.34 | 85034.27 | 25.3  | 3.4  | 331 | 0.26 | 14.2 | 7.9  |
| 30  | 085333.47* | 09035.53 | 83041.21 | 15.9  | 3.3  | 112 | 0.18 | 1.3  | 1.4* |
| 30  | 100119.78  | 10016.17 | 83010.40 | 10.0  | 3.0  | 330 | 0.08 | 5.3  | 14.3 |
| 30  | 122653.77  | 09033.37 | 84030.06 | 11.7  | 3.4  | 255 | 0.52 | 4.4  | 7.6  |
| 30  | 183301.34  | 06026.36 | 82035.58 | 19.6  | 5.0  | 282 | 0.88 | 3.9  | 4.6  |
| 30  | 222046.74* | 09029.06 | 84041.01 | 30.0  | 4.7  | 295 | 0.05 | 1.9  | 0.8* |
| 30  | 231419.71  | 09002.20 | 83030.30 | 07.0  | 3.2  | 165 | 0.43 | 3.1  | 3.2  |

PARTE B

LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON M  $\geq$  4.0

AGOSTO 1990

Pag.7

| EST.                                          | DIA | TIEMPO    | FASE | COMP | POL |
|-----------------------------------------------|-----|-----------|------|------|-----|
| SJS                                           | 05  | 104339.30 | eP   | Z    |     |
| SRA                                           | 05  | 104331.00 | eP   | Z    |     |
| Telesismo                                     |     |           |      |      |     |
| SJS                                           | 08  | 030118.80 | iP   | Z    | C   |
| ICR                                           | 08  | 030122.00 | iP   | Z    | D   |
| SRA                                           | 08  | 030112.00 | eP   | Z    |     |
| LCR2                                          | 08  | 030118.90 | iP   | Z    | D   |
| BUS                                           | 08  | 030122.30 | iP   | Z    | D   |
| Regional                                      |     |           |      |      |     |
| SJS                                           | 08  | 103256.20 | eP   | Z    |     |
| ICR                                           | 08  | 103301.00 | eP   | Z    |     |
| SRA                                           | 08  | 103253.00 | eP   | Z    |     |
| LCR2                                          | 08  | 103257.90 | iP   | Z    | D   |
| Telesismo                                     |     |           |      |      |     |
| SJS                                           | 10  | 112614.00 | iP   | Z    | D   |
| SRA                                           | 10  | 112608.90 | iP   | Z    | C   |
| Cerca de la costa de Chiapas, México Mb= 5.1. |     |           |      |      |     |
| SJS                                           | 10  | 160416.00 | iP   | Z    | C   |
| ICR                                           | 10  | 160416.90 | eP   | Z    |     |
| SRA                                           | 10  | 160414.80 | iP   | Z    | C   |
| Telesismo                                     |     |           |      |      |     |
| SJS                                           | 11  | 030248.00 | iP   | Z    | C   |
| Telesismo                                     |     |           |      |      |     |
| SJS                                           | 11  | 054722.30 | eP   | Z    |     |
| SRA                                           | 11  | 054720.30 | eP   | Z    |     |
| LCR2                                          | 11  | 054717.20 | eP   | Z    | +   |
| OCR                                           | 11  | 054711.50 | iP   | Z    | C   |
| Telesismo                                     |     |           |      |      |     |

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 12  | 233621.00 | eP   | Z    |     |
| SRA | 12  | 233614.80 | eP   | Z    |     |

## Telesismo

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 15 | 222828.60 | iP | Z | D |
|      |    | 2848.50   | S  | Z |   |
| LCR2 | 15 | 222826.90 | iP | Z | D |
| LIO  | 15 | 222817.00 | iP | Z | C |
|      |    | 2827.40   | S  | Z |   |
| OCR  | 15 | 222828.10 | iP | Z | C |
| SRA  | 15 | 222834.90 | iP | Z | D |
|      |    | 2858.20   | S  | Z |   |
| ACR  | 15 | 222816.00 | iP | Z | D |
|      |    | 2826.50   | S  | Z |   |

30 Km al sureste de Sixaola, Costa Rica. MD= 4.1  
Intensidad, III San Vito.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 17 | 021519.00 | eP | Z |   |
| LCR2 | 17 | 021520.30 | eP | Z |   |
| SRA  | 17 | 021510.90 | iP | Z | D |
| OCR  | 17 | 021523.20 | iP | Z | C |

## Regional

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 17 | 024626.80 | iP | Z | C |
| LCR2 | 17 | 024626.70 | eP | Z |   |
| SRA  | 17 | 024617.80 | iP | Z | C |

## Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 18 | 141449.50 | iP | Z | C |
| BUS | 18 | 141455.50 | eP | Z |   |

## Telesismo

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 21 | 191527.00 | iP | Z | C |
|      |    | 1530.00   | S  | Z |   |
| LCR2 | 21 | 191529.95 | iP | Z | C |
|      |    | 1534.70   | S  | Z |   |
| ICR2 | 21 | 191527.25 | iP | Z | C |
| BUS  | 21 | 191534.00 | iP | Z | C |
| FOR  | 21 | 191538.20 | iP | Z | D |
| ACR  | 21 | 191551.90 | iP | Z | C |
| OCR  | 21 | 191536.20 | iP | Z | D |
| SRA  | 21 | 191532.10 | iP | Z | D |
| VPS2 | 21 | 191529.55 | iP | Z | C |
|      |    | 1533.85   | S  | Z |   |

8 Km al norte de Cascajal de Coronado, San José Costa Rica. MD= 4.4  
Intensidad, IV Rancho Redondo.

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 25  | 033020.80 | eP   | Z    |     |
| SRA | 25  | 033016.00 | iP   | Z    | C   |
| BUS | 25  | 033038.20 | eP   | Z    |     |

## Telesismo

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 25 | 061554.00 | eP | Z |  |
| SRA | 25 | 061539.00 | eP | Z |  |
| BUS | 25 | 061557.00 | eP | Z |  |
| VCR | 25 | 061517.00 | eP | Z |  |

Cerca de la costa de Guatemala. Mb= 4.5.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 25 | 095656.20 | iP | Z | D |
|      |    | 5719.40   | S  | Z |   |
| LCR2 | 25 | 095657.70 | iP | Z | C |
| SRA  | 25 | 095650.10 | iP | Z | D |
|      |    | 5708.80   | S  | Z |   |
| QCR  | 25 | 095656.50 | iP | Z | C |
|      |    | 5718.80   | S  | Z |   |
| BUS  | 25 | 095701.20 | iP | Z | C |

5Km. al suroeste de Playa Junquillal. Guanacaste Costa Rica MD= 4.4

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 25 | 114920.60 | iP | Z | D |
| SRA  | 25 | 114930.00 | iP | Z | D |
| LCR2 | 25 | 114922.90 | iP | Z | D |
| BUS  | 25 | 114918.00 | eP | Z |   |

## Telesismo.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 25 | 125859.00 | eP | Z |  |
| SRA | 25 | 125850.00 | eP | Z |  |
| BUS | 25 | 125902.00 | eP | Z |  |

## Telesismo

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 25 | 160741.00 | iP | Z | C |
| SRA | 25 | 160742.50 | iP | Z | C |
| QCR | 25 | 160744.00 | iP | Z | C |
| BUS | 25 | 160740.60 | iP | Z | D |

## Telesismo

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 26 | 075626.80 | iP | Z | C |
| LCR2 | 26 | 075629.10 | iP | Z | D |
| SRA  | 26 | 075630.60 | eP | Z |   |
| QCR  | 26 | 075634.30 | iP | Z | C |

Cuba. Mb= 5.7.

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 26  | 095515.00 | iP   | Z    | D   |
|      |     | 5528.90   | S    | Z    |     |
| LCR2 | 26  | 095516.75 | iP   | Z    | D   |
|      |     | 5531.80   | S    | Z    |     |
| ICR  | 26  | 095516.80 | iP   | Z    | C   |
| OCR  | 26  | 095518.50 | iP   | Z    | D   |
| BUS  | 26  | 095520.40 | eP   | Z    | D   |
| FOR  | 26  | 095511.90 | iP   | Z    | D   |
| ACR  | 26  | 095532.40 | eP   | Z    | D   |
| SRA  | 26  | 095512.00 | iP   | Z    | D   |
| VPS2 | 25  | 192814.50 | iP   | Z    | D   |

17 Km al noroeste de Ciudad Quesada Alajuela, Costa Rica MD= 4.0  
Intensidad, II Javillos.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 183402.00 | iP | Z | D |
|      |    | 3447.30   | S  | Z |   |
| LCR2 | 30 | 183458.80 | iP | Z | D |
| BUS  | 30 | 183455.00 | iP | Z | C |
| ICR  | 30 | 183402.00 | iP | Z | C |
| ACR  | 30 | 183439.80 | iP | Z | C |
| QCR  | 30 | 183454.30 | iP | Z | C |

120 Km al suroeste de la Isla de Coiba. Panamá MD= 5.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 30 | 222101.60 | iP | Z | C |
| LCR2 | 30 | 222100.85 | iP | Z | C |
| BUS  | 30 | 222104.40 | iP | Z | C |
| QCR  | 30 | 222157.30 | iP | Z | D |
| ACR  | 30 | 222115.90 | iP | Z | D |

15 Km al suroeste de Jacó. Puntarenas Costa Rica. MD= 4.7  
Intensidad, IV y V Ouepos.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 31 | 014101.00 | iP | Z | C |
| LCR2 | 31 | 014058.30 | eP | Z |   |
| SRA  | 31 | 014104.00 | iP | Z | D |

#### Regional

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 31 | 192058.90 | iP | Z | D |
| ICR  | 31 | 192058.60 | iP | Z | C |
| LCR2 | 31 | 192056.00 | iP | Z | D |
| SRA  | 31 | 192102.00 | iP | Z | D |

Fractura de Panamá, Mb= 4,7.

PGM ANASIS Ver 2.0

Diseño:

Guillermo A Avila R

FEC m:01-08-1990

FEC M:30-08-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \* CIU ●

BASE.:AGD90

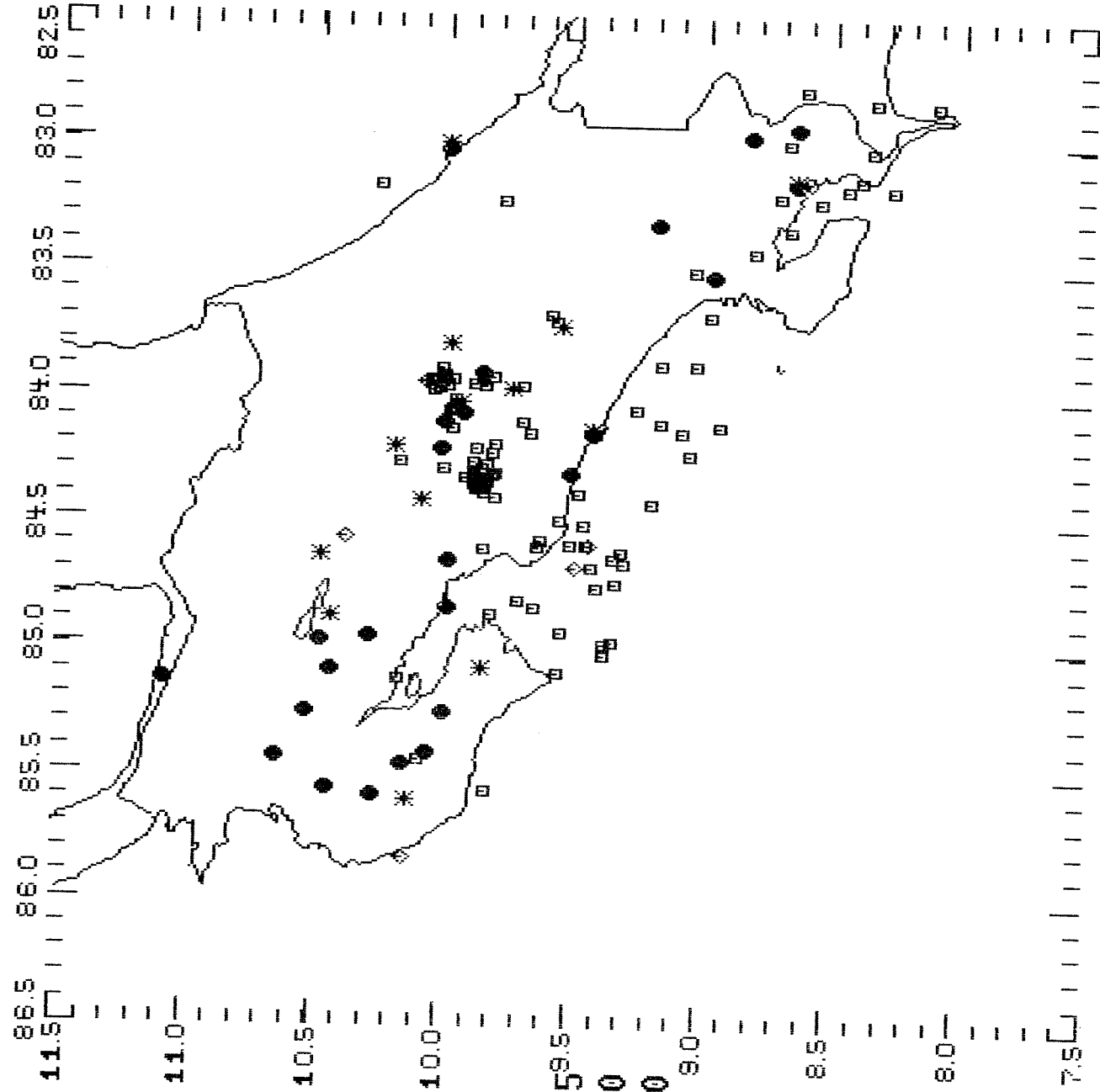
N SIS: 103

M≤3.9: 98 4≤M<5: 59.5

5≤M<6: 0 6≤M<7: 0

7≤M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



# PARTE A

## SISMOS LOCALES

### PARAMETROS DE LOS EVENTOS LOCALIZADOS

SETIEMBRE 1990

Pag. 4

| DIA | TIEMPO OR. | LAT N.   | LON W    | PROF | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|------------|----------|----------|------|-----|-----|------|------|------|
| 01  | 103702.61  | 9°30.00  | 84°06.25 | 53.8 | 2.4 | 163 | 0.15 | 4.0  | 2.8  |
| 02  | 012841.54  | 9°19.89  | 84°43.65 | 15.0 | 2.8 | 300 | 0.49 | ***  | ***  |
| 02  | 201924.88  | 9°39.67  | 83°39.99 | 2.1  | 3.0 | 248 | 0.30 | 2.3  | 1.8  |
| 03  | 161544.52  | 9°18.15  | 83°40.46 | 42.8 | 2.9 | 160 | 0.49 | 5.5  | 9.4  |
| 04  | 054624.99  | 9°09.54  | 83°56.30 | 27.2 | 2.4 | 329 | 0.37 | 6.6  | 11.7 |
| 04  | 062906.57  | 9°19.66  | 83°55.05 | 48.8 | 2.9 | 257 | 0.05 | 1.6  | 2.1  |
| 04  | 145643.52  | 10°23.39 | 83°03.09 | 23.3 | 3.8 | 334 | 0.17 | 4.5  | 35.6 |
| 04  | 170100.84  | 9°14.40  | 84°18.57 | 22.9 | 3.0 | 331 | 0.01 | ***  | ***  |
| 04  | 220048.85  | 9°48.06  | 83°58.58 | 15.9 | 2.0 | 200 | 0.26 | 1.7  | 1.9  |
| 04  | 224132.76  | 9°33.52  | 83°56.04 | 65.1 | 3.1 | 198 | 0.09 | ***  | ***  |
| 05  | 021952.02  | 9°28.23  | 84°43.35 | 15.0 | 3.4 | 315 | 0.10 | ***  | ***  |
| 05  | 081713.88  | 9°51.18  | 84°20.39 | 6.9  | 2.2 | 218 | 0.37 | 2.8  | 3.3  |
| 05  | 214912.18  | 9°10.19  | 83°52.58 | 35.9 | 3.1 | 293 | 0.05 | 0.9  | 0.9  |
| 06  | 003106.47  | 9°33.47  | 83°45.59 | 15.0 | 3.4 | 145 | 0.18 | 1.4  | 1.0  |
| 06  | 033411.76  | 9°30.31  | 84°08.16 | 36.0 | 3.2 | 171 | 0.25 | 1.7  | 2.0  |
| 06  | 043353.19  | 9°30.81  | 84°40.16 | 9.2  | 3.8 | 294 | 0.19 | 2.9  | 5.0  |
| 06  | 045342.77  | 9°24.78  | 84°12.69 | 30.0 | 2.6 | 304 | 0.16 | 4.7  | 4.1  |
| 06  | 050216.02  | 9°33.12  | 84°10.43 | 17.1 | 3.1 | 157 | 0.02 | 0.7  | 1.0  |
| 06  | 050433.55  | 9°25.77  | 84°15.29 | 15.0 | 2.9 | 290 | 0.30 | 5.9  | 2.0  |
| 06  | 233503.64  | 10°23.28 | 84°26.95 | 25.5 | 3.1 | 226 | 0.02 | 0.3  | 0.5  |
| 07  | 052443.47  | 10°05.07 | 84°34.96 | 82.0 | 3.5 | 178 | 0.23 | ***  | ***  |
| 07  | 121746.99  | 9°32.60  | 83°37.88 | 6.1  | 2.6 | 282 | 0.14 | 3.0  | 1.8  |
| 08  | 000529.99  | 9°36.73  | 84°08.65 | 9.8  | 2.6 | 326 | 0.01 | ***  | ***  |
| 09  | 082755.42  | 9°26.42  | 84°38.23 | 30.0 | 3.1 | 318 | 0.29 | 14.7 | 28.4 |
| 10  | 002700.00  | 9°19.36  | 84°35.42 | 42.1 | 3.4 | 295 | 0.23 | 3.2  | 4.8  |
| 10  | 015549.11  | 8°33.63  | 83°22.96 | 15.0 | 3.2 | 338 | 0.46 | 18.0 | 16.8 |
| 10  | 212907.49  | 9°12.90  | 83°54.31 | 33.7 | 3.0 | 286 | 0.09 | 1.4  | 1.4  |
| 11  | 073859.82  | 9°25.77  | 84°10.60 | 15.0 | 3.0 | 275 | 0.12 | 1.2  | 1.0  |
| 11  | 081719.06  | 9°22.12  | 84°15.82 | 26.1 | 3.0 | 326 | 0.17 | 7.1  | 2.6  |
| 11  | 140210.15  | 10°15.37 | 84°48.85 | 42.5 | 3.3 | 324 | 0.37 | 5.5  | 67.3 |
| 11  | 233134.00  | 9°50.54  | 84°16.45 | 29.9 | 2.9 | 261 | 0.44 | 5.3  | 4.6  |
| 12  | 011654.14  | 9°25.77  | 84°27.79 | 40.1 | 2.6 | 308 | 0.47 | 8.3  | 6.7  |
| 12  | 073651.81  | 10°05.07 | 84°26.89 | 50.0 | 1.7 | 314 | 0.27 | 8.2  | 9.6  |
| 12  | 101702.88  | 9°42.78  | 83°18.67 | 14.9 | 3.7 | 323 | 0.48 | 8.3  | 8.3  |
| 13  | 160729.73  | 9°33.43  | 83°37.71 | 15.6 | 2.8 | 218 | 0.35 | 4.5  | 3.3  |

| DIA | TIEMPO OR. | LAT N.   | LON W    | PROF | MAG | GAP | RMS  | ERH | ERZ  |
|-----|------------|----------|----------|------|-----|-----|------|-----|------|
| 13  | 173059.49  | 9°34.91  | 83°39.93 | 4.9  | 2.6 | 275 | 0.09 | 1.5 | 0.8  |
| 13  | 213421.34  | 9°08.63  | 83°49.71 | 7.4  | 2.6 | 184 | 0.33 | 2.5 | 1.7  |
| 14  | 033417.95  | 9°12.17  | 84°39.17 | 36.6 | 1.0 | 342 | 0.06 | *** | ***  |
| 14  | 095134.72  | 9°19.16  | 84°08.59 | 20.5 | 2.5 | 290 | 0.02 | *** | ***  |
| 14  | 111422.88  | 9°55.87  | 84°04.23 | 4.1  | 2.1 | 233 | 0.03 | 0.3 | 0.1  |
| 14  | 152508.20  | 10°22.81 | 84°06.04 | 81.0 | 2.3 | 334 | 0.27 | *** | ***  |
| 14  | 182354.80  | 8°56.04  | 84°01.00 | 13.5 | 3.4 | 321 | 0.12 | 2.6 | 2.6  |
| 15  | 052022.01  | 9°01.04  | 84°02.47 | 11.7 | 3.6 | 231 | 0.12 | 1.1 | 1.4  |
| 15  | 124828.87  | 9°08.77  | 84°08.00 | 43.5 | 3.1 | 311 | 0.46 | 6.8 | 4.8  |
| 15  | 142449.78  | 9°01.97  | 84°05.57 | 31.3 | 2.6 | 237 | 0.31 | 4.7 | 10.0 |
| 15  | 142706.34  | 9°01.23  | 84°04.76 | 8.5  | 2.5 | 236 | 0.49 | 5.0 | 12.5 |
| 15  | 142818.58  | 9°00.17  | 84°03.95 | 8.1  | 3.0 | 318 | 0.23 | 4.0 | 7.3  |
| 17  | 084652.15  | 9°01.63  | 83°57.10 | 33.0 | 4.9 | 216 | 0.59 | 6.1 | 4.9  |
| 17  | 084937.18* | 8°58.33  | 84°03.23 | 33.0 | 4.2 | 228 | 0.26 | 2.9 | 2.4  |
| 17  | 085251.96* | 8°55.54  | 84°05.30 | 27.5 | 4.6 | 233 | 0.42 | 4.5 | 4.8  |
| 17  | 085617.76  | 8°59.75  | 84°01.18 | 22.9 | 3.0 | 224 | 0.19 | 2.6 | 1.1  |
| 17  | 135109.16* | 8°56.67  | 84°04.04 | 23.0 | 4.3 | 231 | 0.40 | 3.8 | 1.5  |
| 18  | 061122.60  | 8°58.34  | 83°59.27 | 3.7  | 4.5 | 227 | 0.03 | 0.8 | 4.5  |
| 18  | 064334.30* | 9°15.22  | 84°00.52 | 12.7 | 4.0 | 305 | 0.15 | 3.7 | 2.7  |
| 18  | 064515.00  | 8°58.86  | 83°58.03 | 2.0  | 4.0 | 224 | 0.19 | 3.7 | 2.7  |
| 18  | 210706.56  | 8°48.74  | 84°10.02 | 33.4 | 3.1 | 261 | 0.48 | 4.5 | 2.6  |
| 18  | 210856.54  | 9°05.77  | 84°31.39 | 36.7 | 2.8 | 329 | 0.48 | 4.7 | 2.2  |
| 18  | 212026.78  | 8°51.82  | 84°04.85 | 37.4 | 3.3 | 246 | 0.42 | 7.4 | 3.6  |
| 19  | 121013.92  | 9°10.29  | 84°01.25 | 27.7 | 3.1 | 209 | 0.29 | 4.3 | 9.3  |
| 20  | 032020.18* | 8°57.54  | 83°51.22 | 7.4  | 4.6 | 212 | 0.13 | 4.5 | 4.8  |
| 20  | 033313.34  | 10°30.07 | 84°24.34 | 61.6 | 3.3 | 338 | 0.28 | 5.9 | 18.8 |
| 20  | 134818.09  | 9°50.64  | 84°08.43 | 22.2 | 2.9 | 304 | 0.34 | 6.6 | 12.1 |
| 20  | 200012.02  | 9°57.03  | 84°19.70 | 15.0 | 2.7 | 321 | 0.11 | 3.1 | 2.9  |
| 20  | 235438.20  | 8°48.10  | 84°05.42 | 47.6 | 3.3 | 330 | 0.20 | 6.6 | 13.2 |
| 21  | 024029.78  | 9°49.71  | 83°54.68 | 3.9  | 3.2 | 287 | 0.41 | 0.8 | 0.4  |
| 21  | 052554.12  | 9°44.05  | 84°00.43 | 63.9 | 2.8 | 279 | 0.49 | *** | ***  |
| 21  | 174841.88  | 8°41.47  | 83°58.51 | 21.6 | 3.1 | 332 | 0.30 | *** | ***  |
| 21  | 175659.22  | 9°55.19  | 84°14.76 | 31.6 | 3.1 | 271 | 0.43 | 5.1 | 4.8  |
| 22  | 023136.32  | 9°22.43  | 84°36.59 | 38.2 | 2.9 | 321 | 0.26 | 5.6 | 2.9  |
| 22  | 060611.85  | 9°10.00  | 84°47.09 | 21.7 | 3.0 | 334 | 0.06 | 2.3 | 11.8 |
| 22  | 234904.58  | 9°25.77  | 84°20.67 | 38.0 | 3.3 | 317 | 0.41 | 8.4 | 5.5  |
| 23  | 090816.18  | 9°03.01  | 84°10.02 | 3.9  | 3.1 | 248 | 0.47 | 8.0 | 9.6  |
| 23  | 125318.70  | 9°51.72  | 84°05.20 | 25.0 | 3.0 | 234 | 0.37 | *** | ***  |
| 23  | 234150.90  | 9°50.73  | 84°03.87 | 71.6 | 3.2 | 173 | 0.16 | 2.0 | 1.7  |
| 24  | 134221.25  | 9°57.77  | 84°13.04 | 25.5 | 3.0 | 256 | 0.35 | 4.2 | 8.3  |

| DIA | TIEMPO OR. | LAT N.   | LON W    | PROF | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|------------|----------|----------|------|-----|-----|------|------|------|
| 24  | 141742.39* | 9°49.98  | 84°14.86 | 11.5 | 3.3 | 252 | 0.31 | 0.6  | 3.1* |
| 24  | 163251.75  | 9°51.23  | 84°14.45 | 13.0 | 2.7 | 307 | 0.12 | 4.0  | 9.1  |
| 24  | 163341.37  | 9°51.37  | 84°11.90 | 15.7 | 2.8 | 307 | 0.17 | 3.7  | 2.6  |
| 25  | 034355.10  | 9°09.31  | 83°52.79 | 26.7 | 2.8 | 297 | 0.04 | 0.6  | 1.1  |
| 25  | 114930.65  | 10°13.34 | 84°13.37 | 81.2 | 2.7 | 329 | 0.01 | ***  | ***  |
| 25  | 180852.47* | 9°52.22  | 84°52.30 | 37.5 | 3.5 | 322 | 0.24 | 2.5  | 1.2* |
| 26  | 065041.62  | 8°59.88  | 82°55.96 | 37.7 | 3.5 | 264 | 0.43 | ***  | ***  |
| 27  | 091117.55  | 9°02.51  | 84°09.07 | 28.2 | 3.1 | 321 | 0.46 | 4.6  | 6.4  |
| 27  | 095823.43  | 9°50.33  | 84°00.51 | 44.1 | 2.7 | 135 | 0.29 | 10.5 | 17.4 |
| 27  | 112645.41  | 10°09.22 | 84°43.82 | 30.0 | 2.8 | 338 | 0.08 | 5.9  | 11.9 |
| 27  | 151935.43  | 9°17.52  | 83°54.79 | 36.3 | 2.8 | 268 | 0.41 | 4.4  | 3.9  |
| 28  | 032737.06  | 9°36.06  | 83°35.19 | 15.3 | 2.8 | 326 | 0.13 | 3.7  | 2.0  |
| 29  | 085123.42  | 9°33.96  | 84°54.30 | 37.5 | 3.0 | 325 | 0.18 | 2.7  | 1.2  |
| 29  | 140036.55  | 9°56.46  | 84°22.18 | 6.8  | 2.7 | 287 | 0.31 | 3.9  | 3.8  |
| 29  | 182714.79* | 9°54.58  | 84°18.71 | 14.1 | 2.8 | 278 | 0.36 | 4.2  | .2*  |
| 29  | 202658.60  | 9°35.17  | 84°37.48 | 33.5 | 3.2 | 309 | 0.03 | 1.2  | 2.1  |
| 30  | 045824.90  | 9°05.69  | 84°01.76 | 36.6 | 3.0 | 308 | 0.34 | 6.8  | 8.1  |
| 30  | 084405.55  | 9°02.76  | 83°59.34 | 27.3 | 2.9 | 311 | 0.11 | 2.3  | 4.3  |
| 30  | 091017.62  | 9°09.23  | 83°54.11 | 19.8 | 2.6 | 297 | 0.42 | 5.3  | 13.7 |
| 30  | 091058.74  | 9°01.28  | 83°58.32 | 5.1  | 2.8 | 313 | 0.23 | 5.2  | 7.2  |
| 30  | 101403.13  | 9°21.96  | 84°46.11 | 38.8 | 3.0 | 227 | 0.21 | 4.5  | 1.4  |
| 30  | 112615.27  | 9°53.00  | 84°15.11 | 15.9 | 2.7 | 265 | 0.45 | 5.3  | 4.2  |
| 30  | 193223.39  | 8°57.14  | 84°02.81 | 13.4 | 3.0 | 321 | 0.46 | 10.5 | 11.5 |
| 30  | 193322.06  | 9°01.19  | 84°09.48 | 37.1 | 2.8 | 322 | 0.32 | 2.9  | 3.0  |

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PARTE B

LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS  
REGIONALES, TELESISMOS Y EVENTOS LOCALES CON  $M \geq 4.0$

SETIEMBRE 1990

Pag. 7

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| QCR  | 02  | 042919.30 | iP   | Z    | D   |
| BUS  | 02  | 042918.30 | iP   | Z    | D   |
| LCR2 | 02  | 042922.90 | iP   | Z    | C   |
| ICR  | 02  | 042931.20 | iP   | Z    | D   |

Cerca de la Costa de Ecuador  $M_b = 5,8$

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 04 | 232306.80 | iP | Z | D |
| SRA  | 04 | 232308.50 | iP | Z | C |
| LC ? | 04 | 232228.40 | iP | Z |   |

Provincia de San Juan, Argentina  $M_b = 5,4$

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 05 | 022647.80 | iP | Z | D |
| BUS  | 05 | 022652.40 | iP | Z | C |
| SJS  | 05 | 022644.10 | iP | Z | D |
| ICR  | 05 | 022648.40 | eP | Z | D |
| SRA  | 05 | 022639.90 | iP | Z | D |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 05 | 073035.40 | eP | Z |   |
| BUS  | 05 | 073036.70 | iP | Z |   |
| SRA  | 05 | 073032.70 | iP | Z | C |

Islas Filipinas  $M_b = 5,5$

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 05 | 082314.20 | iP | Z | C |
| LCR2 | 05 | 082310.80 | iP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 05 | 142826.90 | iP | Z | D |
| LCR2 | 05 | 142824.40 | iP | Z | C |
| VCR  | 05 | 142831.10 | iP | Z | D |

Regional.

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| QCR  | 07  | 015707.50 | iP   | Z    | D   |
| VCR  | 07  | 015705.80 | iP   | Z    | D   |
| LCR2 | 07  | 015710.80 | iP   | Z    | D   |
| BUS  | 07  | 015707.30 | iP   | Z    | D   |
| ICR  | 07  | 015715.80 | iP   | Z    | D   |
| SJS  | 07  | 015715.00 | iP   | Z    | D   |
| SRA  | 07  | 015717.50 | iP   | Z    | D   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 09 | 195414.50 | iP | Z | D |
| QCR  | 09 | 195414.50 | iP | Z | C |
| LCR2 | 09 | 195414.20 | iP | Z | D |
| ICR  | 09 | 195421.50 | iP | Z | C |
| SJS  | 09 | 195421.80 | iP | Z | D |
| SRA  | 09 | 195425.00 | iP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 09 | 195906.40 | iP | Z | C |
| QCR  | 09 | 195905.80 | iP | Z | D |
| LCR2 | 09 | 195909.60 | iP | Z | D |
| SJS  | 09 | 195913.10 | iP | Z | D |
| ICR  | 09 | 195914.10 | iP | Z | C |
| SRA  | 09 | 195916.40 | iP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 10 | 203139.80 | iP | Z | C |
| LCR2 | 10 | 203137.70 | iP | Z | D |
| BUS  | 10 | 203141.80 | iP | Z | C |
| SJS  | 10 | 203143.00 | eP | Z |   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 11 | 081015.30 | iP | Z | C |
| LCR2 | 11 | 081011.70 | iP | Z | D |
| BUS  | 11 | 081007.50 | iP | Z | D |
| SJS  | 11 | 081016.10 | iP | Z | D |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 11 | 104122.30 | iP | Z | D |
| LCR2 | 11 | 104122.90 | iP | Z | D |

Telesismo.

| EST        | DIA | TIEMPO    | FASE | COMP | POL |
|------------|-----|-----------|------|------|-----|
| BUS        | 11  | 151704.70 | iP   | Z    | D   |
| LCR2       | 11  | 151706.80 | iP   | Z    | D   |
| Regional.  |     |           |      |      |     |
| BUS        | 13  | 043853.20 | iP   | Z    | D   |
| LCR2       | 13  | 043847.70 | iP   | Z    | D   |
| QCR        | 13  | 043849.40 | iP   | Z    | D   |
| BUS        | 13  | 043853.20 | iP   | Z    | C   |
| SRA        | 13  | 043840.80 | iP   | Z    | C   |
| Regional.  |     |           |      |      |     |
| BUS        | 13  | 071254.70 | iP   | Z    | D   |
| LCR2       | 13  | 071259.30 | iP   | Z    | D   |
| BUS        | 13  | 071255.00 | iP   | Z    | D   |
| SRA        | 13  | 071221.80 | iP   | Z    | D   |
| Telesismo. |     |           |      |      |     |
| BUS        | 13  | 121614.40 | iP   | Z    | D   |
| LCR2       | 13  | 121609.10 | iP   | Z    | C   |
| QCR        | 13  | 121605.30 | iP   | Z    | D   |
| SJS        | 13  | 121608.30 | iP   | Z    | C   |
| SRA        | 13  | 121603.10 | iP   | Z    | C   |
| Telesismo. |     |           |      |      |     |
| LCR2       | 13  | 150323.70 | iP   | Z    | C   |
| ACR        | 13  | 150345.50 | iP   | Z    | C   |
| QCR        | 13  | 150341.90 | iP   | Z    | D   |
| BUS        | 13  | 150349.40 | iP   | Z    | D   |
| Regional.  |     |           |      |      |     |
| BUS        | 14  | 094031.50 | iP   | Z    | D   |
| LCR2       | 14  | 094039.40 | iP   | Z    | D   |
| ICR        | 14  | 094045.90 | iP   | Z    | C   |
| SJS        | 14  | 094015.40 | iP   | Z    | C   |
| Telesismo. |     |           |      |      |     |

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| ACR  | 15  | 084804.50 | iP   | Z    | D   |
| BUS  | 15  | 084752.00 | iP   | Z    | D   |
| LCR2 | 15  | 084746.30 | iP   | Z    | D   |
| QCR  | 15  | 084747.40 | iP   | Z    | D   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 15 | 122558.20 | iP | Z | C |
| LCR2 | 15 | 122553.80 | iP | Z | C |
| QCR  | 15 | 122557.00 | iP | Z | D |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 17 | 084701.90 | iP | Z | D |
| LCR2 | 17 | 084707.10 | iP | Z | C |
| FOR  | 17 | 084720.60 | iP | Z | D |
| BUS  | 17 | 084705.10 | iP | Z | C |
| ACR  | 17 | 084709.60 | iP | Z | D |
|      |    | 4720.20   | S  | Z |   |
| SJS  | 17 | 084710.50 | iP | Z | C |
| ICR  | 17 | 084712.00 | iP | Z | D |

26 Km al Suroeste de Dominical M = 4.5

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 17 | 085302.90 | iP | Z | D |
| LCR2 | 17 | 085308.10 | iP | Z | C |
| FOR  | 17 | 085321.90 | iP | Z | D |
| BUS  | 17 | 085306.10 | iP | Z | C |
| ACR  | 17 | 085309.60 | iP | Z | D |
|      |    | 5327.30   | S  | Z |   |
| SJS  | 17 | 085311.50 | iP | Z | C |
| ICR  | 17 | 085308.30 | iP | Z | C |

44 Km al Suroeste de Dominical M = 4.6

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 17 | 135119.50 | iP | Z | D |
| LCR2 | 17 | 135124.80 | iP | Z | C |
| FOR  | 17 | 135139.40 | iP | Z | D |
| BUS  | 17 | 135123.00 | iP | Z | C |
| ACR  | 17 | 135127.30 | iP | Z | D |
|      |    | 5139.60   | S  | Z |   |
| SJS  | 17 | 135128.10 | iP | Z | C |
|      |    | 5143.10   | S  | Z |   |
| ICR  | 17 | 135129.50 | iP | Z | C |
|      |    | 5142.50   | S  | Z |   |

41 Km al suroeste de Dominical M = 4.3

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| QCR  | 18  | 061132.80 | iP   | Z    | D   |
| LCR2 | 18  | 061137.90 | iP   | Z    | C   |
| BUS  | 18  | 061135.90 | iP   | Z    | C   |
| ACR  | 18  | 061139.80 | iP   | Z    | C   |
|      |     | 1152.50   | S    | Z    |     |
| SJS  | 18  | 061141.55 | iP   | Z    | C   |
| ICR  | 18  | 061143.00 | iP   | Z    | C   |

31 Km al suroeste de Dominical M = 4.5

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 18 | 064339.70 | iP | Z | D |
| LCR2 | 18 | 064344.10 | iP | Z | C |
| BUS  | 18 | 064342.20 | iP | Z | C |
| ACR  | 18 | 064345.10 | iP | Z | D |
| SJS  | 18 | 064348.15 | iP | Z | C |
|      |    | 4357.80   | S  | Z |   |
| ICR  | 18 | 064349.05 | iP | Z | D |

25 Km al Sureste de Dominical M = 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| ACR  | 18 | 064532.00 | iP | Z | D |
|      |    | 4544.90   | S  | Z |   |
| BUS  | 18 | 064528.10 | iP | Z | D |
| LCR2 | 18 | 064530.20 | iP | Z | C |
| QCR  | 18 | 064525.70 | iP | Z | D |
|      |    | 4532.90   | S  | Z |   |
| SJS  | 18 | 064534.15 | iP | Z | C |
|      |    | 4543.80   | S  | Z |   |
| ICR  | 18 | 064535.30 | iP | Z | D |

30 Km al Suroeste de Dominical M = 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 20 | 032039.00 | iP | Z | C |
|      |    | 2047.10   | S  | Z |   |
| ICR  | 20 | 032039.80 | iP | Z | D |
| LCR2 | 20 | 032035.00 | iP | Z | C |
| ACR  | 20 | 032034.49 | iP | Z | D |
| BUS  | 20 | 032032.02 | iP | Z | C |
| QCR  | 20 | 032031.10 | iP | Z | D |
| FOR  | 20 | 032050.20 | iP | Z | D |

25 Km al Suroeste de Dominical M = 4.6

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| LCR2 | 21  | 032023.00 | iP   | Z    | C   |
| BUS  | 21  | 032028.00 | iP   | Z    | C   |
| QCR  | 21  | 032023.90 | iP   | Z    | D   |
| ICR  | 21  | 032039.50 | iP   | Z    | D   |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 21 | 045013.20 | iP | Z | C |
| BUS  | 21 | 045006.20 | iP | Z | C |
| LCR2 | 21 | 045007.50 | iP | Z | D |
| SJS  | 21 | 045016.10 | eP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 21 | 144814.20 | iP | Z | D |
| QCR  | 21 | 144809.50 | eP | Z | D |
| BUS  | 21 | 144810.40 | iP | Z | C |
| ICR  | 21 | 144812.40 | iP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 23 | 022829.30 | iP | Z | C |
| LCR2 | 23 | 022832.30 | iP | Z | C |
| BUS  | 23 | 022827.00 | iP | Z | D |
| ICR  | 23 | 022835.10 | iP | Z | C |
| SJS  | 23 | 022836.20 | iP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 25 | 154251.10 | iP | Z | D |
| QCR  | 25 | 154248.40 | iP | Z | D |
| LCR2 | 25 | 154247.60 | iP | Z | D |
| ICR  | 25 | 154244.90 | iP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 25 | 182712.90 | iP | Z | D |
| QCR  | 25 | 182716.00 | iP | Z | C |
| BUS  | 25 | 182720.80 | iP | Z | D |
| SRA  | 25 | 182806.80 | iP | Z | C |

Regional.

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| BUS  | 29  | 052850.30 | iP   | Z    | D   |
| QCR  | 29  | 052847.20 | iP   | Z    | D   |
| LCR2 | 29  | 052844.90 | iP   | Z    | C   |
| SJS  | 29  | 052838.90 | iP   | Z    | C   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| LCR2 | 29 | 101830.60 | iP | Z | C |
| QCR  | 29 | 101832.50 | iP | Z | C |
| BUS  | 29 | 101835.20 | iP | Z | C |
| SJS  | 29 | 101828.90 | iP | Z | D |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| BUS  | 29 | 122627.40 | iP | Z | D |
| QCR  | 29 | 122624.40 | iP | Z | D |
| LCR2 | 29 | 122623.30 | iP | Z | C |
| SJS  | 29 | 122622.00 | iP | Z | D |

Regional.

PGM ANASIS Ver 2.0

Diseño:

Guillermo Ávila R

FEC m:01-09-1990

FEC M:31-09-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.9 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:RSN1990

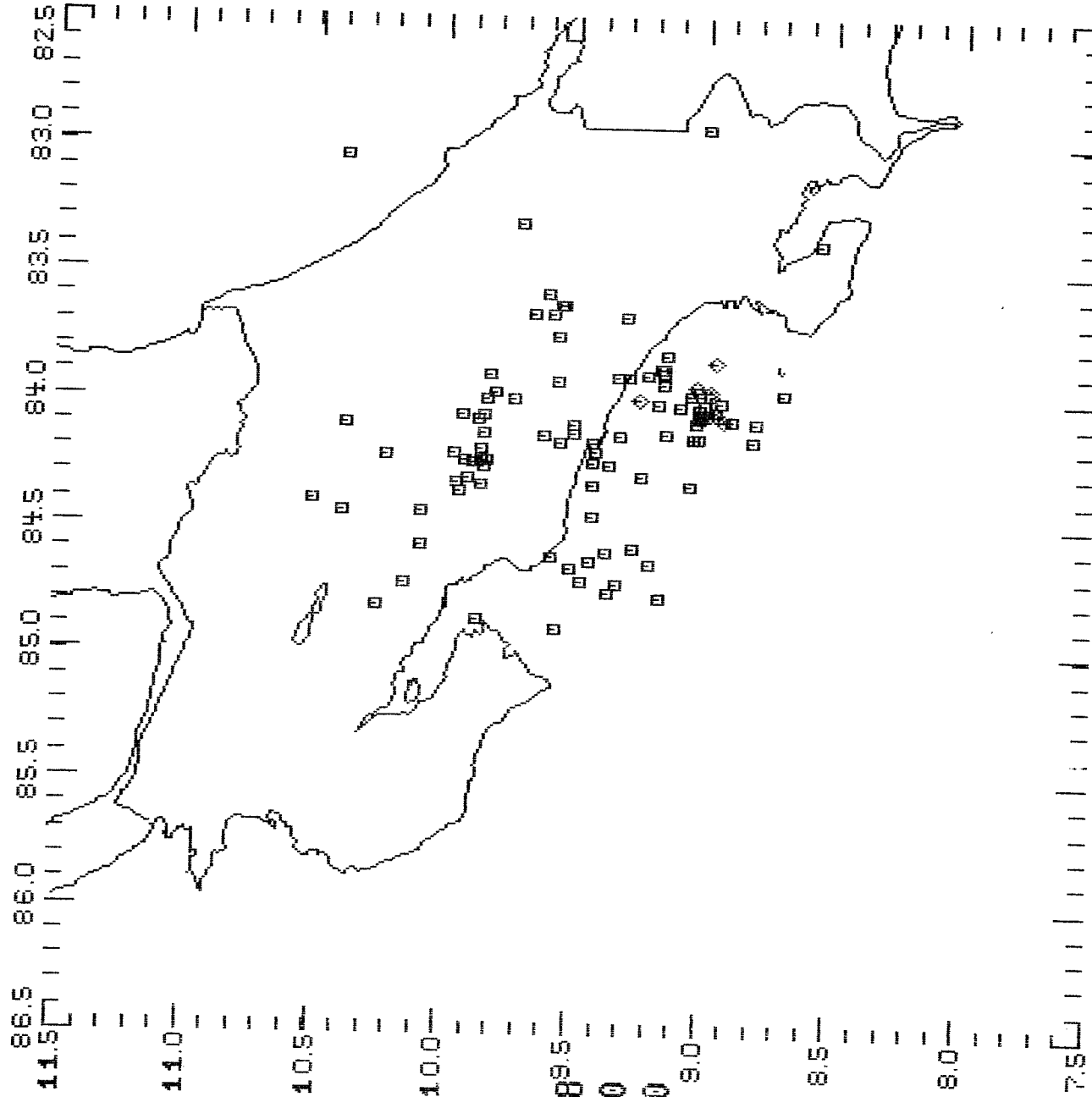
N SIS: 98

M<3.9: 90 4≤M<5:

5≤M<6: 0 6≤M<7:

7≤M<8: 0 M≥8 :

RED SISMOLÓGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



# PARTE A

## SISMOS LOCALIZADOS

### PARAMETROS DE LOS EVENTOS

OCTUBRE 1990

| Nº  | DIA | T.ORIGEN   | LAT.     | LONG.    | PROF | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|-----|------------|----------|----------|------|-----|-----|------|------|------|
| 001 | 01  | 215714.75  | 09050.66 | 84025.50 | 43.2 | 3.5 | 207 | 0.39 | 4.3  | 5.6  |
| 002 | 02  | 061522.57  | 08059.30 | 83024.35 | 5.2  | 3.5 | 323 | 0.03 | ***  | ***  |
| 003 | 02  | 215003.11  | 09050.94 | 84025.73 | 30.0 | 3.3 | 242 | 0.06 | ***  | ***  |
| 004 | 03  | 014254.16  | 09033.43 | 83039.83 | 6.8  | 3.3 | 325 | 0.19 | ***  | ***  |
| 005 | 03  | 112808.41  | 09022.45 | 83047.04 | 12.8 | 3.3 | 309 | 0.03 | ***  | ***  |
| 006 | 05  | 064802.82  | 09013.20 | 83030.97 | 34.5 | 3.7 | 323 | 0.32 | 8.2  | 3.4  |
| 007 | 05  | 075903.41  | 09035.55 | 84005.81 | 21.2 | 2.9 | 164 | 0.10 | 0.9  | 1.4  |
| 008 | 05  | 085648.17  | 09036.09 | 84007.10 | 23.2 | 2.6 | 205 | 0.04 | 0.5  | 0.8  |
| 009 | 05  | 121013.11  | 08052.57 | 84038.43 | 35.7 | 3.3 | 317 | 0.10 | 5.5  | 1.6  |
| 010 | 05  | 162519.17  | 09030.10 | 83050.01 | 22.1 | 2.7 | 203 | 0.27 | 3.4  | 3.3  |
| 011 | 05  | 183942.45  | 09041.17 | 84041.77 | 6.9  | 2.8 | 260 | 0.49 | 6.4  | 5.8  |
| 012 | 06  | 061747.63  | 08053.94 | 84007.30 | 16.9 | 3.3 | 326 | 0.24 | 4.8  | ***  |
| 013 | 07  | 044237.23  | 09036.75 | 84041.86 | 36.7 | 3.7 | 314 | 0.16 | 3.1  | 10.0 |
| 014 | 07  | 113521.44  | 09008.58 | 83048.58 | 45.0 | 2.9 | 302 | 0.09 | ***  | ***  |
| 015 | 08  | 070846.55  | 09020.99 | 84010.02 | 15.0 | 3.2 | 295 | 0.15 | ***  | ***  |
| 016 | 09  | 211139.93  | 08055.60 | 84013.30 | 32.3 | 4.6 | 206 | 0.33 | 2.0  | 2.6  |
| 017 | 09  | 213856.14  | 09050.78 | 84010.28 | 24.2 | 3.2 | 323 | 0.49 | 4.5  | 5.3  |
| 018 | 09  | 225529.54  | 09010.88 | 84005.78 | 29.1 | 3.2 | 297 | 0.10 | 1.1  | 2.4  |
| 019 | 10  | 050000.52  | 09033.43 | 83031.54 | 3.5  | 2.7 | 294 | 0.45 | 9.4  | 7.0  |
| 020 | 10  | 065752.11  | 08004.33 | 83015.29 | 15.0 | 3.1 | 327 | 0.09 | ***  | ***  |
| 021 | 10  | 070157.47  | 08039.29 | 83020.98 | 30.0 | 3.1 | 238 | 0.07 | ***  | ***  |
| 022 | 10  | 080942.80  | 08039.29 | 83010.18 | 15.0 | 3.1 | 172 | 0.02 | 0.8  | 0.2  |
| 023 | 10  | 110642.74  | 10002.62 | 84013.84 | 22.8 | 3.1 | 200 | 0.35 | 3.4  | 3.9  |
| 024 | 10  | 131557.39  | 09045.96 | 84005.04 | 15.0 | 1.7 | 280 | 0.15 | ***  | ***  |
| 025 | 10  | 232512.55  | 07054.52 | 82052.69 | 19.3 | 3.6 | 341 | 0.33 | 11.7 | 4.0  |
| 026 | 11  | 010959.04  | 09036.05 | 84040.75 | 30.3 | 3.1 | 277 | 0.39 | 4.6  | 11.7 |
| 027 | 11  | 013643.65  | 09031.46 | 84038.34 | 39.6 | 3.3 | 277 | 0.29 | 2.8  | 1.4  |
| 028 | 11  | 062126.50  | 09053.72 | 83003.38 | 58.7 | 2.8 | 328 | 0.01 | 0.2  | 0.4  |
| 029 | 12  | 020036.56  | 09033.64 | 83057.46 | 45.2 | 2.7 | 221 | 0.31 | ***  | ***  |
| 030 | 13  | 015404.09  | 09028.08 | 84010.84 | 45.0 | 2.9 | 178 | 0.15 | 2.3  | 2.1  |
| 031 | 13  | 062429.35  | 09048.76 | 83056.68 | 70.6 | 2.9 | 110 | 0.38 | 7.2  | 8.7  |
| 032 | 15  | 102149.47  | 08057.53 | 84010.02 | 29.7 | 3.7 | 312 | 0.22 | 5.8  | 5.8  |
| 033 | 16  | 073356.00* | 09036.96 | 83036.84 | 4.6  | 4.4 | 179 | 0.37 | 4.1  | 4.9* |
| 034 | 16  | 081222.74  | 09043.21 | 83054.68 | 2.1  | 2.2 | 190 | 0.42 | 2.2  | 2.6  |
| 035 | 16  | 091056.77  | 09039.35 | 83041.20 | 2.5  | 1.5 | 198 | 0.19 | 1.7  | 2.7  |

## OCTUBRE 1990

| Nº  | DIA | T.ORIGEN   | LAT.     | LONG.    | PROF | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|-----|------------|----------|----------|------|-----|-----|------|------|------|
| 036 | 16  | 212446.21* | 09952.49 | 84915.26 | 21.9 | 3.4 | 263 | 0.18 | 2.8  | 2.5* |
| 037 | 17  | 031110.51  | 09940.56 | 83945.57 | 11.1 | 2.7 | 168 | 0.18 | 1.7  | 4.6  |
| 038 | 17  | 105034.22  | 09955.90 | 83934.80 | 10.0 | 1.9 | 126 | 0.26 | 3.2  | 1.7  |
| 039 | 17  | 113207.61  | 09937.77 | 83940.04 | 0.38 | 1.9 | 210 | 0.33 | 4.8  | 5.0  |
| 040 | 17  | 203942.58  | 09937.13 | 83937.41 | 7.8  | 3.0 | 185 | 0.38 | 3.5  | 11.9 |
| 041 | 17  | 212446.12  | 09952.49 | 84915.26 | 21.9 | 3.4 | 263 | 0.18 | 2.8  | 2.5  |
| 042 | 18  | 184425.22  | 09926.18 | 82953.39 | 30.7 | 3.4 | 329 | 0.48 | ***  | 7.3  |
| 043 | 19  | 055548.80  | 09929.30 | 84927.36 | 30.7 | 3.0 | 197 | 0.29 | 2.1  | 2.5  |
| 044 | 19  | 063119.91  | 09953.35 | 84921.97 | 12.3 | 2.5 | 124 | 0.24 | 4.1  | 8.3  |
| 045 | 19  | 152139.95* | 09936.70 | 84928.21 | 34.7 | 3.9 | 173 | 0.28 | 0.1  | 0.1* |
| 046 | 20  | 082200.99  | 11913.27 | 83942.20 | 21.1 | 3.2 | 347 | 0.20 | 9.5  | 2.9  |
| 047 | 20  | 221843.22  | 09929.61 | 84932.56 | 25.7 | 3.3 | 200 | 0.18 | 7.3  | 13.5 |
| 048 | 21  | 040726.73  | 09946.76 | 84949.57 | 66.9 | 3.4 | 235 | 0.33 | 13.8 | 21.2 |
| 049 | 21  | 042423.30  | 09937.48 | 84939.36 | 33.2 | 3.3 | 185 | 0.28 | 1.9  | 4.5  |
| 050 | 21  | 191751.59  | 10906.34 | 83942.90 | 4.3  | 3.2 | 276 | 0.17 | 4.3  | 1.6  |
| 051 | 21  | 194023.37  | 09935.13 | 83936.62 | 8.6  | 2.9 | 283 | 0.33 | 9.2  | 5.4  |
| 052 | 21  | 202311.86  | 10923.28 | 85917.12 | 38.3 | 2.9 | 233 | 0.21 | 20.3 | 24.5 |
| 053 | 21  | 235236.63  | 09927.31 | 84930.98 | 29.1 | 3.0 | 272 | 0.27 | 2.6  | 3.5  |
| 054 | 22  | 022700.84  | 10903.93 | 85919.43 | 32.9 | 2.9 | 173 | 0.35 | 2.5  | 0.8  |
| 055 | 22  | 185738.77  | 09936.36 | 84906.23 | 28.2 | 3.1 | 101 | 0.36 | 2.8  | 3.6  |
| 056 | 22  | 192829.41  | 09937.00 | 83938.39 | 4.4  | 2.8 | 181 | 0.45 | 4.4  | 4.3  |
| 057 | 23  | 031002.93  | 10931.16 | 84910.82 | 35.6 | 3.7 | 292 | 0.24 | 3.5  | 1.4  |
| 058 | 23  | 063209.30  | 09959.31 | 84945.88 | 33.0 | 2.8 | 171 | 0.19 | 4.9  | 6.9  |
| 059 | 23  | 122916.13  | 09925.50 | 84913.24 | 42.9 | 3.0 | 239 | 0.39 | 4.4  | 3.8  |
| 060 | 23  | 200508.62* | 08958.59 | 84912.40 | 36.3 | 4.0 | 258 | 0.20 | 3.2  | 1.4* |
| 061 | 23  | 210146.35  | 09908.36 | 83958.09 | 40.5 | 3.3 | 204 | 0.28 | 3.6  | 1.4  |
| 062 | 25  | 022049.24  | 09931.14 | 84928.04 | 35.5 | 2.9 | 191 | 0.39 | 4.8  | 4.6  |
| 063 | 25  | 092837.39  | 09921.84 | 83952.06 | 9.0  | 3.9 | 147 | 0.35 | 2.2  | 5.2  |
| 064 | 25  | 165352.52* | 09958.30 | 84900.09 | 8.2  | 3.0 | 209 | 0.22 | 4.5  | 4.7* |
| 065 | 26  | 034624.95  | 09951.35 | 84918.84 | 15.0 | 2.7 | 122 | 0.30 | 1.4  | 1.3  |
| 066 | 29  | 195754.54  | 09952.37 | 84918.84 | 7.1  | 3.1 | 153 | 0.38 | 3.5  | 1.8  |
| 067 | 30  | 001709.83  | 08934.21 | 83939.40 | 35.4 | 3.0 | 249 | 0.35 | 5.2  | 1.8  |
| 068 | 30  | 032429.07  | 09936.94 | 84939.14 | 29.9 | 3.1 | 187 | 0.43 | 3.1  | 7.3  |
| 069 | 31  | 132024.44  | 08957.47 | 84900.32 | 6.5  | 3.1 | 284 | 0.35 | 3.7  | 3.4  |

# PARTE B

## LECTURA DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS REGIONALES, TELESISMOS Y EVENTOS LOCALES CON M $\geq$ 4,0

OCTUBRE 1990

| EST. | DIA | TIEMPO OR. | FASE | COMP | POL |
|------|-----|------------|------|------|-----|
| SJS  | 05  | 194150.90  | iP   | Z    |     |
| QCR  | 05  | 194154.00  | iP   | Z    | D   |
| LCR2 | 05  | 194151.00  | iP   | Z    |     |
| BUS  | 05  | 194153.50  | iP   | Z    | D   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 06 | 101108.50 | iP | Z | D |
| LCR2 | 06 | 101111.20 | iP | Z | C |
| QCR  | 06 | 101111.70 | iP | Z | C |
| BUS  | 06 | 101115.30 | iP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 10 | 010626.50 | iP | Z | C |
| BUS  | 10 | 010623.20 | iP | Z | C |
| ACR  | 10 | 010616.00 | iP | Z | D |
| LCR2 | 10 | 010625.20 | iP | Z | C |
| QCR  | 10 | 010623.80 | iP | Z | C |

Sur de Bolivia, MB = 6.4

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 12 | 161539.00 | iP | Z | C |
| QCR | 12 | 161540.80 | iP | Z | D |
| BUS | 12 | 161544.00 | iP | Z | D |
| ACR | 12 | 161555.40 | iP | Z | D |

Honduras, MB = 4.7

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 14 | 024433.50 | eP | Z |   |
| BUS | 14 | 024427.40 | iP | Z | D |
| QCR | 14 | 024426.50 | iP | Z | D |

Regional.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 15 | 090957.00 | eP | Z |  |
| SRA | 15 | 091005.50 | eP | Z |  |

Telesismo.

# OCTUBRE 1990

| EST. | DIA | TIEMPO OR. | FASE | COMP. | POL |
|------|-----|------------|------|-------|-----|
| SJS  | 16  | 073407.35  | iP   | Z     | D   |
| BUS  | 16  | 073359.80  | iP   | Z     | D   |
|      |     | 3361.50    | S    | Z     |     |
| ICR  | 16  | 073406.00  | iP   | Z     | C   |
|      |     | 3412.10    | S    | Z     |     |
| QCR  | 16  | 073408.10  | iP   | Z     | C   |
| ACR  | 16  | 073416.50  | iP   | Z     | C   |
|      |     | 3431.10    | S    | Z     |     |

26 Km, al sur de La Suiza, Turrialba, MD= 4.4  
Intensidad, III, Turrialba, II San José.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 16 | 101327.20 | eP | Z |  |
| SRA | 16 | 101316.00 | eP | Z |  |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 17 | 143452.50 | eP | Z |   |
| AR6 | 17 | 143501.00 | iP | Z | D |
| BUS | 17 | 143448.30 | iP | Z | C |
| QCR | 17 | 143449.40 | iP | Z | C |
| ACR | 17 | 143439.40 | iP | Z | C |

Frontera Perú, Brasil, MB= 6.7

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 20 | 073808.10 | eP | Z | C |
| ICR  | 20 | 073811.00 | iP | Z | D |
| LCR2 | 20 | 073810.40 | iP | Z | D |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 21 | 032835.00 | eP | Z |   |
| ICR | 21 | 032837.60 | iP | Z | C |
| SRA | 21 | 032826.50 | iP | Z | C |

Cerca de la Costa de Nicaragua, MB = 4.9

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 21 | 151417.15 | eP | Z | D |
| VCR | 21 | 151420.00 | iP | Z | D |
| QCR | 21 | 151414.70 | iP | Z | D |
| AR6 | 21 | 151428.00 | iP | Z | C |
| BUS | 21 | 151411.00 | iP | Z | C |

Norte de Perú, MB= 5.7

## OCTUBRE 1990

| EST.      | DIA | TIEMPO OR. | FASE | COMP. | POL |
|-----------|-----|------------|------|-------|-----|
| SJS       | 21  | 235958.40  | iP   | Z     | D   |
| VCR       | 21  | 235935.10  | iP   | Z     | C   |
| AR6       | 21  | 235945.10  | iP   | Z     | D   |
| LCR2      | 21  | 235959.00  | iP   | Z     | D   |
| ICR       | 21  | 240003.50  | eP   | Z     |     |
| Regional. |     |            |      |       |     |
| SJS       | 23  | 025915.00  | eP   | Z     |     |
| LCR2      | 23  | 025911.00  | iP   | Z     | D   |
| ICR       | 23  | 025914.90  | eP   | Z     |     |
| Regional. |     |            |      |       |     |
| SJS       | 23  | 031020.50  | eP   | Z     |     |
| LCR2      | 23  | 031017.20  | iP   | Z     | C   |
| ICR       | 23  | 031019.50  | eP   | Z     |     |
| Regional. |     |            |      |       |     |
| SJS       | 23  | 134736.00  | eP   | Z     | r   |
| ACR       | 23  | 134752.70  | iP   | Z     | D   |
| AR6       | 23  | 134723.40  | iP   | Z     | D   |
| BUS       | 23  | 134740.70  | iP   | Z     | D   |
| QCR       | 23  | 134735.10  | iP   | Z     | D   |
| VCR       | 23  | 134711.50  | iP   | Z     | C   |
| Regional. |     |            |      |       |     |
| SJS       | 30  | 071916.80  | iP   | Z     | D   |
| LCR2      | 30  | 071913.30  | iP   | Z     | D   |
| SRA       | 30  | 071920.50  | eP   | Z     |     |
| BUS       | 30  | 071909.70  | iP   | Z     |     |
| AR6       | 30  | 071929.00  | iP   | Z     | D   |
| VCR       | 30  | 071932.20  | iP   | Z     | C   |
| QCR       | 30  | 071910.00  | iP   | Z     | D   |
| Regional. |     |            |      |       |     |
| SJS       | 31  | 214749.00  | iP   | Z     | D   |
| LCR2      | 31  | 214746.80  | eP   | Z     |     |
| ICR       | 31  | 214748.60  | iP   | Z     | D   |
| VCR       | 31  | 214705.50  | iP   | Z     | C   |
| QCR       | 31  | 214744.80  | iP   | Z     | C   |
| BUS       | 31  | 214742.40  | iP   | Z     | D   |
| AR6       | 31  | 214704.10  | iP   | Z     | D   |
| ACR       | 31  | 214724.40  | iP   | Z     | D   |
| Regional. |     |            |      |       |     |

PGM ANÁLISIS Ver 2.0

Diseño:

Guillermo Ávila R

FEC m:01-10-1990

FEC M:31-10-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:OCT90

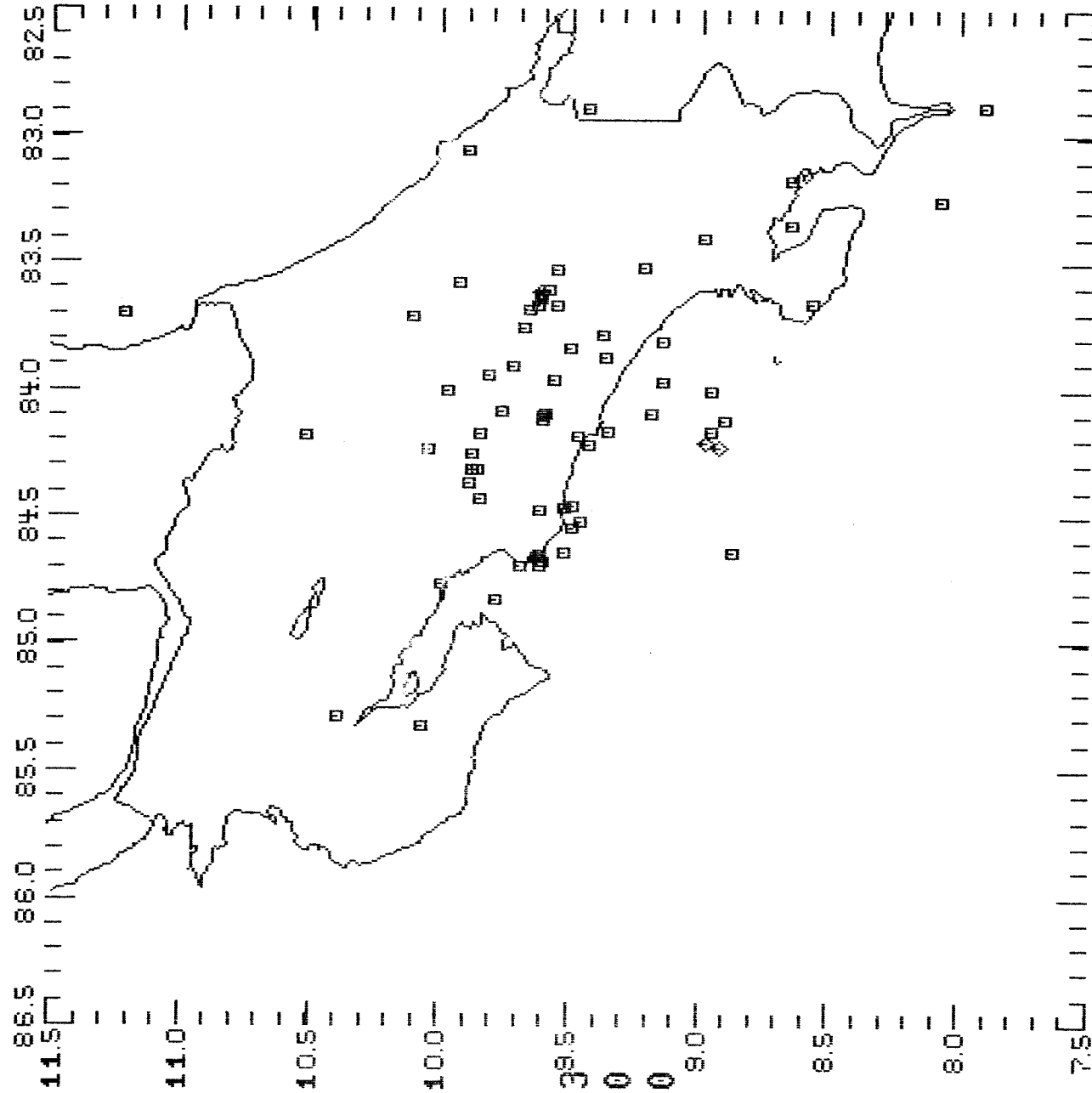
N SIS: 69

M<3.9: 66 4≤M<5: 39.5

5≤M<6: 0 6≤M<7: 0

7≤M<8: 0 M≥8 : 0

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



PARAMETROS DE LOS EVENTOS  
LOCALIZADOS  
NOVIEMBRE 1990.

| Nº  | DIA | TIEMPO OR. | LATITUD  | LONGITUD | PROF  | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|-----|------------|----------|----------|-------|-----|-----|------|------|------|
| 001 | 02  | 091633.20  | 9035.64  | 84035.74 | 15.0  | 3.1 | 186 | 0.46 | 1.9  | 2.4  |
| 002 | 03  | 033746.35  | 9023.43  | 84027.42 | 14.2  | 2.9 | 220 | 0.32 | 1.7  | 1.7  |
| 003 | 03  | 072746.28  | 9041.25  | 84053.46 | 37.6  | 2.7 | 194 | 0.24 | 2.5  | 2.0  |
| 004 | 03  | 074028.13  | 8040.81  | 83010.18 | 19.0  | 3.3 | 204 | 0.38 | 8.2  | 7.3  |
| 005 | 03  | 202655.40  | 9047.13  | 84033.46 | 52.4  | 3.0 | 155 | 0.47 | 3.9  | 9.1  |
| 006 | 03  | 205522.76  | 9048.49  | 84024.65 | 51.8  | 3.9 | 137 | 0.29 | 2.4  | 3.0  |
| 007 | 06  | 230102.53  | 9059.90  | 84010.09 | 21.3  | 2.4 | 228 | 0.45 | 4.9  | 5.3  |
| 008 | 07  | 035744.94  | 9023.77  | 84016.41 | 35.3  | 2.3 | 272 | 0.37 | 2.7  | 2.6  |
| 009 | 07  | 044403.76  | 9052.34  | 83054.70 | 5.8   | 2.3 | 109 | 0.22 | 1.3  | 2.3  |
| 010 | 07  | 135205.22  | 9028.80  | 84014.71 | 39.1  | 3.0 | 218 | 0.19 | 1.5  | 1.4  |
| 011 | 08  | 040445.54* | 9053.55  | 83026.67 | 13.9  | 4.1 | 153 | 0.39 | 2.7  | 2.8* |
| 012 | 08  | 131309.24* | 10042.21 | 85037.97 | 101.6 | 5.2 | 295 | 0.34 | 9.2  | 9.4* |
| 013 | 08  | 224811.18  | 10000.15 | 84000.84 | 15.9  | 2.6 | 214 | 0.44 | 6.5  | 2.6  |
| 014 | 09  | 010741.42  | 10001.87 | 84002.16 | 15.0  | 3.3 | 233 | 0.22 | 4.3  | 3.3  |
| 015 | 09  | 020724.03  | 10037.27 | 85031.92 | 23.3  | 3.6 | 285 | 0.36 | 11.4 | 6.5  |
| 016 | 09  | 052845.05  | 9047.68  | 83055.57 | 6.3   | 2.1 | 118 | 0.21 | 3.7  | 4.2  |
| 017 | 09  | 171729.13  | 8051.06  | 84040.53 | 31.9  | 3.9 | 226 | 0.38 | 5.2  | 3.9  |
| 018 | 09  | 173118.89  | 8054.54  | 84039.05 | 32.1  | 4.0 | 275 | 0.38 | 5.3  | 4.0  |
| 019 | 09  | 205321.03  | 8054.93  | 84012.36 | 21.2  | 3.3 | 3.4 | 0.26 | 2.6  | 9.2  |
| 020 | 09  | 211139.36  | 8055.46  | 84011.06 | 29.3  | 4.6 | 276 | 0.36 | 6.9  | 4.7  |
| 021 | 10  | 130233.69  | 9037.14  | 84008.41 | 50.6  | 2.4 | 137 | 0.34 | 3.2  | 2.0  |
| 022 | 10  | 131835.07  | 8056.60  | 84010.02 | 9.3   | 3.7 | 328 | 0.12 | 3.1  | 2.7  |
| 023 | 10  | 133611.76  | 8059.99  | 84012.19 | 35.2  | 3.4 | 326 | 0.30 | 7.0  | 2.1  |
| 024 | 10  | 154900.85  | 8057.75  | 84006.98 | 23.7  | 3.1 | 313 | 0.36 | 5.1  | 9.9  |
| 025 | 10  | 213812.27  | 8058.81  | 84011.42 | 34.8  | 3.5 | 310 | 0.39 | 4.1  | 1.8  |
| 026 | 11  | 175028.53  | 9003.08  | 84033.86 | 33.7  | 3.6 | 309 | 0.36 | 6.1  | 4.1  |
| 027 | 11  | 205302.26  | 10015.37 | 85036.55 | 27.5  | 3.9 | 269 | 0.25 | 13.3 | 2.0  |
| 028 | 12  | 004841.79* | 10020.86 | 83051.81 | 28.0  | 4.7 | 256 | 0.40 | 1.7  | 1.2* |
| 029 | 12  | 104252.40  | 9022.25  | 83051.85 | 8.5   | 3.5 | 145 | 0.43 | 2.0  | 4.8  |
| 030 | 13  | 004847.93  | 10035.13 | 83046.85 | 26.6  | 4.8 | 236 | 0.23 | 4.1  | 3.4  |
| 031 | 13  | 070530.69  | 8051.64  | 84010.73 | 9.1   | 3.1 | 321 | 0.24 | 2.6  | 2.3  |
| 032 | 13  | 102015.21  | 9051.56  | 84006.82 | 25.0  | 2.5 | 167 | 0.23 | 4.9  | 3.4  |
| 033 | 13  | 130052.09  | 8058.28  | 84031.86 | 31.2  | 3.7 | 321 | 0.15 | 2.7  | 1.1  |
| 034 | 13  | 155104.33  | 9020.21  | 84026.84 | 20.1  | 3.7 | 232 | 0.44 | 4.6  | 13.1 |
| 035 | 13  | 162311.33  | 8058.00  | 84037.98 | 37.0  | 3.0 | 313 | 0.24 | 4.9  | 1.5  |
| 036 | 13  | 165302.81  | 9025.77  | 84017.89 | 30.0  | 3.4 | 207 | 0.40 | 4.4  | 4.5  |
| 037 | 14  | 015456.85  | 9023.16  | 83046.96 | 37.4  | 3.2 | 268 | 0.28 | 2.2  | 1.8  |
| 038 | 14  | 033004.46  | 8053.06  | 84041.56 | 31.1  | 3.7 | 269 | 0.45 | 4.7  | 3.8  |

# NOVIEMBRE 1990.

| Nº  | DIA | TIEMPO     | OR. | LATITUD  | LONGITUD | PROF  | MAG | GAP | RMS  | ERH  | ERZ  |
|-----|-----|------------|-----|----------|----------|-------|-----|-----|------|------|------|
| 039 | 14  | 034222.20  |     | 8949.92  | 84940.24 | 30.4  | 3.8 | 319 | 0.31 | 5.7  | 2.2  |
| 040 | 14  | 044431.36  |     | 9921.47  | 84925.47 | 26.5  | 3.4 | 283 | 0.43 | 7.0  | 6.2  |
| 041 | 14  | 222509.44  |     | 9945.32  | 83952.25 | 6.4   | 2.5 | 118 | 0.40 | 2.1  | 2.4  |
| 042 | 15  | 050009.23  |     | 8947.50  | 84935.70 | 30.0  | 3.2 | 319 | 0.47 | 13.8 | 6.2  |
| 043 | 15  | 174910.88  |     | 10933.03 | 84940.05 | 111.5 | 3.2 | 328 | 0.17 | 4.3  | 2.2  |
| 044 | 15  | 200639.51  |     | 8927.04  | 83942.72 | 26.5  | 3.7 | 314 | 0.11 | 3.9  | 1.2  |
| 045 | 16  | 053929.83  |     | 9918.57  | 84937.11 | 30.1  | 3.6 | 234 | 0.35 | 4.1  | 5.5  |
| 046 | 16  | 071928.53  |     | 9918.04  | 84939.36 | 36.1  | 3.7 | 299 | 0.44 | 3.9  | 2.0  |
| 047 | 17  | 063009.68  |     | 8916.21  | 82955.93 | 9.6   | 3.6 | 319 | 0.36 | 5.5  | 10.8 |
| 048 | 17  | 124538.65  |     | 9925.77  | 84924.44 | 11.5  | 3.6 | 266 | 0.14 | 2.3  | 2.6  |
| 049 | 17  | 130145.55  |     | 9916.63  | 84920.24 | 23.3  | 3.2 | 319 | 0.49 | 6.2  | 4.9  |
| 050 | 17  | 222718.47  |     | 9953.19  | 84920.19 | 5.6   | 2.8 | 171 | 0.36 | 1.0  | 2.2  |
| 050 | 17  | 222801.24  |     | 9949.99  | 84915.66 | 19.5  | 2.8 | 256 | 0.23 | 2.5  | 4.2  |
| 052 | 17  | 230327.26* |     | 9936.82  | 83942.44 | 10.7  | 4.2 | 92  | 0.42 | 1.9  | 3.3* |
| 053 | 18  | 012652.04  |     | 9940.40  | 83942.04 | 11.1  | 3.2 | 143 | 0.36 | 1.5  | 2.8  |
| 054 | 18  | 031821.10  |     | 9938.43  | 84947.28 | 10.0  | 3.4 | 288 | 0.14 | 2.0  | 3.9  |
| 055 | 18  | 141736.84  |     | 9935.40  | 84906.82 | 30.0  | 3.2 | 272 | 0.45 | 17.1 | 11.1 |
| 056 | 19  | 011011.02  |     | 9952.31  | 84918.65 | 6.2   | 3.3 | 165 | 0.35 | 3.3  | 9.1  |
| 057 | 19  | 033702.66  |     | 9947.76  | 84917.57 | 20.4  | 2.8 | 231 | 0.50 | 1.8  | 4.8  |
| 058 | 19  | 050036.88* |     | 9936.25  | 83942.25 | 10.3  | 4.2 | 92  | 0.41 | 2.2  | 2.1* |
| 059 | 19  | 090924.11  |     | 9939.30  | 83939.94 | 2.2   | 2.7 | 250 | 0.43 | 3.7  | 2.9  |
| 060 | 19  | 091009.24  |     | 9939.62  | 83942.13 | 4.2   | 2.7 | 230 | 0.37 | 5.7  | 1.9  |
| 061 | 19  | 093912.82  |     | 9939.12  | 83940.38 | 5.8   | 2.7 | 179 | 0.26 | 1.6  | 1.1  |
| 062 | 19  | 102003.09  |     | 9936.92  | 83940.70 | 10.0  | 3.2 | 201 | 0.41 | 3.5  | 5.2  |
| 063 | 19  | 102454.51  |     | 9939.37  | 83942.64 | 3.9   | 3.0 | 225 | 0.29 | 4.7  | 1.9  |
| 064 | 19  | 111345.48  |     | 9937.92  | 83940.73 | 11.3  | 3.9 | 179 | 0.26 | 2.4  | 2.2  |
| 065 | 19  | 112535.09  |     | 9938.79  | 83944.12 | 5.2   | 2.5 | 207 | 0.34 | 3.1  | 2.3  |
| 066 | 19  | 115419.52  |     | 9938.40  | 83938.85 | 3.2   | 2.7 | 261 | 0.40 | 4.1  | 2.5  |
| 067 | 19  | 140241.13  |     | 9941.41  | 83946.36 | 12.4  | 3.0 | 238 | 0.13 | 3.0  | 2.6  |
| 068 | 19  | 191334.50  |     | 9937.82  | 83937.25 | 15.7  | 3.0 | 272 | 0.48 | 5.5  | 2.9  |
| 069 | 19  | 203646.20  |     | 9933.90  | 84919.67 | 15.0  | 3.3 | 256 | 0.58 | 3.0  | 1.5  |
| 070 | 20  | 003743.07  |     | 9928.42  | 84924.48 | 4.4   | 3.6 | 256 | 0.40 | 0.3  | 0.6  |
| 071 | 20  | 134918.28  |     | 9936.94  | 83942.62 | 15.0  | 3.3 | 197 | 0.21 | 3.1  | 6.2  |
| 072 | 21  | 085807.80  |     | 9913.00  | 84933.68 | 31.9  | 3.6 | 306 | 0.34 | 4.1  | 5.7  |
| 073 | 23  | 184535.48  |     | 9922.11  | 84935.07 | 35.6  | 3.5 | 224 | 0.41 | 6.5  | 7.5  |
| 074 | 24  | 033217.38  |     | 10926.72 | 85923.07 | 30.6  | 3.9 | 254 | 0.45 | 9.6  | 4.9  |
| 075 | 24  | 052931.27  |     | 10922.45 | 85956.55 | 20.7  | 3.8 | 332 | 0.20 | 6.0  | 2.7  |
| 076 | 24  | 054829.04  |     | 10929.22 | 85952.78 | 3.3   | 4.0 | 320 | 0.31 | 4.9  | 4.8  |
| 077 | 24  | 081347.06  |     | 8955.30  | 84909.47 | 9.7   | 3.6 | 314 | 0.19 | 1.8  | 1.7  |
| 078 | 24  | 231259.38  |     | 8955.49  | 83959.39 | 7.8   | 3.5 | 318 | 0.26 | 2.3  | 3.2  |
| 079 | 25  | 231557.20  |     | 9939.60  | 83944.85 | 5.1   | 2.9 | 298 | 0.24 | 4.1  | 4.1  |
| 080 | 25  | 235351.74  |     | 9936.78  | 83944.52 | 2.6   | 3.5 | 239 | 0.25 | 1.8  | 1.7  |

# BOYDID 01 NOVEMBRE 1990. 34 04 31.1

| Nº  | DIA | TIEMPO | OR.   | LATITUD  | LONGITUD | PROF | MAG | GAP | RMS  | ERH | ERZ |
|-----|-----|--------|-------|----------|----------|------|-----|-----|------|-----|-----|
| 081 | 26  | 0356   | 28.00 | 9249.99  | 84220.31 | 7.6  | 3.3 | 254 | 0.23 | 2.9 | 2.1 |
| 082 | 27  | 0524   | 23.34 | 9217.75  | 84205.44 | 15.0 | 2.9 | 279 | 0.30 | 3.2 | 2.1 |
| 083 | 27  | 0643   | 02.81 | 10215.42 | 85245.78 | 20.3 | 4.0 | 323 | 0.25 | 3.8 | 1.4 |
| 084 | 29  | 0548   | 25.60 | 9252.77  | 84218.84 | 13.3 | 3.1 | 138 | 0.39 | 2.2 | 2.1 |
| 085 | 29  | 0732   | 34.74 | 8248.41  | 83205.15 | 26.4 | 2.9 | 348 | 0.36 | 8.7 | 2.7 |
| 086 | 29  | 2346   | 13.20 | 9238.07  | 83240.34 | 3.7  | 3.1 | 252 | 0.37 | 3.4 | 2.3 |
| 087 | 30  | 0919   | 16.50 | 9231.38  | 84231.46 | 38.6 | 3.5 | 250 | 0.31 | 6.4 | 2.7 |

# PARTE B

## LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS REGIONALES, TELESISMOS Y EVENTOS LOCALES CON $M \geq 4.0$

NOVIEMBRE 1990

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 07  | 145605.00 | eP   | Z    |     |
| URS | 07  | 145606.50 | eP   | Z    |     |
| SRA | 07  | 145603.10 | eP   | Z    |     |

### Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SRA | 07 | 191739.50 | iP | Z | D |
| SJS | 07 | 191738.00 | iP | Z | D |
| ICR | 07 | 171939.00 | eP | Z |   |
| VCR | 07 | 171941.80 | eP | Z |   |

### T lesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 08 | 040502.10 | iP | Z | D |
| LID  | 08 | 040453.00 | eP | Z | + |
| SJS  | 08 | 040458.20 | iP | Z | C |
| URS  | 08 | 040452.70 | iP | Z | C |
| ICR  | 08 | 040453.80 | iP | Z | C |
| LCR2 | 08 | 040457.20 | iP | Z | C |
|      |    | 0465.70   | S  | Z |   |
| PRS  | 08 | 040502.50 | iP | Z | C |
| BUS  | 08 | 040455.20 | iP | Z | C |
| SRA  | 08 | 040504.40 | iP | Z | D |

7 Km, al Norte de Moravia de Chirripo, Cartago Costa Rica MD= 4.1

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 09 | 173144.10 | eP | Z |   |
| QCR  | 09 | 173133.10 | iP | Z | C |
|      |    | 3142.30   | S  | Z |   |
| PRS  | 09 | 173138.00 | iP | Z | C |
|      |    | 3152.20   | S  | Z |   |
| LCR2 | 09 | 173138.85 | eP | Z |   |
| SRA  | 09 | 173140.50 | iP | Z | D |
| URS  | 09 | 173142.00 | eP | Z | D |
| ARG  | 09 | 173146.50 | eP | Z |   |
| VCR  | 09 | 173145.80 | eP | Z |   |

78 Km, al Suroeste de Quepos Puntarenas, Costa Rica, MD= 4.0

# NOVIEMBRE 1990

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 09  | 211158.55 | iP   | Z    | C   |
| QCR | 09  | 211149.90 | iP   | Z    | D   |
| BUS | 09  | 211154.60 | iP   | Z    | C   |
| PRS | 09  | 211157.60 | iP   | Z    | C   |
| URS | 09  | 211158.50 | iP   | Z    | D   |
|     |     | 1171.50   | S    | Z    |     |
| SRA | 09  | 211200.90 | iP   | Z    | D   |
| ARE | 09  | 211208.35 | iP   | Z    | C   |
| VCR | 09  | 211209.50 | iP   | Z    | C   |

56 Km, al Sur de Quepos Puntarenas, Costa Rica, MD= 4.6

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 11 | 043235.00 | iP | Z | D |
| QCR | 11 | 043237.00 | iP | Z | D |
| SRA | 11 | 043241.50 | eP | Z | D |

Telesismo.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 12 | 132440.80 | iP | Z | C |
| SRA | 12 | 132439.80 | iP | Z | C |

Telesismo.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 13 | 004901.90 | iP | Z | C |
| LCR2 | 13 | 004904.70 | eP | Z |   |
| BUS  | 13 | 004907.40 | iP | Z | C |
| PRS  | 13 | 004904.55 | iP | Z | D |
| QCR  | 13 | 004910.30 | iP | Z | D |
| ACR  | 13 | 004922.20 | eP | Z |   |
| VCR  | 13 | 004920.00 | iP | Z | C |
| ICR  | 13 | 004900.70 | iP | Z | D |
| URS  | 13 | 004902.85 | iP | Z | D |
| LIO  | 13 | 004904.80 | eP | Z |   |

30 Km, Suroeste de Barra del Colorado, Limón Costa Rica, MD= 4.8

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 17 | 230337.30 | iP | Z | D |
|      |    | 0343.00   | S  | Z |   |
| LIO  | 17 | 230341.60 | eP | Z | D |
|      |    | 0351.10   | S  | Z |   |
| VCR  | 17 | 230401.90 | iP | Z | C |
| BUS  | 17 | 230330.50 | iP | Z |   |
| QCR  | 17 | 230337.80 | iP | Z |   |
| URS  | 17 | 230332.70 | iP | Z | D |
| LCR2 | 17 | 230334.70 | iP | Z |   |
| ICR  | 17 | 230335.75 | iP | Z | D |

7.0 Km, Deste de Jacó, Puntarenas Costa Rica, MD= 4.2

# NOVIEMBRE 1990

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 18  | 203303.80 | iP   | Z    | D   |
| SRA | 18  | 203307.40 | eP   | Z    | D   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 19 | 090046.70 | iP | Z | D |
| BUS  | 19 | 090040.20 | iP | Z | C |
| QCR  | 19 | 090047.50 | iP | Z | D |
| ACR  | 19 | 090057.00 | iP | Z | C |
|      |    | 0072.00   | S  | Z |   |
| LID  | 19 | 090051.40 | iP | Z | D |
| VCR  | 19 | 090111.60 | iP | Z | D |
|      |    | 0138.00   | S  | Z |   |
| LCR2 | 19 | 090044.00 | iP | Z | C |
| URS  | 19 | 090042.10 | iP | Z | C |
| SRA  | 19 | 090053.25 | iP | Z | D |

12 Km, al Norte de División Cartago, Costa Rica, MD= 4.2

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJL  | 19 | 164210.80 | iP | Z | D |
| LCR2 | 19 | 164205.90 | iP | Z |   |
| BUS  | 19 | 164200.90 | iP | Z |   |
| QCR  | 19 | 164203.40 | iP | Z |   |

Regional.

|      |    |           |    |   |  |
|------|----|-----------|----|---|--|
| SJS  | 22 | 130027.00 | eP | Z |  |
| LCR2 | 22 | 130022.00 | eP | Z |  |
| URS  | 22 | 130023.00 | eP | Z |  |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 22 | 142953.30 | eP | Z | C |
| LCR2 | 22 | 142951.00 | eP | Z |   |
| URS  | 22 | 142951.00 | eP | Z |   |
| SRA  | 22 | 142956.40 | eP | Z |   |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 23 | 080129.20 | eP | Z | C |
| LCR2 | 23 | 080129.70 | eP | Z | C |
| URS  | 23 | 080130.10 | eP | Z | C |
| BUS  | 23 | 080130.50 | eP | Z | C |
| VCR  | 23 | 080124.90 | eP | Z | D |
| SRA  | 23 | 080127.50 | eP | Z | C |

Regional.

# NOVIEMBRE 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 23  | 223755.00 | iP   | Z    | C   |
| LCR2 | 23  | 223753.80 | eP   | Z    | C   |
| URS  | 23  | 223751.70 | eP   | Z    | C   |
| BUS  | 23  | 223749.20 | eP   | Z    | C   |
| VCR  | 23  | 223813.80 | eP   | Z    | C   |
| QCR  | 23  | 223752.80 | eP   | Z    | C   |
| SRA  | 23  | 223801.30 | eP   | Z    | C   |

Colombia, MB= 5.8

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 24 | 054903.90 | eP | Z | D |
| LCR2 | 24 | 054905.40 | eP | Z |   |
| PRS  | 24 | 054901.10 | eP | Z |   |
| BUS  | 24 | 054910.10 | eP | Z |   |
| VCR  | 24 | 054838.40 | iP | Z | C |
|      |    | 4845.00   | S  | Z |   |
| SRA  | 24 | 054856.50 | eP | Z | D |

8 Km, al Noroeste de Punta Salinas, Costa Rica, MD= 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 24 | 095823.70 | eP | Z |   |
| ICR  | 24 | 095823.00 | eP | Z |   |
| LCR2 | 24 | 095819.20 | iP | Z | C |
|      |    | 5856.20   | S  | Z |   |
| URS  | 24 | 095820.10 | eP | Z |   |
| PRS  | 24 | 095822.10 | eP | Z |   |
| BUS  | 24 | 095815.70 | iP | Z | C |
| QCR  | 24 | 095820.10 | iP | Z | C |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 25 | 123608.50 | eP | Z | C |
| URS | 25 | 123604.60 | eP | Z |   |
| BUS | 25 | 123602.50 | eP | Z |   |

Frontera Perú - Ecuador, MB= 5.0

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 25 | 182331.00 | eP | Z |   |
| PRS | 25 | 182329.20 | eP | Z |   |
| BUS | 25 | 182336.40 | eP | Z |   |
| QCR | 25 | 182337.00 | eP | Z |   |
| VCR | 25 | 182307.10 | iP | Z | C |
| SRA | 25 | 182324.80 | eP | Z |   |

Regional.

# NOVIEMBRE 1990

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 25  | 183534.80 | eP   | Z    |     |
| VCR | 25  | 183510.00 | iP   | Z    | C   |
| BUS | 25  | 183539.80 | eP   | Z    |     |
| SRA | 25  | 183528.25 | eP   | Z    |     |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 27 | 064333.00 | eP | Z | C |
|      |    | 4355.90   | S  | Z |   |
| ICR  | 27 | 064337.00 | eP | Z |   |
| LCR2 | 27 | 064334.50 | eP | Z |   |
|      |    | 4358.00   | S  | Z |   |
| PRS  | 27 | 064329.10 | eP | Z |   |
| URS  | 27 | 064337.50 | eP | Z | D |
|      |    | 4365.20   | S  | Z |   |
| VCR  | 27 | 064308.40 | iP | Z | C |
|      |    | 4311.90   | S  | Z |   |
| SRA  | 27 | 064326.80 | iP | Z | D |

18 Km, al Oeste de Santa Cruz Guanacaste, Costa Rica, MD= 4.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 28 | 163156.50 | eP | Z |   |
| PRS  | 28 | 163154.30 | eP | Z |   |
| URS  | 28 | 163201.00 | iP | Z | D |
| ICR  | 28 | 163158.90 | eP | Z |   |
| LCR2 | 28 | 163158.00 | eP | Z |   |
| FOR  | 28 | 163159.30 | eP | Z | C |
| VCR  | 28 | 163137.00 | iP | Z | D |
| BUS  | 28 | 163201.60 | eP | Z | D |
| SRA  | 28 | 163149.70 | eP | Z | D |

Regional.

PGM ANASIS 2.0

Diseño:

Guillermo A Avila R

FEC m:02-11-1990

FEC M:30-11-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:NOV90

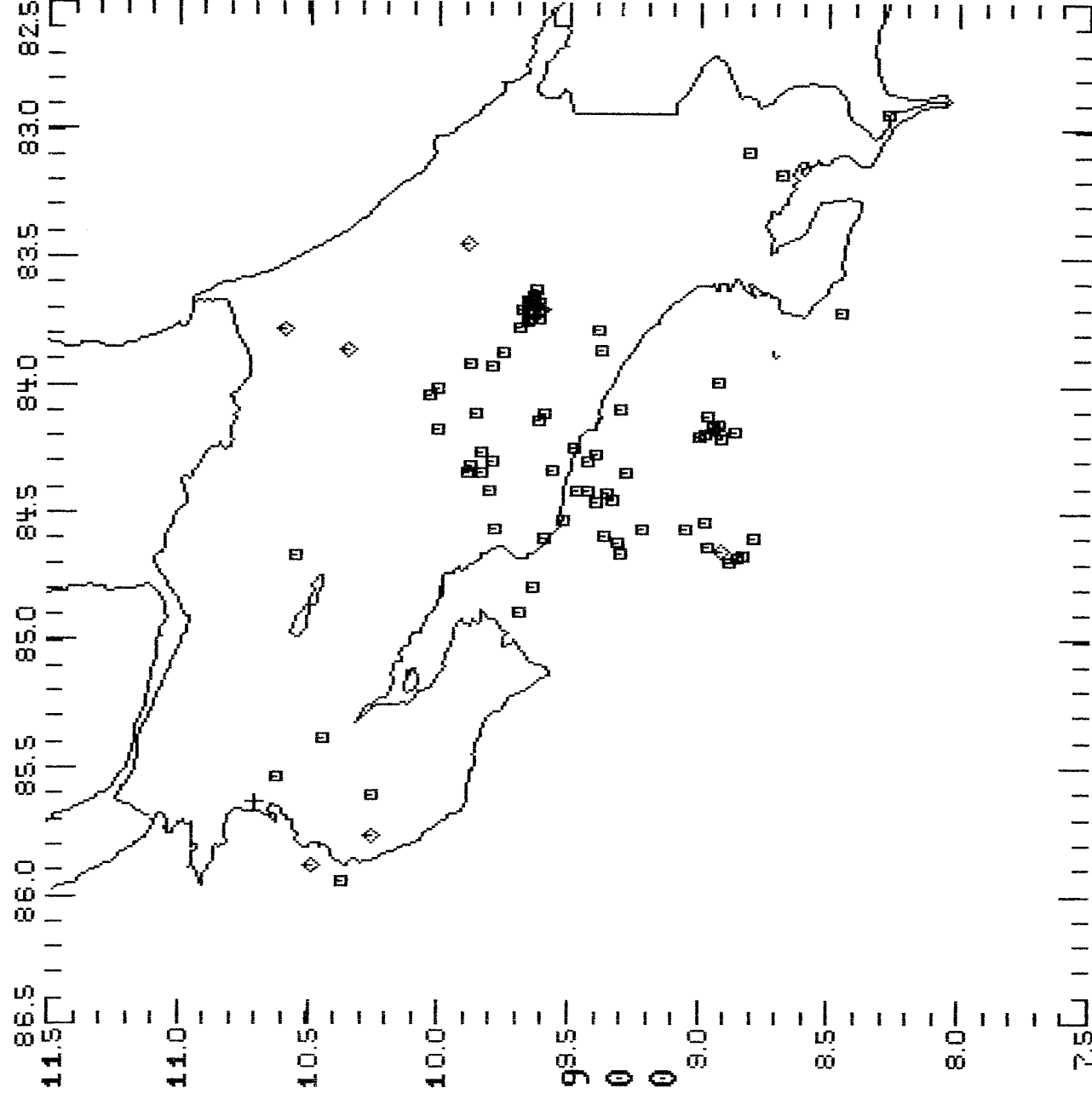
N SIS: 87

M<3.9: 77 4<M<5:

5<M<6: 1 6<M<7:

7<M<8: 0 M>8 :

RED SISMOLOGICA NACIONAL, ICE-UCR  
MAPA DE EPICENTROS DE COSTA RICA



# PARAMETROS DE LOS EVENTOS

## LOCALIZADOS

DICIEMBRE 1990.

| Nº  | DIA | TIEMPO     | OR.      | LATITUD  | LONGITUD | PROF | MAG | GAP  | RMS  | ERH  | ERZ |
|-----|-----|------------|----------|----------|----------|------|-----|------|------|------|-----|
| 001 | 01  | 231603.48  | 10912.80 | 84905.80 | 10.6     | 2.7  | 242 | 0.45 | 5.9  | 9.4  |     |
| 002 | 02  | 051226.11  | 8943.78  | 84909.15 | 32.4     | 3.5  | 329 | 0.20 | 7.7  | 2.3  |     |
| 003 | 02  | 172606.30  | 8958.01  | 83959.52 | 30.3     | 3.2  | 324 | 0.34 | 3.7  | 6.6  |     |
| 004 | 02  | 184338.79  | 7901.86  | 82955.51 | 2.5      | 4.1  | 338 | 0.31 | ***  | ***  |     |
| 005 | 02  | 215225.30  | 9957.24  | 84916.67 | 14.7     | 3.2  | 179 | 0.43 | 5.9  | 4.7  |     |
| 006 | 04  | 080241.49* | 10921.28 | 84957.74 | 110.5    | 4.8  | 139 | 0.64 | 9.5  | 6.5* |     |
| 007 | 04  | 080418.32  | 9957.31  | 84910.85 | 2.4      | 3.6  | 214 | 0.34 | 4.5  | 6.0  |     |
| 008 | 04  | 082629.27  | 10903.60 | 83945.81 | 43.0     | 3.2  | 323 | 0.26 | 7.9  | 2.3  |     |
| 009 | 08  | 122527.25  | 9939.90  | 84900.28 | 57.0     | 2.8  | 100 | 0.38 | 3.3  | 3.4  |     |
| 010 | 09  | 013946.28  | 9949.54  | 84900.28 | 5.0      | 2.4  | 158 | 0.07 | ***  | ***  |     |
| 011 | 09  | 040505.97  | 9956.24  | 83951.52 | 6.1      | 2.8  | 231 | 0.08 | ***  | ***  |     |
| 012 | 10  | 190643.86  | 9957.12  | 84916.89 | 10.5     | 2.9  | 145 | 0.36 | 3.0  | 7.9  |     |
| 013 | 10  | 191907.64  | 9954.99  | 84918.20 | 5.3      | 2.6  | 161 | 0.08 | ***  | **   |     |
| 014 | 11  | 181155.17  | 9952.71  | 84918.84 | 3.1      | 2.8  | 151 | 0.45 | 5.6  | 6.2  |     |
| 015 | 12  | 173333.22  | 9911.42  | 83249.76 | 14.7     | 3.1  | 294 | 0.28 | 3.2  | 2.3  |     |
| 016 | 13  | 095457.24  | 8912.73  | 83913.27 | 4.4      | 3.5  | 315 | 0.42 | ***  | ***  |     |
| 017 | 13  | 224632.18  | 9924.95  | 83956.53 | 47.6     | 2.6  | 138 | 0.23 | 2.5  | 2.9  |     |
| 018 | 14  | 040437.85  | 9951.70  | 84917.70 | 7.0      | 3.1  | 107 | 0.18 | 0.9  | 0.8  |     |
| 019 | 16  | 102646.99  | 9925.77  | 84925.01 | 20.9     | 3.0  | 267 | 0.28 | 3.3  | 6.5  |     |
| 020 | 17  | 021644.42  | 9925.56  | 83955.16 | 53.9     | 3.4  | 219 | 0.17 | 2.5  | 2.6  |     |
| 021 | 17  | 060629.40  | 8911.30  | 82955.54 | 3.5      | 3.3  | 343 | 0.44 | 9.9  | 6.2  |     |
| 022 | 17  | 123418.63  | 7902.98  | 82925.80 | 2.4      | 5.0  | 339 | 0.34 | 12.6 | 5.5  |     |
| 023 | 17  | 130013.93  | 8919.66  | 83921.75 | 18.3     | 3.6  | 293 | 0.10 | 6.6  | 2.1  |     |
| 024 | 17  | 164112.42  | 9922.48  | 84924.18 | 22.8     | 3.0  | 224 | 0.31 | 4.1  | 4.1  |     |
| 025 | 18  | 062104.22  | 9925.99  | 83958.35 | 52.5     | 2.7  | 208 | 0.46 | 4.9  | 4.6  |     |
| 026 | 18  | 071900.41  | 9954.30  | 84918.84 | 8.0      | 2.9  | 145 | 0.48 | 4.3  | 7.3  |     |
| 027 | 18  | 114036.84  | 9900.09  | 84907.31 | 13.4     | 2.9  | 310 | 0.41 | 5.5  | 4.9  |     |
| 028 | 18  | 134718.87  | 9949.92  | 84920.59 | 9.7      | 2.9  | 127 | 0.39 | 2.8  | 2.1  |     |
| 029 | 19  | 140751.31  | 10937.09 | 84931.11 | 13.9     | 4.5  | 336 | 0.30 | 8.3  | 4.4  |     |
| 030 | 21  | 131638.04  | 9933.92  | 83941.73 | 1.4      | 2.8  | 236 | 0.20 | 1.0  | 0.8  |     |
| 031 | 21  | 212132.75  | 9938.27  | 83941.60 | 2.3      | 2.6  | 240 | 0.30 | 3.2  | 2.2  |     |
| 032 | 21  | 220417.45  | 9938.41  | 83941.73 | 5.4      | 3.0  | 238 | 0.07 | 1.8  | 0.9  |     |
| 033 | 22  | 151858.35  | 9949.57  | 83958.08 | 6.8      | 2.4  | 181 | 0.15 | 2.5  | 1.8  |     |
| 034 | 22  | 152750.32  | 9948.68  | 84906.68 | 10.0     | 2.3  | 261 | 0.05 | ***  | ***  |     |
| 035 | 22  | 172754.34* | 9954.65  | 84918.84 | 3.7      | 5.7  | 144 | 0.27 | 1.3  | 1.0* |     |
| 036 | 22  | 172845.61  | 9951.34  | 84918.77 | 5.0      | 5.0  | 270 | 0.26 | 4.2  | 2.0  |     |
| 037 | 22  | 173656.91  | 9953.98  | 84919.24 | 5.2      | 4.2  | 272 | 0.26 | 3.8  | 1.9  |     |
| 038 | 22  | 174121.04  | 9956.22  | 84920.27 | 4.0      | 4.2  | 287 | 0.41 | 4.9  | 2.3  |     |
| 039 | 22  | 182450.62  | 9953.66  | 84918.84 | 10.9     | 4.6  | 151 | 0.43 | 3.1  | 4.2  |     |

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# D I C I E M B R E 1 9 9 0.

| Nº  | DIA | TIEMPO    | OR. | LATITUD | LONGITUD | PROF | MAG | GAP | RMS  | ERH | ERZ |
|-----|-----|-----------|-----|---------|----------|------|-----|-----|------|-----|-----|
| 040 | 22  | 185426.83 |     | 9254.32 | 84215.79 | 16.0 | 4.3 | 272 | 0.33 | 3.8 | 4.8 |
| 041 | 22  | 185618.55 |     | 9256.71 | 84212.70 | 24.8 | 4.1 | 270 | 0.29 | 8.3 | 3.5 |
| 042 | 22  | 191355.96 |     | 9250.27 | 84208.81 | 23.0 | 3.6 | 220 | 0.19 | 3.2 | 2.9 |
| 043 | 22  | 193058.63 |     | 9252.74 | 84213.27 | 21.9 | 3.3 | 257 | 0.28 | 2.8 | 3.1 |
| 044 | 22  | 195327.73 |     | 9250.73 | 84211.58 | 15.4 | 3.5 | 239 | 0.39 | 3.4 | 3.6 |
| 045 | 22  | 202859.60 |     | 9251.35 | 84220.48 | 6.7  | 3.6 | 276 | 0.34 | 5.6 | 2.2 |
| 046 | 22  | 203646.74 |     | 9253.42 | 84218.84 | 12.0 | 3.3 | 262 | 0.31 | 2.4 | 3.1 |
| 047 | 22  | 211510.15 |     | 9254.49 | 84217.25 | 4.8  | 3.9 | 236 | 0.29 | 2.6 | 1.1 |
| 048 | 22  | 213600.27 |     | 9252.89 | 84215.47 | 19.7 | 3.3 | 266 | 0.32 | 4.9 | 5.0 |
| 049 | 22  | 214407.07 |     | 9253.58 | 84216.04 | 5.0  | 3.8 | 209 | 0.21 | 3.8 | 2.0 |
| 050 | 22  | 220217.05 |     | 9253.48 | 84217.83 | 4.0  | 4.0 | 237 | 0.24 | 2.8 | 0.9 |
| 051 | 22  | 222530.33 |     | 9250.10 | 84219.62 | 7.6  | 3.6 | 239 | 0.35 | 4.2 | 4.4 |
| 052 | 22  | 231015.50 |     | 9251.35 | 84218.71 | 5.5  | 4.0 | 236 | 0.32 | 5.1 | 2.8 |
| 053 | 22  | 232954.45 |     | 9253.75 | 84219.88 | 3.7  | 3.7 | 280 | 0.31 | 2.9 | 1.2 |
| 054 | 22  | 003104.13 |     | 9254.32 | 84219.10 | 10.5 | 3.2 | 151 | 0.37 | 1.6 | 3.7 |
| 055 | 23  | 014034.04 |     | 9254.38 | 84220.86 | 17.1 | 3.9 | 171 | 0.24 | 2.8 | 8.5 |
| 056 | 23  | 012827.85 |     | 9254.16 | 84218.68 | 3.0  | 3.3 | 160 | 0.39 | 1.8 | 2.3 |
| 057 | 23  | 020413.71 |     | 9248.87 | 84217.31 | 3.3  | 3.8 | 167 | 0.28 | 1.5 | 1.9 |
| 058 | 23  | 050220.50 |     | 9255.52 | 84219.74 | 6.4  | 3.3 | 161 | 0.37 | 3.5 | 7.5 |
| 059 | 23  | 052736.74 |     | 9254.64 | 84218.84 | 5.0  | 3.4 | 144 | 0.21 | 2.4 | 2.1 |
| 060 | 23  | 054626.23 |     | 9251.69 | 84218.84 | 12.0 | 3.8 | 119 | 0.37 | 1.8 | 1.8 |
| 061 | 23  | 063413.93 |     | 9259.30 | 84238.15 | 0.6  | 3.4 | 312 | 0.21 | *** | *** |
| 062 | 23  | 070418.74 |     | 9252.43 | 84218.96 | 6.1  | 3.0 | 166 | 0.33 | 1.4 | 4.7 |
| 063 | 23  | 075256.30 |     | 9253.07 | 84221.05 | 5.0  | 3.0 | 176 | 0.29 | 2.2 | 1.2 |
| 064 | 23  | 084119.72 |     | 9252.95 | 84219.45 | 4.0  | 3.4 | 168 | 0.34 | 1.5 | 1.6 |
| 065 | 23  | 085052.10 |     | 9253.00 | 84221.11 | 7.1  | 3.7 | 176 | 0.28 | 1.1 | 2.3 |
| 066 | 23  | 104540.44 |     | 9250.30 | 84216.27 | 24.7 | 3.4 | 259 | 0.13 | 4.0 | 6.3 |
| 067 | 23  | 105814.48 |     | 9251.35 | 84216.56 | 5.2  | 3.3 | 264 | 0.25 | 2.6 | 2.0 |
| 068 | 23  | 122646.92 |     | 9225.01 | 84214.10 | 16.4 | 3.6 | 298 | 0.12 | 1.2 | 1.3 |
| 069 | 23  | 124020.65 |     | 9252.71 | 84215.80 | 24.7 | 3.4 | 266 | 0.32 | 4.3 | 4.3 |
| 070 | 23  | 124618.56 |     | 9253.42 | 84217.20 | 4.3  | 3.4 | 223 | 0.34 | 3.0 | 1.4 |
| 071 | 23  | 130642.80 |     | 9251.66 | 84220.36 | 7.5  | 3.1 | 276 | 0.23 | 2.6 | 1.0 |
| 072 | 23  | 144512.28 |     | 9252.71 | 84215.20 | 3.7  | 3.7 | 186 | 0.37 | 3.4 | 2.1 |
| 073 | 23  | 202708.53 |     | 9251.67 | 84221.69 | 9.2  | 3.6 | 319 | 0.24 | 4.4 | 3.1 |
| 074 | 23  | 212220.75 |     | 9252.83 | 84219.89 | 9.7  | 3.6 | 170 | 0.26 | 1.3 | 2.2 |
| 075 | 23  | 225008.30 |     | 9253.79 | 84220.73 | 9.3  | 3.7 | 172 | 0.32 | 1.5 | 1.6 |
| 076 | 24  | 010634.66 |     | 9250.46 | 84218.42 | 4.3  | 3.4 | 133 | 0.27 | 1.5 | 1.9 |
| 077 | 24  | 023746.25 |     | 9250.42 | 84220.68 | 5.0  | 3.6 | 155 | 0.23 | 1.2 | 0.7 |
| 078 | 24  | 052425.38 |     | 9252.09 | 84218.47 | 4.5  | 3.9 | 97  | 0.35 | 1.9 | 1.8 |
| 079 | 24  | 061108.96 |     | 9251.43 | 84218.98 | 6.5  | 3.2 | 124 | 0.37 | 2.6 | 1.9 |
| 080 | 24  | 084950.63 |     | 9252.18 | 84218.92 | 7.4  | 3.4 | 106 | 0.33 | 2.0 | 3.1 |
| 081 | 24  | 101852.76 |     | 9252.98 | 84219.09 | 6.4  | 3.3 | 94  | 0.26 | 1.8 | 1.3 |

# D I C I E M B R E 1 9 9 0.

| Nº  | DIA | TIEMPO    | OR.      | LATITUD  | LONGITUD | PROF | MAG | GAP  | RMS | ERH | ERZ |
|-----|-----|-----------|----------|----------|----------|------|-----|------|-----|-----|-----|
| 082 | 24  | 133325.64 | 9250.70  | 84220.52 | 5.6      | 3.5  | 149 | 0.25 | 1.8 | 1.2 |     |
| 083 | 24  | 195507.73 | 9252.66  | 84219.62 | 7.3      | 3.2  | 107 | 0.38 | 1.7 | 1.6 |     |
| 084 | 25  | 022502.64 | 9253.18  | 84219.60 | 6.2      | 3.4  | 168 | 0.29 | 1.5 | 0.6 |     |
| 085 | 25  | 104814.29 | 9250.97  | 84219.55 | 6.7      | 3.5  | 173 | 0.39 | 2.3 | 1.6 |     |
| 086 | 25  | 214219.95 | 9253.77  | 84219.55 | 7.2      | 3.6  | 165 | 0.37 | 1.6 | 1.0 |     |
| 087 | 25  | 221057.36 | 10205.89 | 84206.18 | 15.9     | 3.4  | 206 | 0.24 | 2.3 | 1.3 |     |
| 088 | 26  | 061909.46 | 9254.55  | 84219.55 | 5.9      | 4.0  | 159 | 0.26 | 1.3 | 0.6 |     |
| 089 | 26  | 094455.19 | 9252.45  | 84218.91 | 5.4      | 3.5  | 156 | 0.26 | 1.4 | 0.7 |     |
| 090 | 26  | 171423.34 | 9254.55  | 84218.33 | 12.4     | 3.8  | 177 | 0.23 | 2.9 | 2.8 |     |
| 091 | 26  | 221944.26 | 9253.64  | 84216.37 | 3.4      | 3.5  | 195 | 0.09 | 1.3 | 1.1 |     |
| 092 | 27  | 112338.70 | 9252.79  | 84219.55 | 8.5      | 3.4  | 203 | 0.33 | 4.4 | 2.6 |     |
| 093 | 27  | 195757.07 | 9252.61  | 84219.86 | 7.9      | 3.7  | 169 | 0.34 | 2.5 | 4.0 |     |
| 094 | 27  | 195955.25 | 9252.29  | 84218.01 | 11.2     | 4.1  | 271 | 0.17 | 3.0 | 2.2 |     |
| 095 | 27  | 230749.47 | 9253.45  | 84218.84 | 6.0      | 3.9  | 182 | 0.40 | 0.6 | 0.8 |     |
| 096 | 28  | 054419.03 | 9255.76  | 84218.25 | 3.6      | 3.4  | 131 | 0.17 | 0.6 | 1.6 |     |
| 097 | 28  | 130336.65 | 9253.38  | 84219.58 | 4.7      | 3.3  | 112 | 0.18 | 1.0 | 1.7 |     |
| 098 | 28  | 233858.59 | 9253.45  | 84222.66 | 1.4      | 3.5  | 137 | 0.22 | 0.5 | 0.6 |     |
| 099 | 29  | 143716.20 | 9254.79  | 84222.16 | 6.8      | 3.3  | 134 | 0.24 | 2.0 | 2.7 |     |
| 100 | 29  | 155330.64 | 9256.06  | 84218.63 | 7.4      | 3.3  | 132 | 0.33 | 2.7 | 2.5 |     |
| 101 | 29  | 231412.22 | 8238.09  | 84238.09 | 32.1     | 3.7  | 293 | 0.44 | 4.0 | 2.0 |     |
| 102 | 30  | 024016.96 | 9246.74  | 84214.47 | 3.5      | 3.4  | 205 | 0.30 | 1.0 | 1.4 |     |
| 103 | 30  | 081642.70 | 8258.88  | 83254.63 | 25.1     | 4.2  | 287 | 0.29 | 3.6 | 8.5 |     |
| 104 | 30  | 234026.65 | 10231.00 | 86250.44 | 3.6      | 4.5  | 340 | 0.27 | 9.3 | 4.0 |     |
| 105 | 31  | 041643.55 | 9252.61  | 84221.73 | 6.3      | 3.2  | 109 | 0.29 | 1.5 | 0.6 |     |
| 106 | 31  | 114505.91 | 9255.19  | 84218.69 | 9.3      | 3.3  | 123 | 0.28 | 1.2 | 2.3 |     |
| 107 | 31  | 185913.72 | 9256.15  | 84217.24 | 6.7      | 3.4  | 132 | 0.27 | 1.9 | 1.5 |     |

# PARTE B

## LECTURAS DE LOS TIEMPOS DE ARRIBO DE LOS SISMOS

### REGIONALES, TELESISMOS Y EVENTOS LOCALES CON $M \geq 4.0$

DICIEMBRE 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 02  | 184431.00 | iP   | Z    | D   |
|      |     | 4512.00   | S    | Z    |     |
| SRA  | 02  | 184433.00 | eP   | Z    | D   |
| ICR  | 02  | 184430.80 | iP   | Z    | D   |
| LCR2 | 02  | 184427.90 | iP   | Z    |     |
| URS  | 02  | 184428.20 | eP   | Z    | -   |
|      |     | 4506.00   | S    | Z    |     |
| VCR  | 02  | 184442.80 | eP   | Z    | +   |
| QCR  | 02  | 184424.20 | iP   | Z    | D   |
|      |     | 4459.00   | S    | Z    |     |
| ARE  | 02  | 184443.00 | eP   | Z    |     |
| ACR  | 02  | 184409.00 | eP   | Z    |     |
|      |     | 4431.50   | S    | Z    |     |

Sur de Panamá MD= 4.1

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 03 | 004117.80 | eP | Z | C |
| SRA  | 03 | 004124.00 | eP | Z | D |
| ICR  | 03 | 004114.30 | eP | Z | D |
| LCR2 | 03 | 004116.30 | eP | Z |   |
| URS  | 03 | 004113.00 | iP | Z | D |
| VCR  | 03 | 004136.10 | eP | Z | D |

Norte de Colombia, MB= 4.7

|      |    |             |    |   |   |
|------|----|-------------|----|---|---|
| SJS  | 04 | 080304.30   | iP | Z | C |
| LCR2 | 04 | 080306.00   | iP | Z | D |
| ICR  | 04 | 080306.10   | iP | Z | D |
| FRS  | 04 | 080303.10   | iP | Z | D |
| URS  | 04 | 080307.20   | iP | Z | D |
|      |    | 0326.80     | S  | Z |   |
| VCR  | 04 | 080301.00   | iP | Z | D |
| BUS  | 04 | 080309.90   | iP | Z | C |
| QCR  | 04 | 080308.00   | iP | Z | D |
|      |    | 0328.40     | S  | Z |   |
| ARE  | 04 | 080258.30iP | iP | Z | D |
| ACR  | 04 | 080321.50   | iP | Z | D |

8 Km, norte Juntas de Abangares Guanacaste, Costa Rica, MD= 4.8  
Intensidad, III Funtarenas, II San José.

# DICIEMBRE 1990

| EST                                       | DIA | TIEMPO    | FASE | COMP | POL |
|-------------------------------------------|-----|-----------|------|------|-----|
| SJS                                       | 11  | 085914.20 | eP   | Z    |     |
| SRA                                       | 11  | 085909.00 | eP   | Z    |     |
| LCR2                                      | 11  | 085916.00 | eP   | Z    |     |
| QCR                                       | 11  | 085916.10 | eP   | Z    | +   |
| URS                                       | 11  | 085918.50 | eP   | Z    |     |
| El Salvador, MB= 5.0                      |     |           |      |      |     |
| SJS                                       | 13  | 124627.00 | eP   | Z    | C   |
| VCR                                       | 13  | 124623.00 | eP   | Z    | D   |
| URS                                       | 13  | 124627.00 | eP   | Z    |     |
| Telesismo.                                |     |           |      |      |     |
| SJS                                       | 14  | 112714.20 | eP   | Z    | C   |
| URS                                       | 14  | 112713.50 | eP   | Z    |     |
| VCR                                       | 14  | 112720.90 | eP   | Z    |     |
| AR6                                       | 14  | 112723.50 | eP   | Z    |     |
| SRA                                       | 14  | 112717.70 | eP   | Z    | C   |
| Cerca de la Costa Norte del Perú, MB= 5.1 |     |           |      |      |     |
| SJS                                       | 17  | 110116.50 | iP   | Z    | D   |
| PRS                                       | 17  | 110116.30 | eP   | Z    |     |
| ICR                                       | 17  | 110115.90 | iP   | Z    | D   |
| LCR2                                      | 17  | 110113.50 | iP   | Z    | C   |
| SRA                                       | 17  | 110120.10 | iP   | Z    | -   |
| VCR                                       | 17  | 110130.00 | iP   | Z    |     |
| BUS                                       | 17  | 110110.00 | iP   | Z    |     |
| QCR                                       | 17  | 110109.90 | iP   | Z    | C   |
| AR6                                       | 17  | 110128.20 | eP   | Z    |     |
| ACR                                       | 17  | 110053.00 | iP   | Z    | C   |
| Sur de Panamá, MB= 5.9                    |     |           |      |      |     |
| SJS                                       | 17  | 123514.00 | iP   | Z    | D   |
| URS                                       | 17  | 123510.30 | iP   | Z    | C   |
|                                           |     | 3548.80   | S    | Z    |     |
| PRS                                       | 17  | 123514.00 | iP   | Z    | C   |
| LCR2                                      | 17  | 123511.00 | iP   | Z    | C   |
| ACR                                       | 17  | 123450.50 | iP   | Z    | C   |
| AR6                                       | 17  | 123527.00 | iP   | Z    | C   |
| QCR                                       | 17  | 123507.60 | iP   | Z    | C   |
|                                           |     | 3532.50   | S    | Z    |     |
| BUS                                       | 17  | 123507.00 | iP   | Z    | D   |
| VCR                                       | 17  | 123528.80 | iP   | Z    | C   |
| ICR                                       | 17  | 123512.90 | iP   | Z    | C   |
| Sur de Panamá, MD= 5.0                    |     |           |      |      |     |

**DICIEMBRE 1990**

| EST       | DIA | TIEMPO    | FASE | COMP | POL |
|-----------|-----|-----------|------|------|-----|
| SJS       | 18  | 033731.50 | eP   | Z    | C   |
| LCR2      | 18  | 033731.80 | eP   | Z    |     |
| SRA       | 18  | 033724.00 | iP   | Z    | C   |
| AR6       | 18  | 033712.00 | eP   | Z    |     |
| QCR       | 18  | 033734.50 | eP   | Z    |     |
| VCR       | 18  | 033706.90 | iP   | Z    | D   |
| BUS       | 18  | 033736.80 | eP   | Z    |     |
| Regional. |     |           |      |      |     |
| SJS       | 18  | 034338.00 | eP   | Z    |     |
| LCR2      | 18  | 034338.00 | eP   | Z    |     |
| SRA       | 18  | 034330.50 | eP   | Z    |     |
| AR6       | 18  | 034324.00 | eP   | Z    |     |
| QCR       | 18  | 034343.50 | eP   | Z    |     |
| VCR       | 18  | 034312.80 | iP   | Z    | D   |
| Regional. |     |           |      |      |     |
| SJS       | 18  | 040800.00 | eP   | Z    | D   |
|           |     | 0844.00   | S    | Z    |     |
| LCR2      | 18  | 040800.30 | eP   | Z    |     |
| SRA       | 18  | 040724.00 | eP   | Z    | C   |
| AR6       | 18  | 040745.00 | eP   | Z    |     |
| QCR       | 18  | 040803.00 | eP   | Z    |     |
| VCR       | 18  | 080735.00 | iP   | Z    | C   |
| BUS       | 18  | 040803.00 | eP   | Z    |     |
| Regional. |     |           |      |      |     |
| SJS       | 18  | 212519.00 | eP   | Z    | +   |
| SRA       | 18  | 212521.60 | eP   | Z    | D   |
| ICR       | 18  | 212519.80 | eP   | Z    | +   |
| LCR2      | 18  | 212515.20 | iP   | Z    | D   |
| BUS       | 18  | 212512.60 | iP   | Z    | C   |
| VCR       | 18  | 212528.00 | eP   | Z    |     |
| QCR       | 18  | 212511.00 | iP   | Z    | D   |
| Regional. |     |           |      |      |     |
| SJS       | 19  | 014045.30 | iP   | Z    | C   |
| SRA       | 19  | 014047.70 | eP   | Z    |     |
| ICR       | 19  | 014045.40 | iP   | Z    | D   |
| LCR2      | 19  | 014041.50 | iP   | Z    | C   |
| ACR       | 19  | 014022.50 | iP   | Z    | D   |
| BUS       | 19  | 014038.60 | iP   | Z    | C   |
| URS       | 19  | 014044.60 | eP   | Z    |     |
| VCR       | 19  | 014056.00 | eP   | Z    |     |
| QCR       | 19  | 014037.90 | eP   | Z    |     |
| Regional. |     |           |      |      |     |

# DICIEMBRE 1990

| EST  | DIA | SEAT | TIEMPO    | FASE | COMP | POL |
|------|-----|------|-----------|------|------|-----|
| SJS  | 19  |      | 140833.90 | iP   | Z    | C   |
|      |     |      | 0869.00   | S    | Z    |     |
| ICR  | 19  |      | 140837.00 | iP   | Z    | D   |
| LCR2 | 19  |      | 140834.80 | eP   | Z    | D   |
| ACR  | 19  |      | 140852.00 | eP   | Z    | -   |
| BUS  | 19  |      | 140839.20 | eP   | Z    |     |
| VCR  | 19  |      | 140809.95 | iP   | Z    | C   |
| URS  | 19  |      | 140838.20 | eP   | Z    | C   |
| AR6  | 19  |      | 140820.90 | iP   | Z    |     |
| QCR  | 19  |      | 140834.50 | eP   | Z    |     |
|      |     |      | 0866.70   | S    | Z    |     |

95 Km. NO-Deste de Sardinal Guanacaste, Costa Rica, MD= 4.5

|      |    |  |           |    |   |   |
|------|----|--|-----------|----|---|---|
| SJS  | 21 |  | 204618.00 | eP | Z |   |
| ICR  | 21 |  | 204623.50 | eP | Z | D |
| LCR2 | 21 |  | 204620.00 | eP | Z |   |
| QCR  | 21 |  | 204620.90 | iP | Z | C |
|      |    |  | 4685.00   | S  | Z |   |
| VCR  | 21 |  | 204557.80 | iP | Z | D |
| BUS  | 21 |  | 204624.90 | iP | Z | C |
| ACR  | 21 |  | 204638.00 | eP | Z |   |

Regional.

## CARACTERISTICAS DE LOS TRES EVENTOS MAS IMPORTANTES DE PIEDRAS NEGRAS, COSTA RICA.

|      |    |  |           |    |   |   |
|------|----|--|-----------|----|---|---|
| SJS  | 22 |  | 172800.70 | iP | Z | D |
|      |    |  | 2804.55   | S  | Z |   |
| PRS  | 22 |  | 172756.25 | iP | Z | C |
|      |    |  | 2757.40   | S  | Z |   |
| SRA  | 22 |  | 172759.45 | iP | Z | C |
|      |    |  | 2762.95   | S  | Z |   |
| LCR2 | 22 |  | 172801.50 | iP | Z | C |
| ICR  | 22 |  | 172804.60 | eP | Z |   |
| QCR  | 22 |  | 172804.75 | iP | Z | D |
|      |    |  | 2811.75   | S  | Z |   |
| URS  | 22 |  | 172805.20 | iP | Z | C |
| BUS  | 22 |  | 172807.10 | iP | Z | C |
| AR6  | 22 |  | 172810.20 | iP | Z | C |
| LIO  | 22 |  | 172818.20 | eP | Z |   |
| VCR  | 22 |  | 172817.80 | iP | Z | + |
| ACR  | 22 |  | 172823.20 | iP | Z | C |

1 Km al Este de Piedras Negras, Costa Rica, MD= 5.7

Intensidad, VII Alajuela, Atenas, Puriscal, Balsa y Piedras Negras.

# DICIEMBRE 1990

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 22  | 172851.80 | iP   | Z    |     |
| PRS  | 22  | 172846.75 | iP   | Z    |     |
| LCR2 | 22  | 172852.10 | iP   | Z    |     |
| QCR  | 22  | 172855.20 | iP   | Z    |     |
| URS  | 22  | 172856.45 | iP   | Z    |     |
|      |     | 2864.45   | S    | Z    |     |
| LIO  | 22  | 172908.00 | iP   | Z    |     |
|      |     | 2925.00   | S    | Z    |     |

6 Km, al Norte de Puriscal, Costa Rica, MD= 5.0

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 22 | 182456.60 | iP | Z | D |
| PRS  | 22 | 182453.10 | iP | Z |   |
|      |    | 2460.50   | S  | Z |   |
| LCR2 | 22 | 182457.20 | iP | Z |   |
| QCR  | 22 | 182500.80 | iP | Z |   |
| URS  | 22 | 182501.80 | iP | Z |   |
| BUS  | 22 | 182502.90 | iP | Z | C |
| FDR  | 22 | 182504.00 | iP | Z |   |
|      |    | 2513.00   | S  | Z |   |
| ARC  | 22 | 182507.00 | iP | Z | C |
|      |    | 2518.00   | S  | Z |   |
| LIO  | 22 | 182513.30 | eP | Z | C |
| VCR  | 22 | 182513.00 | iP | Z | C |
| ACR  | 22 | 182518.80 | eP | Z | C |

3Km, al Noreste de Puriscal, Costa Rica, MD= 4.6

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| QCR  | 30 | 081652.80 | iP | Z | D |
| BUS  | 30 | 081654.90 | iP | Z | D |
| LCR2 | 30 | 081657.00 | iP | Z | D |
| PRS  | 30 | 081700.80 | iP | Z |   |
| SJS  | 30 | 081700.70 | iP | Z | C |
|      |    | 1713.80   | S  | Z |   |
| ICR  | 30 | 081701.80 | iP | Z | D |
| SRA  | 30 | 081704.40 | iP | Z | C |
|      |    | 1721.90   | S  | Z |   |
| AR6  | 30 | 081713.00 | eP | Z |   |

54 Km, al Sureste de Quepos, Costa Rica, MD= 4.2

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 30 | 193302.10 | eP | Z | D |
| SRA | 30 | 193259.80 | eP | Z |   |
| URS | 30 | 193302.00 | eP | Z |   |

Fuera de la costa de Jalisco, México, MB= 5.2

# DICIEMBRE 1990

| EST  | DIA | TIEMPO    | FASE | COMP | FOL          |
|------|-----|-----------|------|------|--------------|
| SJS  | 30  | 234114.30 | eP   | Z    | +            |
|      |     | 4149.00   | S    | Z    |              |
| ICR  | 30  | 234119.10 | eP   | Z    |              |
| LCR2 | 30  | 234115.30 | iP   | Z    |              |
| SRA  | 30  | 234108.10 | iP   | Z    | D            |
|      |     | 4138.80   | S    | Z    |              |
| AR6  | 30  | 234100.90 | iP   | Z    | C            |
| QCR  | 30  | 234114.20 | eP   | Z    | <del>D</del> |
| VCR  | 30  | 234050.20 | iP   | Z    | D            |
| PRS  | 30  | 234111.10 | eP   | Z    |              |
| URS  | 30  | 234118.40 | iP   | Z    | C            |

110 Km, al Oeste de Punta Zapotal Gunacaste, Costa Rica MD= 4.5

PGM ANASIJ

2.0

Diseño:

Guillermo Á Avila R

FEC m:01-12-1990

FEC M:31-12-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:DIC90

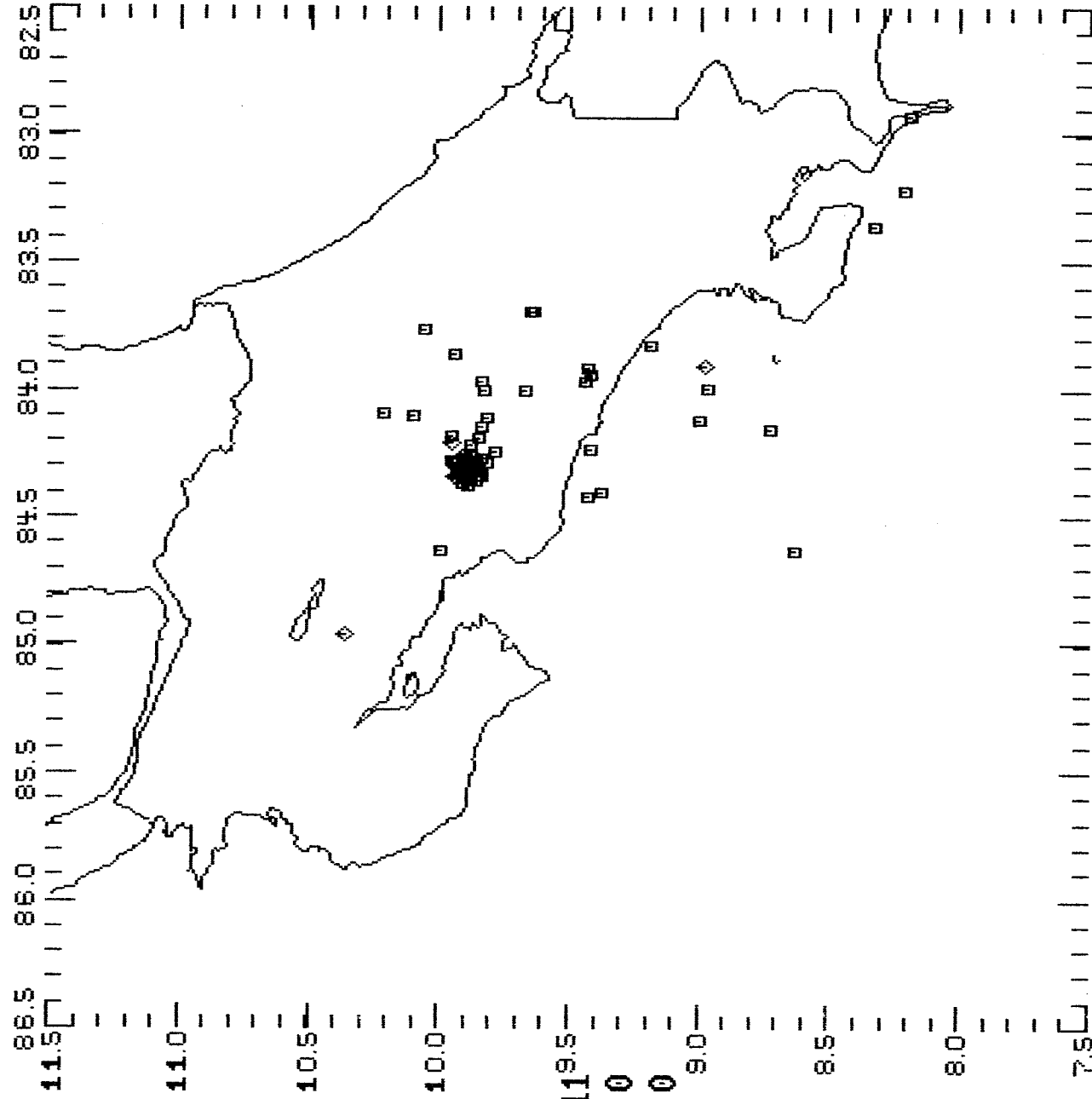
N SIS: 103

M≤3.9: 90 4≤M<5: 11

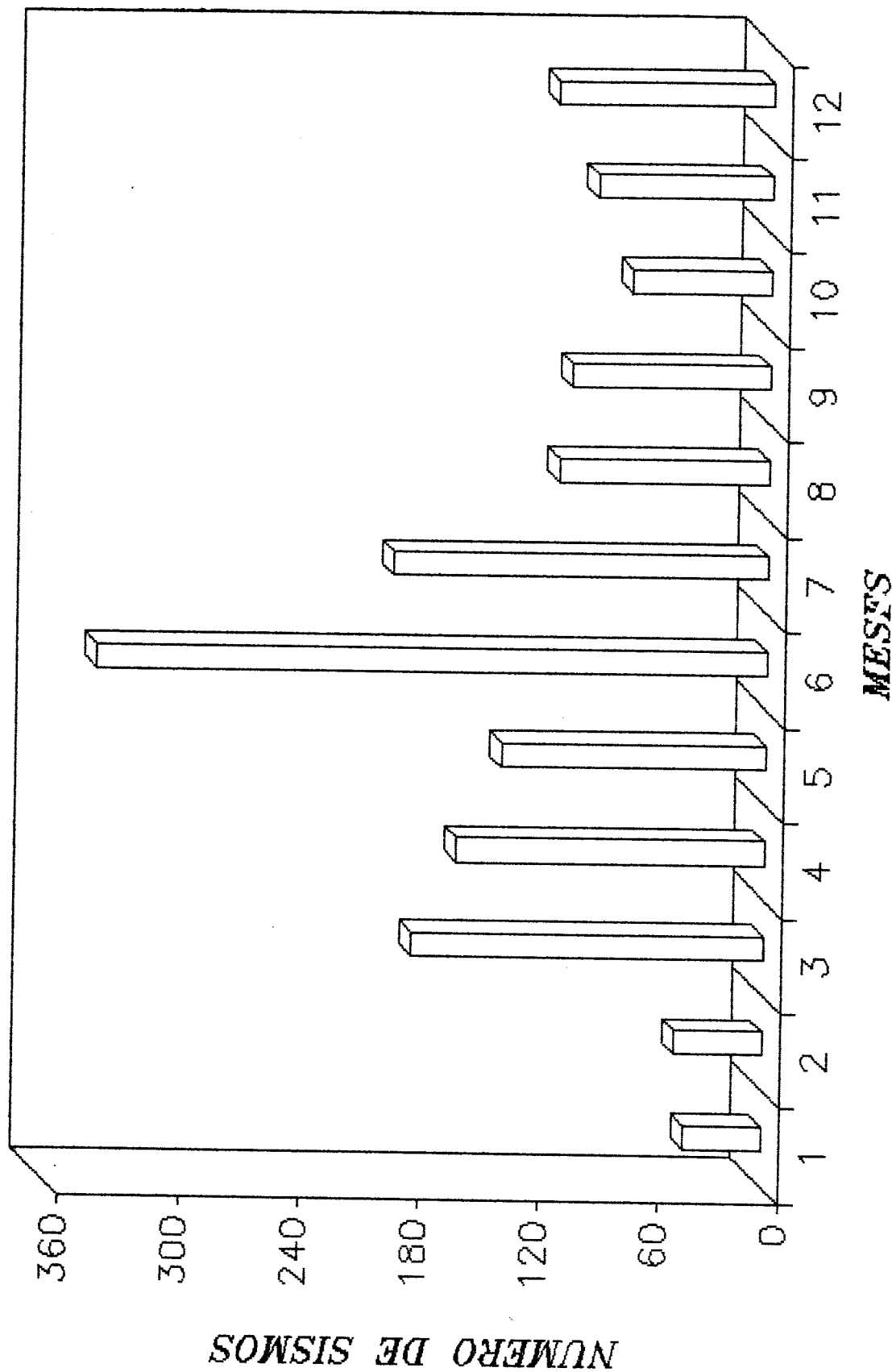
5≤M<6: 2 6≤M<7: 0

7≤M<8: 0 M≥8 : 0

# RED SISMOLOGICA NACIONAL, ICE-UCR MAPA DE EPICENTROS DE COSTA RICA



RED SISMOLOGICA NACIONAL (RSN:ICE-UCR)  
SISMOS REGISTRADOS DURANTE EL AÑO 1990  
TOTAL DE EVENTOS REGISTRADOS 1534



ESTACION BASE PARA LA MAGNITUD (SUS)  
UBICADA EN LA UNIVERSIDAD DE COSTA RICA  
SAN JOSE, COSTA RICA AMERICA CENTRAL

1991 mayo 10 Ver 2.0

Diseño:

Guillermo Ávila R

FEC m:03-01-1990

FEC M:31-12-1990

GMT=00h-24h

LAT= 7.50°-11.50°

LON=82.50°-86.50°

PRF= 0.0- 999.0 Km

MAG= 0.0- 9.9

SIMBOLOGIA:

M=3 □ M=4 ◇ M=5 +

M=6 △ M=7 ▽ M=8 ○

STA \*

BASE.:RSN1990

N SIS:1521

M<3.9:1405 4<M<5: 10395

5<M<6: 12 6<M<7: 1

7<M<8: 0 M≥8 : 0

# RED SISMOLOGICA NACIONAL, ICE-UCR MAPA DE EPICENTROS DE COSTA RICA

