

Houston, Texas, 23d: the continuous rains throughout southern and eastern Texas, during the past few days have caused much damage to live stock and railroads. All streams were much swollen. Travel on the Texas and New Orleans railroad was suspended on account of extensive washouts. Heavy losses in sheep and cattle have been reported in consequence of the severe weather.

Vicksburg, Mississippi, 31st: Captain Sears, U. S. Engineer Corps, arrived on this date from a tour of inspection of the levees south of Memphis, and reported breaks in the Opossum Fork levee, one hundred and fifty miles north of Vicksburg, and in the Long Lake levee, seventeen miles below Helena.

A break three hundred and fifty feet wide also occurred in Disonia levee, in East Carroll parish, Louisiana, which caused the inundation of the Queen and Crescent railway.

HIGH TIDES.

- New Haven, Connecticut, 5th.
- Eastport, Maine, 15th.
- Fort Macon, North Carolina, 2d.
- New River Inlet, North Carolina, 2d, 3d, 15th, 16th, 17th.

LOW TIDES.

- Delaware Breakwater, Delaware, 30th.
- New York City, New York, 18th.
- Indianola, Texas, 17th, 18th.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for January, 1885.

Station,	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Max.	Min.			
Atlantic City, New Jersey	35.1	34.3	2.8	3 0	32.3
Alpens, Michigan †	50.8	38.0	12.8	13 8	45.4
Augusta, Georgia	36.8	32.5	4.3	9 7	34.0
Baltimore, Maryland	43.8	33.5	10.3	7 7	31.5
Block Island, Rhode Island*	39.6	28.9	7.7	21 1	27.0
Boston, Massachusetts	47.0	37.9	9.1	17 5	41.7
Canby, Fort, Washington Territory	55.7	30.7	15.0	9 3	56.5
Cedar Keys, Florida	54.1	39.3	14.8	41 0	50.7
Charleston, South Carolina	34.9	31.8	1.1	7 7	18.3
Chicago, Illinois †	47.5	21.5	26.0	4 1	36.6
Chincoteague, Virginia	52.1	29.5	22.6	8 5	35.3
Cleveland, Ohio †	38.4	35.3	3.1	14 8	20.3
Detroit, Michigan †	50.6	39.2	11.4	12 2	50.6
Delaware Breakwater, Delaware	33.6	32.1	1.5	19 0	20.7
Duluth, Minnesota †	58.6	36.8	21.8	8 0	47.4
Eastport, Maine	51.4	34.4	7.0	18 0	50.2
Escanaba, Michigan †	77.6	67.5	10.1	10 7	71.9
Galveston, Texas	50.0	42.3	13.7	7 0	46.0
Grand Haven, Michigan ‡	58.4	45.2	13.2	15 7	48.2
Indianola, Texas	39.0	29.9	9.1	16 0	26.8
Jacksonville, Florida	40.8	36.1	4.7	11 2	29.0
Key West, Florida	39.5	31.0	8.5	15 7	29.2
Mackinaw City, Michigan †	46.2	38.4	7.8	10 7	42.7
Macon, Fort, North Carolina	51.3	47.9	13.4	17 2	50.7
Marquette, Michigan	39.2	30.1	6.1	10 0	24.3
Milwaukee, Wisconsin †	41.0	33.4	7.6	55 8	30.3
Mobile, Alabama	43.8	33.8	10.0	1 8	31.0
New Haven, Connecticut	53.4	49.0	4.4	35 5	50.6
New London, Connecticut	55.3	46.0	9.3	9 7	51.5
New York City	52.0	47.8	4.2	10 5	46.0
Norfolk, Virginia	52.4	45.1	7.3	16 8	49.2
Pensacola, Florida					
Portland, Maine					
Portland, Oregon					
Sandy Hook, New Jersey					
San Francisco, California					
Savannah, Georgia					
Smithville, North Carolina					
Toledo, Ohio †					
Wilmington, North Carolina					

† Frozen throughout the month. \* Record from 6th to 15th—thermometer broken. ‡ Frozen from 1st to 7th and from 13th to 30th. § Frozen on 1st and 2d and from 13th to 31st.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for Jan-

uary, 1885, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 85.99 per cent. The percentages for the four elements are: Weather, 88.34; direction of the wind, 82.86; temperature, 82.91; barometer, 92.26 per cent. By geographical districts, they are: For New England, 87.25; middle Atlantic states, 89.43; south Atlantic states, 86.08; eastern Gulf states, 89.04; western Gulf states, 85.69; lower lake region, 87.86; upper lake region, 85.53; Ohio valley and Tennessee, 85.76; upper Mississippi valley, 84.53; Missouri valley, 80.25; north Pacific coast region, 77.68; middle Pacific coast region, 70.54; south Pacific coast region, 84.82. There were seventeen omissions to predict out of 3,419, or 0.50 per cent. Of the 3,402 predictions that have been made, seventy-seven, or 2.26 per cent., are considered to have entirely failed; one hundred and twenty-eight, or 3.76 per cent., were one-fourth verified; three hundred and fifty-four, or 10.41 per cent., were one-half verified; five hundred and seven, or 14.90 per cent., were three-fourths verified; 2,336, or 68.67 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During January, 1885, two hundred and six cautionary signals were ordered. Of these, one hundred and eighty-five, or 89.81 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. One hundred and eighty-seven off-shore signals were ordered, of which number one hundred and sixty-nine, or 90.37 per cent. were fully justified, both as to direction and velocity; one hundred and eighty-one, or 96.79 per cent., were justified as to direction; and one hundred and seventy-one, or 91.44 per cent., were justified as to velocity. Three hundred and ninety-three signals of all kinds were ordered, three hundred and fifty-four, or 90.08 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals one hundred and nineteen were changed from cautionary. In thirty-six cases winds of twenty-five miles or more per hour were reported for which no signals were ordered.

COLD-WAVE SIGNALS.

During January, 1885, there were two hundred and forty-six cold-wave signals ordered of which number, two hundred and twenty-six, or 91.9 per cent. were justified.

RAILWAY WEATHER SIGNALS.

The following is from the report of the "Ohio Meteorological Bureau," under direction of Prof. T. C. Mendenhall:

The verification of railway signals for the month was as follows: For temperature, 95 per cent.; for state of weather, 89 per cent. The cold-wave signal has been displayed several times during the month, and verified in every case.

The following is from the report of the "Tennessee Weather Service," under direction of Hon. A. J. McWhirter:

The great benefits of the weather service to the people throughout the state, and especially to those engaged in agricultural pursuits, will be more fully realized and appreciated when the system of railway signals shall have been adopted, and it is to be hoped that our legislators will give sufficient aid to the bureau to enable the director to put this excellent system into practical operation at an early day.

The following is from the report of the "Alabama Weather Service," under direction of Prof. P. H. Mell, jr.:

The predictions for the month of January telegraphed by General Hazen, the Chief Signal Officer, were as follows:

- Local rains.—1, 4, 5, 11, 14, 20, 23, 31.
- General rains.—15, 16, 24, 25, 28.
- Fair weather.—2, 3, 6 to 10, 12 to 19, 21, 22, 26, 27, 29, 30.
- Lower temperature.—1, 6, 7, 10, 12, 13, 16, 17, 22, 28.
- Higher temperature.—2 to 5, 8, 9, 11, 15, 18, 19, 23, 24, 26, 27, 29 to 31.
- Stationary temperature.—14, 20, 21.
- Cold wave.—1, 10, 12, 15, 22, 27.

The verification of signals for January was 87 per cent. for weather, and 91 per cent. for temperature.