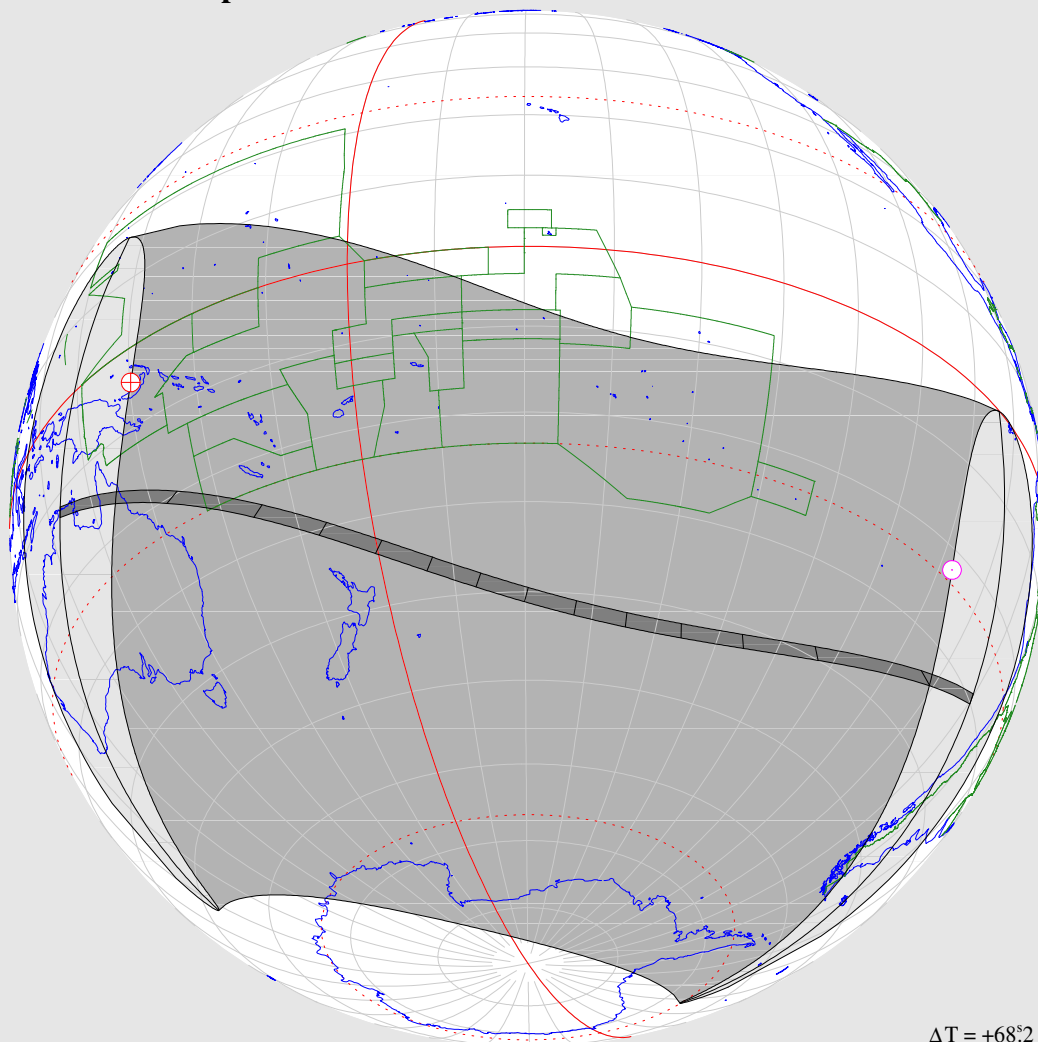


III. - Total Eclipse of the Sun

2012 November 13-14



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$\Delta T = +68^s.2$
Globe centred on W 159°6 and S 33°0

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	19	37.9	E 150	08.9	S 4	27.6
Beginning of northern limit of penumbra	20	22.1	E 146	36.3	N 17	40.1
Beginning of northern limit of umbra	20	35.6	E 133	23.0	S 11	26.2
Beginning of centre line; central eclipse begins	20	36.1	E 133	05.2	S 11	57.2
Beginning of southern limit of umbra	20	36.5	E 132	47.2	S 12	28.3
Beginning of southern limit of penumbra	21	32.1	E 97	48.9	S 52	19.8
Central eclipse at local apparent noon	22	18.0	W 158	24.5	S 40	37.0
End of southern limit of penumbra	22	51.3	W 27	08.9	S 66	34.2
End of southern limit of umbra	23	46.9	W 79	36.6	S 30	03.5
End of centre line; central eclipse ends	23	47.4	W 79	57.8	S 29	32.6
End of northern limit of umbra	23	47.9	W 80	18.6	S 29	01.8
End of northern limit of penumbra	0	01.5	W 94	15.0	S 0	04.0
⊙ Eclipse ends; last contact with Earth	0	45.5	W 97	33.3	S 22	08.7