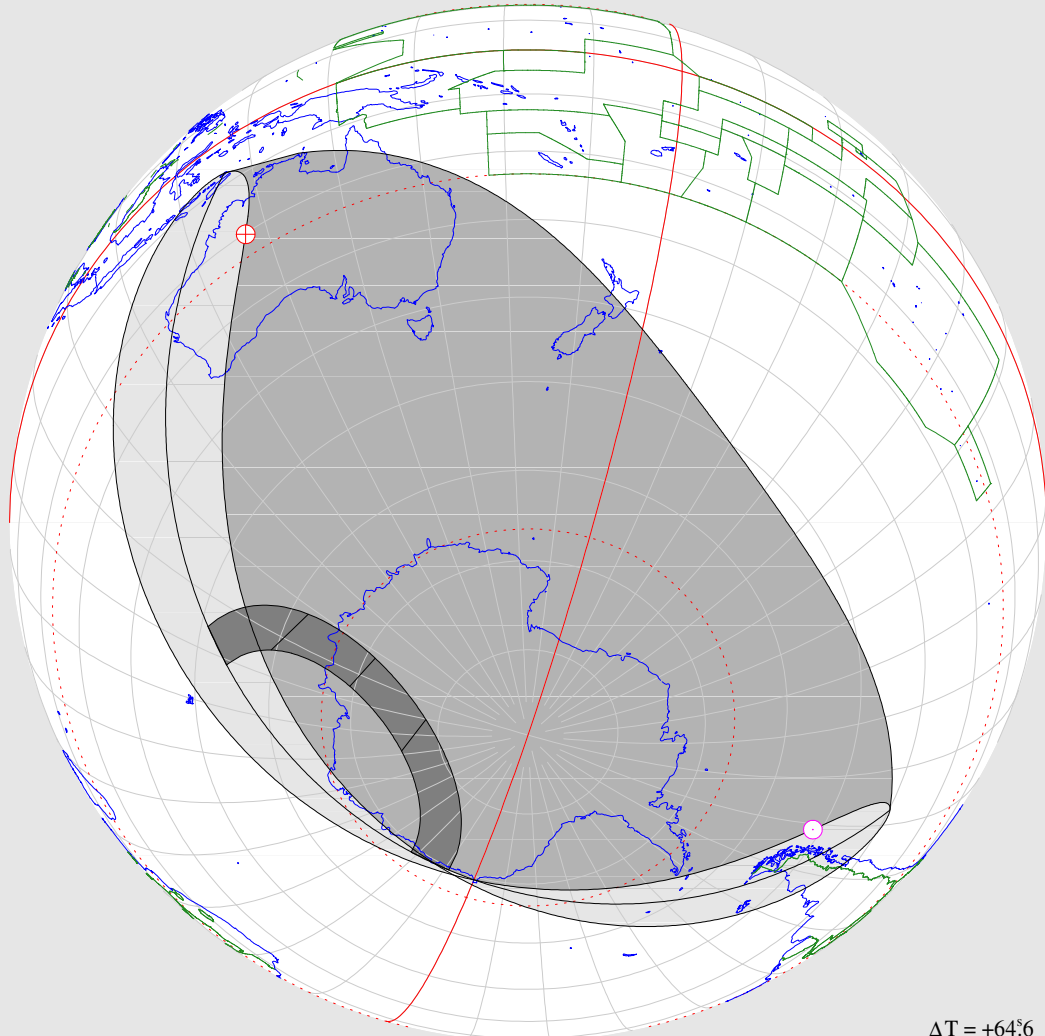


IV. - Total Eclipse of the Sun

2003 November 23-24



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$\Delta T = +64^s.6$
Globe centred on E 162°7' and S 65°8'

Circumstances	Time (UT)	Longitude	Latitude
	^h ^m	^o /	^o /
⊕ Eclipse begins; first contact with Earth	20 46.1	E 127 14.6	S 20 09.1
Beginning of northern limit of penumbra	21 09.1	E 126 27.3	S 7 42.0
Beginning of northern limit of umbra	22 19.4	E 84 31.4	S 50 54.2
Beginning of centre line; central eclipse begins	22 22.7	E 81 58.8	S 52 28.0
Beginning of southern limit of umbra	22 26.5	E 78 54.8	S 54 13.3
End of southern limit of umbra	23 11.7	E 21 50.0	S 69 05.4
End of centre line; central eclipse ends	23 15.5	E 14 51.8	S 69 26.8
End of northern limit of umbra	23 18.8	E 8 39.2	S 69 35.0
End of northern limit of penumbra	0 29.3	W 82 39.2	S 39 47.6
⊙ Eclipse ends; last contact with Earth	0 52.3	W 78 47.3	S 51 16.5