

shore and Smethport on the 2d. The average precipitation was 3.33, or 0.64 below normal; the greatest monthly amount, 5.78, occurred at West Chester, and the least, 0.84, at Pittsburg.—*L. M. Dey.*

South Carolina.—The mean temperature was 83.0°, or 4.4° above normal; the highest was 106°, at Longshore on the 8th and at Columbia on the 20th, and the lowest, 60°, at Holland on the 25th. The average precipitation was 2.13, or 4.18 below normal; the greatest monthly amount, 5.55, occurred at Yemassee, and the least, 0.27, at Cheraw. The month of August was noteworthy in respect both to temperature and precipitation, having been the hottest August on record as well as the driest.—*J. W. Bauer.*

South Dakota.—The mean temperature was 75.5°, or about 5.0° above normal; the highest was 115°, at Cherry Creek on the 1st, and the lowest, 40°, at Ashcroft on the 26th. The average precipitation was 4.26, or 2.05 above normal; the greatest monthly amount, 10.35, occurred at Clark, and the least, 0.90, at Interior.—*S. W. Glenn.*

Tennessee.—The mean temperature was 79.7°, or 3.2° above normal; the highest was 104°, at Tracy City on the 11th, and the lowest, 51°, at Erasmus on the 1st. August was one of the hottest months ever experienced in Tennessee. For persistent, abnormally high temperature the month has not been surpassed since records began eighteen years ago. The average precipitation was 2.00, or 1.23 below normal; the greatest monthly amount, 4.70, occurred at Silverlake, and the least, 0.40, at Springfield.—*H. C. Bate.*

Texas.—The mean temperature, determined by comparison of 42 stations distributed throughout the State, was 0.8° below the normal. Nearly normal conditions prevailed, except over east Texas, the east portion of north Texas, and the central and east portions of the coast districts, where there was a general deficiency, ranging from 1.0° to 4.9°, with the greatest in the vicinity of Corpus Christi. The highest was 106°, at Colorado City on the 24th and 25th, and the lowest, 54°, at Alpine on the 1st. The average precipitation, determined by comparison of 52 stations distributed throughout the State, was 0.81 above normal; there was a general deficiency ranging from 1.00 to 3.03 over north, central, and west Texas and the extreme west portion of the coast districts, while there was a general excess elsewhere, with the greatest over the southeastern portion of the State; the greatest monthly

amount, 12.63, occurred at Brazoria, while none fell at Fort Ringgold.—*I. M. Cline.*

Utah.—The mean temperature was 68.5°, or 1.9° below normal; the highest was 109°, at Hite on the 2d, and the lowest, 26°, at Henefer on the 22d and at Loa on the 31st. The average precipitation was 0.34, or 0.31 below normal; the greatest monthly amount, 1.11, occurred at Wellington, while none fell at Cisco and Kanab.—*L. H. Murdoch.*

Virginia.—The mean temperature was 79.4°, or 4.5° above normal, and was the hottest month on record; the highest was 107°, at Columbia on the 12th, and the lowest, 47°, at Burkes Garden on the 2d and 5th. The average precipitation was 2.12, or 1.69 below normal; the greatest monthly amount, 5.23, occurred at Sunbeam, and the least, 0.13, at Danville.—*E. A. Evans.*

Washington.—The mean temperature was 62.0°, or 3.3° below normal; the highest was 103°, at Hooper on the 14th, and the lowest, 28°, at Republic on the 26th. The average precipitation was 0.94, or 0.20 above normal; the greatest monthly amount, 4.05, occurred at Clearwater, and the least, trace, at Bridgeport.—*G. N. Salisbury.*

West Virginia.—The mean temperature was 76.0°, or 3.1° above normal; the highest was 100°, at several stations on different dates, and the lowest, 45°, at Cairo on the 1st. The average precipitation was 3.15, or 0.40 below normal; the greatest monthly amount, 7.20, occurred at Terra Alta, and the least, 1.03, at Burlington.—*E. C. Vose.*

Wisconsin.—The mean temperature was 74.4°, or 5.7° above normal; the month was without exception the warmest August on record; at Milwaukee the mean was 3° higher than that of any previous August for the past thirty years, and at St. Paul it was 4° higher than any previous record for the same length of time; the highest was 103°, at West Bend on the 6th, and the lowest, 37°, at Florence on the 3d. The average precipitation was 4.33, or 1.28 above normal; the greatest monthly amount, 9.43, occurred at Grantsburg, and the least, 1.32, at Stevens Point.—*W. M. Wilson.*

Wyoming.—The mean temperature was 65.6°, or about normal; the highest was 108°, at Bittercreek on the 19th, and the lowest, 23°, at Daniel on the 17th. The average precipitation was 0.37, or about 0.40 below normal; the greatest monthly amount, 1.15, occurred at Centennial, while none fell at Hyattville.—*W. S. Palmer.*

SPECIAL CONTRIBUTIONS.

DEATH OF MR. T. J. FLYNN.

It is with much regret that we have to announce the death of Mr. T. J. Flynn of the Weather Bureau, who died August 4, 1900, after an illness which lasted several weeks. Mr. Flynn was born December 12, 1842, in Ireland; he served valiantly in the civil war and was a respected member of the Grand Army of the Republic. He connected himself with the weather service of the United States Signal Office in October, 1883, as a lithographer, and served faithfully until death ended a useful career. Mr. Flynn was energetic and always at his post, courteous and ever ready to assist in an emergency.

The Weather Bureau loses a good and conscientious employee.—*L. W.*

NILE FLOODS AND MONSOON RAINS.

Editorial in Nature, August 23, 1900, Vol. LXII, p. 391.

The practice or science of weather forecasting will evidently proceed on two very different lines, according to the relative importance of local or seasonal changes in the general meteorological conditions, and whether the prediction has reference to a long or short period. The machinery employed, in cases where the forecast aims at great minuteness over a small area, consists mainly of the synoptical chart, based on information supplied by rapid telegraphic communication, and in the hands of experts this means probably proves sufficient, and furnishes a fair percentage of accurate predictions. But in the more difficult, as certainly in the more important, problem of predicting the weather some time in advance and over a considerable area, a problem which regularly recurs in the monsoon forecast for India, one must evidently depend upon the more general physical conditions that are produced by the motions of the earth and the distribution of land and water on its surface. These causes, it is true, are always operative, and to a certain extent meteorological phenomena, broadly

considered, must be periodic in their main features. The causes of deviation from periodicity, and the extent of the area affected by such abnormal conditions, are problems which the professional meteorologist has to encounter, and it is to be feared with insufficient means. But it seems not unlikely that, in proportion as the problem becomes more general, by bringing wider areas within the scope of the discussion, the prospects of greater success will become more assured; and it can not but be considered a most significant feature that indications are not wanting that in the two considerable areas, India and Egypt, the respective climates betray peculiarities which may either react upon each other, or the origin of which must be sought in a common source.

From two independent investigations come attempts to trace a connection between the amount of the Nile floods and the abundance or deficiency of the southwest monsoon rainfall in India. Mr. Willcocks¹ broached this subject in a paper read before the Meteorological Congress at the World's Expo-

¹ The above reference to the paper by Mr. W. Willcocks, Civil Engineer in charge of works on the Nile, written in 1893, should perhaps be supplemented by the statement that the short reference by him to the fact "that famine years in India are generally years of low flood in Egypt" is apparently but a repetition of a generalization that we owe, primarily to Mr. Morgan Brierley of Port Said, who in Nature, October, 1881, XXIV, p. 532, published a table showing the rainfall at Bombay, the height of the Nile, and also Wolf's sunspot numbers for the years 1849-1880. He says: "The floods of the Nile are mainly caused by the heavy rains which descend upon the high table-lands of Abyssinia. * * * The great southwest monsoon which sweeps over the Indian Ocean in the summer months produces a like effect in both cases." Subsequently the Indian meteorologists have been able to show that when the great southeast trade of the southern Indian Ocean crosses the equator and becomes the southwest monsoon of India, it impinges upon the high lands of Africa and produces in that region a rain that constitutes a very important portion of the annual flood in the Nile. According as the trade is deflected to the east or to the west and according as it is stronger or feebler, there are resulting variations in the African and Indian rainfall, so that there is some connection between the floods of the Nile and the famines of India.—Ed.