

The line for 68° F., for example, passes through the ocean where 68° F., is the mean temperature for extreme cold weather. January is not always the coldest winter month in this climate, neither is the winter the coldest season in all parts of the globe, especially near the equator. On this account, we do not restrict the lines to a given month, but make them more correctly the limit of the extreme cold for the year at the place.* Between the line of 74° north and 74° south of the equator, the waters do not fall for any one month below 74° F.; between 68° north and south, they do not fall below 68° .

There are several reasons why *isocrymal* are preferable to summer or *isothermal* lines. The cause which limits the distribution of species northward or southward from the equator is the cold of winter, rather than the heat of summer, or even the mean temperature of the year. The mean temperature may be the same when the extremes are very widely different. When these extremes are little remote, the equable character of the seasons, and especially the mildness of the winter temperature, will favour the growth of species that would be altogether cut off by the cold winters where the extremes are more intense. On this account, lines of the greatest cold are highly important for a chart illustrating the geographical distributions of species, whether of plants or animals. At the same time, summer lines have their value. But this is true more particularly for species of the land, and fresh-water streams, and sea-shore plants. When the summer of a continent is excessive in its warmth, as in North America, many species extend far from the tropics that would otherwise be confined within lower latitudes. But in the ocean, the extremest cold in the waters, even in the Polar regions, wherever they are not solid ice (and only in such places are marine species found), is but a few degrees below 32° Fahrenheit. The whole range of temperature for a given region is consequently small. The region which has 68° F. for its winter temperature, has about 80° for the hottest month of summer; and the line of 56° F. in the Atlantic, which has the latitudes of the state of New York, follows the same course nearly as the

* The word *isocrymal* here introduced is from the Greek *ισος*, *equal*, and *κρυμνος*, *extreme cold*, and applies with sufficient precision to the line for which it is used. These lines are not *isocheimal* lines, as these follow the *mean winter* temperature; and to use this term in the case before us, would be giving the word a signification which does not belong to it, and making confusion in the science.