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.

PAPER No. 4

PUBLISHED BY

FOSTER'S WEATHER BUREAU

1625½ North Capitol Street

Washington, D. C.

EXPLANATIONS

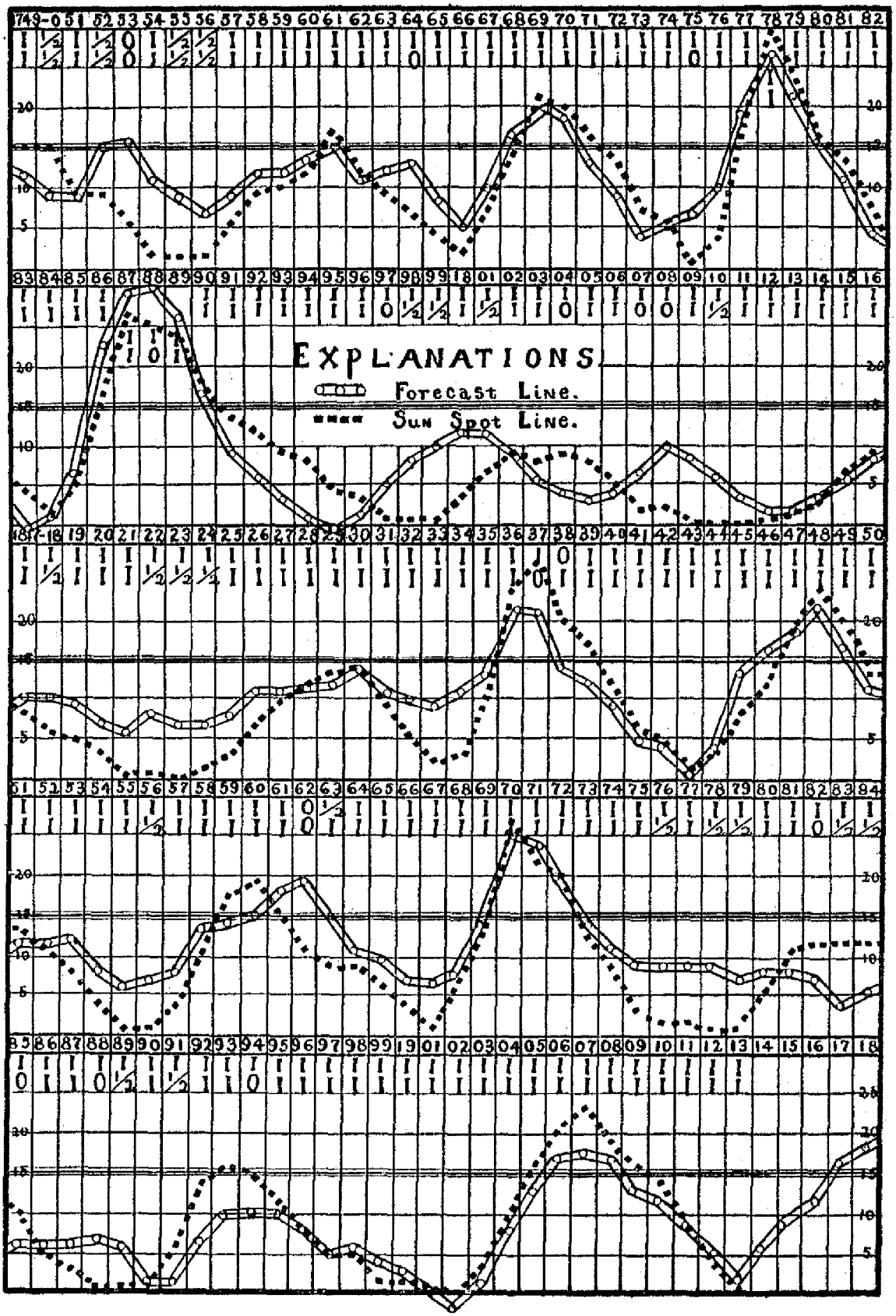
On opposite page (3) are charted forecasts and the record of the Wolfer sun spot numbers divided by 51.5. The line of connected circles is the forecast and the broken line of squares is the record of reduced sun spot numbers as they occurred for the 165 years—1749 to 1913, inclusive. The chart is divided 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 of 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 61 good forecasts, in second section 61 good, third section 68 good, fourth 61.5 good, and fifth 54 good, making 301.5 good forecasts.

The number of good forecasts is to be divided by the number of forecasts, 301.5 ÷ 330 = 91.333 per cent good and 8.667 bad. In these verifications the Prof. H. H. Clayton rules were used, except that if the forecast was 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 actual 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, but 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 and 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 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 longer after than before the dates of the causes.

This paper will deal only with 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