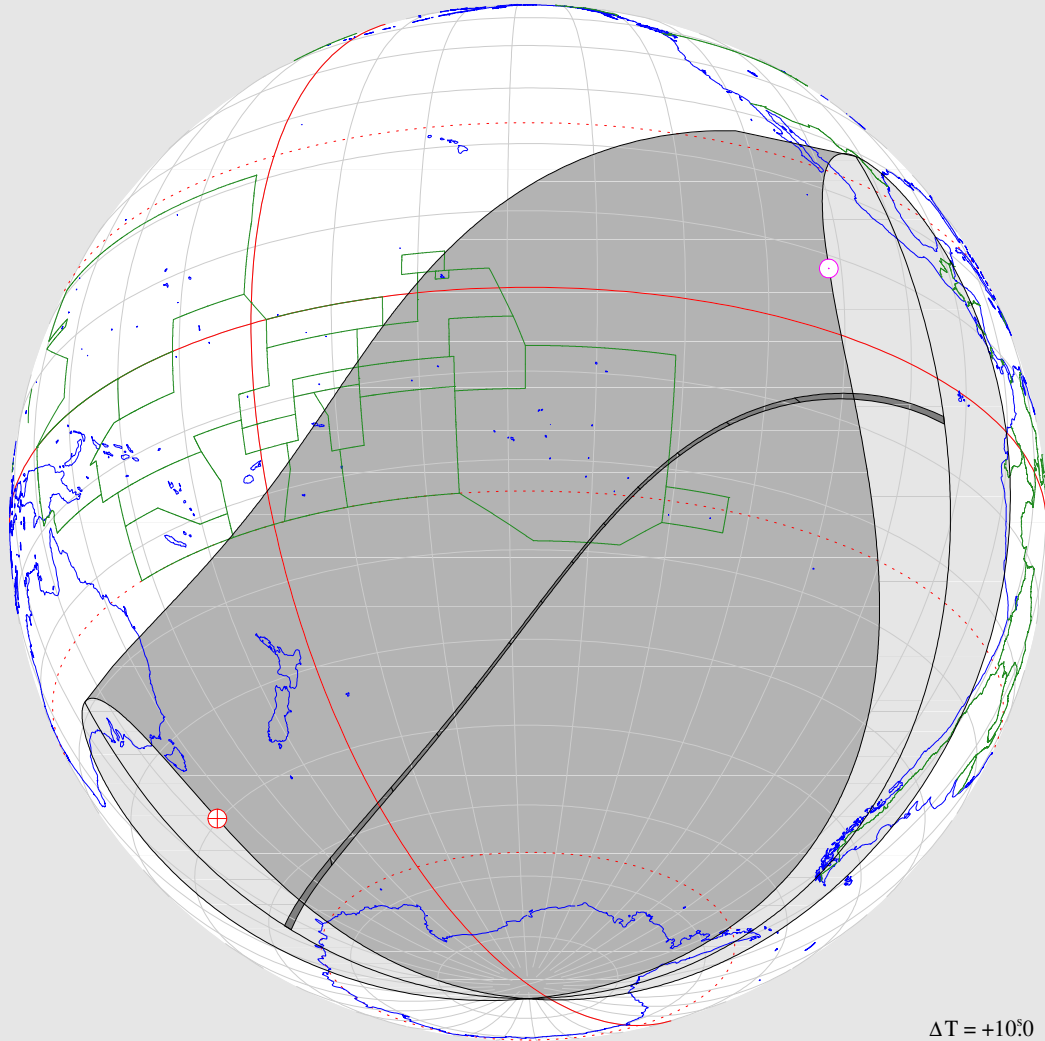


# I. - Annular Eclipse of the Sun

1690 March 10-11



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$\Delta T = +10^s$   
Globe centred on W 147°7' and S 27°0'

Circumstances	Time (UT)	Longitude	Latitude
	<sup>h</sup> <sup>m</sup>	<sup>o</sup> /	<sup>o</sup> /
⊕ Eclipse begins; first contact with Earth	20 16.3	E 144 10.7	S 49 45.9
Beginning of northern limit of penumbra	21 03.8	E 134 36.7	S 28 56.3
Beginning of northern limit of umbra	21 23.9	E 124 43.8	S 61 58.3
Beginning of centre line; central eclipse begins	21 24.3	E 124 29.6	S 62 22.9
Beginning of southern limit of umbra	21 24.8	E 124 15.2	S 62 47.7
Central eclipse at local apparent noon	22 22.3	W 152 59.3	S 42 56.0
End of southern limit of umbra	0 27.2	W 93 54.5	S 4 57.2
End of centre line; central eclipse ends	0 27.6	W 94 02.5	S 4 33.6
End of northern limit of umbra	0 28.1	W 94 10.3	S 4 10.2
End of northern limit of penumbra	0 47.7	W 101 21.6	N 29 02.6
⊙ Eclipse ends; last contact with Earth	1 35.5	W 111 48.5	N 8 09.0