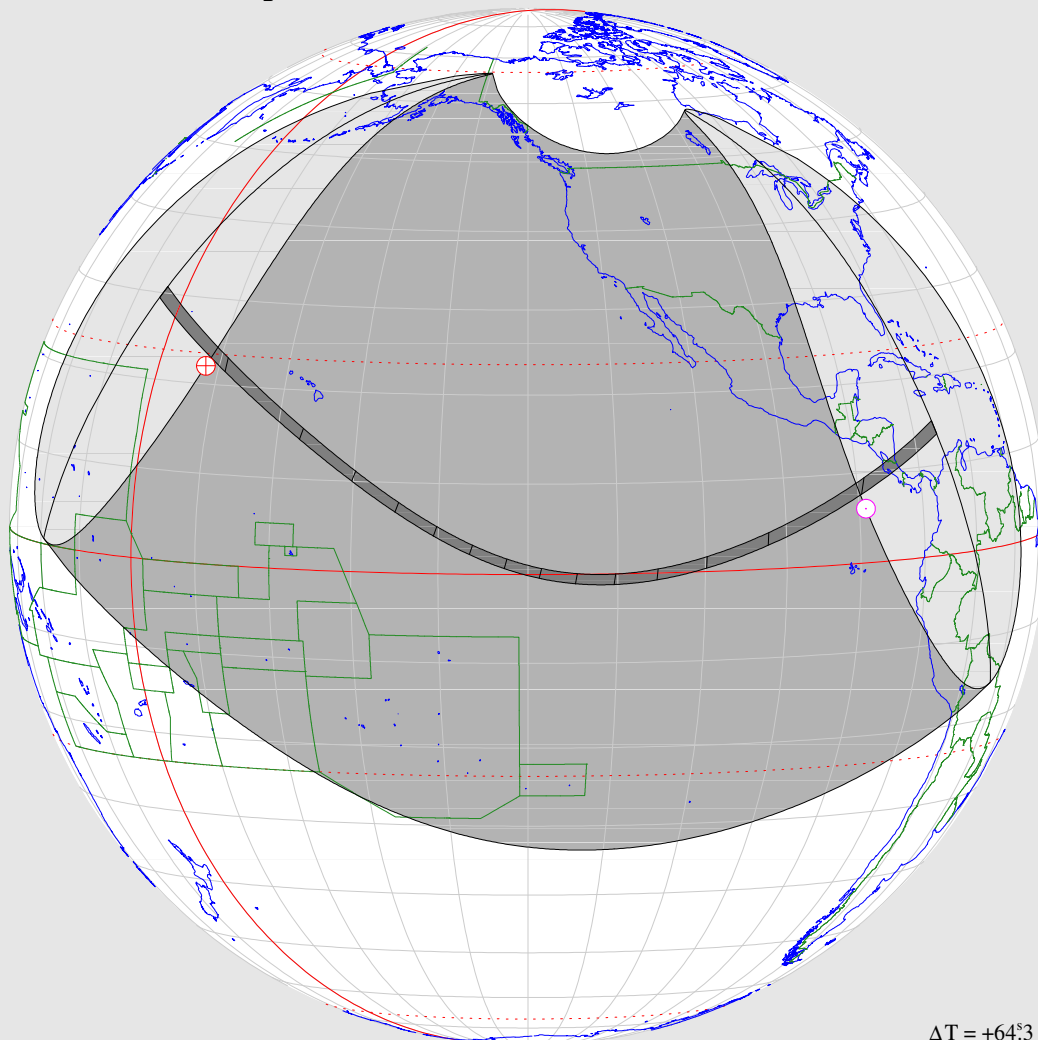


IV. - Annular Eclipse of the Sun

2001 December 14



$\Delta T = +64^s.3$

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Globe centred on W 130°0 and N 5°3

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	18	03.3	W172	06.3	N22	02.8
Beginning of southern limit of umbra	19	09.4	E 175	22.0	N29	22.8
Beginning of centre line; central eclipse begins	19	09.7	E 175	41.6	N30	05.2
Beginning of northern limit of umbra	19	10.1	E 176	01.4	N30	47.8
Beginning of southern limit of penumbra	19	12.4	E 160	53.2	N 0	36.0
Beginning of northern limit of penumbra	20	21.2	W139	44.4	N66	11.5
Central eclipse at local apparent noon	20	44.9	W132	30.0	N 1	11.3
End of northern limit of penumbra	21	23.0	W 95	17.3	N57	55.2
End of southern limit of penumbra	22	31.5	W 62	17.2	S 15	32.3
End of northern limit of umbra	22	33.8	W 76	19.6	N14	58.1
End of centre line; central eclipse ends	22	34.2	W 76	04.6	N14	12.9
End of southern limit of umbra	22	34.6	W 75	49.5	N13	28.0
⊙ Eclipse ends; last contact with Earth	23	40.7	W 89	01.8	N 6	00.0