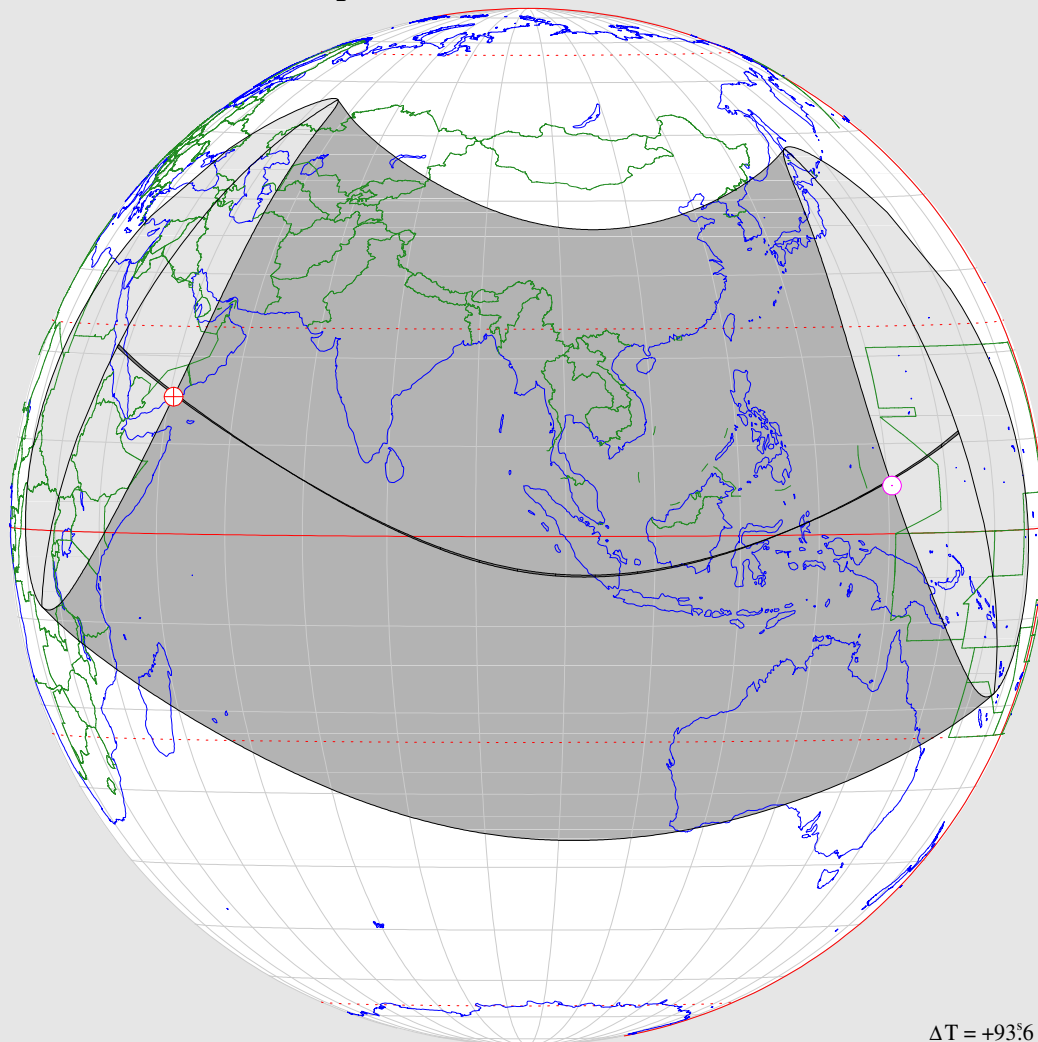


# V. - Annular-Total Eclipse of the Sun

## 2049 November 25



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$\Delta T = +93^s6$   
Globe centred on E 95°8' and N 1°1'

Circumstances	Time (UT)	Longitude	Latitude
	<sup>h</sup> <sup>m</sup>	<sup>o</sup> /	<sup>o</sup> /
⊕ Eclipse begins; first contact with Earth	2 48.2	E 50 39.9	N 15 17.7
Beginning of centre line; central eclipse begins	3 49.2	E 37 51.0	N 21 01.7
Beginning of southern limit of umbra	3 49.1	E 37 47.4	N 20 52.2
Beginning of northern limit of umbra	3 49.2	E 37 54.5	N 21 11.3
Beginning of southern limit of penumbra	3 56.8	E 24 17.3	S 8 31.1
Beginning of northern limit of penumbra	4 28.0	E 54 28.5	N 56 16.7
Central eclipse at local apparent noon	5 29.3	E 94 25.7	S 3 39.8
End of northern limit of penumbra	6 36.6	E 142 58.8	N 47 34.8
End of southern limit of penumbra	7 07.6	E 167 08.0	S 18 26.5
End of northern limit of umbra	7 15.3	E 153 36.0	N 11 14.2
End of centre line; central eclipse ends	7 15.3	E 153 38.7	N 11 05.8
End of southern limit of umbra	7 15.3	E 153 41.5	N 10 57.5
⊙ Eclipse ends; last contact with Earth	8 16.2	E 140 39.7	N 5 19.7