

Let the Little Classified ad do Your Work for You - It Works While You Sleep

HOW WEATHER PREDICTIONS ARE MADE BY GOVERNMENT

(By P. J. O'Gara.)
To the general public the weather bureau of the U. S. department of agriculture is probably best known through the medium of its daily forecasts and weather maps. How the predictions are made is more or less a mystery to many, while probably a few feel that the officers of the weather bureau make shrewd guesses and then wait for results. Weather forecasting, however, is just as scientific and is based upon as scientific principles as the prediction that has been made of Halley's comet, which all of us know will soon appear. As every high school student knows, a study of weather is a study of atmospheric conditions, which belongs to physics.

The forecasts made by the weather bureau are based upon simultaneous observations of local weather conditions taken daily at 8 a. m. and 8 p. m., 75th meridian time, at about 200 regular observing stations scattered throughout the United States and the West Indies. Weather services similar to that of the United States are maintained by the Canadian and Mexican governments, and by a system of interchange daily reports are received from a number of stations in these countries. Daily observations are also received from Honolulu, the British Isles, Germany, France, Portugal, and the Azores, so that the field represented by the daily reports extends over the greater portion of the North American continent having telegraphic communication, the North Atlantic ocean and the west coast of Europe. Vessels equipped with the wireless telegraph may also be more or less service, but, since they are moving, their reports are of much less value than they would be if stationary.

Forecast centers are established at Chicago, Boston, New Orleans, Louisville, Denver, San Francisco and Portland. Within two hours after the morning observations have been taken, the forecasts are telegraphed from the forecast centers to more than 2100 principal distributing points, whence they are further disseminated by telegraph, telephone and mail. Each of the weather bureau stations is operated by one or more trained observers, and is equipped with mercurial barometers, thermometers, wind vanes, rain and snow gauges, anemometers and many of them with sunshine recorders, barographs, thermographs and other devices which register automatically a continuous record of local weather conditions and changes as they occur. A complete telegraphic report, which is sent to the forecast centers by the different observers, includes the following data: Temperature, pressure (reduced to sea level), precipitation, direction of wind, state of weather, current wind velocity, maximum and minimum temperature since last observation and kind and amount of clouds, with the direction of their movement. From these data the forecaster, by comparison with preceding reports, is able to trace the path of storm areas or other weather conditions from the time of their appearance to the moment of observation, and approximately determine and forecast their subsequent course.

Weather has a direct movement from west to east or per se north-west to southeast. Various conditions may influence the general direction of weather movement so that before leaving the Atlantic coast it may have a northeasterly trend. Contrary to the general opinion storms or weather conditions east of us bear no further relation to weather conditions to the westward or on the Pacific coast. A storm in the middle west can in no way affect us on the Pacific coast; this storm has really passed over us, and may have gained in severity or may have lost some of its intensity. However, the report of a storm on the Chinese coast would be of very much importance, since his storm must finally reach our shore. The important thing for the weather bureau to ascertain is its intensity at the rate at which it is approaching our shores.

At this time, the most important consideration is the forecasts for frosts or freezing temperatures. Forecasts of this kind depend upon not only a knowledge of local atmospheric conditions, but also that of the weather immediately back of us. Very often local conditions may be very favorable to low temperatures, but a sudden change of weather conditions, such as clouds, increased hu-

midity of the atmosphere, etc., may make a decided change. In forecasting for temperature an instrument known as a psychrometer is used. It consists of two thermometers attached to a handle in such a manner that they may be whirled rapidly. The bulb of one of the thermometers being left uncovered, the cloth covered bulb is moistened in water and through the air, evaporation begins at once on the moistened bulb, withdrawing the heat from the contents of the bulb and reducing the thermometer reading, the amount of such cooling being dependent upon the rapidity of evaporation, which in turn depends upon the amount of moisture already in the atmosphere. If the atmosphere is damp and cold there will be but very little drying of the cloth surrounding the thermometer bulb, with a very slight difference between the readings of the two thermometers; but on a dry warm day the water will evaporate rapidly and cause a difference of several degrees. The temperature of the air and the difference between the readings of the two thermometers are referred to psychrometric tables and the dew point temperature obtained. The melting of the dew point temperature is the atmospheric temperature at which dew will form at temperatures above 32 degrees Fahrenheit or frost below 32 degrees. The atmosphere at all times is made up of a mixture of air and water vapor. Now, if we cool the atmosphere to a certain point known as the dew point, some of the water vapor or moisture must precipitate and form dew, or frost, in case the temperature goes below 32 degrees Fahrenheit. For every temperature, whether above or below the freezing point, the atmosphere is able to retain a certain amount of water in the form of vapor. At any temperature the atmosphere is said to be saturated if it has a relative humidity of 100 per cent; if it contains only half as much water vapor as it is able to hold it has a relative humidity of 50 per cent. When there is much moisture in the atmosphere, the dew point or temperature at which dew begins to be deposited is higher than in very dry air. If, therefore, it is found upon making an observation, that the temperature of the dew point is 10 or more degrees above 32 there need be little fear of frost within the next 12 hours, since observations have shown that the temperature on any night seldom falls more than 10 degrees below the dew point as determined in the afternoon before.

Observations carried on for the past two years in the Rogue river valley have shown that serious frosts during the spring rarely occur where the dew point is 35 degrees as determined about 7 p. m. The temperature of the dew point as observed is usually about 30 or 40 degrees higher than the temperature which will occur before the morning following. Thus in the last freeze, the dew point registered about 30 degrees during the evening, and it will be remembered that the warning given out indicated a temperature of 27 degrees before morning. As a matter of fact, this was about what happened.

As stated before, the temperature of the dew point is not always a safe criterion of the probable occurrence of frost. A full knowledge of general weather conditions should be obtained before depending upon the psychrometer. Frosts are most likely to occur when the sky is clear and there is not wind, although a high wind may be accompanied by a sufficient fall in temperature to cause frost. The latter, however, never occurs in the Rogue River valley. To show why we should not depend wholly upon the psychrometer I might give the following: Last year on April 18th the dew point at 8 p. m. was 19 degrees, which normally would indicate a temperature of perhaps 30 degrees lower before morning. At the time the sky was perfectly clear, but a knowledge of the fact that clouds would come before morning warranted my giving out the forecast that no damaging frost would occur. The lowest temperature recorded was 28 degrees and that for only a very short time.

Cora Johnson has bought two lots of L. L. Hamilton in Highland addition, facing on Maple street.

Haskins for Health.

GOLD HILL ITEMS.

(By Spectator.)
B. H. Harris and family arrived from Medford the last of the week with their household effects and a new home in the property they recently purchased of Mrs. P. H. Dekum of Portland, located in the Dekum addition.

Hert Jones arrived from Portland Sunday for a few days' stay with friends.

Rex H. Lampman of the News spent several days in Klamath Falls last week on business.

D. P. Blue and Miss Nell Pygall of the Centennial mine on Kaner creek visited friends here Sunday.

A letter to a friend from George R. Briggs at the Northern Pacific sanatorium at Portland reports that he has about recovered from his late operation at that institution and expects to return home at this place in a few days.

Among the members of the I. O. O. F. at this place that visited Grants Pass lodge Saturday to assist in degree work were Ike Householder, James Burns, George W. Lance Jr., W. H. Stickle, Benjamin Hayes, G. V. Stickle, J. W. Hayes, H. L. Stickle, P. H. Myers, William Wetheral and George Lyman.

F. M. Dolls of Ashland has procured a building on Third street and ordered machinery for a steam laundry at this place and expects to have the business in operation in a very short time.

Mrs. H. L. Reed was chosen by the Rebekahs of this place to represent them at the grand lodge, which holds its annual session at Eugene in May, and Mrs. Margaret Christensen was elected as a candidate before the grand lodge for district deputy for this district.

Mr. and Mrs. D. H. Cheney are up from the Galice district for a few days stay looking after their interests here.

A. L. Harvey has sold his hardware store to D. H. Miller of Medford and will give possession as soon as stock can be inventoried. Mr. Miller will occupy the W. H. Harvey residence on E street and W. H. will move to his home just north of town.

Mr. and Mrs. F. L. Colvig of Medford were here Sunday visiting some friends.

Floyd Sutton, while employed by the Gold Hill Lumber & Railway company at the millsite south of town, cut his foot very severely Friday and is now laid up at Gold Hill hospital on C street with a very painful wound, which severed several bones and arteries.

The Merrivold Shop has office supplies, including files, blank books, memorandum books, pencils, pens, inks, inkwells, tablets, typewriter supplies, envelopes, paste, mucilage and fountain pens.

Medford, Oregon: This certifies that we have sold Hall's Texas Wonder for the cure of all kidney, bladder and rheumatic troubles for ten years, and have never had a complaint. It gives quick and permanent relief. Sixty days' treatment in each bottle. Medford Pharmacy.

Haskins for Health.

FOR SALE.

REAL ESTATE.
FOR SALE—70 acres, 1 mile from Eagle Point, unenclosed, 50 acres first-class sticky fruit land; price \$60 per acre, easy terms; 40 acres, free soil, half bottom land; 10 acres cleared, heavy timber on balance; good water right, two miles from Eagle Point; price \$120 per acre. For further information, address Box 127, Eagle Point, Or.

FOR SALE—60 acres in the celebrated Merlin peach and grape belt; sufficient wood to pay for clearing; 3 miles from Rogue river; one mile from Southern Pacific railroad; \$50 per acre.

40 acres, very easily cleared; part can be irrigated; three-quarters mile from Southern Pacific station; \$50 per acre.

Both tracts increasing in value very fast. Ask any of your produce merchants what they think of Merlin fruit.

ROBERT SMITH, MEDFORD, OR.

Houses.
FOR SALE—Modern bungalow, 5 rooms, bath, pantry, two porches, wired, partly plumbed, tinted walls, waxed woodwork, corner lot 50x120 feet, in one of choicest East Medford districts; house and lot could not now be duplicated for price asked, \$2000; \$1500 will handle. Address P. O. Box 173. 324*

SOME ONE OF TO-DAY'S WANT ADS IS GOING TO CHANGE THE WHOLE FACE OF THE WORLD FOR SOMEBODY

CLASSIFIED AD ANSWERS AT MAIL TRIBUNE

A. S.	J. E. W.
D. S.	D. M.
H. D.	B.
A. D.	W. 2.
H. G.	Owner 261.
R. C.	E. M. T.
G.	Bargain.
W. E. J.	C.
Z.	

FOR SALE

FOR SALE—On North Riverside Avenue, 5 room house, barn and one-half acre of good garden land all for \$1500. Address P. O. box 878, Medford, Or.

Acres.

FOR SALE—5 and 10-acre tracts just within and adjoining city limits, at a bargain, on 5 annual payments. Address Condor Water Power Co.

Lots.

FOR SALE—God lot in Walnut Park addition, \$300, terms. Address K. care of Mail Tribune.

FOR SALE—Fourteen good residence lots, high elevation, and two bungalows; cheap for cash or will trade for ranch property near Medford. Address E. S. J., General Delivery, city.

FOR SALE—City lots, \$20; for a small, safe investment see city lots—I offer at \$200 and \$250 per lot; \$20 cash payment, balance \$10 per month; no interest. H. C. Maltby, Palm 112.

Farms or Orchards.

FOR SALE—Ninety acres, 30 in one year old apple and pear trees, 100 inches of water, 2 1/2 miles from railroad station. For terms write "Owner," care Mail Tribune, 261*.

FOR SALE—60 acres, finest building site in the alley, including 30 acres good fruit land; cheap and terms right. H. C. Maltby, Palm Bldg., Main and Front.

FOR SALE—About 30 acres of good orchard land 1 1/2 miles east of Phoenix. One-half is in orchard. Telephone, Medford, 1199, or address C. T. Payne, Phoenix, Ore.*

FOR SALE—Some good buys. 30 acres just outside Ashland city limits, soil deep black, good orchard, alfalfa or garden land; has good improvements; nicely located to cut in acre tracts; this is a bargain at \$14,250. Also

300 acres best soil and best irrigated tract in southern Oregon; cannot be duplicated as a fruit or alfalfa venture; will pay 20 per cent on investment as an alfalfa farm.

We have other tracts, both large and small, with prices to suit any purse; also some good buys in Ashland city property. For particulars call on or address H. L. White & Co., No. 25 North Main street, room 7, Ashland Imp. Bldg. 321*

Timber Land.

FOR SALE—40 acres of good timber five miles from Medford; all down hill. Mat Calhoun, Phoenix, Oregon.

Business Property.

FOR SALE—Choice business property at a bargain, on long time; easy terms. Address Condor Water Power Co.

Horses.

FOR SALE—Riding pony, cheap. Address R. C. F. Astbury, Gold Hill. 10*

FOR SALE—Fine driving team, 8 years old, perfectly matched. Inquire at Nash Livery Stables. 316

FOR SALE—Span of mules at Vinson's stable, La N. Rider. 5

Miscellaneous.

FOR SALE—One fresh cow and calf. Call at 333 South Riverside.

FOR SALE.

FOR SALE—50 Angora goats. Carl T. Skymas, Trail, Or.

FOR SALE—Good No. 1 seed corn; also Early Sunrise potatoes and good cooking potatoes. Jos. Taylor & Sons. 8

FOR SALE—Fresh laid thoroughbred bronze turkey eggs for setting. Leave orders with Warner, Wortman & Gore. 320

FOR SALE—1000 cedar fence posts, a lot of fence pickets. F. Oenbruge, Studebaker Bros. Co. Warehouse.*

FOR SALE—Good, rich black top dirt, just the thing for gardens. See A. Slover.*

FOR SALE—One 2-horse disc harrow, cost \$40; price \$35, practically new, only having been run over about 40 acres. Inquire Medford Book Store.

FOR SALE—Good coaster brake bicycle cheap. 320 S. King street. 6

Miscellaneous.

FOR SALE—Eggs for hatching, \$1 per setting, from pure laying strain of Barrad Rock. Phone Medford Farmer 186. Address Box 196, Central Point. 321*

FOR SALE—New typewriter, Elwood & Bennett. Address 135 S. Central ave. 50*

FOR SALE—Or trade, fine driving horse, sound, not afraid of automobiles; will trade for heavy work horse. Box 130, Medford.

FOR SALE—One Home Edison graphophone, nearly new and a splendid phone, with two and four-minute records free. Address Box 443, P. O., Medford. 9

FOR SALE—Mimeograph for duplicating letters. In good condition, cheap, at office of Condor Water & Power Co. 283 1/2

BUY your paints, glass, wall paper, stains, varnishes, brushes and have your pictures framed at Metcalf's, 318 East Main. 7

FOR RENT.

Houses.

FOR RENT—Five-room bungalow. Call at 419 S. King st. 5

FOR RENT—Good five-room house, barn and nearly 1/2 acre of good garden land. Inquire at Daley & Toft's real estate office, 128 East Main st.

Office Rooms.

FOR RENT—Offices over postoffice on April 1st; will be steam heated and have hot and cold water by next winter. Apply to A. A. Davis.*

Furnished Rooms.

FOR RENT—Modern furnished rooms at 604 West 10th or 124 King street.

FOR RENT—Furnished rooms. No. 10 North Grape street.

FOR RENT—Furnished sleeping rooms; lights and baths; gentlemen only. 243 *N. Holly. 8

Miscellaneous.

FOR RENT—Only hotel in town of 1000 population. Call at Condor Water and Power Co., 209 West Main street.

FOR RENT—Pasture land on Price Ranch, Tolo; irrigated land, next to McDonough ranch, Tolo. Condor Water & Power Co. 50*

FOR RENT—Garden land on Bear creek, one acre and upwards with water for irrigation; owner will furnish team, plow and seed for part of crop. See Kofeldt, Condor Water & Power Co. 50*

FOR LEASE—Fully equipped gold mine; ten-stamp mill and concentrator, all operated by electric power. Owner will furnish free electric power for share in proceeds. See Kofeldt, at Condor Water & Power Co.

WANTED.

Help Wanted—Male.

WANTED—Ten miners and laborers. Apply Condor Water & Power Co.*

WANTED—First-class gardener. Apply Condor Water & Power Co.*

WANTED—Experienced stone cutter and quarry man. Call at Condor Water and Power Co.'s office.*

WANTED—A man experienced in the handling of incubators and turkey raising. Apply at office of Condor Water & Power Co. 283*

WANTED—Japanese boy wants position as cook. Address R. Box 264, Medford. 6

Help Wanted—Female.

WANTED—A young lady for light office work. Address D. S., care of this office.

WANTED—Neat girl for general housework, must be good cook, small family, good wages. Call 1424 West Main st. 6*

WANTED.

Help Wanted.

WANTED—Man and wife, man for gardening and wife for general housework. Apply Condor Water & Power Co.*

WANTED—Man and wife; man to work in gang; wife to cook 4 to 7 boarders. Apply to 103 E. Sixth. The Oregon Granite Co.*

Miscellaneous.

WANTED—A Japanese boy wants position to wash dishes in few families after 7 p. m. Address M., care of this office. 10

WANTED—Furnished house; immediate possession; family 3 adults; state price, full particulars. Address C. W. W., care Tribune. 7

WANTED—Five farm teams, 10 farm hands, 10 men for planting trees. Condor Water & Power Co.*

WANTED—To borrow, \$800 on six-room house, 734 Pine street. Box 118, Medford. 6

WANTED—Pupils for physical culture, elocution and voice culture. Miss Elma Hayner, graduate Emeryville college, Boston. Address Ashland, care George Stevens. 11

WANTED—An investment. What have you? I have from \$5 to \$15,000 cash. Will consider No. 1 apple and pear dirt, raw land or set to trees, any age; also Medford property. Address Engineer, Box 843, Medford.*

MONEY TO LOAN.

TO LOAN—Several thousand dollars on good real estate security. Apply to Jackson County Abstract Co.*

BUSINESS DIRECTORY.

Boothblacks.

HINE—Get your shoes shined, oiled or dyed at the Palace boothblack stand in Smokehouse. First-class work is our specialty. Shoes called for in any part of city and delivered. 212 West Main street. Phone Main 121. Eddie, the Boothblack.

Landscape Gardeners.

J. T. BROADLEY, Landscape gardener; a long experience in laying out and care of private grounds. P. O. Box 521, Medford, Or.

Attorneys.

WITHINGTON & KELLY—Lawyers. Palm Building.

PORTER J. NEFF, WM. P. MEALEY—Attorneys-at-law. No. 9 D street, ground floor.

COLVIG & REAMES—W. M. Colvig, C. L. Reames. Lawyers. Office Medford National Bank Building, second floor.

B. F. MULKEY—Attorney-at-law, Offices Room 30, Jackson County Bank Building, Medford.

Undertakers.

MEDFORD FURNITURE CO.—Undertakers. Day phone 351. Night Phones: C. W. Conklin 3601, J. H. Butler 3571.

Photographers.

MACKEY'S STUDIO—"Pose with Mackey and die with joy." Over Allen & Reagan's store; entrance on Seventh street.

Hospitals.

SOUTHERN OREGON HOSPITAL—344 South C st., Medford, Or. E. W. Hisey, Matron. Official hospital P. & E. R. R.

Bricklayers.

BRICKLAYERS—K. Kuzin, at Smokehouse, first-class bricklayer, stoneworker, cement stepping, block and moulding, fireplaces and tile work a specialty, European plan; day or contract.

Medicines.

CHOW YOUNG'S CHINESE MEDICINES—Will cure rheumatism, asthma, paralysis, sores and private diseases. These remedies may be procured at the Sing Lee laundry, 123 S. Riverside avenue, Medford, Or., where they will be sold by the proprietor.

Dr. Chow Young has treated several severe cases with his remedies since coming to Medford and has for reference some of the best-known and most intelligent citizens in Southern Oregon. Call on him.

Real Estate.

BENSON INVESTMENT CO.—Real Estate, Loans and Fire Insurance. Office, suite 205-206, over Fruit-growers' Bank. Phone 541.

AS A MATTER OF BUSINESS, we would suggest that you call at our office in search of real estate bargains. We refuse to list any property for which owner asks more than we think it is worth. We do not care to make sales at extravagant and unreasonable prices. You will not find us tagging you on the street or annoying you at the hotel, hence this invitation to call at our office, No. 128 E. Main st. Pierce, Shepherd & Co.

BUSINESS DIRECTORY.

Real Estate.

SEE WM. E. STACEY & CO. for some of the choicest bargains in real estate in this valley. Also British Columbia and Alberta, B. C., and other parts. Call on him at Biscoe's office, Phipps Building, or at the Medford Auto Company's garage, where we start out our agents for the Aladdin Mantle Lamp and hidden window screens. We will treat you right. Come and see.

Printers and Publishers.

MEDFORD PRINTING CO. has the best equipped job office in Southern Oregon; Portland phone 87 South Central ave.

Piano Instruction.

MISS JENNESSE BUTLER—Piano instruction and musical history. Studio, No. 8 S. Orange St. Phone Main 2491.

HARMONY, sight reading, musical form. Mrs. E. E. Gore, Metropolitan College of Music, Miss Flora Gray. Studios, 144 South Central avenue. Phone 493.

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VERNE T. CANON—Bill Poster and Distributor. All orders promptly filled. Room 29, Jackson County Bank Building, Medford, Or.

Billiard Parlers.

S. T. BROWN & CO.—Billiards, Cigars and Soft Drinks. Up stairs, Young & Hall building. A nice cool place to spend the hot afternoons.

Architects.

JOHNS & TURNER, Architects and Builders, office 7-8, 235 Main. Phone Main 3471. Residence phone 2471.

Carriage and Auto Painting.

VALLEY SIGN AND CARRIAGE WORKS—High-class work guaranteed. Signs. Riverside avenue. Phone 801.

Tin Shops.

J. A. SMITH—Tin shop. Tin and sheetiron work on hand and made to order. 128 North G street.

Furniture.

H. F. WILSON & CO., dealers in new and second-hand furniture and hardware. Agents for Mound City kitchen cabinet. 323 E. Seventh st.

MISSION FURNITURE WORKS—Corner 8th and Holly sts., Medford. Mission Furniture made to order. Cabinet work of all kinds. A trial order solicited.

MORDOFF & WOLFF—Cook Stoves and Ranges. New and Second-Hand Furniture. Eads' old stand, 18 W. F st. South. Phone 91, Medford, Or.

Nurseries.

QUAKER NURSERIES—Our trees are budded, not grafted. Our stock is not irrigated. We guarantee everything put out. We are not in the trust. H. B. Patterson, office in Hotel Nash.

ROGUE RIVER VALLEY NURSERY—Growers of high-grade nursery stock. C. F. Cook, Prop. R. R. V. depot. P. O. Box 841. Phone 1201, Medford.

Brick Companies.