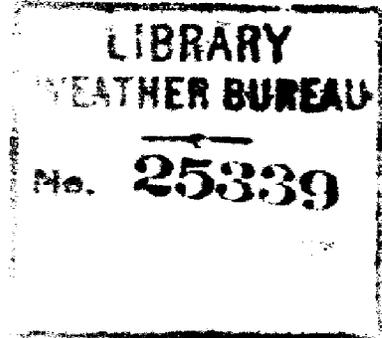


QC
925-82
MCS
1858

[From the PROCEEDINGS OF THE METEOROLOGICAL SOCIETY,
June 17, 1868.]



ON

THE RAINFALL OF MAURITIUS.

AUG 02 2001

BY

CHAS. MELDRUM, Esq., M.A., F.M.S.,
Director of the Mauritius Observatory.

I HAVE the honour to lay before the Society the accompanying Tables exhibiting the results of observations on the rainfall at twenty-four stations in the Island of Mauritius.

Table I. shows the monthly and annual rainfall at the Royal Engineers' station at Port Louis, on the ground, from 1853 to 1858; and Table II. the rainfall at the Observatory, about 400 yards east of the former station, and at 40 feet above the ground, from 1859 to 1866. The next five Tables (III. to VII.) give the results obtained at twenty-four stations for various periods. Table VIII. shows the mean monthly and mean annual fall, and

National Oceanic and Atmospheric Administration
Climate Database Modernization Program

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

This document has been imaged through the NOAA Climate Database Modernization Program. To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or www.reference@nodc.noaa.gov.

LASON
Imaging Subcontractor
12200 Kilm Court
Beltsville, MD 20704-1387
March 28, 2002

Table IX. the fall for each year, at nine of these stations for five years (1862–66).

General Description of the Island.—Mauritius is situated nearly between 20° and 21° S. lat. and 57° and 58° E. long. It is somewhat oval or pear-shaped, its northern being narrower than its southern extremity, and its greatest length from north to south being thirty-five miles, whilst its greatest width from east to west is twenty-nine miles. From its most northern to its most southern point the distance is thirty-nine miles, and from its most eastern to its most western point thirty-five miles. It has a superficies of about 720 square miles, and is divided into nine Districts, viz. *Rivière du Rempart* and *Pamplemousses*, extending from coast to coast in the north; *Port Louis*, on the west coast, south of Pamplemousses; *Flacq*, on the east coast, south of Rivière du Rempart; *Moka* and *Plaines Wilhelms*, the former lying wholly, and the latter almost wholly, in the interior; *Black River*, on the west coast, west of Plaines Wilhelms; *Grand Port*, on the east and south-east coasts; and *Savanne*, on the south coast.

The principal feature in the conformation of the island is, that it consists of a central tableland, which is separated from the plains on and near the coast, in some places by lofty mountain-chains, in others by steep precipices, and in others by more gradual, but still rapid, descents. This tableland comprises nearly the whole of Moka and Plaines Wilhelms, together with the more inland parts of Flacq, Grand Port, Savanne, and Black River. Its central ridge, which is the principal watershed of the island, extends, in an east-by-north direction, from the Savanne mountains in the south to the northern limits of Moka, over a distance of about twenty miles, and, like the tableland itself, is most elevated in its southern half. From this ridge the ground slopes on either side, forming here and there, at heights of 700 to 1400 feet above the sea-level, extensive and almost level plains, which, in some places, are abruptly separated from the littoral plains, several hundreds of feet below them, by almost perpendicular cliffs. The more gradual ascent, in the intervals between the mountains, commences at short distances from the sea, and continues up to heights of 1200 to 1800 feet, from which there is a similar descent to the opposite coast. The railway from Port Louis, on the west, to Mahébourg, on the east coast, crosses the tableland in a S.E. and N.W. direction; and the heights of the stations, determined by levelling, show the ascent and descent in

that part of the island. Thus, at four miles from Port Louis, the elevation is 392 feet, at eight miles 923 feet, at eleven miles 1311 feet, and at sixteen miles, or about halfway, 1822 feet; the line then descends to 1000 feet at twelve miles, 559 feet at seven miles, and 253 feet at five miles from Mahébourg. Generally, however, the tableland is separated from the littoral plains, or the sea, by mountains, of which there are three groups, viz. :—

(1) The Port-Louis group in the north-west, the central line of which runs about twelve miles in an east-by-north direction, at four to eight miles from the sea, and which ranges from 1000 to 2900 feet in height.

(2.) The Black-River and Savanne group, consisting of a series of mountains and elevated ridges, from 1000 to 3000 feet above the sea-level, stretching irregularly about twenty miles to the southward, along the west coast, and then about fourteen miles along the south coast, the greatest distance from the sea not exceeding six miles, while in many places the bases of the mountains or steep cliffs are close to the shore.

(3) The Grand-Port and Flacq group, in the south-east and east, rising to the height of 1200 to 2400 feet, and consisting of three main chains running nearly parallel to one another in a westerly direction, the principal chain being about fourteen miles long.

Most of the main chains send off branches, which form a succession of valleys and gorges opening towards the sea. The upper portions of the mountains and elevated ridges are generally composed of bare rock, presenting here and there the appearance of lofty cones, peaks, turrets, and serrated ramparts.

Between the bases of the mountains and the sea there are, more or less, all round the island, low-lying and nearly level plains. Rivière du Rempart and Pamplémousses, north of the Port-Louis mountains, and portions of Flacq, are, comparatively, one extensive plain, the greatest elevation attained by the railway which passes through them being only 329 feet, at a distance of six miles from the sea.

The island is drained by a great many rivers and streams, the largest of which take their rise on the tableland, receiving in their courses numerous tributaries from the mountains, and, as they flow onward through deep wooded ravines, forming in some places picturesque waterfalls. They all vary in volume according to the season, and occasionally some of them become quite dry.

Both in the interior and near the coast there are lakes, marshes, and swamps. The principal of these are the *Grand Bassin*, in Savanne, at an elevation of 2000 feet, and covering a superficies of thirty to forty acres; the *Mare aux Vakois*, on the confines of Plaines Wilhelms and Black River, about 1900 feet above the sea-level, and having an area of about 1200 acres; the *Mare aux Lubines* and others on the lowlands of Flacq; a number of marshes in the lower parts of Grand Port; and several ponds, swamps, and marshes near the sea in Black River and in the neighbourhood of Port Louis. It need scarcely be remarked that the volume of water in these lakes and marshes varies with the rainfall.

The island is of basaltic formation, and the soil in many places is highly ferruginous. The surface of the ground is usually covered with loose stones; but here and there, particularly on the tableland, there are tracts of free soil, many feet deep, in which no stones occur, and in other places patches of solid *sheet-rock* as flat as a paved floor. Deep ravines and subterranean caverns abound in various parts.

At one time nearly the whole island was covered with dense forests, which, within the last twenty years, have been greatly diminished. Of the 432,000 acres forming the entire superficies of the island, it is estimated that there are still 80,000 acres of forest in a more or less dilapidated state, 150,000 acres in cultivation (chiefly under the sugar-cane), 110,000 acres in pasture, and the remainder in rock, river, and mountain.

Description and Positions of the Gauges.—Of the twenty-four gauges which have been used, sixteen are Glaisher's 8-inch gauge; the other eight are chiefly 3-inch gauges of French construction. The districts and stations where the observations were taken, the elevations of the gauges above the sea-level and the surface of the ground, their distances from the east and west coasts, &c., are given in the following Table (p. 175).

Being unable to refer to original documents, I can for the present only give the approximate heights of some of the stations; and for the same reason the character of the gauge and its exact height above the ground cannot, in a few cases, be specified.

It will be seen from the accompanying Map, on which the stations are laid down, and also from the Table, that all the districts are represented, and that there are two or three chains of stations stretching from coast to coast across the tableland.

Districts.	Stations.	Approx. Height above the Sea-level.	Distance from East Coast.	Distance from West Coast.	Height of Gauge above Ground.	Character of Gauge.	Observers.	Periods of Observation.
		feet.	miles.	miles.				years. mths.
Flat Island	Surgeon's Quarters	30	...	...	8 inches	Glaisher's	Mr. M'Indoe	2 0
Rivière du Rempart	Labourdonnais	200	5	6	?	?	F. Béline, Esq.	5 0
Pamplemousses	Mont Choisy	50	7	1/2	?	?	H. Poulin, Esq.	5 0
	Les Rochers	180	8	4	?	?	H. Souchon, Esq.	5 0
	Botanical Gardens	250	10	4	8 inches	3-inch	J. Horne, Esq.	2 6
	Luca	500	5	8	"	Glaisher's	H. Barlow, Esq.	5 0
Port Louis	Caudan	8	16	0	"	Royal Eng ^s	Capt. Fyers and Stokes, R.F.	6 0
	The Observatory	47	16	0	40 feet	to X 20 ins.	C. Meldrum, Esq.	8 0
	Croft-an-Righ	850	19	7	8 inches	Glaisher's	C. A. Young, Esq.	3 0
Moka	Bon Air	850	19	7	"	"	Hon. W. Telfair	1 8
	Gentilly	850	19	7	"	"	H. Finnis, Esq.	0 10
	Elizabeth Cottage	950	15	9	?	?	C. J. de Lissa, Esq.	0 9
	Esperance	1350	13	11	8 inches	Glaisher's	B. Telfair, Esq.	2 5
Flacq	La Galeté	180	4	21	16 feet	3-inch	Dr. Jeery	2 3
	St. Cloud	700	21	5	8 inches	Glaisher's	Hon. J. E. Arbutnot	0 6
Plaines Wilhelms	Beau Séjour	930	19	6	"	"	Hon. R. Stein	5 0
	Trianon	900	18	7	"	"	Hon. C. Parelly	4 0
	Westra	1300	18	8	"	"	W. Trull and H. Wilson, Esqs.	1 2
	The Braes	1250	19	7	"	"	C. Grant, Esq.	5 0
	Mesnil	1450	16	10	?	3-inch	F. Channell, Esq.	1 10
Black River	Gros Cailloux	170	23	2	8 inches	Glaisher's	A. B. Commins, Esq.	5 0
	Clany	960	6	16	"	"	A. C. Macpherson, Esq.	5 0
Grand Port	Beau Vallon	260	2	19	"	"	A. Rocherouste, Esq.	2 0
	Gros Bois	560	6	16	"	"	V. Vallet, Esq.	3 0
Savanna	St. Aubin	120	...	...	"	"	Hon. H. Pitot	2 0

The observations, which were taken daily at 9 A.M., and entered for the previous day, were forwarded to the Observatory monthly, discussed, and published at the time in one of the local newspapers; for the rainfall is a subject in which the people of Mauritius take a deep interest.

With regard to the trustworthiness of the observations, I will only remark that the gauges were in a measure a check upon one another, and that the staff of observers was composed of Members of the Legislative Council, several leading Planters and Merchants, Newspaper-editors, and Government Officials.

I will now briefly point out some of the leading results.

Annual March of the Rainfall.—Since rainfall depends upon evaporation, and evaporation upon temperature, we should expect to find, in an island like Mauritius, a close connexion between the rainfall and the temperature; and the Tables show that such connexion exists. Thus, from Table I., which gives the results of six years' observation (1853–58) on the ground, at Port Louis, we find that the rainfall increases from 0·511 inch in September to 9·329 inches in February, and that, with the exception of a small increase in June, it decreases from February to September.

During the next eight years (1859–66) the observations at Port Louis were taken at the Observatory, about 400 yards east of the former station, and at 40 feet above the ground, and the results, which are given in Table II., show a similar progression. In place, however, of a tendency to a second maximum in June, we find a small but well-marked second maximum in August. From September to February the mean rainfall increases from 0·373 inch to 13·481 inches, from which it decreases to 0·753 inch in June; it then increases to 2·073 inches in August, from which it falls to 0·373 inch in September.

Turning now to Table VIII., which shows the results of five years' observation (1862–66) at nine stations in different parts of the island, we find an exactly similar march both for each station and for all the stations taken collectively. Over the parts of the island represented by the gauges, the rainfall increases from 2·005 inches in September to 12·886 inches in February; it afterwards decreases to 2·778 inches in June; it again increases to 4·898 inches in August, and then falls to 2·005 inches in September.

Tables III. to VII. afford materials for determining the annual

march for two to four years at eight stations more, and the results are in every respect similar.

Generally, therefore, the annual march of the rainfall of Mauritius presents a double progression, having two maxima in February and August, and two minima in June and September. From September to January (the warmest month) the rainfall increases with the temperature, and attains its principal maximum in February; and from February to June it decreases with the temperature. Instead, however, of decreasing with the temperature in July (the coldest month) it increases, and continues increasing till August, when it has a second maximum before attaining its principal minimum in September.

It would thus appear that, notwithstanding the diminished evaporation in winter (temperature being regarded as the principal agent), the low temperature of July and August causes a more copious precipitation than takes place, with a higher temperature and greater evaporation, in May and June; or, it may be, that the increase of rain in July and August is partly due to an accelerated rate of evaporation in consequence of the strong and dry trade wind which then agitates the surface-waters of the surrounding ocean.

An examination of the monthly observations for each year will show that the annual march is subject to considerable fluctuation. Thus, during the fourteen years' observation at Port Louis, January was the rainiest month *four* times, February *six* times, and March, April, May, and June *once* each. A similar but smaller fluctuation occurred in the epochs of the other turning-points.

At other stations, during the five years 1862–66, similar fluctuations occurred.

These deviations are partly due to revolving storms, which are attended with torrents of rain, to the action of opposite winds (either general, like the S.E. trade wind and N.W. monsoon, or produced locally by the heated land and rocks) in forcing vapour up the sides of the mountains, and to thunderstorms, which, however, are often referable to the same causes. On six days in February 1861, for example, during a hurricane, 44·730 inches of rain fell at Port Louis; the consequence was that not only was February the rainiest month, which it ought to have been without the hurricane, but that the fall for the year far exceeded the mean annual fall. Again, during a thunderstorm in the night of the 24th to the 25th of May, 1862, 3·245 inches of rain fell at Port Louis, and

greater amounts at other stations ; so that, in several parts of the island, May was the rainiest month in that year.

Connexion between the Rainfall and Elevation, &c.—Taking the elevation alone into account, the results of five years' observation (1862–66), at nine stations, show that the rainfall increases with the height up to about 1000 feet, and then decreases. Thus:—

Mean Height. feet.	Mean Rainfall. inches.
120	44·712
500	67·985
945	106·907
1250	67·730

But there must be other conditions affecting the rainfall, for we find such anomalies as the fall at 960 feet being double the fall at 930 feet, and the fall at 50 feet nearly double the fall at 130 feet. Now these discordances disappear when we take into account the side of the island on which the gauge was placed, and the distance from the east coast, as well as the altitude. An analysis of all the observations, with respect to these several conditions, leads to the following conclusions:—

(1) On either side of the island the rainfall increases from the coast up to the highest station on that side, and attains a maximum at or near the summit of the eastern declivity, the line of maximum fall extending from near Labourdonnais, in the north, away to the southward, passing, probably, to the east of Espérance and to the west of Cluny, and thence to the neighbourhood of Grand Bassin and the Savanne mountains, in the south ; and along this line the maximum rainfall itself varies, and is greatest in the highest and most wooded parts of the island near the commencement of the slope towards the east.

(2) The rainfall on the east coast is from two to three times greater than on the west coast.

(3) From the east coast westward to the highest stations on the eastern side, the increase of height is to the increase of rainfall nearly in the ratio of 5 to 2, and from the west coast eastward to the highest stations on the western side nearly in the ratio of 5 to 1.

(4) The rainfall at Espérance, one of the highest stations on the western side, is four times the rainfall at Gros Cailloux on the west coast ; and the rainfall at Cluny, the highest station on the eastern side, is a little more than twice the fall at Beau Vallon and

La Gaieté on the east coast, and five times the fall at Gros Cailloux.

(5) If the other conditions be the same, the nearer the station is to the east coast the greater is the rainfall.

There are apparently two exceptions to this last remark. The first is in the case of St. Aubin, near the southern extremity of the island, where the mean rainfall is considerably greater than at stations on the east coast, being for two years (1865-66) 93·057 inches. But the prevailing wind arrives at St. Aubin without passing over much land, and immediately to the northward of it there are steep ascents and high mountains.

The other exception is in the case of Flat Island, a small island about five miles north of the most northern point of Mauritius. The mean rainfall there for two years (1862-63), at 30 feet above the sea-level, was 32·280 inches, against 30·908 inches and 29·350 inches at Port Louis and Gros Cailloux, respectively, for the same period. But, though that island is further east than other stations at which the rainfall is much greater, it is at a greater distance from high land; and as it is but a small speck in the ocean, and the prevailing wind does not come to it from the mainland, it would seem that the rainfall there represents, approximately at least, the rainfall at sea; and if it does so, it follows that fully one-half of the rainfall of Mauritius is due to local causes, such as elevation.

Distribution of the Rainfall according to Season, &c.—The following is the order of the months according to the amount of rainfall:—February, January, March, December, August, April, May, July, June, November, October, September.

During the four months of December to March, the rainfall is above the mean monthly fall for the year, and during the other eight months below it. Hence the former months may be regarded as the *rainy season*, and the latter as the *dry season*. The term *dry*, however, applies with much more force to the three months of September to November.

An analysis of the observations shows:—

(1) That over the island, generally, 58 per cent. of the annual rainfall falls in December to March, whilst only 11 per cent. falls in September to November.

(2) That the seasons, with respect to rainfall, are much more distinct at the stations where the annual rainfall is least; that is, generally, at or near the coasts, and particularly on the west coast,

as at Port Louis and Gros Cailloux, where 67 per cent. of the rain for the year falls in December to March, and only 7 per cent. in September to November; whereas at Cluny only 51 per cent. falls in December to March, and as much as 12 per cent. in September to November.

We thus see that the conditions which produce a much greater annual rainfall at certain stations, likewise tend to obliterate the distinction of seasons into dry and wet.

During fourteen years' observation at Port Louis, the greatest rainfall in any one month was 46·570 inches in February 1861, and the least, no rainfall at all, in November 1859 and November 1866 (this latter month being the least rainy on record). The greatest fall at Gros Cailloux for any one month during five years (1862–66) was 13·420 inches in February 1865, and the least 0·150 inch in November 1863 and September 1865. At Cluny, for the same five years, the greatest fall in any one month was 43·600 inches in December 1865, and the least 1·090 inch in November 1863. The greatest and least falls for any month at the other stations were intermediate.

The greatest rainfall on any one day at Port Louis in each year during fourteen years (1853–66) ranged from 10 inches on the 15th of February, 1861, to 1·720 inch on the 24th of March, 1866. At the other stations the greatest rainfall on any one day took place on the 12th of February, 1865, and on the 27th and 28th of December, 1865, on which occasions the fall in twenty-four hours ranged from 25 to 6 inches.

Rainy Days and Rain-bearing Winds.—The results for Port Louis under this head are as follows:—

The mean annual number of days on which rain falls is 134, viz. 16 in January, 17 in February, 15 in March, 10 in April, 9 in May, 8 in June, 11 in July, 12 in August, 7 in September, 8 in October, 9 in November, and 12 in December.

Hence the fluctuation in the frequency follows the same law as the fluctuation in the amount of the rainfall.

The number of times that rain may be expected to fall in the course of the year with the wind from each of the principal points of the compass is as follows:—north 6, north-east 13, east 51, south-east 40, south 3, south-west 1, west 3, north-west 10, calm 3.

Here we see, as might be expected, from its vast preponderance and its coming over a great expanse of evaporating surface, that the principal rain-bearing wind is the trade wind from S.E. to E.N.E. In proportion to their frequency, however, the northerly

and north-westerly winds bring fully as much rain as the trade wind, and some of the heaviest downfalls have been with the wind from the north and north-west, as on the 12th of February, 1865.

When rain from the north-west is general, the relation between the east and west coasts, with regard to rainfall, is reversed; which shows that the east coast owes its greater rainfall to its being on the windward side of the island.

The rainiest hours of the day are from 1 to 5 P.M.

Fluctuation of the Annual Rainfall.—The last columns in Tables I. & II. would exhibit the secular variation at Port Louis, so far as that could be done by fourteen years' observation, if the same gauge had been used under the same conditions.

Yet it is evident that from 1853 to 1856 the rainfall at Port Louis increased, and then decreased to 1858, the last year of the six years' series; that from 1858 to 1861 it increased, even at 40 feet above the ground; and that from 1861 to 1866 a very marked decrease took place.

The total fall during the last five years (1862–66) of the whole period of fourteen years (1853–66) was 151·265 inches, against 211·579 inches during the first five years (1853–57), and 237·041 inches during the five years 1857–61, leaving for the last five years (1862–66) deficiencies of 70·314 and 85·776 inches, respectively.

These deficiencies are partly due to difference of elevation, but, after making ample allowance, we find that the rainfall during the five years 1862–66 was considerably less than during any previous five years of the whole period.

Comparing, now, the monthly and yearly results for those five years, or (taking in 1861) for the six years 1861–66, *inter se*, and with those of the previous eight years, we find that the monthly and annual fluctuations were much greater in and after 1861 than before it. From 1861 to 1866, the yearly fall at Port Louis fluctuated between 68·733 and 20·571 inches, whereas during the previous eight years it only fluctuated between 46·665 and 35·341 inches; the fall in 1862 was less than half the fall in 1861, and the fall in 1866 less than half the fall in 1865. Again, in no former year of the period of fourteen years did such floods occur as in 1861 and 1865, or such severe droughts as in 1865 and 1866.

The fluctuation of the annual rainfall in other parts of the island during the five years 1862–66 will be seen in Table IX., an examination of which will show that the rainiest stations are subject to much less variation than the least rainy. Thus, at Cluny, the

greatest and least annual falls were 192·45 and 122·48 inches, whereas at Gros Cailloux they were 36·57 and 20·72 inches, and at Port Louis 44·737 and 20·571 inches. Hence the conditions which make certain stations much more rainy than others, render the amount of annual fluctuation less.

We do not know from direct observation whether the rainfall over the island generally was less from 1862 to 1866 than during any previous five years; but the relation which is found to subsist between the rainfall at any one station and at all the stations, enables us to state that the diminution observed at Port Louis was not local but general. The Tables show clearly that *if the rainfall increases or diminishes at any one station, as Port Louis, it increases or diminishes at all the stations without exception.* Hence, as the rainfall at Port Louis was less during the five years 1862–66 than during any former five years since 1853, we infer that there was a similar decrease over the whole island.

We know, also, that in the course of that period there were excessive floods and droughts at all the stations, and that the sugarcane, and, consequently, the general interests of the Colony, suffered greatly. And, as if it was not enough that vegetation alone should be blighted, the driest year of all (1866) has been followed by an epidemic which has already swept away fully one-tenth part of the population.

Destruction of the Forests.—The period of observation is too short to enable us to arrive at a satisfactory conclusion as to whether the decrease of rain in Mauritius, since 1861, is temporary or permanent. But, as during the last fifteen years, and, so far as can be ascertained, ever since the island was discovered, there has been no period of equal duration in which so little rain fell, and in which floods, droughts, and sickness have been so prevalent, it may be interesting to inquire whether any local changes of a physical character have taken place which might in any degree account for so unusual, or, it may be, unprecedented occurrences.

Now the only known change, which would be at all likely to produce, or tend to produce, any such effects, is the change which has been brought about in the condition of a large portion of the surface of the island by a rapid extension of population and agriculture, and a corresponding destruction of the primeval forests.

There is a considerable variety of indigenous trees, several of which attain heights of from 30 to 40 feet or more, and which at

one time afforded excellent timber. With these trees and a variety of shrubs and creeping plants the island was at one time densely covered, except on the bare summits and steep rocky flanks of the mountains, and here and there where patches of savanna and some barren plains existed.

How many acres of these forests have been cut down, and how many still remain, are questions which cannot be fully answered, because no measurements have been made. We can only arrive at approximate estimates by considering the progress of population and agriculture.

In 1764 the population of the island was 18,732, from which it rose to 59,000 in 1797, 158,462 in 1846, 183,406 in 1851, and 313,462 in 1861. When the epidemic broke out, early in 1867, the population was about 340,000, or 485 to the square mile, which is a high rate.

The progress made by agriculture during the last twenty years has been very great. Thus the quantity of sugar (the only export) made in 1845-46 was only 45,610 tons, whereas in 1853-54 it was 90,746 tons, and 141,215 tons in 1862-63. From 1851 to 1856 the crop steadily increased; it then fluctuated, but, on the whole, increased up to 141,215 tons in 1862-63, which was the largest crop ever made. Since that time it has been decreasing.

This rapid increase of population and produce, since 1851, is due to immigration from India and to the importation of guano. By introducing Coolies to any required extent, and by using guano in the damp soils in the interior of the island, it was thought that fortunes might be realized, and the wealth of the Colony greatly increased; and so a vigorous attack was made upon the forests in all directions. Extensive tracts were brought under cultivation for the first time in Moka and Plaines Wilhelms on the tableland, and in the higher parts of Flacq, Grand Port, and Savanne, bordering on the tableland, which were the localities where the forests were most abundant. The yearly produce increased in all the districts, but more especially in those just mentioned. Thus the sugar-produce of Savanne rose from 5,615 tons in 1852 to 13,000 tons in 1862, that of Flacq from 15,000 to 37,875 tons, and that of Moka from 800 to 17,563 tons in the same period.

According to the Blue-Books for 1852 and 1864, there were 60,352 acres more in cultivation in the latter than in the former year in Flacq, Moka, Plaines Wilhelms, Grand Port, and Savanne,

and the greater portion of that area had, previously to 1852, been in forest.

But that was only a part of the clearings that took place. As the population and cane-cultivation extended, buildings of every description (including many new sugar-factories) and the consumption of fuel increased. The wood felled for agricultural purposes did not supply the demand. Proprietors of forests in high and remote parts of the island, where the climate was as yet too damp and rainy for the sugar-cane, also engaged in the work of destruction, partly because the wood fetched a high price, and partly because, seeing that the tablelands at lower levels were becoming productive, they believed that in course of time their land also would become fit for cultivation; for it was very well known and admitted that the climate became drier in proportion as the forests were cut down. In this way large tracts of forest have been either much thinned or entirely cleared in localities which have not been cultivated.

Upon the whole, I think that at least 70,000 acres, or about one-sixth of the entire area of the island, have been denuded of forest since 1852, and that, too, on the central and elevated parts, at or near the sources of the rivers, and in the neighbourhood of swamps and marshes, as at the *Mare aux Vakois*, close to which sugar-plantations have been lately commenced.

It is difficult to say what is the extent of forest still remaining; only very small portions are intact. Altogether, there may be 80,000 acres, of which a large part is in a state of decadence.

Effects of Denudation.—Now, without entering into a discussion of the subject, it seems to me that the destruction of the forests in a tropical island like Mauritius would be followed by a decrease of the humidity, an elevation of the temperature, and a diminution of the rainfall.

With regard to the first of these probable effects, it requires no instrumental observations to show that the climate in the interior of the island is much drier now than it was some years ago. The inhabitants of Moka and the upper parts of Plaines Wilhelms have had practical proof of the difference in the fact that before those districts were planted with canes, it was necessary to expose, at short intervals, clothes, books, furniture, &c., to sun and air, in order to protect them from mould.

The change, in this respect, in the littoral and drier parts, has of course been less; but it seems to be appreciable even at Port

Louis. Thus the mean relative humidity there for periods of five years, since 1853, has been as follows:—

Years.	Relative humidity.
1853-57	72·1
1858-62	73·1
1863-67	68·2

The very marked decrease since 1862 cannot well be accounted for, except on the supposition that, as the trade wind passes over the tableland before reaching the Observatory, the effects of the clearings upon the humidity of the air, away to windward, has extended to Port Louis.

Observations have not been made sufficiently long and regularly at any station in the interior to show whether or not the temperature has increased where forest once existed. At Port Louis the mean temperature in the shade for groups of five years, since 1853, has been as follows:—

Years.	Temperature.
1853-57	76·6
1858-62	77·0
1863-67	77·2

These figures appear to indicate a slight upward tendency.

I have already shown that the rainfall, since 1861, has decreased.

The vapour-pressure also has decreased. Thus:—

Years.	Vapour-pressure.
1853-57	·657
1858-62	·665
1863-67	·638

I would submit, then, that the decrease of rainfall, humidity, and vapour-pressure, and the occurrence of floods and droughts, since 1861, may in some measure be due to the cutting-down of the forests, which commenced on an extensive scale about 1852, was vigorously carried on till 1862, and is being still prosecuted, though to a smaller extent.

The rainfall returns for 1867 have not yet been received; but I am informed that at Port Louis, for that year, the fall was 35·97 inches, which is much greater than the fall in 1866, but still considerably below the mean for the last fifteen years. It would

appear also that in the course of the present year there have been copious rains, and on one or two occasions heavy floods, which may yet be followed by corresponding droughts, as in 1865.

With a view to elucidate still further this interesting and important subject, I hope to have observations taken at localities which, as far as possible, shall only differ from each other with respect to forest. As yet we only know generally that the stations nearest the remaining forests are the rainiest, without being able to determine how much of the rainfall is due to forest, and how much to elevation and aspect.

Outbreak of Fever in 1867.—There are some considerations which seem to indicate that the terrible fever which has lately been devastating the island may be a consequence of the climatic changes brought about either by the felling of the forests, or by some less probable cause.

The fever, which is entirely local and non-contagious, was never before known in the island as an epidemic. Now, as has been stated above, at no former period, so far as can be ascertained, were floods and droughts so prevalent, and the annual rainfall so small, as during the five years which preceded the outbreak of fever.

It is admitted by all that the fever is *malarious*. The conditions, therefore, which favour the production of malaria, must, one would suppose, have had greater play than formerly; and this seems to have been the case. The ponds, swamps, and marshes, on the lowlands near the coast, which are supplied with water not only by the rains which fall there, but by drainage and percolation from the more elevated grounds, where the rains are heaviest, necessarily become more or less dry in periods of general drought, whilst in periods of heavy rains they overflow. On the 12th of February, 1865, all the low-lying grounds were swamped, and the swollen streams brought down much vegetable débris, which partially filled the ponds and lagoons. As the flood was followed in the course of the year by droughts, these organic deposits were partly laid bare. Somewhat similar floods took place in December of the same year. The following year (1866) was perhaps the driest ever known in the island; and it was soon after the close of that year, when the ponds and streams had been exposed to a severe drought, and certain swamps and marshes been partially dried up, that the fever became so virulent as to attract general attention.

But although it did not assume the same magnitude, it would

appear that the fever broke out as an epidemic for the first time, after a less intense drought, early in 1866, if not in 1865, and that it did so in the very driest spot in the island, viz. Gros Cailloux, in close proximity to lagoons, and at a time when an attempt was being made to dry one of them up.

Not only did the epidemic make its appearance in the driest spot, but it has throughout been confined to the driest parts, and, till recently, to the littoral on the western side of the island, where the rainfall is much less than on the eastern side. There are marshes in other parts of the island, but they do not fall so low during droughts as those near Gros Cailloux and Port Louis on the west coast, the rainfall on the western slopes being always less than on the eastern.

There is little doubt that the overcrowded and greatly neglected state of Port Louis and many other localities contributed very much to swell the mortality; but the determining cause of the outbreak of the disease seems to have been the altered *hygrometric state of the island*.

If that is really the cause, and if the change in climate is due to denudation, it would seem that the principal calamities which have recently befallen the people of Mauritius are self-inflicted, and that the proper remedy is to restore, as far as practicable, certain portions of the forests of which this once salubrious and beautiful island has been deprived. With a view to the accomplishment of that desirable object, to which attention had in vain been long ago directed by Mr. Bouton and other colonists, His Excellency the Governor, Sir Henry Barkly, has appointed a Commission to report upon the whole matter.

The copious rainfalls during the summer months of the present year may raise a doubt as to the expediency of an inquiry. But it should be borne in mind that the summer rains are always excessive when, as from December to May last, revolving storms are of frequent occurrence. Summers in which few hurricanes occur in the Indian Ocean, and the dry months of September to November, are the periods when the effects of denudation are likely to show themselves most prominently. Besides, the main question is not merely whether the annual rainfall is less than formerly, but also whether a change has taken place in its distribution, and whether the humidity has decreased.

TABLE I. Rainfall at Port Louis from January 1858 to December 1858 inclusive, on the ground, and about 8 feet above the sea-level.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual Fall.
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
1853.	4'425	5'804	4'536	5'959	6'755	8'140	0'795	0'985	0'685	0'480	0'685	0'580	39'829
1854.	4'120	10'955	3'705	12'130	1'320	0'950	0'715	0'320	0'150	0'555	0'480	4'020	39'420
1855.	6'685	17'400	8'195	2'095	0'550	2'410	0'790	1'090	0'600	0'475	1'265	1'110	42'665
1856.	0'720	10'475	10'490	3'455	2'280	0'330	0'955	0'695	0'110	1'960	5'210	9'540	46'220
1857.	13'530	7'605	6'355	2'420	0'190	0'860	0'705	0'400	0'910	0'635	4'360	5'475	43'445
1858.	13'360	3'735	3'495	3'070	1'266	1'130	1'140	0'705	0'610	0'790	1'840	4'200	35'341
Means...	7'140	9'329	6'129	4'855	2'061	2'303	0'850	0'699	0'511	0'816	2'307	4'154	41'153

The mean monthly fall is 3'429 inches.

TABLE II. Rainfall at Port Louis from January 1859 to December 1866 inclusive, at 40 feet above the ground, and about 47 feet above the sea-level.

1859.	2'258	8'244	7'885	5'894	6'496	0'965	0'583	3'247	0'225	1'304	0'000	7'235	44'336
1860.	14'652	13'552	7'575	1'252	1'325	0'450	0'850	2'172	0'382	0'527	0'162	2'267	45'166
1861.	5'368	46'570	2'475	3'224	3'727	0'868	0'450	1'840	0'000	0'025	2'151	2'035	68'733
1862.	4'019	4'695	5'970	1'845	6'760	0'580	0'600	1'090	0'314	0'589	0'806	1'129	28'397
1863.	9'484	10'955	3'431	1'491	0'712	1'707	0'726	0'292	0'725	1'175	0'355	2'167	31'420
1864.	2'318	5'753	2'995	1'921	0'510	0'310	1'472	3'935	0'368	0'835	1'900	1'830	24'147
1865.	3'270	15'543	3'170	0'770	0'220	0'770	2'354	3'280	0'600	0'818	1'842	12'093	44'730
1866.	5'413	2'535	3'815	4'785	1'164	0'374	0'355	0'730	0'366	0'244	0'000	0'790	20'571
Means...	5'848	13'481	4'664	2'648	2'614	0'753	0'924	2'073	0'373	0'690	0'902	3'718	38'688

The mean monthly fall is 3'224 inches.

TABLE III. Rainfall at Ten Stations in Mauritius during the Year 1862.

Months.	Flat Island.			Pamplémousses.			Rivière du Rempart.	Port Louis.	Black River.	Plaines Wilhelms.		Grand Port.	Monthly Means.
	ins.	Mr. Maïndoe. 30 feet.	Mr. Poulin. 50 feet.	Les Rochers. 180 feet.	Mr. Barlow. 300 feet.	Labourdonnais. 200 feet.	Observatory. 47 feet.	Gros Cailloux. 130 feet.	Bean Sejour. 930 feet.	The Bras. 1250 feet.	Cluny. 960 feet.	Mr. Mapherson.	
January	8.20	7.952	10.580	11.15	11.64	4.019	6.39	12.95	8.80	16.09	9.777	ins.	9.777
February ...	4.16	13.031	5.919	9.16	7.56	4.695	6.22	10.67	14.27	19.08	9.476	ins.	9.476
March	3.53	3.740	5.170	6.99	5.05	5.970	2.53	7.74	9.61	19.54	6.987	ins.	6.987
April	0.74	0.669	0.588	1.79	1.12	1.845	1.79	7.43	9.85	11.43	3.728	ins.	3.728
May	3.67	10.156	9.673	11.86	13.93	6.760	4.09	6.69	4.06	14.03	8.492	ins.	8.492
June	0.68	0.393	0.270	1.16	0.34	0.580	0.36	1.04	0.51	1.92	0.725	ins.	0.725
July	2.31	1.494	3.220	5.48	3.43	0.600	0.77	4.28	2.08	8.41	3.207	ins.	3.207
August	1.31	0.866	1.410	2.37	1.92	1.090	0.96	3.33	2.30	7.24	2.279	ins.	2.279
September ...	0.19	0.236	0.770	0.67	1.07	0.314	0.05	2.23	0.78	2.83	0.914	ins.	0.914
October	0.69	1.571	1.960	2.03	1.66	0.589	0.32	1.58	1.02	3.55	1.497	ins.	1.497
November ...	0.40	0.391	0.930	5.18	1.59	0.806	0.71	4.12	0.68	9.32	2.413	ins.	2.413
December ...	2.14	1.061	1.350	2.87	2.92	1.129	1.16	7.01	5.55	9.10	3.429	ins.	3.429
Fall for Year ...	28.02	41.560	41.840	60.71	52.23	28.397	25.35	69.07	59.51	122.54	52.922	ins.	52.922

The mean monthly fall at the ten stations is 4.410 inches.

TABLE IV. Rainfall at Eleven Stations in

Months.	Flat Island. Mr. Macindoe. 30 feet.	Pamplemousses.				Rivière du Rempart.
		Mont Choisy. Mr. Poulin. 50 feet.	Les Rochers. Mr. Souchon. 180 feet.	Lucia. Mr. Barlow. 500 feet.	Botanical Gardens. Mr. Horne. 250 feet.	Labourdonnais. Mr. Béline. 200 feet.
January	ins. 9·07	ins. 13·792	ins. 15·879	ins. 14·060	ins.	ins. 20·31
February ...	9·22	17·825	14·008	12·870	15·541	12·93
March	4·07	6·443	10·549	10·305	14·350	6·93
April	4·39	2·714	5·766	5·515	6·806	5·78
May	1·59	2·480	2·758	3·085	4·048	4·05
June	3·70	4·653	5·072	6·285	7·430	6·86
July	1·09	2·103	1·723	3·500	3·299	2·73
August	0·62	1·685	1·776	4·055	3·734	1·56
September ...	0·54	1·316	1·632	2·675	2·357	1·94
October	0·70	0·706	1·287	1·650	0·824	1·11
November ...	0·07	0·059	0·304	0·650	0·393	1·45
December ...	1·48	0·884	3·521	3·220	2·594	5·07
Fall for } Year ... }	36·54	54·660	64·275	67·870	.....	70·72

TABLE V. Rainfall at Thirteen Stations in

Months.	Flat Island. Mr. Macindoe. 30 feet.	Flacq.	Pamplemousses.				Rivière du Rempart.	Port Louis.
		La Gaieté. Dr. Icey. 180 feet.	Mont Choisy. Mr. Poulin. 50 feet.	Les Rochers. Mr. Souchon. 180 feet.	Lucia. Mr. Barlow. 500 feet.	Botanical Gardens. Mr. Horne. 250 feet.	Labourdonnais. Mr. Béline. 200 feet.	Observatory. Mr. Meidrum. 47 feet.
January	ins. 3·46	ins.	ins. 3·182	ins. 3·630	ins. 3·150	ins. 3·300	ins. 4·25	ins. 2·318
February ...	8·00	.....	8·577	9·990	9·045	9·441	11·93	5·753
March	1·17	.....	2·690	5·811	3·265	4·678	3·27	2·995
April	5·29	.....	4·802	3·812	5·675	3·657	4·88	1·921
May	0·73	.....	3·773	1·341	2·305	3·893	2·55	0·510
June	1·64	.....	1·653	1·462	3·725	4·327	3·09	0·310
July	1·76	.....	3·084	2·622	5·980	4·561	5·88	1·472
August	2·62	.....	10·392	5·537	7·040	3·740	7·88	3·935
September ...	.....	.....	3·365	2·187	2·195	2·165	2·19	0·368
October .....	.....	4·567	0·979	1·006	3·905	0·905	3·90	0·835
November ...	.....	5·945	2·401	2·111	4·360	4·825	3·46	1·900
December ...	.....	7·874	3·996	3·143	7·295	6·063	3·97	1·830
Fall for } Year ... }	.....	.....	48·894	42·652	57·940	51·555	57·25	24·147

Mauritius during the Year 1863.

Port Louis.	Black River.	Moka.	Plaines Wilhelms.			Grand Port.	Monthly Means.
Observatory. Mr. Meldrum. 47 feet.	Gros Cailloux. Mr. Commins. 130 feet.	Ron Air. Hon. Mr. W. Telfair. 850 feet.	Beau Séjour. Hon. Mr. Stein. 930 feet.	Trianon. Mr. Barclay. 900 feet.	The Braes. Mr. Grant. 1250 feet.	Cluny. Mr. Macpherson. 960 feet.	
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
9.484	8.03	.....	20.14	15.73	16.46	25.42	15.307
10.955	10.60	15.29	23.89	22.32	20.26	24.33	16.292
3.431	2.81	5.49	7.91	10.03	9.83	25.94	8.931
1.491	2.58	3.77	5.76	3.83	5.72	13.50	5.186
0.712	0.37	4.62	2.91	2.47	2.24	5.18	2.531
1.707	1.36	6.85	8.91	7.09	6.26	13.09	5.908
0.726	0.80	4.08	4.61	3.29	3.45	8.96	2.999
0.292	0.40	2.89	3.32	2.80	2.78	12.33	2.874
0.725	1.98	5.75	4.06	4.77	5.43	4.83	2.717
1.175	0.84	2.73	3.68	2.02	1.73	4.37	1.752
0.355	0.15	0.38	1.72	0.55	0.73	1.09	0.648
2.367	3.43	8.51	12.85	5.76	6.20	8.05	4.803
33.420	33.35	.....	99.76	80.66	81.09	147.09	69.948

Mauritius during the Year 1864.

Black River.	Moka.			Plaines Wilhelms.			Grand Port.	Sa- vanne.	Monthly Means.	
Gros Cailloux. Mr. Commins. 130 feet.	Esprance. Mr. R. Telfair. 1350 feet.	Ron Air. Hon. Mr. W. Telfair. 850 feet.	Croft-an-Righ. Mr. Young. 850 feet.	Beau Séjour. Hon. Mr. Stein. 930 feet.	Trianon. Mr. Barclay. 900 feet.	The Braes. Mr. Grant. 1250 feet.	Cluny. Mr. Macpherson. 960 feet.	Gros Bois. Mr. Vallet. 560 feet.		St. Aubin. Hon. Mr. Pitot. 120 feet.
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
1.61	.....	4.49	4.97	3.84	5.04	5.23	11.18	5.05	.....	4.365
5.13	.....	9.13	9.23	10.42	7.33	8.48	21.94	14.36	.....	10.125
6.04	.....	5.44	6.15	8.14	8.90	12.99	7.04	4.64	.....	5.893
1.83	.....	5.15	5.63	5.46	5.25	7.08	13.86	10.56	.....	5.724
0.61	.....	1.52	1.29	1.28	0.42	1.60	3.28	4.70	.....	2.119
0.34	.....	3.00	2.54	3.18	2.94	2.52	7.62	5.05	.....	2.981
1.66	.....	3.56	3.42	4.82	4.74	3.77	8.97	6.24	.....	4.401
4.21	12.76	7.33	7.31	6.65	4.62	7.44	15.07	12.04	.....	7.374
0.20	3.27	1.76	2.63	1.75	1.33	3.94	4.63	3.01	.....	2.305
0.37	4.02	.....	1.14	1.30	1.34	2.59	5.47	3.40	3.690	2.088
1.42	7.05	.....	9.62	4.05	2.97	10.13	8.10	5.23	6.135	4.660
0.75	12.09	.....	2.68	3.71	3.70	4.82	15.32	9.08	6.910	5.104
24.17	.....	.....	56.61	54.60	48.58	70.59	122.48	83.36	.....	57.140

TABLE VI. Rainfall at Seventeen Stations in

Months.	Flacq.	Pamplemousses.				Rivière du Rempart.	Port Louis.	Black River.	Moka.	
	La Galeté, Dr. Jeery, 180 feet.	Mont Choisy, Mr. Poulin, 50 feet.	Les Rochers, Mr. Souchon, 180 feet.	Lucia, Mr. Barlow, 500 feet.	Botanical Gardens, Mr. Horne, 250 feet.	Labourdonnais, Mr. Béline, 200 feet.	Observatory, Mr. Meldrum, 47 feet.	Gros Cailloux, Mr. Commins, 130 feet.	Espérance, Mr. R. Telfair, 1350 feet.	Croft-an-Righ, Mr. Young, 850 feet.
January	ins. 6'293	ins. 1'907	ins. 1'763	ins. 5'290	ins. 4'837	ins. 4'95	ins. 3'270	ins. 1'74	ins. 10'74	ins. 5'56
February ...	34'761	17'516	18'807	25'575	19'018	25'89	15'543	13'42	32'31	30'49
March	11'145	7'833	6'792	7'285	7'533	9'83	3'170	2'98	18'77	7'68
April	0'277	1'280	0'732	4'625	2'950	1'65	0'770	0'53	7'42	1'38
May	0'076	3'068	1'523	4'110	2'357	3'85	0'220	2'33	5'09	1'63
June	3'770	1'529	1'104	2'230	1'966	2'37	0'777	0'43	6'69	1'74
July	1'275	2'260	2'664	2'920	3'497	3'78	2'354	0'42	5'57	1'79
August	9'088	6'237	5'212	14'635	8'525	8'89	3'280	3'71	16'26	6'29
September ...	1'456	1'338	1'985	2'070	2'329	2'06	0'600	0'15	4'19	2'00
October	2'480	2'793	2'372	2'780	3'260	2'49	0'818	1'21	6'24	3'34
November ...	4'526	1'002	1'944	5'615	3'500	3'50	1'842	1'24	5'23	2'38
December ...	22'399	20'769	16'051	24'430	25'599	18'37	12'093	8'41	29'23	15'16
Fall for } Year ... }	97'546	67'532	60'949	101'565	85'371	87'63	44'737	36'57	147'74	79'44

TABLE VII. Rainfall at Seventeen Stations in

Months.	Flacq.	Pamplemousses.				Rivière du Rempart.	Port Louis.	Black River.	Moka.	
	La Galeté, Dr. Jeery, 180 feet.	Mont Choisy, Mr. Poulin, 50 feet.	Les Rochers, Mr. Souchon, 180 feet.	Lucia, Mr. Barlow, 500 feet.	Botanical Gardens, Mr. Horne, 250 feet.	Labourdonnais, Mr. Béline, 200 feet.	Observatory, Mr. Meldrum, 47 feet.	Gros Cailloux, Mr. Commins, 130 feet.	Espérance, Mr. R. Telfair, 1350 feet.	Croft-an-Righ, Mr. Young, 850 feet.
January	ins. 5'506	ins. 17'358	ins. 12'736	ins. 9'770	ins. 9'079	ins. 15'33	ins. 5'413	ins. 2'88	ins. 15'10	ins. 8'12
February ...	4'880	4'189	4'491	4'750	6'844	3'24	2'535	2'45	9'26	5'98
March	9'562	8'500	6'494	11'790	7'037	11'27	3'815	7'12	9'76	4'38
April	7'555	4'740	6'698	7'490	7'555	6'61	4'785	2'55	12'36	4'97
May	6'742	1'849	3'230	3'725	1'651	3'28	1'164	2'54	7'06	2'40
June	2'876	1'003	0'762	0'825	.....	0'73	0'374	0'38	4'32	1'81
July	4'838	1'847	1'325	2'335	.....	2'38	0'355	0'19	3'96	2'64
August	3'576	2'242	1'602	3'135	.....	2'18	0'730	0'22	7'16	2'26
September ...	3'106	0'785	1'026	1'790	.....	1'31	0'366	0'62	4'92	1'52
October	2'564	0'766	0'665	1'935	.....	1'26	0'244	0'27	3'70	1'24
November ...	0'588	0'570	0'305	0'605	.....	0'47	0'000	0'17	2'29	0'61
December ...	5'979	1'200	1'497	3'690	3'482	2'23	0'790	1'33	8'13	4'75
Fall for } Year ... }	57'772	45'049	40'831	51'840	.....	50'29	20'571	20'72	88'02	40'68

Mauritius during the Year 1865.

Plaines Wilhelms.						Grand Port.			Sa- vanne.	Monthly Means.
St. Cloud. Hon. Mr. Arbuthnot. 700 feet.	Beau Séjour. Hon. Mr. Stein. 930 feet.	Trianon. Hon. Mr. Barclay. 900 feet.	The Braes. Mr. Grant. 1250 feet.	Westra. Mr. Traill. 1300 feet.	Mesnil. Mr. Channell. 1450 feet.	Cluny. Mr. Macpherson. 960 feet.	Gros Rois. Mr. Vallot. 560 feet.	Beau Vallon. Mr. Rochecouste. 260 feet.	St. Aubin. Hon. Mr. Pitot. 120 feet.	
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
.....	6.71	5.64	3.23	.....	.....	7.15	7.55	4.480	6.670	5.164
.....	29.40	27.79	27.90	.....	.....	29.84	17.86	15.355	18.270	23.514
.....	6.62	10.34	9.35	7.43	.....	17.94	28.57	14.96	6.725	10.002
.....	1.71	1.44	2.46	2.34	4.11	7.81	6.86	4.275	4.925	3.006
.....	3.26	2.78	1.71	3.59	4.15	9.55	7.64	5.205	7.070	3.616
.....	1.12	1.92	2.74	3.03	4.51	9.20	4.94	3.875	3.490	2.992
.....	0.95	1.68	2.09	3.14	2.89	4.58	7.95	4.29	2.055	3.100
.....	4.06	5.97	5.29	5.31	.....	8.30	22.16	15.84	11.870	15.895
.....	0.90	1.85	3.04	2.73	.....	4.77	7.28	5.06	3.690	3.135
.....	.....	2.65	2.91	1.95	.....	4.33	10.19	4.48	3.275	4.460
.....	.....	3.49	2.40	1.78	.....	2.63	9.15	7.85	8.385	4.805
.....	12.88	17.95	16.54	18.39	.....	17.55	43.60	37.88	34.145	23.098
.....	87.11	81.19	78.77	.....	.....	192.45	135.21	100.845	115.605	94.133

Mauritius during the Year 1866.

Moka.	Plaines Wilhelms.						Grand Port.			Sa- vanne.	Monthly Means.
Elizabeth Cottage. Mr. De Lissa. 950 feet.	Gentilly. Mr. Finnis. 850 feet.	Beau Séjour. Hon. Mr. Stein. 930 feet.	Trianon. Hon. Mr. Barclay. 900 feet.	The Braes. Mr. Grant. 1250 feet.	Westra. Mr. Wilson. 1300 feet.	Mesnil. Mr. Channell. 1450 feet.	Cluny. Mr. Macpherson. 960 feet.	Gros Rois. Mr. Vallot. 560 feet.	Beau Vallon. Mr. Rochecouste. 260 feet.	St. Aubin. Hon. Mr. Pitot. 120 feet.	
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
.....	.....	6.16	7.98	6.60	.....	9.93	16.41	5.85	3.38	10.810	9.373
.....	.....	6.39	4.35	6.75	.....	7.05	11.67	6.82	6.85	9.365	5.942
.....	4.22	9.67	6.24	7.09	2.60	7.22	11.76	7.70	5.63	5.990	7.882
8.175	4.88	4.49	4.12	5.46	4.32	7.83	17.59	11.24	9.77	10.160	7.554
2.680	2.59	2.28	2.68	3.06	3.83	4.96	9.15	3.76	3.63	7.105	4.036
3.508	3.09	2.70	3.08	2.57	4.81	5.55	8.51	4.09	3.36	3.455	2.729
2.500	2.96	2.46	2.29	3.45	3.75	4.52	16.18	5.51	4.19	5.725	3.776
2.657	3.11	2.62	3.24	3.56	4.20	5.67	10.86	4.95	2.24	3.300	3.503
1.802	2.09	1.53	1.87	2.17	2.59	3.32	6.17	4.21	2.04	3.790	2.385
1.395	1.46	1.55	1.67	1.75	1.10	3.03	6.52	3.80	1.95	2.580	2.088
0.745	0.78	0.56	0.84	1.54	1.08	2.03	4.11	2.81	0.34	1.555	1.023
6.475	5.53	4.14	4.88	4.69	4.83	6.56	10.49	9.50	7.67	6.675	5.541
.....	.....	44.55	43.24	48.69	.....	67.67	129.42	70.24	51.05	70.510	55.832

TABLE VIII. Mean Monthly and Mean Annual Five Years obser-

Stations.	January.	February.	March.	April.	May.	June.
Mont Choisy	ins. 8·838	ins. 12·227	ins. 5·841	ins. 2·841	ins. 4·263	ins. 1·846
Les Rochers	8·918	10·643	6·963	3·519	3·705	1·734
Lucia	8·684	12·280	7·927	5·019	5·017	2·845
Labourdonnais ...	11·296	12·310	7·270	4·008	5·532	2·678
Port Louis.....	4·901	7·896	3·876	2·162	1·873	0·750
Gros Cailloux ...	4·130	7·564	4·296	1·856	1·988	0·574
Beau Séjour	9·960	16·154	8·760	4·970	3·284	3·586
The Braes	8·064	15·532	9·390	6·114	2·534	2·920
Cluny.....	15·250	21·372	18·570	12·838	8·238	8·068
Means	8·893	12·886	8·099	4·814	4·048	2·778

TABLE IX. Annual Rainfall at Nine Stations in

Years.	Pamplemousses.			Rivière du Rempart.
	Mont Choisy. Mr. Paulin. 50 feet.	Les Rochers. Mr. Souchon. 180 feet.	Lucia. Mr. Barlow. 500 feet.	Labourdonnais. Mr. Béline. 200 feet.
1862.....	ins. 41·560	ins. 41·840	ins. 60·710	ins. 52·23
1863.....	54·660	64·275	67·870	70·72
1864.....	48·894	42·652	57·940	57·25
1865.....	67·532	60·949	101·565	87·63
1866.....	45·049	40·831	51·840	50·29
Means	51·540	50·109	67·985	63·624

Rainfall at Nine Stations in Mauritius derived from
vations (1862-66).

July.	August.	September.	October.	November.	December.	Annual Means.
ins. 2'157	ins. 4'284	ins. 1'414	ins. 1'363	ins. 0'885	ins. 5'582	ins. 51'541
2'311	3'107	1'520	1'458	1'119	5'112	50'109
4'043	6'247	1'880	2'460	3'282	8'301	67'985
3'640	4'486	1'714	2'084	2'094	6'512	63'624
1'102	1'866	0'474	0'732	0'980	3'642	30'254
0'768	1'900	0'600	0'602	0'738	3'016	28'032
3'570	4'378	2'284	2'152	2'788	9'132	71'018
3'178	4'278	3'010	1'808	2'972	7'930	67'730
10'094	13'532	5'148	6'020	6'354	17'312	142'796
3'429	4'898	2'005	2'075	2'357	7'393	63'675

Mauritius from 1862 to 1866 inclusive.

Port Louis.	Black River.	Plaines Wilhelms.	Grand Port.	Means.	
Observatory. Mr. Meldrum. 47 feet.	Gros Cailloux Mr. Commins. 130 feet.	Beau Réjour. Hon Mr. Stein. 930 feet.	The Bracs. Mr. Grant. 1250 feet.	Cluny. Mr. Macpherson. 960 feet.	
ins. 28'397	ins. 25'35	ins. 69'07	ins. 59'51	ins. 122'54	ins. 55'690
33'420	33'35	99'76	81'09	147'09	72'471
24'147	24'17	54'60	70'59	122'48	55'858
44'737	36'57	87'11	78'77	192'45	84'146
20'571	20'72	44'55	48'69	129'42	50'218
30'254	28'032	71'018	67'730	142'796	63'676