

1992年6月30日の皆既日食詳細予報

(米海軍天文台回報より)

★ 一般情報

6月30日の11時02分(UT)ごろ、月の本影は南米大陸の東海岸、ラブラタ川の河口付近で地表に接する。この時の皆既継続時間は約2分58秒である。皆既帯はそこから北東に伸び、ただ一カ所本影が陸上にかかることになるウルグアイの狭い地域と、さらに狭いブラジルの一部を通る。ここでは皆既帯の北半分だけが陸地にかかり、中心線および南限界線は海上を通る。ウルグアイでは、Montevideo と Minas が北限界線近くに位置し、Maldonado、San Carlos、そして Rocha が中心線のすぐ北に位置している。ブラジルでは Santa Vitoria do Palmar が北限界線近くになる。これらのいずれの地域から見ても、食の最大は日の出直後に起こり、皆既の間の太陽は水平線にきわめて近いところにある。

ブラジルを後にした本影は、引続き南大西洋上を北東に進む。南米大陸とアフリカ大陸のほぼ中間まで来ると、本影は南東に向きを変え、アフリカ大陸の南端のさらに西側を通り過ぎる。本影が日没と共に地表を離れるのは13時19分(UT)、アフリカ大陸南端と南極大陸の中間地点の洋上である。(図1)

★ 気象情報

この日食は今年1月の金環食と同じく、中心帯のほとんど全てが海上を通る。そして今回も、最も好天が期待されるのは影が陸地に接するわずかな地域だ。今度の日食のように、雲がかかる確立が統計上絶望的に多い洋上を、このように長く通るのは残念なことである。6月は南半球の冬の真っ最中で、中緯度暴風帯が赤道に最も近い。そして、皆既帯に沿った地域は最も雲に被われやすくなる。

この地域の気象をコントロールする最も大きな要因は、南大西洋上の亜熱帯性高気圧の位置である。この時期、亜熱帯性高気圧は緯度30度より北に位置し、皆既帯が一番北に寄った部分でわずかにこれに接するにすぎない。高気圧は晴天を伴うとはいえ、その効果は赤道寄りに限定される。そしてこの日食が起こるのは、天候のよい所から余りに南に離れすぎているのだ。

図2はソ連とアメリカの衛星から得られた平均雲量を表す。皆既帯は洋上を通過する前半に、最も晴天率の高い地帯の端をかすめる。そして、南東大西洋からアフリカにかけて目立っている雲の厚い地域へと進んでいく。最も見込みのあるのは皆既帯の初め、ウルグアイとブラジルの陸上だ。図3は皆既帯が陸上にかかるわずかな地域で、午前9時の散在する雲の頻度を表す。この雲の統計では楽観できないが、それでも最も良い部分が Maldonado や La Paloma など、海岸に沿った中心帯付近に近い。内陸ほど好天の頻度が減るのは、Cuchilla Gande の丘が大西洋からの湿った風を遮り、厚い雲を形成するからである。

図1 1992年6月30日の日食帯

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

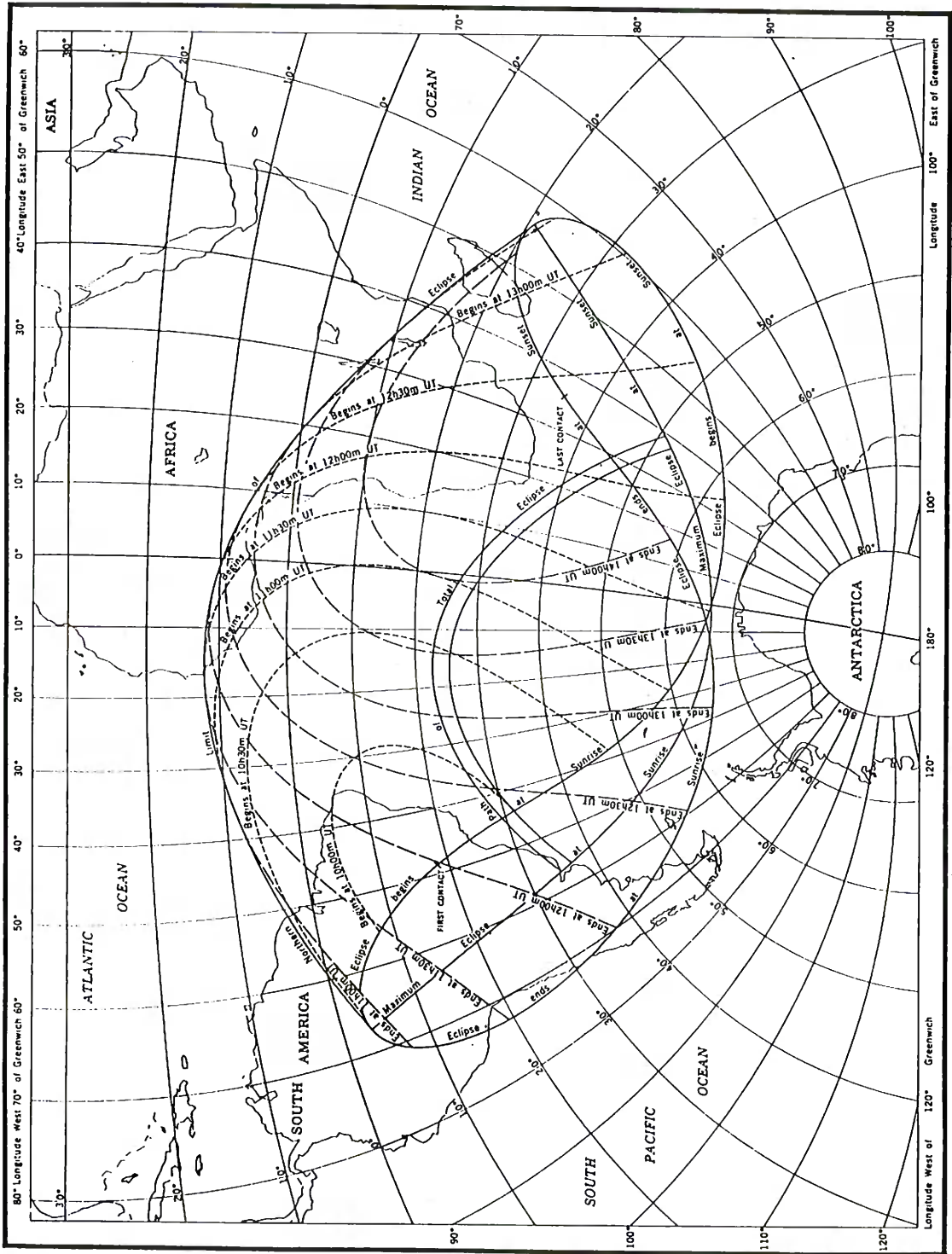


図2 6月における平均雲量

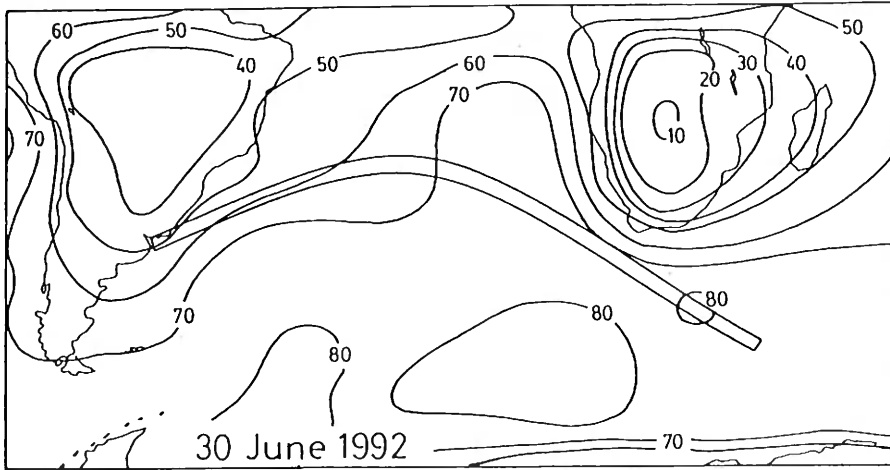


Figure 3. Mean June cloud cover in percent, as in figure 1.

図3 6月の日食の時刻における散在雲の平均日数と日食が見える可能性

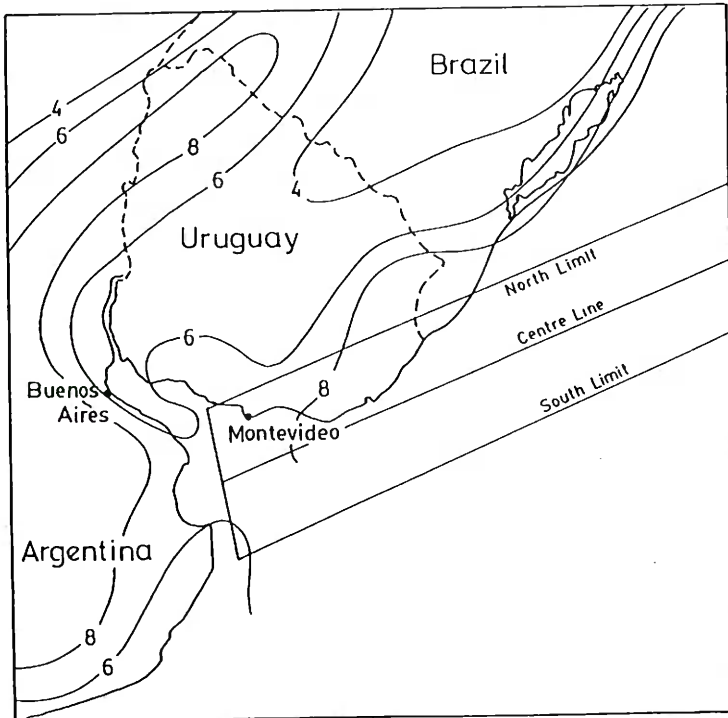


Figure 4. Mean number of days in June with scattered cloud and good visibilities at eclipse time, as in figure 2.

日食の起こる時間帯における低空の雲と霧の頻度は、表1にあるようにウルグアイの海岸地方では高い。低空の雲は他のタイプの雲に比べて隙間が少ない。そして、日食の時の太陽高度が低いため、見通す距離を考えると、どんな雲が出現しても影響は大きい。そのため、たとえ図のように陸上より雲が多い統計があっても、船での観測の方が太陽を見る可能性が高い。船は移動できるという利点がある。だから、少しでも雲の影響を減らせる太陽高度が高い場所に位置することができるからだ。皆既帯の朝の部分では、平均の波の高さは1.5~2m程度。そして風の強い Cape of Good Hope では最高3.5mになる。写真撮影を行うには、太陽を捉えるために感度の高いフィルムと反射神経が必要だろう。

表1 日食帯に沿った気象統計 (* は皆既帯内)

Location	Mean High Temperature (C)	% Frequency of days with low cloud and fog	Mean Precipitation (mm)	Days With Rain	Days with Scattered Cloud and Good Visibility	Days with Thunderstorms
Uruguay						
Trenta y Tres	17	17	112	7.7	9.1	4.0
Minas *	17	19	117	8.0	7.8	-
Rocha *	17	9	113	7.8	9.0	-
San Jose de Mayo	-	32	90	6.3	7.3	-
Colonia	15	20	73	5.1	6.4	2.0
Salto	17	17	64	4.5	9.7	-
Montevideo *	15	27	81	5.7	6.3	2.0
Melo	18	20	132	9.0	5.6	2.0
Brazil						
Rio Grande	18	0	61	5.3	6.7	2.7
Argentina						
Buenos Aires	14	34	61	4.3	5.2	2.0
Dolores	14	25	65	4.6	7.9	1.0

SURFACE PATH OF THE TOTAL PHASE

U.T.	Northern Limit		Central Line		Southern Limit	
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
Limits	° ′ -34 53.4	° ′ - 56 51.1	° ′ -35 49.2	° ′ - 56 32.5	° ′ -36 46.1	° ′ - 56 13.0
11 01	-32 32.4	- 51 38.7	.. ..	.. ..	.. ..	.. ..
11 02	-31 07.2	- 48 25.0	-34 10.6	- 52 52.1	.. ..	.. ..
11 03	-30 10.7	- 46 13.3	-32 28.8	- 48 59.6	.. ..	.. ..
11 04	-29 26.6	- 44 27.9	-31 28.3	- 46 37.3	-33 59.1	- 49 52.2
11 05	-28 49.8	- 42 58.1	-30 42.3	- 44 46.6	-32 51.5	- 47 12.6
11 10	-26 42.0	- 37 24.6	-28 16.1	- 38 30.0	-29 55.3	- 39 46.5
11 15	-25 20.7	- 33 22.9	-26 48.4	- 34 12.3	-28 19.1	- 35 08.0
11 20	-24 23.8	- 30 06.0	-25 48.2	- 30 46.6	-27 15.0	- 31 31.6
11 25	-23 43.0	- 27 16.2	-25 05.6	- 27 51.3	-26 30.0	- 28 29.8
11 30	-23 14.3	- 24 45.0	-24 35.6	- 25 16.3	-25 58.6	- 25 50.2
11 35	-22 55.2	- 22 27.0	-24 15.7	- 22 55.5	-25 37.7	- 23 26.1
11 40	-22 44.1	- 20 18.9	-24 04.1	- 20 45.3	-25 25.4	- 21 13.4
11 45	-22 40.2	- 18 18.3	-23 59.7	- 18 43.0	-25 20.6	- 19 09.2
11 50	-22 42.6	- 16 23.5	-24 01.8	- 16 46.8	-25 22.3	- 17 11.3
11 55	-22 50.9	- 14 33.1	-24 09.9	- 14 55.2	-25 30.2	- 15 18.3
12 00	-23 04.8	- 12 45.8	-24 23.7	- 13 06.9	-25 43.8	- 13 28.7
12 05	-23 24.2	- 11 00.8	-24 42.8	- 11 20.9	-26 02.8	- 11 41.5
12 10	-23 48.8	- 9 17.0	-25 07.4	- 9 36.1	-26 27.3	- 9 55.6
12 15	-24 18.6	- 7 33.7	-25 37.3	- 7 51.8	-26 57.3	- 8 10.0
12 20	-24 53.9	- 5 49.8	-26 12.6	- 6 06.8	-27 32.7	- 6 23.8
12 25	-25 34.8	- 4 04.6	-26 53.6	- 4 20.4	-28 14.0	- 4 36.0
12 30	-26 21.5	- 2 17.0	-27 40.6	- 2 31.4	-29 01.4	- 2 45.4
12 35	-27 14.6	- 0 25.7	-28 34.1	- 0 38.5	-29 55.4	- 0 50.6
12 40	-28 14.7	+ 1 30.5	-29 34.8	+ 1 19.8	-30 56.9	+ 1 10.0
12 45	-29 22.6	+ 3 33.7	-30 43.7	+ 3 25.4	-32 06.9	+ 3 18.4
12 50	-30 39.6	+ 5 46.1	-32 02.1	+ 5 41.1	-33 27.0	+ 5 37.8
12 55	-32 07.7	+ 8 11.3	-33 32.2	+ 8 10.6	-34 59.5	+ 8 12.3
13 00	-33 49.8	+ 10 54.6	-35 17.3	+ 11 00.0	-36 48.2	+ 11 08.9
13 05	-35 50.9	+ 14 04.9	-37 23.3	+ 14 19.8	-39 00.2	+ 14 40.1
13 10	-38 20.6	+ 17 59.8	-40 01.9	+ 18 31.6	-41 50.4	+ 19 13.4
13 15	-41 43.7	+ 23 24.7	-43 47.6	+ 24 38.7	-46 10.5	+ 26 25.4
13 16	-42 36.6	+ 24 51.4	-44 50.3	+ 26 24.2	-47 33.1	+ 28 48.6
13 17	-43 36.9	+ 26 31.8	-46 06.3	+ 28 34.3	-49 34.1	+ 32 25.6
13 18	-44 48.6	+ 28 33.3	-47 48.7	+ 31 34.8	.. ..	.. ..
13 19	-46 21.2	+ 31 14.3	.. ..	.. ..	.. ..	.. ..
13 20	-49 04.1	+ 36 10.9	.. ..	.. ..	.. ..	.. ..
Limits	-50 43.7	+ 39 22.3	-51 34.0	+ 38 37.2	-52 24.7	+ 37 49.1

*For duration, path width, and altitude and azimuth of the Sun,
please see page 38, Local Circumstances for Points on the Central Line*

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

ELEMENTS OF THE ECLIPSE

U.T. of geocentric conjunction in right ascension, June 30^d 12^h 23^m 21^s.929

Julian Date = 2448804.0162260344

R.A. of Sun and Moon	h m s	Hourly motions	s s
ΔT	6 38 57.402		10.350 and 158.436
	59.012		
	° ' "		' "
Declination of Sun	+23 08 17.09	Hourly motion	- 0 09.63
Declination of Moon	+22 22 19.92	Hourly motion	- 5 51.42
Equatorial hor. par. of Sun	8.65	True semidiameter of Sun	15 43.9
Equatorial hor. par. of Moon	60 29.24	True semidiameter of Moon	16 28.9
Lunar figure offset, long.	+ 0.53		
Lunar figure offset, lat.	- 0.29		

CIRCUMSTANCES OF THE ECLIPSE

	U.T.	Longitude	Latitude
	d h m	° '	° '
Eclipse begins	June 30 9 50.9	- 48 38.9	- 18 22.2
Central eclipse begins	30 11 01.7	- 56 32.5	- 35 49.2
Central eclipse at local apparent noon	30 12 23.4	- 4 55.4	- 26 39.6
Central eclipse ends	30 13 18.9	+ 38 37.2	- 51 34.0
Eclipse ends	30 14 29.7	+ 35 52.4	- 35 19.6

Longitudes are measured positive east of Greenwich

BESSELIAN ELEMENTS, POLYNOMIAL FORM

The equations below represent simple least-squares fits to the tabular Besselian Elements.

Let $t = (\text{U.T.} - 9^{\text{h}})$ in units of hours.

These equations are valid over the range $0^{\text{h}}.800 \leq t \leq 5^{\text{h}}.658$. Do not use t outside the given range, and do not omit any terms in the series.

If μ is greater than 360° , then subtract 360° .

$$\begin{aligned}
 x &= -1.92288785 + 0.56715882 t + 0.00007879 t^2 - 0.00000923 t^3 \\
 y &= -0.44378301 - 0.09330135 t - 0.00013788 t^2 + 0.00000169 t^3 \\
 \sin d &= 0.39310993 - 0.00003870 t - 0.00000009 t^2 \\
 \cos d &= 0.91949152 + 0.00001649 t + 0.00000006 t^2 \\
 \mu &= 314.08445448 + 14.99942367 t + 0.00000087 t^2 - 0.00000001 t^3 \\
 \text{Radius penumbra} &= 0.53397731 + 0.00000280 t - 0.00001240 t^2 \\
 \text{Radius umbra} &= -0.01234610 + 0.00000254 t - 0.00001227 t^2 - 0.00000001 t^3
 \end{aligned}$$

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

BESSELIAN ELEMENTS

U.T.	Intersection of Axis of Shadow with Fundamental Plane		Direction of Axis of Shadow			Radius of Shadow on Fundamental Plane	
	x	y	sin d	cos d	μ	Penumbra	Umбра
h m					$^{\circ}$		
9 20	-1.733827	-0.474899	0.393097	+0.919497	319.08426	0.533977	-0.012347
9 30	-1.639290	-0.490468	0.393091	+0.919500	321.58417	0.533976	-0.012348
9 40	-1.544750	-0.506045	0.393084	+0.919503	324.08407	0.533974	-0.012350
9 50	-1.450206	-0.521629	0.393078	+0.919505	326.58397	0.533971	-0.012353
10 00	-1.355659	-0.537221	0.393071	+0.919508	329.08388	0.533968	-0.012356
10 10	-1.261110	-0.552820	0.393065	+0.919511	331.58378	0.533964	-0.012360
10 20	-1.166558	-0.568426	0.393058	+0.919514	334.08369	0.533959	-0.012365
10 30	-1.072003	-0.584040	0.393052	+0.919516	336.58359	0.533954	-0.012370
10 40	-0.977447	-0.599660	0.393045	+0.919519	339.08350	0.533948	-0.012376
10 50	-0.882889	-0.615289	0.393039	+0.919522	341.58340	0.533941	-0.012383
11 00	-0.788329	-0.630924	0.393032	+0.919525	344.08331	0.533933	-0.012390
11 10	-0.693768	-0.646566	0.393026	+0.919528	346.58321	0.533925	-0.012398
11 20	-0.599206	-0.662215	0.393019	+0.919530	349.08311	0.533916	-0.012407
11 30	-0.504643	-0.677872	0.393013	+0.919533	351.58302	0.533907	-0.012417
11 40	-0.410079	-0.693535	0.393006	+0.919536	354.08292	0.533897	-0.012427
11 50	-0.315515	-0.709205	0.393000	+0.919539	356.58283	0.533886	-0.012438
12 00	-0.220952	-0.724882	0.392993	+0.919541	359.08273	0.533874	-0.012449
12 10	-0.126388	-0.740566	0.392986	+0.919544	1.58264	0.533862	-0.012461
12 20	-0.031825	-0.756257	0.392980	+0.919547	4.08254	0.533849	-0.012474
12 30	+0.062737	-0.771954	0.392973	+0.919550	6.58245	0.533835	-0.012488
12 40	+0.157299	-0.787659	0.392967	+0.919553	9.08235	0.533821	-0.012502
12 50	+0.251859	-0.803369	0.392960	+0.919555	11.58226	0.533806	-0.012517
13 00	+0.346417	-0.819087	0.392954	+0.919558	14.08216	0.533790	-0.012533
13 10	+0.440974	-0.834810	0.392947	+0.919561	16.58207	0.533774	-0.012549
13 20	+0.535529	-0.850541	0.392941	+0.919564	19.08197	0.533756	-0.012566
13 30	+0.630081	-0.866277	0.392934	+0.919567	21.58188	0.533739	-0.012584
13 40	+0.724631	-0.882021	0.392927	+0.919570	24.08178	0.533720	-0.012602
13 50	+0.819178	-0.897770	0.392921	+0.919572	26.58169	0.533701	-0.012621
14 00	+0.913722	-0.913526	0.392914	+0.919575	29.08159	0.533681	-0.012641
14 10	+1.008263	-0.929288	0.392908	+0.919578	31.58150	0.533660	-0.012662
14 20	+1.102800	-0.945056	0.392901	+0.919581	34.08140	0.533639	-0.012683
14 30	+1.197333	-0.960831	0.392894	+0.919584	36.58131	0.533617	-0.012705
14 40	+1.291862	-0.976611	0.392888	+0.919586	39.08122	0.533595	-0.012727
14 50	+1.386387	-0.992398	0.392881	+0.919589	41.58112	0.533571	-0.012750
15 00	+1.480908	-1.008191	0.392874	+0.919592	44.08103	0.533547	-0.012774

$\tan f_1$ 0.004598
 $\tan f_2$ 0.004575
 μ' 0.261789 radians per hour
 d' -0.000043 radians per hour

LOCAL CIRCUMSTANCES FOR POINTS ON THE CENTRAL LINE

Maximum Eclipse					Central Line		First Contact		
U.T.	Duration	Path Width	Sun's		Longitude	Latitude	U.T.	P	V
h m	m s	km	Alt.	Az.	° '	° '	h m s	°	°
11 02	3 07.2	215	3	59	- 52 52.0	-34 10.5	.. ..	...	...
11 03	3 18.3	221	7	57	- 48 59.5	-32 28.8	.. ..	...	...
11 04	3 25.6	225	10	55	- 46 37.3	-31 28.2	.. ..	...	...
11 05	3 31.6	228	12	54	- 44 46.5	-30 42.3	.. ..	...	...
11 10	3 54.1	242	18	50	- 38 30.0	-28 16.0	9 59 40.0	272	36
11 15	4 11.0	253	23	46	- 34 12.3	-26 48.3	10 01 37.7	272	37
11 20	4 25.2	262	27	43	- 30 46.6	-25 48.2	10 04 00.9	273	39
11 25	4 37.3	270	30	40	- 27 51.3	-25 05.5	10 06 41.2	274	41
11 30	4 47.9	278	32	37	- 25 16.2	-24 35.6	10 09 34.8	274	43
11 35	4 57.0	285	34	34	- 22 55.4	-24 15.6	10 12 39.8	275	45
11 40	5 04.8	290	36	31	- 20 45.2	-24 04.0	10 15 55.3	276	48
11 45	5 11.3	295	38	27	- 18 43.0	-23 59.6	10 19 21.1	276	51
11 50	5 16.6	298	39	24	- 16 46.8	-24 01.8	10 22 56.9	277	53
11 55	5 20.6	300	40	21	- 14 55.2	-24 09.9	10 26 43.0	278	56
12 00	5 23.5	301	41	17	- 13 06.9	-24 23.6	10 30 39.8	279	60
12 05	5 25.1	300	41	13	- 11 20.8	-24 42.8	10 34 47.7	280	63
12 10	5 25.5	299	41	10	- 9 36.1	-25 07.3	10 39 07.2	280	67
12 15	5 24.8	296	41	6	- 7 51.7	-25 37.2	10 43 39.1	281	70
12 20	5 22.9	293	41	2	- 6 06.8	-26 12.6	10 48 23.9	282	74
12 25	5 19.8	288	40	359	- 4 20.4	-26 53.6	10 53 22.5	283	79
12 30	5 15.7	284	39	355	- 2 31.3	-27 40.6	10 58 35.6	284	83
12 35	5 10.3	278	38	352	- 0 38.4	-28 34.1	11 04 04.0	284	87
12 40	5 03.9	273	36	348	+ 1 19.7	-29 34.8	11 09 48.7	285	92
12 45	4 56.3	267	35	345	+ 3 25.4	-30 43.6	11 15 50.8	286	97
12 50	4 47.5	261	32	341	+ 5 41.0	-32 02.1	11 22 11.5	287	102
12 55	4 37.5	255	30	338	+ 8 10.6	-33 32.2	11 28 52.7	287	107
13 00	4 26.0	249	27	334	+ 11 00.0	-35 17.3	11 35 57.0	288	112
13 05	4 12.7	242	23	330	+ 14 19.8	-37 23.2	11 43 29.2	288	117
13 10	3 56.9	235	19	326	+ 18 31.5	-40 01.9	11 51 39.3	288	121
13 15	3 36.3	226	13	320	+ 24 38.7	-43 47.5	12 00 57.0	288	126
13 16	3 30.9	224	11	319	+ 26 24.1	-44 50.3	12 03 05.1	288	127
13 17	3 24.7	222	9	317	+ 28 34.2	-46 06.2	12 05 25.3	288	129
13 18	3 16.6	219	6	315	+ 31 34.8	-47 48.7	12 08 09.4	288	130

The magnitude is 1 or greater and the obscuration is 100% for all points.

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

LOCAL CIRCUMSTANCES FOR POINTS ON THE CENTRAL LINE

U.T. at Maximum	Second Contact				Third Contact				Fourth Contact			
	U.T.	P	V	U.T.	P	V	U.T.	P	V			
h m	h m s	°	°	h m s	°	°	h m s	°	°			
11 02	11 00 26.7	92	221	11 03 34.0	272	41	12 11 42.6	93	231			
11 03	11 01 21.2	92	222	11 04 39.5	272	42	12 15 14.7	93	233			
11 04	11 02 17.5	92	222	11 05 43.2	272	43	12 17 54.4	93	234			
11 05	11 03 14.5	92	223	11 06 46.2	272	43	12 20 15.4	94	236			
11 10	11 08 03.4	93	226	11 11 57.5	273	46	12 30 08.4	95	242			
11 15	11 12 54.9	94	229	11 17 06.0	274	50	12 38 36.4	96	248			
11 20	11 17 47.9	95	232	11 22 13.1	275	53	12 46 17.8	97	254			
11 25	11 22 41.8	96	236	11 27 19.2	276	57	12 53 25.3	98	260			
11 30	11 27 36.5	96	239	11 32 24.5	277	60	13 00 04.8	100	266			
11 35	11 32 31.9	97	243	11 37 29.0	277	64	13 06 20.1	101	272			
11 40	11 37 28.0	98	247	11 42 32.9	278	68	13 12 14.0	102	277			
11 45	11 42 24.7	99	251	11 47 36.1	279	73	13 17 48.6	103	282			
11 50	11 47 22.0	100	255	11 52 38.7	280	77	13 23 05.6	104	287			
11 55	11 52 20.0	101	260	11 57 40.7	281	81	13 28 06.8	104	292			
12 00	11 57 18.5	102	264	12 02 42.0	282	86	13 32 53.5	105	297			
12 05	12 02 17.6	103	269	12 07 42.8	283	90	13 37 27.0	106	301			
12 10	12 07 17.3	104	273	12 12 42.9	284	95	13 41 48.4	107	304			
12 15	12 12 17.7	104	278	12 17 42.5	285	99	13 45 58.7	107	308			
12 20	12 17 18.5	105	282	12 22 41.5	285	104	13 49 58.7	108	311			
12 25	12 22 20.0	106	286	12 27 39.9	286	108	13 53 49.1	108	314			
12 30	12 27 22.0	107	291	12 32 37.8	287	112	13 57 30.5	109	317			
12 35	12 32 24.7	107	295	12 37 35.1	287	116	14 01 03.4	109	319			
12 40	12 37 27.8	108	298	12 42 31.8	288	120	14 04 27.8	110	321			
12 45	12 42 31.6	108	302	12 47 28.0	288	123	14 07 43.8	110	323			
12 50	12 47 36.0	109	305	12 52 23.5	289	127	14 10 50.8	110	324			
12 55	12 52 41.0	109	309	12 57 18.5	289	130	14 13 48.1	110	326			
13 00	12 57 46.7	109	312	13 02 12.7	289	133	14 16 33.8	110	327			
13 05	13 02 53.4	109	314	13 07 06.1	289	135	14 19 04.5	110	328			
13 10	13 08 01.3	109	317	13 11 58.2	289	137	14 21 12.5	109	328			
13 15	13 13 11.6	109	319	13 16 47.9	289	139	14 22 35.0	109	327			
13 16	13 14 14.3	109	319	13 17 45.3	289	139	14 22 39.6	109	327			
13 17	13 15 17.4	108	319	13 18 42.1	288	139	14 22 35.1	108	327			
13 18	13 16 21.5	108	319	13 19 38.1	288	140	.. ..	...	...

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

LOCAL CIRCUMSTANCES FOR GEOGRAPHIC LOCATIONS

Position		Name of Location	Duration of Totality	Maximum Eclipse					Sun's	
Latitude	Longitude			Path Width	U.T.	Obscur.	Mag.	Alt.	Az.	
° ' "	° ' "		m s	km	h m s	%		°	°	
Uruguay										
-34 32.0	- 56 17.0	Canelones			11 00 19.9	99.8	0.996	1	61	
-33 22.0	- 56 31.0	Durazno			10 58 52.8	96.7	0.966	1	61	
-34 05.0	- 56 13.0	Florida			10 59 51.0	99.1	0.988	1	61	
-34 46.0	- 56 14.0	La Paz	1 33.8	-207	11 00 37.8	100.0	1.004	1	61	
-34 55.0	- 54 57.0	Maldonado	2 59.1	211	11 01 32.3	100.0	1.020	2	60	
-32 22.0	- 54 10.0	Melo			10 59 07.1	97.0	0.968	3	60	
-34 22.0	- 55 14.0	Minas	1 48.5	209	11 00 43.8	100.0	1.005	1	60	
-34 54.6	- 56 12.8	Montevideo (National Obs.)	2 06.2	208	11 00 48.4	100.0	1.007	1	61	
-34 30.0	- 54 20.0	Rocha	2 54.9	212	11 01 25.6	100.0	1.017	2	60	
-34 47.0	- 54 55.0	San Carlos	2 54.5	211	11 01 24.1	100.0	1.017	2	60	
-34 20.0	- 56 42.0	San Jose de Mayo			10 59 52.7	99.2	0.989	0	61	
-34 28.0	- 56 23.0	Santa Lucia			11 00 12.0	99.7	0.995	1	61	
-33 13.0	- 54 22.0	Treinta-y-Tres			10 59 56.3	99.1	0.988	3	60	
Brazil										
- 1 27.0	- 48 29.0	Belem			10 45 29.1	9.2	0.182	20	65	
-15 45.0	- 47 57.0	Brasilia			10 49 56.4	52.5	0.611	14	60	
- 3 45.0	- 38 35.0	Fortaleza			10 55 28.8	25.4	0.365	29	61	
-32 34.0	- 53 22.0	Jaguarao			10 59 50.7	98.6	0.983	4	60	
-31 45.0	- 52 20.0	Pelotas			10 59 38.6	97.7	0.974	5	59	
-30 03.2	- 51 07.6	Porto Alegre (Morro Santana Obs.)			10 58 42.3	94.3	0.946	6	59	
- 8 06.0	- 34 53.0	Recife			11 01 40.4	43.3	0.531	32	56	
-22 53.7	- 43 13.4	Rio de Janeiro (National Obs.)			10 59 16.7	82.7	0.854	16	55	
-32 03.0	- 52 08.0	Rio Grande			11 00 06.5	98.7	0.984	5	59	
-12 58.0	- 38 29.0	Salvador			10 58 34.8	55.6	0.636	25	56	
-33 31.0	- 53 22.0	Santa Vitoria do Palmar	1 49.4	211	11 00 54.6	100.0	1.005	3	59	
-23 33.0	- 46 39.0	Sao Paulo			10 56 22.1	80.3	0.835	13	57	
Other South America										
-25 15.0	- 57 40.0	Asuncion, Paraguay			10 50 24.7	70.2	0.756	2	63	
-34 37.3	- 58 21.3	Buenos Aires, Arg. (Naval Obs.)			" " " "	" " "	" " "	" " "	" " "	
-31 25.3	- 64 11.8	Cordoba, Arg. (Cordoba Obs.)			" " " "	" " "	" " "	" " "	" " "	
-16 30.0	- 68 10.0	La Paz, Bolivia			" " " "	" " "	" " "	" " "	" " "	
-34 52.0	- 57 55.0	La Plata, Argentina			" " " "	" " "	" " "	" " "	" " "	
-38 00.0	- 57 32.0	Mar del Plata, Argentina			" " " "	" " "	" " "	" " "	" " "	
-35 20.7	- 57 17.2	Punta Indio, Arg. (La Plata Obs.)			" " " "	" " "	" " "	" " "	" " "	
-22 52.0	- 66 41.0	Rosario, Argentina			" " " "	" " "	" " "	" " "	" " "	
-33 30.0	- 70 40.0	Santiago, Chile			" " " "	" " "	" " "	" " "	" " "	
Africa										
+ 5 19.0	- 4 01.0	Abidjan, Ivory Coast			12 03 04.0	8.6	0.173	72	12	
+ 5 33.0	- 0 15.0	Accra, Ghana			12 11 53.0	5.6	0.131	72	355	
-33 56.1	+ 18 28.7	Cape Town, S. Africa (Ast. Obs.)			13 12 01.9	88.6	0.899	24	324	
-29 53.0	+ 31 00.0	Durban, S. Africa			13 27 38.2	53.5	0.619	17	311	
-26 10.0	+ 28 02.0	Johannesburg, S. Africa			13 25 04.5	47.5	0.568	22	312	
- 4 18.0	+ 15 18.0	Kinshasa, Zaire			12 55 25.7	9.8	0.190	51	316	
+ 6 27.0	+ 3 28.0	Lagos, Nigeria			12 19 44.1	1.8	0.060	72	337	
- 8 50.0	+ 13 15.0	Luanda, Angola			12 55 14.5	24.1	0.352	49	322	
-25 58.0	+ 32 35.0	Maputo, Mozambique			13 29 38.0	38.8	0.492	18	308	
-25 45.0	+ 28 12.0	Pretoria, S. Africa			13 25 15.9	45.9	0.554	22	312	
-17 43.0	+ 31 05.0	Salisbury, Zimbabwe			13 27 14.7	18.1	0.289	25	307	
-22 34.0	+ 17 06.0	Windhoek, Namibia			13 09 45.4	57.4	0.650	34	322	
South Atlantic Islands										
- 7 57.0	- 14 22.0	Ascension Island			11 45 07.2	53.9	0.621	54	30	
-15 58.0	- 5 43.0	St. Helena Island			12 14 28.6	74.9	0.791	51	4	
-20 30.0	- 29 00.0	Trinidad Island			11 18 53.4	90.4	0.913	31	44	

Assumed to be sea level, except observatories.

Names and spelling are not authoritative, nor do they imply any official recognition of status.

No correction for elevation, limb or refraction included.

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

LOCAL CIRCUMSTANCES FOR GEOGRAPHIC LOCATIONS

Position		First Contact				Second Contact				Third Contact				Fourth Contact			
Latitude	Longitude	U.T.	P	V	U.T.	P	V	U.T.	P	V	U.T.	P	V	U.T.	P	V	
° / ' / ''	° / ' / ''	h m s	°	°	h m s	°	°	h m s	°	°	h m s	°	°	h m s	°	°	
-34 32.0	- 56 17.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 59.2	94	230
-33 22.0	- 56 31.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 06 19.5	95	230
-34 05.0	- 56 13.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 31.7	94	230
-34 46.0	- 56 14.0	.. .. .	..	..	.. .. .	..	..	10 59 51.0	33	161	11 01 24.9	330	98	12 08 19.3	93	230
-34 55.0	- 54 57.0	.. .. .	..	..	.. .. .	..	..	11 00 03.1	82	211	11 03 02.2	282	51	12 09 59.1	93	230
-32 22.0	- 54 10.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 58.5	95	231
-34 22.0	- 55 14.0	.. .. .	..	..	.. .. .	..	..	10 59 49.8	38	167	11 01 38.3	325	93	12 09 00.5	93	230
-34 54.6	- 56 12.8	.. .. .	..	..	.. .. .	..	..	10 59 45.6	46	175	11 01 51.8	317	85	12 08 30.8	93	230
-34 30.0	- 54 20.0	.. .. .	..	..	.. .. .	..	..	10 59 58.4	74	203	11 02 53.3	289	58	12 10 14.6	93	230
-34 47.0	- 54 55.0	.. .. .	..	..	.. .. .	..	..	10 59 57.1	75	204	11 02 51.7	288	57	12 09 52.2	93	230
-34 20.0	- 56 42.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 16.7	94	230
-34 28.0	- 56 23.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 47.7	94	230
-33 13.0	- 54 22.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 08 43.0	94	231
- 1 27.0	- 48 29.0	10 08 32.8	214	311	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 25 15.5	146	251
-15 45.0	- 47 57.0	9 51 12.0	246	354	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 56 32.3	115	239
- 3 45.0	- 38 35.0	10 01 24.1	230	332	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 56 01.1	133	252
-32 34.0	- 53 22.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 09 14.0	95	231
-31 45.0	- 52 20.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 09 40.2	95	232
-30 03.2	- 51 07.6	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 09 25.9	97	232
- 8 06.0	- 34 53.0	9 57 38.4	242	350	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 14 41.1	123	254
-22 53.7	- 43 13.4	9 53 04.6	261	18	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 15 03.7	103	239
-32 03.0	- 52 08.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 10 17.0	95	232
-12 58.0	- 38 29.0	9 53 32.5	248	358	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 13 10.4	116	248
-33 31.0	- 53 22.0	.. .. .	..	..	.. .. .	..	..	11 00 00.1	38	166	11 01 49.6	326	94	12 10 19.3	94	231
-23 33.0	- 46 39.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 09 15.5	103	237
-25 15.0	- 57 40.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 54 39.4	106	232
-34 37.3	- 58 21.3	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 05 49.6	95	229
-31 25.3	- 64 11.8	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 56 03.4	101	230
-16 30.0	- 68 10.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 28 50.5	128	239
-34 52.0	- 57 55.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 06 35.4	94	229
-38 00.0	- 57 32.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 10 45.6	90	229
-35 20.7	- 57 17.2	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 07 50.7	93	229
-22 52.0	- 66 41.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 41 24.2	116	233
-33 30.0	- 70 40.0	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	11 54 02.1	102	229
+ 5 19.0	- 4 01.0	11 11 07.0	227	2	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 54 52.4	164	11
+ 5 33.0	- 0 15.0	11 26 10.7	225	16	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 56 51.6	170	28
-33 56.1	+ 18 28.7	11 51 59.6	282	117	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 23 55.2	118	341
-29 53.0	+ 31 00.0	12 19 53.1	268	122	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 28 28.7	134	8
-26 10.0	+ 28 02.0	12 16 43.2	265	118	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 26 15.8	138	13
- 4 18.0	+ 15 18.0	12 04 11.4	237	88	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	13 43 05.5	168	48
+ 6 27.0	+ 3 28.0	11 48 35.1	218	37	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 50 19.2	180	44
- 8 50.0	+ 13 15.0	11 47 21.4	250	87	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	13 57 06.2	154	31
-25 58.0	+ 32 35.0	12 27 06.7	260	120	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 26 00.2	143	20
-25 45.0	+ 28 12.0	12 17 28.3	264	118	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 25 58.5	139	14
-17 43.0	+ 31 05.0	12 35 08.9	247	113	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 14 50.6	158	41
-22 34.0	+ 17 06.0	11 50 36.0	269	107	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	14 20 13.7	134	5
- 7 57.0	- 14 22.0	10 22 33.8	254	18	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	13 13 06.7	128	314
-15 58.0	- 5 43.0	10 42 45.7	269	53	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	13 44 57.5	122	330
-20 30.0	- 29 00.0	10 01 47.7	267	29	.. .. .	..	..	.. .. .	..	..	.. .. .	..	..	12 46 51.3	104	260

Dot leaders indicate the phenomenon occurs below the horizon. Blanks indicate the phenomenon does not occur for the location.

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

SURFACE PATH OF THE TOTAL PHASE OVER LAND

Longitude	Latitude of:			Universal Time at:			On Central Line		
	Northern Limit	Central Line	Southern Limit	Northern Limit	Central Line	Southern Limit	Maximum Duration	Path Width	Sun's Alt. Az.
° ' "	° ' "	° ' "	° ' "	h m s	h m s	h m s	m s	km	° °
- 55 00	-34 02.9	.. .. .	.. .. .	11 00 30.4	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
- 54 30	-33 49.4	.. .. .	.. .. .	11 00 34.9	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
- 54 00	-33 35.9	.. .. .	.. .. .	11 00 39.3	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
- 53 30	-33 22.4	.. .. .	.. .. .	11 00 43.7	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
- 53 00	-33 08.9	.. .. .	.. .. .	11 00 48.1	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
- 52 30	-32 55.5	-34 00.8	.. .. .	11 00 52.5	11 02 04.9	.. .. .	3 08.3	215	4 59
- 52 00	-32 42.0	-33 47.6	.. .. .	11 00 56.9	11 02 11.4	.. .. .	3 09.7	216	4 58
- 51 30	-32 28.5	-33 34.4	-34 41.4	11 01 01.9	11 02 18.0	11 03 35.1	3 11.1	217	5 58
- 51 00	-32 15.2	-33 21.2	-34 28.4	11 01 08.8	11 02 24.5	11 03 42.8	3 12.5	218	5 58
- 50 30	-32 01.9	-33 08.0	-34 15.4	11 01 16.9	11 02 31.3	11 03 50.4	3 13.9	218	6 57
- 50 00	-31 48.7	-32 55.0	-34 02.4	11 01 26.3	11 02 39.9	11 03 58.1	3 15.3	219	6 57
- 49 30	-31 35.6	-32 42.0	-33 49.6	11 01 36.3	11 02 49.4	11 04 07.0	3 16.8	220	7 57
- 49 00	-31 22.5	-32 29.0	-33 36.8	11 01 46.7	11 02 59.9	11 04 17.1	3 18.3	221	7 57
- 48 30	-31 09.4	-32 16.1	-33 24.0	11 01 58.1	11 03 11.0	11 04 28.1	3 19.8	222	8 56
- 48 00	-30 56.4	-32 03.3	-33 11.4	11 02 10.2	11 03 22.9	11 04 39.8	3 21.3	223	8 56
- 47 30	-30 43.5	-31 50.5	-32 58.8	11 02 23.1	11 03 35.7	11 04 52.4	3 22.9	223	9 56
- 47 00	-30 30.6	-31 37.8	-32 46.2	11 02 36.9	11 03 49.2	11 05 05.8	3 24.4	224	9 55
- 46 30	-30 17.9	-31 25.2	-32 33.8	11 02 51.5	11 04 03.7	11 05 20.0	3 26.0	225	10 55
- 46 00	-30 05.1	-31 12.7	-32 21.4	11 03 07.0	11 04 19.0	11 05 35.1	3 27.6	226	10 55
- 45 30	-29 52.5	-31 00.2	-32 09.1	11 03 23.4	11 04 35.1	11 05 51.1	3 29.3	227	11 54
- 45 00	-29 39.9	-30 47.8	-31 56.9	11 03 40.6	11 04 52.2	11 06 07.9	3 30.9	228	11 54

CORRECTIONS TO U.T. AND LATITUDE FOR ELEVATIONS ABOVE SEA LEVEL

Longitude	Latitude Corr.	U.T. Corr.	Longitude	Latitude Corr.	U.T. Corr.	Longitude	Latitude Corr.	U.T. Corr.
° ' "	"	s	° ' "	"	s	° ' "	"	s
- 52 30	+9.589	-0.401	- 49 30	+9.738	-0.447	- 46 30	+9.778	-0.450
- 52 00	+9.732	-0.443	- 49 00	+9.764	-0.454	- 46 00	+9.782	-0.449
- 51 30	+9.875	-0.484	- 48 30	+9.760	-0.452	- 45 30	+9.791	-0.448
- 51 00	+9.891	-0.490	- 48 00	+9.760	-0.450	- 45 00	+9.798	-0.448
- 50 30	+9.799	-0.467	- 47 30	+9.768	-0.451			
- 50 00	+9.776	-0.459	- 47 00	+9.769	-0.450			

These corrections to latitude and time are to be applied to the corresponding surface data above to correct for elevation. The units are seconds of arc or seconds of time per thousand feet.

Example: Elevation 35000 ft. at longitude -52°.

Lat. corr.: $+9'.732 \times 35 = +340''6 = +5'.7$

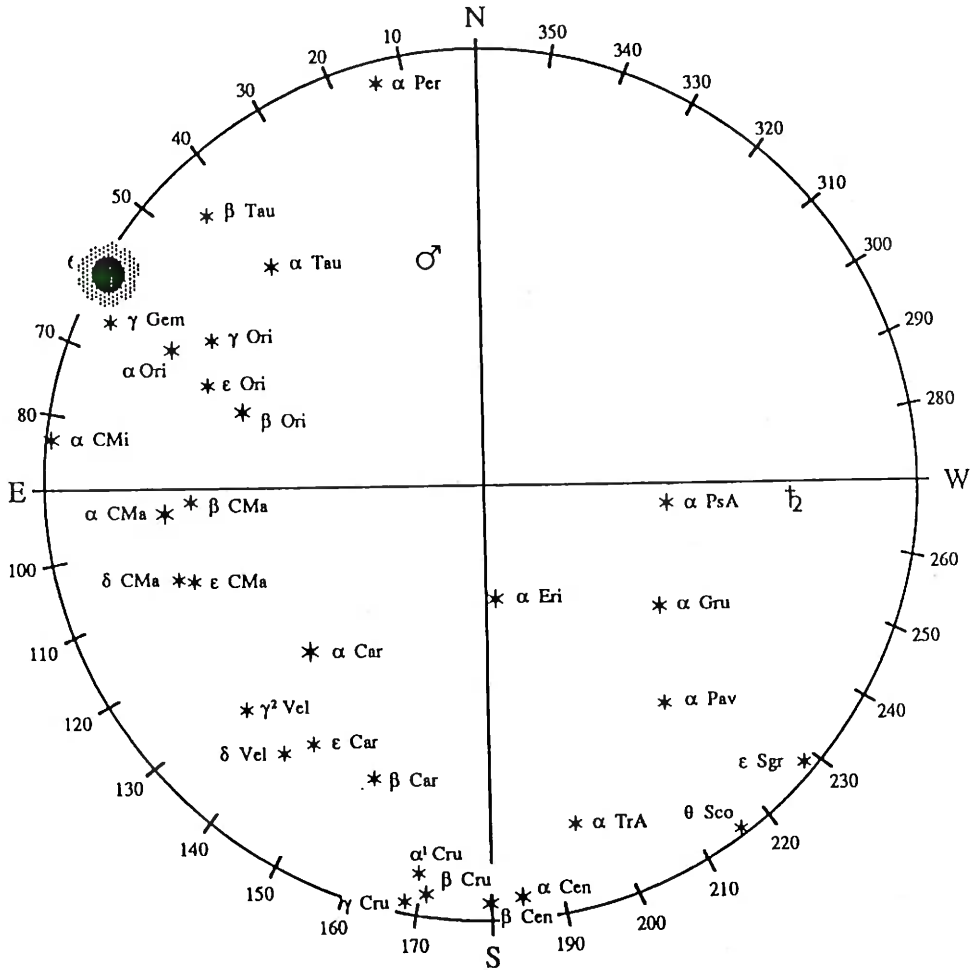
Time corr.: $-0''.443 \times 35 = -15''.5$

Hence, for the longitude -52° tabular entry in the surface path table, the two latitude values should be shifted north by 5'.7, and the two times advanced (made earlier) by 15''.5.




TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

Sky Diagram for Rocha, Uruguay
11h 01m UT

Diagram centered on zenith



Legend

	Eclipsed Sun
	Mars (mag. +0.9)
	Saturn (mag. +0.5)

Objects not drawn to scale

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

PATH OF CENTRAL LINE AT FLYING ALTITUDES

U.T.	10000 Ft.		40000 Ft.		U.T.	10000 Ft.		40000 Ft.	
	Latitude	Longitude	Latitude	Longitude		Latitude	Longitude	Latitude	Longitude
h m Limits	° ' -35 47.6	° ' - 56 32.4	° ' -35 42.7	° ' - 56 32.4	h m 11 50	° ' -23 59.9	° ' - 16 45.9	° ' -23 54.4	° ' - 16 43.2
11 02	-33 57.3	- 52 25.8	-33 23.9	- 51 21.0	11 51	-24 01.1	- 16 23.3	-23 55.6	- 16 20.7
11 03	-32 21.8	- 48 47.1	-32 01.9	- 48 11.9	11 52	-24 02.5	- 16 00.9	-23 57.0	- 15 58.3
11 04	-31 22.8	- 46 28.2	-31 06.9	- 46 01.8	11 53	-24 04.1	- 15 38.6	-23 58.6	- 15 36.2
11 05	-30 37.6	- 44 39.1	-30 23.8	- 44 17.4	11 54	-24 06.0	- 15 16.5	-24 00.5	- 15 14.1
11 06	-30 00.3	- 43 07.0	-29 47.9	- 42 48.2	11 55	-24 08.1	- 14 54.5	-24 02.6	- 14 52.2
11 07	-29 28.4	- 41 46.2	-29 17.0	- 41 29.5	11 56	-24 10.4	- 14 32.6	-24 04.9	- 14 30.4
11 08	-29 00.4	- 40 33.5	-28 49.7	- 40 18.5	11 57	-24 12.9	- 14 10.9	-24 07.4	- 14 08.8
11 09	-28 35.4	- 39 27.1	-28 25.3	- 39 13.4	11 58	-24 15.7	- 13 49.2	-24 10.2	- 13 47.2
11 10	-28 12.9	- 38 25.7	-28 03.3	- 38 13.0	11 59	-24 18.6	- 13 27.7	-24 13.1	- 13 25.8
11 11	-27 52.4	- 37 28.4	-27 43.2	- 37 16.6	12 00	-24 21.8	- 13 06.3	-24 16.3	- 13 04.5
11 12	-27 33.6	- 36 34.6	-27 24.8	- 36 23.5	12 01	-24 25.2	- 12 45.0	-24 19.7	- 12 43.2
11 13	-27 16.4	- 35 43.7	-27 07.9	- 35 33.3	12 02	-24 28.8	- 12 23.7	-24 23.3	- 12 22.0
11 14	-27 00.5	- 34 55.3	-26 52.2	- 34 45.5	12 03	-24 32.7	- 12 02.5	-24 27.2	- 12 00.9
11 15	-26 45.7	- 34 09.2	-26 37.7	- 33 59.8	12 04	-24 36.7	- 11 41.4	-24 31.2	- 11 39.9
11 16	-26 32.0	- 33 25.0	-26 24.2	- 33 16.1	12 05	-24 41.0	- 11 20.4	-24 35.5	- 11 18.9
11 17	-26 19.2	- 32 42.6	-26 11.6	- 32 34.1	12 06	-24 45.5	- 10 59.4	-24 40.0	- 10 58.0
11 18	-26 07.3	- 32 01.7	-25 59.9	- 31 53.6	12 07	-24 50.2	- 10 38.4	-24 44.6	- 10 37.2
11 19	-25 56.2	- 31 22.3	-25 48.9	- 31 14.5	12 08	-24 55.1	- 10 17.5	-24 49.5	- 10 16.3
11 20	-25 45.8	- 30 44.1	-25 38.7	- 30 36.7	12 09	-25 00.2	- 9 56.6	-24 54.6	- 9 55.5
11 21	-25 36.1	- 30 07.2	-25 29.1	- 30 00.0	12 10	-25 05.5	- 9 35.8	-24 60.0	- 9 34.7
11 22	-25 27.1	- 29 31.3	-25 20.2	- 29 24.4	12 11	-25 11.1	- 9 14.9	-25 05.5	- 9 13.9
11 23	-25 18.6	- 28 56.4	-25 11.8	- 28 49.8	12 12	-25 16.8	- 8 54.1	-25 11.2	- 8 53.2
11 24	-25 10.7	- 28 22.4	-25 04.0	- 28 16.1	12 13	-25 22.8	- 8 33.2	-25 17.2	- 8 32.4
11 25	-25 03.4	- 27 49.3	-24 56.7	- 27 43.2	12 14	-25 29.0	- 8 12.4	-25 23.4	- 8 11.6
11 26	-24 56.5	- 27 17.0	-24 50.0	- 27 11.1	12 15	-25 35.4	- 7 51.5	-25 29.7	- 7 50.9
11 27	-24 50.1	- 26 45.4	-24 43.6	- 26 39.7	12 16	-25 42.0	- 7 30.7	-25 36.4	- 7 30.1
11 28	-24 44.1	- 26 14.5	-24 37.8	- 26 09.0	12 17	-25 48.8	- 7 09.7	-25 43.2	- 7 09.2
11 29	-24 38.6	- 25 44.2	-24 32.3	- 25 38.9	12 18	-25 55.9	- 6 48.8	-25 50.2	- 6 48.4
11 30	-24 33.5	- 25 14.5	-24 27.3	- 25 09.4	12 19	-26 03.2	- 6 27.8	-25 57.5	- 6 27.4
11 31	-24 28.8	- 24 45.4	-24 22.6	- 24 40.4	12 20	-26 10.7	- 6 06.8	-26 05.0	- 6 06.5
11 32	-24 24.5	- 24 16.9	-24 18.4	- 24 12.0	12 21	-26 18.4	- 5 45.6	-26 12.7	- 5 45.5
11 33	-24 20.5	- 23 48.8	-24 14.5	- 23 44.1	12 22	-26 26.4	- 5 24.5	-26 20.6	- 5 24.4
11 34	-24 16.9	- 23 21.2	-24 10.9	- 23 16.6	12 23	-26 34.6	- 5 03.2	-26 28.8	- 5 03.2
11 35	-24 13.7	- 22 54.0	-24 07.7	- 22 49.6	12 24	-26 43.0	- 4 41.9	-26 37.2	- 4 41.9
11 36	-24 10.7	- 22 27.3	-24 04.8	- 22 23.0	12 25	-26 51.6	- 4 20.5	-26 45.8	- 4 20.6
11 37	-24 08.1	- 22 00.9	-24 02.2	- 21 56.8	12 26	-27 00.5	- 3 58.9	-26 54.6	- 3 59.1
11 38	-24 05.8	- 21 34.9	-23 60.0	- 21 30.9	12 27	-27 09.7	- 3 37.3	-27 03.8	- 3 37.6
11 39	-24 03.8	- 21 09.3	-23 58.0	- 21 05.4	12 28	-27 19.1	- 3 15.5	-27 13.1	- 3 15.9
11 40	-24 02.1	- 20 44.0	-23 56.3	- 20 40.3	12 29	-27 28.7	- 2 53.6	-27 22.7	- 2 54.1
11 41	-24 00.7	- 20 19.0	-23 55.0	- 20 15.4	12 30	-27 38.6	- 2 31.6	-27 32.6	- 2 32.1
11 42	-23 59.6	- 19 54.4	-23 53.9	- 19 50.8	12 31	-27 48.8	- 2 09.4	-27 42.7	- 2 10.0
11 43	-23 58.7	- 19 30.0	-23 53.0	- 19 26.5	12 32	-27 59.2	- 1 47.0	-27 53.0	- 1 47.8
11 44	-23 58.1	- 19 05.8	-23 52.5	- 19 02.5	12 33	-28 09.9	- 1 24.5	-28 03.7	- 1 25.3
11 45	-23 57.8	- 18 42.0	-23 52.2	- 18 38.8	12 34	-28 20.8	- 1 01.8	-28 14.6	- 1 02.7
11 46	-23 57.7	- 18 18.3	-23 52.1	- 18 15.2	12 35	-28 32.0	- 0 38.8	-28 25.8	- 0 39.9
11 47	-23 57.9	- 17 54.9	-23 52.3	- 17 51.9	12 36	-28 43.6	- 0 15.7	-28 37.3	- 0 16.9
11 48	-23 58.4	- 17 31.7	-23 52.8	- 17 28.8	12 37	-28 55.4	+ 0 07.7	-28 49.0	+ 0 06.4
11 49	-23 59.0	- 17 08.7	-23 53.5	- 17 05.9	12 38	-29 07.5	+ 0 31.3	-29 01.1	+ 0 29.9
					12 39	-29 19.9	+ 0 55.1	-29 13.4	+ 0 53.7

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

PATH OF CENTRAL LINE AT FLYING ALTITUDES

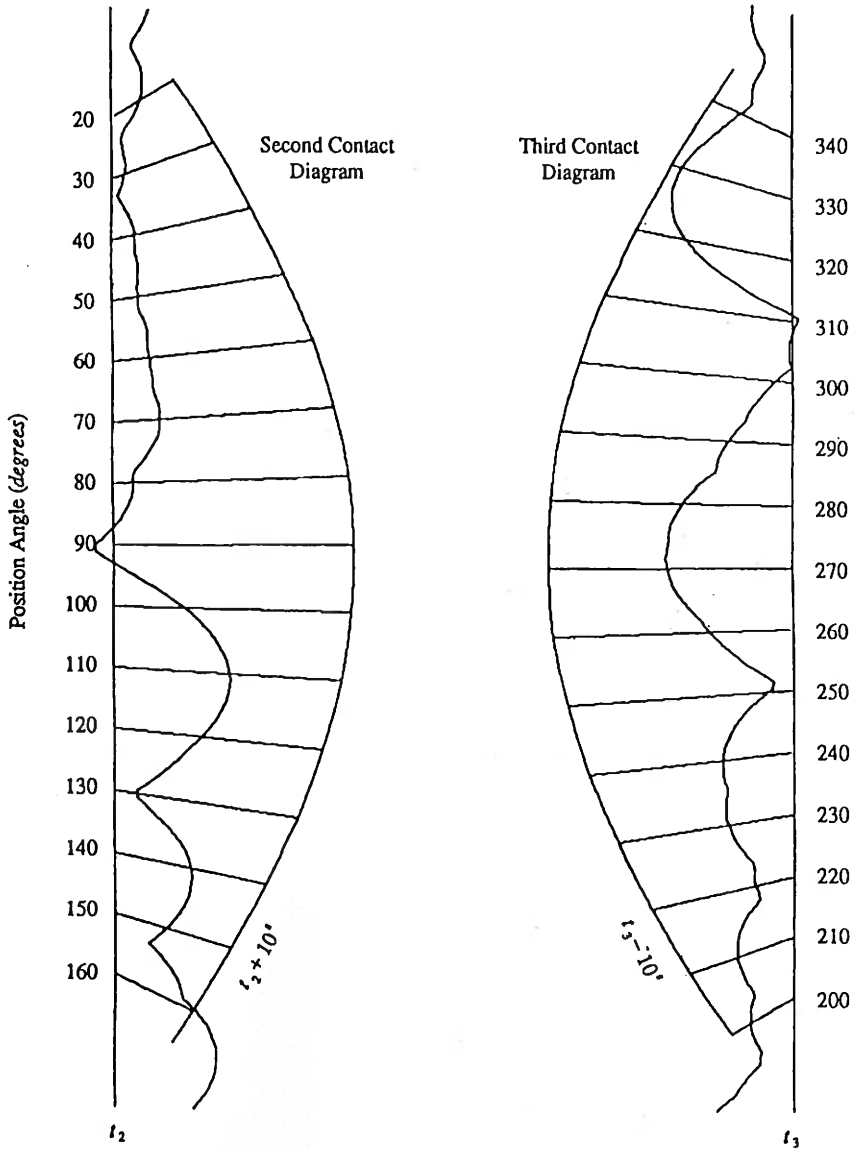
U.T.	10000 Ft.		40000 Ft.		U.T.	10000 Ft.		40000 Ft.	
	Latitude	Longitude	Latitude	Longitude		Latitude	Longitude	Latitude	Longitude
h m	° ' "	° ' "	° ' "	° ' "	h m	° ' "	° ' "	° ' "	° ' "
12 40	-29 32.6	+ 1 19.3	-29 26.1	+ 1 17.7	13 00	-35 14.4	+ 10 58.3	-35 05.7	+ 10 53.2
12 41	-29 45.7	+ 1 43.7	-29 39.1	+ 1 42.0	13 01	-35 37.6	+ 11 35.3	-35 28.7	+ 11 29.8
12 42	-29 59.1	+ 2 08.4	-29 52.4	+ 2 06.6	13 02	-36 01.7	+ 12 13.5	-35 52.6	+ 12 07.7
12 43	-30 12.8	+ 2 33.5	-30 06.1	+ 2 31.5	13 03	-36 26.7	+ 12 53.2	-36 17.4	+ 12 47.0
12 44	-30 26.9	+ 2 58.9	-30 20.1	+ 2 56.8	13 04	-36 52.8	+ 13 34.4	-36 43.2	+ 13 27.9
12 45	-30 41.4	+ 3 24.7	-30 34.5	+ 3 22.5	13 05	-37 20.0	+ 14 17.4	-37 10.1	+ 14 10.4
12 46	-30 56.2	+ 3 50.9	-30 49.3	+ 3 48.5	13 06	-37 48.4	+ 15 02.4	-37 38.3	+ 14 54.9
12 47	-31 11.5	+ 4 17.5	-31 04.4	+ 4 15.0	13 07	-38 18.2	+ 15 49.6	-38 07.7	+ 15 41.5
12 48	-31 27.1	+ 4 44.5	-31 20.0	+ 4 41.9	13 08	-38 49.6	+ 16 39.4	-38 38.7	+ 16 30.6
12 49	-31 43.2	+ 5 12.0	-31 35.9	+ 5 09.3	13 09	-39 22.8	+ 17 32.0	-39 11.5	+ 17 22.6
12 50	-31 59.7	+ 5 40.1	-31 52.3	+ 5 37.2	13 10	-39 58.0	+ 18 28.1	-39 46.1	+ 18 17.8
12 51	-32 16.6	+ 6 08.7	-32 09.2	+ 6 05.6	13 11	-40 35.5	+ 19 28.2	-40 23.1	+ 19 16.9
12 52	-32 34.1	+ 6 37.8	-32 26.6	+ 6 34.6	13 12	-41 15.9	+ 20 33.2	-41 02.8	+ 20 20.7
12 53	-32 52.0	+ 7 07.6	-32 44.4	+ 7 04.2	13 13	-41 59.8	+ 21 44.3	-41 45.8	+ 21 30.2
12 54	-33 10.5	+ 7 38.1	-33 02.8	+ 7 34.5	13 14	-42 48.0	+ 23 03.1	-42 32.8	+ 22 47.0
12 55	-33 29.6	+ 8 09.3	-33 21.7	+ 8 05.4	13 15	-43 41.9	+ 24 32.3	-43 25.2	+ 24 13.5
12 56	-33 49.2	+ 8 41.3	-33 41.2	+ 8 37.2	13 16	-44 43.9	+ 26 16.3	-44 25.1	+ 25 53.6
12 57	-34 09.5	+ 9 14.1	-34 01.3	+ 9 09.8	13 17	-45 58.5	+ 28 24.0	-45 36.1	+ 27 54.6
12 58	-34 30.4	+ 9 47.8	-34 22.1	+ 9 43.2	13 18	-47 37.9	+ 31 18.7	-47 07.8	+ 30 34.7
12 59	-34 52.0	+ 10 22.5	-34 43.5	+ 10 17.7	13 19	.. ..	.. ..	-49 46.5	+ 35 24.5
					Limits	-51 32.5	+ 38 37.9	-51 28.2	+ 38 40.2

TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

LUNAR PROFILE CORRECTION DIAGRAMS

Uruguay

David Herald
P. O. Box 254
Woden, A. C. T. 2606
AUSTRALIA

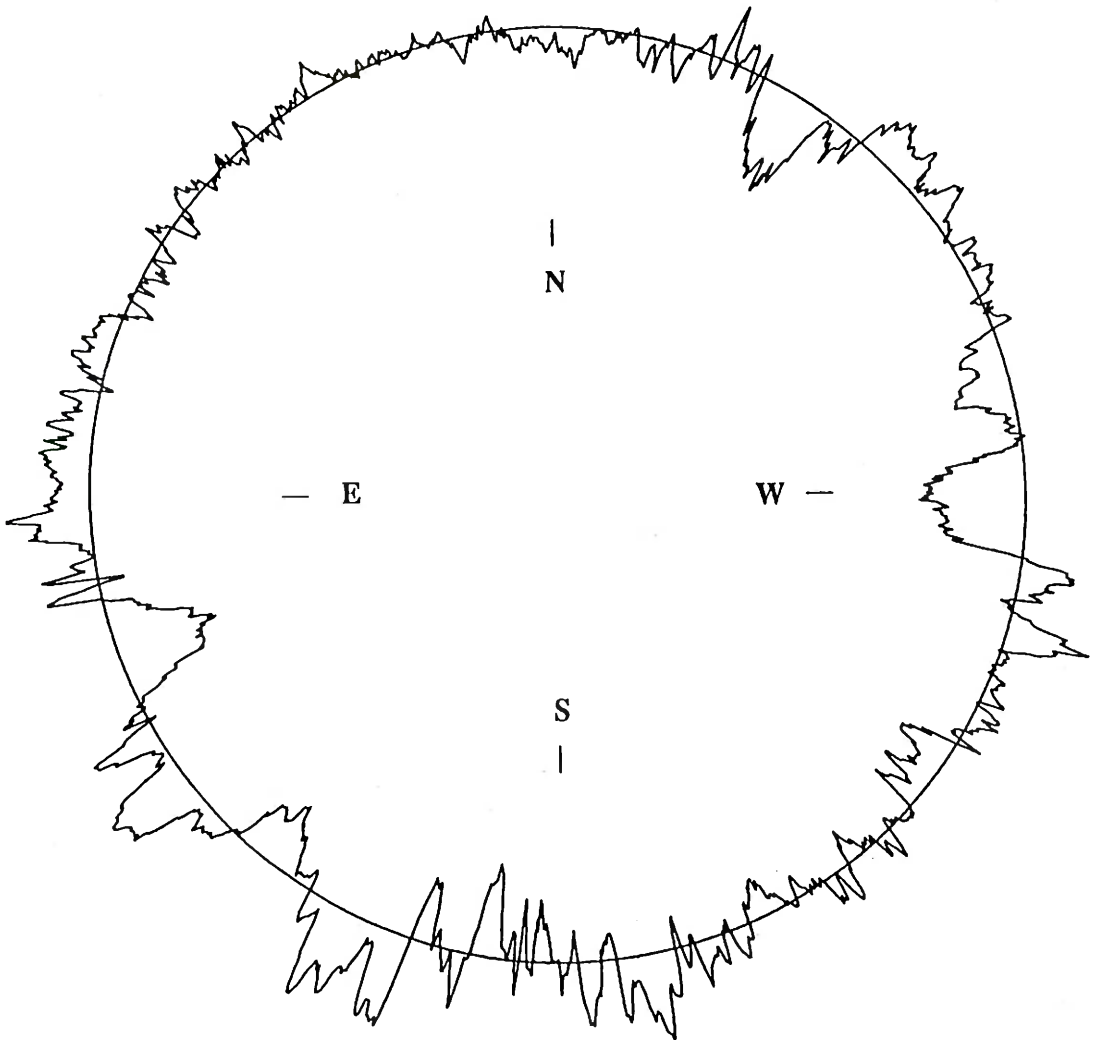


TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

LUNAR LIMB PROFILE

Radial Scale at Limb: approx. 4 arcsec/inch

true limb: *irregular curve*
mean limb: *smooth curve*



TOTAL SOLAR ECLIPSE OF 30 JUNE 1992

