

PONTIFICIA UNIVERSIDAD JAVERIANA
 INSTITUTO GEOFISICO DE LOS ANDES COLOMBIANOS
 BOGOTA

BOLETIN SISMICO PRELIMINAR DE LAS ESTACIONES COLOMBIANAS

BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
 Fase C.P. L.P. h. m. s. cia S-P
 en Kms.

Fecha Estación Componentes G. M. T. Distan-
 Fase C.P. L.P. h. m. s. cia S-P
 en Kms.

1 27.7 S. 70.9 W. H = 13 54 55.0
 h = 118 Kms. (USCGS).
 Cerca a la Costa de Chile.

| | | | | | |
|-----------|-----|-----|-----|----------|-------|
| BOGOTA | BOG | (Z) | (Z) | 1h 01 18 | |
| eS | | | (E) | 1h 06 39 | 3.600 |
| CHINCHINA | CHN | (Z) | | 1h 01 17 | |
| FUQUENE | FUA | (Z) | | 1h 01 26 | |

3 19.8 N. 70.7 W. H = 01 48 23.3
 h = 7 Kms. (USCGS).
 República Dominicana.

| | | | | | |
|-------------|--|----------|-----|----------|-------|
| BOGOTA | | (Z+N-E-) | | 01 52 06 | |
| eS | | | (E) | 01 55 07 | 1.700 |
| CHINCHINA | | (Z) | | 01 52 02 | |
| GALERAZAMBA | | | (E) | 01 52 36 | 1.500 |

1 10.9 N. 86.3 W. H = 04 01 50
 h = 32 Kms. (USCGS).
 Cerca a la Costa W. de Costa Rica.

| | | | | | |
|---------|-----|-----|------|----------|--|
| BOGOTA | BOG | (Z) | (Z) | 22 29 11 | |
| eS | | | (NE) | 22 32 27 | |
| FUQUENE | FUA | | (E) | 22 32 55 | |
| eP | | (Z) | | 22 28 56 | |

3 22.6 N. 121.3 E. H = 07 44 44.3
 h = 33 Kms. (USCGS).
 Cerca a la Costa S. de Taiwan, Formosa.

| | | | | | |
|-------------------|--|-----|-----|----------|--|
| BOGOTA | | (Z) | | 08 04 29 | |
| ePKP ₁ | | | (Z) | 08 04 45 | |
| CHINCHINA | | (Z) | | 08 04 20 | |
| ePKP ₂ | | | (Z) | 08 04 33 | |

2 56.2 N. 149.9 W. H = 08 36 16.9
 h = 31 Kms. (USCGS).
 Alaska.

| | | | | | |
|---------|-----|-----|-----|----------|-------|
| BOGOTA | BOG | (Z) | (Z) | 04 04 07 | |
| eS | | | (N) | 04 06 49 | 1.500 |
| FUQUENE | FUA | | (Z) | 04 04 03 | |

| | | | | | |
|-----------|-----|-----|------|----------|-------|
| BOGOTA | BOG | (Z) | | 08 48 17 | |
| iS | | | (E-) | 08 58 10 | |
| iPS | | | (N) | 08 59 02 | |
| eSS | | | (NE) | 09 03 16 | 8.550 |
| CHINCHINA | CHN | (Z) | | 08 48 06 | |

3 De Colombia.

| | | | | | |
|-----------|--|------|------|----------|-----|
| BOGOTA | | (Z-) | | 1h 06 09 | |
| iSn | | | (N+) | 1h 06 40 | 275 |
| CHINCHINA | | (Z) | | 1h 06 12 | |
| eS* | | | (Z) | 1h 06 52 | |

3 3.6 N. 78.0 W. H = 21 29 42
 (Determinado por Bogotá).
 Al W. de la Costa de Buenaventura,
 Colombia.
 h = 65 Kms. (USCGS).

| | | | | | |
|-----------|-----|-----|------|----------|-----|
| BOGOTA | BOG | (Z) | | 21 30 46 | |
| iSn | | | (N+) | 21 31 36 | 460 |
| CHINCHINA | CHN | (Z) | | 21 30 20 | |
| eSn | | | (N) | 21 30 52 | 285 |
| FUQUENE | FUA | (Z) | | 21 31 03 | |
| eSn | | | (Z) | 21 32 05 | 580 |

2 De Colombia

| | | | | | |
|-----------|--|-----|------|----------|-----|
| BOGOTA | | (Z) | | 20 08 51 | |
| iSn | | | (N+) | 20 09 17 | 225 |
| CHINCHINA | | (Z) | | 20 08 39 | |
| iSn | | | (Z-) | 20,08 48 | 60 |

4 27.0 S. 71.7 W. H = 07 26 19.5
 h = 58 Kms. (USCGS).
 Costa de Chile.

| | | | | | |
|-----------|-----|-----|--|----------|--|
| BOGOTA | BOG | (Z) | | 07 32 55 | |
| CHINCHINA | CHN | (Z) | | 07 32 48 | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|---------------------------------|--------------|------------|--------------------|-------|----------|-------------|----------|--------------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 5 | De Colombia. | W. H = | 20 07 00 | | | | | | |
| | BOGOTA | (Z) | 05 33 00 | | | | | | |
| | iPn | (Z+) | 05 33 30 | | | | | | |
| | iSn | (N-) | 05 33 35 | 265 | | | | | |
| | CHINCHINA | | 20 12 18 | 1.300 | | | | | |
| | ePn | (Z) | 05 33 09 | | | | | | |
| | eSn | (Z) | 05 33 44 | | | | | | |
| | iS* | (Z) | 05 33 49 | 315 | | | | | |
| 5 | 44.4 S. 72.4 W. | H = | 06 47 27.7 | | | | | | |
| | h = 33 Kms. | (USCGS). | 07 20 13 | | | | | | |
| | Sur de Chile. | | | | | | | | |
| | BOGOTA | BOG | 06 56 28 | | | | | | |
| | eP | (Z) | 07 07 17 | | | | | | |
| | eSS | (N) | 06 56 14 | | | | | | |
| | CHINCHINA | CHN | | | | | | | |
| | eP | (Z) | | | | | | | |
| 5 | 32.1 S. 179.8 E. | H = | 11 06 02.6 | | | | | | |
| | h = 235 Kms. | (USCGS). | | | | | | | |
| | S. de las Islas Kermadec. | | | | | | | | |
| | BOGOTA | BOG | 11 20 49 | | | | | | |
| | eP | (Z) | 11 24 14 | | | | | | |
| | iPP | (Z+) | 11 30 06 | | | | | | |
| | iS | (N-E-) | 11 20 46 | | | | | | |
| | CHINCHINA | | 11 24 13 | | | | | | |
| | eP | (Z) | 11 30 05 | | | | | | |
| | ePP | (Z) | 11 24 23 | | | | | | |
| | iS | (N-) | 11 33 17 | | | | | | |
| | FUQUENE | | | | | | | | |
| | iPP | (Z) | 11 30 22 | | | | | | |
| | iPS | (Z) | 11 31 12 | | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | eS | (NE) | | | | | | | |
| | eSKS | (E) | | | | | | | |
| 5 | 41.1 S. 74.9 W. | H = | 22 23 15.0 | | | | | | |
| | h = 33 Kms. | (USCGS). | | | | | | | |
| | Frente a la Costa S. de Chile. | | | | | | | | |
| | BOGOTA | BOG | 22 31 33 | | | | | | |
| | iP | (Z-)(Z-N-E+) | 22 38 18 | 5.000 | | | | | |
| | iS | (N-) | 22 31 35 | | | | | | |
| | CHINCHINA | CHN | 22 38 23 | | | | | | |
| | iP | (Z-) | 22 41 50 | 5.050 | | | | | |
| | iS | (N-) | | | | | | | |
| | eSS | (N) | | | | | | | |
| | FUQUENE | FUA | 22 31 37 | | | | | | |
| | iP | (Z-) | 22 32 30 | | | | | | |
| | GALERAZAMBA | GAL | 22 39 47 | 5.550 | | | | | |
| | eP | (NE) | | | | | | | |
| | eS | (NE) | | | | | | | |
| 6 | 56.9 N. 156.1 W. | H = | 18 24 50.5 | | | | | | |
| | h = 39 Kms. | (USCGS). | | | | | | | |
| | Alaska. | | | | | | | | |
| | BOGOTA | | 18 37 10 | | | | | | |
| | eP | (Z) | | | | | | | |
| 7 | 11.8 N. 86.9 W. | H = | 08 21 03 | | | | | | |
| | h = 130 Kms. | (USCGS). | | | | | | | |
| | Cerca a la Costa de Nicaragua. | | | | | | | | |
| | BOGOTA | BOG | 08 24 13 | | | | | | |
| | eP | (Z) | 08 26 53 | 1.500 | | | | | |
| | eS | (N) | | | | | | | |
| 7 | 14.0 N. 91.9 W. | H = | 15 31 21 | | | | | | |
| | h = 89 Kms. | (USCGS). | | | | | | | |
| | SW de Guatemala. | | | | | | | | |
| | BOGOTA | BOG | 15 35 49 | | | | | | |
| | iP | (Z) (Z+) | 15 39 36 | 2.250 | | | | | |
| | iS | (N+E+) | 15 35 32 | | | | | | |
| | CHINCHINA | CHN | 15 39 06 | 2.150 | | | | | |
| | eP | (N) | | | | | | | |
| | eS | (N) | | | | | | | |
| | FUQUENE | FUA | 15 35 47 | | | | | | |
| | eP | (Z) | | | | | | | |
| 8 | 31.7 N. 140.2 E. | H = | 14 59 41.2 | | | | | | |
| | h = 110 Kms. | (USCGS). | | | | | | | |
| | Sur del Japon. | | | | | | | | |
| | BOGOTA | | 15 18 43 | | | | | | |
| | ePKP | (Z) | | | | | | | |
| 8 | 12.5 N. 87.8 W. | H = | 15 45 23 | | | | | | |
| | h = 63 Kms. | (USCGS). | | | | | | | |
| | Frente a la Costa de Nicaragua. | | | | | | | | |
| | BOGOTA | BOG | 15 48 55 | | | | | | |
| | iP | (Z-) | 15 51 56 | | | | | | |
| | iS | (N-) | 15 52 20 | 1.720 | | | | | |
| | iSS | (NE) | | | | | | | |
| | FUQUENE | FUA | 15 48 52 | | | | | | |
| | iP | (Z-) | 15 51 50 | 1.650 | | | | | |
| | eS | (Z) | | | | | | | |
| | GALERAZAMBA | GAL | 15 48 37 | | | | | | |
| | eP | (N) | | | | | | | |

BOLSA SISMICA PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

8 18.0 N. 74.0 W. H = 20 07 00
h = 10 Kms. (USCGS).
Cerca a la Costa S. de Haití.

| | | | |
|-------------|-----|-----|----------|
| BOGOTA | BOG | | |
| eP | (Z) | (Z) | 20 09 58 |
| eS | | (N) | 20 12 18 |
| FUQUENE | FUA | | |
| eP | | (Z) | 20 09 49 |
| GALERAZAMBA | | | |
| eS | | (E) | 20 09 44 |

1.300

9 6.0 N. 78.8 W. H = 07 16 13
h = 33 Kms. (USCGS).
S. de Panamá.

| | | | |
|---------|-----|-----|----------|
| BOGOTA | | | |
| eSS | | (N) | 07 18 40 |
| FUQUENE | FUA | | |
| eS | | (Z) | 07 18 18 |

9 45.1 S. 79.2 W. H = 07 56 26.2
h = 33 Kms. (USCGS).
Cerca a la Costa S. de Chile.

| | | | |
|--------|-----|-----|----------|
| BOGOTA | BOG | | |
| eS | | (N) | 08 12 27 |
| eSS | | (N) | 08 16 08 |

9 1.7 S. 78.8 W. H = 08 26 56.5
h = 175 Kms. (USCGS).
De Ecuador.

| | | | |
|--------|-----|-----|----------|
| BOGOTA | BOG | | |
| eP | | (Z) | 08 28 36 |

9 5.7 N. 72.5 W. H = 15 31 13.2
h = 75 Kms. (USCGS).
Cerca a Labranzagrande, Departamento
de Boyacá, Colombia.

| | | | |
|---------|--------|------|----------|
| BOGOTA | BOG | | |
| iPn | (Z+NE) | | 15 31 35 |
| iSn | (N-E-) | (E) | 15 31 56 |
| FUQUENE | FUA | | |
| iPn | | (Z-) | 15 31 22 |
| iSn | | (Z+) | 15 31 38 |

175
130

10 19.1 N. 67.3 W. H = 01 10 12.4
h = 33 Kms. (USCGS).
N. de Puerto Rico.

| | | | |
|-------------|-----|------|----------|
| BOGOTA | BOG | | |
| iP | (Z) | (Z+) | 01 13 55 |
| iPP | (Z) | | 01 14 11 |
| iS | | (N+) | 01 16 48 |
| FUQUENE | FUA | | |
| eP | | (Z) | 01 13 43 |
| GALERAZAMBA | GAL | | |
| eP | | (NE) | 01 13 16 |

1.650

10 De Colombia.
BOGOTA

| | | | |
|-----|-----|------|----------|
| ePn | (Z) | | 06 14 26 |
| iSn | | (N+) | 06 14 48 |

180

10 De Colombia.
BOGOTA

| | | | |
|---------|------|------|------------|
| iPn | (Z+) | | 07 14 18 |
| iSn | | (N-) | 07 14 48.5 |
| FUQUENE | FUA | | |
| ePn | | (Z) | 07 14 06 |

270

10 16.7 S. 70.8 W. H = 07 34 49.9
h = 92 Kms. (USCGS).
S. del Perú.

| | | | |
|---------|-----|-----|----------|
| BOGOTA | BOG | | |
| eP | | (Z) | 07 39 34 |
| epP | | (Z) | 07 39 48 |
| eS | | (N) | 07 43 28 |
| FUQUENE | FUA | | |
| eP | | (Z) | 07 39 44 |

2.380

10 9.2 N. 62.0 W. H = 16 58 44.0
h = 51 Kms. (USCGS).
Cerca a la Costa NE de Venezuela.

| | | | |
|-------------|-----|------|----------|
| BOGOTA | BOG | | |
| eP | | (Z) | 17 01 45 |
| eS | | (NE) | 17 04 09 |
| eSSS | | (N) | 17 04 20 |
| FUQUENE | FUA | | |
| eP | | (Z) | 17 01 32 |
| GALERAZAMBA | GAL | | |
| eP | | (E) | 17 01 56 |

1.350

11 3.0 N. 84.3 W. H = 14 12 35.9
h = 33 Kms. (USCGS).
Isla Malpelo, Colombia.

| | | | |
|---------|--|-----|----------|
| BOGOTA | | | |
| eP | | (Z) | 14 15 07 |
| FUQUENE | | | |
| eP | | (Z) | 14 15 13 |

11 De Colombia.
BOGOTA

| | | | |
|---------|------|-------|------------|
| iPn | (Z+) | | 15 25 01.5 |
| iSn | | (Z-E) | 15 25 26 |
| FUQUENE | | | |
| ePn | | (Z) | 15 25 05 |

215

12 De Colombia.
BOGOTA

| | | | |
|-----|------|------|------------|
| iPn | (Z-) | | 08 45 49.5 |
| iSn | | (N-) | 08 46 20.5 |

275

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|---|-------------------|------------|--------------------|-------|----------|-------------|----------|--------------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 12 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z-) | 10 04 40 | | | | | | |
| | iSn | (N-) | 10 05 10.5 | 270 | | | | | |
| | FUQUENE | | | | | | | | |
| | ePn | (Z) | 10 04 29 | | | | | | |
| 13 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z+N+E+) | 00 45 02.5 | | | | | | |
| | iSn | (N+) | 00 45 32.5 | | | | | | |
| | iS* | (E) | 00 45 36 | 265 | | | | | |
| | FUQUENE | | | | | | | | |
| | ePn | (Z) | 00 44 50 | | | | | | |
| | eSn | (Z) | 00 45 13 | 195 | | | | | |
| 13 | 5.4 S. 154.3 E. H = | | 00 31 20 | | | | | | |
| | h = 383 Kms. (USCGS). | | | | | | | | |
| | Islas Salomón. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPKP ₁ | (Z) (Z-) | 00 49 45 | | | | | | |
| | ipPKP ₁ | (Z+) (Z+) | 00 51 14 | | | | | | |
| | iPP | (Z+N-E+) (Z-N+E-) | 00 52 38 | | | | | | |
| | ipPKS | (E-) | 00 54 38 | | | | | | |
| | FUQUENE | | | | | | | | |
| | iPKP ₁ | (Z-) | 00 49 44 | | | | | | |
| | ipPKP ₁ | (Z-) | 00 51 18 | | | | | | |
| | iPP | (Z-) | 00 52 38 | | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | iPP | (E+) | 00 52 37 | | | | | | |
| | ipPKS | (E) | 00 54 44 | | | | | | |
| 13 | 6.0 S. 130.4 E. H = | | 04 28 23.2 | | | | | | |
| | h = 127 Kms. (USCGS). | | | | | | | | |
| | Mar de Banda. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePKP ₁ | (Z) | 04 48 34.5 | | | | | | |
| | FUQUENE | | | | | | | | |
| | ePKP ₁ | (Z) | 04 48 35 | | | | | | |
| 13 | 5.9 S. 81.1 W. H = | | 16 32 17.3 | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Cerca a la Costa N. del Perú. | | | | | | | | |
| | BOGOTA BOG | | | | | | | | |
| | eP | (Z) | 16 35 27 | | | | | | |
| | eSS | (NE) | 16 39 13 | | | | | | |
| | FUQUENE FUA | | | | | | | | |
| | eP | (Z) | 16 35 43 | | | | | | |
| 13 | 10.5 S. 13.3 W. H = | | 18 26 30.7 | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Islas Ascensión. | | | | | | | | |
| | BOGOTA BOG | | | | | | | | |
| | eP | (Z) | 18 36 55 | | | | | | |
| | eS | (E) | 18 45 28 | 6.900 | | | | | |
| | CHINCHINA CHN | | | | | | | | |
| | eP | (Z) | 18 37 07 | | | | | | |
| 14 | BOGOTA | | | | | | | | |
| | BOGOTA (Z) | | 09 55 41 | | | | | | |
| | eP | (Z) | 10 09 27 | | | | | | |
| | eS? | (N) | 10 10 53 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | 10 09 27 | | | | | | |
| | eS? | (Z) | 10 10 53 | | | | | | |
| 14 | 0.4 N. 79.9 W. H = | | 19 25 38.2 | | | | | | |
| | h = 102 Kms. (USCGS). | | | | | | | | |
| | Cerca a la Costa de Ecuador. | | | | | | | | |
| | BOGOTA BOG | | | | | | | | |
| | eP | (Z) | 19 27 24 | | | | | | |
| | eS | (N) | 19 28 38 | 700 | | | | | |
| | CHINCHINA CHN | | | | | | | | |
| | eP | (Z) | 19 27 12 | | | | | | |
| | FUQUENE FUA | | | | | | | | |
| | eP | (Z) | 19 27 34 | | | | | | |
| 14 | 7.4 N. 36.8 W. H = | | 21 27 41.6 | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Océano Atlántico. | | | | | | | | |
| | BOGOTA BOG | | | | | | | | |
| | eP | (Z) (Z) | 21 34 50 | | | | | | |
| | eS | (N) | 21 40 36 | | | | | | |
| | eSS | (N) | 21 42 54 | 4.000 | | | | | |
| | FUQUENE FUA | | | | | | | | |
| | eP | (Z) | 21 34 46 | | | | | | |
| 15 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z+NE) | 13 31 52 | | | | | | |
| | iSn | (N-NE) | 13 32 22.5 | 270 | | | | | |
| | FUQUENE FUA | | | | | | | | |
| | ePn | (Z) | 13 31 39 | | | | | | |
| | eSn | (Z) | 13 32 01 | 185 | | | | | |
| 15 | 6.9 N. 73.4 W. H = | | 21 22 05 | | | | | | |
| | h = 175 Kms. (USCGS). | | | | | | | | |
| | (Determinado por Bogotá). | | | | | | | | |
| | Cerca a San Vicente, Departamento de Santander del Sur, Colombia. | | | | | | | | |
| | BOGOTA BOG | | | | | | | | |
| | iPn | (Z+N+E+) (Z-) | 21 22 44 | | | | | | |
| | iSn | (N+) (N+) | 21 23 14 | | | | | | |
| | iS* | (N) | 21 23 17 | 265 | | | | | |
| | FUQUENE FUA | | | | | | | | |
| | iPn | (Z-) | 21 22 33 | | | | | | |
| | iSn | (Z+) | 21 22 54 | 175 | | | | | |
| | GALERAZAMBA GAL | | | | | | | | |
| | ePn | (NE) | 21 23 04 | | | | | | |

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AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

15 De Colombia.
BOGOTA
ePn (Z) 21 54 47
iSn (N+) 21 55 17.5 270

16 De Colombia.
BOGOTA
iPn (Z-) 03 49 57.5
iSn (N+) 03 50 28
iS* (E) 03 50 33 270
FUQUENE
ePn (Z) 03 49 46
eSn (Z) 03 50 09 195

17 72.2 N. 1.7 E. H = 15 15 18.9
h = 33 Kms. (USCGS).
Mar de Noruega.

BOGOTA BOG
eP (Z) 15 27 35
eS (N) 15 38 34
FUQUENE FUA
eP (Z) 15 27 30

17 De Colombia.
BOGOTA
iPn (Z-) 22 25 18.5
eSn (N) 22 25 49 270
FUQUENE
ePn (Z) 22 25 07

18 7.2 S. 71.4 W. H = 00 26 51.8
h = 156 Kms. (USCGS).
Frontera Perú-Brasil.

BOGOTA BOG
eP (Z) (Z) 00 29 41
iP (Z) 00 29 55.5
eS (Z) 00 32 20 1.480

18 26.4 S. 71.5 W. H = 04 44 58.0
h = 8 Kms. (USCGS).
Frente a la Costa N. de Chile.

BOGOTA BOG
iP (Z-N) (Z+N+) 04 51 20
iS (N+) 04 56 27 3.350
FUQUENE FUA
eP (Z) 04 51 26
GALERAZAMBA GAL
eP (Z) (NE) 04 52 10
iS (N+) 04 58 01 4.000

18 BOGOTA
eP (Z) 09 55 41
FUQUENE
eP (Z) 09 55 57

18 De Colombia.
BOGOTA
ePn (Z) 21 51 55
iSn (N-) 21 52 26 275
CHINCHINA
ePn (Z) 21 52 06
eSn (Z) 21 52 42 325

19 6.9 S. 75.5 W. H = 14 00 37.8
h = 14 Kms. (USCGS).
N. del Perú.

BOGOTA BOG
eP (Z) 14 03 25
eS (E) 14 05 44 1.280

19 BOGOTA
eP (Z) 22 34 57
eS (NE) 22 36 40
CHINCHINA
eP (Z) 22 34 50

20 2.3 N. 78.5 W. H = 00 27 45.5
h = 33 Kms. (USCGS).
Cerca a El Carmen, Departamento de
Nariño, Colombia.

BOGOTA BOG
ePn (Z) 00 29 08
CHINCHINA CHN
ePn (Z) 00 29 15?

20 63.9 N. 20.5 W. H = 03 56 29.2
h = 33 Kms. (USCGS).
Islandia.

BOGOTA BOG
eP (Z) 04 07 47
ePPS (Z) 04 17 44

20 14.9 N. 60.4 W. H = 08 37 47.1
h = 65 Kms. (USCGS).
Antillas Menores.

BOGOTA BOG
iP (Z) (Z+) 08 41 42
iS (N+) 08 44 53 1.850
CHINCHINA CHN
eP (Z) 08 42 02
FUQUENE FUA
eP (Z) 08 41 33

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

21 13.9 N. 93.0 W. H = 03 29 18.7
h = 33 Kms. (USCGS).
Frente a la Costa S. de Frontera
Méjico-Guatemala.

| | | | | |
|---------|-----|-----|----------|-------|
| BOGOTA | BOG | | | |
| eP | (Z) | (Z) | 03 34 06 | 1.500 |
| FUQUENE | FUA | | | |
| eP | | (Z) | 03 34 06 | 1.450 |

21 De Colombia.

| | | | | |
|--------|------|--|----------|-----|
| BOGOTA | | | | |
| ePn | (Z) | | 06 40 13 | |
| iSn | (N-) | | 06 40 40 | 235 |

21 7.0 N. 73.6 W. H = 15 35 48
(Determinado por Bogotá).

Cerca a Barrancabermeja, Departa-
mento de Santander del Sur, Colombia.

| | | | | |
|-------------|------|------|----------|-------|
| BOGOTA | BOG | | | |
| iPn | (Z+) | | 15 36 28 | 1.050 |
| iSn | (N-) | | 15 34 59 | 275 |
| CHINCHINA | CHN | | | |
| ePn | (Z) | | 15 36 36 | |
| eSn | (Z) | | 15 37 11 | |
| eS* | (Z) | | 15 37 17 | 315 |
| FUQUENE | FUA | | | |
| ePn | | (Z) | 15 36 15 | |
| iSn | | (Z+) | 15 36 36 | 175 |
| GALERAZAMBA | GAL | | | |
| eSg | | (N) | 15 38 01 | |

| | | | | |
|-----------|-----|-----|----------|-----|
| BOGOTA | | | | |
| eP | (Z) | (N) | 00 31 07 | 550 |
| CHINCHINA | | | | |
| eP | (Z) | | 00 31 23 | |
| FUQUENE | | | | |
| eP | | (Z) | 00 31 14 | |

22 31.5 N. 114.3 W. H = 03 03 20.7
h = 15 Kms. (USCGS).
Golfo de California.

| | | | | |
|-----------|-----|-----|----------|-------|
| BOGOTA | BOG | | | |
| eP | (Z) | (Z) | 03 11 48 | |
| eS | | (E) | 03 18 39 | 5.100 |
| CHINCHINA | CHN | | | |
| eP | (Z) | | 03 11 36 | |
| FUQUENE | FUA | | | |
| eP | | (Z) | 03 11 47 | |

22 34.9 S. 15.1 W. H = 05 42 38.7
h = 33 Kms. (USCGS).
Tristan da Cunha.

| | | | | |
|--------|-----|-----|----------|-------|
| BOGOTA | BOG | | | |
| eP | (Z) | (Z) | 05 53 45 | |
| eS | | (E) | 06 02 36 | 7.300 |
| BOGOTA | | | | |
| eP | | | 22 08 50 | |
| BOGOTA | | | | |
| eP | (Z) | | 06 56 33 | |

23 6.9 N. 73.0 W. H = 12 23 37.9
h = 161 Kms. (USCGS).
Cerca a Piedecuesta, Departamento
de Santander del Sur, Colombia.

| | | | | |
|-------------|-------|--|----------|-----|
| GALERAZAMBA | GAL | | | |
| ePn | (NE) | | 12 24 45 | 270 |
| iSn | (NE-) | | 12 25 42 | 500 |

En las demás estaciones se perdió
este temblor en el cambio del papel.

23 6.1 S. 149.4 E. H = 15 24 05.3
h = 63 Kms. (USCGS).
Nueva Bretaña.

| | | | | |
|---------|-----|------|----------|-------|
| BOGOTA | | | | |
| ePKP | (Z) | (Z) | 15 43 19 | |
| iPP | | (Z+) | 15 46 03 | |
| ePKS | | (E) | 15 46 57 | |
| ePFS | | (E) | 15 58 20 | |
| eSS | | (E) | 16 04 16 | 4.600 |
| FUQUENE | | | | |
| ePKP | | (Z) | 15 43 24 | |
| iPP | | (Z+) | 15 46 06 | |
| ePKS | | (Z) | 15 47 14 | |

24 De Colombia.

| | | | | |
|--------|------|--|------------|-----|
| BOGOTA | | | | |
| iPn | (Z+) | | 00 43 40.5 | |
| eSn | (N) | | 00 44 11 | 270 |

24 De Colombia.

| | | | | |
|---------|------|-----|------------|-----|
| BOGOTA | | | | |
| iPn | (Z-) | (Z) | 00 58 59.5 | |
| iSn | (N-) | | 00 59 30.5 | |
| iS* | (E) | | 00 59 34 | 275 |
| FUQUENE | FUA | | | |
| ePn | | (Z) | 00 59 05 | |
| eSn | | (Z) | 00 59 28 | 195 |

| | | | | |
|-----------|-----|--|----------|--|
| BOGOTA | | | | |
| eP | (Z) | | 17 58 45 | |
| CHINCHINA | | | | |
| eP | (Z) | | 17 55 53 | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

24 18.4 N. 68.8 W. H = 08 31 05.8
h = 179 Kms. (USCGS).
S. de la Costa de la República
Dominicana.

| | | | | | |
|---------|-----|-----|----------|-------|--|
| BOGOTA | BOG | | | | |
| eP | (Z) | (Z) | 08 34 28 | | |
| eS | | (N) | 08 37 04 | 1.500 | |
| FUQUENE | FUA | | | | |
| eP | | (Z) | 08 34 17 | | |
| eS | | (Z) | 08 36 49 | 1.450 | |

24 1.5 S. 78.1 W. H = 10 37 23.4
h = 173 Kms. (USCGS).
Ecuador.

| | | | | | |
|---------|-------|----------|----------|-------|--|
| BOGOTA | BOG | | | | |
| iP | (ZNE) | (Z+N+E+) | 10 39 08 | | |
| iP | (Z) | (Z) | 10 39 22 | | |
| eS | | (NE) | 10 40 48 | 955 | |
| FUQUENE | FUA | | | | |
| iP | | (Z+) | 10 39 17 | | |
| eS | | (Z) | 10 41 09 | 1.050 | |

24 BOGOTA
eP (Z) 15 41 12
eS? (E) 15 43 11

24 1.5 S. 78.1 W. H = 16 42 22.4
h = 98 Kms. (USCGS).
Cerca a la Costa del Ecuador.

| | | | | | |
|-----------|-----|-----|----------|-----|--|
| BOGOTA | BOG | | | | |
| eP | (Z) | | 16 43 46 | | |
| eS | | (N) | 16 44 45 | 550 | |
| CHINCHINA | CHN | | | | |
| eP | (Z) | | 16 43 33 | | |
| FUQUENE | FUA | | | | |
| eP | | (Z) | 16 44 01 | | |

24 0.2 N. 123.8 E. H = 17 26 15.1
h = 127 Kms. (USCGS).
N. de las Islas Célebes.

| | | | | | |
|-------------------|-----|-----|----------|--|--|
| BOGOTA | | | | | |
| ePKP ₁ | (Z) | (Z) | 17 46 04 | | |
| ePKP ₂ | (Z) | (Z) | 17 46 53 | | |
| CHINCHINA | | | | | |
| ePKP ₁ | (Z) | | 17 46 01 | | |
| ePKP ₂ | (Z) | | 17 46 45 | | |
| FUQUENE | | | | | |
| ePKP ₁ | (Z) | | 17 46 03 | | |
| ePKP ₂ | (Z) | | 17 46 52 | | |

24 58.4 N. 150.3 W. H = 21 56 54.2
h = 22 Kms. (USCGS).
Golfo de Alaska.

| | | | | | |
|-----------|-----|------|----------|-------|--|
| BOGOTA | BOG | | | | |
| eP | (Z) | (Z) | 22 08 57 | | |
| eS | | (N) | 22 19 04 | | |
| eSS | | (N) | 22 24 19 | 8,900 | |
| CHINCHINA | CHN | | | | |
| eP | (Z) | | 22 08 50 | | |
| FUQUENE | FUA | | | | |
| iP | | (Z-) | 22 08 52 | | |

25 De Colombia.

| | | | | | |
|-----------|------|-----|------------|-----|--|
| BOGOTA | | | | | |
| iPn | (Z-) | | 04 33 04.5 | | |
| iSn | (N+) | | 04 33 35 | | |
| iS* | (E) | | 04 33 40 | 270 | |
| CHINCHINA | | | | | |
| ePn | (Z) | | 04 33 13 | | |
| eS* | (Z) | | 04 33 53 | | |
| FUQUENE | | | | | |
| ePn | | (Z) | 04 32 54 | | |

25 37.6 S. 73.7 W. H = 07 45 47.1
h = 24 Kms. (USCGS).
Cerca a la Costa Central de Chile.

| | | | | | |
|-----------|-----|-----|----------|-------|--|
| BOGOTA | BOG | | | | |
| eP | (Z) | (Z) | 07 53 44 | | |
| eS | | (E) | 08 00 07 | | |
| eSS | | (E) | 08 03 19 | 4,600 | |
| CHINCHINA | CHN | | | | |
| eP | (Z) | | 07 53 42 | | |
| FUQUENE | FUA | | | | |
| eP | | (Z) | 07 53 49 | | |

25 78.2 N. 126.6 E. H = 13 47 20.6
h = 50 Kms. (USCGS).
E. de Severnaya Zemlya.

| | | | | | |
|-------------|-----|------|----------|--|--|
| BOGOTA | BOG | | | | |
| iP | (Z) | (Z-) | 14 00 49 | | |
| CHINCHINA | CHN | | | | |
| eP | (Z) | | 14 00 43 | | |
| ePP | (Z) | | 14 04 34 | | |
| FUQUENE | FUA | | | | |
| iP | | (Z-) | 14 00 44 | | |
| ePP | | (Z) | 14 04 32 | | |
| GALERAZAMBA | GAL | | | | |
| eP | | (NE) | 14 00 29 | | |
| eS | | (NE) | 14 11 30 | | |

25 BOGOTA
eP (Z) 17 55 45
CHINCHINA
eP (Z) 17 55 53

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-
en Kms.

26 BOGOTA
eP (Z) 06 15 31
eS (N) (N) 06 16 29 540
CHINCHINA
eP (Z) 06 15 24
eS (Z) 06 16 13 450

26 52.1 N. 30.1 W. H = 03 18 44.1
h = 33 Kms. (USCGS).
Océano Atlántico.

BOGOTA Bog
eP (Z) 03 28 49
eS (E) 03 37 10 6.700
CHINCHINA CHN
eP (Z) 03 28 49
FUQUENE Fua
eP (Z) 03 28 42

26 BOGOTA
eP (Z) 04 50 09

26 De Colombia.
BOGOTA
iPn (Z-) 19 26 42
eSn (N) 19 27 13 275
CHINCHINA
ePn (Z) 19 26 42
FUQUENE
ePn (Z) 19 26 32

27 De Colombia.
BOGOTA
iPn (Z) 03 49 37
eSn (N) 03 50 09 285
FUQUENE
eSn (Z) 03 49 44

27 BOGOTA
eP (Z) (Z) 06 24 48
eS (E) 06 33 29 7.050
FUQUENE
eP (Z) 06 24 49

27 17.5 S. 173.0 W. H = 07 53 54.8
h = 33 Kms. (USCGS).
S. de Samoa.

BOGOTA
ePP (Z) 08 12 05
eSKS (E) 08 18 19
eS (NE) 08 19 11

27 4.8 N. 76.2 W. H = 12 25 22.5
h = 112 Kms. (USCGS).

Cerca a Ansermanuevo, Departamento del
Valle del Cauca, Colombia.
Sentido en Cali y Pereira.

BOGOTA Bog
iPn (Z+NE-) (Z-E-) 12 25 58.5
iSn (Z-N-) 12 26 26 240
FUQUENE Fua
iPn (Z+) 12 26 03
eSn (Z) 12 26 35 285

Este temblor se perdió en el cambio
de papel en Galerazamba. En Chinchiná
no hizo contactos el reloj.

27 1.5 N. 78.4 W. H = 21 46 41.7
h = 141 Kms. (USCGS).

Frontera Colombo-Ecuatoriana.

BOGOTA Bog
eP (Z) 21 47 57.5
eS (N) 21 49 04 630
CHINCHINA CHN
eP (Z) 21 47 41
FUQUENE Fua
eP (Z) 21 48 03
eS (Z) 21 49 15 680

29 BOGOTA
eP (Z) 03 45 50
CHINCHINA
eP (Z) 03 45 44

29 19.3 S. 66.3 W. H = 06 05 24.2
h = 232 Kms. (USCGS).
S. de Bolivia.

BOGOTA Bog
eP (Z) 06 10 30
ePP (Z) (ZNE) 06 11 24
eS (NE) 06 14 34
eSS (E) 06 15 53
CHINCHINA CHN
eP (Z) 06 10 32
ePP (Z) 06 11 25

29 3.2 S. 92.2 W. H = 17 17 34.2
h = 33 Kms. (USCGS).

Islas Galápagos.
BOGOTA Bog
eP (Z) (Z) 17 23 20
eS (E) 17 27 33 2.500

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

AGOSTO DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| | Fase | C.P. L.P. | h. m. s. | cia S-P en Kms. | | Fase | C.P. L.P. | h. m. s. | cia S-P en Kms. |

30 27.6 N. 88.3 E. H = 02 35 08.1
h = 21 Kms. (USCGS).

| | | | |
|-----------|-----|----------|--|
| BOGOTA | | | |
| ePKP | (Z) | 02 54 43 | |
| CHINCHINA | | | |
| ePKP | (Z) | 02 54 39 | |

30 6.6 N. 82.5 W. H = 03 19 07.5
h = 45 Kms. (USCGS).
S. de Panamá.

| | | | |
|-----------|------|----------|-----|
| BOGOTA | BOG | | |
| eP | (Z) | 03 21 12 | |
| eS | (NE) | 03 22 53 | 965 |
| CHINCHINA | CHN | | |
| eP | (Z) | 03 20 46 | |
| FUQUENE | FUA | | |
| eP | (Z) | 03 21 16 | |

30 71.8 N. 3.6 W. H = 04 53 21.6
h = 33 Kms. (USCGS).

| | | | |
|-----------|-----|----------|--|
| BOGOTA | BOG | | |
| eP | (Z) | 05 05 28 | |
| CHINCHINA | CHN | | |
| eP | (Z) | 05 05 03 | |
| FUQUENE | FUA | | |
| eP | (Z) | 05 05 16 | |

30 De Colombia.

| | | | |
|-----------|-----|------------|-----|
| BOGOTA | | | |
| IPn | (Z) | 12 43 20 | |
| eSn | (N) | 12 43 50.5 | |
| IS* | (E) | 12 43 56 | 270 |
| CHINCHINA | | | |
| eSn | (Z) | 12 44 02 | |

30 De Colombia.

| | | | |
|--------|-----|------------|-----|
| BOGOTA | | | |
| ePn | (Z) | 15 04 56 | |
| eSn | (N) | 15 05 26.5 | 270 |

30 De Colombia.

| | | | |
|--------|-----|------------|-----|
| BOGOTA | | | |
| ePn | (Z) | 20 14 57.5 | |
| eSn | (N) | 20 15 21 | 210 |

31 35.2 S. 106.0 W. H = 02 14 20.3
h = 33 Kms. (USCGS).
Islas Pascua.

| | | | |
|-------------|------|----------|-------|
| BOGOTA | BOG | | |
| 1P | (Z) | 02 23 13 | |
| ePP | (Z) | 02 26 08 | |
| eS | (NE) | 02 30 20 | |
| eSS | (NE) | 02 33 57 | 5.450 |
| CHINCHINA | CHN | | |
| eP | (Z) | 02 23 08 | |
| FUQUENE | FUA | | |
| eP | (Z) | 02 23 18 | |
| eS | (Z) | 02 30 40 | 5.550 |
| GALERAZAMBA | GAL | | |
| eP | (N) | 02 23 54 | |
| eS | (N) | 02 31 30 | 5.950 |

NOTAS : 1). Durante este mes no salieron
sismogramas de los compo-
nentes horizontales en la estación de
Chinchiná por desajustes en los galva-
nómetros.
2). En la misma estación el reloj tuvo
frecuentes interrupciones en los
contactos.

JESUS EMILIO RAMIREZ, S.J.
Director.

Francisco A. Miranda G.
Auxiliar de Geofísica.

PONTIFICIA UNIVERSIDAD JAVERIANA
 INSTITUTO GEOFISICO DE LOS ANDES COLOMBIANOS
 B O G O T A

BOLETIN SISMICO PRELIMINAR DE LAS ESTACIONES COLOMBIANAS
 BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

SEPTIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |

1 27.2 N. 92.3 E. H = 13 22 36.6
 h = 33 Kms. (USCGS) .
 Frontera India - China.

BOGOTA
 ePKP (Z) (Z) 13 42 16
 ePP (Z) (Z) 13 45 38
 eSKKS (N) 13 52 28
 CHINCHINA
 ePKP (Z) 13 42 14
 ePP (Z) 13 45 37
 FUQUENE
 ePKP (Z) 13 42 13
 ePP (Z) 13 45 42

1 De Colombia.
 BOGOTA
 ePn (Z) 15 21 59
 iSn (N+) 15 22 35 325
 CHINCHINA
 ePn (Z) 15 22 23

1. 51.2 N. 170.6 E. H = 17 16 40.4
 h = 33 Kms. (USCGS) .
 Islas Fox, Islas Aleussianas.

BOGOTA
 eP (Z) 17 29 43
 eSKKS (E) 17 40 32
 CHINCHINA
 eP (Z) 17 29 35

2 De Colombia.
 BOGOTA
 iPn (Z-) 04 11 23.5
 iSn (N+) 04 11 54.5 275
 CHINCHINA
 ePn (Z) 04 11 32
 eS* (Z) 04 12 12
 FUQUENE
 ePn (Z) 04 11 11

2 BOGOTA
 eP (Z) 07 51 06

2 7.1 N. 78.5 W. H = 15 19 07.3
 h = 33 Kms. (USCGS) .
 Cerca a Juradó, Departamento del Chocó
 Colombia.
 BOGOTA
 ePn (Z) 15 20 33

~~CHINCHINA CHN
 ePn (Z) 15 20 05
 eSn? (Z) 15 20 57~~
 FUQUENE FuQ
 ePn (Z) 15 20 37
 GALERAZAMBA GAL
 eSn (NE) 15 21 23

2 8.0 N. 72.8 W. H = 15 50 04.4
 h = 33 Kms. (USCGS) .
 Cerca a Lourdes y Sardinata, Depar-
 tamento de Santander del Norte, Sen-
 tido en Cúcuta, Gramalote y Salazar, Colomb

BOGOTA
 ePn (Z) 17 51 04
 iSn (N-) 17 51 54.5 470
 CHINCHINA
 ePn (Z) 17 51 12
 eSn (Z) 17 52 09 530
 FUQUENE FuQ
 ePn (Z) 17 50 52
 eSn (Z) 17 51 26 305
 GALERAZAMBA
 eSn (N) 17 51 50
 iS* (NE) 17 52 04

2 8.0 N. 72.5 W. H = 18 12 14
 (Determinado por Bogotá) .
 h = 112 Kms. (USCGS) .
 Cerca a Cúcuta, Departamento de
 Santander del Norte Colombia, Sen-
 tido en Cúcuta, Ocaña, Santiago,
 Sardinata, Gramalote y Lourdes, etc.
 Causó algunos daños materiales y al-
 gunos heridos.
 BOGOTA
 iPn (Z-N-) (Z+N-) 18 13 12
 iP* (Z) (ZNE) 18 13 18
 iSn (NE) 18 13 59 410
 CHINCHINA
 iPn (Z+) 18 13 19
 iP* (Z) 18 13 31
 eSn (Z) 18 14 13
 iS* (Z) 18 14 26 500
 FUQUENE
 iPn (Z+) 18 12 59
 eSn (Z) 18 13 35 325
 GALERAZAMBA
 iPn (E) 18 13 21
 eSn (NE) 18 14 09



BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUGUENE, Y GALERAZAMBA
SEPTIEMBRE DE 1964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Km.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Km.

3 De Colombia.
BOGOTA
ePn (Z) (Z) 03 38 51
eSn (N) 03 39 25 275
CHINCHINA
eSn (Z) 03 39 41

3 59.7 N. 144.0 W. H = 21 04 13.3
h = 33 Km. (USCUB).
Golfo de Alaska.
eP (Z) 21 15 57

3 8.0 N. 72.6 W. H = 04 16 19.1
h = 52 Km. (USCUB).
Cerca a Villa Zulia, Departamento
de Santander del Norte, Colombia.
BOGOTA
ePn F(Z) 04 17 15.5
eSn (N) 04 18 05 470
CHINCHINA CHN
ePn (Z) 04 17 27
eSn (Z) 04 18 21 500

4 7.6 N. 36.9 W. H = 03 28 33.1
h = 22 Km. (USCUB).
Océano Atlántico.
BOGOTA BOG
1P (Z) (Z-) 03 35 44.5
1S (N+) 03 41 32
1SS (N) 03 44 15 4.000
CHINCHINA CHN
eP (Z) 03 35 55
FUGUENE FUG
1P (Z-) 03 35 41
GALERAZAMBA GAL
eP (N) 03 36 07
eS (NE) 03 41 49 4.050

3 30.9 S. 68.4 W. H = 10 06 55.9
h = 113 Km. (USCUB).
Provincia de San Juan, Argentina.
BOGOTA BOG
eP (Z) 10 13 49
eS (N) 10 19 19 3.700
CHINCHINA CHN
eP (Z) 11 13 51

4 18.3 S. 69.0 W H = 09 36 58.7
h = 101 Km. (USCUB).
N. de Chile.
BOGOTA BOG
eP (Z) 09 42 55
eS (E) 09 47 02
CHINCHINA CHN
eP (Z) 09 42 07

3 De Colombia.
BOGOTA
1Pn (Z-) 11 18 30
1Sn (N-) 11 19 00.5 270
CHINCHINA
ePn (Z) 11 18 38
eS* (Z) 11 19 18

4 4.0 S. 131.4 E. H = 10 34 13.1
h = 33 Km. (USCUB).
W. de Nueva Guinea.
BOGOTA
1PP1 (Z) (Z+) 10 54 07
ePP2 (Z) 10 54 30
ePP (Z) 10 58 07
eS (Z) 11 17 54
CHINCHINA
1PP1 (Z-) 10 54 03
FUGUENE
1PP1 (Z+) 10 54 04
ePP (Z) 10 57 54

3 6.9 N. 73.7 W. H = 11 36 25
(Determinado por Bogotá). h =
173 Km. (USCUB). Al S. de
Barrancabermeja, Departamento
de Santander del Sur, Colombia.
BOGOTA
1Pn (Z-NE-) 11 37 04
1Sn (N-E) (N+) 11 37 34
1S* (E) 11 37 38 265
CHINCHINA
ePn (Z) 11 37 10
eSn (Z) 11 37 44
eS* (Z) 11 37 50 305
FUGUENE FUG
1Pn (Z+) 11 36 52
eSn (Z) 11 37 13 175
GALERAZAMBA
eS* (N) 11 36 24

5 5.8 S. 154.0 E. H = 02 53 50.6
h = 69 Km. (USCUB).
Islas Salomón.
BOGOTA
ePKP (Z) 03 12 54 270
1PP (Z) 03 15 23
FUGUENE
ePKP (Z) 03 13 01
1PP (Z) 03 15 22

BOGOTÁ, CHINCHINA, FUQUENE Y CALIBAZANCA

SEPTIEMBRE DE 1.964

SEPTIEMBRE DE 1.964

Fecha Estación Componentes G. M. F. Distan-
 Fecha Fase C. P. L. P. h. m. s. cia S-P-
 Fase C. P. L. P. h. m. s. en km.

Fecha Estación Componentes G. M. F. Distan-
 Fecha Fase C. P. L. P. h. m. s. cia S-P-
 Fase C. P. L. P. h. m. s. en km.

5 6.0 S. 153.8 W. H = 04 09 51.6
 h = 01 Km. (USCIB)

13 (M+) 21 18 16
 0533 (M) 21 20 48 3.900
 FUQUENE FUA
 1P (2+) 21 12 44
 05 (2) 21 18 23 3.900

10

BOGOTÁ BOG
 0533 (2) (2) 04 26 37
 0533 (2) (2) 04 26 19
 17 44 25
 FUQUENE FUA
 0P (2) (2) 06 07 55
 05 (2) (2) 06 09 24

9

BOGOTÁ BOG
 0533 (2) (2) 01 20 27.5
 0533 (2) (M) 01 21 15 2.1075
 CHINCHINA CHN
 0P (2) 01 20 07
 05 (2) 01 21 39
 FUQUENE FUA
 1P (2+) 01 20 18
 05 (2) 01 20 34
 CALIBAZANCA GAL
 1P (2+) 01 20 27
 1 (M+) 01 20 50 2.145
 1 FUQUENE (2) FUA (M-) 01 21 02

5

6.6 N. 25.7 W. H = 12 27 22.2
 h = 33 Km. (USCIB) - Ronda
 Atlántico

FUQUENE

FUQUENE FUA
 0P (2) 12 26 01
 05 (2) 12 13 20 5.600
 Este temblor se percibió en las
 en el cambio del papel en las
 desde estaciones.

10

7.4 N. 73.0 W. H = 02 39 26.5
 h = 140 Km. (USCIB).
 Cerco a Santa Cruz, Departamento
 de Santander del Sur, Colombia.
 BOGOTÁ BOG (USCIB)
 1P (2-) 02 40 17
 15* BOGOTÁ (2-) (M+) 02 40 53
 15* P (2+) (2) 02 40 57 325
 CHINCHINA (M-) 02 40 39 2.220
 1P FUQUENE (2+) 02 40 22
 15* P (2-) (2) 02 41 00
 15* (2) 02 41 06 315
 FUQUENE FUA
 0P Colombia (2) 02 40 02
 CALIBAZANCA GAL
 0P (2) 02 41 06
 1P (2+) (M) 02 41 14 270

11

6.9 S. 65.4 W. H = 04 23 55.0
 h = 36 Km. (USCIB)

5

BOGOTÁ BOG
 0533 (2) 22 03 27
 15n (M) 22 03 57 215

6

6.7 S. 13.5 W. H = 03 33 44.8
 h = 33 Km. (USCIB)
 Atlántico Sur.

BOGOTÁ BOG
 0533 (2) 03 30 31
 0533 (2) 03 30 31
 FUQUENE FUA (M) 03 00 18
 0533 (M) 03 04 40

6

De Colombia. H = 12 43 19.0
 BOGOTÁ BOG (USCIB)
 1P (2+) 08 30 03.5
 15n (M-) 08 30 31 270

6

21.5 S. 66.8 W. H = 16 13 23.2
 h = 233 Km. (USCIB).
 S. de Bolivia.

BOGOTÁ BOG
 0P 1 S. (2) H. H = 16 13 48 03.2
 05 33 Km. (USCIB) 16 23 10

6

10.0 N. 140.2 W. H = 18 41 01.8
 h = 33 Km. (USCIB).
 W. de las Islas Carolinas. 26 37
 BOGOTÁ BOG
 0P (2) 19 00 42 36
 FUQUENE (2) 22 26 18
 0P (2) 19 00 29

6

6.0 S. 107.1 W. H = 21 05 47.8
 h = 33 Km. (USCIB).
 Islas Marianas. 00 36 19
 BOGOTÁ BOG (M) 00 37 19.5 255
 0P (2) 21 12 37

10

BOGOTÁ BOG (USCIB)
 0P (2) 07 45 11
 05 BOGOTÁ (M) 07 46 10
 CHINCHINA (2) (2) 07 45 15
 0P (2) 07 45 29
 05 FUQUENE (2) 07 46 23
 FUQUENE (M) 07 45 15
 0P (2) 07 45 23

10

De Colombia.
 BOGOTÁ BOG (M) 05 26 59
 1P (2-) 12 03 16
 15n (M-) 12 03 46.5
 15* FUQUENE (2) 12 03 50 270
 CHINCHINA (2) 12 03 47
 0P (2) 12 03 24
 15* (2) 12 04 04
 FUQUENE (2) 12 03 26

13

De Colombia.
 BOGOTÁ BOG (M) 00 37 19.5 255
 0P (2) 21 12 37

10

33.0 S. 69.4 W. H = 17 37 08.7
 h = 80 Km. (USCIB).

SEPTIEMBRE DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h, m, s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h, m, s. cia S-P
en Kms.

10 Provincia de Mendoza, Argentina.
BOGOTA BOG
eP (Z) (Z) 17 44 21
CHINCHINA CHN
eP (Z) 17 44 25
FUQUENE FUA
eP (Z) 17 44 32

10 4.8 S, 81.3 W. H = 21 36 32.3
h = 45 Kms. (USCGS).
Cerca a la Costa N. del Perú.
BOGOTA BOG
eP (Z) 21 39 23.5
CHINCHINA CHN
eP (Z) 21 39 38

11 23.9 S, 66.6 W H = 04 23 56.0
h = 195 Kms. (USCGS).
Provincia de Jujuy, Argentina.
BOGOTA BOG
eP (Z) (Z) 04 29 43
epP (Z) (Z) 04 30 31
eS (N) 04 34 28
esS (N) 04 35 40
CHINCHINA CHN
iP (Z+) 04 29 46
ipP (Z) 04 30 35
FUQUENE FUA
iP (Z) 04 29 49

12 4.4 S, 144.0 E. H = 12 43 19.0
h = 120 Kms. (USCGS).
Cerca a la Costa N. de Nueva Guinea.
CHINCHINA
ePKP (Z) 13 02 26
FUQUENE FUA
ePKP (Z) 13 02 34
ePP (Z) 13 05 48

12 49.1 S, 164.2 E. H = 22 07 03.2
h = 33 Kms. (USCGS).
Islas Auckland.
BOGOTA
iP (Z) (Z+N+E+) 22 21 50
iPP (Z+) 22 26 37
CHINCHINA
eP (Z) 22 21 36
ePP (Z) 22 26 18

13 De Colombia.
BOGOTA
ePn (Z) 00 36 49
iSn (N+) 00 37 19.5 255

13 De Colombia.
BOGOTA

iPn (Z+) 03 00 27.5
iSn (N-) 03 01 57 270

13 De Colombia.
BOGOTA CHN
ePn (Z) 04 23 13.5
eSn (N) FUA 04 23 44.5 275

14 15.0 N, 93.2 W. H = 13 33 33.7
h = 64 Kms. (USCGS).
Cerca a la Costa de Chiapas,
México.
BOGOTA BOG
iP (Z) (Z+E+) 13 38 22
iS (N-) 13 42 23 2.445
FUQUENE FUA
iP (Z+) 13 38 17
iS (Z+) 13 42 23 2.460

14 15.5 N, 90.8 W. H = 15 45 22.2
h = 38 Kms. (USCGS).
GUATEMALA.
BOGOTA BOG
iP (Z+) (Z) 15 49 55
iS (E-) 15 53 39 2.220
FUQUENE FUA
eP (Z) 15 49 51

14 De Colombia.
BOGOTA
iPn (Z-) 19 46 26
iSn (N+) 19 46 56.5 270

15 0.1 S, 124.6 E. H = 05 37 45.4
h = 33 Kms. (USCGS).
Mar Moluca.
BOGOTA
ePKP1 (Z) (Z) 05 57 45
ePKP2 (Z) 05 58 23
FUQUENE
ePKP1 (Z) 05 57 45

15 De Colombia.
BOGOTA
iPn (Z+) 06 26 59
iSn (N-) 06 27 29.5
iS* (E) CHN 06 27 37 270
FUQUENE
ePn FUA (Z) 06 26 47



MOVIMIENTO SISMICO PRELIMINAR DE BOGOTA, CHIMOHINA, FUQUENE Y CALIBAKABA

SEPTIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------|
| Fase | C.P. | L.P. | h. m. s. | en Kms. |

15 8.9 N. 93.1 E. H = 17 15 29 32.2
 h = 37 Kms. (USCGS).
 Islas Nicobar.
 BOGOTA BOG
 ePKP1 (Z) (Z) 17 15 49 34
 ePKP2 (Z) (Z) 17 15 50 16
 ePP (Z) (Z) 17 15 54 08
 FUQUENE
 1PKP1 (Z) 15 49 31

16 10.9 N. 93.1 E. H = 01 26 26.9
 h = 47 Kms. (USCGS).
 Islas Azores.
 BOGOTA (Z) 02 47 19
 ePKP1 (Z) 01 46 35
 eSP (E) 02 02 17
 CHIMOHINA
 ePKP1 (Z) 01 46 29
 FUQUENE (Z) 01 46 21

16 De Colombia. (Z) 04 44 10
 BOGOTA (N) 04 53 09
 ePn (Z) (N) 04 51 59 250
 1Sn (N-) 21 52 15 205

16 22.9 N. 45.1 W. H = 22 23 36.3
 h = 33 Kms. (USCGS).
 Atlántico Norte.
 BOGOTA BOG
 1P (Z+) 22 30 15
 es (Z+) (N) 22 35 42 3.650
 CHIMOHINA CHN
 ePKP1 (Z) 22 30 21
 FUQUENE FUA
 eP (Z) 22 30 07

17 15.5 N. 72.9 W. H = 07 41 13.9
 h = 118 Kms. (USCGS).
 S. del Perú.
 BOGOTA BOG
 eP (Z) 07 45 15
 es (N) 07 49 13 2.250
 FUQUENE FUA
 eP (Z) 07 45 53

17 De Colombia.
 BOGOTA
 1P (Z-) 10 58 26
 1Sn (N-) 10 58 54.5 250

17 De Colombia.

21 3.7 BOGOTA H = 00 10 33
 (Cerca a la costa de Oaxaca, México.)
 1P (Z-E) 13 28 21.5
 1Sn (N+) (N+) 13 28 52
 1S (Z) (E) 13 28 55 270

17 CHIMOHINA CHN
 1P (Z-) 13 28 33
 es (Z) FUA 13 29 05
 FUQUENE
 1P (Z+) (Z+) 13 28 09

17 44.5 N. 31.3 W. H = 15 02 00.9
 h = 24 Kms. (USCGS).
 Atlántico Norte.
 BOGOTA BOG
 eP (Z) (Z) 15 11 30
 FUQUENE FUA
 eP (Z) 15 11 26

17 De Colombia.
 BOGOTA
 eP 1P (Z-) 13 30 19 27 33
 1Sn (N+) 19 28 03.5 270
 FUQUENE
 esn (Z) 19 27 45

22 23.9 H = (Z) 05 19 27 45
 h = 32 Kms. (USCGS).
 Isla de la costa N. de Chile.

18 39.8 N. 29.7 W. H = 13 12 42.3
 h = 20 Kms. (USCGS).
 Islas Azores.
 BOGOTA BOG
 eP (Z) 13 22 08
 es (N) 13 29 35
 eSS (N) 13 33 23 5.800
 FUQUENE FUA
 eP (Z) 13 22 05

19 De Colombia.
 BOGOTA CHN
 eP 1P (Z+) 09 48 04 39 47
 1Sn (N-) 04 40 18 275
 eP

19 15.3 N. 94.0 W. H = 05 08 15.1
 h = 42 Kms. (USCGS).
 Cerca a la costa de Oaxaca, México.
 BOGOTA BOG
 1P (Z) (Z+N-Z+) 05 13 13
 1S (N+E+) 05 17 25 2.570
 CHIMOHINA CHN
 eP (Z) 05 12 54
 FUQUENE FUA
 1P (Z+) 05 13 08

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

BOLETIN SISMICO FEBRERO DE 1964 BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA
SEPTIEMBRE DE 1.964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

19 5.6 S. 81.0 W. H = 17 26 13.0
h = 33 Kms. (USCGS).
Frente a la costa N. del Perú.

| | | | |
|-----------|-----|----------|--|
| BOGOTA | BOG | | |
| eP | (Z) | 17 29 20 | |
| CHINCHINA | CHN | | |
| eP | (Z) | 17 29 25 | |

20 BOGOTA
eP (Z) 02 46 55
e (E) 02 48 51
CHINCHINA
eP (Z) 02 46 29
eS* (Z) 02 47 19
FUQUENE
eP (Z) 02 47 14

20 49.6 S. 116.2 W. H = 04 33 29.4
h = 33 Kms. (USCGS).
Islas Pascua.

| | | | |
|-----------|-----|--------------|-------|
| BOGOTA | BOG | | |
| eP | (Z) | (Z) 04 44 10 | |
| eS | | (N) 04 53 00 | |
| eSS | | (N) 04 57 06 | 7.250 |
| CHINCHINA | CHN | | |
| eP | (Z) | 04 44 03 | |
| FUQUENE | FUA | | |
| eP | (Z) | 04 44 18 | |

20 De Colombia.
BOGOTA
iPn (Z+) 11 10 06.5
iSn (N+) 11 10 37 270
CHINCHINA
eS* (Z) 11 10 53

20 De Colombia.
BOGOTA
iPn (Z-) 12 37 27
iSn (N+) 12 37 49 185
CHINCHINA
ePn (Z) 12 37 30
eSn (Z) 12 37 59
iS* (Z) 12 38 02 255
FUQUENE
ePn (Z) 12 37 19

20 De Colombia.
BOGOTA
ePn (Z) 14 34 20.5
iSn (N-) 14 34 51.5 275

21 3.7 N. 76.0 W H = 00 10 38
(Determinado por Bogotá)

h = 116 Kms. (USCGS).
Cerca a Tenerife, Departamen-
to del Valle del Cauca, Colom-
bia. Sentido en Cali y Chin-
chiná.

| | | | |
|-----------|-------|---------------|-----|
| BOGOTA | BOG | | |
| iPn | (Z+E) | (Z+) 00 11 16 | |
| iSn | (N+) | (E+) 00 11 45 | 255 |
| CHINCHINA | CHN | | |
| iPn | (Z-) | 00 11 06 | |
| iSn | (Z) | 00 11 26 | 165 |
| FUQUENE | FUA | | |
| iPn | | (Z-) 00 11 20 | |
| iSn | | (Z-) 00 11 52 | 285 |

21 7.2 S. 74.3 W. H = 13 27 32.9
h = 150 Kms. (USCGS).
Frontera Perú - Brasil.

BOGOTA
eP (Z) 13 30 42

22 23.9 S. 70.7 W. H = 09 05 06.4
h = 33 Kms. (USCGS).
Cerca a la costa N. de Chile.

| | | | |
|-----------|-----|--------------|-------|
| BOGOTA | BOG | | |
| eP | (Z) | 09 11 10 | |
| eS | | (N) 09 16 07 | 3.200 |
| CHINCHINA | CHN | | |
| eP | (Z) | 09 11 13 | |

22 10.6 N. 70.0 W. H = 09 46 27.8
h = 12 Kms. (USCGS).
Venezuela.

| | | | |
|-----------|------|----------|--|
| BOGOTA | | | |
| eP | (Z) | 09 48 16 | |
| CHINCHINA | CHN | | |
| iP | (Z+) | 09 48 24 | |
| FUQUENE | FUA | | |
| eP | (Z) | 09 48 06 | |

23 De Colombia.
BOGOTA
ePn (Z) 02 09 22.5
eSn (E) 02 09 53
iS* (E) 02 09 57 270
CHINCHINA
eS* (Z) 02 10 12

| | | | |
|--------|------|---------------|-------|
| BOGOTA | BOG | | |
| iP | (Z-) | (Z) 05 13 51 | |
| iS | | (N+) 05 21 05 | 5.550 |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA
SEPTIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|---------|-------|----------|-------------|----------|---------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P | Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |

23 53.6 N. 163.9 W. H = 04 59 47.4
h = 29 Kms. (USCGS)
Isla Unimak, O.
BOGOTA (Z) 05 13 52
eP (Z) 05 12 33
iS (NE+) 05 22 44
eSS (N) 05 29 03
CHINCHINA (Z) 05 12 23
FUQUENE (Z) 05 12 26
eS (Z) 05 22 47
GALERAZAMBA (E) 05 22 06
eSKS (E) 05 22 38

24 De Colombia.
BOGOTA (Z) 09 32 28.5
iPn (Z+) (Z) 09 32 58 260
iSn (N+) (Z)
CHINCHINA
eS* (Z) 09 33 16

26 De Colombia.
BOGOTA (Z) 00 25 17
iPn (Z+) (Z) 00 25 48 275
iSn (N-) (Z)
CHINCHINA
eSn (Z) 00 26 00

26 30.1 N. 80.7 E. H = 00 46 02.8
h = 50 Kms. (USCGS)
30 Frontera, India-Tibet.
BOGOTA (Z) (Z) 01 05 25
ePKP (Z) (Z)
CHINCHINA (Z) 01 05 27
ePKP (Z)
FUQUENE (Z) 01 05 25
ePKP (Z)

26 De Colombia.
BOGOTA (Z) 01 06 00
ePn (Z) (Z) 01 06 06 40
iSn (N+) (Z)

26 De Colombia.
BOGOTA (Z+) 01 56 14
iPn (Z+) (Z) 01 56 40 225
iSn (N+) (Z)

27 BOGOTA (Z) 02 44 50
e (Z) 02 47 05

27 56.6 N. 152.0 W. H = 15 50 54.7
h = 27 Kms. (USCGS)
Islas Codiak.
BOGOTA (Z) (Z) 16 03 03
eP (Z) (Z) 16 06 11
ePP (Z) 16 13 03 8.800
eS (Z)
CHINCHINA (Z) 16 02 47
eP (Z) 16 05 54
ePP (Z)
FUQUENE (Z) 16 02 56
eP (Z) 16 05 52
ePP (Z)

27 7.0 N. 73.6 W. H = 18 23 21
(Determinado por Bogotá)
Cerca a Barrancabermeja, Departamento de Santander del Sur, Colombia.
BOGOTA (Z-) 18 24 00
iPn (Z-) 18 24 30 265
iSn (N+) (Z)
CHINCHINA (Z) 18 23 05
ePn (Z) 18 24 06
eSn (Z) 18 24 11 315
eS* (Z)
FUQUENE Fua (Z) 18 23 47
ePn (Z) 18 24 09 185
eSn (Z)

27 21.4 S. 68.7 W. H = 22 58 29.3
h = 132 Kms. (USCGS)
N. de Chile.
BOGOTA BOG (Z) 23 03 55
eP (Z) (N) 23 08 32 2.900
eS (Z)
CHINCHINA CHN (Z+) 23 03 57
iP (Z) 23 04 26
ipP (Z)

28 10.5 N. 60.1 W. H = 01 05 35.2
h = 63 Kms. (USCGS)
Trinidad.
BOGOTA BOG (Z) 01 09 05
eP (Z) (Z)
CHINCHINA (Z+) 01 09 20
iP (Z+) (Z)
FUQUENE Fua (Z) 01 08 46
eP (Z)

28 1.2 S. 24.1 W. H = 05 04 55.5
h = 37 Kms. (USCGS)
Océano Atlántico.
BOGOTA BOG (Z-) (Z) 05 13 51
iP (Z-) (Z) 05 21 05 5.550
iS (NE+) (Z)

SMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

SEPTIEMBRE DE 1964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

28

| | | | | |
|----------------|-----|--|----------|--|
| CHINCHINA | CMN | | | |
| eP | (Z) | | 05 14 00 | |
| FUQUENE | Fua | | | |
| eP | (Z) | | 05 13 52 | |
| S S | (Z) | | 05 21 03 | |

29 20.4 S. 174.4 W. H= 14 00 14.9
h = 29 Kms. (USCGS)

Islas Tanga.

BOGOTA

| | | |
|------|-----|----------|
| ePP | (Z) | 14 18 30 |
| eSKS | (E) | 14 24 44 |
| ePS | (E) | 14 27 16 |
| eSS | (E) | 14 32 00 |

CHINCHINA

| | | |
|-----|-----|----------|
| eP | (Z) | 14 14 05 |
| ePS | (Z) | 14 27 00 |

FUQUENE

| | | |
|-----|-----|----------|
| ePP | (Z) | 14 18 28 |
| ePS | (Z) | 14 27 22 |

29 De Colombia.

BOGOTA

| | | | |
|-----|------|------------|-----|
| iPn | (Z-) | 15 45 55.5 | |
| iSn | (N-) | 15 46 26.5 | 275 |

30 De Colombia.

BOGOTA

| | | | |
|-----|------|----------|-----|
| iPn | (Z-) | 22 22 10 | |
| iSn | (N-) | 22 22 40 | 265 |

30 De Colombia.

BOGOTA

| | | | |
|-----|------|------------|-----|
| iPn | (Z-) | 22 45 40.5 | |
| iSn | (N-) | 22 46 11.5 | 275 |

NOTA: La estación de Chinchiná sufrió algunas interrupciones por desajuste en el funcionamiento del reloj.

JESUS EMILIO RAMIREZ, S.J.
Director.

Francisco A. Miranda G.
Auxiliar de Geofísica.



UNIVERSIDAD JAVERIANA
GEOFISICO DE LOS ANDES COLOMBIANOS
BOGOTA

BOLETIN SISMICO PRELIMINAR DE LAS ESTACIONES COLOMBIANAS
BOGOTA, CHINCHINA, FUGUENE Y GALERAZAMBA

OCTUBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|---------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. |

| Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|---------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. |

1 10.5 S. 13.3 W. H = 02 33 02.8
h = 33 Kms. (USCGS).
S. de la Isla Ascención.

| | | | | |
|-----------|-----|--|----------|-------|
| BOGOTA | BoG | | | |
| eP | (Z) | | 02 43 29 | |
| eS | (E) | | 02 52 06 | 7.000 |
| CHINCHINA | CHN | | | |
| eP | (Z) | | 02 43 36 | |

| | | | | |
|-----------|------|--|------------|-----|
| BOGOTA | | | | |
| iPn | (Z-) | | 19 43 21.5 | |
| iSn | (N+) | | 19 43 51.5 | 265 |
| CHINCHINA | | | | |
| iPn | (Z+) | | 19 43 30 | |
| iSn | (Z-) | | 19 44 05 | |
| iS* | (Z) | | 19 44 11 | 315 |

| | | | | |
|-------------|------|--|----------|-----|
| FUGUENE | FuQ | | | |
| ePn | (Z) | | 19 43 11 | |
| eSn | (Z) | | 19 43 34 | 195 |
| GALERAZAMBA | GAL | | | |
| iS*n | (NE) | | 19 44 42 | |
| iSg | (NE) | | 19 44 54 | |

1 7.1 N. 72.0 W. H = 03 50 15.8
H = 66 Kms. (USCHS).
Cerca a Campo Hermoso, Departamento
de Santander del Norte, Colombia.

| | | | | |
|-------------|------|--|------------|-----|
| BOGOTA | | | | |
| ePn | (Z) | | 03 51 05 | |
| iP* | (N+) | | 03 51 11.5 | |
| iS* | (N+) | | 03 51 48 | |
| iS* | (E) | | 03 51 57.5 | 395 |
| CHINCHINA | | | | |
| ePn | (Z) | | 03 51 13 | |
| eSn | (Z) | | 03 52 00 | 430 |
| FUGUENE | FuQ | | | |
| ePn | (Z) | | 03 50 52 | |
| iSn | (Z-) | | 03 51 11.6 | 205 |
| GALERAZAMBA | | | | |
| iS* | (NE) | | 03 52 51 | |

2 8.9 S. 79.7 W. H = 20 41 47.7
h = 55 Kms. (USCGS).
Costa N. del Perú.

| | | | | |
|-----------|------|--|----------|-------|
| BOGOTA | | | | |
| eP | (Z) | | 20 45 18 | |
| eS | (NE) | | 20 48 13 | 1.650 |
| CHINCHINA | CHN | | | |
| eP | (Z) | | 20 45 16 | |

3 De Colombia.
BOGOTA

| | | | | |
|-----|------|--|------------|-----|
| iPn | (Z+) | | 01 14 33.5 | |
| eSn | (N-) | | 01 15 04 | 270 |

3 10.7 S. 75.3 W. H = 12 49 31.5
h = 154 Kms. (USCGS).
Perú Central.

| | | | | |
|-----------|-----|--|----------|-------|
| BOGOTA | | | | |
| eP | (Z) | | 12 53 01 | |
| eS | (E) | | 12 55 52 | 1.600 |
| CHINCHINA | | | | |
| eP | (Z) | | 12 53 03 | |
| eS | (Z) | | 12 56 02 | 1.700 |

4 BOGOTA

| | | | | |
|-----------|-----|------|----------|-------|
| eP | (Z) | (Z) | 00 51 33 | |
| iS | | (N+) | 01 00 56 | |
| eSS | | (N) | 01 05 42 | 7.950 |
| CHINCHINA | | | | |
| eP | (Z) | | 00 51 35 | |

1 De Colombia .
BOGOTA

| | | | | |
|-----------|------|--|----------|-----|
| iPn | (Z+) | | 22 41 35 | |
| iSn | (N-) | | 22 41 53 | 145 |
| CHINCHINA | | | | |
| eS* | (Z) | | 22 42 14 | |

2 BOGOTA

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 02 48 12 | |
|----|-----|--|----------|--|

2 10.5 S. 162.4 E. H = 13 00 39.7
h = 68 Kms. (USCGS).
Bauro (Islas Salomón).

| | | | | |
|-----------|-----|--|----------|--|
| BOGOTA | | | | |
| ePKP | (Z) | | 13 19 40 | |
| ePP | (Z) | | 13 21 30 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 13 19 37 | |
| ePP | (Z) | | 13 21 35 | |
| FUGUENE | | | | |
| ePP | (Z) | | 13 21 44 | |

2 7.0 N. 73.6 W. H = 19 42 42
(Determinado por Bogotá).
Cerca a Barrancabermeja, Depar-
tamento de Santander del Sur.

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|---------|-------|----------|-------------|----------|---------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P | Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |

4 6.0 N. 74.5 W. H = 01 44 57
(Determinado por Bogotá)

Berca a Puerto Naño, Departa-
mento de Boyaca, Colombia.

BOGOTA

| | | | | |
|-----|--------|--|------------|-----|
| iPn | (Z+) | | 01 45 21.5 | |
| iS | (N) | | 01 45 31 | |
| iSn | (N+E-) | | 01 45 39 | 145 |

CHINCHINA

CHN

| | | | | |
|-----|------|--|----------|-----|
| ePn | (Z) | | 01 45 26 | |
| iSn | (Z-) | | 01 45 49 | 195 |

FUQUENE

Fua

| | | | | |
|-----|------|--|----------|-----|
| iPn | (Z+) | | 01 45 14 | |
| eSn | (Z) | | 01 45 29 | 120 |

4 8.9 S. 129.2 E. H = 09 11 22.7
h = 78 Kms. (USCGS)

Isla Babar.

BOGOTA

| | | | | |
|-------|-----|--|----------|--|
| ePKP1 | (Z) | | 09 32 11 | |
| ePKP2 | (Z) | | 09 32 45 | |

CHINCHINA

| | | | | |
|-------|-----|--|----------|--|
| ePKP1 | (Z) | | 09 32 01 | |
| ePKP2 | (Z) | | 09 32 35 | |

4 De Colombia.

BOGOTA

| | | | | |
|-----|------|--|----------|-----|
| iPn | (Z-) | | 16 52 53 | |
| eSn | (N) | | 16 53 24 | 275 |

CHINCHINA

| | | | | |
|-----|-----|--|----------|--|
| eS* | (Z) | | 16 53 39 | |
|-----|-----|--|----------|--|

6 18.6 N. 119.6 E. H = 06 11 32.6
h = 33 Kms. (USCGS)

Islas Filipinas.

BOGOTA

| | | | | |
|------|-----|--|----------|--|
| ePKP | (Z) | | 06 31 32 | |
|------|-----|--|----------|--|

CHINCHINA

| | | | | |
|------|-----|--|----------|-------|
| ePKP | (Z) | | 06 31 22 | 1.500 |
|------|-----|--|----------|-------|

FUQUENE

CHN

| | | | | |
|------|-----|--|----------|-------|
| ePKP | (Z) | | 06 31 26 | 1.550 |
|------|-----|--|----------|-------|

6 36.2 S. 100.9 W. H = 07 17 57.1
h = 33 Kms. (USCGS)

S. del Océano Pacifico.

BOGOTA

| | | | | |
|-----|------|--------|------------|-------|
| iP | (Z+) | (Z+) | 07 27 34.5 | |
| iS | | (N-E-) | 07 33 34 | |
| iSS | | (NE) | 07 37 16 | 5.300 |

CHINCHINA

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 07 26 28 | |
|----|-----|--|----------|--|

FUQUENE

Fua

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 07 26 41 | |
|----|-----|--|----------|--|

6 2.6 N. 95.3 W. H = 10 06 17.9
h = 33 Kms. (USCGS)
N. de las Islas Galápagos.

BOGOTA

BOG

| | | | | |
|----|-----|-----|----------|-------|
| eP | (Z) | | 10 11 08 | |
| eS | | (N) | 10 15 06 | 2.400 |

CHINCHINA

CHN

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 10 10 48 | |
|----|-----|--|----------|--|

FUQUENE

Fua

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 10 11 08 | |
|----|-----|--|----------|--|

6 40.3 N. 28.2 E. H = 14 31 19.2
h = 10 Kms. (USCGS)

Turquia.

BOGOTA

BOG

| | | | | |
|------|-----|------|----------|--|
| iP | (Z) | (Z-) | 14 44 51 | |
| iSKS | | (N-) | 14 55 26 | |

CHINCHINA

CHN

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 14 44 55 | |
|----|-----|--|----------|--|

FUQUENE

Fua

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 14 44 48 | |
|----|-----|--|----------|--|

GALERAZAMBA

| | | | | |
|----|-----|------|----------|--|
| eP | (Z) | (NE) | 14 44 44 | |
|----|-----|------|----------|--|

eSKS

(N)

| | | | | |
|------|--|-----|----------|--|
| eSKS | | (N) | 14 55 28 | |
|------|--|-----|----------|--|

eSKKE

(N)

| | | | | |
|-------|--|-----|----------|--|
| eSKKE | | (N) | 14 55 55 | |
|-------|--|-----|----------|--|

6 13.4 S. 75.8 W. H = 18 19 07.5
h = 117 Kms. (USCGS)

Perd Central.

BOGOTA

BOG

| | | | | |
|----|-----|-----|----------|-------|
| eP | (Z) | | 18 23 05 | |
| eS | | (N) | 18 26 32 | 2.050 |

CHINCHINA

CHN

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 18 23 10 | |
|----|-----|--|----------|--|

FUQUENE

Fua

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 18 23 20 | |
|----|-----|--|----------|--|

6 De Colombia.

BOGOTA

| | | | | |
|-----|------|--|------------|-----|
| iPn | (Z-) | | 19 22 36 | |
| iSn | (N+) | | 19 23 06.5 | 270 |

CHINCHINA

| | | | | |
|-----|-----|--|----------|--|
| ePn | (Z) | | 19 22 44 | |
|-----|-----|--|----------|--|

iS*

(Z)

| | | | | |
|-----|--|-----|----------|--|
| iS* | | (Z) | 19 23 24 | |
|-----|--|-----|----------|--|

7 De Colombia.

BOGOTA

| | | | | |
|-----|------|--|----------|--|
| iPn | (Z+) | | 01 26 58 | |
| iSn | (N-) | | 01 27 29 | |

iS*

(E)

| | | | | |
|-----|--|-----|----------|-----|
| iS* | | (E) | 01 27 34 | 275 |
|-----|--|-----|----------|-----|

CHINCHINA

| | | | | |
|-----|-----|--|----------|--|
| ePn | (Z) | | 01 27 06 | |
|-----|-----|--|----------|--|

BOLLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

BOLLETIN SISMICO PRELIMINAR OCTUBRE DE 1.964

| Fecha Estación Componentes | G. M. T. | Distan- | Fecha Estación Componentes | G. M. T. | Distan- |
|----------------------------|----------|---------|----------------------------|----------|---------|
| Fase C.P. L.P. | h. m. s. | cia S-P | Fase C.P. L.P. | h. m. s. | cia S-P |
| | | en Kms. | | | en Kms. |

7 De Colombia.
BOGOTA
iPn (Z+) 22 02 23.5
iSn (N+) 22 02 54 270

8 De Colombia.
BOGOTA
iPn (Z+) 12 24 03
iSn (N-) 12 24 34 275

9 De Colombia.
BOGOTA (USGS)
iPn (Z+) 00 20 59.5
iSn (E-) 00 21 07 45

9 BOGOTA
eP (Z) 08 43 58
CHINCHINA fua
eP (Z) 08 44 14
FUQUENE
eP (Z) 08 43 49

De Colombia.
9 BOGOTA
ePn (Z) 09 21 07
iSn (N+) 09 21 37 265
CHINCHINA
ePn (Z) 09 21 13
eS* (Z) 09 21 53
FUQUENE
eSn (Z) 09 21 19

9 18.4 N. 68.9 W. H = 11 27 57.0
h = 178 Kms. (USGS)
Paso de la Maria.
BOGOTA
eP (Z) (Z) 11 31 16.5
eS (N) 11 33 55 1.500
CHINCHINA CHN
eP (Z) 11 31 20
eS (Z) 11 34 08 1.550
FUQUENE fua
eP (Z) 11 31 07

9 De Colombia.
BOGOTA
ePn (Z) 11 50 44.5
iSn (N+) 11 51 15.5 275
CHINCHINA
eS* (Z) 11 51 36

9 6.8 N. 73.5 W. H = 19 26 43
(Determinado por Bogota) h=157 Kms. (USGS)
Cerca a San Vicente, Depar-
tamento de Santander del Sur
Colombia. Sentido en Bogotá,
Medellin, Bucaramanga y Chin-
china.

BOGOTA
iPn (Z-N-) (Z+N-E-) 19 27 23
iSn (N) 19 27 54 275
CHINCHINA
iPn (Z-) 19 27 30
iSn (Z+) 19 28 05 315
GALERAZAMBA
iPn (Z+) 19 27 48
eSn (NE) 19 28 39 475

Este temblor no se registró en la estación de Fuquene por interrupciones en el sismógrafo.

10 BOGOTA
iS (N+) 06 05 14
eS (N) 06 08 50

10 60.5 N. 145.4 W. H = 20 06 39.8
h = 31 Kms. (USGS)
Alaska.
BOGOTA BOG
eP (Z) (Z) 20 18 32
eS (NE) 20 28 24 8.550
CHINCHINA
eP (Z) 20 18 17
FUQUENE
eP (Z) 20 18 19

11 De Colombia.
BOGOTA
iPn (Z+) 01 53 48
iSn (N+) 01 54 18.5 270
CHINCHINA
ePn (Z) 01 53 52
eS* (Z) 01 54 32

11 De Colombia.
BOGOTA
iPn (Z+) 06 04 38.5
iSn (N-) 06 05 09 270
CHINCHINA
iPn (Z+) 06 04 43
eS* (Z) 06 04 57
FUQUENE
ePn (Z) 06 04 36

10 23 33
10 23 58 110

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |

13 3.3 S. 149.9 E. H = 10 38 59.3
h = 59 Kms. (USCGS).
Mar de Bismarck.

| | | | | |
|-----------|-----|------|----------|--|
| BOGOTA | | | | |
| ePKP | (Z) | | 10 58 20 | |
| ePKS | | (Z) | 11 02 07 | |
| eSS | | (NE) | 11 19 07 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 10 58 15 | |
| FUQUENE | | | | |
| ePKP | | (Z) | 10 58 32 | |

13 De Colombia.

| | | | | |
|-----------|-----|--|----------|-----|
| BOGOTA | | | | |
| ePn | (Z) | | 21 58 51 | |
| eSn | (N) | | 21 59 22 | 275 |
| CHINCHINA | | | | |
| ePn | (Z) | | 21 58 37 | |
| eSn | (Z) | | 21 58 04 | 235 |

14 33.4 N. 141.8 E. H = 03 04 59.6
h = 33 Kms. (USCGS).
Costa E. de Honshu, Japon.

| | | | | |
|-----------|-----|-----|----------|--|
| BOGOTA | | | | |
| ePP | (Z) | (Z) | 02 26 16 | |
| ePS | | (Z) | 02 36 20 | |
| eSS | | (N) | 02 43 54 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 02 24 08 | |

14 5.0 N. 76.0 W. H = 11 50 26
(Determinado por Bogota).

Cerca a Santuario, Departamen-
to de Caldas, Colombia. Senti-
do en Chinchina, Cali, Cartago
y Pereira. (USCGS) h = 63 Kms.

| | | | | |
|-----------|------|----------|------------|-----|
| BOGOTA | | | | |
| iPn | (Z+) | | 11 51 00.5 | |
| iSn | (N-) | (Z-N+E+) | 11 51 26.5 | 225 |
| CHINCHINA | | | | |
| iPn | (Z-) | | 11 50 37 | |
| iSn | (Z) | | 11 50 44 | 45 |
| FUQUENE | | | | |
| iPn | (Z+) | | 11 51 06 | |
| iSn | (Z-) | | 11 51 36 | 265 |

| | | | | |
|-------------|-----|------|----------|--|
| GALERAZAMBA | | | | |
| eP | (Z) | (NE) | 11 52 04 | |
| eS | | (E) | 11 53 39 | |

14 34.8 N. 138.9 E. H = 18 04 41.3
h = 176 Kms. (USCGS).
Costa S. de Honshu, Japon.

| | | | | |
|--------|-----|--|----------|--|
| BOGOTA | | | | |
| ePP | (Z) | | 18 26 18 | |

14 10.2 N. 73.1 W. H = 22 09 57
(Determinado por Bogota).

h = 249 Kms. (USCGS).
Cerca a San Diego, Departamen-
to del Magdalena, Colombia.

| | | | | |
|-----------|------|--|------------|-----|
| BOGOTA | | | | |
| ePn | (Z) | | 22 11 23 | |
| iSn | (N-) | | 22 12 30.5 | 630 |
| CHINCHINA | | | | |
| eP | (Z) | | 22 11 28 | |
| eS | (Z) | | 22 12 39 | 670 |

| | | | | |
|-------------|-----|------|----------|-----|
| FUQUENE | FUQ | | | |
| eP | | (Z) | 22 11 09 | |
| eS | | (Z) | 22 12 06 | 530 |
| GALERAZAMBA | GAL | | | |
| iPn | | (Z-) | 22 10 42 | |
| iSn | | (E+) | 22 11 07 | 215 |

15 44.7 N. 149.8 E. H = 20 26 53.5
h = 49 Kms. (USCGS).

Islas Kuriles.

| | | | | |
|-----------|-----|------|----------|--|
| BOGOTA | | | | |
| ePP | | (Z) | 20 47 07 | |
| ePS | | (N) | 20 56 47 | |
| eSS | | (NE) | 21 03 03 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 20 45 17 | |
| FUQUENE | | | | |
| ePP | | (Z) | 20 47 04 | |

15 9.1 N. 84.0 W. H = 21 04 11.4
h = 36 Kms. (USCGS).
Costa S. de Costa Rica.

| | | | | |
|-------------|-----|-----|----------|--|
| BOGOTA | BOG | | | |
| eP | | (Z) | 21 06 52 | |
| CHINCHINA | CHN | | | |
| eP | | (Z) | 21 06 28 | |
| FUQUENE | FUQ | | | |
| eP | | (Z) | 21 06 54 | |
| GALERAZAMBA | GAL | | | |
| eP | | (N) | 21 06 28 | |

16 44.3 N. 149.5 E. H = 06 59 38.6
h = 33 Kms. (USCGS).

Islas Kuriles.

| | | | | |
|-------------|-----|------|----------|-----|
| BOGOTA | | | | |
| ePKP | (Z) | (Z) | 07 18 31 | |
| ePP | (Z) | (Z) | 07 19 29 | |
| iPKS | | (Z) | 07 22 03 | |
| eSS | | (NE) | 07 35 46 | |
| CHINCHINA | | | | |
| ePP | (Z) | | 07 19 26 | |
| FUQUENE | | | | |
| ePKP | (Z) | (Z) | 07 18 27 | |
| ePP | (Z) | (Z) | 07 19 30 | 305 |
| iPKS | | (Z) | 07 21 51 | |
| GALERAZAMBA | | | | |
| ePP | | (E) | 07 19 35 | |
| eSS | | (NE) | 07 34 47 | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|---------|-------|----------|-------------|----------|---------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P | Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |

17 7.0 S. 155.8 E. H = 01 38 36.0
h = 58 Kms. (USCGS).
Islas Salomón.

| | | | | |
|-----------|-----|-----|----------|-------|
| BOGOTA | BOG | | | |
| ePP | (Z) | | 02 00 14 | |
| eFS | (N) | | 02 10 13 | 2,600 |
| eSSP | (E) | Fua | 02 18 03 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 01 57 54 | |
| ePKS | (Z) | | 02 01 24 | |
| FUQUENE | | | | |
| ePKS | (Z) | | 02 01 17 | |

18 2.9 N. 65.7 E. H = 09 06 26.0
h = 33 Kms. (USCGS).
Cresta de Carlesburgo.

| | | | | |
|-----------|-----|--|----------|--|
| BOGOTA | BOG | | | |
| ePKP | (Z) | | 09 26 05 | |
| eSS | (N) | | 09 47 16 | |
| CHINCHINA | | | | |
| ePKP | (Z) | | 09 25 52 | |
| ePP | (Z) | | 09 28 53 | |
| FUQUENE | Fua | | | |
| ePKP | (Z) | | 09 26 06 | |

17 0.7 N. 119.3 E. H = 03 17 28.1
h = 62 Kms. (USCGS).
N. de las Islas Célebes.

| | | | | |
|-----------|-----|-----|----------|-----|
| BOGOTA | | | | |
| ePKP1 | (Z) | | 03 37 30 | |
| ePKP2 | (Z) | | 03 38 34 | 155 |
| CHINCHINA | | | | |
| ePKP1 | (Z) | | 03 37 24 | |
| ePKP2 | (Z) | | 03 38 25 | |
| FUQUENE | | | | |
| ePKP1 | (Z) | | 03 37 32 | |
| ePKP2 | (Z) | BOG | 03 38 45 | |

18 14.4 S. 167.0 E. H = 09 26 57.3
h = 50 Kms. (USCGS).
Islas Espiritu Santo.

| | | | | |
|--------|-----|--|----------|--|
| BOGOTA | | | | |
| ePKS | (Z) | | 09 49 24 | |
| eSKS | (Z) | | 09 52 33 | |

18 2.8 N. 78.0 W. H = 02 49 16.8
h = 68 Kms. (USCGS).
Cerca a Guapi, Departamento del
Cauca, Colombia.

| | | | | |
|-----------|------|------|-----------|-----|
| BOGOTA | BOG | | | |
| ePn | (Z) | | 02 50 24 | |
| iP* | (Z) | | 02 50 36 | |
| eSn | (Z) | (NE) | 02 51 14 | 460 |
| CHINCHINA | CHN | | | |
| ePn | (Z) | | 02 50 02? | |
| iSg | (Z) | BOG | 02 50 16? | |
| iSn | (Z+) | | 02 50 40? | 345 |
| FUQUENE | Fua | | | |
| ePn | (Z) | | 02 50 35 | |
| eSn | (Z) | | 02 51 30 | 510 |

18 De Colombia.
BOGOTA

| | | | | |
|-----------|------|--|------------|-----|
| ePn | (Z) | | 12 20 40 | 315 |
| iSn | (N-) | | 12 21 00.5 | 165 |
| CHINCHINA | | | | |
| iPn | (Z-) | | 12 20 23 | |
| iSn | (Z-) | | 12 20 34 | 80 |

18 19.4 N. 68.7 W. H = 07 07 31.8
h = 33 Kms. (USCGS).
N. de la República Dominicana.

| | | | | |
|-----------|------|--|-----------|--|
| BOGOTA | BOG | | | |
| eP | (Z) | | 07 11 12 | |
| eSS | (NE) | | 07 14 19 | |
| CHINCHINA | CHN | | | |
| eP | (Z) | | 07 11 09? | |
| FUQUENE | Fua | | | |
| eP | (Z) | | 07 11 08 | |

18 7.0 S. 124.0 E. H = 12 32 24.1
h = 57 Kms. (USCGS).
Mar de Banda.

| | | | | |
|-------------|------|------|----------|--|
| BOGOTA | | | | |
| iPKP1 | (Z) | (Z-) | 12 51 24 | |
| iPKP2 | (Z) | | 12 52 17 | |
| iSPKP2 | | (N) | 12 55 32 | |
| iPP | | (Z) | 12 56 02 | |
| iSPP | | (N) | 13 09 08 | |
| CHINCHINA | | | | |
| iPKP1 | (Z-) | | 12 51 15 | |
| iPKP2 | (Z) | | 12 52 03 | |
| FUQUENE | | | | |
| ePKP1 | (Z) | | 12 51 21 | |
| ePKP2 | (Z) | | 12 52 16 | |
| GALERAZAMBA | | | | |
| iPKP1 | (Z-) | | 12 53 22 | |
| iSKS | (Z-) | | 12 57 15 | |
| iSKKS | (Z+) | (E+) | 13 01 53 | |

18 De Colombia.
BOGOTA

| | | | | |
|-----------|------|--|------------|-----|
| iPn | (Z+) | | 16 23 34.5 | |
| iSn | (N-) | | 16 24 05.5 | |
| iS* | (E) | | 16 24 09.5 | 275 |
| CHINCHINA | | | | |
| ePn | (Z) | | 16 23 40 | |
| eSn | (Z) | | 16 24 14 | |
| eS* | (Z) | | 16 24 20 | 305 |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINGHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |

19 1.5 N. 97.0 W. H = 06 34 02.1
h = 33 Kms. (USCGS).
Al W. de las Islas Galápagos.

| | | | | |
|-------------|-----|--|----------|-------|
| BOGOTA BOG | | | | |
| eP | (Z) | | 06 39 17 | |
| eS | (N) | | 06 43 33 | 2,600 |
| FUQUENE FUA | | | | |
| eP | (Z) | | 06 39 19 | |

21 44.8 N. 111.6 W. H = 07 38 31.0
h = 33 Kms. (USCGS).
Región del Lago de Hebgen.

| | | | | |
|---------------|-----|-----|----------|-------|
| BOGOTA BOG | | | | |
| eP | (Z) | (Z) | 07 47 40 | |
| eS | | (N) | 07 55 03 | |
| eSS | | (N) | 07 58 46 | |
| eSSS | | (E) | 08 00 16 | 5,680 |
| CHINGHINA CHN | | | | |
| eP | (Z) | | 07 47 29 | |

19 De Colombia.

| | | | | |
|-----------|------|--|----------|-----|
| BOGOTA | | | | |
| iPn | (Z+) | | 20 44 47 | |
| iSn | (N-) | | 20 45 18 | 275 |
| CHINGHINA | | | | |
| ePn | (Z) | | 20 45 57 | |
| eS* | (Z) | | 20 45 37 | |
| FUQUENE | | | | |
| ePn | (Z) | | 20 44 35 | |
| eSn | (Z) | | 20 44 58 | 195 |

21 7.0 N. 73.6 W. H = 17 05 06
(Determinado por Bogotá).
Cerca a Barrancabermeja, Departamento de Santander, Colombia.

| | | | | |
|-------------|------|--|------------|-----|
| BOGOTA | | | | |
| iPn | (Z+) | | 17 05 46.5 | |
| iSn | (N-) | | 17 06 17 | |
| iS* | (E) | | 17 06 21 | 270 |
| CHINGHINA | | | | |
| iPn | (Z+) | | 17 05 54 | |
| eSn | (Z) | | 17 06 29 | |
| eS* | (Z) | | 17 06 33 | 315 |
| FUQUENE FUA | | | | |
| ePn | (Z) | | 17 05 34 | |
| eSn | (Z) | | 17 05 56 | 185 |

19 36.1 S. 73.5 W. H = 21 17 59.8
h = 33 Kms. (USCGS).
Cerca a la Costa Central de Chile.

| | | | | |
|---------------|-----|--|----------|-------|
| BOGOTA BOG | | | | |
| eP | (Z) | | 21 25 48 | |
| eS | (E) | | 21 32 07 | |
| eSS | (E) | | 21 35 10 | 4,550 |
| CHINGHINA CHN | | | | |
| eP | (Z) | | 21 25 42 | |
| FUQUENE FUA | | | | |
| eP | (Z) | | 21 25 42 | |

21 28.1 N. 93.8 E. H = 23 09 18.8
h = 37 Kms. (USCGS).
Frontera China - India.

| | | | | |
|-------------|------|------|----------|--|
| BOGOTA | | | | |
| 1PKP | (Z) | (Z+) | 23 28 57 | |
| 1PP | | (Z+) | 23 32 19 | |
| eSSP | | (E) | 23 51 20 | |
| CHINGHINA | | | | |
| 1PKP | (Z+) | | 23 28 55 | |
| FUQUENE | | | | |
| 1PKP | | (Z+) | 23 28 51 | |
| 1PP | | (Z) | 23 32 07 | |
| GALERAZAMBA | | | | |
| ePS | | (E) | 23 42 59 | |
| eSS | | (E) | 23 50 33 | |

20 14.8 N. 60.2 W. H = 23 34 59.4
h = 33 Kms. (USCGS).
Antillas Menores.

| | | | | |
|---------------|-----|-----|----------|-------|
| BOGOTA BOG | | | | |
| eP | (Z) | | 23 39 01 | |
| eS | | (E) | 23 42 10 | 1,850 |
| CHINGHINA CHN | | | | |
| eP | (Z) | | 23 39 11 | |
| FUQUENE FUA | | | | |
| eP | (Z) | | 23 38 48 | |

23 19.8 N. 56.0 W. H = 01 56 03.2
h = 31 Kms. (USCGS).
N. del Océano Atlántico.

| | | | | |
|-------------|------|----------|----------|-------|
| BOGOTA | | | | |
| 1P | (Z) | (Z+N-E-) | 02 01 10 | |
| 1 | (Z) | | 02 01 20 | |
| 1S | | (N+E+) | 02 05 25 | 2,600 |
| CHINGHINA | | | | |
| 1P | (Z+) | | 02 01 17 | |
| FUQUENE | | | | |
| 1P | (Z+) | | 02 01 00 | |
| GALERAZAMBA | | | | |
| 1P | | (N-) | 02 00 43 | |
| 1S | | (N+) | 02 04 38 | 2,350 |

21 De Colombia.

| | | | | |
|-----------|------|--|----------|-----|
| BOGOTA | | | | |
| ePn | (Z) | | 03 04 30 | |
| iSn | (N+) | | 03 05 01 | 275 |
| CHINGHINA | | | | |
| ePn | (Z) | | 03 04 40 | |
| eSn | (Z) | | 03 05 15 | |
| eS* | (Z) | | 03 05 20 | 315 |
| FUQUENE | | | | |
| ePn | (Z) | | 03 04 25 | |

PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|--|------------------|------------|---------|-------|----------|-------------|----------|---------|
| Fase | C.E. | L.P. | h. m. s. | cia S-P | Fase | C.P. | L.P. | h. m. s. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |
| 23 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z+) | 07 41 52 | | | | | | |
| | iSn | (N-) | 07 42 22.5 | 270 | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePn | (Z) | 07 42 01 | | | | | | |
| | eSn | (Z) | 07 42 34 | | | | | | |
| | eS* | (Z) | 07 42 39 | | | | | | |
| | FUQUENE | | | | | | | | |
| | eSn | (Z) | 07 42 02 | | | | | | |
| 23 | 14.0 N. 147.5 E. H = | | 21 06 24.2 | | | | | | |
| | h = 45 Kms. (USCGS). | | | | | | | | |
| | Islas Kuriles. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePP | (Z) | 21 26 38 | | | | | | |
| | ePS | (Z) | 21 36 20 | | | | | | |
| | eSS | (E) | 21 42 54 | | | | | | |
| 24 | 24.8 N. 122.1 E. H = | | 08 46 25.0 | | | | | | |
| | h = 63 Kms. (USCGS). | | | | | | | | |
| | N. de Formosa. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePKP | (Z) | 09 06 01 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | iPKP | (Z-) | 09 06 02 | | | | | | |
| | FUQUENE | | | | | | | | |
| | ePKP | (Z) | 09 05 58 | | | | | | |
| 24 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePn | (Z) | 18 46 55 | | | | | | |
| | eSn | (NE) (N) | 18 47 47 | 480 | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePn | (Z) | 18 46 41 | | | | | | |
| | eSn | (Z) | 18 47 12 | 275 | | | | | |
| | FUQUENE | | | | | | | | |
| | ePn | (Z) | 18 46 53 | | | | | | |
| 25 | 5.0 N. 82.5 W. H = | | 03 43 20.0 | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | S. de Panamá. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | eP | (Z) (Z) | 03 45 24.5 | | | | | | |
| | iS | (N-) | 03 47 00 | 915 | | | | | |
| | CHINCHINA | | | | | | | | |
| | iPn | (Z-) | 03 45 00 | | | | | | |
| | eSn | (Z) | 03 46 19 | 745 | | | | | |
| | FUQUENE | FUQ | | | | | | | |
| | eP | (Z) | 03 45 26 | | | | | | |
| | GALERAZAMBA | GAL | | | | | | | |
| | iS | (Z) | 03 45 35 | | | | | | |
| 25 | 2.0 S. 77.2 W. H = | | 06 25 48.6 | | | | | | |
| | h = 160 Kms. (USCGS). | | | | | | | | |
| | Ecuador. | | | | | | | | |
| | BOGOTA | CHN | | | | | | | |
| | iP | (Z-N-E) (Z+N+E+) | 06 27 36 | | | | | | |
| | iS | (N+E+) | 06 29 02 | 815 | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | 06 27 27 | | | | | | |
| | FUQUENE | | | | | | | | |
| | iP | (Z+) | 06 27 46 | | | | | | |
| | eS | (Z) | 06 29 29 | 985 | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | iP | (Z+) | 06 28 47 | | | | | | |
| | eS | (N) | 06 31 04 | 1.300 | | | | | |
| 25 | 2.0 S. 79.0 W. H = | | 22 56 32.8 | | | | | | |
| | h = 57 Kms. (USCGS). | | | | | | | | |
| | Ecuador. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iP | (Z-NE) (Z+N+E+) | 22 58 33 | | | | | | |
| | eS | (NE) | 23 00 17 | 995 | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | 22 58 23 | | | | | | |
| | FUQUENE | | | | | | | | |
| | iP | (Z+) | 22 58 42 | | | | | | |
| | iS | (Z+) | 23 00 33 | 1.050 | | | | | |
| 26 | 8.9 N. 83.9 W. H = | | 00 55 22.3 | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Costa Rica. | | | | | | | | |
| | BOGOTA | BOG | | | | | | | |
| | eP | (Z) (Z) | 00 57 57 | | | | | | |
| | CHINCHINA | CHN | | | | | | | |
| | eP | (Z) | 00 57 33 | | | | | | |
| | FUQUENE | FUQ | | | | | | | |
| | eP | (Z) | 00 57 58 | | | | | | |
| 26 | 6.9 N. 73.6 W. H = | | 08 12 12 | | | | | | |
| | (Determinado por Bogotá). | | | | | | | | |
| | h = 165 Kms. (USCGS). | | | | | | | | |
| | Cerca a San Luis, Departamento de Santander, Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z+) | 08 12 51.5 | | | | | | |
| | iSn | (N+) | 08 13 21.5 | | | | | | |
| | iS* | (E) | 08 13 24 | 265 | | | | | |
| | CHINCHINA | | | | | | | | |
| | iPn | (Z-) | 08 13 00 | | | | | | |
| | eSn | (Z) | 08 13 35 | | | | | | |
| | eS* | (Z) | 08 13 40 | 315 | | | | | |
| | FUQUENE | FUQ | | | | | | | |
| | ePn | (Z) | 08 12 40 | | | | | | |
| | eSn | (Z) | 08 13 02 | 175 | | | | | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |

26 2.2 N. 126.8 E. H = 14 22 57.8
 h = 48 Kms. (USCGS).
 Pasaje de Molucas.
 BOGOTA
 ePKP₁ (Z) 14 42 55
 ePKP₂ (Z) (Z) 14 43 29
 FUQUENE
 ePKP₁ (Z) 14 42 53

27 De Colombia.
 BOGOTA
 iPn (Z+) 03 15 30.8
 iSn (N-) 03 16 01.5 270
 CHINCHINA
 ePn (Z) 03 15 41 315
 eSn (Z) 03 16 13
 eS* (Z) 03 16 20 305
 FUQUENE
 eSn (Z) 03 15 44

27 45.6 S. 96.1 E. H = 21 24 31.2
 h = 33 Kms. (USCGS).
 SE. del Océano Indico.
 BOGOTA BOG
 ePKP (Z) 21 44 05
 ePP (Z) 21 46 47
 CHINCHINA
 ePKP (Z) 21 44 08
 ePP (Z) 21 46 41
 FUQUENE
 ePKP (Z) 21 44 10

27 7.0 N. 73.6 W. H = 22 20 25
 (Determinado por Bogotá).
 Cerca a Barrancabermeja, Departamento de Santander, Colombia.
 BOGOTA
 iPn (Z-) 22 21 05
 iSn (N+) 22 21 35.5 270
 iS* (Z) 22 21 40
 CHINCHINA CHN
 ePn (Z) 22 21 13
 eSn (Z) 22 21 48
 eS* (Z) 22 21 53 315
 FUQUENE FUA
 ePn (Z) 22 20 53
 eSn (Z) 22 21 15 185

27 58.5 S. 66.2 W. H = 22 36 17.9
 h = 33 Kms. (USCGS).
 Pasaje de Drake.

BOGOTA BOG
 eP (Z) 22 46 53
 CHINCHINA CHN
 eP (Z) 22 46 47

28 13.4 S. 72.6 W. H = 03 07 07.3
 h = 53 Kms. (USCGS).
 Perú.
 BOGOTA BOG
 eP (Z) 03 11 17
 CHINCHINA CHN
 eP (Z) 03 11 24
 FUQUENE FUA
 eP (Z) 03 11 31

28 BOGOTA
 eP (Z) 03 16 32
 CHINCHINA
 eP (Z) 03 17 04
 FUQUENE
 eP (Z) 03 16 45

30 35.0 S. 107.3 W. H = 02 10 37.6
 h = 33 Kms. (USCGS).
 Islas Pascua.
 BOGOTA
 eP (Z) (Z) 02 19 37
 iS (N-) 02 26 56
 eSS (NE) 02 30 28 5.600
 CHINCHINA
 eP (Z) 02 19 28
 FUQUENE
 eP (Z) 02 19 42
 eS (Z) 02 27 18 5.800

30 7.1 N. 73.7 W. H = 16 47 56
 (Determinado por Bogotá).
 h = 146 Kms. (USCGS).
 Cerca a Barrancabermeja, Departamento de Santander, Colombia.
 Sentido levemente en Bogotá.
 BOGOTA
 iPn (Z-N-E-)(Z+N-E-) 16 48 36.5
 iSn (N-E+) 16 49 07 270
 CHINCHINA
 iPn (Z-) 16 48 43
 iSn (Z+) 16 49 18
 iS* (Z) 16 49 24 315
 FUQUENE FUA
 iPn (Z+) 16 48 25
 iSn (Z) 16 48 48 195

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

OCTUBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|--------------|-------------|------------|--------------------|-------|----------|-------------|----------|--------------------|
| Fase | U.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 30 | BOGOTA | | | | | | | | |
| | eP | (Z) | 22 39 10 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | 22 38 43 | | | | | | |
| | FUQUENE | | | | | | | | |
| | eP | (Z) | 22 39 24 | | | | | | |
| 31 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z-) | 15 20 19 | | | | | | |
| | iSn | (N+) | 15 20 49.5 | 270 | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePn | (Z) | 15 20 26 | | | | | | |
| | eSn | (Z) | 15 21 01 | | | | | | |
| | eS* | (Z) | 15 22 05 | 315 | | | | | |

JESUS EMILIO RAMIREZ, S.J.
Director.

Francisco A. Miranda G.,
Auxiliar de Geofisica.



PONTIFICIA UNIVERSIDAD JAVERIANA
INSTITUTO GEOFISICO DE LOS ANDES COLOMBIANOS
BOGOTA

BOLETIN SISMICO PRELIMINAR DE LAS ESTACIONES COLOMBIANAS
BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

NOVIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |

1 De Colombia.
BOGOTA
1m (Z-) 01 04 51.5
1Sn (N+) 01 05 12 100
CHINCHINA CHN
e1n (Z) 01 05 11
FUQUENE FUA
eSn (Z) 01 05 02

1 3.1 N. 120.1 E. H = 12 26 06.2
h = 65 Kms. (USCGS).
N. de Almahera.
BOGOTA
1PKP1 (Z+) 12 45 57
1PKP2 (Z+) 12 46 32
eSS (N) 13 10 20
CHINCHINA
ePKP1 (Z) 12 45 52
1PKP2 (Z+) 12 46 20
FUQUENE
1PKP1 (Z-) 12 45 58
ePKP2 (Z) 12 46 31
1PP (Z+) 12 50 36

2 4.1 S. 76.9 W. H = 06 50 58.2
h = 91 Kms. (USCGS).
N. del Ferri.
BOGOTA
1P (ZNE)(Z+N+E+) 06 53 11
1S (N-) 06 55 01 1.050
CHINCHINA
eP (Z) 06 53 06
FUQUENE FUA
1P (Z+) 06 53 22
1S (Z-) 06 55 19 1.100
GALERAZAMBA GAL
1P (N+) 06 54 34
1S (N+) 06 58 21 1.600

3 0.1 N. 123.7 E. H = 12 43 04.7
h = 119 Kms. (USCGS).
N. de las Islas Calébes.
BOGOTA
ePKP1 (Z) 13 02 53
ePKP2 (Z) 13 03 40
CHINCHINA
1PKP1 (Z-) 13 02 50
1PKP2 (Z+) 13 03 27
FUQUENE
1PKP1 (Z-) 13 02 52

4 19.7 S. 69.2 W. H = 02 11 24.9
h = 102 Kms. (USCGS).
N. de Chile.
BOGOTA BOG
eP (Z) (Z) 02 16 39
1S (NE+) 02 20 51 2.600
CHINCHINA
1P (Z+) 02 16 43
ePP (Z) 02 17 07
FUQUENE FUA
eP (Z) 02 17 45

5 De Colombia.
BOGOTA
1m (Z-) 06 05 19.5
1Sn (N-) 06 05 51 290
CHINCHINA
e1n (Z) 06 05 28
eS* (Z) 06 06 08
FUQUENE
ePn (Z) 06 05 14

5 De Colombia.
BOGOTA
1Pn (Z+) 08 44 13.5
1Sn (N-) 08 44 44.5 275
CHINCHINA
ePn (Z) 08 44 23
eSn (Z) 08 44 57 305

5 18.2 N. 68.4 W. H = 08 47 06
h = 103 Kms. (USCGS).
Pasaje de Nuna.
BOGOTA
eP (Z) 08 50 28
eS (N) 08 53 04 1.450
CHINCHINA
eP (Z) 08 50 29
eS (Z) 08 53 10 1.500
FUQUENE FUA
eP (Z) 08 50 20
eS (Z) 08 52 54 1.420

6 De Colombia.
BOGOTA
1m (Z+) 00 32 22.2
1Sn (N+) 00 32 52.5 270
CHINCHINA
e1n (Z) 00 32 33
eSn (Z) 00 33 09
eS* (Z) 00 33 14 305

NOVIEMBRE DE 1964

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

Fecha Estación Componentes G. M. T. Distan-
Fase C.P. L.P. h. m. s. cia S-P
en Kms.

6 7.1 N. 73.7 W. H = 06 01 49
(Determinado por Bogotá).

Cerca a Barrancabermeja, Depar-
tamento de Santander, Colombia.

BOGOTA
iPn (Z+) 06 02 29.5
iSn (N-) 06 03 00
iS* (E) (E) 06 03 05 270

CHINCHINA
iPn (Z+) 06 02 36
eSn (Z) 06 03 11
eS* (Z) 06 03 16 315

FUQUENE *FUA*
ePn (Z) 06 02 18
eSn (Z) 06 02 41 185
GALERAZAMBA *GAL*
eSg (E) 06 04 00

6 De Colombia.

BOGOTA
iPn (Z-) 07 58 36
iSn (N+) 07 59 06.5 270

CHINCHINA
ePn (Z) 07 58 45
eS* (Z) 07 59 25

6 14.4 N. 149.0 E. H = 09 53 22.4
h = 60 Kms. (USCGS).

Islas Kuriles.
BOGOTA
ePP (Z) (Z) 10 13 20
eSS (E) (E) 10 29 31
CHINCHINA
ePKP (Z) 10 12 18

7 7.1 N. 73.8 W. H = 10 29 13
(Determinado por Bogotá).

Cerca a Barrancabermeja, Depar-
tamento de Santander, Colombia.

BOGOTA
iPn (Z-) 10 29 52.5
iSn (N+) 10 30 22.5 265

CHINCHINA
ePn (Z) 10 30 00
eSn (Z) 10 30 34
eS* (Z) 10 30 40 305

FUQUENE *FUA*
iPn (Z+) 10 29 41
eSn (Z) 10 30 04 195

7 0.4 N. 100.1 E. H = 18 37 43.7
h = 107 Kms. (USCGS).

N. de Sumatra.
BOGOTA
ePKP1 (Z) 18 57 32.5
ePP (Z) 19 03 11

13 CHINCHINA
ePKP1 (Z) 18 57 38
ePKP2 (Z) 18 59 09
ePP (Z) 19 03 06
FUQUENE
ePKP1 (Z) 18 57 45

7 De Colombia.

BOGOTA
iPn (Z+) 23 33 51.5
iSn (N+) 23 34 22.5 275

CHINCHINA
ePn (Z) 23 33 55
eS* (Z) 23 34 05

FUQUENE
eSn (Z) 23 34 03

8 49.0 S. 163.7 E. H = 02 43 57.2
h = 33 Kms. (USCGS).

Islas Auckland.
BOGOTA
eP (Z) 02 58 48
ePP (Z) 03 03 38
iPS (Z-) 03 13 06
iSS (N+) 03 19 40

FUQUENE
iPS (Z) 03 13 16

8 BOGOTA
eP (Z) 23 12 46
eSI (NE) 23 14 34

9 7.2 S. 128.2 E. H = 04 44 19.9
h = 129 Kms. (USCGS).

Mar de Banda.
BOGOTA
ePKP1 (Z) 05 04 04
ePKP2 (Z) 05 04 39.5

CHINCHINA
iPKP1 (Z-) 05 04 01
ePKP2 (Z) 05 04 31

FUQUENE
ePKP1 (Z) 05 04 07

9 19.3 N. 121.0 E. H = 18 43 38.6
h = 33 Kms. (USCGS).

Islas Filipinas.
BOGOTA
iPKP1 (Z+) 19 03 34

CHINCHINA
iPKP1 (Z-) 19 03 32

FUQUENE
iPKP1 (Z+) 19 03 33

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZANZA

NOVIEMBRE DE 1964

| Fecha | Estación | Componentes | G. N. T. | Distancia | Fecha | Estación | Componentes | G. N. T. | Distancia |
|-------|----------------------|-------------|------------|-----------|-------|----------------------------------|-------------|------------|-----------|
| Fase | C.P. | L.P. | h. m. s. | en Kms. | Fase | C.P. | L.P. | h. m. s. | en Kms. |
| 10 | De Colombia. | | | | 13 | De Colombia. | | | |
| | BOGOTA | | | | | BOGOTA | | | |
| | ePn (Z) | | 02 51 41.5 | | | IPn (Z-) | | 04 23 31 | |
| | ISn (N+) | | 02 52 12 | 270 | | ISn (N+) | | 04 24 01.5 | 270 |
| | CHINCHINA | | | | | CHINCHINA | | | |
| | ePn (Z) | | 02 51 52 | | | ePn (Z) | | 04 23 38 | |
| | eS* (Z) | | 02 52 32 | | | eS* (Z) | | 04 24 18 | |
| 11 | De Colombia. | | | | 13 | 13.0 N. 88.6 W. H = | | 08 02 38.5 | |
| | BOGOTA | | | | | h = 86 Kms. (USCGS) | | | |
| | ePn (Z) | | 01 19 43 | | | Frete a la Costa de El Salvador. | | | |
| | ISn (N+) | | 01 20 09 | 285 | | BOGOTA | | | |
| | CHINCHINA | | | | | IP (Z) (Z+) | | 08 06 30.5 | |
| | ePn (Z) | | 01 19 48 | | | eS (E) | | 08 09 27 | 1.700 |
| 11 | 59.4 N. 144.6 W. H = | | 08 01 26.1 | | 14 | 33.6 N. 131.6 E. H = | | 03 56 06.0 | |
| | h = 10 Kms. (USCGS) | | | | | h = 60 Kms. (USCGS) | | | |
| | Alaska. | | | | | Japón. | | | |
| | BOGOTA | | | | | CHINCHINA | | | |
| | eP (Z) | | 08 13 15 | | | ePKP (Z) | | 04 15 18 | |
| | eS (E) | | 08 23 03 | 8.450 | | ePP (Z) | | 04 18 41 | |
| | CHINCHINA | | | | | FUQUENE | | | |
| | eP (Z) | | 08 13 16 | | | IPKP (Z+) | | 04 15 18 | |
| | FUQUENE | | | | | | | | |
| | IP (Z-) | | 08 13 14 | | | | | | |
| | GALERAZANZA | | | | | | | | |
| | eP (E) | | 08 12 51 | | | | | | |
| | IS (E+) | | 08 22 04 | 7.800 | | | | | |
| 11 | 13.4 S. 75.0 W. H = | | 18 48 56.6 | | 15 | 7.1 N. 73.7 W. H = | | 02 46 31 | |
| | h = 99 Kms. (USCGS) | | | | | (Determinado por Bogotá). | | | |
| | Herd. | | | | | Cerca a Barrancabermeja, Depar- | | | |
| | BOGOTA | | | | | tamento de Santander, Colombia. | | | |
| | IP (Z-) | | 18 53 05.5 | | | BOGOTA | | | |
| | IS (N+) | | 18 56 30 | 2.000 | | IPn (Z+) | | 02 47 11 | |
| | CHINCHINA | | | | | ISn (N-) | | 02 47 42 | 275 |
| | eP (Z) | | 18 53 08 | | | CHINCHINA | | | |
| | FUQUENE | | | | | ePn (Z) | | 02 47 15 | |
| | eP (Z) | | 18 53 15 | | | eSn (Z) | | 02 47 50 | |
| | IS (Z+) | | 18 56 48 | 2.100 | | IS* (Z+) | | 02 47 56 | 315 |
| 12 | 18.2 S. 176.4 W. H = | | 05 33 28.7 | | 15 | 24.0 N. 122.2 E. H = | | 15 52 21.5 | |
| | h = 107 Kms. (USCGS) | | | | | h = 42 Kms. (USCGS) | | | |
| | Islas Fiji. | | | | | Frete a la Costa E. de Formosa. | | | |
| | BOGOTA | | | | | CHINCHINA | | | |
| | eSKS (E) | | 05 58 08 | | | IPKP1 (Z-) | | 16 11 57 | |
| | eS (E) | | 06 00 48 | | | FUQUENE | | | |
| | eSS (E) | | 06 06 18 | | | IPKP1 (Z+) | | 16 12 00 | |
| | FUQUENE | | | | | | | | |
| | eS (Z) | | 05 58 55 | | | | | | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

NOVIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-----------|---------------------------------|-------------|----------|-----------------|-----------|-----------------------------------|-------------|----------|-----------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 15 | BOGOTA | | | | 15 | BOGOTA | | | |
| eP | (Z) | | 23 30 56 | | 15 | BOGOTA | | | |
| CHINCHINA | | | | | eP | (Z) | (Z) | 01 08 06 | |
| eP1 | (Z) | | 23 30 51 | | eS | | (N) | 01 11 28 | 1.750 |
| FUQUENE | | | | | CHINCHINA | | | | |
| eP | (Z) | | 23 31 00 | | eP | (Z) | | 01 08 08 | |
| 16 | 1.0 N. 118.8 E. H = 22 40 44.0 | | | | 16 | FUQUENE | | | |
| | h = 33 Kms. (USCGS). | | | | eP | | (Z) | 01 08 32 | |
| | Borneo. | | | | | | | | |
| | CHINCHINA | | | | | | | | |
| ePKP1 | (Z) | | 23 00 47 | | | | | | |
| ePKP2 | (Z) | | 23 01 44 | | | | | | |
| FUQUENE | | | | | | | | | |
| ePKP1 | (Z) | | 23 00 46 | | | | | | |
| 17 | 5.7 S. 150.7 E. H = 08 15 39.3 | | | | 17 | 31.2 S. 67.6 W. H = 05 01 41.4 | | | |
| | h = 45 Kms. (USCGS). | | | | | h = 8 Kms. (USCGS). | | | |
| | Nueva Bretaña. | | | | | Provincia de San Juan, Argentina. | | | |
| | CHINCHINA | | | | | BOGOTA | | | |
| ePKP1 | (Z) | | 08 34 45 | | | 1P | (Z) | (Z+) | 05 08 48 |
| 1PKP2 | (Z+) | | 08 34 56 | | | eS | | (NE) | 05 12 26 |
| 1 | (Z-) | | 08 35 07 | | | CHINCHINA | | | 3.900 |
| FUQUENE | | | | | | 1P | (Z-) | | 05 08 53 |
| 1PKP1 | (Z+) | | 08 34 47 | | | FUQUENE | | | |
| 1PKP2 | (Z+) | | 08 34 57 | | | 1P | | (Z+) | 05 08 53 |
| 17 | 13.2 N. 89.6 W. H = 16 17 03.0 | | | | 17 | 6.0 S. 148.2 E. H = 14 34 54.5 | | | |
| | h = 54 Kms. (USCGS). | | | | | h = 49 Kms. (USCGS). | | | |
| | El Salvador. | | | | | Costa E. de Nueva Guinea. | | | |
| | CHINCHINA | | | | | CHINCHINA | | | |
| eP | (Z) | | 16 20 40 | | | 1PKP | (Z+) | | 14 54 13 |
| FUQUENE | | | | | | ePKS | (Z) | | 14 58 10 |
| eP | (Z) | | 16 21 03 | | | FUQUENE | | | |
| | | | | | | 1PKP | | (Z+) | 14 54 15 |
| | | | | | | 1PP | | (Z+) | 14 57 07 |
| 18 | 20.2 S. 174.1 W. H = 22 21 01.9 | | | | 18 | 20.2 S. 174.1 W. H = 22 21 01.9 | | | |
| | h = 33 Kms. (USCGS). | | | | | h = 33 Kms. (USCGS). | | | |
| | Islas Tonga. | | | | | Islas Tonga. | | | |
| | BOGOTA | | | | | BOGOTA | | | |
| eP | (Z) | | 22 34 48 | | | eP | (Z) | | 22 34 48 |
| ePP | (Z) | | 22 38 58 | | | ePP | (Z) | | 22 38 58 |
| eSKS | (Z) | | 22 45 32 | | | eSKS | (Z) | | 22 45 32 |
| CHINCHINA | | | | | | CHINCHINA | | | |
| eP | (Z) | | 22 34 46 | | | eP | (Z) | | 22 34 46 |
| ePP | (Z) | | 22 38 46 | | | ePP | (Z) | | 22 38 46 |
| FUQUENE | | | | | | FUQUENE | | | |
| 1PP | (Z+) | | 22 39 05 | | | 1PP | (Z+) | | 22 39 05 |
| 19 | 3.4 S. 150.1 E. H = 15 45 31.2 | | | | 19 | 3.4 S. 150.1 E. H = 15 45 31.2 | | | |
| | h = 38 Kms. (USCGS). | | | | | h = 38 Kms. (USCGS). | | | |
| | Islas Bismarck. | | | | | Islas Bismarck. | | | |
| | CHINCHINA | | | | | CHINCHINA | | | |
| ePKP | (Z) | | 16 04 50 | | | ePKP | (Z) | | 16 04 50 |
| ePP | (Z) | | 16 07 34 | | | ePP | (Z) | | 16 07 34 |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

NOVIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| Fase | G.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | G.P. | L.P. | h. m. s. | cia S-P en Kms. |

19 6.0 S. 150.8 E. H = 23 35 06.0
h = 3 Kms. (USCGS)

Nueva Bretaña.

BOGOTA

ePKP (Z) (Z) 23 51 30

ePP (Z) 23 57 16

CHINCHINA

iPKP (Z-) 23 51 16

FUQUENE

iPKP (Z+) 23 51 28

GALERAZAMBA

iSKS (Z-) 23 58 29

21 1.0 N. 124.0 E. H = 02 16 44.5
h = 243 Kms. (USCGS)

N. de las Islas Célebes.

BOGOTA

ePKP₁ (Z) 02 36 20

ePKP₂ (Z) 02 37 15

CHINCHINA

ePKP₁ (Z) 02 36 18

ePKP (Z) 02 37 14

FUQUENE

ePKP₁ (Z) 02 36 14

20 De Colombia.

BOGOTA

iPn (Z+) 04 16 30

iSn (N-) 04 17 01 275

CHINCHINA

ePn (Z) 04 16 40

iS* (Z-) 04 17 20

FUQUENE

ePn (Z) 04 16 19

21 7.1 N. 73.7 W. H = 04 11 39
(Determinado por Bogotá).

Cerca a Barrancabermeja, Departamento de Santander, Colombia.

BOGOTA

iPn (Z+) 04 12 19.5

iSn (N-) 04 12 50 270

CHINCHINA

ePn (Z) 04 12 27

eSn (Z) 04 13 02

iS* (Z) 04 13 08 315

FUQUENE

ePn (Z) 04 12 08

iSn (Z+) 04 12 31 195

20 De Colombia.

BOGOTA

iPn (Z-) 07 08 56

iSn (Z+) 07 09 24 245

CHINCHINA

iPn (Z-) 07 08 37

iSn (Z-) 07 08 49 90

21 12.6 N. 145.2 E. H = 15 34 13.2
h = 35 Kms (USCGS)

Islas Marianas.

CHINCHINA

ePKP (Z) 15 53 29

ePKS (Z) 15 57 08

20 De Colombia.

BOGOTA

ePn (Z) 08 21 19.5

iSn (N+) 08 21 49.5 265

CHINCHINA

eS* (Z) 08 22 09

22 24.0 N. 15.4 W. H = 00 02 33.3
h = 33 Kms. (USCGS)

N. del Océano Atlántico.

BOGOTA

eP (Z) (Z) 00 09 12

eS (Z) (Z) 00 14 38 3.670

CHINCHINA

eP (Z) 00 09 21

FUQUENE

eP (Z) 00 08 55

20 0.2 S. 18.2 W. H = 09 50 13.5
h = 33 Kms. (USCGS)

Océano Atlántico.

BOGOTA

eP (Z) 09 59 52

CHINCHINA

eP (Z) 10 00 02

22 BOGOTA

eSn (Z) 10 02 15

iSn (N+) 10 02 58

CHINCHINA

ePn (Z) 10 02 03

20 5.0 S. 77.8 W. H = 10 30 36.0
h = 292 Kms. (USCGS)

H. del Perú.

BOGOTA

eP (Z) 10 32 59

CHINCHINA

ePKP₁ (Z) 10 30 31



BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

NOVIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------|-------|----------|-------------|----------|-----------|
| Fase | C.P. | L.P. | h. m. s. | en Km. | Fase | C.P. | L.P. | h. m. s. | en Km. |

23 BOGOTA
eP (Z) (Z) 08 06 25
IS (E+) (N-E-) 08 07 19 500

CHINCHINA *CHN*
eP (Z) 08 06 39?
I (Z+) 08 07 23?

FUQUENE *FUQ*
eP (Z) 08 06 32
I (Z+) 08 07 07

25 26.6 N. 96.3 E. H = 08 32 59.0
h = 80 Kms. (USCGS).
Burma.
BOGOTA
ePKP₁ (Z) 08 52 38
CHINCHINA
ePKP₁ (Z) 08 52 43

23 0.1 S. 124.5 E. H = 22 15 47.0
h = 66 Kms. (USCGS).
Mar de Molucas.
BOGOTA
ePKP₁ (Z) 22 35 39
ePKP₂ (Z) 22 36 29
eSS (Z) 23 01 22
CHINCHINA
IPKP₁ (Z+) 22 35 40
FUQUENE
ePKP₁ (Z) 22 35 40

25 4.3 S. 122.2 E. H = 09 24 08.9
h = 610 Kms. (USCGS).
Islas Célebes.
BOGOTA
ePKP₂ (Z) 09 44 05
ePP (Z) 09 47 53
ISKKS (N) (E-) 09 53 38
ISKP (E+) 09 57 47
CHINCHINA
IPKP₂ (Z-) 09 43 59
eSKKS (Z) 09 53 42
FUQUENE
IPKP₂ (Z-) 09 44 06
IPP (Z+) 09 47 51
ISKP (Z+) 09 57 26

24 6.8 S. 107.4 E. H = 10 41 33.5
h = 125 Kms. (USCGS).
Java.
BOGOTA
ePKP₁ (Z) (Z) 11 01 32
ePKP₂ (Z) 11 03 18
eSKKS (Z) 11 13 52.5
eSS (E) 11 29 18
CHINCHINA
IPKP₁ (Z-) 11 01 34
ePKP₂ (Z) 11 03 17
ePP (Z) 11 07 08
ePKP₁ (Z) 11 10 17
eSKKS (Z) 11 13 48
FUQUENE
ePKP₁ (Z) 11 01 30
eSKKS (Z) 11 13 58

25 7.1 N. 73.7 W. H = 04 50 35
(Determinado por Bogotá).
h = 167 Kms. (USCGS).
Cerca a Barrancabermeja, Departamento de Santander, Colombia.
BOGOTA
IPn (Z+) 04 51 15.5
ISn (N-) 04 51 46.5
CHINCHINA
ePn (Z) 04 51 24
eSn (Z) 04 51 59
IS* (Z-) 04 52 05
FUQUENE
ePn (Z) 04 51 04
ISn (Z-) 04 51 27
GALERAZAMBA
eSg (NE) 04 52 51

24 13.1 N. 124.7 E. H = 12 40 51.4
h = 5 Kms. (USCGS).
Islas Filipinas.
CHINCHINA
ePKP₁ (Z) 13 00 49
IPP (Z+) 13 04 45.5
FUQUENE
IPKP₁ (Z+) 13 00 49

26 24.9 N. 122.0 E. H = 10 21 07.2
h = 33 Kms. (USCGS).
Región de Taiwan.
BOGOTA
IPKP (Z-) 10 40 48
ePS (E) 10 55 17
eSSP (N) 11 03 41
CHINCHINA
IPKP (Z-) 10 40 44
FUQUENE
IPKP₁ (Z-) 10 40 47

24 13.2 N. 124.9 E. H = 12 50 40.2
h = 97 Kms. (USCGS).
Islas Filipinas.
CHINCHINA
ePKP₁ (Z) 13 10 32

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUGUENE Y GALERAZAMBA
 BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUGUENE Y GALERAZAMBA
 NOVIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|---|-------------|----------|------------|-------|----------|-------------|----------|---------|
| | Fase | C.P. | L.P. | cia S-P | | Fase | C.P. | L.P. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |
| 27 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z+) | | 02 h 22.5 | | | | | |
| | iSn | (E+) | | 02 h 47 | 215 | | | | |
| | CHINCHINA | | | | | | | | |
| | ePn | (Z) | | 02 h 30 | | | | | |
| | eSn | (Z) | | 02 h 03 | 295 | | | | |
| 27 | 62.6 N. 151.5 W. H = 07 47 07.6 | | | | | | | | |
| | h = 113 Kms. (USCGS). | | | | | | | | |
| | Alaska Central. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | eP | (Z) | | 07 59 06.5 | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | | 07 59 01 | | | | | |
| 28 | 7.7 S. 71.2 W. H = 16 41 33.4 | | | | | | | | |
| | h = 626 Kms. (USCGS) | | | | | | | | |
| | W. de Brasil. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iP | (Z+) | (Z+N+) | 16 h 23 | | | | | |
| | i | | (N+) | 16 h 21 | | | | | |
| | iS | | (N-E+) | 16 h 37 | | | | | |
| | CHINCHINA | | | | | | | | |
| | iP | (Z+) | | 16 h 27 | | | | | |
| | iS | (Z-) | | 16 h 47 | | | | | |
| | FUGUENE | | | | | | | | |
| | iP | (Z+) | | 16 h 28 | | | | | |
| | iS | (Z+) | | 16 h 41 | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | eP | (N) | | 16 h 33 | | | | | |
| | iS | (N-E+) | | 16 h 28 | | | | | |
| 28 | 8.0 S. 71.4 W. H = 16 49 30.3 | | | | | | | | |
| | h = 655 Kms. (USCGS) | | | | | | | | |
| | W. de Brasil. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iP | (Z) | (N+) | 16 52 18 | | | | | |
| | iS | | (N+) | 16 54 32 | | | | | |
| | CHINCHINA | | | | | | | | |
| | iP | (Z-) | | 16 52 24 | | | | | |
| | iS | (Z-) | | 16 54 42 | | | | | |
| | FUGUENE | | | | | | | | |
| | iP | (Z-) | | 16 52 26 | | | | | |
| | iS | (Z+) | | 16 54 44 | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | eP | (N) | | 16 53 27 | | | | | |
| | iS | (N-) | | 16 56 18 | | | | | |
| 29 | 3.6 S. 80.6 W. H = 03 24 28.8 | | | | | | | | |
| | h = 33 Kms. (USCGS) | | | | | | | | |
| | Frontera Perú-Ecuador. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | eP | (Z) | | 03 27 22.5 | | | | | |
| | eS | (E) | | 03 29 34 | 1.200 | | | | |
| 29 | 7.0 N. 73.6 W. H = 09 11 06 | | | | | | | | |
| | (Determinado por Bogotá) | | | | | | | | |
| | h = 171 Kms. (USCGS) | | | | | | | | |
| | Cerca a Barrancabermeja, Departamento de Santander, Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z-N-E-) | (Z+N-E-) | 09 11 47 | | | | | |
| | iSn | | (Z+N-E+) | 09 12 17 | 265 | | | | |
| | CHINCHINA | | | | | | | | |
| | iPn | (Z+) | | 09 11 51 | | | | | |
| | iSn | (Z-) | | 09 12 26 | | | | | |
| | iS* | (Z+) | | 09 12 32 | 315 | | | | |
| | FUGUENE | | | | | | | | |
| | iPn | (Z+) | | 09 11 35 | | | | | |
| | iSn | (Z-) | | 09 11 58 | 195 | | | | |
| | En Galerazamba los contactos del reloj no funcionaron. | | | | | | | | |
| 29 | 4.6 N. 77.6 W. H = 12 26 29.6 | | | | | | | | |
| | h = 44 Kms. (USCGS) | | | | | | | | |
| | Fronte a la costa S. del Departamento del Chocó, Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn | (Z-) | (Z+N+) | 12 27 24.5 | | | | | |
| | iSn | | (N+) | 12 28 04 | 365 | | | | |
| | CHINCHINA | | | | | | | | |
| | iPn | (Z+) | | 12 26 57 | | | | | |
| | iSn | (Z+) | | 12 27 22 | 215 | | | | |
| | En Fúguene se perdió en el cambio de papel y en Galerazamba no funcionaron los contactos del reloj. | | | | | | | | |
| 29 | 55.5 S. 26.0 W. H = 16 54 25.8 | | | | | | | | |
| | h = 33 Kms. (USCGS) | | | | | | | | |
| | Islas Sandwich. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | eP | (Z) | | 17 05 50 | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | | 17 05 47 | | | | | |
| 29 | 4.8 S. 79.3 W. H = 17 08 25.7 | | | | | | | | |
| | h = 81 Kms. (USCGS) | | | | | | | | |
| | Frontera Perú-Ecuador. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | eP | (Z) | | 17 10 58 | | | | | |
| | CHINCHINA | | | | | | | | |
| | eP | (Z) | | 17 11 09 | | | | | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

NOVIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| | Fase | G.P. L.P. | h. m. s. | cia S-P en Kms. | | Fase | G.P. L.P. | h. m. s. | cia S-P en Kms. |

29 De Colombia.

BOGOTA

iPn (Z+) 17 54 05.5

iSn (N+) 17 54 36.5

iS* (E) 17 54 39 275

CHINCHINA

ePn (Z) 17 54 11

eS* (Z) 17 54 53

30 38.9 S. 72.4 W. H = 00 15 56.6

h = 87 Kms. (USCGS).

Cerca a Valdivia, Chile.

BOGOTA

eP (Z) *BoG* 00 24 00

eS (NE) 00 30 32

eSS (E) 00 34 08 4.900

CHINCHINA *CHN*

eP (Z) 00 24 00

FUQUENE *FUQ*

eP (Z) 00 24 07

30 6.8 N. 94.8 E. H = 12 27 38.6

h = 33 Kms. (USCGS).

Región de las Islas Nicobar.

BOGOTA

ePKP₁ (Z) (Z) 12 47 44

ePKP₂ (Z) 12 48 45

CHINCHINA

ePKP₁ (Z) 12 47 42

ePKP₂ (Z) 12 48 38

ePP (Z) 12 52 23

FUQUENE

ePKP₁ (Z) 12 47 47

NOTA: Del 14 al 18 hubo interrupciones en la estación de Bogotá - por revisión técnica general en el equipo.

Jesus Emilio Ramirez, S. J.
Director.

Francisco A. Miranda
Auxiliar de Geofisica.

BOLETIN SISMICO PRELIMINAR DE LAS ESTACIONES COLOMBIANAS

BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

DICIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|----------|-------------|---|------------|--------------------|----------|---------------|---|------------|--------------------|
| h. m. s. | C.P. | L.P. | h. m. s. | cia S-P en Kms. | h. m. s. | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 1 | | 18.9 S. 175.8 W. H = 232 Kms. (USCGS) Islas Toraja. | 04 53 23.9 | | 3 | | 15.0 S. 66.8 E. H = 16 Kms. (USCGS) Cresta del Océano Indico. | 03 50 08 | |
| | BOGOTA | | | | | BOGOTA | | | |
| | ePP (Z) | | 05 11 12 | | | ePKP (Z) | | 04 09 38.5 | |
| | IS (Z+) | | 05 17 14 | | | ePP (Z) | | 04 12 31.5 | |
| | eRS (ZE) | | 05 20 03 | | | CHINCHINA | | | |
| | eSS (E) | | 05 25 26 | | | ePKP (Z) | | 04 09 29 | |
| | CHINCHINA | | | | | ePP (Z) | | 04 12 41 | |
| | ePP (Z) | | 05 11 02 | | | FUQUENE | | | |
| | FUQUENE | | | | | ePKP (Z) | | 04 09 33 | |
| | ePP (Z) | | 05 11 07 | | | | | | |
| | eRS (Z) | | 05 20 08 | | | | | | |
| | GALERAZAMBA | | | | | | | | |
| | eSS (E) | | 05 25 54 | | | | | | |
| 2 | | 30.6 N. 42.0 W. H = 33 Kms. (USCGS) N. del Océano Atlántico. | 08 20 45.6 | | 4 | | 7.8 N. 102.7 W. H = 33 Kms. (USCGS) Al S. de la Costa de México. | 01 54 49.3 | |
| | BOGOTA | | | | | BOGOTA | | | |
| | eP (Z) | | 08 28 16 | | | eP (Z) BOG | | 02 00 55 | |
| | ePP (Z) | | 08 29 50 | | | IS (N+) | | 02 05 51 | |
| | eS (E) | | 08 34 21 | | | ISS (N+) | | 02 07 13 | 3.200 |
| | eSS (E) | | 08 37 18 | 4.300 | | CHINCHINA CHN | | | |
| | CHINCHINA | | | | | eP (Z) CHN | | 02 00 43 | |
| | IP (Z+) CHN | | 08 28 23 | | | eSS (Z) CHN | | 02 06 52 | |
| | FUQUENE FUA | | | | | FUQUENE | | | |
| | eP (Z) | | 08 28 06 | | | eS (Z) | | 02 05 56 | |
| | ePP (Z) | | 08 29 44 | | | GALERAZAMBA | | | |
| | GALERAZAMBA | | | | | ISS (E-) | | 02 06 34 | |
| | eS (E) | | 08 33 50 | | | | | | |
| 2 | | 6.7 N. 74.7 W. H = 08 55 06 (Determinado por Bogotá) Cerca a Cali, Departamento de Antioquia, Colombia. | 08 55 06 | | 4 | | De Colombia. | | |
| | BOGOTA | | | | | BOGOTA | | | |
| | ePn (Z) | | 08 55 44 | | | IPn (Z+) | | 04 44 53 | |
| | eSn (N) | | 08 56 23 | 255 | | ISn (N+) | | 04 45 23 | 265 |
| | CHINCHINA | | | | | CHINCHINA | | | |
| | ePn (Z) CHN | | 08 55 37 | | | ePn (Z) | | 04 45 02 | |
| | eSn (Z) CHN | | 08 56 02 | 215 | | FUQUENE | | | |
| | FUQUENE FUA | | | | | eSn (Z) | | 04 45 01 | |
| | ePn (Z) | | 08 55 34 | | | | | | |
| | eSn (Z) | | 08 55 55 | 175 | | | | | |
| 2 | | De Colombia. | | | 4 | | 6.4 S. 150.7 E. H = 19 Kms. (USCGS) Nueva Bretaña. | 15 48 43.4 | |
| | BOGOTA | | | | | BOGOTA | | | |
| | IPn (Z+) | | 22 21 36.2 | | | ePKP (Z) | | 16 08 08 | |
| | ISn (N+) | | 22 22 06.2 | 265 | | ePP (Z) | | 16 10 55 | |
| | CHINCHINA | | | | | CHINCHINA | | | |
| | eSn (Z) | | 22 22 20 | | | ePKP (Z) | | 16 08 03 | |
| | eS* (Z) | | 22 22 26 | | | ePP (Z) | | 16 10 50 | |
| | | | | | | FUQUENE | | | |
| | | | | | | ePKP (Z) | | 16 08 06 | |
| | | | | | | IPP (Z+) | | 16 10 57 | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUCUENE Y GALERAZAMBA

DICEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|----------|-------------|----------|--------------------|-------|----------|-------------|----------|--------------------|
| Fase | C.P. | I.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | I.P. | h. m. s. | cia S-P en Kms. |

4 7.0 N. 73.5 W. H = 22 15 20
(Determinado por Bogotá).

Cerca a San Vicente, Departamento de Santander, Colombia.

BOGOTA

| | | | |
|-----|--------|------------|-----|
| 1Pn | (Z-NE) | 22 16 00 | |
| 1Sn | (N+) | 22 16 30.5 | |
| eS* | (E) | 22 16 35.5 | 270 |

CHINCHINA

| | | | |
|-----|------|----------|-----|
| 1Pn | (Z-) | 22 16 09 | |
| eSn | (Z) | 22 16 45 | |
| 1S* | (Z) | 22 16 50 | 325 |

FUCUENE

| | | | |
|-----|------|----------|-----|
| 1Pn | (Z+) | 22 15 47 | |
| eSn | (Z) | 22 16 09 | 185 |

GALERAZAMBA

| | | | |
|-----|-----|----------|--|
| eS* | (N) | 22 17 19 | |
|-----|-----|----------|--|

6 7.0 N. 73.5 W. H = 21 21 12
(Determinado por Bogotá)

Cerca a San Vicente, Departamento de Santander, Colombia.

BOGOTA

| | | | |
|-----|-------|------------|-----|
| 1Pn | (Z+E) | 21 20 51.5 | |
| 1Sn | (N+) | 21 21 21.5 | |
| 1S* | (E) | 21 21 25.5 | 265 |

CHINCHINA

| | | | |
|-----|-----|----------|-----|
| ePn | (Z) | 21 21 01 | |
| eSn | (Z) | 21 21 37 | |
| 1S* | (Z) | 21 21 43 | 325 |

FUCUENE

| | | | |
|-----|------|----------|-----|
| ePn | (Z) | 21 20 40 | |
| 1Sn | (Z+) | 21 21 02 | 185 |

GALERAZAMBA

| | | | |
|-----|-----|----------|--|
| eSg | (N) | 21 23 27 | |
|-----|-----|----------|--|

6 De Colombia.

BOGOTA

| | | | |
|-----|------|------------|-----|
| 1Pn | (Z-) | 01 55 46 | |
| eSn | (NE) | 01 56 05.5 | 160 |

CHINCHINA

| | | | |
|-----|------|----------|-----|
| 1Pn | (Z-) | 01 55 50 | |
| eSn | (Z) | 01 56 15 | 215 |

6 BOGOTA

| | | | |
|----|-----|----------|--|
| eP | (Z) | 02 48 02 | |
| e | (E) | 02 58 37 | |

CHINCHINA

| | | | |
|----|-----|----------|--|
| eP | (Z) | 02 47 55 | |
|----|-----|----------|--|

6 2.3 S. 138.3 E. H = 04 27 16

h = 33 Kms. (USCGS).

W. de Nueva Guinea.

BOGOTA

| | | | |
|-------------------|-----|----------|--|
| ePKP ₁ | (Z) | 04 47 04 | |
|-------------------|-----|----------|--|

CHINCHINA

| | | | |
|-------------------|-----|----------|--|
| ePKP ₁ | (Z) | 04 46 59 | |
|-------------------|-----|----------|--|

FUCUENE

| | | | |
|-------------------|-----|----------|--|
| ePKP ₁ | (Z) | 04 47 06 | |
|-------------------|-----|----------|--|

6 De Colombia.

BOGOTA

| | | | |
|-----|------|----------|-----|
| 1Pn | (Z+) | 15 53 52 | |
| 1Sn | (N-) | 15 54 22 | 265 |

CHINCHINA

| | | | |
|-----|-----|----------|--|
| ePn | (Z) | 15 54 02 | |
|-----|-----|----------|--|

| | | | |
|-----|-----|----------|--|
| eS* | (Z) | 15 54 42 | |
|-----|-----|----------|--|

FUCUENE

| | | | |
|-----|-----|----------|--|
| eSn | (Z) | 15 54 01 | |
|-----|-----|----------|--|

7 5.5 S. 80.3 W. H = 06 02 21.5

h = 31.5 Kms. (USCGS).

Cerca a la Costa N. del Perú.

BOGOTA

| | | | |
|----|------|----------|--|
| eP | (Z) | 06 04 58 | |
| eS | (NE) | 06 07 30 | |

CHINCHINA

| | | | |
|----|-----|----------|--|
| eP | (Z) | 06 04 51 | |
|----|-----|----------|--|

7 5.4 S. 151.3 E. H = 08 58 43.8

h = 54 Kms. (USCGS).

Nueva Bretaña.

BOGOTA

| | | | |
|------|-----|----------|--|
| ePKP | (Z) | 09 17 59 | |
| LPP | (Z) | 09 20 29 | |

| | | | |
|------|------|----------|--|
| 1PKS | (E-) | 09 21 30 | |
|------|------|----------|--|

| | | | |
|-----|-----|----------|--|
| eSS | (E) | 09 39 43 | |
|-----|-----|----------|--|

CHINCHINA

| | | | |
|-------------------|------|----------|--|
| 1PKP ₁ | (Z+) | 09 17 56 | |
|-------------------|------|----------|--|

| | | | |
|-------------------|------|------------|--|
| 1PKP ₂ | (Z+) | 09 18 12.5 | |
|-------------------|------|------------|--|

| | | | |
|-----|-----|----------|--|
| ePP | (Z) | 09 20 25 | |
|-----|-----|----------|--|

| | | | |
|------|-----|----------|--|
| ePKS | (Z) | 09 21 25 | |
|------|-----|----------|--|

FUCUENE

| | | | |
|------|------|----------|--|
| 1PKP | (Z+) | 09 17 59 | |
|------|------|----------|--|

| | | | |
|-----|------|----------|--|
| 1PP | (Z+) | 09 20 36 | |
|-----|------|----------|--|

| | | | |
|------|------|----------|--|
| 1PKS | (Z+) | 09 21 29 | |
|------|------|----------|--|

7 6.4 S. 76.2 W. H = 15 55 56.8

h = 177 Kms. (USCGS).

N. del Perú.

BOGOTA

| | | | |
|----|-----|------------|--|
| eP | (Z) | 15 58 33.5 | |
| eS | (N) | 16 00 32 | |

CHINCHINA

| | | | |
|----|-----|----------|--|
| eP | (Z) | 15 58 51 | |
|----|-----|----------|--|

| | | | |
|----|-----|----------|--|
| eP | (Z) | 15 59 07 | |
|----|-----|----------|--|

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

DICIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|---|-------------|------------|--------------------|-------|----------|-------------|----------|--------------------|
| Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | cia S-P en Kms. |
| 10 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | 1Pn | (Z-) | 07 40 33.5 | 270 | | | | | |
| | 1Sn | (N+) | 07 41 04 | | | | | | |
| 10 | 36.5 S. 110.5 W. H = 15 10 25.6 | | | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Islas Pascua | | | | | | | | |
| | BOGOTA | BOG | | | | | | | |
| | 1P | (Z) | 15 19 16 | 5.900 | | | | | |
| | 1S | (N-E) | 15 27 22 | | | | | | |
| | eSS | (NE) | 15 31 00 | | | | | | |
| | eSSS | (NE) | 15 32 15 | | | | | | |
| | CHINCHINA | CHN | | | | | | | |
| | eP | (Z) | 15 19 42 | 5.850 | | | | | |
| | eS | (Z) | 15 27 12 | | | | | | |
| | GALERAZAMBA | GAL | | | | | | | |
| | 1S | (N-) | 15 28 20 | | | | | | |
| | 1PFS | (N-) | 15 28 49 | | | | | | |
| 12 | 2.5 N. 76.8 W. H = 11 16 44 | | | | | | | | |
| | (Determinado por Bogota) | | | | | | | | |
| | h = 51 Kms. (USCGS). | | | | | | | | |
| | Cerca a Zarsal, Departamento del Cauca, Colombia. | | | | | | | | |
| 12 | 2.5 N. 76.8 W. H = 11 16 44 | | | | | | | | |
| | (Determinado por Bogota) | | | | | | | | |
| | h = 51 Kms. (USCGS). | | | | | | | | |
| | Cerca a Zarsal, Departamento del Cauca, Colombia. | | | | | | | | |
| 13 | 40.4 N. 138.9 E. H = 15 11 05.5 | | | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | E. del Mar del Japon. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | 1PKP | (Z+) | 15 30 08.5 | 460 | | | | | |
| | ePP | (Z) | 15 32 10 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePKP | (Z) | 15 30 04 | 460 | | | | | |
| | ePP | (Z) | 15 31 57 | | | | | | |
| 11 | 38.9 N. 130.0 E. H = 16 04 58.2 | | | | | | | | |
| | h = 550 Kms. (USCGS). | | | | | | | | |
| | Mar de Japon. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | 1PP | (Z) | 16 25 43.5 | 420 | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePP | (Z) | 16 25 39 | 420 | | | | | |
| | FUQUENE | | | | | | | | |
| | 1PP | (Z+) | 16 25 40 | | | | | | |
| 11 | De Colombia. | | | | | | | | |
| 11 | BOGOTA | | | | | | | | |
| | 1Pn | (Z-) | 18 09 29 | 265 | | | | | |
| | eSn | (N) | 18 09 59 | | | | | | |
| 12 | 6.9 S. 150.5 E. H = 07 20 03 | | | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Nueva Bretaña. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePKP | (Z) | 07 39 21 | 275 | | | | | |
| | ePKS | (Z) | 07 43 02 | | | | | | |
| 13 | 20.1 N. 122.0 E. H = 13 15 49.8 | | | | | | | | |
| | h = 33 Kms. (USCGS). | | | | | | | | |
| | Islas Filipinas. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePKP1 | (Z) | 13 35 43 | 275 | | | | | |
| | ePKP2 | (Z) | 13 35 55 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePKP1 | (Z) | 13 35 36 | 275 | | | | | |
| | ePKP2 | (Z) | 13 35 51 | | | | | | |
| | FUQUENE | | | | | | | | |
| | 1PKP1 | (Z-) | 13 35 41 | | | | | | |
| 13 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePn | (Z) | 22 04 03 | 275 | | | | | |
| | 1Sn | (N-) | 22 04 34 | | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePn | (Z) | 22 04 09 | | | | | | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA

1 DICIEMBRE DE 1964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------------|-------|----------|-------------|----------|-----------------|
| | Fase | C.P. | L.P. | cia S-P en Kms. | | Fase | C.P. | L.P. | cia S-P en Kms. |

14. 54.3 N. 2.4 W. H = 01 59 05.6
 h = 33 Kms. (USCOS).
 S. del Océano Atlántico.
 BOGOTA

| | | | | |
|-----|-----|-------|----------|------|
| IP | (Z) | (Z-E) | 02 11 31 | |
| ePP | | (E) | 02 14 45 | 2150 |
| ePP | | (E) | 02 16 44 | |
| eS | | (E) | 02 21 51 | |

CHINCHINA

| | | | | |
|----|-----|-----|----------|--|
| eP | (Z) | (Z) | 02 11 31 | |
| eS | (Z) | (Z) | 02 23 01 | |

FUQUENE

| | | | | |
|-----|--|------|----------|--|
| IP | | (Z+) | 02 11 33 | |
| IPS | | (Z+) | 02 22 56 | |

GALERAZAMBA

| | | | | |
|----|--|------|----------|--|
| IP | | (N+) | 02 11 53 | |
| eS | | (N) | 02 22 45 | |

15. 8.5 N. 71.5 W. H = 01 58 38.9
 h = 53 Kms. (USCOS).
 Venezuela.
 BOGOTA

| | | | | |
|-----|-----|-------|----------|-----|
| eP | (Z) | | 01 59 48 | |
| IS | | (ZN+) | 02 00 45 | |
| IS* | | (ZN) | 02 01 00 | 530 |

CHINCHINA

| | | | | |
|-----|------|--|----------|-----|
| eP | (Z) | | 01 59 56 | |
| IP* | (Z+) | | 02 00 20 | |
| IS | (Z-) | | 02 01 06 | |
| IS* | (Z+) | | 02 01 18 | 660 |

FUQUENE

| | | | | |
|-----|--|------|----------|-----|
| IPn | | (Z+) | 01 59 43 | |
| ISn | | (Z-) | 02 00 29 | 420 |

GALERAZAMBA

| | | | | |
|-----|--|--------|----------|--|
| IPg | | (N+E+) | 02 00 13 | |
| IS* | | (E-) | 02 01 00 | |

15. 20.8 N. 106.6 W. H = 03 40 16.5
 h = 33 Kms. (USCOS).
 Frente a la Costa de Jalisco, -
 México.
 BOGOTA

| | | | | |
|----|------|--|------------|--|
| IP | (Z+) | | 03 47 24.5 | |
|----|------|--|------------|--|

CHINCHINA

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 03 46 57 | |
|----|-----|--|----------|--|

15. 7.1 N. 73.9 W. H = 08 24 24
 (Determinado por Bogotá)
 Cerca a Barrancabermeja, Depar-
 tamento de Santander, Colombia.
 BOGOTA

| | | | | |
|-----|----------|------|----------|-----|
| IPn | (Z-N+E-) | (Z+) | 08 25 04 | |
| ISn | (N) | (N+) | 08 25 35 | |
| IS* | (Z+) | (E) | 08 25 38 | 275 |

CHINCHINA

| | | | | |
|-----|------|--|----------|-----|
| IPn | (Z+) | | 08 25 11 | |
| ISn | (Z-) | | 08 25 45 | |
| IS* | (Z) | | 08 25 50 | 305 |

FUQUENE

| | | | | |
|-----|------|--|----------|------|
| IPn | (Z+) | | 08 24 52 | 3000 |
| ISn | (Z+) | | 08 25 15 | |
| IS* | (Z+) | | 08 25 18 | |

GALERAZAMBA

| | | | | |
|-----|--------|--|----------|--|
| IS* | (N-E+) | | 08 26 26 | |
| ISg | (E) | | 08 26 39 | |

15 De Colombia.
 BOGOTA

| | | | | |
|-----|-----|--|----------|-----|
| ePn | (Z) | | 08 48 17 | |
| eSn | (N) | | 08 48 56 | 215 |

CHINCHINA

| | | | | |
|-----|-----|--|----------|-----|
| ePn | (Z) | | 08 48 23 | |
| eS* | (Z) | | 08 48 56 | 275 |

15. 14.7 N. 91.7 W. H = 12 13 25.8
 h = 118 Kms. (USCOS).
 Guatemala.
 BOGOTA

| | | | | |
|----|-----|------|----------|--|
| IP | (Z) | (Z+) | 12 17 55 | |
|----|-----|------|----------|--|

CHINCHINA

| | | | | |
|----|------|--|----------|--|
| IP | (Z-) | | 12 17 38 | |
|----|------|--|----------|--|

FUQUENE

| | | | | |
|----|-----|--|----------|--|
| eP | (Z) | | 12 17 52 | |
|----|-----|--|----------|--|

16 De Colombia.
 BOGOTA

| | | | | |
|-----|------|--|------------|-----|
| IPn | (Z+) | | 03 23 32 | |
| eSn | (N) | | 03 24 01.5 | 255 |

CHINCHINA

| | | | | |
|-----|-----|--|----------|--|
| ePn | (Z) | | 03 23 41 | |
| eS* | (Z) | | 03 24 21 | |

FUQUENE

| | | | | |
|-----|-----|--|----------|--|
| ePn | (Z) | | 03 23 20 | |
|-----|-----|--|----------|--|

16. 6.0 N. 125.3 E. H = 03 55 17.4
 h = 121 Kms. (USCOS).
 Mindanao, Islas Filipinas.
 BOGOTA

| | | | | |
|-------|-----|-----|------------|--|
| ePKP1 | (Z) | (Z) | 04 15 05 | |
| ePKP2 | (Z) | (Z) | 04 15 33.5 | |

CHINCHINA

| | | | | |
|-------|-----|--|----------|--|
| ePKP1 | (Z) | | 04 15 02 | |
| ePKP2 | (Z) | | 04 15 24 | |

FUQUENE

| | | | | |
|-------|------|--|----------|--|
| IPKP1 | (Z-) | | 04 15 04 | |
| ePKP2 | (Z) | | 04 15 31 | |

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUGUENE Y GALERAZAMBA

DICIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-------------|-------|----------|-------------|----------|-------------|
| Fase | C.P. | L.P. | h. m. s. | S-P en Kms. | Fase | C.P. | L.P. | h. m. s. | S-P en Kms. |

17 1.8 N. 01.6 W. H = 04 43 56.8
h = 33 Kms. (USCGS)
Frente a la Costa de Ecuador.
BOGOTA
eP (Z) (Z) 04 46 33
eS (N) 04 48 38 1.150
CHINCHINA CHN
eP (Z) 04 46 16
FUGUENE FUA
eP (Z) 04 46 11

20 22.2 S. 69.1 W. H = 15 45 25.3
h = 100 Kms. (USCGS)
N. de Chile.
BOGOTA
eP (Z) 15 51 24
eS (E) 15 56 12 3.080
CHINCHINA CHN
eP (Z) 15 51 32

17 16.0 N. 96.9 W. H = 13 59 25.3
h = 36 Kms. (USCGS)
Oaxaca, México.
BOGOTA
iP (Z+) (Z) 14 04 51
CHINCHINA CHN
eP (Z) 14 04 35
FUGUENE FUA
iP (Z+) 14 04 48

20 De Colombia.
BOGOTA
iPn (Z+N-E+) 22 22 35
iSn (N+) 22 23 05.5 270
20 De Colombia.
BOGOTA
iPn (Z+) 23 30 28
iSn (N+) 23 30 59 275

18 De Colombia.
BOGOTA
iPn (Z+) 03 24 50.5
iSn (N-) 03 25 01.5 80
CHINCHINA
ePn (Z) 03 24 45

21 De Colombia.
BOGOTA
iPn (Z-) 20 24 01
iSn (N-) 20 24 31.5 270
CHINCHINA
ePn (Z) 20 24 09
eS* (Z) 20 24 49
FUGUENE
eSn (Z) 20 23 47.5

18 7.0 N. 73.8 W. H = 22 07 38
(Determinado por Bogotá).
h = 14.9 Kms. (USCGS)
Cerca a Barrancabermeja, Departamento de Santander, Colombia.
BOGOTA
iPn (Z+N-E+) (Z-) 22 08 17
iSn (N-) (N) 22 08 47 265
CHINCHINA
iPn (Z+) 22 08 26
iSn (Z+) 22 09 00
iS* (Z+) 22 09 05 305
FUGUENE FUA
iPn (Z-) 22 08 04
eS (Z) 22 08 26 185
GALERAZAMBA GAL
iPn (N-) 22 08 37

21 De Colombia.
BOGOTA
iPn (Z-) 20 52 34.5
iSn (N+) 20 53 05 270
CHINCHINA
ePn (Z) 20 52 43
eS* (Z) 20 53 23
FUGUENE
ePn (Z) 20 52 22

19 De Colombia.
BOGOTA
iPn (Z-NE) 20 23 15.5
iSn (N+) 20 23 33 240
CHINCHINA
ePn (Z) 20 23 12
iS* (Z+) 20 23 35
FUGUENE
ePn (Z) 20 23 30

22 9.5 S. 71.3 W. H = 00 24 48.7
h = 614 Kms. (USCGS)
Frontera Perú-Brasil.
BOGOTA
iP (Z+) (Z) 00 27 53
iS (N+) 00 30 24
CHINCHINA CHN
iP (Z+) 00 28 55
FUGUENE FUA
eP (Z) 00 28 00
iS (Z-) 00 30 29
GALERAZAMBA GAL
iS (N-) 00 32 13

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA
 BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMBA
 DICIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|-------------|----------|-----------|-------|----------|-------------|----------|-----------|
| Fase | C.P. | L.P. | h. m. s. | en Kms. | Fase | C.P. | L.P. | h. m. s. | en Kms. |

22 De Colombia.
 BOGOTA
 1Pn (Z+) 05 51 34.5
 1Sn (N-) 05 51 55.5 275
 CHINCHINA
 ePn (Z) 05 55 32.7
 eS* (Z) 05 56 12.7 2.530

23 De Colombia. *Fu2*
 BOGOTA
 ePn (Z) 07 27 17
 eSn (N) 07 27 14 235
 CHINCHINA
 1Pn (Z-) 07 26 56
 1Sn (Z+) 07 27 10 110

22 18.4 N. 68.8 W. H = 08 01 12.6
 h = 115 Kms. (USCGS).
 Pasaje Mona.
 BOGOTA
 1P (Z-) (Z-N+E+) 08 04 37
 1S (Z-) (Z-N+E+) 08 07 20 1.550
 CHINCHINA *CHN*
 1P (Z-) 08 04 38
 FUQUENE *Fu2*
 1P (Z-) 08 04 24
 1S (Z+) 08 06 59 1.150
 GALERAZAMBA *GAL*
 1P (N+) 08 03 37
 eS (N) 08 05 22 1.000

23 7.1 S. 129.4 E. H = 07 36 02.9
 h = 111 Kms. (USCGS).
 Mar de Banda.
 BOGOTA
 ePKP1 (Z) (Z) 07 55 49
 ePKP2 (Z) 07 56 21
 CHINCHINA
 ePKP1 (Z) 07 55 46
 ePKP2 (Z) 07 56 13
 FUQUENE
 ePKP1 (Z) 07 55 52

22 31.9 N. 117.4 W. H = 20 54 35.3
 h = 24 Kms. (USCGS).
 Frente a la Costa W. de la Baja California.
 BOGOTA *BOG*
 eP (Z) (Z) 21 03 21
 1PP (N+) 21 05 18
 1S (N+) 21 10 25 5.350
 CHINCHINA *CHN*
 eP (Z) 21 03 10
 ePP (Z) 21 04 47
 FUQUENE *Fu2*
 1P (Z+) 21 03 19
 ePP (Z) 21 05 05
 1S (Z-) 21 10 20 5.320
 GALERAZAMBA
 1S (N+) 21 09 28

23 De Colombia.
 BOGOTA
 1Pn (Z+) 23 33 42
 1Sn (N+) 23 34 13 275
 CHINCHINA
 ePn (Z) 23 33 51
 eS* (Z) 23 34 31
 FUQUENE
 ePn (Z) 23 33 31

24 4.4 S. 153.1 E. H = 18 45 50
 h = 93 Kms. (USCGS).
 Nueva Irlanda.
 BOGOTA
 ePKP (Z) 19 04 51
 ePKS (Z) (Z) 19 08 17.5
 CHINCHINA
 ePKP (Z) 19 04 50
 1PKS (Z+) 19 08 10
 FUQUENE
 ePKP (Z) 19 04 54
 1PKS (Z-) 19 08 19

23 59.4 S. 26.9 W. H = 05 46 45
 h = 33 Kms. (USCGS).
 Islas Sandwich.
 BOGOTA *BOG*
 eP (Z) (Z) 05 58 19
 ePP (Z) 06 01 05
 1S (N+E-) 06 07 52
 eSS (N) 06 12 42 8.200
 CHINCHINA *CHN*
 eP (Z) 05 58 22
 ePP (Z) 06 01 09
 FUQUENE *Fu2*
 eP (Z) 05 58 19
 1PP (Z-) 06 01 05
 1S (Z+) 06 07 52 8.150
 GALERAZAMBA
 1S (E+) 06 08 51
 1PS (N-) 06 09 39

25 7.8 N. 80.8 W. H = 08 05 52.9
 h = 45 Kms. (USCGS).
 Panamá.
 BOGOTA
 eP (Z) 08 07 41
 eS (N) 08 09 15 895
 CHINCHINA *CHN*
 eP (Z) 08 07 17
 FUQUENE *Fu2*
 eP (Z) 08 07 51

BOLETIN SISMICO PRELIMINAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMPA

DICIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distancia | Fecha | Estación | Componentes | G. M. T. | Distancia |
|-------|----------|--|----------|------------|-------|----------|-------------|----------|-----------|
| | Fase | C.P. | L.P. | h. m. s. | | Fase | C.P. | L.P. | h. m. s. |
| | | | | en Kms. | | | | | en Kms. |
| 25 | | 18.8 S. 69.0 W. | H = | 08 48 37.7 | | | | | |
| | | h = 117 Kms. (USCOS). | | | | | | | |
| | | N. de Chile. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | eP | (Z) | 08 53 41 | | | | | |
| | | eS | (NE) | 08 57 46 | 2.530 | | | | |
| | | CHINCHINA | | | | | | | |
| | | eP | (Z) | 08 53 47 | | | | | |
| | | FUQUENE <i>Fua</i> | | | | | | | |
| | | eP | (Z) | 08 53 53 | | | | | |
| | | 1PP | (Z+) | 08 54 44 | | | | | |
| | | FUQUENE <i>Fua</i> | | | | | | | |
| | | eP | (Z) | 08 22 18 | | | | | |
| 26 | | 51.8 N. 156.8 E. | H = | 14 30 29.1 | | | | | |
| | | h = 136 Kms. (USCOS). | | | | | | | |
| | | Kamchatka. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | eP | (Z) | 14 45 26 | | | | | |
| | | 1PP | (Z+) | 14 49 17 | | | | | |
| | | 1SKS | (N-) | 14 55 09 | | | | | |
| | | eSKS | (N) | 14 56 10 | | | | | |
| | | FUQUENE | | | | | | | |
| | | 1PP | (Z+) | 14 49 12 | | | | | |
| | | eSKS | (Z) | 14 55 09 | | | | | |
| 25 | | 18.0 N. 101.2 W. | H = | 16 30 01.9 | | | | | |
| | | h = 81 Kms. (USCOS). | | | | | | | |
| | | Cerca a la Costa de Guerrero, Méjico. | | | | | | | |
| | | BOGOTA <i>BOG</i> | | | | | | | |
| | | eP | (Z) | 16 36 07 | | | | | |
| | | eS | (N) | 16 41 03 | 3.280 | | | | |
| | | FUQUENE <i>Fua</i> | | | | | | | |
| | | eP | (Z) | 16 36 02 | | | | | |
| 26 | | De Colombia. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | ePn | (Z) | 00 56 39 | | | | | |
| | | 1Sn | (N+) | 00 56 56 | 135 | | | | |
| | | CHINCHINA | | | | | | | |
| | | ePn | (Z) | 00 56 31 | | | | | |
| 27 | | De Colombia. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | 1Pn | (Z+) | 00 54 24.5 | | | | | |
| | | 1Sn | (N-) | 00 54 55.5 | 275 | | | | |
| | | FUQUENE | | | | | | | |
| | | ePn | (Z) | 00 54 12 | | | | | |
| | | eSn | (Z) | 00 54 35 | 195 | | | | |
| 26 | | De Colombia. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | 1Pn | (Z-) | 01 18 28 | | | | | |
| | | 1Sn | (N+) | 01 18 59 | 275 | | | | |
| 27 | | 7.2 N. 73.4 W. | H = | 17 51 46 | | | | | |
| | | h = 113 Kms. (USCOS). | | | | | | | |
| | | Cerca a Aguas Claras, Departamento de Santander, Colombia. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | 1Pn | (Z+) | 17 52 29.5 | | | | | |
| | | 1Sn | (N+) | 17 53 00 | 270 | | | | |
| | | CHINCHINA | | | | | | | |
| | | 1Pn | (Z+) | 17 52 28 | | | | | |
| | | eSn | (Z) | 17 53 00 | | | | | |
| | | eS* | (Z) | 17 53 06 | 285 | | | | |
| | | FUQUENE <i>Fua</i> | | | | | | | |
| | | ePn | (Z) | 17 52 18 | | | | | |
| | | 1Sn | (Z+) | 17 52 41 | 195 | | | | |
| 26 | | BOGOTA <i>BOG</i> | | | | | | | |
| | | eP | (Z) | 04 34 53 | | | | | |
| | | eS | (N) | 04 35 45 | 480 | | | | |
| | | CHINCHINA <i>CHN</i> | | | | | | | |
| | | ePn | (Z) | 04 34 43 | | | | | |
| | | FUQUENE <i>Fua</i> | | | | | | | |
| | | ePn | (Z) | 04 34 50 | | | | | |
| 27 | | 12.9 N. 125.4 E. | H = | 17 43 21.4 | | | | | |
| | | h = 33 Kms. (USCOS). | | | | | | | |
| | | Samar, Islas Filipinas. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | ePKP1 | (Z) | 18 03 12 | | | | | |
| | | ePKP2 | (Z) | 18 03 40 | | | | | |
| | | CHINCHINA | | | | | | | |
| | | ePKP1 | (Z) | 18 03 01 | | | | | |
| | | 1PKP2 | (Z+) | 18 04 26 | | | | | |
| | | FUQUENE | | | | | | | |
| | | 1PKP1 | (Z-) | 18 03 11 | | | | | |
| | | 1PKP2 | (Z-) | 18 03 37 | | | | | |
| 26 | | 16.7 N. 99.6 W. | H = | 08 16 28.9 | | | | | |
| | | h = 33 Kms. (USCOS). | | | | | | | |
| | | Cerca a la Costa Guerrero, Méjico. | | | | | | | |
| | | BOGOTA | | | | | | | |
| | | eP | (Z) | 08 22 19 | | | | | |
| | | 1S | (N-) | 08 27 11 | 3.100 | | | | |
| | | CHINCHINA <i>CHN</i> | | | | | | | |
| | | eP | (Z) | 08 21 52 | | | | | |

MINIAR DE BOGOTA, CHINCHINA, FUQUENE Y GALERAZAMA

DICIEMBRE DE 1.964

| Fecha | Estación | Componentes | G. M. T. | Distan- | Fecha | Estación | Componentes | G. M. T. | Distan- |
|-------|-----------------------------------|-------------|----------|------------|-------|--------------|--------------|----------|------------|
| | Fase | C.P. | L.P. | cia S-P | | Fase | C.P. | L.P. | cia S-P |
| | | | | en Kms. | | | | | en Kms. |
| 27 | De Colombia. | | | | 30 | De Colombia. | | | |
| | BOGOTA | | | | | BOGOTA | | | |
| | ePn (Z) | | | 19 28 51.5 | | iPn (Z+) | | | 15 47 46 |
| | eSn (N) | | | 19 29 22.5 | 275 | iSn (N-) | | | 15 48 17 |
| | CHINCHINA | | | | | CHINCHINA | | | |
| | ePn (Z) | | | 19 29 01 | | ePn (Z) | | | 15 47 54 |
| | iS* (Z) | | | 19 29 40 | | iS* (Z+) | | | 15 48 34 |
| | FUQUENE | | | | | | | | |
| | eSn (Z) | | | 19 29 03 | | | | | |
| 28 | 22.1 S. 179.6 W. H = | | | 16 16 11.0 | | 31 | De Colombia. | | |
| | h = 611 Kms. (USCGS) | | | | | BOGOTA | | | |
| | S. de las Islas Fiji. | | | | | ePn (Z) | | | 03 34 26 |
| | BOGOTA | | | | | iSn (N-) | | | 03 34 51.5 |
| | eP (Z) | | | 16 29 23 | | CHINCHINA | | | |
| | iPP (Z+) | | | 16 33 58 | | ePn (Z) | | | 03 34 03 |
| | iPPP (Z) | | | 16 36 52 | | iSn (Z+) | | | 03 34 11 |
| | iPS (Z) | | | 16 43 21 | | | | | 50 |
| | CHINCHINA | | | | | 31 | De Colombia. | | |
| | iPP (Z+) | | | 16 33 45 | | BOGOTA | | | |
| | FUQUENE | | | | | ePn (Z) | | | 15 04 56 |
| | iPP (Z+) | | | 16 34 00 | | eSn (N) | | | 15 05 14 |
| 29 | De Colombia. | | | | | CHINCHINA | | | |
| | BOGOTA | | | | | ePn (Z) | | | 15 04 52 |
| | iPn (Z+) | | | 18 05 27.5 | | FUQUENE | | | |
| | iSn (N+) | | | 18 05 57.5 | 265 | eSn (Z) | | | 15 04 56 |
| | En Chinchiná del 29 al 30 se ve16 | | | | | | | | |
| | el papel. | | | | | | | | |
| | FUQUENE | | | | | | | | |
| | eSn (Z) | | | 18 05 38 | | | | | |
| 29 | De Colombia. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | iPn (Z+) | | | 18 23 11.5 | | | | | |
| | iSn (N+) | | | 18 23 42 | 270 | | | | |
| 30 | 31.3 N. 138.8 E. H = | | | 15 27 25.8 | | | | | |
| | h = 261 Kms. (USCGS). | | | | | | | | |
| | S. de Honshu, Japon. | | | | | | | | |
| | BOGOTA | | | | | | | | |
| | ePKP (Z) (Z) | | | 15 46 14 | | | | | |
| | ePP (Z) (Z) | | | 15 49 17 | | | | | |
| | CHINCHINA | | | | | | | | |
| | ePKP (Z) | | | 15 46 09 | | | | | |
| | ePP (Z) | | | 15 49 10 | | | | | |
| | FUQUENE | | | | | | | | |
| | ePP (Z) | | | 15 49 13 | | | | | |

Jesus Emilio Ramirez, S. J.
Director.

Francisco A. Miranda
Auxiliar de Geofisica.