

HOURLY DISTRIBUTION OF RAINFALL AT MOBILE, ALA.

By HARRY ARMSTRONG

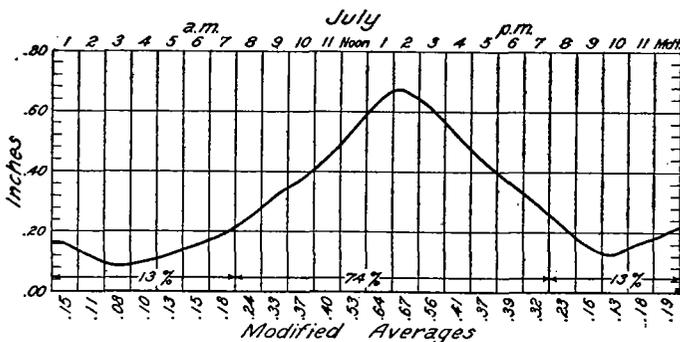
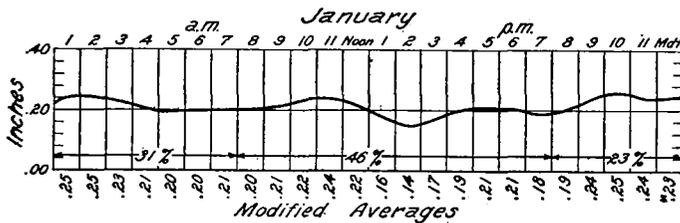
[Weather Bureau Office, Mobile, Ala., June 28, 1934]

The rainfall data for this article cover a period of 20 years, 1913-32, inclusive. Hourly averages were prepared for each month. In some cases there were marked differences for adjacent hours, but these were traced to unusually heavy thundershowers or the passage of tropical disturbances. The averages were smoothed by adding to double the value of the hour in

at midnight. In June the likelihood of rain is three times as great at 2 p.m. as for a like period at night; during July, five times as great; and during August, eight times as great.

Through the summer months, June, July, and August, Mobile has about five times the chance of getting rain in mid-afternoon, mostly in the form of local thunderstorms, as for a like period at night. The peak of precipitation is between 2 and 3 p.m. The average time of greatest rainfall occurs, as theory indicates it should, after that (around 1 p.m.) of the maximum temperature for the day. The average number of thunderstorms for the summer is 38, which is about 60 percent of the yearly average. During summer about 72 percent of the rain occurs between 7 a.m. and 7 p.m., as compared with 58 percent for the year. Also, about 50 percent falls during the 6 hours from 11 a.m. to 5 p.m. Fair weather at night and showers during the day seems to be a good forecast, for this period, when rain is probable.

In January, February, and November the rain is heaviest during the 12 hours, 7 p.m. to 7 a.m., about 55 percent occurring in this period. For the other 9 months the precipitation is heaviest from 7 a.m. to 7 p.m., about 60 percent being the average predominance. During January rain is fairly well distributed through the 24 hours with a slight increase at night. February has its heaviest rain at about 2 a.m. and its lightest at 7 p.m., though the difference is only slight. March shows a tendency to rain at 7 a.m. and to slacken up at midnight. April shows only a small variation. During October the period of rain is from 5 a.m. to 1 p.m. November has the biggest percent of rain at night of any month. Its bulge in the rain curve is at midnight. For December the wettest time is about mid-morning and the driest about 9 p.m. For the whole year the greatest rain period is at 2 p.m. The 9-month period, September to May, inclusive, has the highest precipitation at 7 a.m. and the lowest at 7 p.m., though the difference is small. The hourly distribution of rainfall for these 9 months is fairly uniform, with the total amount about equally divided between day and night.



Modified hourly precipitation averages (hundredths of inches) for the 20-year period, 1913-32.

question that of both the previous and the succeeding hour and dividing the sum by four. From these modified hourly averages, seasonal and yearly averages were prepared, and monthly, seasonal, and yearly graphs drawn, of which figure 1 is for January and July, respectively.

In May, June, July, August, and September the probability of rain is greatest between 1 and 3 p.m. for any day. During May and September the probability of rain at 2 p.m. is two and a half times greater than

LIGHTNING BRANCHES ON THE GROUND

By R. H. WEIGHTMAN

[Weather Bureau, Washington, D.C., July 1934]

On June 6, about 5 p.m., in the northwestern suburbs of Washington, D.C., about 6 miles from that city, a thunderstorm occurred in the warm sector of a depression with center over the Gulf of St. Lawrence. At that time a cold front was advancing southward over Pennsylvania, extending from the Maine coast west-southwestward to southern Ohio.

There were a number of lightning discharges in connection with this storm and it is desired to invite attention to one in particular that struck on the edge of the eighteenth putting green at the Kenwood Golf and Country Club, located on River Road. The course is undulating with trees bordering many of the fairways. The eighteenth green, which is roughly 90 feet in diameter, rises from the fairway as you approach the green to an elevation of about 7 feet at the back, with a rather sharp

down slope at the rear to the general level of the surrounding terrain. The discharge, preceding and during which it was raining moderately, struck on this down slope at B, figure 1, about 2 feet below the putting surface. From that point two branches, BK and BL, extended down slope with an angle of about 75° between them. A third branch, BEJ, pursued a course up the slope as indicated in the diagram. A fourth branch, IGH, was distinctly traceable on the green but not connected along the surface at least with the main discharge at B. Soil was scattered about at the back of the green, on the down slope below B and even beyond K and L on the level terrain as much as 20 or 25 feet from B. The most disturbed condition of the ground was at C, where the earth had been exploded out to a depth of 8 or 10 inches, leaving a kind of funnel about 10 inches along the track