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The MONTHLY WEATHER REVIEW is based on data from about 3500 land stations and many ocean reports from vessels taking the international simultaneous observation at Greenwich noon.

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As far as practicable the time of the seventy-fifth meridian, which is exactly five hours behind Greenwich time, is used in the text of the MONTHLY WEATHER REVIEW.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

SPECIAL ARTICLES, NOTES, AND EXTRACTS.

SALTON SEA AND THE RAINFALL OF THE SOUTHWEST.

By Prof. ALFRED J. HENRY. Dated January 25, 1907.

There is a growing belief in the extreme Southwest, and possibly in other parts of the country, that the creation of Salton Sea is, in large part, responsible for the heavy rains of the last two years, not only in Arizona, but also in the Rocky Mountain States, and thence eastward over the plains. So strong is this belief that some persons have gone so far as to publicly advocate the maintenance of the present Salton Sea, notwithstanding the efforts now being put forth to shut off its supply.

Like other popular fallacies the present one doubtless arose from a careless consideration of the facts in the case, failure to consider whether the supposed cause was capable of producing the observed result, and finally, a misconception of the physical laws under which moisture in the atmosphere is condensed and precipitated as rain.

The facts, so far as they concern the purpose of this article, omitting all general details which are already familiar to the public, are as follows:

As early as October, 1904, there was some seepage water in the depression now known as Salton Sea, but no overflow water. In November, 1904, the Development Company completed a third intake on the Colorado River some miles below the first and second intakes in order to increase the supply of water for irrigation purposes. Soon thereafter a flood wave in the Colorado River scoured out the third intake so that it admitted more water than was needed. The surplus, which at times was very large, naturally sought the lowest part of the depression known as Salton Sink, and in the course of time Salton Sea was formed. It appears, however, that the increase in size of the so-called Salton Sea was gradual, and that it was not until October, 1905, that the total flow of the Colorado River was carried by various channels, mainly the Alamo and New rivers, into Salton Sink.

The rainfall of October, November, and December, 1904, in southern California and Arizona was not out of the ordinary, but beginning in January, 1905, and continuing thruout February, March, and April, an extraordinary amount of rain fell over a belt of country stretching from Florida to southern California, and the region of heavy rainfall also extended into eastern Colorado, eastern Wyoming, western South Dakota, western Nebraska, and western Kansas. With the coming of summer the locus of heavy rains shifted to the States of Nebraska, Kansas, South Dakota, and Oklahoma and Indian Territories. September and October were generally dry months, but in November heavy rains fell in Texas, and thence westward to Arizona. December was dry. In 1906 practically the whole of that great region west of the ninety-fifth meridian received more than the normal rainfall, the regions of greatest excess being central and western Kansas, central and western Nebraska, all of South Dakota, Wyoming, Colorado, Utah, and central and southern California. The excess in Arizona and New Mexico was not strikingly large.

Considering these facts in proper sequence it will be observed, first, that Salton Sea was not formed until *after the heavy rains of January, February, and March, 1905*, so that to ascribe the increased rainfall to Salton Sea would be to place the effect before the cause.

Admitting, for the sake of argument, that a body of water of the dimensions of the present Salton Sea existed before January, 1905, let us examine its probable effect on the rainfall of the Southwest. Its present dimensions are approximately 60 miles long, 8 miles broad, and say 25 feet deep on the average. These are rough estimates, but they will serve the purpose. The cubic contents would therefore be $60 \times 8 \times 0.0047 = 2.2$ cubic miles of water.

The normal annual rainfall of Arizona as determined by Section Director Jesunofsky is 11.75 inches. The rainfall for several years previous to 1905 was as follows:

1899	8.4 inches.	1903	9.9 inches.
1900	8.3 inches.	1904	9.8 inches.
1901	10.6 inches.	1905	26.6 inches.
1902	10.3 inches.		

From this statement it will be seen that the excess for 1905 was 14.85 inches, an amount more than equal to the normal annual rainfall. An inch of rainfall per square mile is equal to 72,516 short tons. As the area of the Territory is 113,956 square miles, the excess in tons for 1905 would be in round numbers $72,516 \times 14.85 \times 113,956 = 122,717,500,000$ short tons. Converting this amount into cubic miles of water for a comparison of its volume with that of Salton Sea, we have, as before, 1 inch of rainfall on a square mile weighs 72,516 tons. A cubic mile would be this weight $\times 5280 \times 12 = 4,594,613,760$