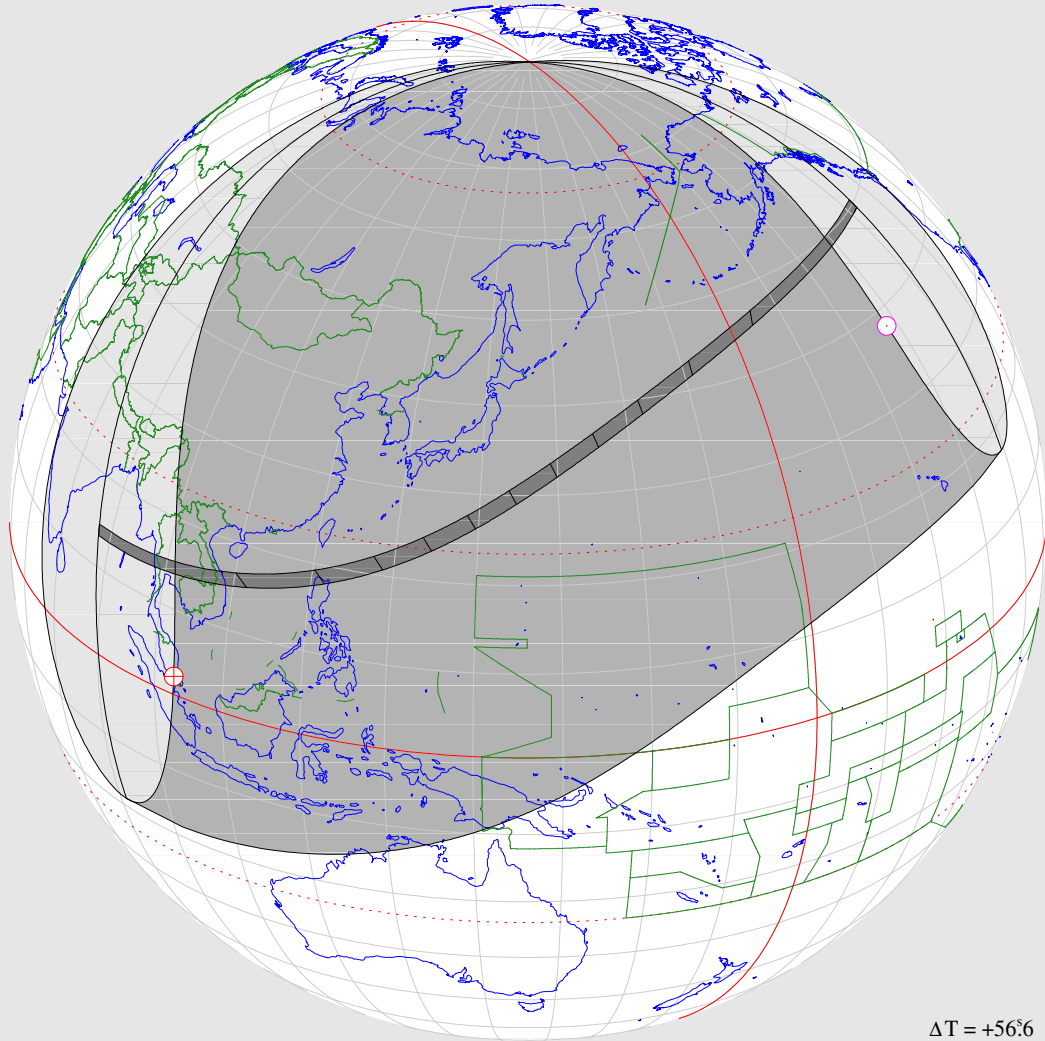


# I. - Total Eclipse of the Sun

1643 March 19-20



©HM Nautical Almanac Office

$\Delta T = +56^s.6$   
Globe centred on E 146°1 and N 27°0

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	23	16.2	E 102	57.2	N 2	11.9
Beginning of southern limit of penumbra	0	02.4	E 91	16.0	S 18	34.6
Beginning of southern limit of umbra	0	17.4	E 87	41.6	N 13	26.3
Beginning of centre line; central eclipse begins	0	18.0	E 87	33.3	N 14	02.3
Beginning of northern limit of umbra	0	18.6	E 87	24.8	N 14	38.6
Central eclipse at local apparent noon	2	04.0	E 150	58.2	N 33	33.4
End of northern limit of umbra	3	13.9	W 136	49.7	N 50	30.2
End of centre line; central eclipse ends	3	14.5	W 136	57.9	N 49	54.9
End of southern limit of umbra	3	15.0	W 137	05.8	N 49	19.7
End of southern limit of penumbra	3	30.3	W 140	41.5	N 17	21.0
⊙ Eclipse ends; last contact with Earth	4	16.4	W 152	20.3	N 38	05.8