



1880  
Champlain Society.

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**REPORT**

OF  
THE

**METEOROLOGICAL  
DEPARTMENT**

By  
Samuel A. Eliot.

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Cambridge  
1881.

Contributed to Maine Memory Network by Mount Desert Island Historical Society

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Date: 1880-1881  
Description: Champlain Society Report of the the Meteorological Department,  
Mount Desert Island

To the President of Champlain  
Society.

Sir  
I have the honor to submit the  
following report on the Meteorological  
Department for the season of 1880

In the observations  
which I took I followed the directions  
given in the meteorological manual  
of Alexander Buchan using so  
far as I was able the instruments  
recommended by him and following his advice  
in regard to the mounting and  
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and 2<sup>d</sup> entering them with additional remarks, + explanations and additions in the Record Book of the Society -

With the instruments kindly lent me by Prof. Cooke in addition to those which I already possessed I was able to observe the temperature, the humidity & the barometric variations with considerable accuracy; the lack of an anemometer obliged me to estimate the force of the wind according to a table of approximate equivalents constructed by Beaufort, an undesirable method as productive of a constant tendency to overestimate and therefore the observations are probably exaggerated and of very little value. In observing cloudiness I used a method suggested by Buchan estimating the proportion of the sky covered on

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the scale of 10. Of the formation and structure of the clouds Mr Davis has already spoken. The lack of a rain gauge prevented my making any observation of the rain fall.

During July the barometer remained remarkably steady reaching <sup>both</sup> its extremes in the week ending July 17 its highest being 30.19 and its lowest 29.69 This week was one of remarkable storminess two southeasters and one heavy thunder shower occurring. In August the variation was much greater the barometer reading as high as 30.61 and as low as 29.63 both these extremes occurring in the week ending Aug. 14 which was ~~a~~ excepting one day, was a week of clear, warm weather. The mean

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of the barometer from July 7<sup>th</sup> to  
Aug 23 was 29.99 +

The temperature was  
very variable as usual in our New  
England climate the highest  
reading of the thermometer for the  
above mentioned period being 83°  
the lowest 46° Fahrenheit.

The mean humidity  
for the days between July 7<sup>th</sup> and Aug 12<sup>th</sup>  
was 77.8 The lowest computation  
being 44. The readings of hygrometer  
after Aug. 12 are not reliable.

The daily details of  
the observations ~~will be~~ as well as a  
monthly summary will be found in  
the Record book while the record  
of the variation will be <sup>found</sup> on the  
accompanying charts. From these details  
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a general summary of the weather  
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may expect to find might be drawn up. It would appear that on a regulation Mt Desert, <sup>day</sup> these changes in weather could be expected in the morning there would be a cool and moderately strong North west wind with clouds in the north this wind would gradually die away in the <sup>early</sup> afternoon a gentle south wester would creep in from the sea and the southern clouds would rise this wind would in turn die away and the evening and night would be calm and still. A light mist is very apt to creep over the hills shortly after sunset and remain until driven off by the morning wind. At least once a week a south east storm may be expected these south easters blow with more or less violence but they are invariably accompanied by heavy fogs and rains. The wind however never blows from this direction for more than

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30 or 40 hours through the attending fog and clouds sometimes remain several days. North east storms are very unusual in the summer months

Another advantage of last summer's observations is that they will be found an excellent though limited foundation for future investigations. There are many <sup>untouched</sup> points in Mt Desert meteorology the investigation of which will be found very interesting among them are the following 1<sup>st</sup> The investigation of the habits of Mt Desert fogs. as we have seen fogs & mists are very frequent but I am convinced that there are parts of the island which are not so well acquainted with this unwelcome visitor as others for instances I believe our camp to have been very favorably situated in this respect for the Cranberry Islands acted as a barrier against the approach of the fog and <sup>often</sup> have

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heard on our return from a foggy sail outside or in the bay that it had clear all day at camp. Again we know nothing about the fogs of Blue Hill Bay perhaps the Western shores of the island differ in this respect from the eastern.

Another thing to be investigated is the difference in temperature of different parts of the island. I have always thought that Bar Harbor was one of warmest spots on the coast and quite different in this respect from other neighboring places; this may be imagination but it may be due to natural causes which it would perhaps be not unfruitful to investigate. Closely allied to this is the subject of the temperature of the surface sea water and of the water of the lakes & ponds. There are many theories afloat among visitors at Mt Desert as to best time of tide & wind at which to

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go in bathing some believing in the flood  
others in the ebb some on a north west  
wind others in a southeast as warmness  
of the water. I took a few observations  
of the temperature of the surface water  
in Somes Id but gained no important  
information except the well known fact  
that the warmth of the water varied almost  
exactly as the warmth of the air  
that is of course as far as the surface  
was concerned. However as wind & tide  
may have some effect in some peculiarly  
situated spots & the search for a warm  
sea water bathing <sup>place</sup> is worth while. The  
highest temperature that I observed was ~~61.8~~  
66° the lowest 51. the mean for four  
weeks 58.8. Observations of the rainfall  
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finding from the chart area of some water basin and finding the volume of the outlet it would be interesting to note by how much a certain known rainfall on this area increased the volume of the brook.

Now the investigation of all these points requires that the method of carrying on the meteorological observations must be greatly changed and in this way 1<sup>st</sup> there must be increase in the no. of instruments viz. a rain gauge, an anemometer and two or three common thermometers and 2<sup>d</sup> and all important every member and every friend of the Society must become an observer. Observations such as I have mentioned cannot be carried on by a single observer at one station but they must be carried on by a number of observers scattered all over the island. It will not be much trouble to note the artime of the arrival of a fog bank at

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& if these simple observations can be  
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all parts of the island the result cannot  
fail to be interesting.

I hope therefore that  
every member who goes to Mt Desert  
another summer will lend his valuable  
aid to the success of the Meteorological  
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