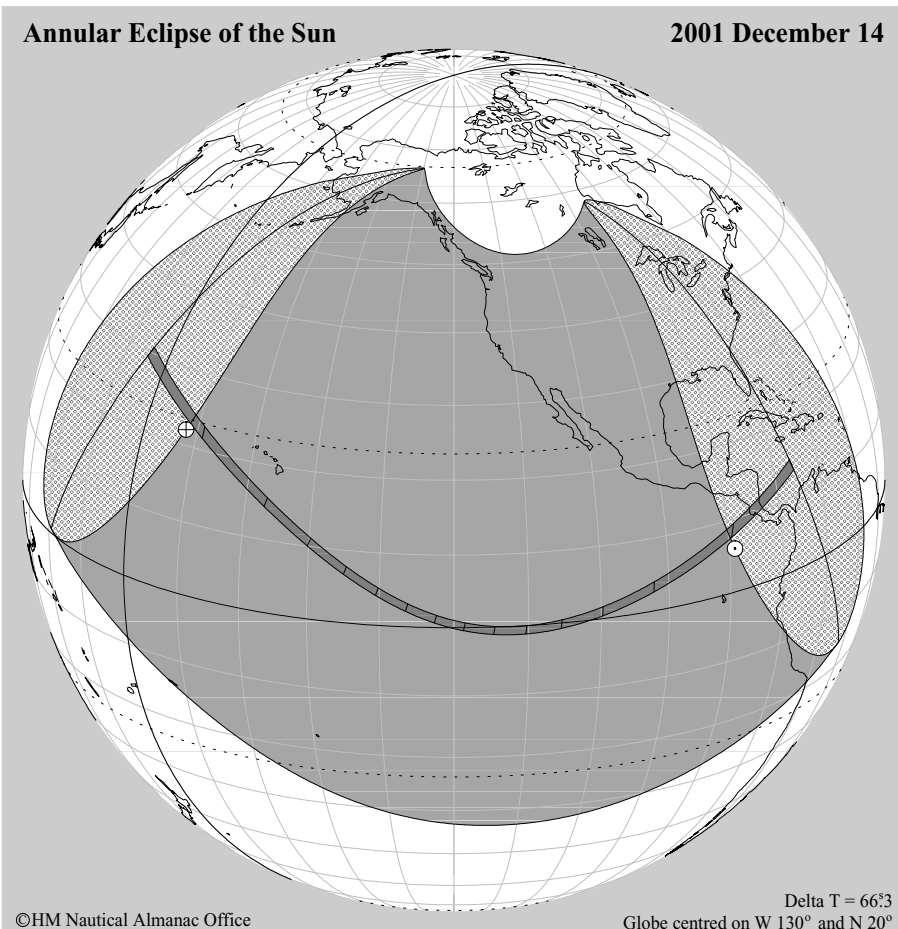


Annular Eclipse of the Sun

2001 December 14



Circumstances	Time (UT)		Longitude		Latitude	
	h	m	o	'	o	'
⊕ Eclipse begins; first contact with Earth	18	03.3	W172	05.7	N22	02.7
Beginning of southern limit of umbra	19	09.3	E 175	22.6	N29	22.8
Beginning of centre line; central eclipse begins	19	09.7	E 175	42.2	N30	05.2
Beginning of northern limit of umbra	19	10.1	E 176	01.9	N30	47.8
Beginning of southern limit of penumbra	19	12.3	E 160	53.7	N 0	36.0
Beginning of northern limit of penumbra	20	21.1	W139	43.8	N66	11.5
Central eclipse at local apparent noon	20	44.8	W132	29.4	N 1	11.3
End of northern limit of penumbra	21	22.9	W 95	16.7	N57	55.2
End of southern limit of penumbra	22	31.5	W 62	16.6	S 15	32.3
End of northern limit of umbra	22	33.8	W 76	19.1	N14	58.1
End of centre line; central eclipse ends	22	34.2	W 76	04.0	N14	12.9
End of southern limit of umbra	22	34.5	W 75	48.9	N13	28.0
⊙ Eclipse ends; last contact with Earth	23	40.7	W 89	01.3	N 6	00.0