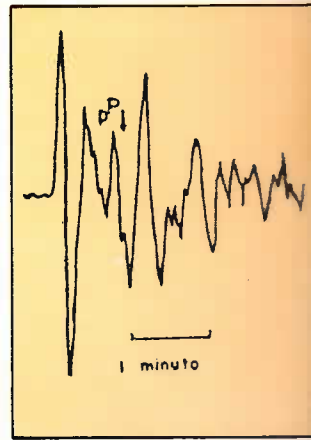
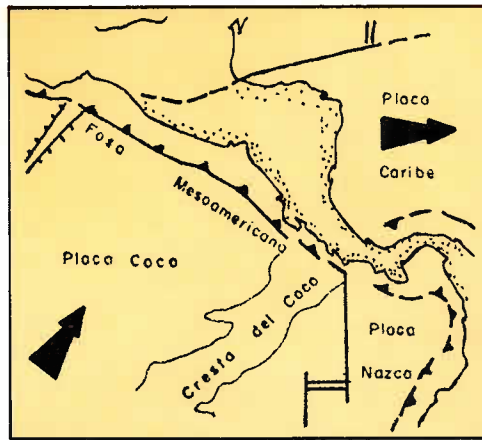
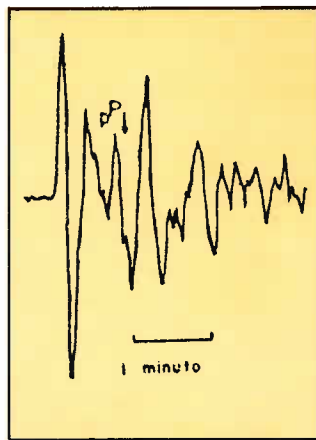
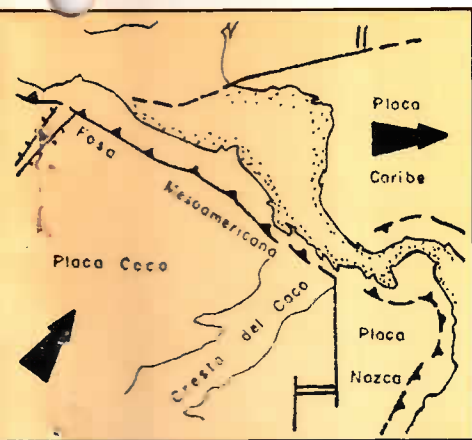


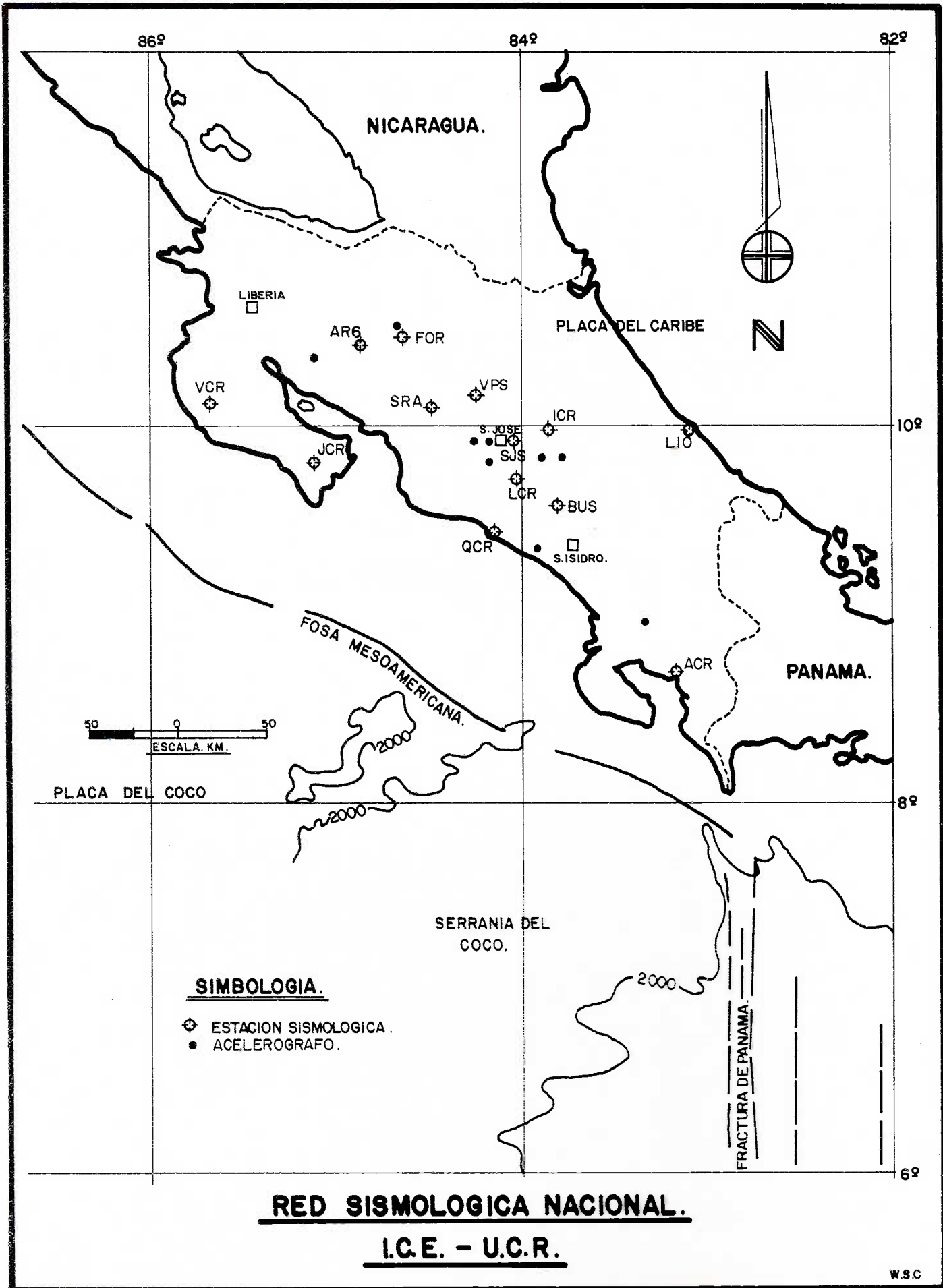


# boletín sismológico

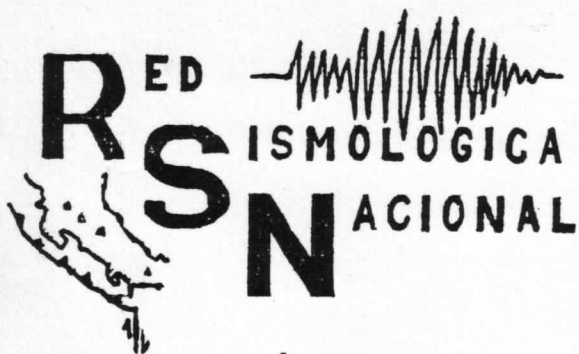
AÑO No. 115 PERIODO 198

## RED SISMOLOGICA NACIONAL (R.S.N) COSTA RICA





**RED SISMOLOGICA NACIONAL.**  
**I.C.E. - U.C.R.**



ICE - U.C.R., COSTA RICA

Sección de Sismología e Ingeniería Sísmica, Departamento  
de Geología, Instituto Costarricense de Electricidad,  
Apdo. 10032-1000 San José

Escuela Centroamericana de Geología  
Universidad de Costa Rica  
Apdo. 35-2060, Cd. Univ. Rodrigo Facio.

BOLETIN MENSUAL

AÑO XIV

No. 113

PERIODO

JUNIO 1989

Contenido

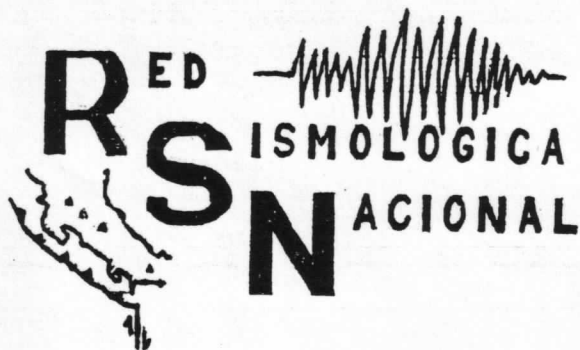
- A : Parámetros sísmicos de los temblores localizados.
- B : Tiempos de arribo de los sismos regionales, telesismos y temblores con  $M_b \geq 4.0$  o reportados como sentidos.

DATOS DE LAS ESTACIONES DE LA RED SISMOLÓGICA NACIONAL (RSN: ICE-UCR)

| ESTACION         | CODIGO | LATITUD  | LONGITUD | ELEVACION |
|------------------|--------|----------|----------|-----------|
| Adams            | ACR    | 8 39.19  | 83 10.08 | 500 m.    |
| Buvis            | BUS    | 9 33.33  | 83 45.49 | 3479 m.   |
| Chiripa          | AR6    | 10 26.75 | 84 54.59 | 1010 m.   |
| Jicaral          | JCR    | 9 50.99  | 85 06.71 | 575 m.    |
| La Lucha 2       | LCR2   | 9 43.95  | 84 00.33 | 1684 m.   |
| Limón            | LIO    | 9 58.78  | 83 05.52 | 60 m.     |
| Quepos           | QCR    | 9 25.67  | 84 09.92 | 45 m.     |
| San Ramón        | SRA    | 10 04.97 | 84 26.80 | 1171 m.   |
| U. de Costa Rica | SJS    | 9 56.35  | 84 03.26 | 1192 m.   |
| Vista de Mar     | VCR    | 10 07.52 | 85 32.87 | 975 m.    |
| Volcán Irazú     | ICR    | 9 58.86  | 83 49.72 | 3305 m.   |
| Volcán Poás 2    | VPS2   | 10 11.29 | 84 14.18 | 2516 m.   |

RED SISMOLÓGICA NACIONAL  
( R S N )

Depto. de Geología (ICE)  
Escuela de Geología (UCR)



Sección de Sismología e Ingeniería Sísmica, Departamento  
de Geología, Instituto Costarricense de Electricidad,  
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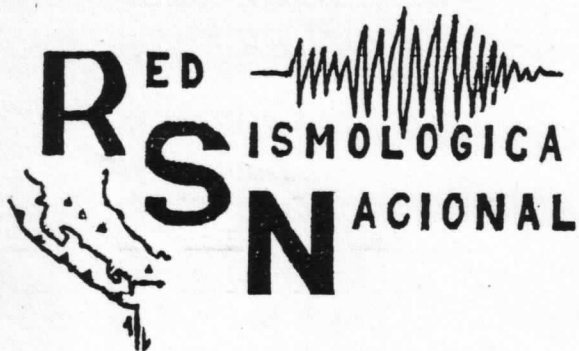
#### EXPLICACION DE LOS DATOS.

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, BUS, LCR2, LIQ, QCR, 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 registró el evento.
2. DIA. : Todas las fechas están reportadas en el tiempo medio de Greenwich (TMG).
3. TIEMPO. : Tiempo de origen (PARTE A) y tiempo de arribo de las fases (PARTE B), están dados en horas, minutos, segundos y décimas de segundo en (TMG).
4. FASE. : Una "i" o "e" precede el nombre de la fase para indicar el carácter 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 en que 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).



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## ICE - U.C.R., COSTA RICA

7. PER. : Si se trata de la estación LCR2, entonces se anota si el dato es de periodo corto (PC), periodo medio (PM), o periodo largo (PL).
8. MAG. (Md) . : La magnitud reportada para los eventos locales, está basada en la duración de la señal sísmica en la estación SJS.
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 HYP071 (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. COMENTARIO : Indica si el epicentro es de sismos locales (con magnitud  $\geq 4.0$ ). Para telesismos v/o regionales, se utiliza el reporte del NEIS. Los regionales se refieren a sismos fuera de las zonas limítrofes de Costa Rica.

PARTE A

S I S M O S L O C A L E S

PARAMETROS DE LOS EVENTOS LOCALIZADOS

JUNIO 1989

| DIA | TIEMPO | OR. | LAT N    | LONG W   | PROF | MAG | GAP | RMS | EH   | EZ   |
|-----|--------|-----|----------|----------|------|-----|-----|-----|------|------|
| 01  | 013130 | .05 | 09 44.05 | 84 07.24 | 34.1 | 3.9 | 174 | .29 | 5.8  | 3.7  |
| 01  | 191237 | .82 | 09 28.55 | 83 01.69 | 24.2 | 3.1 | 256 | .26 | 6.6  | 3.3  |
| 02  | 093919 | .86 | 11 35.93 | 86 04.12 | 50.0 | 4.0 | 340 | .12 | ***  | ***  |
| 02  | 125224 | .51 | 09 34.78 | 83 55.70 | 39.2 | 2.7 | 185 | .22 | 2.7  | 1.8  |
| 03  | 213338 | .13 | 10 07.98 | 83 25.08 | 19.5 | 3.0 | 329 | .27 | 6.5  | 5.5  |
| 03  | 230807 | .76 | 08 50.60 | 83 57.97 | 25.1 | 2.8 | 323 | .33 | 8.3  | 30.7 |
| 03  | 232357 | .60 | 09 41.48 | 85 08.76 | 29.4 | 2.8 | 275 | .43 | 8.2  | 6.5  |
| 03  | 234956 | .64 | 08 52.01 | 83 56.29 | 30.0 | 2.9 | 341 | .14 | 6.5  | 18.2 |
| 04  | 023003 | .73 | 09 34.32 | 83 39.01 | 06.9 | 2.7 | 286 | .15 | 2.7  | 1.9  |
| 05  | 051605 | .05 | 09 16.60 | 83 58.07 | 50.7 | 3.3 | 260 | .37 | 5.6  | 7.7  |
| 06  | 042747 | .30 | 09 35.80 | 84 04.28 | 45.2 | 2.8 | 225 | .18 | 4.2  | 2.8  |
| 06  | 044537 | .55 | 09 39.63 | 84 43.09 | 53.9 | 3.1 | 250 | .24 | 11.2 | 13.9 |
| *06 | 045637 | .56 | 10 05.05 | 84 24.38 | 81.9 | 3.1 | 184 | .46 | ***  | ***  |
| 06  | 122853 | .47 | 09 14.76 | 83 51.89 | 25.5 | 2.5 | 326 | .06 | 1.8  | 3.0  |
| 06  | 123004 | .68 | 09 18.06 | 83 48.16 | 37.8 | 2.4 | 326 | .31 | 6.5  | 4.8  |
| 06  | 185859 | .88 | 09 57.18 | 83 4.52  | 05.1 | 2.1 | 268 | .33 | 1.5  | 1.2  |
| 06  | 231412 | .37 | 09 37.40 | 84 04.15 | 50.4 | 3.0 | 180 | .39 | 3.4  | 3.3  |
| *07 | 204622 | .74 | 09 49.95 | 83 55.25 | 9.1  | 2.1 | 169 | .08 | 0.4  | 0.9  |
| 07  | 071207 | .46 | 09 46.95 | 82 32.11 | 21.1 | 3.0 | 290 | .11 | 2.7  | 1.6  |
| 08  | 082614 | .81 | 09 43.70 | 83 59.06 | 11.2 | 2.4 | 180 | .07 | 1.4  | 2.3  |
| 09  | 162730 | .19 | 09 23.99 | 83 45.52 | 08.8 | 2.9 | 183 | .05 | ***  | ***  |
| 10  | 092901 | .01 | 09 16.89 | 85 16.23 | 87.0 | 3.0 | 342 | .32 | ***  | ***  |
| 10  | 222013 | .70 | 09 58.79 | 83 20.35 | 11.5 | 2.7 | 314 | .17 | 2.9  | 0.7  |
| 11  | 074515 | .70 | 09 35.40 | 85 46.16 | 10.5 | 4.1 | 338 | .42 | 16.0 | 9.5  |
| 11  | 080503 | .05 | 08 06.74 | 82 24.78 | 23.6 | 3.9 | 349 | .35 | ***  | ***  |
| 11  | 143120 | .62 | 09 28.71 | 83 41.67 | 18.1 | 2.8 | 186 | .35 | ***  | ***  |
| *11 | 174412 | .11 | 09 37.42 | 83 38.08 | 04.4 | 2.7 | 270 | .33 | 8.3  | 6.5  |
| *12 | 173216 | .75 | 09 34.03 | 83 37.28 | 10.7 | 2.1 | 292 | .02 | 0.5  | 0.7  |
| 12  | 222443 | .23 | 09 29.73 | 83 38.62 | 13.5 | 3.0 | 172 | .33 | 6.3  | 5.4  |
| 12  | 232502 | .15 | 09 33.52 | 83 37.24 | 24.9 | 3.1 | 296 | .09 | 5.4  | 7.6  |
| 13  | 061714 | .40 | 09 39.93 | 84 51.17 | 49.6 | 2.9 | 308 | .38 | ***  | ***  |
| 13  | 234616 | .07 | 09 35.24 | 83 33.49 | 9.5  | 2.4 | 296 | .10 | 1.8  | 7.8  |
| 14  | 025959 | .86 | 10 33.66 | 85 44.29 | 44.0 | 3.3 | 293 | .08 | 3.6  | 6.3  |
| 14  | 080824 | .31 | 09 33.52 | 83 46.61 | 05.0 | 2.3 | 214 | .11 | ***  | ***  |
| 15  | 193248 | .40 | 07 17.88 | 82 10.84 | 04.2 | 5.2 | 326 | .26 | 8.6  | 4.5  |

JUNIO 1989

| DIA | TIEMPO | DR. | LAT N    | LONG W   | PROF | MAG | GAP | RMS | EH   | EZ   |
|-----|--------|-----|----------|----------|------|-----|-----|-----|------|------|
| 15  | 234350 | .51 | 10 10.64 | 83 54.11 | 15.7 | 3.1 | 248 | .37 | 3.7  | 3.2  |
| *16 | 012037 | .61 | 09 30.28 | 84 02.56 | 43.3 | 3.3 | 238 | .38 | 4.3  | 4.2  |
| 16  | 081003 | .24 | 09 44.14 | 84 40.38 | 84.6 | 2.9 | 240 | .42 | ***  | ***  |
| 16  | 082029 | .51 | 10 06.00 | 84 14.78 | 88.8 | 2.9 | 193 | .25 | 12.2 | 2.7  |
| 17  | 041907 | .45 | 08 07.30 | 83 10.33 | 15.0 | 3.7 | 333 | .30 | 10.4 | 6.2  |
| 18  | 091454 | .78 | 09 41.30 | 84 49.47 | 15.9 | 3.1 | 256 | .13 | 3.2  | 8.6  |
| 18  | 123356 | .78 | 09 24.90 | 83 50.00 | 54.0 | 3.1 | 305 | .23 | 26.7 | 11.1 |
| 19  | 051644 | .75 | 09 16.63 | 83 59.69 | 25.0 | 3.1 | 292 | .46 | 7.2  | 14.8 |
| 20  | 044626 | .92 | 10 29.31 | 86 18.87 | 50.0 | 3.8 | 334 | .31 | ***  | ***  |
| 20  | 134343 | .44 | 10 30.98 | 85 48.18 | 30.0 | 4.0 | 328 | .33 | 21.8 | 9.9  |
| 20  | 232124 | .80 | 09 31.01 | 84 11.71 | 17.2 | 2.8 | 205 | .31 | ***  | ***  |
| 21  | 014130 | .08 | 09 37.54 | 83 19.37 | 13.0 | 3.2 | 226 | .38 | 4.0  | 5.1  |
| 21  | 014614 | .08 | 09 42.60 | 83 12.00 | 22.3 | 3.2 | 149 | .47 | ***  | ***  |
| 21  | 234701 | .75 | 09 35.50 | 84 08.85 | 61.8 | 3.1 | 100 | .34 | 2.6  | 3.4  |
| 22  | 014029 | .10 | 09 29.15 | 84 46.73 | 16.0 | 2.2 | 222 | .01 | 0.8  | 1.2  |
| 22  | 025551 | .84 | 09 54.15 | 84 28.85 | 58.0 | 2.4 | 119 | .27 | 3.9  | 4.1  |
| 22  | 055934 | .06 | 09 31.57 | 83 38.43 | 11.6 | 2.2 | 107 | .44 | 2.9  | 3.9  |
| 22  | 081300 | .99 | 06 26.19 | 82 34.88 | 18.4 | 4.0 | 353 | .22 | ***  | ***  |
| 23  | 082554 | .07 | 09 47.64 | 84 29.04 | 38.7 | 2.3 | 136 | .23 | 1.7  | 3.0  |
| 24  | 141006 | .99 | 11 07.76 | 84 58.02 | 05.6 | 3.3 | 342 | .41 | ***  | ***  |
| 24  | 182308 | .24 | 09 55.06 | 84 23.10 | 49.5 | 2.4 | 150 | .34 | 5.6  | 5.4  |
| 24  | 195828 | .83 | 09 44.59 | 84 03.22 | 73.9 | 2.4 | 185 | .33 | 5.8  | 3.7  |
| 25  | 051713 | .10 | 09 55.73 | 86 02.34 | 13.5 | 4.9 | 348 | .26 | ***  | ***  |
| 26  | 075859 | .75 | 08 49.10 | 82 50.37 | 77.4 | 4.2 | 252 | .36 | 4.9  | 5.7  |
| *26 | 095834 | .14 | 09 30.33 | 83 36.80 | 20.5 | 3.2 | 149 | .38 | ***  | ***  |
| 28  | 003706 | .36 | 08 47.19 | 82 25.76 | 16.5 | 4.3 | 174 | .39 | 2.7  | 3.3  |
| 28  | 082103 | .84 | 08 46.46 | 82 35.89 | 13.5 | 4.1 | 280 | .40 | 5.6  | 5.2  |
| 29  | 043037 | .73 | 10 21.60 | 83 15.50 | 35.6 | 3.0 | 248 | .20 | 4.1  | 6.3  |
| 29  | 060016 | .01 | 09 10.02 | 84 15.57 | 37.1 | 2.6 | 328 | .05 | ***  | ***  |
| 29  | 230618 | .21 | 09 36.23 | 83 37.11 | 20.1 | 2.8 | 235 | .24 | 5.4  | 3.1  |

PARTE B

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

JUNIO 1989

| EST   | DIA | TIEMPO    | FASE | COMP | POL |
|---|-----|-----------|------|------|-----|
| SJS   | 01  | 131741.70 | iP   | Z    | C   |
| SRA   | 01  | 131735.90 | eP   | Z    | D   |
| Mb = 4.7 Cerca de la costa Pacifica de Nicaragua. |     |           |      |      |     |
| SRA   | 02  | 093954.90 | iP   | Z    | D   |
| JCR   | 02  | 093952.00 | iP   | Z    | D   |
| LCR2  | 02  | 094003.20 | eP   | Z    |     |
| BUS   | 02  | 094007.50 | iP   | Z    |     |
|   |     | 4038.20   | S    | Z    |     |
| MD = 4.0 Costa Pacifica de Nicaragua.             |     |           |      |      |     |
| SJS   | 06  | 025315.60 | iP   | Z    | C   |
|   |     | 5423.00   | S    | Z    |     |
| AR6   | 06  | 025328.00 | eP   | Z    |     |
| LCR2  | 06  | 025312.80 | iP   | Z    | C   |
| BUS   | 06  | 025309.50 | iP   | Z    | C   |
|   |     | 5415.00   | S    | Z    |     |
| Mb = 4.7 Sur de Panama.                           |     |           |      |      |     |
| SJS   | 07  | 200040.90 | eP   | Z    |     |
| SRA   | 07  | 200034.80 | iP   | Z    | C   |
| AR6   | 07  | 200025.00 | eP   | Z    |     |
| BUS   | 07  | 200046.20 | iP   | Z    | C   |
| JCR   | 07  | 200026.60 | iP   | Z    | C   |
| Regional.   |     |           |      |      |     |
| SJS   | 08  | 104049.80 | eP   | Z    |     |
| SRA   | 08  | 104044.00 | eP   | Z    |     |
| Telesismo.  |     |           |      |      |     |



JUNIO 1989

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| LCR2 | 11  | 074547.00 | iP   | Z    | C   |
| BUS  | 11  | 074551.00 | iP   | Z    |     |
| SRA  | 11  | 074540.40 | eP   | Z    | D   |
|      |     | 4563.00   | S    | Z    |     |
| SJS  | 11  | 074547.20 | eP   | Z    | D   |
|      |     | 4575.90   | S    | Z    |     |

MD = 4.1 37 Km al suroeste de Punta Guiones, Costa Rica.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 12 | 184219.00 | iP | Z | C |
|     |    | 4320.20   | S  | Z |   |
| SRA | 12 | 184222.00 | iP | Z | C |
| ACR | 12 | 184157.90 | eP | Z | D |
| ICR | 12 | 184218.10 | eP | Z |   |
| JCR | 12 | 184221.10 | eP | Z | C |

Regional.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 13 | 014331.60 | eP | Z |   |
| SRA  | 13 | 014342.80 | eP | Z |   |
| BUS  | 13 | 014325.80 | eP | Z | D |
| LCR2 | 13 | 014329.80 | eP | Z | D |

Regional.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 15 | 155438.10 | iP | Z | D |
| JCR | 15 | 155450.50 | iP | Z |   |
| SRA | 15 | 155436.30 | iP | Z | D |

Mb = 5.1 Norte de Colombia.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 15 | 193341.60 | iP | Z | D |
|      |    | 3421.10   | S  | Z |   |
| BUS  | 15 | 193334.50 | iP | Z | C |
| LID  | 15 | 193338.00 | iP | Z | D |
| LCR2 | 15 | 193338.50 | iP | Z | D |
| VCR  | 15 | 193355.30 | iP | Z |   |
| ACR  | 15 | 193318.00 | iP | Z | D |
| ICR  | 15 | 193340.80 | iP | Z | D |
| JCR  | 15 | 193347.00 | iP | Z | C |
| VP52 | 15 | 193345.60 | iP | Z | C |

MD = 5.2 120 Km sur de David, Panama

JUNIO 1989

| EST | DIA | TIEMPO    | FASE | COMP | POL |
|-----|-----|-----------|------|------|-----|
| SJS | 18  | 141024.00 | iP   | Z    | D   |
| BUS | 18  | 141019.30 | eP   | Z    |     |
| SRA | 18  | 141026.40 | iP   | Z    | D   |
|     |     | 1322.20   | S    | Z    |     |

MB = 5.9 Entre Puerto Rico y Haiti.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 19 | 160733.20 | iP | Z | D |
| SRA | 19 | 160734.10 | eP | Z |   |
| BUS | 19 | 160728.00 | eP | Z | D |

MD = 5.4 Limite Chile-Bolivia.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 20 | 134413.00 | eP | Z |   |
| JCR  | 20 | 134402.30 | iP | Z | C |
|      |    | 4414.80   | S  | Z |   |
| LCR2 | 20 | 134415.90 | iP | Z | D |
|      |    | 4443.00   | S  | Z |   |
| BUS  | 20 | 134421.00 | iP | Z | D |
|      |    | 4451.50   | S  | Z |   |

MD = 4.0 Punta Zapotal, Costa Rica.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 22 | 081401.20 | iP | Z | D |
|     |    | 1449.10   | S  | Z |   |
| SRA | 22 | 081404.20 | eP | Z |   |
|     |    | 1454.20   | S  | Z |   |
| BUS | 22 | 081354.10 | iP | Z | C |
|     |    | 1436.00   | S  | Z |   |
| QCR | 22 | 081354.20 | iP | Z | C |
|     |    | 1436.30   | S  | Z |   |
| LIO | 22 | 081358.50 | eP | Z |   |

MD = 4.0 Sur de isla Coiba, Panama.

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 24 | 130630.20 | eP | Z |   |
| SRA | 24 | 130633.00 | iP | Z | D |

Telesismo.

JUNIO 1989

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SJS  | 25  | 051747.30 | iP   | Z    | C   |
|      |     | 1824.80   | S    | Z    |     |
| SRA  | 25  | 051741.50 | iP   | Z    | D   |
| ICR  | 25  | 051750.00 | eP   | Z    |     |
| LIO  | 25  | 051801.60 | eP   | Z    |     |
| LCR2 | 25  | 051748.70 | eP   | Z    |     |
| ACR  | 25  | 051806.00 | eP   | Z    |     |

MD = 4.4 38 Km sur de Punta Guiones, Costa Rica.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 25 | 203957.20 | iP | Z | C |
| SRA  | 25 | 204001.80 | iP | Z | D |
| ICR  | 25 | 203958.50 | iP | Z | C |
| LCR2 | 25 | 203956.70 | eP | Z |   |

Mb = 5.8 Cerca costa de Ecuador.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 26 | 075928.30 | iP | Z | D |
|      |    | 5946.20   | S  | Z |   |
| SRA  | 26 | 075933.90 | iP | Z | C |
| VPS2 | 26 | 075932.80 | iP | Z |   |
| ICR  | 26 | 075926.20 | iP | Z | D |
|      |    | 5942.20   | S  | Z |   |
| LCR2 | 26 | 075925.20 | iP | Z | D |
| ACR  | 26 | 075912.50 | iP | Z | C |
| BUS  | 26 | 075921.70 | iP | Z | C |
|      |    | 5939.00   | S  | Z |   |
| LIO  | 26 | 075921.50 | iP | Z | D |
|      |    | 5938.70   | S  | Z |   |

MD = 4.2 15 Km al este de San Vito, Costa Rica.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 28 | 003741.10 | iP | Z | C |
| SRA  | 28 | 003746.00 | eP | Z | D |
| ICR  | 28 | 003737.20 | eP | Z |   |
| ACR  | 28 | 003719.40 | iP | Z | C |
| LCR2 | 28 | 003737.80 | iP | Z | D |
|      |    | 3755.50   | S  | Z |   |
| LIO  | 28 | 003730.90 | eP | Z | D |

MD = 4.3 Cerca de Boquete, Panamá.

JUNIO 1989

| EST  | DIA | TIEMPO    | FASE | COMP | POL |
|------|-----|-----------|------|------|-----|
| SRA  | 28  | 082142.70 | eP   | Z    | C   |
|      |     | 2172.70   | S    | Z    |     |
| ICR  | 28  | 082135.00 | eP   | Z    |     |
| ACR  | 28  | 082115.00 | iP   | Z    | C   |
| LCR2 | 28  | 082133.80 | iP   | Z    | C   |
|      |     | 2158.00   | S    | Z    |     |
| LID  | 28  | 082126.80 | iP   | Z    | C   |
|      |     | 45.10     | S    | Z    |     |

MD = 4.1 5 Km al este de Volcán, Panamá.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 29 | 000419.00 | eP | Z |  |
| SRA | 29 | 000421.60 | eP | Z |  |

Mb = 5.4 Mar de Banda.

|     |    |           |    |   |  |
|-----|----|-----------|----|---|--|
| SJS | 29 | 040217.20 | eP | Z |  |
| SRA | 29 | 040217.00 | eP | Z |  |

Telesismo

|     |    |           |    |   |   |
|-----|----|-----------|----|---|---|
| SJS | 29 | 065344.50 | iP | Z | D |
| SRA | 29 | 065338.60 | iP | Z | D |

Mb = 4.8 Guatemala.

|      |    |           |    |   |   |
|------|----|-----------|----|---|---|
| SJS  | 29 | 124038.50 | eP | Z |   |
| SRA  | 29 | 124033.90 | iP | Z | D |
| ICR  | 29 | 124042.30 | eP | Z |   |
| LCR2 | 29 | 124041.00 | iP | Z | C |

Mb = 5.0 Guatemala.

