SUN SPOTS

AND

WEATHER

By W. T. Foster

Note To Reader: - I beg you to examine these pages carefully, and particularly to study the Sun Spot chart. In them is revealed one of the greatest and most important of modern discoveries, proving that sun spots are controlled by the planets, and strong evidences tending to prove that our weather changes are caused by electro-magnetism generated by planetary movements.

Very Respectfully,

W. T. Foster

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EXPLANATIONS

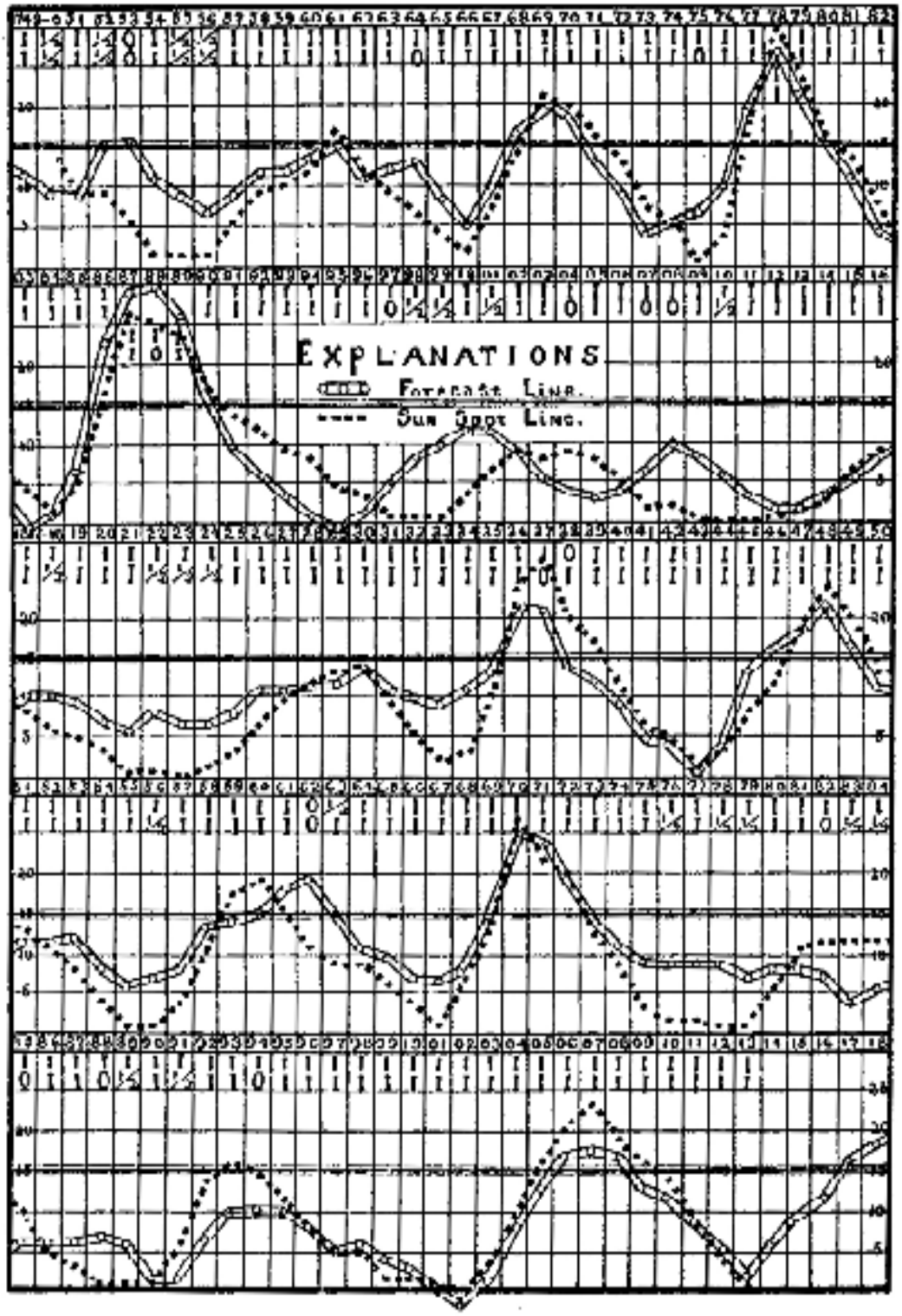
On opposite page (3) are charted forecasts and the record of the Wolfer sun spot numbers divided by 51.5. The line of connected circles is the forecast and the broken line of squares is the record of reduced sun spot numbers as they occurred for the 165 years – 1749 to 1913, inclusive. The chart is divided into five sections, thirty-four years in each, the years at the top of each section. Each section of the chart is divided horizontally into six sub-sections, each representing five of the reduced sun spot numbers. The lines separating these sub-sections are numbered from naught at bottom, each chart section to thirty at top, and enough of the lines have printed numbers at the sides to indicate the sun spot numbers in each horizontal space.

The two lines of figures at top of each chart section indicate whether the forecast was good or bad. The figure 1 means that the forecast was good, the figure ½ that it is to be counted half good and the naught that it is bad. Top line of these figures is for above or below normal and the bottom line for rising and falling in sun spot numbers. Of these there are in the first section of the chart 60 good forecasts, in second section 61 good, third section 64 good, fourth 61.5 good, and fifth 54 good, making 300.5 good forecasts.

The number of good forecasts is to be divided by the number of forecasts, 300.5 / 330 = 91.060 per cent good and 8.939 bad. In these verifications the Prof. H. H. Clayton rules were used, except that if the forecast is within three of the record it is counted good. Those rules will be furnished free on application.

The treble, horizontal line thru middle of each section is the normal line, or rather the middle of the vertical range of the sun spot numbers. The efforts in the forecasts are to indicate when the spots or spot numbers will be greatest, least, increase and decrease and their actually number; also when the spot numbers will be greater or less than 15, the normal. These results will approximately indicate the variations in terrestrial magnetism, as the latter must be worked out from its own records. Last five years of the chart is a real forecast of sun spot numbers. The other work may be called experimental forecasts. All numbers are plus unless marked minus and are all in tenths except second Wolfer sun spot numbers and Jupiter's table.

Sun Spot Forecasts Demonstrated.



SUN SPOTS AND WEATHER

This seems to be an opportune time to publish a long-entertained theory in reference to sun spots, a theory developed from many hypotheses during the past forty years thru at least 25,000 experiments in which the sun spot records for 165 years and the weather temperature records of about 100 places, covering from 60 to 100 years, were used.

Among scientists the impression is general that, in some way, a relation exists between sun spots, terrestrial magnetism and our weather, and this seems to warrant a thorough investigation of the whole sun spot problem. In this investigation I will divide the subject into three sections, as follows:

I. Nature of sun spots.
II. Causes of, and how to forecast, the time heliographic places of sun spots.
III. Causes of the so-called 11.1 year sun spot cycle and a system of forecasting the Wolfer sun spot numbers.

After many experiments with various hypotheses I adopted the following theories: The sun spot variations that average about 11.1 years have more than one cause. Regarding the planets as magnets and in accord with well-known laws of electro-magnetism, when the planets are nearest the Sun the cloud elements of the Sun expand and cover the sun spots. Rapid motion increases electro-magnetic forces, and when the planets are approaching, or receding from, the Sun with greatest velocities the sun spots are increased in size and number. An electro-magnetic force is thrown off from a rotating planet over its equator, disturbing the Sun or another planet that may come into that plane.

The eccentricities of Neptune, Earth, and Venus being very small, they are negligible as to sun spots. The plane of Jupiter's equator always being near the Sun, that feature may be left out. Therefore, the principal causes of the sun spot eleven-year cycle is found in the perihelions, aphelions, greatest velocities toward and from the Sun, of Jupiter, Saturn and Uranus, and in the equinoxes of Saturn. Sudden changes of relative positions are the principal causes of increased electro-magnetic forces. These causes cannot take effect immediately on the Sun, but are seen long after than before the dates of the causes.

This paper will deal only with the third section mentioned on a previous page, as that irregular variation in sun spot numbers must be accounted for before we can proceed to investigate the other features of the problem. This variation in sun spot numbers seemed to be a lawless feature. The equinoxes and conjunctions of the planets were appealed to. The rather popular idea that our Sun is a veritable star was carefully considered. It was evident that if the planets have anything to do with sun spots the heliocentric positions of the planets – their locations in their orbits as they revolve around the Sun – would have to be considered.

I concluded to use the perihelions of the planets as starting points because the astronomical records are complete for those dates.

If the motion of the planets, toward and away from the Sun, has any effect on sun spots the heliocentric longitudes, the method adopted, would bring it out, and same may be said in reference to the relations of the planets to the plane of the Sun's equator, their nearest approaches to the Sun's magnetic poles and as to the planetary equinoxes.

The Wolfer annual sun spot numbers and the planets Jupiter, Saturn and Uranus were selected for the experimental tests. I selected seven cycles of Jupiter, six of Saturn and two of Uranus. I could have used more cycles of Jupiter, but concluded it would be best to use only those perihelions of that planet which fell near the middle of the year. The sun spot record would give only one cycle of Neptune and I left it out. Mars, Earth, Venus and Mercury can be used only for monthly sun spot numbers. If the three planets selected should give indications of affecting sun spots that evidence would claim recognition and discrepancies might be accounted for from the fact that only three of the eight planets are used in these forecast experiments. I hope the work in the following pages may be thoroughly understood. I will be glad to further explain to any investigator, and all such are invited to the office of Foster's Weather Bureau, where the astronomical, sun spot, and weather records used in my work are open to all who may call.

METHODS OF FORECASTING

RULE I – Divide the original Wolfer annual sun spot numbers by 51.5, reducing them to a range of 30, and the results will constitute the second Wolfer sun spot numbers.

RULE II – From this new set of sun spot numbers take out seven cycles of sun spots to correspond with Jupiter's cycle of revolution around the Sun, and covering twelve years, so arranged that Jupiter's aphelion dates will be at the last date of each of the seven Jupiter cycles and Jupiter's perihelion dates, in dark faced figures, near the middle of each Jupiter cycle. Add the figures representing the sun spots of these seven cycles and standing in twelve vertical columns; divide the sums of each by seven. These results will constitute the Jupiter sun spot line for twelve years, and these are to be used in experimenting with Jupiter and in forecasting Jupiter's spot numbers.

RULE III – Deduct Jupiter's sun spot line from the second Wolfer sun spot numbers and the remainders will constitute the third line of Wolfer sun spot numbers. Care should be taken with the decimals and the use of the minus sign where the remainders are minus.

RULE IV – Take out six lines of these third line Wolfer sun spot numbers to correspond with the six cycles of Saturn, arranging them as in Rule II for Jupiter, dividing the totals by six, and the results will constitute Saturn's sun spot line, to be used in experiments and forecasts.

RULE V – Deduct Saturn's sun spot line from third line of Wolfer sun spot numbers and the remainders will constitute the fourth line of Wolfer sun spot numbers.

RULE VI – Take out two cycles from this fourth line to correspond with the cycles of Uranus; add the two lines, divide the totals by two, and the results will constitute the sun spot line of Uranus, which is to be used for experiments and forecasting.

RULE VII – Copy Jupiter's sun spot line a sufficient number of times to cover the 170 years, placing the perihelion of the line on the year 1750 to start with, which is the first perihelion of Jupiter used in these calculations. After copying that line for 1749 to 1756, move the spot line of Jupiter to the right so that the perihelion numbers of Jupiter's spot line will be under 1762, which is the second perihelion of Jupiter used. Repeat this for 1774, 1785, 1797, 1809, 1821, 1833, 1845, 1856, 1868, 1880, 1892, 1904, 1916, and you will have the forecast line of Jupiter for 1749 to 1918. Follow the same rule in copying the sun spot line of Saturn for the 170 years, using the perihelions of Saturn for the years 1768, 1797, 1826, 1856, 1885, and 1913. Also copy the spot numbers of Uranus for the same 170 years, using the perihelions of Uranus that occur 1799 and 1883. Where there is an overlap add the two and divide by two.

RULE VIII – Add the three lines of Jupiter's, Saturn's and Uranus' sun spots and divide the sums by nine, which will reduce the range to thirty, this being the range to which the Wolfer numbers were reduced and as copied onto the chart. The range of the spots is found by deducting the lowest spot numbers from the highest. It is assumed that the charted sun spot recorded being in whole numbers and the forecasts being in tenths does not change their relations.

JUPITER'S SUN SPOT TABLE.

Jupiter's cycle is 11.86 years and the sun spots to correspond with this [illegible] taken out of the second Wolfer sun spot whole numbers, for seven Jupiter cycles as below. See Rule II.

1785	—16	13	07	04	02	05	16	26	25	23	17	13
1797	—12	9	8	4	3	1	1	1	3	7	9	8
1809	— 9	8	5	2	2	0	0	0	1	2	3	7
1821	— 9	8	6	5	3	1	1	0	2	3	7	10
1880	— 3	2	2	1	1	6	11	12	12	12	10	5
1892	— 3	1	1	1	7	14	16	15	12	8	5	5
1904	— 2	2	1	0	4	10	16	21	23	19	16	14
7	=54	43	30	17	22	37	61	75	78	74	67	62
Line	=77	61	43	24	31	53	87	117	111	106	96	89

The bottom line of Jupiter's sun spot table above is called Jupiter's sun spot line and is in tenths; balance of table is in whole numbers.

Next move is to deduct Jupiter's sun spot line about fourteen times from the second Wolfer sun spot numbers. See Rule III. Then proceed as in Rules IV, V and VI, as below.

SATURN'S SUN SPOT TABLE.

1768	=	—86	—76	—69	—17	29	57	96	139	67	3
1797	=	16	—11	—3	73	153	139	124	74	41	43
1826	=	—101	—86	—66	—19	13	19	17	26	—1	—43
1856	=	7	—4	—1	27	33	83	129	84	34	41
1885	=	109	94	34	1	—47	—41	—23	—14	—21	7
1915	=	—33	—24	9	47	73	103	119	84	64	51
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 6	=	—15	—18	—16	19	42	60	77	66	31	17
1768	=	—37	—71	—86	—26	51	133	139	117	106	39
1797	=	29	37	16	—1	—43	—77	—97	—81	—36	—6
1826	=	—77	—107	—91	—76	—26	11	43	69	97	66
1856	=	49	37	16	—21	—43	—47	3	69	84	54
1885	=	23	13	9	14	4	—39	—47	—51	—33	—14
1915	=	3	—21	—43	16	49	87	123	123	44	28
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 6	=	—2	—19	—30	—16	—1	11	27	41	44	28
1768	=	7	—77	—67	69	194	144	71	69	27	16
1797	=	—9	13	19	7	—4	—11	—53	—87	—107	—101
1826	=	19	—33	—57	3	129	164	104	81	43	9
1856	=	21	13	29	17	6	—21	17	53	163	109
1885	=	39	87	73	43	9	—26	—46	—39	—57	—41
1915	=	15	1	—1	28	67	50	19	15	14	—2
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 6	=	15	1	—1	28	67	50	19	15	14	—2

Years.....		1907	08	09	10	11	12	13	14
		—	—	—	—	—	—	—	—
Wolfer S. S. ÷ 51.5	=	23	19	16	14	8	4	0	4
Jupiter's Line deducted	=	119	84	64	51	3	—21	—43	16
Saturn's Line deducted	=	42	18	33	34	5	—2	—13	32

Years.....		1915	16	17	18
		—	—	—	—
Wolfer S. S. ÷ 51.5	=	8	14	21	23
Jupiter's Line deducted	=	49	87	123	123
Saturn's Line deducted	=	50	76	96	82

Now take up Rule 8 and the results will be found as below.

SUN SPOT TABLE OF URANUS.

1799	=	—13	—3	19	73	36	—14	—35	—52	—56	—10
1883	=	22	14	15	8	—9	23	52	18	3	24
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 2	=	5	6	17	41	14	5	9	—17	—27	7
1799	=	52	122	112	76	62	11	—8	—78	—66	41
1883	=	51	56	46	—5	—42	—58	—24	28	40	26
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 2	=	52	89	79	36	10	—24	—16	—25	—13	34
1799	=	127	94	52	54	13	31	7	13	54	111
1883	=	6	12	30	—11	—61	—71	—2	38	149	111
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 2	=	67	53	41	22	—24	—20	3	26	102	111
1799	=	79	47	8	10	26	31	56	46	15	—42
1883	=	112	50	—18	—89	—101	—100	—80	—52	—10	25
		—	—	—	—	—	—	—	—	—	—
Add & ÷ 2	=	96	49	—5	—40	—38	—35	—12	—3	3	—9

1799	=	—88	—124	—122	—80	—34	—24	12	20	—21	—71
1883	=	32	39	30	5	—50	—74	—92	—77	—42	24
Add & ÷ 2	=	—28	— 43	—46	—38	—42	—49	—40	—29	—32	—24
1799	=	—61	—72	—102	—121	—99	—68	—50	—38	—29	—41
1883	=	86	74	13	—58	—76	—65	—54	—71	—39	—18
Add & ÷ 2	=	13	1	—44	—90	—88	—67	—52	—55	—34	—30
1799	=	—60	—40	—32	—60	—75	—88	—61	—60	—25	0
1883	=	—6	25	28	31	43	42	18	33	34	5
Add & ÷ 2	=	—33	—8	—2	—15	—16	—23	—22	—14	5	3
1799	=	16	28	53	38	4	—34	—56	—25	62	114
1883	=	—2	—13	32	50	76	96	82	—12	—31	—49
Add & ÷ 2	=	7	8	43	44	40	31	13	—19	16	33
1799	=	85	66	29	11						
1883	=	—71	—58	—53	—36						
Add & ÷ 2	=	7	4	—12	—13						

REDUCED WOLFER SUN SPOTS.

Years		1747	48	49	50	51	52	53	54
Wolfer S. S. ÷ 51.5	=	22	39	15	15	9	9	6	2
Jupiter's Line deducted	=	177	266	119	97	3	—17	—51	—86
Saturn's Line deducted	=	149	109	69	78	—12	—31	—49	—71
Years		1755	56	57	58	59	60	61	62
Wolfer S. S. ÷ 51.5	=	2	2	6	9	10	12	17	12
Jupiter's Line deducted	=	—76	—69	—17	29	57	96	139	67
Saturn's Line deducted	=	—58	—53	—36	—13	—3	19	73	36
Years		1763	64	65	66	67	68	69	70
Wolfer S. S. ÷ 51.5	=	9	7	4	2	7	14	21	20
Jupiter's Line deducted	=	3	—37	—71	—86	—26	51	133	139
Saturn's Line deducted	=	—14	—35	—52	—56	—10	52	122	112
Years		1771	72	73	74	75	76	77	78
Wolfer S. S. ÷ 51.5	=	16	13	7	6	1	4	18	30
Jupiter's Line deducted	=	117	106	39	7	—77	—67	69	194
Saturn's Line deducted	=	76	62	11	—8	—78	—66	41	127
Years		1779	80	81	82	83	84	85	86
Wolfer S. S. ÷ 51.5	=	24	16	13	7	4	2	5	16
Jupiter's Line deducted	=	144	71	69	27	16	—11	—3	73
Saturn's Line deducted	=	94	52	51	13	31	7	43	51
Years		1787	88	89	90	91	92	93	94
Wolfer S. S. ÷ 51.5	=	26	25	23	17	13	12	9	8
Jupiter's Line deducted	=	153	139	124	74	41	43	29	37
Saturn's Line deducted	=	111	79	47	8	10	26	31	56
Years		1795	96	97	98	99	18	01	02
Wolfer S. S. ÷ 51.5	=	4	3	1	1	1	3	7	9
Jupiter's Line deducted	=	16	—1	—43	—77	—91	—81	—36	—6
Saturn's Line deducted	=	46	15	—42	—88	—121	—122	—80	—34

Years.....	1803	04	05	06	07	08	09	10
Wolfer S. S. + 51.5 =	8	9	8	5	2	2	0	0
Jupiter's Line deducted =	—9	13	19	7	—4	—11	—53	—87
Saturn's Line deducted =	—24	12	20	—21	—71	—61	—72	—102

Years.....	1811	12	13	14	15	16	17	18
Wolfer S. S. + 51.5 =	0	1	2	3	7	9	8	6
Jupiter's Line deducted =	—107	—101	—86	—66	—19	13	19	17
Saturn's Line deducted =	—121	—99	—68	—56	—38	—29	—41	—60

Years.....	1819	20	21	22	23	24	25	26
Wolfer S. S. + 51.5 =	5	3	1	1	0	2	3	7
Jupiter's Line deducted =	26	—1	—43	—77	—107	—91	—76	—26
Saturn's Line deducted =	—40	—32	—60	—75	—88	—61	—60	—25

Years.....	1827	28	29	30	31	32	33	34
Wolfer S. S. + 51.5 =	10	12	13	14	9	5	2	3
Jupiter's Line deducted =	11	43	69	97	66	19	—33	—57
Saturn's Line deducted =	0	16	28	53	38	4	—34	—56

Years.....	1835	36	37	38	39	40	41	42
Wolfer S. S. + 51.5 =	11	24	27	20	17	12	7	5
Jupiter's Line deducted =	3	129	164	104	81	43	9	7
Saturn's Line deducted =	—25	62	114	85	66	29	11	22

Years.....	1843	44	45	46	47	48	49	50
Wolfer S. S. + 51.5 =	2	3	8	12	19	24	19	13
Jupiter's Line deducted =	—4	—1	27	33	83	129	84	34
Saturn's Line deducted =	14	15	8	—9	23	52	18	3

Years.....	1851	52	53	54	55	56	57	58
Wolfer S. S. + 51.5 =	13	11	8	4	1	1	4	11
Jupiter's Line deducted =	41	49	37	16	—21	—43	—47	3
Saturn's Line deducted =	24	51	56	46	—5	—42	—58	—24

Years.....	1859	60	61	62	63	64	65	66
Wolfer S. S. + 51.5 =	18	19	15	11	9	9	6	3
Jupiter's Line deducted =	69	84	54	21	13	29	17	6
Saturn's Line deducted =	28	40	26	6	12	30	—11	—61

Years.....	1867	68	69	70	71	72	73	74
Wolfer S. S. + 51.5 =	1	7	14	27	22	20	13	9
Jupiter's Line deducted =	—21	17	53	163	109	94	34	1
Saturn's Line deducted =	—71	—2	38	149	111	112	59	—18

Years.....	1875	76	77	78	79	80	81	82
Wolfer S. S. + 51.5 =	3	2	2	1	1	6	11	12
Jupiter's Line deducted =	—47	—41	—23	—14	—21	7	23	13
Saturn's Line deducted =	—89	—101	—100	—80	—53	—10	25	32

Years.....	1883	84	85	86	87	88	89	90
Wolfer S. S. + 51.5 =	12	12	10	5	3	1	1	1
Jupiter's Line deducted =	9	14	4	—39	—47	—51	—33	—14
Saturn's Line deducted =	39	30	5	—50	—74	—92	—77	—42

Years.....	1891	92	93	94	95	96	97	98
Wolfer S. S. ÷ 51.5 =	7	14	16	15	12	8	5	5
Jupiter's Line deducted =	39	87	73	43	9	—26	—46	—39
Saturn's Line deducted =	24	86	74	15	—38	—76	—65	—54

Years.....	1899	19	01	02	03	04	05	06
Wolfer S. S. ÷ 51.5 =	2	2	1	0	4	10	16	21
Jupiter's Line deducted =	—57	—41	—33	—24	9	47	73	103
Saturn's Line deducted =	—71	—39	—18	—6	25	28	31	43

SUN SPOT FORECASTS.

Years.....	1749	50	51	52	53	54	55	56	57
Jupiter's Forecast =	31	53	87	107	111	106	96	89	77
Saturn's Forecast =	30	19	15	14	—2	—15	—18	—16	19
Uranus' Forecast =	31	13	—19	16	33	7	4	—12	—13
Totals ÷ 9 =	112	85	83	137	142	98	82	61	83
Charted Forecasts =	12	9	9	15	16	11	9	7	9

Years.....	1758	59	60	61	62	63	64	65	66
Jupiter's Forecast =	61	43	24	31	33	84	107	111	106
Saturn's Forecast =	42	69	77	66	31	17	—2	—19	—30
Uranus' Forecast =	5	6	17	41	14	5	9	—17	—27
Totals ÷ 9 =	108	109	118	138	98	109	114	73	49
Charted Forecasts =	12	12	13	15	11	12	13	8	5

Years.....	1767	68	69	70	71	72	73	74	75
Jupiter's Forecast =	96	89	77	61	43	24	31	53	87
Saturn's Forecast =	—16	—1	11	27	41	44	28	15	1
Uranus' Forecast =	7	52	89	79	36	10	—24	—16	—25
Totals ÷ 9 =	87	140	177	167	120	78	35	52	63
Charted Forecasts =	10	16	20	19	13	9	4	6	7

Years.....	1776	77	78	79	80	81	82	83	84
Jupiter's Forecast =	107	111	106	96	83	61	43	24	31
Saturn's Forecast =	—1	28	67	50	19	15	14	—9	—18
Uranus' Forecast =	—13	34	67	53	41	22	—24	—20	3
Totals ÷ 9 =	93	173	240	199	143	98	33	—5	16
Charted Forecasts =	10	19	27	22	16	11	4	—1	2

Years.....	1785	86	87	88	89	90	91	92	93
Jupiter's Forecast =	53	87	107	111	106	96	89	77	61
Saturn's Forecast =	—16	19	42	60	77	66	31	17	—2
Uranus' Forecast =	26	102	111	96	49	—5	—40	—38	—35
Totals ÷ 9 =	63	208	260	267	232	157	80	56	24
Charted Forecasts =	7	23	29	30	26	17	9	6	3

Years.....		1794	95	96	97	98	99	18	01	02
Jupiter's Forecast	=	43	24	31	53	87	107	111	106	96
Saturn's Forecast	=	—19	—30	—16	—1	11	27	41	44	28
Uranus' Forecast	=	—12	—3	3	—9	—28	—43	—46	—38	—42
Totals ÷ 9	=	12	—9	18	43	70	91	106	112	82
Charted Forecasts	=	1	—1	2	5	8	10	12	12	9
Years.....		1803	04	05	06	07	08	09	10	11
Jupiter's Forecast	=	89	77	61	43	24	31	53	87	107
Saturn's Forecast	=	15	1	—1	28	67	59	19	15	14
Uranus' Forecast	=	—49	—40	—29	—32	—24	13	1	—44	—90
Totals ÷ 9	=	55	38	31	39	67	94	73	58	31
Charted Forecasts	=	6	4	3	4	7	10	8	6	3
Years.....		1812	13	14	15	16	17	18	19	20
Jupiter's Forecast	=	111	106	96	89	77	61	43	24	31
Saturn's Forecast	=	—9	18	—16	19	42	60	77	65	31
Uranus' Forecast	=	—88	—67	—52	—55	—34	—30	—33	—8	—2
Totals ÷ 9	=	14	21	28	53	85	91	87	82	60
Charted Forecasts	=	2	2	3	6	9	10	10	9	7
Years.....		1821	22	23	24	25	26	27	28	29
Jupiter's Forecast	=	53	87	107	111	106	96	89	77	61
Saturn's Forecast	=	17	—2	—19	—30	—16	—1	11	27	41
Uranus' Forecast	=	—15	—15	—23	—22	—14	5	3	7	8
Totals ÷ 9	=	55	69	65	59	76	100	103	111	110
Charted Forecasts	=	6	8	7	7	8	11	11	12	12
Years.....		1830	31	32	33	34	35	36	37	38
Jupiter's Forecast	=	13	24	31	53	87	107	111	106	96
Saturn's Forecast	=	44	28	15	1	—1	28	67	50	19
Uranus' Forecast	=	43	44	40	31	13	—19	16	33	7
Totals ÷ 9	=	130	96	86	85	99	116	194	189	122
Charted Forecasts	=	14	11	10	9	11	13	22	21	14
Years.....		1839	40	41	42	43	44	45	46	47
Jupiter's Forecast	=	89	77	61	43	24	31	53	87	107
Saturn's Forecast	=	15	14	—2	—15	—18	—16	19	42	63
Uranus' Forecast	=	4	—12	—13	5	6	17	41	34	5
Totals ÷ 9	=	108	79	46	33	12	32	113	143	172
Charted Forecasts	=	12	9	5	4	1	4	13	16	19
Years.....		1848	49	50	51	52	53	54	55	56
Jupiter's Forecast	=	111	106	96	83	61	43	24	31	53
Saturn's Forecast	=	77	66	31	17	—2	—19	—33	—16	—1
Uranus' Forecast	=	9	—17	—27	7	52	89	79	36	10
Totals ÷ 9	=	197	155	100	107	111	113	73	51	62
Charted Forecasts	=	22	17	11	12	12	13	8	6	7

Years		1857	58	59	60	61	62	63	64	65
Jupiter's Forecast	=	87	107	111	106	96	89	77	61	43
Saturn's Forecast	=	11	27	41	44	28	15	1	—1	28
Uranus' Forecast	=	—24	—16	—25	—13	34	67	53	41	22
Totals ÷ 9	=	74	118	127	137	158	171	131	101	93
Charted Forecasts	=	8	13	14	15	18	19	15	11	10

Years		1866	67	68	69	70	71	72	73	74
Jupiter's Forecast	=	24	31	53	87	107	111	106	96	89
Saturn's Forecast	=	67	50	19	15	14	—9	—18	—16	19
Uranus' Forecast	=	—24	—20	3	26	102	111	96	49	—5
Totals ÷ 9	=	67	61	75	128	223	213	184	129	103
Charted Forecasts	=	7	7	8	14	25	24	20	14	11

Years		1875	76	77	78	79	80	81	82	83
Jupiter's Forecast	=	77	61	43	24	31	53	87	107	111
Saturn's Forecast	=	42	60	77	66	31	17	—2	—19	—30
Uranus' Forecast	=	—40	—38	—35	—12	—3	3	—9	—28	—43
Totals ÷ 9	=	79	83	85	78	59	73	76	60	38
Charted Forecasts	=	9	9	9	9	7	8	8	7	4

Years		1884	85	86	87	88	89	90	91	92
Jupiter's Forecast	=	106	96	89	77	61	43	24	31	53
Saturn's Forecast	=	—16	—1	11	27	41	44	28	15	1
Uranus' Forecast	=	—46	—38	—42	—40	—40	—29	—32	—24	11
Totals ÷ 9	=	44	57	58	55	62	58	20	22	67
Charted Forecasts	=	5	6	6	6	7	6	2	2	7

Years		1893	94	95	96	97	98	99	19	01
Jupiter's Forecast	=	87	107	111	106	96	89	77	61	43
Saturn's Forecast	=	—1	28	67	50	19	15	14	—2	—15
Uranus' Forecast	=	1	—44	—90	—88	—67	—52	—55	—34	—30
Totals ÷ 9	=	87	91	88	68	48	52	36	25	—2
Charted Forecasts	=	10	10	10	8	5	6	4	3	0

Years		1902	03	04	05	06	07	08	09	10
Jupiter's Forecast	=	24	31	53	87	107	111	106	96	89
Saturn's Forecast	=	—18	—16	19	42	60	77	66	31	17
Uranus' Forecast	=	—33	—8	—2	—15	—16	—23	—22	—14	5
Totals ÷ 9	=	—27	7	70	114	151	165	150	115	111
Charted Forecasts	=	—3	1	8	13	17	18	17	13	12

Years		1911	12	13	14	15	16	17	18
Jupiter's Forecast	=	77	61	43	24	31	53	87	107
Saturn's Forecast	=	—2	—19	—30	—16	—1	11	27	41
Uranus' Forecast	=	3	7	8	43	44	40	31	13
Totals ÷ 9	=	78	49	21	51	74	104	145	161
Charted Forecasts	=	9	5	2	6	8	12	16	18