

A Science Service Feature

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? WHY THE WEATHER ? Mailed August 11, 1931

By Charles Fitzhugh Talman,
Authority on Meteorology.

THE WEIGHT OF AIR

Though air is proverbial for its lightness, the total weight of the earth's atmosphere is something like 5,632,800,000,000,000 tons. Dr. Humphreys, of the Weather Bureau, helps us get an inkling of what this big number means by stating that it represents the weight of a block of granite half a mile high, a thousand miles long and a thousand miles broad. Certain constituents of the atmosphere are classified as the "rare gases," and each forms a very minute fraction of the air; the rarest of these being xenon, which forms about 0.000009 of the atmosphere by volume. Yet (again quoting from Humphreys) if all the xenon in the atmosphere were brought together it would constitute a body of gas weighing nearly 1,900,000,000 tons, and if it were compressed and loaded into freight cars holding 19 tons each the 100,000,000 cars required to carry the whole of it would make a train long enough to encircle the earth 40 times at the equator.

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