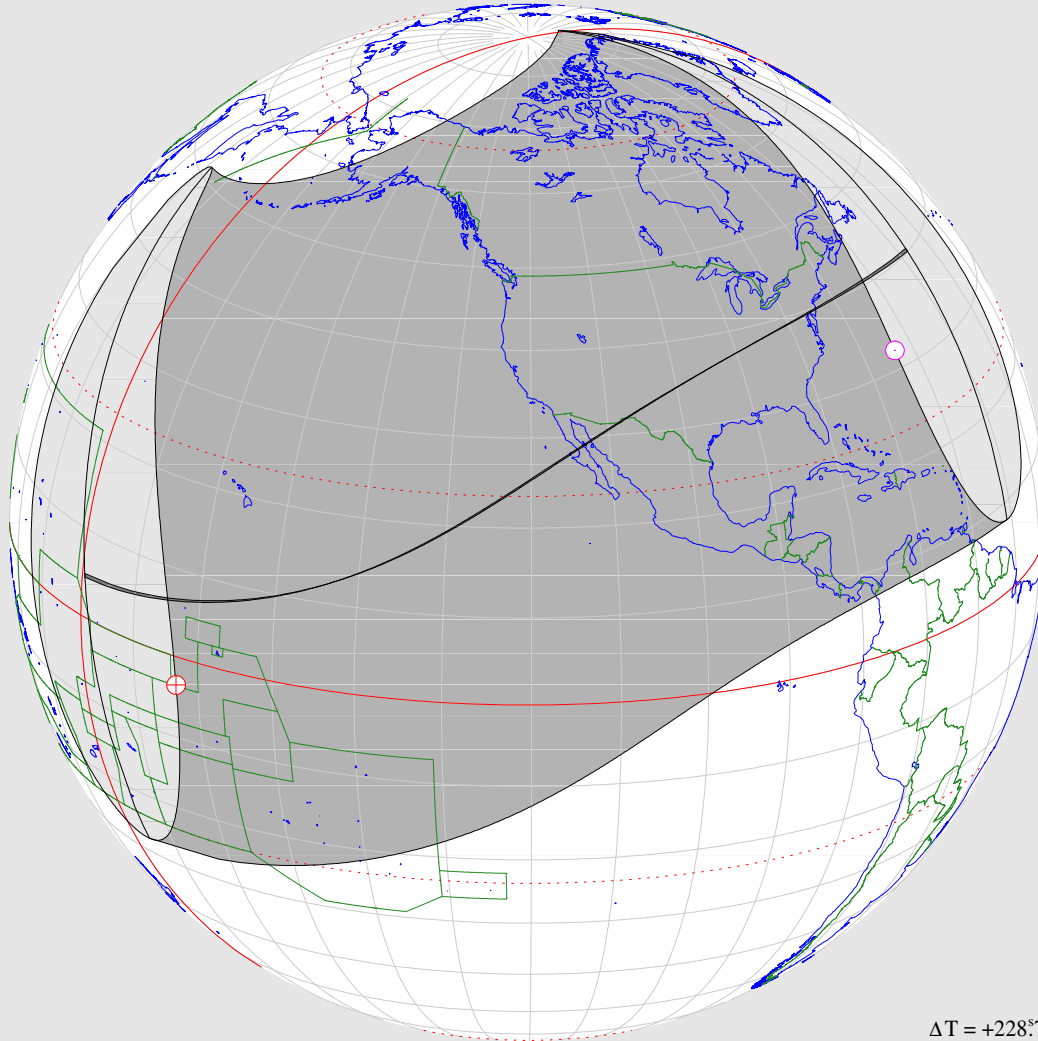


I. - Annular-Total Eclipse of the Sun

1531 March 18



©HM Nautical Almanac Office

$\Delta T = +228^s.7$
Globe centred on W 120°4 and N 20°6

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	16	59.1	W163	14.6	S 3	24.8
Beginning of southern limit of penumbra	17	54.2	W175	43.9	S 27	26.4
Beginning of southern limit of umbra	18	02.2	W179	24.6	N 4	36.7
Beginning of centre line; central eclipse begins	18	02.3	W179	27.6	N 4	49.0
Beginning of northern limit of umbra	18	02.5	W179	30.5	N 5	01.2
Beginning of northern limit of penumbra	19	04.6	E 161	40.8	N 51	23.1
Central eclipse at local apparent noon	19	56.8	W117	50.4	N 26	36.0
End of northern limit of penumbra	20	21.9	E 6	55.1	N 85	42.0
End of northern limit of umbra	21	24.3	W 47	18.8	N 40	24.8
End of centre line; central eclipse ends	21	24.5	W 47	21.7	N 40	14.1
End of southern limit of umbra	21	24.6	W 47	24.7	N 40	03.4
End of southern limit of penumbra	21	32.9	W 51	28.6	N 8	02.5
⊙ Eclipse ends; last contact with Earth	22	27.7	W 63	47.2	N 32	01.9