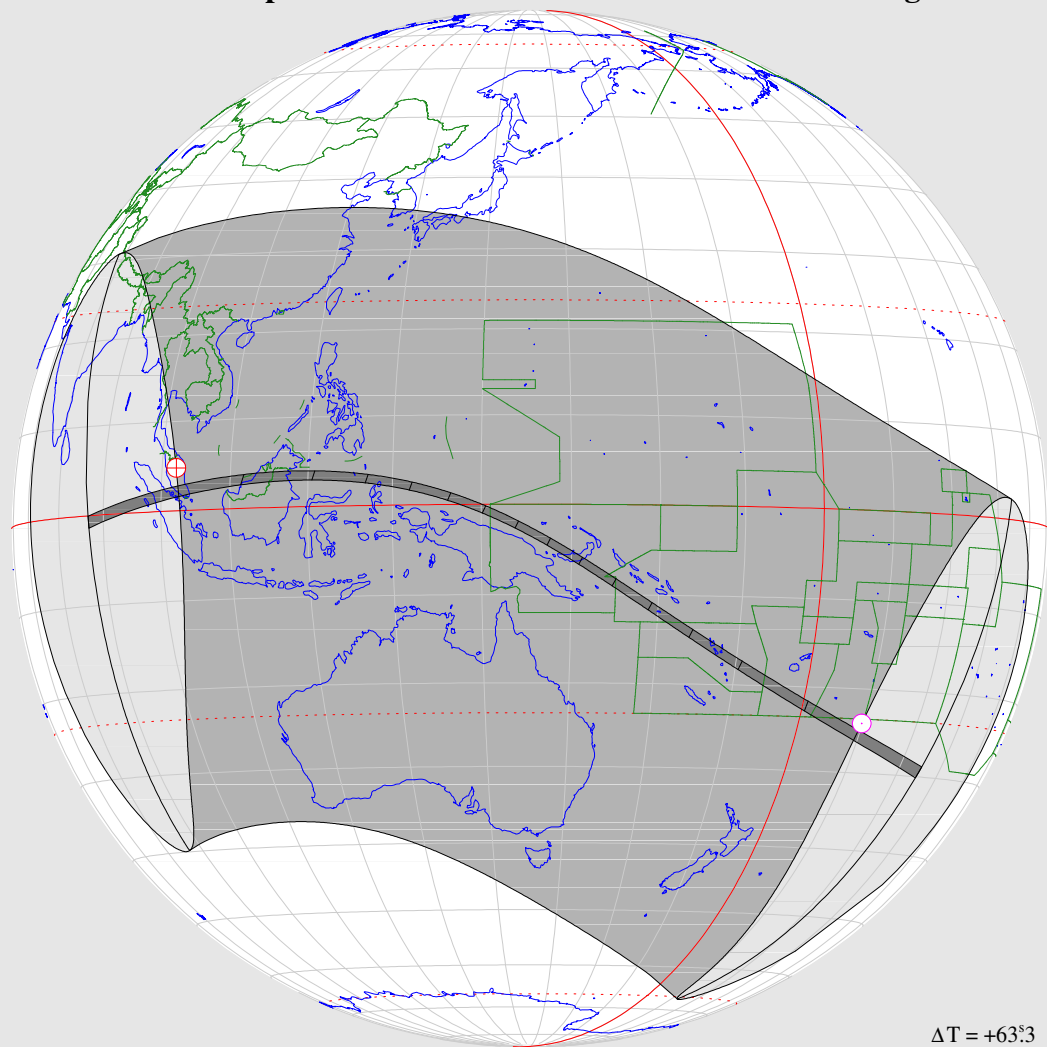


IV. - Annular Eclipse of the Sun

1998 August 21-22



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$\Delta T = +63^s.3$
Globe centred on E 145°4 and S 2°7

| Circumstances | Time (UT) | Longitude | Latitude |
|--|-----------|------------|-----------|
| | h m | ° / | ° / |
| ⊕ Eclipse begins; first contact with Earth | 23 10.3 | E 102 11.5 | N 4 46.2 |
| Beginning of northern limit of umbra | 0 15.4 | E 86 54.9 | S 0 02.0 |
| Beginning of centre line; central eclipse begins | 0 15.6 | E 87 00.1 | S 0 42.0 |
| Beginning of southern limit of umbra | 0 15.9 | E 87 05.1 | S 1 22.0 |
| Beginning of northern limit of penumbra | 0 22.6 | E 77 50.0 | N 30 57.8 |
| Beginning of southern limit of penumbra | 0 56.8 | E 86 40.6 | S 39 49.2 |
| Central eclipse at local apparent noon | 2 14.0 | E 147 15.0 | S 4 00.2 |
| End of southern limit of penumbra | 3 15.0 | W 167 48.0 | S 67 04.3 |
| End of northern limit of penumbra | 3 49.8 | W 146 12.8 | N 2 15.3 |
| End of southern limit of umbra | 3 56.2 | W 155 19.1 | S 30 08.1 |
| End of centre line; central eclipse ends | 3 56.5 | W 155 11.2 | S 29 27.1 |
| End of northern limit of umbra | 3 56.7 | W 155 03.3 | S 28 46.1 |
| ⊙ Eclipse ends; last contact with Earth | 5 02.0 | W 170 07.1 | S 24 00.9 |