

these data of major value, he expected also to get many facts concerning the dust in the air at flying levels, haziness, size of cloud particles, and nature of any other atmospheric or storm phenomena that might come under his observation. Lieut. James T. Neeley, a skilled free-balloon pilot of the United States Army Air Service, and a former associate of Dr. Meisinger during the war, was his companion on these trips and perished with him.

The first of this series of flights started at Scott Field, as did all the others, near St. Louis, in the late afternoon of April 1, and terminated about the same time the next afternoon in South Carolina. In a letter to Prof. A. J. Henry of the Weather Bureau about this flight, he says:

I couldn't have wanted a better weather type for a starter, because it gave excellent opportunity to try everything out and get accustomed to the routine. It was worth while in every way. We maintained our level at between 7,000 and 8,000 feet which is quite satisfactory when one keeps the log carefully.

Subsequent flights furnished each its own interest. Only a day or two before starting on that fatal tenth flight, intended to be the last of the series, he wrote as follows to his Weather Bureau colleague, Mr. Herbert Lyman:

I have had some experiences, I can tell you; some filled with surpassing beauty so far as scenery is concerned; some filled with all the uncertainty and excitement one could possibly ask. In the former category, I would mention our last flight. We passed

just at sunrise over the point of Kentucky that juts northward to Covington and Cincinnati. That great bend of the Ohio lay to the north—the valley filled with fog through which twinkled the lights of Cincinnati, and over which shone the red disk of the rising sun. That was exquisite. As for exhilarating excitement, the Hartsburg, Mo., landing takes first rank. Pitch dark; torrential rain; weather so thick the electric lanterns would scarcely reveal the nature of the terrain until we were nearly upon it; a wind of about 25 miles per hour. And we landed—with some violence to be sure—but very neatly in a wheat field a quarter mile from the Missouri River.

His industry and scientific attainments were admirably supplemented by a charming personality—frank, open, and wholesome in every particular. Furthermore, he was an accomplished musician, both as performer and composer. In fact he composed, among other things, his own wedding march, and for several years had been at work on an oratorio, based on the 17th psalm, portions of which already were tentatively completed. Here, too, he worked as a scientist—with the will never to stop until the product was brought to perfection.

We no longer may respond to his cheery "Good morning," nor gladly and profitably consult with him on this or that unsolved problem; yet the example of his buoyant spirit, and resourceful perseverance is ever with us. He so lived that the world is better and wiser because of his having lived. No greater heritage can any man leave than this.—W. J. H.

## NOTES, ABSTRACTS, AND REVIEWS

### BRAZILIAN MONTHLY WEATHER BULLETIN<sup>1</sup>

The energetic director of the Brazilian Meteorological Service has lost no time in responding to the resolution of the International Meteorological Congress held in Utrecht September last. There has just come to hand the first number of the Brazilian Monthly Weather Bulletin—a four-page large quarto based on telegraphic reports and issued a fortnight after the close of the month to which it refers.

The director is to be congratulated upon the promptness of the appearance of the bulletin and the completeness of the information carried therein.

The text opens with a summary of the atmospheric circulation in the south and central portions of Brazil, and this is followed in order by a synopsis of the weather of the Federal District, the distribution of precipitation in the three great zones—northern, central, and southern—into which the country is divided. Then follows a brief summary of free-air observations as given by records of 10 stations extending from 15° to about 30° south latitude and from 41° to 55° west longitude. The results of free-air observations from the Southern Hemisphere are especially welcome.

A synopsis of the weather as influencing staple crops follows. Numerical values for 63 stations of pressure, temperature, humidity, cloudiness, rainfall, and wind are

given and the distribution of rainfall for April is shown on a chart.

### DATES OF GENERAL BREAK-UP OF ICE IN MISSOURI RIVER AT WILLISTON, N. DAK.

[Fort Buford record included.]

By ROSS. O. MILLER, Observer

Year	Date	Year	Date
1882	Apr. 2	1904	Apr. 5
1883	Apr. 11	1905	Mar. 20
1884	Mar. 24	1906	Mar. 29
1885	Apr. 2	1907	Apr. 5
1886	Apr. 6	1908	Apr. 9
1887	Mar. 11	1909	Apr. 4
1888	Apr. 10	1910	Mar. 10
1889	Mar. 21	1911	Mar. 22
1890	Apr. 5	1912	Apr. 1
1891	Apr. 1	1913	Apr. 2
1892	Apr. 2	1914	Apr. 4
1893	Apr. 2	1915	Apr. 5
1894	Apr. 5	1916	Apr. 3
1895	Mar. 30	1917	Apr. 4
1896	Mar. 29	1918	Mar. 23
1897	Mar. 31	1919	Apr. 4
1898	Apr. 13	1920	Mar. 20
1899	Apr. 9	1921	Mar. 30
1900	( <sup>1</sup> )	1922	Apr. 8
1901	Mar. 27	1923	Apr. 10
1902	Apr. 6	1924	Apr. 3
1903	Apr. 3		

Average date for 42 years' record, including 1924, April 1: Earliest break-up, March 10, 1910; latest April 13, 1898.

<sup>1</sup> No record.

<sup>1</sup> Boletim Mensal. Ministerio Da Agricultura, Industria E Commercio, Directoria De Meteorologia, Director: Sampaio Ferraz. Vol. 1, No. 1, April, 1924.