# OLD METEOROLOGICAL OBSERVATIONS AT TRONDHEIM

## ATMOSPHERIC PRESSURE AND TEMPERATURE DURING 185 YEARS

BY

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(Manuscript received January 22nd, 1948,)

### § 1. Meteorological observations at Trondheim 1762 — — 1945.

The most ancient observations have been issued in "Videnskabernes Selskabs Skrifter" (Publications of the Scientific Association), and comprise the years 1762—66 and 1768—71. The observations for the following years have been printed in the newspaper "Adresseavisen" 1780—1802 and 1818—57. During the years 1803—17 no observations were made at Trondheim. Apart from this principal series, we have an observation series from the estate Bakke 1836—41 and 1853—84 which does not, however, comprise atmospheric pressure. Not until 1870 did the Meteorological Institute set up a station at Trondheim, which with frequent lacunae continued till 1885. In 1886 the station was taken over by Head-master Håkonson-Hansen. After his death in 1931 his wife went on with the observations until she died in 1944. We have not succeeded in getting a new station in the town itself, and have therefore so far availed ourselves of the observations at Vold (Strinda), just outside the town and at greater height above sea level, as a continuation of the Trondheim series.

In addition we have two short series, 1858—62 and 1867 from "Stadsfysikus' årsberetninger" (Annual reports of the Chief Medical Officer), and the other: Daglige observasjoner 1866—72 fra Det Kommunale Sykehus. (Daily observations from the Municipal Hospital). Concerning the individual series, the following details may be given.

*I. Berlin's observations 1762—87.*

Johan Daniel Berlin, borne May 12th, 1711, immigrated to Trondheim from Memel, died November 4th, 1787. He was a very active man, and took a prominent part in the activities of the town. He had the title of "Oberbrandmester" or, as it would now be called, Commisioner of Public Works. In addition he was an organist in the Cathedral and a member of "Videnskabernes Selskab". No doubt he made his meteorological observations from 1762 till his death, but only the above mentioned series are known by now. We have only one of his manuscripts at the Institute (archive nr. 376), containing annual extremes (with time of occurrence) of pressure and temperature for all the years 1762—82, and in addition some details about the observations:

The barometer is divided in French inches, and each inch in 12 lines. It is placed in a room on a north wall, at a height of 41 Norwegian feet (12.9 m) above mean sea level. Hour of observation: 12 o'clock.

The thermometer is graduated in degrees Réaumur. It is placed in open air under a wooden balcony and is "completely free from sunshine". Observation hour: during the winter months October—March, in the forenoon, during the remaining months in the afternoon. Time not specified.

The barometer must have been a mercurial barometer, as the aneroid was not invented until 1844, and most likely it was a siphon barometer.

There is no indication of any correction for temperature having been applied; this correction was not common until the 19th century, and was thus not used by Hertzberg at Ullensvang until the year 1825[1]). The degree of accuracy of the readings is merely ¼ line = ¾ mb.

The thermometer was most likely filled with mercury, not with alcohol. The time of observation is unknown and must have varied over several hours. The correction of the thermometer must have been great, at least during the first 5 years, but is naturally difficult to determine. Degree of accuracy of the readings: ¼° R = ca. 0.3° C.

Observations of wind and weather were made at 12 o'clock "in the day" and between 23 and 24 o'clock "in the night". As term of recurrence is used the word "idem". The observations have all the time been printed for each month separately, accurately and with sufficient space to make the working up easy.

For the years 1772—79 only the annual extremes and their time of occurence are known, apart from a few observations, e. g. 1776 January, with observations printed from the 1st to the 17th of the month.

*II. Fester's observations 1788—1802.*

"Matematikus" Diderik Christian Fester starts his observations March 28th, 1788 and continues them on the same system as Berlin until the autumn 1802, when these older observations definitively come to an end. Not much is known of Fester personally. He has very likely been attached to some school or some public office, possibly as Berlin's assistant. He has written an article in Videnskabernes Selskabs Skrifter: "Betragtning over Luftens almindelige Temperatur" (Contemplation on the Average Air Temperatur) which does not, however, contain meteorological observations. The daily observations are no longer printed by the month, but one or more weeks together, unconnected with the month. Pressure, temperature and wind direction are specified; weather is not included until November 15th 1798. About this time Reaumohr is changed to Reaumur in the heading. (This is only a bagatelle, but characteristic of the man himself).

[1]) *B. J. Birkeland:* Ältere Meterologische Beobachtungen im Ullensvang, S. 7. (Geofysiske Publikasjoner IX No. 6.)

Berlin and Fester deserve much credit for their enduring activity of observation. The Trondheim series is one of the longest on earth, and the pressure series dates further back than any other worked up series. When Fester discontinues his observations in 1802, it is very likely because he no longer is able to carry on. May be he is ill, or he may even have died.

In the following years until 1818 there are no observations at Trondheim.

*III. War Commissioner Vibe's observations 1818—1834.*

The hour of observation is for all the year given as 8 hours. From September 1827 another observation at 22 hours is added. The observations comprise the same data as before: pressure, temperature, wind direction and weather; wind force is only stated when there is a storm. Each month is printed as a whole.

*IV. Pharmacist Möllerup's observations 1835—51.*

The last months of 1834 have no observations. In January 1835, however, Möllerup starts observing, and he at once changes to 3 observations a day: at 8, 14 and 22 hours. On the barometer is the inch now graduated in 10 lines. Wind and weather are stated for all 3 observation hours; of wind forces are now in addition to storm also reported gale and calm.

From 1839 the barometer is again graduated in 12 lines. Otherwise the observations are continued without any change until January 1852.

*V. Pharmacist Balslöw's observations 1852——57.*

The annual series 1853 has been printed in the newspaper "Den Frimodige" until August, and the means of the standard hours of observation also in "Trondhjems Stiftstidende", where the annual series for 1854 was also printed. The annual series 1855 it has not been possible to find. *Rosenvinge*, who will later be mentioned, has given some particulars about these observations in his "Contoir-Calender"[1]) for the years 1852 and 53. Further he has deposited a complete copy of the annual series 1853—54 in the Library of Videnskabernes Selskab (Man. nr. 183 and 184).

[1]) In Riksarkivet (Public records office).

It is not known who carried out the observations from 1856—57, but possibly it was Balslöw.

The place of observation has naturally varied with each new observer, but one may assume that it has been in the central part of the town near the market place, where both the height above mean sea level and the meteorological conditions have been about the same. So far there is nothing to prevent working the series together as one principal series, which can be made approximately homogeneous. Further we have various shorter and secondary series.

VI. *Professor Hansteen* set going hourly observations at the Garrison and simultaneously at Munkholmen during the period September 1828—Februar 1930. The diurnal variation has been computed by *Münster* and printed[1]). The observations are not particularly reliable, and for this reason they have not been made much use of.

*VII. Rosenvinge's observations 1836——84.*

Abraham Breedahl Rosenvinge, borne Trondheim 1810, was at first a tenant at Tomb (Råde, Östfold), where he made observations 1831—35; but when the widow of Q—m general Finne died in 1834, the estate Bakke was divided between her two daughters. Of these one was married to Captain Jørgen Coldevin Rosenvinge, the father of Abraham Rosenvinge, who took possesion of the east part of the estate Bakke, where he set up a new dwelling house which he named Rosenborg. The estate was at that time situated outside the town, but so near that this has no particular meteorological significance.

The thermometer was placed on a stand outside a window facing north (Innherredsveien), and so far from the window that when reading the thermometer, the stand had to be pulled close by means of a wire through the window frame. (Information from a grandson of Rosenvinge, Chief Engineer A. Rode, Trondheim). The hours of observation were originally at 8, 14 and 21 hours until 1843; later at 8, 14 and 22 hours, as in "Adresseavisen". During the period from 1840 up to the early fifties, it seems as if Rosenvinge has been satisfied with copying the observations in the paper. In December 1854 he has observed himself too, but he does not begin in earnest until April 1855. For the first three months of 1855 we have no observations. Later he continues without any change till his death in 1884. The observations have been entered into the so called "Contoir-Calenders", one booklet for each year. Rosenvinge has himself computed the monthly and annual means.

The observations convey a very reliable impression. It is therefore difficult to understand that Rosenvinge was not affiliated The Meteorological Institute as its observer at Trondheim; and the more so, because it proved difficult to get a really efficient man as observer there. It is possible that Rosenvinge did not want to alter his system of observing according to the rules of the Institute. He must, however, have felt very bitter on this point, when he even took measures for the box containing his observations, which was deposited at Riksarkivet, not to be opened until 50 years later (i. e. 1935).

VIII. *Godager's observations 1870——86.*

Instrument maker Hans Godager was only able to observe on weekdays, which resulted in many and big gaps in the observations, which were carried out according to the rules of the Institute. They comprise pressure, temperature, humidity, wind, cloudines and weather, whereas precipitation was not measured. The station was situated a little north of the tower of Frue Kirke (Our Lady's Church). Most of the observations have not been worked up until recent years.

IX. *Håkonson—Hansen's observations 1885—1930, and later those of his wife, Charlotte H. H. 1931—44.*

Trondheim was at this time a station of first order, with recording instruments for pressure, temperature and later for humidity. All observations were worked up at the station itself. Håkonson—Hansen succeeded in having 3 papers printed.[1]) The observations of Håkonson—Hansen are amongst the best we have got.

[1]) Nyt Magasin for Naturvidenskab III p. 308, and: Norsk Meterologisk Aarbog for 1869 p. VII.

[1]) Ti og et halvt års meteorologiske iagttagelser i Trondheim (1896). Om veir og og vind i Trondheim i tidsrummet 1885—1915 (1920). Trondheimsvær (1927).

X. *Stadsfysikus's observations 1858—62, 1867.*

Temperature only. Hours of observation 8, 14 and 22 o'clock. Forthcoming only as monthly and annual means.

XI. *Det Kommunale Sykehus's observations 1866—72.*

Observers: Chief physician Kindt and Inspector Paul J. Matheson. Comprising pressure, temperature, wind and weather 3 times a day: at 8, 14 and 22 hours. They seem fairly good, although grave errors occasionally appear, e. g. in December 1870.

## § 2. The working up of the temperature observations at Trondheim.[1])

We will first treat the series I and II, the observations of Berlin and Fester 1762—1802. We know that the thermometer was graduated in degrees Reaumur, that it was placed on a north wall, sheltered from sun and precipitation; also that it was read in the morning during the 6 winter months and in the afternoon during the 6 summer months. In the first instance we have computed the monthly means in degrees Centigrade.

In order to find the correction to true monthly mean, we first tried by means of the known daily variation of the temperature[2]) the assumption of the observation hours being $10^h$ in the winter and $16^h$ in the summer; when this did not prove right, $8^h$ and $20^h$ were tried. Nor did this prove right, as the resulting yearly temperature variation became unreasonably large. This would also have been the case with any other hours of observation. The cause may have been the exposure of the thermometer and the hours of observation.

[1]) An *assembled working up* of the older observations 1762—1842 has been printed in „Videnskabernes Selskabs skrifter i det 19 Aarhundrede" Vol. IV, p. 29. It is „Comparative Bemerkninger om det nordenfjeldske Norges Temperatur" (Comparative remarks on the temperature of Northern Norway) by Judge *C. N. Schwach*, a most interesting work, much in advance of its time. Schwach's mean temperatures are not always correct. The sign is wrong for March 1764 and February 1823. In January 1829 there seems to be an error of 3° R, in 1833 one of 4° R, likewise in December 1819, etc.

[2]) *B. J. Birkeland:* Mittel and Extreme der Lufttemperatur (Geof. Publ. XIV nr. 1) p. 52.

The only way out of the difficulty was then to determine the correction to true mean empirically, by means of stations of comparison: Edinburgh, Stockholm and Copenhagen, and from 1799 also Ullensvang. The distances were great, and all the stations were situated south of Trondheim, none being available further north. We had hoped, however, to gain our point by using the mean of all 32 annual series.

For each of the stations of comparison we have earlier[1]) computed tables of the departure from the mean 1901—30. We have now put together the values of the 3 (4) stations year by year for all the years 1761—1818 and computed the means of the 3 (4) values. As the stations harmonize fairly well in spite of the great distances, the departures are approximately valid for great areas, they will have a real meteorological signification, and not only a formal mathematical one.

The method used in finding the *correction to true mean* for the observation series 1762—1802 at Trondheim, was based on the following considerations.

If we term the direct crude monthly means: $t$, the true monthly means are derived by applying a correction:

$$t + \text{corr.}$$

The true monthly mean, however, is also:

$$t \text{ normal} + \triangle,$$

where $\triangle$ is the departure from the normal.

By combining the two equal terms we get: Corr. $= -t + (t \text{ normal} + \triangle) = -t + \triangle + t$ normal.

From this formula the correction may be computed. As $t$ normal has been selected the 30-year mean 1901—30, $M^{01-30}$, which is known. As $\triangle$ has been chosen the mean of the departures from $M^{01-30}$ for Stockholm, Edinburgh and Copenhagen: $\triangle = {}^1/_3\ (ST+E+C)$ where St, E and C denote the departure from $M^{01-30}$ for the 3 stations respectively.

We have used $\triangle = {}^1/_3\ (St + E + C)$ for the periods 1891—1900 and 1930—39, 20 years, to determine the correctnes of the methode. The result was a mean error of $\pm 0.53°$ C. in the yearly means.

[1]) *Th. Hesselberg* und *B. J. Birkeland:* Säkulare Schwankungen des Klimas von Norwegen. Die Lufttemperatur. (Geofys. Publ. XIV No. 4, 1940.) p. 27.

The deduction has been made for each year separately instead of for the mean of all 32 years, to render possible forming an opinion of the accuracy. By means of the 32 annual values it may also be ascertained if the *thermometer correction* has undergone any change during the course of time; a new thermometer may have been provided once or twice.

In this correction is included a correction to true mean and an eventual thermometer correction. It is possible that an ineligible exposure of the thermometer may also influence this total correction. But in any case the correction — 1.4 is considered applicable to all temperatures during the years 1762—66.

The next series, 1768—71, gives in a similar way a correction of — 0.4, which is considered applicable to all values of this series.

The series 1780—92 may in my judgement be looked upon as fairly homogeneous. It gives a total correction of — 0.1. And the last series, 1793—1802, gives — 0.2.

For each of the individual series we now compute the mean corrections for each month and deduct from them the total (annual) corrections, resulting in the subsequent 4 sets of monthly means. Certainly they do not quite harmonize, but the differences are not sufficiently great to make us hesitate in computing the mean of all four of them, naturally taking into account their different length.

*Correction to true mean after the total correction has been applied.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762—66..... | + 0.88 | +2.47 | + 0.53 | — 0.01 | — 0.35 | — 1.72 | — 2.58 | — 1.01 | — 1.36 | + 0.52 | + 0.93 | + 1.64 | 0.00 |
| 1768—71..... | + 1.47 | + 2.37 | + 1.99 | + 1.12 | — 3.42 | — 4.01 | — 3.20 | — 2.32 | — 1.40 | + 2.09 | + 2.51 | + 2.79 | 0.00 |
| 1780—92..... | + 1.18 | + 1.35 | + 1.36 | + 1.30 | — 1.53 | — 2.16 | — 2.20 | — 1.76 | — 1.47 | + 1.13 | + 1.62 | + 1.22 | 0.00 |
| 1793—1802..... | + 1.61 | + 2.25 | + 1.32 | — 1.73 | — 1.89 | — 1.59 | — 2.07 | — 1.60 | — 1.26 | + 1.13 | + 1.38 | + 2.47 | 0.00 |

The cause of the large annual variation is the normal daily and yearly variation of the temperature, combined with the peculiar hours of observation, (these are evidently approximately the same in all 4 periods), and the exposure of the thermometer.

*Mean of the 4 series.*

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762— —1802 = 32 y. | + 1.30 | + 1.93 | + 1.30 | + 0.13 | — 1.69 | — 2.14 | — 2.34 | — 1.66 | — 1.38 | + 1.15 | + 1.55 | + 1.87 | 0.00 |

As these figures do not go as regularly as wished for, they have been treated by harmonic analysis, and by this the following values emerge:

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $M^{32}$ ..... | + 1.38 | + 1.70 | + 1.47 | — 0.01 | — 1.58 | — 2.14 | — 2.12 | — 1.92 | — 0.95 | + 0.74 | + 1.80 | + 1.63 | 0.00 |

The last figures, added in the total correction, may then be used as a correction to true mean for each of the individual series.

*The following correction series are then obtained.*

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762—66..... | 0.0 | + 0.3 | 0.0 | — 1.4 | — 3.0 | — 3.6 | — 3.5 | — 3.3 | — 2.4 | — 0.7 | + 0.4 | + 0.2 | — 1.4 |
| 1768—71..... | + 1.0 | + 1.3 | + 1.1 | — 0.4 | — 2.0 | — 2.5 | — 2.5 | — 2.3 | — 1.4 | + 0.3 | + 1.4 | + 1.2 | — 0.4 |
| 1780—92..... | + 1.3 | + 1.6 | + 1.4 | — 0.1 | — 1.6 | — 2.2 | — 2.2 | — 2.0 | — 1.0 | + 0.7 | + 1.7 | + 1.6 | — 0.1 |
| 1793—1802..... | + 1.2 | + 1.5 | + 1.3 | — 0.2 | — 1.8 | — 2.4 | — 2.3 | — 2.1 | — 1.2 | + 0.5 | + 1.6 | + 1.4 | — 0.2 |

We have then applied these corrections to the rough means and thus we get the first part of table I (1762— —1802). The missing annual series we have interpolated using $t = t$ normal $+ \triangle$, not only for the year, but for each month, so for 1761, 1767, 1772—79 and whereever anything is missing.

(At first we had thought of altering the value for April 1780, which seems about 4° too low, and that for December 1780, which is about 5° too high. It seems, however, best to let things stand as they are, at least temporarely. Otherwise there is no reason for altering anything.)

If asked how accurate these corrected monthly

means are, the answer is that we do not think that a better result could be obtained by using any other method for the computation. The method used here is at least free from casualness, and may be called objective. Even so the figures should not be trusted too much, such as they are presented. The whole degrees are fairly acceptable, but the decimal fraction is uncertain. This applies even more to the interpolations.

The accuracy of *the interpolations* by means of $\triangle = {}^1/_3$ (St + E + C), computed from the annual series 1891—1900 and 1930—39, total 20 years, is $\pm$ *1.13° C* for an individual monthly mean. This figure is too large to give satisfaction, but no better can be provided. We might of course have dropped these interpolations, but nothing is gained by doing so. They are therefore left standing as they are, but we call attention to the decimal being entirely delusive.

With such uncertain and indefinite material it is simply impossible to achieve good results. When so much time has been devoted on them, it is for one thing because we know that there are people who will appreciate them and use them in the right way. So far one has only had Schwach's working up to go upon, and this is hampered with many, and often grave errors.

For the subsequent series the hour of observations is known, and the correction to true mean stated. As there are many and good stations of comparison, the total correction, which is mostly very small, may be determined with comparative certainty. The values of this correction are:

| | | | |
|---|---|---|---|
| Series | III | 1818—34..... | — 0.3 (The same cor- |
| » | IV | 1835—51..... | — 0.3 rection has been |
| » | V | 1852— —57 . | — 0.2 applied to all |
| » | VII | 1836— —84 . | — 0.2 monthly and an- |
| » | VIII | 1870— —86 . | — 0.5 nual means.) |
| » | X | 1858—62, 1867 | — 0.7 |
| » | XI | 1866—72..... | — 0.3 |

The simultaneous series have been worked together, and the result included in the principal table I.

5-year temperature means.

From the values in table I we have computed the 5-year means for 1761—65, 1766—70 and so forth. These are presented in table II. Further are given the 25-year means 1766—90, 1791—1805 etc., the 100-year means 1816—1905 and 1821—1920, in accordance with the 4 stations which have previously been published. In addition are given the 50-year means 1841—90, the 60-year means 1861—1920, and the 30-year means, (normals) 1901—30.

## § 3. The observations of atmospheric pressure.

The barometer employed is most likely a simphon barometer. There is no indication of the barometer readings having been corrected to 0° C or reduced to mean sea level. It may be presumed, however, that the barometer has been placed in a room which was heated in winter. The variability of the temperature correction will then, at least when the monthly means are concerned, not bee too large for the correction to be determined with sufficient accuracy. The readings are given in French inches and lines, and also in quarters of a line. By the reduction to mb. we have availed ourselves of 1 line = 3.0075 mb. The reduced value is given to one place of decimals, even though the accuracy of the readings is only ¼ line = ¾ mb.

To determine the total correction (to 0° C and mean sea level, also to true pressure), we are under the necessity of employing the same method as used for air temperature (corr. = — $p$ + $p$ normal + $\triangle$). For the oldest series we have, however, only one *available* station of comparison, namely Edinburgh, which commences in 1769. It is thus impossible to have the very oldest series (1762—68) compared.

It appears that the corrections obtained for the 12 months do not show any distinct yearly variation (the influence of the temperature on the barometer readings must therefore, as presumed, have been about the same all the year), and accordingly we have been content with computing the total correction. This is most easily derived from the annual means, and is applied to all values in the homogeneous series in question. The total correction changes several times during the course of the years, owing to movings or other alterations of the barometer.

From 1769 we use Edinburgh for determining the correction and for interpolations. From 1798 Ullensvang[1]) may also be used. Fom 1816 we

[1]) Loc. cit.

use Oslo[1]) and Bergen[2]), whereas Edinburgh is now omitted. From 1861 Kristiansund N.[3]) and Brönnöysund[3]) are used, and occasionally also Röros[3]) and Steinkjær[3]).

The corrections found by the reduction are the following:

| | | | | |
|---|---|---|---|---|
| Series | I | 1762—71 | + | 5.8 mb. |
| » | I, II | 1780—89 | + | 3.4 » |
| » | II | 1790—1802 | + | 4.8 » |
| » | III | 1818—1820 | + | 11.1 » |
| » | III | 1821—34 | + | 6.2 » |
| » | IV | 1835—42 | | 0.0 » |
| » | IV | 1843—48 | + | 0.2 » |
| » | IV, V | 1849—54 | — | 2.3 » |
| » | V | 1856—57 | — | 4.5 » |
| | (1855 is missing) | | | |
| » | VIII | 1870— —86 | | 0.0 » |
| » | IX | 1887—1944 | | 0.0 » |
| » | XI | 1866—70 | + | 5.0 » |
| » | XI | 1871—72 | + | 3.5 » |

Series VI, VII and X have no observations of atmospheric pressure.

After having applied these corrections to the respective series, the true monthly and annual means have been grouped together in table IV, which accordingly gives the true pressure in mb. at sea level (p. 27).

As to the annual series before 1802 we have tried to determine what accuracy may be reckoned with when reducing the pressure at Trondheim by means of Edinburgh alone.

For comparison we have worked out this reduction for the years 1891—1900 and 1931—40 just as we did in the case of air temperature. Concerning the interpolation of the missing annual series, it appears that the probable error is considerable. From the mentioned annual series we find that the average departure of an interpolated monthly mean from the corresponding observed monthly mean is not less than $\pm$ *3.81 mb.* It has a distinct yearly variation, and is greatest in February with $\pm$ 6.44, smallest in June with $\pm$ 1.91. For an annual mean it is $\pm$ 1.14 mb.

These figures are so large that one might think of omitting all these interpolated years. When they after all have been left standing, it is chiefly because it might be preferable to have some values for these years, even though there may be errors of 4 mb. We trust, however, that people who need to make use of these figures, will remember their inaccuracy.

The error further spreads to the 5-year means and so forth. In the 5-year means this error may be calculated to $\pm$ 1.70 for the month.

This referred to the years before 1802. From 1802—1818 observations are missing. Here we have interpolated by means of Edinburgh and Ullensvang till 1815.

It is of interest to determine the accuracy of this interpolation. For this we have availed ourselves of the same annual series as before, 1891—1900 and 1931—40. The mean departure of the interpolated monthly value from the corresponding observed monthly value, i. e. the mean numerical value of the difference, is $\pm$ 2.53 mb.. (consequently considerably smaller than the previous one $\pm$ 3.81, where we used Edinburgh alone). The maximum of the yearly period occurs in February with $\pm$ 4.49, the minimum in May, July and August with $\pm$ 1.31. The ratio of 2.53 to 3.81 is about 68 %. For an annual mean it is thus $\pm$ 0.77 mb.

The same must be said about these interpolations as about the previous ones; they are left standing despite of the great probable error. In the 5-year means this error is $\pm$ 1.13 for the month.

For checking we have from 1816 been able to use the Norwegian series Oslo and Bergen, from 1861 Kristiansund N and Brönnöysund, later also Röros and Steinkjær. The comparatively few interpolations and corrections may be effected with much greater accuracy than the ones dealt with so far. We have not found it necessary to determine the degree of accuracy. The series is presented in table IV in fully corrected state.

We have further computed the *5-year, 25-year and 100-year means* entirely as in the previously worked up series: Oslo, Bergen, Ullensvang and Vardö[1]), also the 30-year means 1866—95[2]).

[1], [2]) *B. J. Birkeland:* Ältere meteorologische Beobachtungen in[1]) Oslo (Geof. Publ. III No. 9, 1925). [2]) in Bergen (Geof. Publ. V. No. 8. 1928).

[3]) *Georg Schou:* Mittel und Extreme des Luftdruckes in Norwegen (Geof. Publ. Vol. XIV No. 2. 1939).

[1]) *B. J. Birkeland:* Ältere meteorologische Beobachtungen in Vardö (Geof. Publ. X. No. 9. 1934).

[2]) *H. Mohn:* Klimatabeller for Norge. II. Lufttryk, p. 78. (Videnskabsselskapets Skrifter I. Math.-naturv. Klasse. 1896. No. 1.)

Further the 50-year means 1875—1925, and the 30-year means, (normals), 1901—30. These means are presented in table V (p. 31).

## § 4. Monthly maxima and minima.

For each month we have selected the highest and the lowest value. The same correction has been applied to these values as to the monthly mean in question. For the oldest series with only one observation a day, the figures make daily means. This does not have much consequence for the atmospheric pressure. For the temperature, however, the diurnal variation is great, and the true extremes accordingly are considerably more extreme than the ones presented, especially of course, in summer. It has not been possible to apply any correction for diurnal variation to these values, as it is not known at what hours the individual observation has been made. Even the applied correction, which refers to the monthly mean, becomes highly questionable when used for one single observation. We see, however, no other way out. By the method used, we at least achieve that the difference between the monthly mean and the extreme values remains the same as in the observations. It is not possible to obtain more exact results. From July 1885 extreme thermometers have been used. For checking we have computed the means for the various periods, which are given in the below table.

*Mean monthly and annual temperature maxima.*

| Period | Years | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762— —1802 . | 32 | 4.8 | 4.9 | 5.3 | 9.9 | 16.2 | 19.5 | 20.8 | 19.5 | 14.8 | 11.2 | 7.4 | 5.2 | 21.5 |
| 1818—40..... | 23 | 4.6 | 4.5 | 5.3 | 10.2 | 17.2 | 22.4 | 23.7 | 20.7 | 16.9 | 12.1 | 7.0 | 5.3 | 25.1 |
| 1841—70..... | 30 | 4.6 | 5.2 | 7.6 | 12.0 | 18.9 | 22.6 | 25.2 | 23.4 | 18.2 | 13.3 | 8.3 | 6.3 | 26.4 |
| 1871—1900.... | 30 | 6.2 | 5.9 | 7.8 | 12.8 | 18.8 | 24.5 | 25.5 | 23.4 | 18.5 | 14.2 | 8.9 | 6.6 | 26.8 |
| 1901—30..... | 30 | 7.2 | 7.0 | 9.4 | 14.9 | 20.4 | 25.0 | 26.4 | 24.0 | 19.4 | 14.1 | 9.1 | 7.5 | 27.6 |
| 1931—46..... | 16 | 7.2 | 6.7 | 9.0 | 13.5 | 21.4 | 24.7 | 27.1 | 25.4 | 19.5 | 15.0 | 10.8 | 8.8 | 28.0 |
| Mean ..... | 161 | 5.7 | 5.7 | 7.3 | 12.1 | 18.6 | 23.0 | 24.6 | 22.5 | 17.7 | 13.2 | 8.5 | 6.5 | 25.7 |

*Mean monthly and annual temperature minima.*

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762— —1802 . | 32 | —15.8 | —12.6 | —11.2 | —4.3 | 1.6 | 6.0 | 9.5 | 8.3 | 5.3 | —2.6 | — 8.8 | —14.4 | —18.6 |
| 1818—40..... | 23 | —15.8 | —14.5 | —10.6 | —5.0 | 2.0 | 5.7 | 8.8 | 7.3 | 2.8 | —4.0 | —10.1 | —12.8 | —18.6 |
| 1841—70..... | 30 | —14.8 | —15.0 | —13.1 | —3.6 | 1.2 | 5.8 | 7.7 | 8.0 | 2.8 | —4.3 | — 9.6 | —12.5 | —18.5 |
| 1871—1900.... | 30 | —14.4 | —15.8 | —13.0 | —5.1 | —0.4 | 3.6 | 6.9 | 5.7 | 1.5 | —4.7 | —10.3 | —14.9 | —19.3 |
| 1901—30..... | 30 | —14.5 | —13.4 | —11.7 | —6.1 | —1.2 | 2.4 | 5.9 | 4.3 | 1.2 | —4.5 | — 9.8 | —13.9 | —17.4 |
| 1931—46..... | 16 | —14.7 | —12.6 | —11.9 | —6.9 | —1.2 | 2.7 | 6.8 | 5.4 | 1.4 | —3.6 | — 6.3 | —11.5 | —16.4 |
| Mean ..... | 161 | —15.0 | —14.0 | —12.0 | — 5.0 | 0.4 | 4.5 | 7.6 | 6.6 | 2.6 | —4.0 | — 9.4 | —13.5 | —18.3 |

*Difference between the extremes. $\delta$.*

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762— —1802 . | 32 | 20.6 | 17.5 | 16.5 | 14.2 | 14.5 | 13.5 | 11.3 | 11.2 | 9.5 | 13.9 | 16.2 | 19.6 | 40.1 |
| 1818—40..... | 23 | 20.4 | 19.1 | 15.9 | 15.2 | 15.2 | 16.7 | 14.9 | 13.4 | 14.1 | 16.1 | 17.2 | 18.1 | 43.7 |
| 1841—70..... | 30 | 18.4 | 20.2 | 20.7 | 15.6 | 17.7 | 16.8 | 17.5 | 15.4 | 15.4 | 17.6 | 17.8 | 18.8 | 44.9 |
| 1871—1900.... | 30 | 20.6 | 21.7 | 20.8 | 17.9 | 19.2 | 20.8 | 18.7 | 17.6 | 16.9 | 18.9 | 19.2 | 21.4 | 46.1 |
| 1901—30..... | 30 | 21.6 | 20.4 | 21.1 | 21.0 | 21.6 | 22.6 | 20.5 | 19.7 | 18.2 | 18.6 | 18.9 | 21.4 | 45.0 |
| 1931—46..... | 16 | 22.0 | 19.3 | 20.9 | 20.4 | 22.6 | 22.0 | 20.3 | 20.0 | 18.1 | 18.6 | 17.1 | 20.3 | 44.4 |
| Mean ..... | 161 | 20.7 | 19.7 | 19.3 | 17.2 | 18.2 | 18.5 | 17.0 | 15.9 | 15.1 | 17.2 | 17.9 | 20.0 | 44.0 |

Mean of monthly values: $18.05 = \delta_m$.

It is evident that the first period 1762— —1802, when only daily means are at hand, is very different from the others. The maximum values are too low and the minimum values too high, which results in the difference being much smaller than for the subsequent periods. The first period should

not have been included when computing the means of the whole observation series. The remaining periods harmonize better; that the temperature seems to be constantly rising, agrees well with the general change of climate, which is now fairly well known.

When computing the means of the years 1818—1946 (129 years) we get:

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Okt. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. | 5.9 | 5.9 | 7.8 | 12.7 | 19.3 | 23.8 | 25.5 | 23.3 | 18.5 | 13.7 | 8.8 | 6.8 | 26.7 |
| Min. | —14.8 | —14.4 | —12.2 | —5.2 | 0.1 | 4.1 | 7.2 | 6.2 | 2.0 | —4.3 | —9.5 | —13.3 | —18.2 |
| Diff. $\delta$ | 20.7 | 20.3 | 20.0 | 17.9 | 19.2 | 19.7 | 18.3 | 17.1 | 16.5 | 18.0 | 18.3 | 20.1 | 44.9 |

Mean of monthly values: 18.84 = $\delta_m$.

The values for Diff. ($\delta$) are considerably greater than the corresponding values for Bergen, Ullensvang and Vardø, but harmonize well with Oslo[1]) (the Observatory, window exposure), which has the following figures:

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diff. | 20.8 | 20.9 | 21.3 | 18.5 | 19.9 | 18.7 | 16.1 | 15.6 | 17.4 | 17.7 | 17.6 | 19.1 | 47.9 |

In the same way we have also computed the monthly extremes of the atmospheric pressure. To the found extremes the same correction or reduction has been applied as to the monthly mean. This refers to *all* annual series, even the latest from 1870—1945, with observations made in accordance with the rules of the Institute. When we have not made any formal reduction to mean sea level by means of the existent air temperature for these annual series, the reason is that we have not wanted to get any change in the differences between the extreme values and the monthly mean, and also that such a reduction of individual values is often uncertain. Otherwise the difference in the results is not great. To check the homogeneity we have computed means for several periods. The results are presented here:

*Mean monthly and annual maxima of pressure at sea level, 1000 +*

| Period | Years | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762——1802 | 32 | 29.1 | 30.6 | 29.3 | 30.1 | 28.7 | 26.7 | 23.1 | 23.9 | 25.5 | 28.0 | 28.3 | 30.2 | 40.3 |
| 1818—38 | 21 | 32.2 | 28.2 | 28.8 | 30.0 | 28.3 | 26.1 | 23.3 | 23.8 | 26.8 | 28.8 | 28.7 | 30.8 | 40.7 |
| 1839—68 | 30 | 29.2 | 29.9 | 30.5 | 31.4 | 30.3 | 25.7 | 23.5 | 24.1 | 28.2 | 29.2 | 30.8 | 32.2 | 39.6 |
| 1869—98 | 30 | 35.6 | 34.0 | 31.8 | 30.3 | 31.3 | 28.2 | 25.0 | 25.4 | 28.0 | 31.0 | 33.0 | 32.7 | 42.4 |
| 1899—1928 | 30 | 34.9 | 30.8 | 29.7 | 31.3 | 30.9 | 27.1 | 24.8 | 23.4 | 28.8 | 30.7 | 30.6 | 31.0 | 41.5 |
| 1929—46 | 18 | 33.0 | 31.9 | 34.1 | 29.9 | 29.2 | 26.7 | 23.1 | 24.8 | 28.9 | 28.5 | 31.4 | 36.4 | 42.9 |
| Mean | 161 | 32.3 | 31.0 | 30.6 | 30.5 | 29.9 | 26.8 | 23.9 | 24.2 | 27.6 | 29.4 | 30.5 | 32.0 | 41.2 |

*Mean monthly and annual minima of pressure at sea level, 900 +*

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762——1802 | 32 | 80.7 | 81.3 | 86.6 | 91.2 | 93.1 | 97.2 | 93.6 | 93.6 | 89.0 | 82.8 | 82.3 | 81.8 | 70.1 |
| 1818—38 | 21 | 85.7 | 79.0 | 79.2 | 92.3 | 97.1 | 96.0 | 95.6 | 94.0 | 93.4 | 84.9 | 80.3 | 82.6 | 69.2 |
| 1839—68 | 30 | 74.8 | 78.8 | 82.7 | 90.6 | 94.2 | 95.0 | 96.3 | 95.6 | 91.0 | 82.3 | 81.3 | 78.3 | 64.8 |
| 1869—98 | 30 | 76.9 | 81.5 | 79.9 | 90.5 | 92.3 | 96.3 | 94.2 | 90.5 | 86.9 | 80.7 | 80.9 | 75.0 | 66.7 |
| 1899—1928 | 30 | 74.0 | 78.3 | 83.2 | 88.3 | 95.1 | 94.8 | 95.3 | 91.8 | 87.7 | 86.1 | 76.5 | 76.7 | 66.8 |
| 1929—46 | 18 | 77.1 | 81.2 | 85.1 | 85.5 | 98.4 | 93.4 | 96.2 | 94.0 | 91.2 | 81.5 | 78.0 | 81.1 | 67.1 |
| Mean | 161 | 77.9 | 80.0 | 82.9 | 89.9 | 94.7 | 95.6 | 95.1 | 93.1 | 89.6 | 83.1 | 80.0 | 78.9 | 67.4 |

[1]) *B. J. Birkeland:* Ältere meteorologische Beobachtungen in Oslo, p. 49 (Geof. Publ. III No. 9. 1925).

*Difference between the monthly extremes δ.*

| Period | Years | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1762— —1802 . | 32 | 48.4 | 49.3 | 42.7 | 38.9 | 35.6 | 29.5 | 29.5 | 30.3 | 36.5 | 45.2 | 46.0 | 48.4 | 70.2 |
| 1818—38..... | 21 | 46.5 | 49.2 | 49.6 | 37.7 | 31.2 | 30.1 | 27.7 | 29.8 | 33.9 | 43.9 | 48.4 | 48.2 | 71.5 |
| 1839—68..... | 30 | 54.4 | 51.1 | 47.8 | 40.8 | 36.1 | 30.7 | 27.2 | 28.5 | 37.2 | 46.9 | 49.5 | 53.9 | 74.8 |
| 1869—98..... | 30 | 58.7 | 52.5 | 51.9 | 39.8 | 39.0 | 31.9 | 30.8 | 34.9 | 41.1 | 50.3 | 52.1 | 57.7 | 75.7 |
| 1899—1928.... | 30 | 60.9 | 52.5 | 46.5 | 43.0 | 35.8 | 32.3 | 29.5 | 31.6 | 41.1 | 44.6 | 54.1 | 54.3 | 74.7 |
| 1929—46..... | 18 | 55.9 | 50.7 | 49.0 | 44.4 | 30.8 | 33.3 | 26.9 | 30.8 | 37.7 | 47.0 | 53.4 | 55.3 | 75.8 |
| Mean ..... | 161 | 54.4 | 51.0 | 47.7 | 40.6 | 35.2 | 31.2 | 28.8 | 31.1 | 38.0 | 46.3 | 50.5 | 53.1 | 73.8 |

Mean of monthly means: 42.33 = $\delta_m$.

The first period 1762— —1802 seems also here somewhat less extreme than the remaining periods, but the difference is not so great that these annual series cannot be included in the total mean for the whole series. Otherwise the various periods harmonize well.

## § 5. The absolute extremes.

*The absolute maxima and minima of temperature for the months and for the year.*

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Okt. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. ..... | 11.0 | 11.6 | 14.1 | 21.1 | 25.9 | 30.6 | 35.0 | 30.1 | 24.7 | 19.2 | 15.0 | 13.2 | 35.0 |
| Year ..... | 1932 | 1903 | 1928 | 1913 | 1920 | 1889 | 1901 | 1901 | 1840 | 1889 | 1938 | 1905 | 1901 |
| Min. ..... | —30.0 | —26.1 | —23.3 | —15.7 | —10.0 | —0.6 | 1.7 | 1.6 | —2.9 | —14.1 | —19.2 | —23.4 | —30.0 |
| Year ..... | 1802 | 1899 | 1901 | 1785 | 1900 | 1902 | 1900 | 1902 | 1900 | 1819 | 1879 | 1788 | 1802 |

*Difference between the absolut extremes: $A_p$ (161 years).*

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $A_p$ ..... | 41.0 | 37.7 | 37.4 | 36.8 | 35.9 | 31.2 | 33.3 | 28.5 | 27.6 | 33.3 | 34.2 | 36.6 | 65.0 |

Absolute amplitude $A$ = 65.0 Mean of monthly values: 34.46 = $Apm$.

*The absolute maxima and minima of pressure (sea level) for the months and for the year. 1000 (and for the minima: 900) +*

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. ..... | 51.7 | 49.1 | 49.4 | 45.0 | 44.2 | 43.2 | 46.9 | 36.0 | 41.3 | 45.6 | 48.5 | 53.2 | 53.2 |
| Year ..... | 1820 | 1902 | 1935 | 1860 | 1893 | 1783 | 1794 | 1920 | 1849 | 1769 | 1932 | 1946 | 1946 |
| Min. ..... | 49.2 | 55.0 | 54.3 | 67.4 | 74.2 | 78.2 | 80.6 | 74.4 | 69.6 | 57.1 | 50.7 | 48.3 | 48.3 |
| Year ..... | 1920 | 1935 | 1858 | 1874 | 1898 | 1938 | 1827 | 1891 | 1786 | 1884 | 1795 | 1895 | 1895 |

*Difference between the absolute extremes: $A_p$ (161 years).*

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $A_p$ ..... | 102.5 | 94.1 | 95.1 | 77.6 | 70.0 | 65.0 | 66.3 | 61.6 | 71.7 | 88.5 | 97.8 | 104.9 | 104.9 |

Absolute amplitude $A$ = 104.9 Mean of monthly values: 82.92 = $Apm$..

The absolute highest air temperature observed at Trondheim is 35.0° C on July 22nd 1901. The absolute lowest is — 30.0° C on January 12th and 13th 1802. The difference, the absolute amplitude A, is 65.0. It is very large, greater than the value for Oslo, which is only 61.7. The observation series at Trondheim, however, comprises 161 years, whereas only 105 years are used for Oslo.

The highest observed atmospheric pressure (at mean sea level) is 1053.2 on December 16th 1946. The lowest is 948.3 on December 6th 1895.

The difference is 104.9. This value is very small as compared to the 4 other stations: Vardö 106.1. Oslo 112.6, Ullensvang 115.7 and Bergen 115.8, Skudenes[1]) has the largest amplitude: 120.9.

## § 6. General tables.

Table VII comprises 2 tables, containing the means and the extreme values found so far: a of temperature, b of atmospheric pressure.

The tables commence with the 100-year mean[2]) and its probable error. Then we get the highest and lowest means, and their difference: D. Then follow the mean monthly extremes, and their difference: $\delta$. Eventually the absolute extremes, and their difference $A_p$. Finally we get the mean departure from the monthly means: d. Furthest to the right is given the mean of the monthly values for each of the differences respectively.

## § 7. Departures from the normal.

In the two tables II and VI is given the departure of the monthly means from the normal, and as such we have selected the mean of the 30-year period 1901—30. Furthest to the right in table VI of atmospheric pressure, is given the mean of the numerical values of the 12 monthly departures from the normal. At the end of the table is given the mean departure: d, which has been computed from the following formula:

$$d = \frac{\sum |v|}{\sqrt{n\,(n-1)}}$$

The numerator is the total of the numerical values of the departures; in the denominator $n$ denotes the number of observed years; instead of $\sqrt{n\,(n-1)}$ may with very good approximation be written: $n - \frac{1}{2}$, as

$$(n - \tfrac{1}{2})^2 = n^2 - n + \tfrac{1}{4} = n\,(n-1) + \tfrac{1}{4}.$$

Already for $n = 10$, $\frac{1}{4}$ will only make 0.3 % of the whole term.

For comparison, $d$ for other stations may be found in "Mittel und Extreme der Lufttemperatur"[1]) p. 74—76, and in "Mittel und Extreme des Luftdruckes"[1]) p. 74; further in the 4 previously mentioned series: Oslo, Bergen, Ullensvang and Vardö.[1])

## § 8. The mutual relation between the amplitudinal quantities d, D, $\delta$ and A.

The ratio $\frac{D}{d}$ is theoretically dealth with[2]) and a table of $\frac{D}{d} = \sigma$ as a function of the number of years $n$, has been presented in "Mittel und Extreme der Lufttemperatur"[1]) p. 33[3]). So far no theory exists for the remaining quantities, but we will in the below tables give an empirical summary of what the Trondheim series may yield together with the 4 previously worked up stations. The series are of different length and we have therefore tried to reduce the values to 100 years by multiplying with the ratio of the $\sigma$ values. The Trondheim series has, for instance, 185 years for $D$ and 161 years for $\delta$ and $A_p$. $\sigma_{185} = 6.684$, $\sigma_{161} = 6.567$, the ratio of these values to $\sigma_{100} = 6.159$, is 0.922 and 0.938 respectively. $d$ is theoretically not varying with the number of years. After this reduction we have set up the below tables for temperature and atmospheric pressure.

*Temperature. Monthly values. 100 years.*

| | Oslo | Ullensvang | Bergen | Trondheim | Vardø | Mean | Ratio | | |
|---|---|---|---|---|---|---|---|---|---|
| $d_m$ | 1.51 | 1.34 | 1.26 | 1.62 | 1.30 | 1.406 | $\frac{D_m}{d_m}$ | 5.97 | |
| $D_m$ | 9.35 | 8.01 | 7.59 | 9.47 | 7.56 | 8.396 | $\frac{\delta_m}{D_m}$ | 1.97 | $6.525 = \frac{A}{D_m}$ |
| $\delta_m$ | 18.50 | 16.77 | 15.93 | 16.93 | 14.62 | 16.550 | $\frac{A_{pm}}{\delta_m}$ | 1.82 | |
| $A_{pm}$ | 32.60 | 29.19 | 28.50 | 32.30 | 27.70 | 30.058 | $\frac{A}{A_{pm}}$ | 1.82 | |
| $A$ | 61.2 | 51.8 | 48.9 | 60.9 | 51.1 | 54.78 | | | |

[1]) *G. Schou:* Mittel und Extreme des Luftdruckes (Geof. Publ. XIV 2) p. 55.

[2]) Tab. II and Tab. IV, p. 22 and 23.

[1]) Loc. cit.

[2]) *Birkeland* und *Frogner:* Die extreme Variabilität der Lufttemperatur (Met. Zeits. 1935) p. 349. *Barricelli:* Les plus Grands etc. (Archiv for Mathematik og Naturvidenskab V, XLVI No. 6. 1943).

[3]) *E. Frogner:* Means and Extremes of Sea Temperature (Geof. Publ. XV No. 3) p. 18—22.

*Atmospheric pressure. Monthly values. 100 years.*

| | Oslo | Ullensvang | Bergen | Trondheim | Vardø | Mean | Ratio | | |
|---|---|---|---|---|---|---|---|---|---|
| $d_m$ | 4.07 | 4.15 | 4.23 | 4.31 | 4.12 | 4.176 | $\frac{D_m}{d_m}$ | 5.95 | |
| $D_m$ | 24.60 | 24.33 | 24.90 | 24.89 | 25.38 | 24 820 | $\frac{\delta_m}{D_m}$ | 1.76 | $4.463 = \frac{A}{D_m}$ |
| $\delta_m$ | 43.57 | 44.96 | 44.68 | 39.74 | 44.90 | 43.570 | $\frac{A_{pm}}{\delta_m}$ | 1.87 | |
| $A_{mp}$ | 78.42 | 82.74 | 83.99 | 77.86 | 85.26 | 81.654 | $\frac{A}{A_{pm}}$ | 1.34? | |
| $A$ | 111.85 | 113.36 | 118.25 | 98.39? | 111.99 | 110 770 | | | |

*The ratios.*

| | Temperature | Pressure | Mean | |
|---|---|---|---|---|
| $\frac{D_m}{d_m}$ | 5.97 | 5.95 | 5.96 | |
| $\frac{\delta_m}{D_m}$ | 1.97 | 1.76 | 1.86 | $\underline{5.41} = \frac{A}{D_m}$ |
| $\frac{A_{pm}}{\delta_m}$ | 1.82 | 1.87 | 1.84 | |
| $\frac{A}{A_{pm}}$ | 1.82 | 1.34? | 1.58? | |

For the *annual values* we get in a similar way:

| *100 years.* | Temperature | | | Pressure | | | Mean | | |
|---|---|---|---|---|---|---|---|---|---|
| $d$ | 0.64 | $\frac{D}{d}$ | 5.79 | $d$ | 1.23 | $\frac{D}{d}$ | 6.68 | $\frac{D}{d}$ | 6.24 |
| $D$ | 3.71 | | | $D$ | 8.23 | | | | |
| $\delta$ | 39.42 | $\frac{\delta}{D}$ | 10.63 | $\delta$ | 75.32 | $\frac{\delta}{D}$ | 9.15 | $\frac{\delta}{D}$ | 9.89 |
| $A$ | 54.78 | $\frac{A}{\delta}$ | 1.39 | $A$ | 110.77 | $\frac{A}{\delta}$ | 1.47 | $\frac{A}{\delta}$ | 1.43 |

$14.14 = \frac{A}{D}$

If we first examine the result as far as the monthly means are concerned, the ratio $\frac{D_m}{d_m}$ gives 5.96 as a mean; the theoretical value: $\sigma_{100}$ is, as mentioned, equal to 6.159. The agreement is not perfect, but it is not so bad. Of the remaining values it seems as if the last one, $\frac{A}{A_{pm}}$ is too low; if we here had had 1.61, the product $1.86 \cdot 1.84 \cdot 1.61$ would have been 5.52 (instead of 5.41), which is $\sqrt{30.44}$ or $\sqrt{\frac{365.24}{12}}$. It seems reasonable that the ratio of "the absolute amplitude", $A$, to $D_m$ should be like the square root of the mean number of days in the month. ($D$ is the difference between the highest and the lowest monthly mean for each of the 12 months, and $D_m$ is the mean of these 12 monthly values).

The annual values give a very high figure for $\delta$. $\frac{D}{d} = 6.24$ is a little greater than $\sigma_{100} = 6.159$. This departure must, like the former one 5.96, be considered as a coincidence. The mean of both of them, $\frac{1}{2}$ (6.24 + 5.96) = 6.15, is nearly exact.

## § 9. Precipitation 1854—85.

Table VIII a and b contain amounts of precipitation in mm and number of days with precipitation $\geqq$ 0.3 mm for the years 1845—85, which have never been published. About the measurings is said[1]):

„The raingauge is placed in the upper part of the old courtyeard of the estate Bakke, 15 Norw. feet from the old dwelling house, at the height of 3½ Norw. feet; it has a collecting funnel four times the size of the container.

The open raingauge, which is placed 20 Norw. feet south-west of the new dwelling house, on the site, has the same diameter as the collecting funnel of the actual raingauge in the old courtyeard."

[1]) Rosenvinges „Contoir-Calender" for 1866 (in the Public records office).

The measurings are given in cubic decimals of an inch, as the collecting surface is equal to 1 Norw. square foot (0.09843436 m²). As reduction factor has been used 0.01′ = 3.1374 mm. The model has apparently been the measuring of precipitation at the Observatory at Oslo.[1])

The series seems to be homogeneous. By reduction by means of Kristiansund and Brönnöysund, the yearly normal amount of precipitation is 920 mm. The later precipitation series for Trondheim gives for 1885—1902 996 mm; 1903—23 712, 1924—32 756, and 1933—44 712 mm. The greatly varying values are due to changes of observation place, which also seem to give changes in the yearly variation. It will therefore be difficult to work the various series together as a whole.

[1]) Meteorologische Beobachtungen. Christiania Observatorium I. 1837—63 (1865) p. VI.

## Trondheim.

I. *Temperature, true means, 1761—1946, 186 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1761 | *—1.5* | *—1.4* | *2.9* | *4.8* | *8.9* | *14.4* | *13.9* | *15.0* | *11.2* | *2.4* | *1.4* | *—3.7* | *5.7* |
| 62 | —0.8 | —3.1 | —2.1 | 5.9 | 7.3 | 11.9 | 12.7 | 11.1 | 9.2 | —0.1 | 0.6 | 0.4 | 4.4 |
| 63 | —2.0 | —3.0 | —1.4 | 1.5 | 7.3 | 13.5 | 16.0 | 13.3 | 10.3 | 5.7 | 1.9 | —4.8 | 4.9 |
| 64 | —2.3 | —0.2 | 1.5 | 3.7 | 7.3 | 8.6 | 15.7 | 12.1 | 8.1 | 4.6 | —0.1 | —4.7 | 4.5 |
| 65 | —5.9 | —6.3 | 0.8 | 3.9 | 6.2 | 9.4 | 11.9 | 10.8 | 8.1 | 3.9 | 1.5 | —2.1 | 3.5 |
| 1766 | —1.4 | —2.3 | 0.6 | 7.3 | 6.1 | 15.6 | 20.4 | 13.3 | 9.2 | 4.9 | 3.4 | —2.7 | 6.2 |
| 67 | *—8.4* | *—2.6* | *—0.4* | *2.4* | *7.0* | *10.7* | *13.1* | *14.7* | *11.0* | *4.5* | *2.5* | *—2.5* | *4.3* |
| 68 | —3.9 | —4.5 | —2.2 | 0.6 | 9.5 | 13.5 | 15.8 | 14.2 | 8.3 | 1.0 | —0.4 | —0.2 | 4.3 |
| 69 | —1.9 | —4.3 | 0.7 | 4.9 | 8.7 | 12.5 | 14.5 | 13.2 | 10.0 | 2.5 | —0.8 | —3.0 | 4.8 |
| 70 | —4.3 | —0.7 | —8.8 | 1.3 | 10.4 | 13.8 | 17.4 | 14.5 | 11.8 | 5.2 | —3.3 | —6.8 | 4.2 |
| 1771 | —6.6 | —3.9 | —3.5 | 0.4 | 10.6 | 16.2 | 13.6 | 12.6 | 9.4 | 3.6 | 1.2 | 0.8 | 4.5 |
| 72 | *—4.4* | *—7.1* | *—3.4* | *2.4* | *6.2* | *12.1* | *14.4* | *13.5* | *9.2* | *6.9* | *3.1* | *—0.5* | *4.4* |
| 73 | *—2.0* | *—2.4* | *0.6* | *5.0* | *9.1* | *11.7* | *14.7* | *14.8* | *10.1* | *6.1* | *1.4* | *—2.0* | *5.6* |
| 74 | *—8.3* | *—2.5* | *—0.6* | *4.1* | *8.1* | *13.2* | *14.8* | *13.5* | *9.2* | *5.2* | *—4.3* | *—4.0* | *4.0* |
| 75 | *—3.6* | *—0.7* | *0.8* | *4.5* | *9.2* | *13.9* | *16.2* | *15.5* | *12.2* | *6.1* | *—1.1* | *—1.1* | *6.0* |
| 1776 | *—9.1* | *—1.8* | *0.2* | *4.0* | *6.9* | *13.1* | *16.0* | *14.1* | *9.4* | *5.3* | *1.0* | *—1.8* | *4.8* |
| 77 | *—4.7* | *—4.4* | *—1.4* | *2.6* | *9.0* | *11.4* | *13.3* | *13.9* | *9.6* | *4.6* | *1.9* | *—1.9* | *4.5* |
| 78 | *—4.1* | *—2.3* | *—0.8* | *4.6* | *9.2* | *13.0* | *15.9* | *14.0* | *8.7* | *1.2* | *0.6* | *0.1* | *5.0* |
| 79 | *—2.5* | *2.5* | *3.5* | *6.0* | *9.1* | *12.2* | *15.7* | *16.9* | *11.3* | *7.2* | *0.8* | *—4.0* | *6.6* |
| 80 | —4.6 | —2.1 | 1.7 | —2.6 | 9.2 | 10.2 | 13.9 | 14.9 | 9.4 | 5.4 | —2.0 | *—3.0* | 4.2 |
| 1781 | —2.4 | —3.5 | 2.2 | 4.0 | 7.2 | 14.3 | 14.4 | 14.8 | 12.7 | 5.1 | 1.6 | —3.9 | 5.5 |
| 82 | —3.2 | —1.0 | —2.5 | 2.3 | 4.4 | 11.3 | 13.7 | 15.6 | 10.7 | 2.1 | —2.4 | —1.6 | 4.1 |
| 83 | —5.2 | —2.1 | —1.4 | 5.8 | 9.3 | 12.7 | 17.1 | 13.3 | 12.2 | 5.5 | 2.2 | —2.9 | 5.5 |
| 84 | —6.1 | —3.2 | —7.9 | 1.1 | 8.7 | 12.4 | 12.8 | 11.4 | 8.6 | 3.0 | 0.7 | —5.4 | 3.0 |
| 85 | —4.0 | —4.4 | —2.0 | 1.2 | 6.7 | 13.1 | 16.1 | 13.5 | 8.7 | 3.6 | 1.0 | —3.2 | 4.2 |
| 1786 | —6.6 | —3.3 | —5.3 | 2.2 | 7.5 | 13.0 | 12.6 | 15.3 | 10.3 | 5.1 | —3.4 | —1.6 | 3.8 |
| 87 | —0.6 | 0.9 | 0.8 | 0.3 | 8.4 | 13.7 | 12.8 | 11.2 | 10.8 | 5.6 | *—1.3* | *—3.6* | 4.9 |
| 88 | *—2.6* | *—4.7* | *—3.6* | 7.0 | 8.0 | 13.3 | 17.0 | 14.3 | 12.1 | 4.3 | 0.8 | —9.4 | 4.7 |
| 89 | —6.1 | —2.2 | —7.7 | 2.0 | 8.4 | 15.5 | 16.6 | 15.4 | 11.7 | 6.6 | 1.4 | 1.9 | 5.3 |
| 90 | 0.3 | 1.7 | 4.2 | 0.3 | 11.1 | 10.4 | 13.2 | 12.7 | 9.1 | 3.4 | 0.0 | —1.4 | 5.4 |
| 1791 | 1.1 | 0.0 | 2.5 | 2.7 | 8.0 | 10.3 | 17.3 | 14.2 | 8.6 | 3.4 | —0.7 | —2.9 | 5.4 |
| 92 | —5.9 | —3.5 | —1.1 | 4.0 | 8.0 | 13.8 | 16.8 | 13.4 | 10.4 | 2.6 | 4.7 | —0.8 | 5.2 |
| 93 | —1.6 | —2.8 | 0.0 | 5.8 | 8.4 | 13.7 | 12.8 | 13.7 | 9.6 | 5.2 | —0.8 | —4.8 | 4.9 |
| 94 | —6.0 | —2.3 | 4.0 | 8.7 | 8.7 | 11.7 | 15.3 | 15.0 | 9.8 | 5.2 | —1.9 | —1.4 | 5.6 |
| 95 | —4.0 | —6.1 | —4.8 | 7.7 | *5.8* | 11.3 | 14.0 | 14.4 | *10.1* | 5.0 | 0.6 | —3.8 | 4.2 |
| 1796 | —0.1 | —1.3 | —1.4 | 6.2 | 8.6 | 11.8 | 16.5 | 14.6 | 10.1 | 4.6 | 0.4 | —5.8 | 5.4 |
| 97 | —0.2 | 3.6 | 0.9 | 8.3 | 8.0 | 12.2 | 15.3 | 15.2 | 12.3 | 6.0 | —0.2 | —2.4 | 6.6 |
| 98 | —3.1 | —0.7 | —1.0 | 5.5 | 14.0 | 13.1 | 17.8 | 14.3 | 11.6 | 7.0 | 3.0 | —6.1 | 6.3 |
| 99 | —2.6 | —8.8 | *—1.5* | *1.7* | 6.6 | 9.3 | 14.4 | 12.2 | 9.0 | 4.2 | 5.6 | —2.3 | 4.0 |
| 1800 | —7.4 | 0.4 | —2.3 | 5.2 | 8.6 | 8.4 | 11.4 | 12.0 | 10.1 | 5.2 | 2.8 | —1.9 | 4.4 |
| 1801 | —2.6 | —5.5 | —0.3 | 5.7 | 12.7 | 10.9 | 14.8 | 11.8 | 11.1 | 4.8 | —0.3 | —8.4 | 4.6 |
| 02 | —5.2 | —3.3 | 0.4 | 6.3 | 5.5 | 12.1 | 13.2 | 13.2 | *9.2* | *6.4* | *0.0* | *—2.7* | 4.2 |
| 03 | *—6.6* | *—3.8* | *—0.5* | *6.4* | *7.5* | *11.1* | *15.6* | *14.4* | *8.4* | *4.3* | *—0.4* | *—4.3* | *4.4* |
| 04 | *—2.2* | *—4.7* | *—2.7* | *2.9* | *9.5* | *12.4* | *15.0* | *14.4* | *10.5* | *6.1* | *—1.7* | *—5.7* | *4.5* |
| 05 | *—4.8* | *—4.8* | *—0.9* | *3.0* | *6.2* | *9.3* | *14.4* | *13.6* | *10.7* | *1.9* | *0.0* | *—2.8* | *3.8* |
| 1806 | *—2.8* | *—2.1* | *—1.7* | *1.3* | *8.3* | *9.6* | *12.9* | *14.0* | *10.8* | *5.0* | *1.0* | *—0.4* | *4.7* |
| 07 | *—3.1* | *—2.2* | *—2.0* | *1.9* | *7.3* | *11.3* | *14.6* | *15.8* | *7.6* | *4.6* | *—0.8* | *—2.5* | *4.4* |
| 08 | *—2.4* | *—4.6* | *—2.5* | *1.4* | *9.4* | *13.0* | *16.0* | *15.0* | *10.6* | *4.7* | *—0.6* | *—5.5* | *4.6* |
| 09 | *—8.6* | *—3.5* | *—1.6* | *0.3* | *9.2* | *11.4* | *14.1* | *14.3* | *9.7* | *4.6* | *—0.6* | *—0.5* | *4.1* |
| 10 | *—2.6* | *—2.8* | *—2.8* | *2.6* | *5.3* | *11.6* | *14.6* | *13.7* | *10.3* | *4.4* | *—0.6* | *—2.9* | *4.2* |
| 1811 | *—4.0* | *—2.0* | *2.2* | *2.8* | *10.1* | *13.1* | *16.2* | *13.5* | *10.1* | *5.5* | *1.0* | *—2.1* | *5.5* |
| 12 | *—3.4* | *—1.3* | *—3.6* | *0.1* | *6.4* | *11.1* | *11.9* | *13.8* | *7.8* | *6.6* | *—0.9* | *—6.0* | *3.5* |

Italics: interpolations.

## Trondheim.

I. *Temperature, true means, 1761—1946, 186 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 01—30 | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1813 | *—3.2* | *0.5* | *1.3* | *3.9* | *7.8* | *11.9* | *15.2* | *13.3* | *10.0* | *2.6* | *0.3* | *—1.8* | *5.2* |
| 14 | *—9.8* | *—5.4* | *—1.7* | *5.3* | *6.1* | *10.4* | *15.0* | *13.4* | *9.4* | *4.3* | *1.1* | *—2.3* | *3.8* |
| 15 | *—4.2* | *—0.3* | *1.1* | *4.7* | *8.7* | *11.7* | *13.0* | *13.3* | *9.0* | *5.7* | *—0.2* | *—3.6* | *4.9* |
| 1816 | *—3.2* | *—4.5* | *—1.9* | *2.8* | *6.3* | *11.4* | *14.1* | *11.9* | *8.7* | *3.2* | *—0.5* | *—2.1* | *3.8* |
| 17 | *0.0* | *0.7* | *—0.7* | *2.7* | *7.9* | *11.4* | *13.2* | *11.9* | *10.4* | *1.9* | *2.0* | *—5.7* | *4.6* |
| 18 | —2.8 | —5.9 | —0.7 | 0.4 | 9.0 | 14.8 | 16.9 | 11.6 | 10.9 | 6.8 | 0.2 | 2.0 | 5.3 |
| 19 | 0.2 | —3.9 | 0.1 | 4.3 | 9.4 | 14.7 | 18.8 | 17.2 | 11.4 | 3.3 | 0.5 | —6.4 | 5.8 |
| 20 | —7.5 | —1.3 | 0.4 | 4.9 | 10.3 | 14.0 | 15.9 | 12.7 | 9.5 | 3.6 | —2.3 | —5.7 | 4.5 |
| 1821 | —5.3 | —1.9 | 0.0 | 5.0 | 9.5 | 9.7 | 13.0 | 12.2 | 9.1 | 6.8 | —0.8 | —1.2 | 4.7 |
| 22 | —2.7 | 0.4 | 2.7 | 5.0 | 10.3 | 11.6 | 14.2 | 14.9 | 7.7 | 4.5 | 1.5 | —0.5 | 5.8 |
| 23 | —9.5 | —6.5 | 0.1 | 4.0 | 8.7 | 13.5 | 15.7 | 15.7 | 8.7 | 7.1 | 2.5 | —2.0 | 4.8 |
| 24 | 0.3 | —0.4 | —0.9 | 5.3 | 8.8 | 15.3 | 15.6 | 14.5 | 10.9 | 2.5 | —2.4 | —2.9 | 5.6 |
| 25 | 0.2 | —2.5 | —0.5 | 5.2 | 10.3 | 12.9 | 13.6 | 14.0 | 9.0 | 5.5 | —0.4 | —2.2 | 5.4 |
| 1826 | —3.2 | 1.7 | 1.8 | 4.6 | 11.6 | 15.5 | 19.0 | 16.7 | 9.0 | 6.2 | 0.8 | —0.6 | 6.9 |
| 27 | —7.4 | *—8.0* | 0.6 | 5.9 | 13.3 | 16.0 | 13.3 | 13.0 | 11.1 | 4.2 | —1.6 | —1.3 | 4.9 |
| 28 | —4.3 | —5.0 | 0.2 | 3.8 | 10.8 | 14.8 | 16.4 | 13.1 | 8.8 | 6.1 | —0.3 | —2.2 | 5.2 |
| 29 | —7.2 | —4.9 | —1.3 | 2.1 | 8.7 | 14.3 | 16.4 | 12.7 | 9.8 | 3.6 | —2.1 | —4.6 | 4.0 |
| 30 | —5.3 | —5.9 | 1.4 | 4.3 | 8.8 | 13.6 | 16.2 | 11.7 | 10.2 | 6.1 | —1.5 | —6.7 | 4.4 |
| 1831 | —5.2 | —5.5 | —0.9 | 3.8 | 9.0 | 16.2 | 18.0 | 16.8 | 9.4 | 6.5 | —2.1 | —0.6 | 5.5 |
| 32 | —2.1 | —0.7 | 2.2 | 6.4 | 7.5 | 15.8 | 12.1 | 13.2 | 7.7 | 7.4 | 1.5 | 0.3 | 5.9 |
| 33 | —0.1 | —3.1 | —1.2 | 3.0 | 11.2 | 13.8 | 16.2 | 10.8 | 11.5 | 6.4 | 0.5 | —3.8 | 5.4 |
| 34 | —3.9 | —0.7 | 2.6 | 3.0 | *9.1* | *12.8* | *17.7* | *14.3* | *10.5* | *5.5* | *—0.4* | *—0.9* | *5.8* |
| 35 | —1.9 | —2.4 | 0.0 | 1.8 | 6.4 | 11.9 | 13.2 | 11.4 | 11.4 | 6.2 | —0.4 | —2.2 | 4.6 |
| 1836 | —3.6 | —2.8 | —0.2 | 4.0 | 6.2 | 10.7 | 13.5 | 10.5 | 7.0 | 5.0 | —2.4 | —4.1 | 3.6 |
| 37 | —5.0 | —0.1 | —3.8 | 2.5 | 7.6 | 10.0 | 11.8 | 12.5 | 10.4 | 6.2 | 0.7 | 0.5 | 4.4 |
| 38 | —9.0 | —6.7 | —3.0 | 0.8 | 6.6 | 10.7 | 13.6 | 11.4 | 9.4 | 4.4 | —1.8 | —1.2 | 3.0 |
| 39 | —4.2 | —1.3 | —4.2 | 0.2 | 7.2 | 10.3 | 15.5 | 12.0 | 11.4 | 7.8 | —0.3 | —4.4 | 4.2 |
| 40 | —2.4 | 0.2 | 2.0 | 4.4 | 5.6 | 11.2 | 13.3 | 14.8 | 10.6 | 3.0 | 1.6 | —0.8 | 5.3 |
| 1841 | —8.0 | —2.9 | 1.5 | 5.6 | 9.6 | 11.8 | 12.0 | 13.4 | 10.4 | 2.6 | —2.0 | —1.9 | 4.3 |
| 42 | —2.6 | 2.2 | 0.5 | 4.2 | 10.4 | 12.1 | 13.8 | 15.4 | 9.6 | 3.7 | —1.7 | 1.0 | 5.7 |
| 43 | —1.6 | —3.7 | —2.6 | 0.9 | 7.1 | 11.3 | 14.7 | 15.2 | 9.9 | 2.7 | 0.7 | 2.4 | 4.7 |
| 44 | —3.3 | —9.4 | —1.6 | 4.6 | 9.5 | 10.5 | 14.2 | 14.8 | 8.7 | 4.5 | —1.6 | —6.4 | 3.7 |
| 45 | —2.0 | —9.4 | —4.4 | 3.6 | 8.9 | 13.1 | 15.5 | 14.7 | 8.9 | 3.9 | 1.6 | —2.8 | 4.3 |
| 1846 | —3.7 | —1.7 | 1.5 | 4.4 | 8.2 | 12.6 | 15.1 | 17.5 | 10.4 | 7.9 | 1.2 | —7.2 | 5.5 |
| 47 | —3.3 | —3.3 | 0.2 | 1.4 | 8.6 | 13.9 | 14.0 | 13.5 | 9.4 | 4.0 | 4.3 | —0.5 | 5.2 |
| 48 | —4.7 | —3.2 | —0.1 | 4.2 | 8.6 | 12.3 | 12.8 | 12.3 | 9.5 | 3.6 | —0.7 | —2.8 | 4.3 |
| 49 | —5.0 | —1.5 | 0.1 | 2.0 | 8.8 | 9.2 | 14.3 | 12.6 | 8.5 | 3.6 | —0.3 | —2.7 | 4.1 |
| 50 | —7.9 | —0.7 | —2.7 | 5.2 | 9.7 | 12.4 | 14.9 | 13.0 | 9.2 | 3.4 | —1.1 | 0.7 | 4.7 |
| 1851 | —1.5 | —1.1 | —2.3 | 3.6 | 7.6 | 11.3 | 13.8 | 11.8 | 11.1 | 7.2 | —3.2 | 2.8 | 5.1 |
| 52 | —1.8 | —1.9 | 0.7 | 2.8 | 10.2 | 16.6 | 17.3 | 17.7 | 10.6 | 2.2 | —2.3 | —2.7 | 5.8 |
| 53 | —2.8 | —7.2 | —5.2 | 2.7 | 9.0 | 17.0 | 16.7 | 13.6 | 10.7 | 4.9 | 1.1 | —1.7 | 4.9 |
| 54 | —6.0 | —1.0 | 3.4 | 4.5 | 10.7 | 14.7 | 16.4 | 14.8 | 9.5 | 4.4 | —0.5 | —1.5 | 5.8 |
| 55 | *—5.0* | *—7.3* | *—1.7* | 3.2 | 7.7 | 12.1 | 18.7 | 13.3 | 8.8 | 3.6 | 1.1 | —6.0 | 4.0 |
| 1856 | —2.8 | —2.8 | 0.1 | 3.7 | 6.9 | 10.8 | 13.6 | 10.7 | 9.0 | 6.2 | —3.0 | —2.1 | 4.2 |
| 57 | —7.0 | 0.0 | 0.0 | 3.6 | 8.2 | 9.6 | 13.7 | 15.3 | 10.4 | 6.7 | 3.9 | 3.5 | 5.7 |
| 58 | —0.1 | —3.0 | —0.1 | 2.5 | 8.8 | 13.8 | 16.9 | 15.9 | 11.7 | 5.6 | —0.5 | —3.0 | 5.7 |
| 59 | 0.9 | —1.4 | —0.3 | 1.5 | 8.6 | 12.8 | 12.2 | 13.5 | 10.8 | 4.0 | 0.4 | —4.5 | 4.9 |
| 60 | —5.1 | —4.3 | —2.0 | 2.0 | 7.6 | 14.2 | 13.2 | 14.1 | 8.4 | 4.2 | —1.1 | —6.8 | 3.7 |
| 1861 | —3.9 | —1.0 | 0.3 | 2.5 | 5.4 | 14.1 | 15.9 | 13.3 | 9.3 | 7.5 | —1.5 | 1.6 | 5.3 |
| 62 | —4.6 | —2.7 | —3.1 | 3.8 | 10.7 | 12.4 | 12.2 | 11.3 | 9.0 | 6.3 | 2.0 | —1.0 | 4.7 |
| 63 | —0.3 | 0.6 | —2.0 | 4.7 | 5.6 | 13.3 | 11.8 | 12.1 | 10.5 | 6.4 | 2.3 | —0.7 | 5.4 |
| 64 | —3.2 | —4.9 | —2.4 | 3.1 | 4.7 | 11.1 | 13.0 | 10.5 | 10.4 | 2.6 | —0.3 | —0.6 | 3.7 |

## Trondheim.

I. *Temperature, true means, 1761—1946, 186 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 01—30 | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1865 | —3.7 | —4.3 | —2.4 | 3.9 | 8.2 | 8.6 | 14.3 | 13.1 | 9.6 | 3.5 | 1.4 | 0.8 | 4.4 |
| 66 | 0.6 | —3.5 | —4.2 | 3.7 | 6.7 | 13.9 | 12.5 | 14.2 | 11.7 | 4.9 | —1.6 | —3.7 | 4.6 |
| 67 | **—10.3** | 0.7 | —2.5 | 2.0 | **4.2** | 9.4 | 12.3 | 13.9 | 9.8 | 5.0 | 2.0 | —5.2 | 3.4 |
| 68 | —2.3 | —0.6 | 1.2 | 3.9 | 8.7 | 10.3 | 13.9 | 15.4 | 8.1 | 5.0 | —0.4 | —2.4 | 5.1 |
| 69 | —0.7 | —0.7 | —0.9 | 4.2 | 6.3 | 9.4 | 12.4 | 11.7 | 9.4 | 3.3 | —1.4 | —3.5 | 4.1 |
| 70 | —2.5 | —4.4 | —1.2 | 4.8 | 7.4 | 11.3 | 13.6 | 14.4 | 9.0 | 4.0 | 1.1 | —3.2 | 4.5 |
| 1871 | —4.5 | —7.2 | 2.5 | 0.5 | 6.2 | 10.6 | 15.4 | 12.8 | 8.4 | 5.6 | —2.0 | —1.9 | 3.9 |
| 72 | —0.4 | —0.2 | 0.5 | 5.0 | 8.8 | 16.0 | 15.6 | 13.0 | 8.6 | 6.4 | 0.6 | —4.1 | 5.8 |
| 73 | 0.4 | —1.3 | —0.6 | 2.1 | 7.2 | 13.2 | 16.4 | 13.5 | 10.0 | 4.4 | 2.9 | 1.4 | 5.8 |
| 74 | 1.1 | 1.0 | 1.0 | 4.3 | 6.3 | 10.6 | 14.0 | 11.5 | 9.8 | 8.0 | —1.6 | —7.6 | 4.9 |
| 75 | —7.0 | —5.0 | —0.2 | 2.6 | 9.2 | 12.0 | 14.2 | 12.4 | 9.4 | 2.6 | —2.5 | —0.6 | 3.9 |
| 1876 | —1.4 | —5.1 | —0.9 | 4.0 | 6.0 | 14.1 | 13.6 | 13.1 | 9.8 | 5.0 | —2.2 | —5.6 | 4.2 |
| 77 | —4.9 | —3.6 | —3.4 | 1.4 | 6.3 | 10.9 | 14.8 | 11.9 | 7.5 | 4.1 | 3.8 | —1.1 | 4.0 |
| 78 | —1.6 | 1.2 | —0.6 | 4.1 | 8.4 | 11.6 | 12.9 | 13.8 | 10.3 | 6.4 | —0.4 | —7.1 | 4.9 |
| 79 | —5.9 | —6.4 | —1.6 | 1.8 | 7.5 | 11.7 | 15.0 | 15.7 | 10.5 | 4.5 | —0.4 | —1.1 | 4.3 |
| 80 | 0.1 | 0.6 | 2.0 | 4.6 | 6.6 | 12.0 | 13.6 | 14.9 | 12.2 | 0.6 | —0.6 | —4.0 | 5.2 |
| 1881 | —6.6 | —9.0 | —3.9 | —0.2 | 6.4 | 11.5 | 12.6 | 12.8 | 10.0 | 2.9 | 2.2 | 0.5 | 3.3 |
| 82 | 1.6 | —1.3 | 0.0 | 3.0 | 8.6 | 13.2 | 15.6 | 15.1 | 12.0 | 6.5 | —2.2 | —6.2 | 5.5 |
| 83 | —1.8 | —0.1 | —2.6 | 5.6 | 8.2 | 13.4 | 15.6 | 13.3 | 9.9 | 5.6 | 2.4 | 0.4 | 5.8 |
| 84 | 0.3 | —1.7 | 2.0 | 4.2 | 7.0 | 11.4 | 14.4 | 15.5 | 12.1 | 6.8 | 1.4 | —1.2 | 6.0 |
| 85 | —3.6 | 0.9 | 0.5 | 4.4 | 6.7 | 8.8 | 13.0 | 11.8 | 8.6 | 3.2 | 1.2 | 0.0 | 4.6 |
| 1886 | —4.5 | —3.3 | —1.0 | 4.6 | 7.9 | 12.6 | 13.1 | 12.9 | 9.7 | 6.0 | 4.1 | —5.8 | 4.7 |
| 87 | 0.2 | 1.2 | 0.7 | 3.3 | 8.1 | 10.4 | 13.2 | 11.9 | 10.8 | 3.4 | —0.1 | —4.4 | 4.9 |
| 88 | 0.5 | —6.2 | —7.0 | 0.9 | 6.9 | 11.5 | 12.9 | 12.0 | 8.8 | 3.5 | —0.9 | 0.3 | 3.6 |
| 89 | —0.7 | —6.5 | —2.5 | 4.0 | 11.7 | 14.7 | 14.2 | 12.6 | 8.4 | 6.3 | 4.2 | —1.2 | 5.4 |
| 90 | 1.5 | —0.8 | 1.8 | 5.1 | 11.0 | 12.1 | 12.8 | 13.3 | 10.7 | 5.0 | 1.9 | —1.8 | 6.0 |
| 1891 | —2.4 | 2.9 | —2.1 | 3.5 | 8.2 | 10.6 | 15.8 | 13.7 | 9.4 | 8.9 | 1.6 | —1.2 | 5.7 |
| 92 | —5.9 | —5.6 | —0.6 | 3.5 | 6.2 | 10.3 | 11.9 | 11.5 | 9.5 | 4.6 | 2.1 | —2.1 | 3.8 |
| 93 | —5.0 | —8.1 | 0.5 | 3.7 | 7.9 | 11.6 | 13.7 | 12.3 | 7.3 | 5.3 | 1.5 | 1.6 | 4.4 |
| 94 | —1.8 | —1.9 | 2.7 | 7.5 | 8.2 | 13.2 | 16.4 | 12.6 | 8.0 | 3.3 | 2.6 | 0.8 | 6.0 |
| 95 | —7.7 | —6.7 | —2.7 | 4.3 | 10.7 | 13.3 | 13.9 | 13.6 | 9.2 | 3.3 | 2.1 | —2.9 | 4.2 |
| 1896 | 0.0 | 1.7 | 1.5 | 5.2 | 7.5 | 11.5 | 14.4 | 12.8 | 10.0 | 4.1 | 0.2 | —3.4 | 5.5 |
| 97 | —7.3 | —2.0 | —1.2 | 4.7 | 9.2 | 11.1 | 14.2 | 14.8 | 9.3 | 5.5 | 1.9 | 0.0 | 5.0 |
| 98 | 2.2 | —2.5 | —1.5 | 3.9 | 8.2 | 12.4 | 12.3 | 12.3 | 9.1 | 4.2 | —0.4 | —1.2 | 4.9 |
| 99 | —4.4 | —2.4 | —3.8 | 1.9 | 5.9 | 11.8 | 15.7 | 10.9 | 8.3 | 4.0 | 3.1 | —7.0 | 3.7 |
| 1900 | —5.0 | **—9.7** | —0.3 | 2.1 | 6.3 | 13.4 | 11.8 | 12.3 | 8.1 | 3.9 | 0.1 | —1.9 | 3.4 |
| 1901 | —4.1 | —4.7 | —2.5 | 4.4 | 8.9 | 13.7 | 18.1 | 14.5 | 11.2 | 7.6 | —0.6 | —7.2 | 4.9 |
| 02 | —0.8 | —2.9 | —2.2 | 2.7 | 7.1 | 10.8 | 11.1 | 11.0 | 7.6 | 3.3 | 0.5 | —4.5 | 3.6 |
| 03 | —4.5 | 0.6 | 2.7 | 3.1 | 8.3 | 10.5 | 13.4 | 12.0 | 10.2 | 3.0 | 1.6 | 0.2 | 5.1 |
| 04 | 0.6 | —5.6 | —0.6 | 4.5 | 7.1 | 10.1 | 11.7 | 11.6 | 9.5 | 5.1 | —1.7 | —1.7 | 4.2 |
| 05 | —3.1 | —1.4 | 1.1 | 2.1 | 7.3 | 14.3 | 13.3 | 12.8 | 8.8 | 1.3 | 0.5 | 1.5 | 4.9 |
| 1906 | —2.0 | —1.8 | —0.7 | 4.2 | 8.6 | 11.6 | 14.1 | 12.5 | 9.7 | 5.8 | 2.6 | —3.2 | 5.1 |
| 07 | —2.1 | —1.1 | 1.4 | 4.1 | 6.8 | 12.8 | 12.6 | **10.1** | 7.9 | 7.8 | 1.7 | —3.1 | 4.9 |
| 08 | 0.2 | —0.5 | —1.1 | 3.6 | 7.3 | 10.7 | 13.8 | 12.8 | 9.0 | 5.3 | —0.8 | —0.4 | 5.0 |
| 09 | 0.0 | —2.5 | —2.8 | 2.6 | 6.0 | 10.7 | 13.0 | 10.9 | 8.6 | 7.1 | 0.1 | —2.5 | 4.3 |
| 10 | —3.2 | 1.4 | 1.9 | 4.4 | 10.1 | 12.5 | 14.1 | 14.5 | 9.6 | 5.2 | —0.5 | 0.4 | 5.9 |
| 1911 | —1.3 | 0.0 | —0.1 | 3.4 | 10.7 | 11.8 | 13.5 | 13.8 | 9.9 | 3.3 | —0.9 | 1.1 | 5.4 |
| 12 | —3.3 | —2.0 | 1.9 | 2.7 | 8.1 | 13.6 | 16.2 | 14.2 | 8.5 | 4.6 | 0.8 | 1.2 | 5.5 |
| 13 | —4.4 | 0.5 | 1.8 | 5.2 | 9.5 | 11.9 | 13.6 | 12.7 | 9.8 | 5.5 | 3.9 | —2.0 | 5.7 |
| 14 | —0.9 | 2.0 | 0.0 | 5.4 | 6.8 | 12.5 | 18.1 | 13.6 | 9.9 | 4.5 | 0.1 | —0.5 | 6.0 |
| 15 | —3.7 | —1.0 | —2.2 | 3.2 | 5.8 | 9.1 | 13.2 | 13.1 | 7.7 | 1.8 | —0.5 | —7.6 | 3.2 |
| 1916 | —0.7 | —1.8 | —1.9 | 4.8 | 8.4 | 12.5 | 15.5 | 12.0 | 8.1 | 3.4 | 3.4 | —1.7 | 5.2 |

## Trondheim.

I. *Temperature, true means, 1761—1946, 186 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1917 | —5.5 | —1.9 | —2.7 | 1.4 | 6.8 | 13.6 | 12.9 | 17.2 | 9.0 | 4.7 | 1.8 | —1.6 | 4.6 |
| 18 | —4.4 | —0.9 | 1.3 | 5.1 | 8.8 | 10.6 | 15.7 | 13.7 | 8.2 | 6.8 | 3.3 | —2.9 | 5.4 |
| 19 | —1.5 | —2.7 | —1.4 | 2.5 | 11.1 | 11.2 | 14.7 | 10.6 | 9.0 | 3.9 | —3.5 | —5.1 | 4.1 |
| 20 | —1.0 | 1.2 | 3.6 | 5.4 | 10.3 | 11.7 | 14.9 | 12.1 | 10.0 | 5.8 | 2.9 | —1.3 | 6.3 |
| 1921 | —1.5 | 0.3 | 3.2 | 6.4 | 8.4 | 8.5 | 11.6 | 11.3 | 8.4 | 5.4 | —1.3 | 0.4 | 5.1 |
| 22 | —5.4 | —2.8 | —0.2 | 2.6 | 7.9 | 10.8 | 14.3 | 12.9 | 9.2 | 4.0 | 2.0 | 1.3 | 4.7 |
| 23 | 0.4 | —4.0 | 2.0 | 3.3 | 6.7 | 7.4 | 13.6 | 12.2 | 9.1 | 5.3 | —0.4 | —3.5 | 4.3 |
| 24 | —1.8 | —3.3 | —2.7 | 2.8 | 7.4 | 10.3 | 15.3 | 14.8 | 11.0 | 7.3 | 2.6 | 2.9 | 5.6 |
| 25 | 1.4 | 0.2 | —1.9 | 4.7 | 9.8 | 11.2 | 17.6 | 14.5 | 10.1 | 3.0 | —1.3 | —3.7 | 5.5 |
| 1926 | —2.5 | —1.4 | 0.9 | 5.7 | 7.8 | 13.6 | 14.2 | 14.0 | 9.0 | 1.4 | 3.1 | —0.9 | 5.4 |
| 27 | —1.1 | —0.1 | 2.8 | 2.5 | 5.6 | 11.1 | 17.2 | 15.4 | 9.4 | 4.5 | —0.8 | —3.6 | 5.2 |
| 28 | —1.6 | —1.7 | 1.5 | 5.5 | 7.3 | 9.5 | 11.0 | 12.1 | 8.9 | 5.5 | 2.3 | —0.1 | 5.0 |
| 29 | —3.2 | —4.5 | 3.3 | 1.2 | 9.2 | 10.5 | 12.1 | 11.4 | 9.7 | 5.6 | 2.9 | 2.7 | 5.1 |
| 30 | 1.8 | —0.6 | 1.7 | 6.6 | 10.0 | 14.2 | 16.7 | 16.1 | 9.7 | 6.8 | 0.9 | 1.8 | 7.1 |
| 1931 | —3.4 | —2.8 | —2.8 | 3.4 | 9.5 | 8.5 | 15.5 | 11.8 | 7.7 | 4.6 | 4.3 | 0.1 | 4.7 |
| 32 | 2.1 | 1.8 | —1.1 | 3.6 | 8.7 | 10.2 | 15.0 | 12.8 | 8.6 | 3.3 | 2.2 | 2.1 | 5.8 |
| 33 | 1.0 | —3.3 | 1.0 | 3.1 | 8.6 | 16.0 | 15.4 | 13.0 | 11.1 | 5.7 | 0.1 | 1.2 | 6.1 |
| 34 | 2.4 | 1.6 | 1.6 | 3.9 | 9.1 | 11.5 | 15.7 | 15.8 | 13.0 | 6.6 | 2.6 | 1.0 | 7.1 |
| 35 | —0.7 | —0.3 | —1.0 | 3.5 | 5.6 | 12.5 | 13.1 | 13.6 | 9.4 | 5.2 | 4.5 | 0.2 | 5.5 |
| 1936 | —1.9 | —3.3 | 0.9 | 2.9 | 9.8 | 14.0 | 16.1 | 13.4 | 9.4 | 4.8 | 3.1 | 3.0 | 6.0 |
| 37 | —1.0 | —4.3 | —1.4 | 7.2 | 11.0 | 12.7 | 17.1 | 16.3 | 10.2 | 8.2 | 1.4 | —3.4 | 6.2 |
| 38 | —0.1 | 1.8 | 3.6 | 3.2 | 7.3 | 11.0 | 15.7 | 14.6 | 10.6 | 7.5 | 5.0 | 0.9 | 6.8 |
| 39 | —2.3 | 2.9 | 0.9 | 3.1 | 7.8 | 11.3 | 15.1 | 16.0 | 10.8 | 4.6 | 2.8 | —1.9 | 5.9 |
| 40 | —5.9 | —8.3 | —2.1 | 2.9 | 11.7 | 12.5 | 13.6 | 11.1 | 8.3 | 5.9 | 2.3 | —1.5 | 4.2 |
| 1941 | —6.1 | —5.1 | —1.2 | 2.8 | 7.2 | 11.1 | 17.8 | 13.1 | 9.7 | 4.4 | 1.5 | —1.4 | 4.5 |
| 42 | —8.9 | —4.8 | —3.7 | 4.1 | 7.6 | 10.7 | 12.7 | 13.5 | 9.1 | 5.9 | 3.6 | —0.6 | 4.1 |
| 43 | —3.1 | 1.5 | 3.5 | 4.0 | 8.5 | 13.0 | 14.2 | 11.7 | 10.1 | 7.6 | 1.8 | 2.2 | 6.2 |
| 44 | 0.1 | 0.0 | 0.0 | 2.2 | 5.9 | *11.4* | *15.6* | *13.3* | *10.2* | *7.5* | *1.2* | *1.9* | *5.8* |
| 45 | *—6.4* | *—0.3* | *3.1* | *5.2* | *8.6* | *12.8* | *16.1* | *14.9* | *9.6* | *5.5* | *2.3* | *—1.4* | *5.8* |
| 1946 | *—1.9* | *—4.2* | *0.4* | *4.8* | *9.4* | *12.3* | *15.7* | *14.7* | *11.3* | *5.8* | *2.9* | *0.9* | *6.0* |
| Highest and lowest monthly mean. (1761—1946, 186 Years) | | | | | | | | | | | | | |
| Max. | 2.4 | 3.6 | 4.2 | 8.7 | 14.0 | 17.0 | 20.4 | 17.7 | 12.7 | 8.9 | 5.6 | 3.5 | 7.1 |
| Min. | —10.3 | —9.7 | —8.8 | —2.6 | 4.2 | 7.4 | 11.0 | 10.1 | 7.0 | —0.1 | —3.5 | —9.4 | 3.0 |
| Diff. $D$ | 12.7 | 13.3 | 13.0 | 11.3 | 9.8 | 9.6 | 9.4 | 7.6 | 5.7 | 9.0 | 9.1 | 12.9 | 4.1 |
| Mean of the monthly values: $10.28 = D_m$ | | | | | | | | | | | | | |
| Mean departure from the mean 1901—30: | | | | | | | | | | | | | |
| d ± | **2.33** | 2.27 | 1.90 | 1.40 | 1.33 | 1.52 | 1.45 | 1.30 | **1.00** | 1.31 | 1.59 | 2.06 | 0.71 |
| Mean of the monthly values: $1.62 = d_m$ | | | | | | | | | | | | | |
| $\frac{D}{d}$ | 5.45 | 5.86 | 6.84 | 8.07 | 7.37 | 6.31 | 6.48 | 5.84 | 5.70 | 6.87 | 5.72 | 6.26 | 5.77 |

$$\frac{D_m}{d_m} = 6.35$$

The theoretical value, $\sigma_{186} = 6.69$.

## Trondheim.

II. *Temperature, true means, 5-year means and longer means.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $M^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1761—65 | —2.50 | —2.80 | 0.34 | 3.96 | 7.40 | 11.56 | 14.04 | 12.46 | 9.38 | **3.30** | 1.06 | —2.98 | 4.60 |
| 66—70 | —3.98 | —2.88 | —2.02 | 3.30 | 8.34 | 13.22 | 16.24 | 13.98 | 10.06 | 3.62 | 0.28 | —3.04 | 4.76 |
| 71—75 | *—4.98* | *—3.32* | *—1.22* | *3.28* | *8.64* | *13.42* | *14.74* | *13.98* | *10.02* | *5.58* | *0.06* | *—1.36* | *4.90* |
| 76—80 | *—5.00* | *—1.62* | *0.64* | *2.92* | *8.68* | *11.98* | *14.96* | **14.76** | *9.68* | *4.74* | *0.46* | *—2.12* | *5.02* |
| 81—85 | —4.18 | —2.84 | **—2.32** | 2.88 | 7.26 | 12.76 | 14.82 | 13.72 | 10.58 | 3.86 | 0.62 | —3.40 | 4.46 |
| 86—90 | —3.12 | —1.52 | **—2.32** | 2.36 | 8.68 | 13.18 | 14.44 | 13.78 | **10.80** | 5.00 | —0.50 | —2.82 | 4.82 |
| 91—95 | —3.28 | —2.94 | 0.12 | **5.78** | 7.78 | 12.16 | 15.24 | 14.14 | 9.70 | 4.28 | 0.38 | —2.74 | 5.06 |
| 1796—1800 | —2.68 | —1.36 | —1.06 | 5.38 | 9.16 | 10.96 | 15.08 | 13.66 | 10.62 | 5.40 | 2.32 | —3.70 | 5.34 |
| 1801—05 | *—4.28* | *—4.42* | *—0.80* | *4.86* | *8.28* | *11.16* | *14.60* | *13.48* | *9.98* | *4.70* | *—0.48* | **—4.78** | *4.30* |
| 06—10 | *—3.90* | *—3.04* | *—2.12* | **1.50** | *7.90* | *11.38* | *14.44* | *14.56* | *9.80* | *4.66* | *—0.32* | *—2.36* | *4.40* |
| 11—15 | *—4.92* | *—1.70* | *—0.14* | *3.36* | *7.82* | *11.64* | *14.26* | *13.46* | *9.26* | *4.94* | *0.26* | *—3.16* | *4.58* |
| 16—20 | —2.66 | —2.98 | —0.56 | 3.02 | 8.58 | 13.26 | 15.78 | 13.06 | 10.18 | 3.76 | —0.02 | —3.58 | 4.80 |
| 21—25 | —3.40 | —2.18 | 0.28 | 4.90 | 9.52 | 12.60 | 14.42 | 14.26 | 9.08 | 5.28 | 0.08 | —1.76 | 5.26 |
| 26—30 | **—5.48** | —4.42 | 0.54 | 4.14 | **10.64** | **14.84** | 16.26 | 13.44 | 9.78 | 5.24 | **—0.94** | —3.08 | 5.08 |
| 31—35 | —2.64 | —2.48 | 0.54 | 3.60 | 8.64 | 14.10 | 15.44 | 13.30 | 10.10 | **6.40** | —0.18 | —1.44 | 5.44 |
| 36—40 | —4.84 | —2.14 | —1.84 | 2.38 | 6.64 | 10.58 | 13.54 | 12.24 | 9.76 | 5.28 | —0.44 | —2.00 | **4.10** |
| 41—45 | —3.50 | **—4.64** | —1.32 | 3.78 | 9.10 | 11.76 | 14.04 | 14.70 | 9.50 | 3.48 | —0.60 | —1.54 | 4.54 |
| 46—50 | —4.92 | —2.08 | —0.20 | 3.44 | 8.78 | 12.08 | 14.22 | 13.78 | 9.40 | 4.50 | 0.68 | —2.50 | 4.76 |
| 51—55 | —3.42 | —3.70 | —1.02 | 3.36 | 9.04 | 14.34 | **16.58** | 14.24 | 10.14 | 4.46 | —0.76 | —1.82 | 5.12 |
| 56—60 | —2.82 | —2.30 | —0.46 | 2.66 | 8.02 | 12.24 | 13.92 | 13.90 | 10.06 | 5.34 | —0.06 | —2.58 | 4.84 |
| 61—65 | —3.14 | —2.46 | —1.92 | 3.60 | 6.92 | 11.90 | 13.44 | **12.06** | 9.76 | 5.26 | 0.78 | 0.02 | 4.70 |
| 66—70 | —3.04 | —1.70 | —1.52 | 3.72 | **6.66** | 10.86 | **12.94** | 13.92 | 9.60 | 4.44 | —0.06 | —3.60 | 4.34 |
| 71—75 | —2.08 | —2.54 | **0.64** | 2.90 | 7.54 | 12.48 | 15.12 | 12.64 | 9.24 | 5.40 | —0.52 | —2.56 | 4.86 |
| 76—80 | —2.74 | —2.66 | —0.90 | 3.18 | 6.96 | 12.06 | 13.98 | 13.88 | 10.06 | 4.12 | 0.04 | —3.78 | 4.52 |
| 81—85 | —2.02 | —2.24 | —0.80 | 3.40 | 7.38 | 11.66 | 14.24 | 13.70 | 10.52 | 5.00 | 1.00 | —1.30 | 5.04 |
| 86—90 | —0.60 | —3.12 | —1.60 | 3.58 | 9.12 | 12.26 | 13.24 | 12.54 | 9.68 | 4.84 | 1.84 | —2.58 | 4.92 |
| 91—95 | —4.56 | —3.88 | —0.44 | 4.50 | 8.24 | 11.80 | 14.34 | 12.74 | **8.68** | 5.08 | 1.98 | —0.76 | 4.82 |
| 1896—1900 | —2.90 | —2.98 | —1.06 | 3.56 | 7.42 | 12.04 | 13.68 | 12.62 | 8.96 | 4.34 | 0.98 | —2.70 | 4.50 |
| 1901—05 | —2.38 | —2.80 | —0.30 | 3.36 | 7.74 | 11.88 | 13.52 | 12.38 | 9.46 | 4.06 | 0.06 | —2.34 | 4.54 |
| 06—10 | —1.42 | —0.90 | —0.26 | 3.78 | 7.76 | 11.66 | 13.52 | 12.16 | 8.96 | 6.24 | 0.62 | —1.76 | 5.04 |
| 11—15 | —2.72 | **—0.10** | 0.28 | 3.98 | 8.18 | 11.78 | 14.92 | 13.48 | 9.16 | 3.94 | 0.68 | —1.56 | 5.16 |
| 16—20 | —2.62 | —1.22 | —0.22 | 3.84 | 9.08 | 11.92 | 14.74 | 13.12 | 8.86 | 4.92 | 1.58 | —2.52 | 5.12 |
| 21—25 | —1.38 | —1.92 | 0.08 | 3.96 | 8.04 | **9.64** | 14.48 | 13.14 | 9.56 | 5.00 | 0.32 | —0.52 | 5.04 |
| 26—30 | —1.32 | —1.66 | 2.04 | 4.30 | 7.98 | 11.78 | 14.24 | 13.80 | 9.34 | 4.76 | 1.68 | —0.02 | 5.56 |
| 31—35 | **0.28** | —0.60 | —0.46 | 3.50 | 8.30 | 11.74 | 14.94 | 13.40 | 9.96 | 5.08 | 2.74 | **0.92** | **5.84** |
| 36—40 | —2.24 | —2.24 | 0.38 | 3.86 | 9.52 | 12.30 | 15.52 | 14.28 | 9.86 | 6.20 | **2.92** | —0.58 | 5.82 |
| 41—45 | —4.88 | —1.74 | 0.34 | 3.66 | 7.56 | 11.80 | 15.28 | 13.30 | 9.74 | 6.18 | 2.08 | 0.14 | 5.28 |
| 25-year means. | | | | | | | | | | | | | |
| 1766—90 | —4.25 | —2.44 | —1.45 | 2.95 | 8.32 | 12.91 | 15.04 | 14.04 | 10.23 | 4.56 | 0.18 | —2.55 | 4.80 |
| 1791—1815 | —3.81 | —2.69 | —0.80 | 4.18 | 8.19 | 11.46 | 14.72 | 13.86 | 9.87 | 4.80 | 0.43 | —3.35 | 4.74 |
| 1816—40 | —3.80 | —2.84 | —0.21 | 3.61 | 8.80 | 13.08 | 15.09 | 13.26 | 9.78 | 5.19 | —0.30 | —2.37 | 4.94 |
| 41—65 | —3.56 | —3.04 | —0.98 | 3.37 | 8.37 | 12.46 | 14.44 | 13.74 | 9.77 | 4.61 | 0.01 | —1.68 | 4.79 |
| 66—90 | —2.10 | —2.45 | —0.84 | 3.36 | 7.53 | 11.86 | 13.90 | 13.34 | 9.82 | 4.76 | 0.46 | —2.76 | 4.74 |
| 91—1915 | —2.80 | —2.13 | —0.36 | 3.84 | 7.87 | 11.83 | 14.00 | 12.68 | 9.04 | 4.73 | 0.86 | —1.82 | 4.81 |
| 1916—40 | —1.46 | —1.53 | 0.36 | 3.89 | 8.58 | 11.48 | 14.78 | 13.55 | 9.52 | 5.19 | 1.85 | —0.54 | 5.48 |
| 100-year means. | | | | | | | | | | | | | |
| 1816—1915 | —3.06 | —2.62 | —0.60 | 3.54 | 8.14 | 12.31 | 14.36 | 13.25 | 9.60 | 4.82 | 0.26 | —2.16 | 4.82 |
| 1821—1920 | —3.06 | —2.53 | —0.58 | 3.58 | 8.17 | 12.24 | 14.30 | 13.26 | 9.54 | 4.88 | 0.34 | —2.11 | 4.84 |
| $M_{100}$ | —3.1 | —2.6 | —0.6 | 3.6 | 8.2 | 12.3 | 14.3 | 13.3 | 9.6 | 4.9 | 0.3 | —2.1 | 4.8 |

## Trondheim.

II. *Temperature, true means, 5-year means and longer means.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 50-year means 1841—90. | | | | | | | |
| $M^{41-90}$ | —2.8 | —2.7 | —0.9 | 3.4 | 8.0 | 12.2 | 14.2 | 13.5 | 9.8 | 4.7 | 0.2 | —2.2 | 4.8 |
| Mohn | —2.6 | —2.9 | —1.1 | 3.3 | 7.7 | 11.9 | 14.0 | 13.5 | 10.0 | 5.1 | 0.4 | —2.5 | 4.7 |
| | | | | | | 60-year means 1861—1920. | | | | | | | |
| $M^{61-20}$ | —2.5 | —2.2 | —0.7 | 3.6 | 7.8 | 11.9 | 14.0 | 12.9 | 9.4 | 4.8 | 0.7 | —2.1 | 4.8 |
| | | | | | | 30-year means 1901—30. | | | | | | | |
| $M^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |

III. *Temperature, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $M^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1761 | *0.5* | *0.0* | *2.6* | *0.9* | *0.8* | *3.0* | *—0.3* | *2.0* | *2.0* | *—2.4* | *0.6* | *—2.2* | *0.6* |
| 62 | 1.2 | —1.7 | —2.4 | 2.0 | —0.8 | 0.5 | —1.5 | —1.9 | 0.0 | **—4.9** | —0.2 | 1.9 | —0.7 |
| 63 | 0.0 | —1.6 | —1.7 | —2.4 | —0.8 | 2.1 | 1.8 | 0.3 | 1.1 | 0.9 | 1.1 | —3.3 | —0.2 |
| 64 | —0.3 | 1.2 | 1.2 | —0.2 | —0.8 | —2.8 | 1.5 | —0.9 | —1.1 | —0.2 | —0.9 | —3.2 | —0.6 |
| 65 | —3.9 | —4.9 | 0.5 | 0.0 | —1.9 | —2.0 | —2.3 | —2.2 | —1.1 | —0.9 | 0.7 | —0.6 | —1.6 |
| 1766 | 0.6 | —0.9 | 0.3 | 3.4 | —2.0 | 4.2 | **6.2** | 0.3 | 0.0 | 0.1 | 2.6 | —1.2 | 1.1 |
| 67 | *—6.4* | *—1.2* | *—0.7* | *—1.5* | *—1.1* | *—0.7* | *—1.1* | *1.7* | *1.8* | *—0.3* | *1.7* | *—1.0* | *—0.8* |
| 68 | —1.9 | —3.1 | —2.5 | —3.3 | 1.4 | 2.1 | 1.6 | 1.2 | —0.9 | —3.8 | —1.2 | 1.3 | —0.8 |
| 69 | 0.1 | —2.9 | 0.4 | 1.0 | 0.6 | 1.1 | 0.3 | 0.2 | 0.8 | —2.3 | —1.6 | —1.5 | —0.3 |
| 70 | —2.3 | 0.7 | **—9.1** | —2.6 | 2.3 | 2.4 | 3.2 | 1.5 | 2.6 | 0.4 | —4.1 | —5.3 | —0.9 |
| 1771 | —4.6 | —2.5 | —3.8 | —3.5 | 2.5 | **4.8** | —0.6 | —0.4 | 0.2 | —1.2 | 0.4 | 2.3 | —0.6 |
| 72 | *—2.4* | *—5.7* | *—3.7* | *—1.5* | *—1.9* | *0.7* | *0.2* | *0.5* | *0.0* | *2.1* | *2.3* | *1.0* | *—0.7* |
| 73 | *0.0* | *—1.0* | *0.3* | *1.1* | *1.0* | *0.3* | *0.5* | *1.8* | *0.9* | *1.3* | *0.6* | *—0.5* | *0.5* |
| 74 | *—6.3* | *—1.1* | *—0.9* | *0.2* | *0.0* | *1.8* | *0.6* | *0.5* | *0.0* | *0.4* | *—5.1* | *—2.5* | *—1.1* |
| 75 | *—1.6* | *0.7* | *0.5* | *0.6* | *1.1* | *2.5* | *2.0* | *2.5* | *3.0* | *1.3* | *—1.9* | *0.4* | *0.9* |
| 1776 | *—7.1* | *—0.4* | *—0.1* | *0.1* | *—1.2* | *1.7* | *1.8* | *1.1* | *0.2* | *0.5* | *0.2* | *—0.3* | *—0.3* |
| 77 | *—2.7* | *—3.0* | *—1.7* | *—1.3* | *0.9* | *0.0* | *—0.9* | *0.9* | *0.4* | *—0.2* | *1.1* | *—0.4* | *—0.6* |
| 78 | *—2.1* | *—0.9* | *—1.1* | *0.7* | *1.1* | *1.6* | *1.7* | *1.0* | *—0.5* | *—3.6* | *—0.2* | *1.6* | *—0.1* |
| 79 | *—0.5* | *3.9* | *3.2* | *2.1* | *1.0* | *0.8* | *1.5* | **3.9** | *2.1* | **2.4** | *0.0* | *—2.5* | **1.5** |
| 80 | —2.6 | —0.7 | 1.4 | **—6.5** | 1.1 | —1.2 | —0.3 | 1.9 | 0.2 | 0.6 | —2.8 | *—1.5* | —0.9 |
| 1781 | —0.4 | —2.1 | 1.9 | 0.1 | —0.9 | 2.9 | 0.2 | 1.8 | **3.5** | 0.3 | 0.8 | —2.4 | 0.4 |
| 82 | —1.2 | 0.4 | —2.8 | —1.6 | —3.7 | —0.1 | —0.5 | 2.6 | 1.5 | —2.7 | —3.2 | —0.1 | —1.0 |
| 83 | —3.2 | —0.7 | —1.7 | 1.9 | 1.2 | 1.3 | **2.9** | 0.3 | 3.0 | 0.7 | 1.4 | —1.4 | 0.4 |
| 84 | —4.1 | —1.8 | —8.2 | —2.8 | 0.6 | 1.0 | —1.4 | —1.6 | —0.6 | —1.8 | —0.1 | —3.9 | **—2.1** |
| 85 | —2.0 | —3.0 | —2.3 | —2.7 | —1.4 | 1.7 | 1.9 | 0.5 | —0.5 | —1.2 | 0.2 | —1.7 | —0.9 |
| 1786 | —4.6 | —1.9 | —5.6 | —1.7 | —0.6 | 1.6 | —1.6 | 2.3 | 1.1 | 0.3 | —4.2 | —0.1 | —1.3 |
| 87 | 1.4 | 2.3 | 0.5 | —3.6 | 0.3 | 2.3 | —1.4 | —1.8 | 1.6 | 0.8 | *—2.1* | *—2.1* | —0.2 |
| 88 | *—0.6* | *—3.3* | *—3.9* | 3.1 | —0.1 | 1.9 | 2.8 | 1.3 | 2.9 | —0.5 | 0.0 | **—7.9** | —0.4 |
| 89 | —4.1 | —0.8 | —8.0 | —1.9 | 0.3 | 4.1 | 2.4 | 2.4 | 2.5 | 1.8 | 0.6 | **3.4** | 0.2 |
| 90 | 2.3 | 3.1 | **3.9** | —3.6 | 3.0 | —1.0 | —1.0 | —0.3 | —0.1 | —1.4 | —0.8 | 0.1 | 0.3 |
| 1791 | 3.1 | 1.4 | 2.2 | —1.2 | —0.1 | —1.1 | 3.1 | 1.2 | —0.6 | —1.4 | —1.5 | —1.4 | 0.3 |
| 92 | —3.9 | —2.1 | —1.4 | 0.1 | —0.1 | 2.4 | 2.6 | 0.4 | 1.2 | —2.2 | 3.9 | 0.7 | 0.1 |
| 93 | 0.4 | —1.4 | —0.3 | 1.9 | 0.3 | 2.3 | —1.4 | 0.7 | 0.4 | 0.4 | —1.6 | —3.3 | —0.2 |
| 94 | —4.0 | —0.9 | 3.7 | **4.8** | 0.6 | 0.3 | 1.1 | 2.0 | 0.6 | 0.4 | —2.7 | 0.1 | 0.5 |

## Trondheim.

III. *Temperature, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 01—30 | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1795 | —2.0 | —4.7 | —5.1 | 3.8 | —2.3 | —0.1 | —0.2 | 1.4 | 0.9 | 0.2 | —0.2 | —2.3 | —0.9 |
| 96 | 1.9 | 0.1 | —1.7 | 2.3 | 0.5 | 0.4 | 2.3 | 1.6 | 0.9 | —0.2 | —0.4 | —4.3 | 0.3 |
| 97 | 1.8 | **5.0** | 0.6 | 4.4 | —0.1 | 0.8 | 1.1 | 2.2 | 3.1 | 1.2 | —1.0 | —0.9 | 1.5 |
| 98 | —1.1 | 0.7 | —1.3 | 1.6 | **5.9** | 1.7 | 3.6 | 1.3 | 2.4 | 2.2 | 2.2 | —4.6 | 1.2 |
| 99 | —0.6 | —7.4 | —1.8 | —2.2 | —1.5 | —2.1 | 0.2 | —0.8 | —0.2 | —0.6 | **4.8** | —0.8 | —1.1 |
| 1800 | —5.4 | 1.8 | —2.6 | 1.3 | 0.5 | —3.0 | —2.8 | —1.0 | 0.9 | 0.4 | 2.0 | —0.4 | —0.7 |
| 1801 | —0.6 | —4.1 | —0.6 | 1.8 | 4.6 | —0.5 | 0.6 | —1.2 | 1.9 | 0.0 | —1.1 | —6.9 | —0.5 |
| 02 | —3.2 | —1.9 | 0.1 | 2.4 | —2.6 | 0.7 | —1.0 | 0.2 | 0.0 | 1.6 | —0.8 | —1.2 | —0.9 |
| 03 | —4.6 | —2.4 | —0.8 | 2.5 | —0.6 | —0.3 | 1.4 | 1.4 | —0.8 | —0.5 | —1.2 | —2.8 | —0.7 |
| 04 | —0.2 | —3.3 | —3.0 | —1.0 | 1.4 | 1.0 | 0.8 | 1.4 | 1.3 | 1.3 | —2.5 | —4.2 | —0.6 |
| 05 | —2.8 | —3.4 | —1.2 | —0.9 | —1.9 | —2.1 | 0.2 | 0.6 | 1.5 | —2.9 | —0.8 | —1.3 | —1.3 |
| 1806 | —0.8 | —0.7 | —2.0 | —2.6 | 0.2 | —1.8 | —1.3 | 1.0 | 1.6 | 0.2 | 0.2 | 1.1 | —0.4 |
| 07 | —1.1 | —0.8 | —2.3 | —2.0 | —0.8 | —0.1 | 0.4 | 2.8 | —1.6 | —0.2 | —1.6 | —1.0 | —0.7 |
| 08 | —0.4 | —3.2 | —2.8 | —2.5 | 1.3 | 1.6 | 1.8 | 2.0 | 1.4 | —0.1 | —1.4 | —4.0 | —0.5 |
| 09 | —6.6 | —2.1 | —1.9 | —3.6 | 1.1 | 0.0 | —0.1 | 1.3 | 0.5 | —0.2 | —1.4 | 1.0 | —1.0 |
| 10 | —0.6 | —1.4 | —3.1 | —1.3 | —2.8 | 0.2 | 0.4 | 0.7 | 1.1 | —0.4 | —1.4 | —1.4 | —0.9 |
| 1811 | —2.0 | —0.6 | 1.9 | —1.1 | 2.0 | 1.7 | 2.0 | 0.5 | 0.9 | 0.7 | 0.2 | —0.6 | 0.4 |
| 12 | —1.4 | 0.1 | —3.9 | —3.8 | —1.7 | —0.3 | —2.3 | 0.8 | —1.4 | 1.8 | —1.7 | —4.5 | —1.6 |
| 13 | —1.2 | 1.9 | 1.0 | 0.0 | —0.3 | 0.5 | 1.0 | 0.3 | 0.8 | —2.2 | —0.5 | —0.3 | 0.1 |
| 14 | —7.8 | —4.0 | —2.0 | 1.4 | —2.0 | —1.0 | 0.8 | 0.4 | 0.2 | —0.5 | 0.3 | —0.8 | —1.3 |
| 15 | —2.2 | 1.1 | 0.8 | 0.8 | 0.6 | 0.3 | —1.2 | 0.3 | —0.2 | 0.9 | —1.0 | —2.1 | —0.2 |
| 1816 | —1.2 | —3.1 | —2.2 | —1.1 | —1.8 | 0.0 | —0.1 | —1.1 | —0.5 | —1.6 | —1.3 | —0.6 | —1.3 |
| 17 | 2.0 | 2.1 | —1.0 | —1.2 | —0.2 | 0.0 | —1.0 | —1.1 | 1.2 | —2.9 | 1.2 | —4.2 | —0.5 |
| 18 | —0.8 | —4.5 | —1.0 | —3.5 | 0.9 | 3.4 | 2.7 | —1.4 | 1.7 | 2.0 | —0.6 | 3.5 | 0.2 |
| 19 | 2.2 | —2.5 | —0.2 | 0.4 | 1.3 | 3.3 | 4.6 | 4.2 | 2.2 | —1.5 | —0.3 | —4.9 | 0.7 |
| 20 | —5.5 | 0.1 | 0.1 | 1.0 | 2.2 | 2.6 | 1.7 | —0.3 | 0.3 | —1.2 | —3.1 | —4.2 | —0.6 |
| 1821 | —3.3 | —0.5 | —0.3 | 1.1 | 1.4 | —1.7 | —1.2 | —0.8 | —0.1 | 2.0 | —1.6 | 0.3 | —0.4 |
| 22 | —0.7 | 1.8 | 2.4 | 1.1 | 2.2 | 0.2 | 0.0 | 1.9 | —1.5 | —0.3 | 0.7 | 1.0 | 0.7 |
| 23 | —7.5 | —5.1 | —0.2 | 0.1 | 0.6 | 2.1 | 1.5 | 2.7 | —0.5 | 2.3 | 1.7 | —0.5 | —0.3 |
| 24 | 2.3 | 1.0 | —1.2 | 1.4 | 0.7 | 3.9 | 1.4 | 1.5 | 1.7 | —2.3 | —3.2 | —1.4 | 0.5 |
| 25 | 2.2 | —1.1 | —0.8 | 1.3 | 2.2 | 1.5 | —0.6 | 1.0 | —0.2 | 0.7 | —1.2 | —0.7 | 0.3 |
| 1826 | —1.2 | 3.1 | 1.5 | 0.7 | 3.5 | 4.1 | 4.8 | 3.7 | —0.2 | 1.4 | 0.0 | 0.9 | **1.8** |
| 27 | —5.4 | —6.6 | 0.3 | 2.0 | 5.2 | 4.6 | —0.9 | 0.0 | 1.9 | —0.6 | —2.4 | 0.2 | —0.2 |
| 28 | —2.3 | —3.6 | —0.1 | —0.1 | 2.7 | 3.4 | 2.2 | 0.1 | —0.4 | 1.3 | —1.1 | —0.7 | 0.1 |
| 29 | —5.2 | —3.5 | —1.6 | —1.8 | 0.6 | 2.9 | 2.2 | —0.3 | 0.6 | —1.2 | —2.9 | —3.1 | —1.1 |
| 30 | —3.3 | —4.5 | 1.1 | 0.4 | 0.7 | 2.2 | 2.0 | —1.3 | 1.0 | 1.3 | —2.3 | —5.2 | —0.7 |
| 1831 | —3.2 | —4.1 | —1.2 | —0.1 | 0.9 | 4.8 | 3.8 | 3.8 | 0.2 | 1.7 | —2.9 | 0.9 | 0.4 |
| 32 | —0.1 | 0.7 | 1.9 | 2.5 | —0.6 | 4.4 | —2.1 | 0.2 | —1.5 | 2.6 | 0.7 | 1.8 | 0.8 |
| 33 | 1.9 | —1.7 | —1.5 | —0.9 | 3.1 | 2.4 | 2.0 | —2.2 | 2.3 | 1.6 | —0.3 | —2.3 | 0.3 |
| 34 | —1.9 | 0.7 | 2.3 | —0.9 | 1.0 | 1.4 | 3.5 | 1.3 | 1.3 | 0.7 | —1.2 | 0.6 | 0.7 |
| 35 | 0.1 | —1.0 | —0.3 | —2.1 | —1.7 | 0.5 | —1.0 | —1.6 | 2.2 | 1.4 | —1.2 | —0.7 | —0.5 |
| 1836 | —1.6 | —1.4 | —0.5 | 0.1 | —1.9 | —0.7 | —0.7 | —2.5 | **—2.2** | 0.2 | —3.2 | —2.6 | —1.5 |
| 37 | —3.0 | 1.3 | —4.1 | —1.4 | —0.5 | —1.4 | —2.4 | —0.5 | 1.2 | 1.4 | —0.1 | 2.0 | —0.7 |
| 38 | —7.0 | —5.3 | —3.3 | —3.1 | —1.5 | —0.7 | —0.6 | —1.6 | 0.2 | —0.4 | —2.6 | 0.3 | **—2.1** |
| 39 | —2.2 | 0.1 | —4.5 | —3.7 | —0.9 | —1.1 | 1.3 | —1.0 | 2.2 | 3.0 | —1.1 | —2.9 | —0.9 |
| 40 | —0.4 | 1.6 | 1.7 | 0.5 | —2.5 | —0.2 | —0.9 | 1.8 | 1.4 | —1.8 | 0.8 | 0.7 | 0.2 |
| 1841 | —6.0 | —1.5 | 1.2 | 1.7 | 1.5 | 0.4 | —2.2 | 0.4 | 1.2 | —2.2 | —2.8 | —0.4 | —0.8 |
| 42 | —0.6 | 3.6 | 0.2 | 0.3 | 2.3 | 0.7 | —0.4 | 2.4 | 0.4 | —1.1 | —2.5 | 2.5 | 0.6 |
| 43 | 0.4 | —2.3 | —2.9 | —3.0 | —1.0 | —0.1 | 0.5 | 2.2 | 0.7 | —2.1 | —0.1 | 3.9 | —0.4 |
| 44 | —1.3 | —8.0 | —1.9 | 0.7 | 1.4 | —0.9 | 0.0 | 1.8 | —0.5 | —0.3 | —2.4 | —4.9 | —1.4 |
| 45 | 0.0 | —8.0 | —4.7 | —0.3 | 0.8 | 1.7 | 1.3 | 1.7 | —0.3 | —0.9 | 0.8 | —1.3 | —0.8 |
| 1846 | —1.7 | —0.3 | 1.2 | 0.5 | 0.1 | 1.2 | 0.9 | 4.5 | 1.2 | 3.1 | 0.4 | —5.7 | 0.4 |

## Trondheim.

III. *Temperature, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 01—30 | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1847 | —1.3 | —1.9 | —0.1 | —2.5 | 0.5 | 2.5 | —0.2 | 0.5 | 0.2 | —0.8 | 3.5 | 1.0 | 0.1 |
| 48 | —2.7 | —1.8 | —0.4 | 0.3 | 0.5 | 0.9 | —1.4 | —0.7 | 0.3 | —1.2 | —1.5 | —1.3 | —0.8 |
| 49 | —3.0 | —0.1 | —0.2 | —1.9 | 0.7 | —2.2 | 0.1 | —0.4 | —0.7 | —1.2 | —1.1 | —1.2 | —1.0 |
| 50 | —5.9 | 0.7 | —3.0 | 1.3 | 1.6 | 1.0 | 0.7 | 0.0 | 0.0 | —1.4 | —1.9 | 2.2 | —0.4 |
| 1851 | 0.5 | 0.3 | —2.6 | —0.3 | —0.5 | —0.1 | —0.4 | —1.2 | 1.9 | 2.4 | —4.0 | 4.3 | 0.0 |
| 52 | 0.2 | —0.5 | 0.4 | —1.1 | 2.1 | 5.2 | 3.1 | **4.7** | 1.4 | —2.6 | —3.1 | —1.2 | 0.7 |
| 53 | —0.8 | —5.8 | —5.5 | —1.2 | 0.9 | **5.6** | 2.5 | 0.6 | 1.5 | 0.1 | 0.3 | —0.2 | —0.2 |
| 54 | —4.0 | 0.4 | 3.1 | 0.6 | 2.6 | 3.3 | 2.2 | 1.8 | 0.3 | —0.4 | —1.3 | 0.0 | 0.7 |
| 55 | *—3.0* | *—5.9* | *—2.0* | —0.7 | —0.4 | 0.7 | 4.5 | 0.3 | —0.4 | —1.2 | 0.3 | —4.5 | —1.1 |
| 1856 | —0.8 | —1.4 | —0.2 | —0.2 | —1.2 | —0.6 | —0.6 | —2.3 | —0.2 | 1.4 | —3.8 | —0.6 | —0.9 |
| 57 | —5.0 | 1.4 | —0.3 | —0.3 | 0.1 | —1.8 | —0.5 | 2.3 | 1.2 | 1.9 | 3.1 | **5.0** | 0.6 |
| 58 | 1.9 | —1.6 | —0.4 | —1.4 | 0.7 | 2.4 | 2.7 | 2.9 | 2.5 | 0.8 | —1.3 | —1.5 | 0.6 |
| 59 | **2.9** | 0.0 | —0.6 | —2.4 | 0.5 | 1.4 | —2.0 | 0.5 | 1.6 | —0.8 | —0.4 | —3.0 | —0.2 |
| 60 | —3.1 | —2.9 | —2.3 | —1.9 | —0.5 | 2.8 | —1.0 | 1.1 | —0.8 | —0.6 | —1.9 | —5.3 | —1.4 |
| 1861 | —1.9 | 0.4 | 0.0 | —1.4 | —2.7 | 2.7 | 1.7 | 0.3 | 0.1 | 2.7 | —2.3 | 3.1 | 0.2 |
| 62 | —2.6 | —1.3 | —3.4 | —0.1 | 2.6 | 1.0 | —2.0 | —1.7 | —0.2 | 1.5 | 1.2 | 0.5 | —0.4 |
| 63 | 1.7 | 2.0 | —2.3 | 0.8 | —2.5 | 1.9 | —2.4 | —0.9 | 1.3 | 1.6 | 1.5 | 0.8 | 0.3 |
| 64 | —1.2 | —3.5 | —2.7 | —0.8 | —3.4 | —0.3 | —1.2 | —2.5 | 1.2 | —2.2 | —1.1 | 0.9 | —1.4 |
| 65 | —1.7 | —2.9 | —2.7 | 0.0 | 0.1 | —2.8 | 0.1 | 0.1 | 0.4 | —1.3 | 0.6 | 2.3 | —0.7 |
| 1866 | 2.6 | —2.1 | —4.5 | —0.2 | —1.4 | 2.5 | —1.7 | 1.2 | 2.5 | 0.1 | —2.4 | —2.2 | —0.5 |
| 67 | **—3.3** | 2.1 | —2.8 | —1.9 | **—3.9** | —2.0 | —1.9 | 0.9 | 0.6 | 0.2 | 1.2 | —3.7 | —1.7 |
| 68 | —0.3 | 0.8 | 0.9 | 0.0 | 0.6 | —1.1 | —0.3 | 2.4 | —1.1 | 0.2 | —1.2 | —0.9 | 0.0 |
| 69 | 1.3 | 0.7 | —1.2 | 0.3 | —1.8 | —2.0 | —1.8 | —1.3 | 0.2 | —1.5 | —2.2 | —2.0 | —1.0 |
| 70 | —0.5 | —3.0 | —1.5 | 0.9 | —0.7 | —0.1 | —0.6 | 1.4 | —0.2 | —0.8 | 0.3 | —1.7 | —0.6 |
| 1871 | —2.5 | —5.8 | 2.2 | —3.4 | —1.9 | —0.8 | 1.2 | —0.2 | —0.8 | 0.8 | —2.8 | —0.4 | —1.2 |
| 72 | 1.6 | 1.2 | 0.2 | 1.1 | 0.7 | 4.6 | 1.4 | 0.0 | —0.6 | 1.6 | —0.2 | —2.6 | 0.7 |
| 73 | 2.4 | 0.1 | —0.9 | —1.8 | —0.9 | 1.8 | 2.2 | 0.5 | 0.8 | —0.4 | 2.1 | 2.9 | 0.7 |
| 74 | 3.1 | 2.4 | 0.7 | 0.4 | —1.8 | —0.8 | —0.2 | —1.5 | 0.6 | 3.2 | —2.4 | —6.1 | —0.2 |
| 75 | —5.0 | —3.6 | —0.5 | —1.3 | 1.1 | 0.6 | 0.0 | —0.6 | 0.2 | —2.2 | —3.3 | 0.9 | —1.2 |
| 1876 | 0.6 | —3.7 | —1.2 | 0.1 | —2.1 | 2.7 | —0.6 | 0.1 | 0.6 | 0.2 | —3.0 | —4.1 | —0.9 |
| 77 | —2.9 | —2.2 | —3.7 | —2.5 | —1.8 | —0.5 | 0.6 | —1.1 | —1.7 | —0.7 | 3.0 | 0.4 | —1.1 |
| 78 | 0.4 | 2.6 | —0.9 | 0.2 | 0.3 | 0.2 | —1.3 | 0.8 | 1.1 | 1.6 | —1.2 | —5.6 | —0.2 |
| 79 | —3.9 | —5.0 | —1.9 | —2.1 | —0.6 | 0.3 | 0.8 | 2.7 | 1.3 | —0.3 | —1.2 | 0.4 | —0.8 |
| 80 | 2.1 | 2.0 | 1.7 | 0.7 | —1.5 | 0.6 | —0.6 | 1.9 | 3.0 | —4.2 | —1.4 | —2.5 | 0.1 |
| 1881 | —4.6 | —7.6 | —4.2 | —4.1 | —1.7 | 0.1 | —1.6 | —0.2 | 0.8 | —1.9 | 1.4 | 2.0 | —1.8 |
| 82 | 3.6 | 0.1 | —0.3 | —0.9 | 0.5 | 1.8 | 1.4 | 2.1 | 2.8 | 1.7 | —3.0 | —4.7 | 0.4 |
| 83 | 0.2 | 1.3 | —2.9 | 1.7 | 0.1 | 2.0 | 1.4 | 0.3 | 0.7 | 0.8 | 1.6 | 1.9 | 0.7 |
| 84 | 2.3 | —0.3 | 1.7 | 0.3 | —1.1 | 0.0 | 0.2 | 2.5 | 2.9 | 2.0 | 0.6 | 0.3 | 0.9 |
| 85 | —1.6 | 2.3 | 0.2 | 0.5 | —1.4 | —2.6 | —1.2 | —1.2 | —0.6 | —1.6 | 0.4 | 1.5 | —0.5 |
| 1886 | —2.5 | —1.9 | —1.3 | 0.7 | —0.2 | 1.2 | —1.1 | —0.1 | 0.5 | 1.2 | 3.3 | —4.3 | —0.4 |
| 87 | 2.2 | 2.6 | 0.4 | —0.6 | 0.0 | —1.0 | —1.0 | —1.1 | 1.6 | —1.4 | —0.9 | —2.9 | —0.2 |
| 88 | 2.5 | —4.8 | —7.3 | —3.0 | —1.2 | 0.1 | —1.3 | —1.0 | —0.4 | —1.3 | —1.7 | 1.8 | —1.5 |
| 89 | 1.3 | —5.1 | —2.8 | 0.1 | 3.6 | 3.3 | 0.0 | —0.4 | —0.8 | 1.5 | 3.4 | 0.3 | 0.3 |
| 90 | 3.5 | 0.6 | 1.5 | 1.2 | 2.9 | 0.7 | —1.4 | 0.3 | 1.5 | 0.2 | 1.1 | —0.3 | 0.9 |
| 1891 | —0.4 | 4.3 | —2.4 | —0.4 | 0.1 | —0.8 | 1.6 | 0.7 | 0.2 | **4.1** | 0.8 | 0.3 | 0.6 |
| 92 | —3.9 | —4.2 | —0.9 | —0.4 | —1.9 | —1.1 | —2.3 | —1.5 | —0.3 | —0.2 | 1.3 | —0.6 | —1.3 |
| 93 | —3.0 | —6.7 | 0.2 | —0.2 | —0.2 | 0.2 | —0.5 | —0.7 | —1.9 | 0.5 | 0.7 | 3.1 | —0.7 |
| 94 | 0.2 | —0.5 | 2.4 | 3.6 | 0.1 | 1.8 | 2.2 | —0.4 | —1.2 | —1.5 | 1.8 | 2.3 | 0.9 |
| 95 | —5.7 | —5.3 | —3.0 | 0.4 | 2.6 | 1.9 | —0.3 | 0.6 | 0.0 | —1.5 | 1.3 | —1.4 | —0.9 |
| 1896 | 2.0 | 3.1 | 1.2 | 1.3 | —0.6 | 0.1 | 0.2 | —0.2 | 0.8 | —0.7 | —0.6 | —1.9 | 0.4 |
| 97 | —5.3 | —0.6 | —1.5 | 0.8 | 1.1 | —0.3 | 0.0 | 1.8 | 0.1 | 0.7 | 1.1 | 1.5 | —0.1 |
| 98 | **4.2** | —1.1 | —1.8 | 0.0 | 0.1 | 1.0 | —1.9 | —0.7 | —0.1 | —0.6 | —1.2 | 0.3 | —0.2 |

## Trondheim.

III. *Temperature, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| 1899 | —2.4 | —1.0 | —4.1 | —2.0 | —2.2 | 0.4 | 1.5 | —2.1 | —0.9 | —0.8 | 2.3 | —5.5 | —1.4 |
| 1900 | —3.0 | **—3.3** | —0.6 | —1.8 | —1.8 | 2.0 | —2.4 | —0.7 | —1.1 | —0.9 | —0.7 | —0.4 | —1.7 |
| 1901 | —2.1 | —3.3 | —2.8 | 0.5 | 0.8 | 2.3 | 3.9 | 1.5 | 2.0 | 2.8 | —1.4 | —5.7 | —0.2 |
| 02 | 1.2 | —1.5 | —2.5 | —1.2 | —1.0 | —0.6 | **—3.1** | —2.0 | —1.6 | —1.5 | —0.3 | —3.0 | —1.5 |
| 03 | —2.5 | 2.0 | 2.4 | —0.8 | 0.2 | —0.9 | —0.8 | —1.0 | 1.0 | —1.8 | 0.8 | 1.7 | 0.0 |
| 04 | 2.6 | —4.2 | —0.9 | 0.6 | —1.0 | —1.3 | —2.5 | —1.4 | 0.3 | 0.3 | —2.5 | —0.2 | —0.9 |
| 05 | —1.1 | 0.0 | 0.8 | —1.8 | —0.8 | 2.9 | —0.9 | —0.2 | —0.4 | —3.5 | —0.3 | 3.0 | —0.2 |
| 1906 | 0.0 | —0.4 | —1.0 | 0.3 | 0.5 | 0.2 | —0.1 | —0.5 | 0.5 | 1.0 | 1.8 | —1.7 | 0.0 |
| 07 | —0.1 | 0.3 | 1.1 | 0.2 | —1.3 | 1.4 | —1.6 | **—2.9** | —1.3 | 3.0 | 0.9 | —1.6 | —0.2 |
| 08 | 2.2 | 0.9 | —1.4 | —0.3 | —0.8 | —0.7 | —0.4 | —0.2 | —0.2 | 0.5 | —1.6 | 1.1 | —0.1 |
| 09 | 2.0 | —1.1 | —3.1 | —1.3 | —2.1 | —0.7 | —1.2 | —2.1 | —0.6 | 2.3 | —0.7 | —1.0 | —0.8 |
| 10 | —1.2 | 2.8 | 1.6 | 0.5 | 2.0 | 1.1 | —0.1 | 1.5 | 0.4 | 0.4 | —1.3 | 1.9 | 0.8 |
| 1911 | 0.7 | 1.4 | —0.4 | —0.5 | 2.6 | 0.4 | —0.7 | 0.8 | 0.7 | —1.5 | —1.7 | 2.6 | 0.3 |
| 12 | —1.3 | —0.6 | 1.6 | —1.2 | 0.0 | 2.2 | 2.0 | 1.2 | —0.7 | —0.2 | 0.0 | 2.7 | 0.4 |
| 13 | —2.4 | 1.9 | 1.5 | 1.3 | 1.4 | 0.5 | —0.6 | —0.3 | 0.6 | 0.7 | 3.1 | —0.5 | 0.6 |
| 14 | 1.1 | 3.4 | —0.3 | 1.5 | —1.3 | 1.1 | 3.9 | 0.6 | 0.7 | —0.3 | —0.7 | 1.0 | 0.9 |
| 15 | —1.7 | 0.4 | —2.5 | —0.7 | —2.3 | —2.3 | —1.0 | 0.1 | —1.5 | —3.0 | —1.3 | —6.1 | —1.9 |
| 1916 | 1.3 | —0.4 | —2.2 | 0.9 | 0.3 | 1.1 | 1.3 | —1.0 | —1.1 | —1.4 | 2.6 | —0.2 | 0.1 |
| 17 | —3.5 | —0.5 | —3.0 | —2.5 | —1.3 | 2.2 | —1.3 | 4.2 | —0.2 | —0.1 | 1.0 | —0.1 | —0.5 |
| 18 | —2.4 | 0.5 | 1.0 | 1.2 | 0.7 | —0.8 | 1.5 | 0.7 | —1.0 | 2.0 | 2.5 | —1.4 | 0.3 |
| 19 | 0.5 | —1.3 | —1.7 | —1.4 | 3.0 | —0.2 | 0.5 | —2.4 | —0.2 | —0.9 | **—4.3** | —3.6 | —1.0 |
| 20 | 1.0 | 2.6 | 3.3 | 1.5 | 2.2 | 0.3 | 0.7 | —0.9 | 0.8 | 1.0 | 2.1 | 0.2 | 1.2 |
| 1921 | 0.5 | 1.7 | 2.9 | 2.5 | 0.3 | —2.9 | —2.6 | —1.7 | —0.8 | 0.6 | —2.1 | 1.9 | 0.0 |
| 22 | —3.4 | —1.4 | —0.5 | —1.3 | —0.2 | —0.6 | 0.1 | —0.1 | 0.0 | —0.8 | 1.2 | 2.8 | —0.4 |
| 23 | 2.4 | —2.6 | 1.7 | —0.6 | —1.4 | **—4.0** | —0.6 | —0.8 | —0.1 | 0.5 | —1.2 | —2.0 | —0.8 |
| 24 | 0.2 | —1.9 | —3.0 | —1.1 | —0.7 | —1.1 | 1.1 | 1.8 | 1.8 | 2.5 | 1.8 | 4.4 | 0.5 |
| 25 | 3.4 | 1.6 | —2.2 | 0.8 | 1.7 | —0.2 | 3.4 | 1.5 | 0.9 | —1.8 | —2.1 | —2.2 | 0.4 |
| 1926 | —0.5 | 0.0 | 0.6 | 1.8 | —0.3 | 2.2 | 0.0 | 1.0 | —0.2 | —3.4 | 2.3 | 0.6 | 0.3 |
| 27 | 0.9 | 1.3 | 2.5 | —1.4 | —2.5 | —0.3 | 3.0 | 2.4 | 0.2 | —0.3 | —1.6 | —2.1 | 0.1 |
| 28 | 0.4 | —0.3 | 1.2 | 1.6 | —0.8 | —1.9 | **—3.2** | —0.9 | —0.3 | 0.7 | 1.5 | 1.4 | —0.1 |
| 29 | —1.2 | —3.1 | 3.0 | —2.7 | 1.1 | —0.9 | —2.1 | —1.6 | 0.5 | 0.8 | 2.1 | 4.2 | 0.0 |
| 30 | 3.8 | 0.8 | 1.4 | 2.7 | 1.9 | 2.8 | 2.5 | 3.1 | 0.5 | 2.0 | 0.1 | 3.3 | **2.0** |
| 1931 | —1.4 | —1.4 | —3.1 | —0.5 | 1.4 | —2.9 | 1.3 | —1.2 | —1.5 | —0.2 | 3.5 | 1.6 | —0.4 |
| 32 | 4.1 | 3.2 | —1.4 | —0.3 | 0.6 | —1.2 | 0.8 | —0.2 | —0.6 | —1.5 | 1.4 | 3.6 | 0.7 |
| 33 | 3.0 | —1.9 | 0.7 | —0.8 | 0.5 | 4.6 | 1.2 | 0.0 | 1.9 | 0.9 | —0.7 | 2.7 | 1.0 |
| 34 | **4.4** | 3.0 | 1.3 | 0.0 | 1.0 | 0.1 | 1.5 | 2.8 | 3.8 | 1.8 | 1.8 | 2.5 | **2.0** |
| 35 | 1.3 | 1.1 | —1.3 | —0.4 | —2.5 | 1.1 | —1.1 | 0.6 | 0.2 | 0.4 | 3.7 | 1.7 | 0.4 |
| 1936 | 0.1 | —1.9 | 0.6 | —1.0 | 1.7 | 2.6 | 1.9 | 0.4 | 0.2 | 0.0 | 2.3 | 4.5 | 0.9 |
| 37 | 1.0 | —2.9 | —1.7 | 3.3 | 2.9 | 1.3 | 2.9 | 3.3 | 1.0 | 3.4 | 0.6 | —1.9 | 1.1 |
| 38 | 1.9 | 3.2 | 3.3 | —0.7 | —0.8 | —0.4 | 1.5 | 1.6 | 1.4 | 2.7 | 4.2 | 2.4 | 1.7 |
| 39 | —0.3 | 4.3 | 0.6 | —0.8 | —0.3 | —0.1 | 0.9 | 3.0 | 1.6 | —0.2 | 2.0 | —0.4 | 0.8 |
| 40 | —3.9 | —6.9 | —2.4 | —1.0 | 3.6 | 1.1 | —0.6 | —1.9 | —0.9 | 1.1 | 1.5 | 0.0 | —0.9 |
| 1941 | —4.1 | —3.7 | —1.5 | —1.1 | —0.9 | —0.3 | 3.6 | 0.1 | 0.5 | —0.4 | 0.7 | 0.1 | —0.6 |
| 42 | —6.9 | —3.4 | —4.0 | 0.2 | —0.5 | —0.7 | —1.5 | 0.5 | —0.1 | 1.1 | 2.8 | 0.9 | —1.0 |
| 43 | —1.1 | 2.9 | 3.2 | 0.1 | 0.4 | 1.6 | 0.0 | —1.3 | 0.9 | 2.8 | 1.0 | 3.7 | 1.1 |
| 44 | 2.1 | 1.4 | —0.3 | —1.7 | —2.2 | *0.0* | *1.4* | *0.3* | *1.0* | *2.7* | *0.4* | *3.4* | *0.7* |
| 45 | *—4.4* | *1.1* | *2.8* | *1.3* | *0.5* | *1.4* | *1.9* | *1.9* | *0.4* | *0.7* | *1.5* | *0.1* | *0.7* |
| 1946 | *0.1* | *—2.8* | *0.1* | *0.9* | *1.3* | *0.9* | *1.5* | *1.7* | *2.1* | *1.0* | *2.1* | *2.4* | *0.9* |
| Mean deviation: d | | | | | | | | | | | | | |
| d | 2.33 | 2.27 | 1.90 | 1.40 | 1.33 | 1.52 | 1.45 | 1.30 | 1.00 | 1.30 | 1.59 | 2.06 | 0.71 |

Mean of monthly values 1.62 = $d_m$.

## Trondheim.

III. *Temperature, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | —2.0 | —1.4 | 0.3 | 3.9 | 8.1 | 11.4 | 14.2 | 13.0 | 9.2 | 4.8 | 0.8 | —1.5 | 5.1 |
| Greatest positive and greatest negative departures and their difference $D$, 186 years. | | | | | | | | | | | | | |
| Max. | 4.4 | 5.0 | 3.9 | 4.8 | 5.9 | 5.6 | 6.2 | 4.7 | 3.5 | 4.1 | 4.8 | 5.0 | 2.0 |
| Min. | 8.3 | 8.3 | 9.1 | 6.5 | 3.9 | 4.0 | 3.2 | 2.9 | 2.2 | 4.9 | 4.3 | 7.9 | 2.1 |
| $D$ | 12.7 | 13.3 | 13.0 | 11.3 | 9.8 | 9.6 | 9.4 | 7.6 | 5.7 | 9.0 | 9.1 | 12.9 | 4.1 |
| Mean of monthly values 10.28 = $D_m$ | | | | | | | | | | | | | |
| $\frac{D}{d}$ | 5.45 | 5.86 | 6.84 | 8.07 | 7.37 | 6.31 | 6.48 | 5.84 | 5.70 | 6.87 | 5.72 | 6.26 | 5.77 |
| Mean of monthly values 6.35. Theoretical: 6.69 | | | | | | | | | | | | | |

IV. *Pressure at sealevel, true means, 1762——1945, 183 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 1761 | | | | | | | | | | | | | |
| 62 | 00.4 | 05.4 | 12.1 | 15.4 | 15.9 | 09.1 | 04.0 | 02.4 | 05.4 | 15.2 | 01.9 | 22.4 | 09.1 |
| 63 | 20.6 | 03.7 | 12.1 | 10.2 | 13.1 | 11.4 | **02.7** | 02.7 | 10.4 | 04.9 | 07.4 | 04.7 | 08.7 |
| 64 | 98.3 | 06.3 | 13.4 | 10.8 | 12.0 | 09.2 | 12.0 | 13.5 | 07.4 | 03.7 | 11.7 | 10.7 | 09.1 |
| 65 | 12.8 | 18.9 | 99.0 | 14.0 | 18.1 | 17.8 | 10.4 | 14.3 | 10.0 | 99.9 | 09.2 | 13.2 | 11.5 |
| 1766 | 21.8 | 09.9 | 08.5 | 17.3 | 10.9 | 16.5 | 15.9 | 14.6 | 11.8 | 09.8 | 17.6 | 17.3 | **14.3** |
| 67 | | | | | | | | | | | | | |
| 68 | 14.7 | 09.4 | 16.7 | 12.3 | 19.5 | 16.5 | 16.4 | 13.3 | 13.4 | 13.9 | 98.2 | 09.4 | 12.8 |
| 69 | 08.7 | 04.9 | 14.1 | 11.0 | 13.2 | 09.5 | 10.1 | 04.7 | 06.6 | 23.3 | 02.9 | 07.1 | 09.7 |
| 70 | 05.8 | 01.1 | 10.5 | 08.2 | 17.0 | 07.4 | 12.8 | 12.0 | 11.4 | 04.4 | 05.1 | 00.0 | 08.0 |
| 1771 | 00.1 | 16.1 | 16.5 | 12.0 | 14.0 | 17.7 | 07.1 | 04.3 | 16.9 | 99.3 | 05.1 | 99.3 | 09.0 |
| 72 | *05.7* | *99.3* | *03.3* | *12.3* | *20.9* | *14.5* | *11.1* | *07.6* | *06.7* | **94.8** | *96.7* | *11.8* | *07.1* |
| 73 | *02.6* | *09.1* | *20.5* | *08.6* | *13.6* | *11.1* | *15.2* | *12.7* | *99.3* | *04.3* | *04.1* | *06.9* | *09.0* |
| 74 | *01.3* | *02.3* | *13.0* | *08.0* | *17.3* | *08.1* | *09.3* | *09.3* | *06.1* | *18.4* | *12.1* | *20.7* | *10.5* |
| 75 | *05.3* | *99.3* | *05.9* | *17.1* | *20.2* | *13.4* | *07.7* | *05.7* | *05.0* | *08.1* | *11.1* | *14.2* | *09.4* |
| 1776 | *10.4* | **87.4** | *10.6* | *17.7* | *19.0* | *07.4* | *08.4* | *07.7* | *09.1* | *16.0* | *07.4* | *11.3* | *09.4* |
| 77 | *08.7* | *04.9* | *07.7* | *17.9* | *09.3* | *08.3* | *10.2* | *10.7* | *14.3* | *08.0* | *08.5* | *11.4* | *10.0* |
| 78 | *03.7* | *05.0* | *08.7* | *08.2* | *09.7* | *11.7* | *09.2* | *15.5* | *14.5* | *06.4* | *00.9* | *07.7* | *08.4* |
| 79 | *17.2* | *10.7* | *16.3* | *06.0* | *06.4* | *16.8* | *13.3* | *18.8* | *09.2* | *15.7* | *04.7* | *07.2* | *11.9* |
| 80 | 09.4 | 06.3 | 96.7 | 09.1 | 10.3 | 08.9 | 11.2 | **20.7** | 16.0 | *16.4* | 06.7 | 19.8 | 11.0 |
| 1781 | 08.9 | 01.4 | 08.8 | 11.2 | 18.4 | 16.3 | 11.8 | 13.7 | 10.5 | *20.8* | 00.9 | 15.8 | 11.5 |
| 82 | *00.8* | *14.0* | 00.3 | 15.7 | 09.0 | 14.1 | 09.4 | *14.3* | 10.2 | *18.6* | 17.1 | 08.7 | 11.0 |
| 83 | 97.4 | 00.5 | 04.6 | 17.2 | 13.9 | 12.6 | 14.6 | 13.4 | 05.0 | *10.8* | 12.8 | 14.3 | 09.8 |
| 84 | 11.6 | 07.5 | 06.6 | 07.1 | 12.6 | 10.1 | 08.0 | 10.8 | 13.6 | *23.5* | 04.2 | 08.8 | 10.4 |
| 85 | 11.1 | 13.6 | 10.8 | 14.9 | 09.8 | 18.3 | 09.3 | 08.1 | 06.9 | *12.5* | 01.6 | 19.9 | 11.4 |
| 1786 | 03.6 | 13.6 | 14.4 | 17.0 | 10.8 | 16.3 | 08.2 | 10.6 | 00.7 | *18.9* | 19.4 | 01.6 | 11.3 |
| 87 | 17.5 | 03.6 | 05.2 | 12.9 | 13.5 | 12.0 | 06.7 | 08.7 | 13.2 | *06.4* | *06.4* | *09.4* | 09.6 |
| 88 | *12.6* | *05.1* | *06.8* | *17.6* | 15.7 | 14.0 | 10.1 | 07.6 | 09.5 | *21.0* | 09.0 | 11.3 | 11.7 |
| 89 | 06.1 | 95.2 | 13.4 | 04.4 | 12.8 | 10.7 | 09.1 | 16.4 | 07.3 | *04.6* | 06.4 | 93.3 | 06.6 |
| 90 | 11.8 | 01.4 | 19.0 | **21.5** | 18.1 | 09.5 | 06.3 | 08.2 | 05.7 | 10.4 | 14.3 | 97.0 | 10.3 |
| 1791 | **87.9** | 05.7 | 07.4 | 11.9 | 11.1 | 11.1 | 08.9 | 14.4 | 13.7 | 08.7 | 02.8 | 97.2 | 06.7 |
| 92 | 04.0 | 13.2 | 07.0 | 09.4 | 08.5 | 13.2 | 11.6 | 14.7 | 03.6 | 15.6 | 07.1 | 92.8 | 08.4 |
| 93 | 10.5 | 97.2 | 14.7 | 18.5 | 15.4 | 10.5 | 10.8 | 09.2 | 14.0 | 98.7 | 17.2 | 07.3 | 10.3 |
| 94 | 03.5 | 11.7 | 12.5 | 14.2 | 10.0 | 16.1 | 14.7 | 08.7 | 11.9 | 04.1 | 08.9 | 15.8 | 11.0 |

## Trondheim.

IV. *Pressure at sealevel, true means, 1762——1945, 183 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 1795 | 13.0 | 09.3 | 08.8 | 15.1 | *11.1* | 13.0 | 12.6 | 13.2 | *17.1* | 06.3 | 99.2 | 05.3 | 10.3 |
| 96 | 93.6 | 10.2 | 14.4 | 16.4 | **06.4** | 06.1 | 05.5 | 14.2 | 10.7 | 04.1 | 08.5 | 06.2 | 08.0 |
| 97 | 12.1 | 09.4 | 15.9 | 18.5 | 10.2 | 11.5 | 11.7 | 07.2 | 05.4 | 08.8 | 06.0 | 00.2 | 09.7 |
| 98 | 02.2 | 02.1 | 07.8 | 15.2 | 20.4 | 14.4 | 07.4 | 13.8 | 06.6 | 09.7 | 00.4 | 19.8 | 10.0 |
| 99 | 11.4 | 12.1 | *16.8* | *07.7* | 13.8 | 14.9 | 10.8 | 06.6 | 13.5 | 12.5 | 05.0 | 26.6 | 12.6 |
| 1800 | 11.7 | 19.0 | 19.2 | 05.4 | 17.7 | 11.4 | 15.0 | 14.5 | 14.0 | 01.9 | 97.0 | 03.4 | 10.8 |
| 1801 | 99.2 | 06.7 | 99.4 | 10.4 | 13.7 | 11.1 | 10.3 | 17.5 | 14.7 | 06.6 | 98.9 | 99.6 | 07.3 |
| 02 | 08.3 | 02.1 | 95.7 | 05.9 | 13.0 | 07.8 | 04.9 | 11.2 | *13.1* | *04.3* | *06.7* | *05.3* | 06.5 |
| 03 | *13.3* | *02.7* | *15.7* | *08.7* | *08.7* | *12.8* | **18.1** | *11.7* | *13.9* | *15.3* | *99.5* | *04.2* | *10.4* |
| 04 | *99.5* | *14.1* | *06.7* | *07.3* | *11.7* | *13.1* | *08.7* | *07.8* | *14.3* | *04.7* | *10.6* | *14.2* | *09.4* |
| 05 | *04.7* | *02.7* | *11.9* | *13.8* | *13.3* | *16.2* | *09.9* | *09.3* | *11.3* | *16.1* | *19.9* | *99.4* | *10.2* |
| 1806 | *93.5* | *04.8* | *08.7* | *18.4* | *17.8* | *14.2* | *09.6* | *07.7* | *13.3* | *13.4* | *01.9* | *95.8* | *08.3* |
| 07 | *11.7* | *99.6* | *16.4* | *12.7* | *13.0* | *13.4* | *11.3* | *11.7* | *04.4* | *08.7* | *98.3* | *07.0* | *09.0* |
| 08 | *00.0* | *13.5* | *21.1* | *08.5* | *14.1* | *14.2* | *14.7* | *09.6* | *09.7* | *04.1* | *09.8* | *11.0* | *10.9* |
| 09 | *04.7* | *02.6* | *18.3* | *11.6* | *14.9* | *12.5* | *12.9* | *07.1* | *03.9* | *21.1* | *13.1* | *96.0* | *09.9* |
| 10 | *19.1* | *05.0* | *06.0* | *15.0* | *16.3* | *16.3* | *08.3* | *08.9* | *15.1* | *13.5* | *03.3* | *03.4* | *10.8* |
| 1811 | *10.5* | *99.2* | *16.5* | *11.8* | *12.1* | *12.2* | *14.7* | *11.5* | *14.5* | *05.1* | *07.1* | *00.8* | *09.7* |
| 12 | 06.3 | *00.4* | *10.9* | *14.4* | *14.6* | *11.7* | *12.2* | *15.9* | *11.4* | *99.3* | *11.3* | *18.4* | *10.6* |
| 13 | *16.1* | *97.3* | *16.3* | *13.1* | *11.7* | *16.2* | *10.6* | *14.8* | *15.1* | *08.1* | *02.8* | *12.2* | *11.2* |
| 14 | *04.5* | *16.7* | *13.9* | *12.9* | *19.4* | *16.6* | *12.4* | *10.6* | *16.4* | *09.5* | *02.9* | *03.8* | *11.6* |
| 15 | *12.7* | *04.7* | *02.3* | *16.1* | *13.9* | *11.6* | *14.5* | *08.5* | *12.1* | *11.5* | *12.1* | *05.8* | *10.5* |
| 1816 | *02.5* | *00.4* | *09.4* | *12.6* | *15.4* | *11.7* | *09.7* | *08.9* | *09.2* | *10.0* | *05.8* | *02.7* | *08.2* |
| 17 | *01.1* | *93.3* | *03.7* | 13.3 | *10.6* | *13.6* | *06.8* | *07.0* | *16.1* | *17.4* | *09.1* | *06.4* | *08.2* |
| 18 | 96.9 | 05.4 | **92.9** | 13.3 | 18.9 | 12.5 | 12.1 | 12.8 | 10.4 | 13.9 | 14.6 | 09.9 | 09.5 |
| 19 | 04.8 | 05.6 | 05.5 | 10.9 | 14.3 | 09.9 | 12.1 | 12.8 | 08.8 | 10.8 | 11.7 | 17.7 | 10.4 |
| 20 | 12.3 | 14.9 | 06.1 | 10.5 | 11.1 | 07.1 | 09.6 | **00.7** | 12.1 | 06.0 | 18.2 | 18.2 | 10.6 |
| 1821 | *12.9* | *16.2* | 04.6 | 05.6 | 09.7 | 18.9 | 11.1 | 12.2 | 09.7 | 09.6 | 00.3 | 97.2 | 09.0 |
| 22 | 02.1 | 00.2 | 95.5 | 18.9 | 19.8 | 16.9 | 11.5 | 10.5 | 10.1 | 08.6 | 99.9 | 15.3 | 09.1 |
| 23 | 19.1 | 04.7 | 09.4 | 09.2 | 13.1 | 13.1 | 09.5 | 11.0 | 07.4 | 08.9 | 08.3 | 97.9 | 09.3 |
| 24 | 00.0 | 09.4 | *06.9* | 12.8 | 09.7 | 16.2 | 09.2 | 12.5 | 13.0 | 04.4 | 94.2 | 90.1 | 06.6 |
| 25 | 06.4 | 10.5 | 20.6 | 10.1 | 17.2 | 10.0 | 16.7 | 10.5 | 13.7 | 05.3 | **93.1** | 07.8 | 10.2 |
| 1826 | 16.1 | 08.1 | 10.2 | 05.1 | 18.8 | 18.0 | 10.0 | 10.2 | 10.4 | 07.1 | 07.7 | 06.3 | 10.7 |
| 27 | 04.8 | *16.1* | *93.6* | *14.7* | *10.5* | *08.7* | *08.2* | 09.8 | 19.5 | 16.5 | 14.3 | 04.0 | 10.1 |
| 28 | 20.9 | 14.9 | 07.5 | 10.3 | 16.2 | 12.6 | 07.6 | 10.0 | 12.8 | 10.8 | 11.9 | 09.7 | 12.1 |
| 29 | 22.1 | 15.4 | 11.1 | 10.4 | 17.1 | 15.7 | 08.1 | 10.1 | 05.1 | 07.5 | 12.0 | 25.1 | 13.3 |
| 30 | 21.7 | 12.5 | 08.5 | 08.2 | 15.8 | 10.7 | 12.4 | 06.6 | 11.4 | 11.9 | 08.0 | 07.5 | 11.3 |
| 1831 | 12.7 | 10.1 | 17.9 | 13.9 | 17.6 | 13.1 | 14.1 | 13.1 | 16.7 | 09.2 | 07.8 | 08.0 | 12.8 |
| 32 | 10.4 | 17.7 | 04.6 | 20.2 | 12.6 | 12.6 | 11.2 | 12.9 | 10.0 | 10.9 | 15.4 | 07.9 | 12.2 |
| 33 | 21.0 | 04.9 | 21.9 | *11.0* | 16.5 | 09.5 | 13.3 | 07.0 | 17.4 | 11.2 | 02.5 | 93.7 | 10.8 |
| 34 | 05.5 | 07.9 | 09.8 | 19.3 | *12.7* | *11.7* | *16.6* | *12.4* | *16.2* | *04.6* | *07.1* | *17.2* | 11.8 |
| 35 | 01.9 | 93.0 | 06.7 | 09.2 | 13.0 | 14.7 | 12.1 | 12.7 | 07.5 | 05.9 | 12.0 | 12.0 | 08.4 |
| 1836 | 00.2 | 00.1 | 94.1 | 09.5 | 22.3 | 08.7 | 06.6 | 08.0 | 08.6 | 03.0 | 03.1 | 02.4 | **05.6** |
| 37 | 07.6 | 06.3 | 11.9 | 18.5 | 13.3 | 15.4 | 13.6 | 14.9 | 14.7 | 03.5 | 98.4 | 11.9 | 10.8 |
| 38 | **30.9** | 10.2 | 12.8 | 07.1 | 19.6 | 14.3 | 12.1 | 06.7 | 16.5 | 04.3 | 04.0 | 11.9 | 12.5 |
| 39 | 93.2 | 99.3 | 15.4 | 21.1 | 16.4 | 12.6 | 12.1 | 10.9 | 07.7 | 21.2 | 13.6 | 14.5 | 11.5 |
| 40 | 96.9 | 18.4 | 17.5 | 14.3 | 13.0 | 09.6 | 05.6 | 13.7 | 07.6 | 14.7 | 07.6 | 21.0 | 11.7 |
| 1841 | 10.6 | 17.0 | 10.3 | 13.9 | 13.5 | 09.9 | 03.8 | 06.3 | 13.1 | 00.6 | 03.2 | 00.6 | 08.6 |
| 42 | 18.6 | 05.0 | 99.0 | 17.0 | 14.3 | 10.9 | 11.2 | 16.2 | 14.5 | 05.1 | 09.0 | 03.5 | 10.4 |
| 43 | 94.4 | 06.4 | 15.0 | 11.6 | 16.2 | 13.2 | 10.5 | 13.8 | 15.2 | 98.7 | 07.1 | 06.5 | 09.0 |
| 44 | 04.3 | 04.0 | 06.8 | 13.0 | 20.9 | 09.3 | 10.6 | 07.1 | 15.9 | 07.7 | 15.2 | **27.6** | 11.9 |
| 45 | 06.9 | 13.9 | 13.1 | 13.1 | 13.4 | 10.2 | 12.6 | 09.1 | 07.9 | 07.9 | 01.2 | 95.1 | 08.7 |
| 1846 | 07.7 | 01.3 | 03.6 | 12.1 | 12.9 | 14.8 | 09.1 | 15.1 | 13.0 | 08.7 | 14.7 | 07.0 | 10.0 |

## Trondheim.

IV. *Pressure at sealevel, true means, 1762——1945, 183 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 01—30 | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 1847 | 19.4 | 05.1 | 13.4 | 06.1 | 14.0 | 12.6 | 15.1 | 13.6 | 05.8 | 13.3 | 05.3 | 14.0 | 11.5 |
| 48 | 20.6 | 95.9 | 11.2 | 10.0 | 16.0 | 11.2 | 09.4 | 06.7 | 13.0 | 14.8 | 01.9 | 16.5 | 10.6 |
| 49 | 01.2 | 02.7 | 10.2 | 13.3 | 19.2 | 07.2 | 10.4 | 10.7 | 19.9 | 08.6 | 12.0 | 19.9 | 11.3 |
| 50 | 20.3 | 93.9 | 12.7 | 14.5 | 13.4 | 12.3 | 15.2 | 06.9 | 21.9 | 09.1 | 02.9 | 04.0 | 10.6 |
| 1851 | 07.6 | 08.8 | 09.2 | 16.2 | 14.8 | 11.1 | 08.7 | 13.4 | **22.6** | 07.5 | 11.3 | 11.8 | 11.9 |
| 52 | 95.0 | 03.9 | *16.2* | 21.1 | 11.5 | 08.0 | 17.2 | 10.6 | 06.1 | 09.4 | 04.1 | 96.1 | 08.3 |
| 53 | 02.9 | 09.4 | 15.7 | 10.3 | 18.3 | 12.9 | 07.9 | 11.4 | 08.0 | 06.8 | 17.3 | 13.3 | 11.2 |
| 54 | 08.7 | 00.5 | 17.8 | 15.4 | 12.9 | 16.9 | 17.6 | 14.8 | 11.2 | 07.8 | 08.2 | **89.7** | 10.1 |
| 55 | *15.4* | *12.2* | *06.7* | *13.2* | *11.0* | *15.7* | *13.2* | *11.0* | *16.5* | *98.2* | *19.0* | *09.2* | *11.8* |
| 1856 | 00.8 | 10.8 | 22.4 | 11.1 | 15.0 | 09.3 | 10.5 | 12.0 | 10.8 | 19.3 | 08.8 | 95.5 | 10.5 |
| 57 | 09.1 | 10.6 | 16.4 | 15.5 | 20.1 | 15.3 | 07.7 | 19.8 | 14.4 | 11.3 | 20.5 | 08.3 | 14.1 |
| 58 | *14.4* | *19.8* | *00.6* | *12.7* | *11.2* | *17.6* | *11.2* | *16.3* | *12.3* | *08.7* | *12.9* | *12.1* | *12.5* |
| 59 | *04.9* | *02.7* | *99.1* | *08.0* | *20.4* | *13.3* | *15.6* | *12.1* | *07.5* | *07.3* | *12.7* | *07.7* | *09.3* |
| 60 | *02.4* | *05.7* | *05.0* | *15.4* | *12.1* | *08.2* | *14.8* | *04.2* | *10.1* | *08.3* | *18.2* | *12.8* | *09.8* |
| 1861 | *18.7* | *07.1* | *98.0* | *17.8* | *13.8* | *16.9* | *04.7* | *05.1* | *09.9* | *17.3* | *99.3* | *15.9* | *10.4* |
| 62 | *10.0* | *20.1* | *12.1* | *10.8* | *15.2* | *06.5* | *03.5* | *13.4* | *17.0* | *01.2* | *18.2* | *05.8* | *11.2* |
| 63 | *95.1* | *07.7* | *08.6* | *10.7* | *13.0* | *11.3* | *14.4* | *09.3* | *01.1* | *07.4* | *07.0* | *99.5* | *07.1* |
| 64 | *20.7* | *15.0* | *03.6* | *18.8* | *18.6* | *09.4* | *13.8* | *13.7* | *09.6* | *14.9* | *12.0* | *15.9* | *13.8* |
| 65 | *96.4* | *13.3* | *15.2* | *17.2* | *13.8* | *18.7* | *10.3* | *10.3* | *16.6* | *06.4* | *05.7* | *14.4* | *11.5* |
| 1866 | 93.2 | 99.4 | 09.4 | 15.8 | 14.8 | 14.9 | 10.2 | 06.4 | 04.9 | 18.8 | 99.4 | 02.0 | 07.4 |
| 67 | 08.4 | 02.4 | 14.2 | 02.6 | 19.6 | 15.2 | 12.2 | 13.7 | 12.1 | 06.6 | 10.3 | 10.1 | 10.6 |
| 68 | 03.8 | 95.1 | 03.2 | 10.9 | 13.3 | 14.0 | 17.9 | 11.6 | 15.0 | 07.7 | 11.7 | 00.5 | 08.7 |
| 69 | 15.4 | *99.9* | 11.8 | 12.8 | 10.6 | 13.0 | 13.5 | 14.4 | 02.0 | 07.5 | 98.4 | 07.9 | 08.9 |
| 70 | *14.2* | *14.3* | *14.5* | *13.3* | *11.9* | 12.7 | 13.4 | 14.7 | 12.2 | 07.5 | 08.7 | 16.4 | 12.8 |
| 1871 | 10.7 | 12.0 | 05.5 | 09.7 | 15.2 | 16.7 | 05.8 | 10.7 | 14.5 | 13.3 | 15.1 | 06.7 | 11.3 |
| 72 | 02.8 | 16.3 | 10.7 | 11.8 | 10.3 | 14.4 | 14.3 | 15.1 | 03.0 | 05.7 | 05.8 | 06.1 | 09.7 |
| 73 | 00.8 | 12.2 | 16.8 | 15.2 | 12.1 | 11.6 | 11.6 | 06.7 | 06.1 | 00.3 | 05.7 | 02.6 | 08.5 |
| 74 | 93.5 | 12.4 | 09.6 | 07.3 | 15.7 | 13.8 | 12.3 | 06.6 | 05.8 | 01.7 | 10.6 | 08.6 | 08.2 |
| 75 | 09.8 | 21.8 | 18.5 | 13.0 | 10.4 | 09.8 | 14.9 | 14.1 | 14.3 | 17.5 | 12.8 | 10.3 | 13.9 |
| 1876 | *16.7* | *09.4* | *96.8* | *10.9* | *18.6* | *16.5* | *10.4* | *11.4* | *07.1* | *13.3* | *17.9* | *11.3* | *11.7* |
| 77 | *08.4* | *01.5* | *04.0* | *15.6* | *12.5* | *12.6* | *07.9* | *11.7* | *11.7* | 05.4 | 96.7 | 09.0 | *08.1* |
| 78 | *09.6* | 10.0 | 05.0 | 17.0 | 07.2 | 13.3 | 11.9 | 11.0 | 05.7 | 06.9 | 08.3 | *05.0* | 09.2 |
| 79 | *21.0* | *04.4* | *11.9* | *12.5* | *14.2* | *08.7* | *08.4* | *09.2* | *09.6* | *10.0* | 17.0 | 13.5 | *11.7* |
| 80 | 15.9 | 02.9 | 19.0 | 12.1 | 15.3 | 13.5 | *10.9* | *17.7* | *13.1* | 09.2 | 02.0 | 00.9 | 11.0 |
| 1881 | 10.5 | 19.6 | 05.7 | 17.2 | 18.2 | 11.5 | 07.6 | *02.6* | 20.2 | 19.8 | 04.0 | 08.8 | 12.1 |
| 82 | 10.4 | 07.3 | *02.0* | *13.3* | 17.7 | 12.5 | 08.9 | 05.9 | 13.0 | 18.8 | 07.2 | 12.8 | 10.8 |
| 83 | 11.5 | 15.1 | 13.4 | 19.7 | 12.1 | 16.4 | 09.2 | 09.0 | *11.8* | 05.8 | 03.6 | 06.0 | 11.1 |
| 84 | 99.3 | 12.9 | 17.1 | 17.5 | 10.9 | 13.8 | 13.4 | 18.1 | 13.6 | 05.1 | 15.2 | 03.6 | 11.7 |
| 85 | 16.0 | 01.7 | 09.6 | 13.2 | 09.6 | 12.3 | 17.8 | 14.1 | 06.7 | 06.1 | 10.8 | 01.7 | 10.0 |
| 1886 | 02.5 | 23.2 | 16.5 | 12.8 | 13.5 | 11.4 | 08.8 | 09.1 | *11.4* | *17.7* | *07.2* | *98.8* | 11.1 |
| 87 | 09.4 | 16.0 | 12.3 | 11.4 | 15.2 | 17.0 | 11.0 | 10.2 | 09.6 | 05.8 | 06.7 | 01.8 | 10.5 |
| 88 | 14.4 | 16.8 | 07.8 | 13.1 | 10.8 | 17.4 | 06.8 | 11.8 | 16.6 | 06.3 | 05.8 | 09.8 | 11.5 |
| 89 | 11.0 | 05.9 | 10.0 | 11.5 | 18.7 | 18.7 | 10.8 | 04.4 | 13.0 | 14.0 | 12.6 | 14.4 | 12.1 |
| 90 | 00.0 | 24.7 | 02.4 | 11.9 | 14.7 | 11.0 | 04.2 | 07.6 | 14.3 | 05.2 | 11.6 | 24.3 | 11.0 |
| 1891 | 13.4 | 18.3 | 01.6 | 21.5 | 10.0 | **19.6** | 12.2 | 06.3 | 07.8 | 08.4 | 13.8 | 04.2 | 11.4 |
| 92 | 00.6 | 08.4 | 16.2 | 12.4 | 13.2 | 11.6 | 13.2 | 07.8 | 05.2 | 07.4 | 14.3 | 07.1 | 09.8 |
| 93 | 13.9 | 06.0 | 05.8 | 16.4 | 19.6 | 13.9 | 11.1 | 11.8 | 00.6 | 01.6 | 05.8 | 03.4 | 09.2 |
| 94 | 04.7 | 95.9 | 06.7 | 19.5 | 13.9 | 13.8 | 11.8 | 05.5 | 17.8 | 14.6 | 08.4 | 04.0 | 09.7 |
| 95 | 11.8 | 22.6 | 03.5 | 07.9 | 21.1 | 16.6 | 07.0 | 08.2 | 13.5 | 03.6 | 11.2 | 06.6 | 11.1 |
| 1896 | 12.2 | 16.4 | 02.3 | 11.0 | 18.8 | 13.6 | 14.2 | 12.0 | 06.8 | 06.2 | 14.6 | 12.7 | 11.7 |
| 97 | 18.0 | 04.4 | 06.4 | 13.6 | 13.2 | 15.8 | 11.9 | 09.8 | 05.6 | 17.5 | 14.2 | 10.3 | 11.7 |
| 98 | 07.1 | 02.0 | 11.0 | 17.0 | 08.7 | 13.5 | 10.8 | 11.4 | 13.0 | 14.7 | 07.9 | 98.4 | 09.6 |

## Trondheim.

IV. *Pressure at sealevel, true means, 1762——1945, 183 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 1899 | 04.7 | 10.3 | 08.3 | 05.2 | 18.2 | 17.8 | 14.2 | 17.1 | 02.8 | 05.9 | 04.6 | 18.6 | 10.6 |
| 1900 | 10.0 | 10.7 | 14.0 | 10.4 | 13.9 | 14.7 | 13.1 | 13.8 | 11.0 | 06.2 | 13.2 | 02.0 | 11.1 |
| 1901 | 11.6 | 10.8 | 10.8 | 10.4 | 22.0 | 13.6 | 17.5 | 11.4 | 18.0 | 09.5 | 08.7 | 03.8 | 12.3 |
| 02 | 99.8 | 11.9 | 05.8 | 19.0 | 10.7 | 17.0 | 09.6 | 09.5 | 14.4 | 12.3 | 17.0 | 12.2 | 11.6 |
| 03 | 07.6 | 96.3 | 00.7 | 06.8 | 13.2 | 18.6 | 10.2 | 02.2 | 18.4 | 05.8 | 04.7 | 14.0 | 08.2 |
| 04 | 06.6 | 06.6 | 19.8 | 06.2 | 13.6 | 13.6 | 14.2 | 11.2 | 21.0 | 11.8 | 06.2 | 02.6 | 11.1 |
| 05 | 09.4 | 05.6 | 08.3 | 08.4 | 17.0 | 17.1 | 11.1 | 10.7 | 10.0 | 09.5 | 07.4 | 09.4 | 10.3 |
| 1906 | 02.0 | 99.9 | 00.8 | 14.8 | 12.8 | 16.0 | 12.7 | 10.4 | 20.2 | 11.8 | 08.0 | 04.4 | 09.5 |
| 07 | 11.8 | 02.7 | 08.6 | 11.0 | 13.4 | 07.9 | 12.7 | 04.8 | 12.6 | 10.0 | 15.5 | 12.7 | 10.3 |
| 08 | 05.8 | 00.8 | 17.2 | 16.0 | 14.7 | 15.9 | 14.3 | 10.3 | 12.4 | 24.0 | 09.5 | 12.7 | 12.8 |
| 09 | 06.0 | 16.4 | 10.2 | 14.0 | 18.6 | 14.4 | 04.7 | 07.4 | 15.9 | 03.2 | 07.1 | 01.9 | 10.0 |
| 10 | 98.6 | 97.6 | 14.3 | 05.5 | 13.9 | 12.8 | 11.1 | 13.2 | 16.6 | 18.7 | 03.9 | 05.0 | 09.3 |
| 1911 | 14.6 | 04.4 | 13.5 | 09.5 | 18.2 | 13.4 | 16.4 | 13.8 | 09.1 | 13.1 | 03.9 | 08.6 | 11.5 |
| 12 | 13.8 | 05.4 | 03.4 | 16.8 | 11.2 | 10.2 | 15.5 | 06.0 | 17.8 | 11.2 | 03.0 | 98.2 | 09.4 |
| 13 | 15.1 | 11.4 | 99.1 | 11.5 | 13.5 | 13.8 | 14.7 | 14.0 | 18.8 | 10.6 | 99.2 | 02.6 | 10.4 |
| 14 | 09.1 | 00.0 | 01.0 | 09.9 | 13.8 | 15.5 | 11.8 | 15.4 | 08.7 | 20.2 | 05.6 | 01.6 | 09.4 |
| 15 | 01.5 | 05.6 | 07.9 | 08.3 | 16.4 | 16.0 | 07.6 | 10.7 | 16.0 | **26.7** | 08.3 | 07.2 | 11.0 |
| 1916 | 99.1 | 05.9 | 10.8 | 09.5 | 13.4 | 09.5 | 11.6 | 09.5 | 12.7 | 07.5 | 06.0 | 04.8 | 08.4 |
| 17 | 18.3 | 13.2 | 11.2 | 06.0 | 19.2 | 15.9 | 17.2 | 08.0 | 04.4 | 98.7 | 01.4 | 09.0 | 10.2 |
| 18 | 02.3 | 10.4 | 19.0 | 21.0 | 20.3 | 09.4 | 12.6 | 09.6 | **98.3** | 11.1 | 13.6 | 04.8 | 11.0 |
| 19 | 13.4 | 10.2 | 07.0 | 06.4 | **22.6** | 11.6 | 13.8 | 04.8 | 04.7 | 16.3 | 10.2 | 04.7 | 10.5 |
| 20 | 98.8 | 06.0 | 03.6 | 05.5 | 13.4 | 15.4 | 08.7 | 14.2 | 13.2 | 23.0 | 13.8 | 18.0 | 11.1 |
| 1921 | 96.0 | 18.6 | 01.0 | 18.3 | 11.0 | 13.8 | 12.3 | 07.4 | 11.8 | 09.0 | **21.0** | 99.0 | 09.9 |
| 22 | 12.1 | 08.3 | 07.2 | 08.6 | 08.2 | 09.8 | 08.1 | 08.8 | 12.4 | 18.4 | 05.9 | 01.4 | 09.1 |
| 23 | 00.6 | 11.6 | **23.7** | 14.6 | 06.6 | 06.5 | 10.1 | 05.6 | 05.5 | 95.4 | 00.4 | 06.6 | 07.3 |
| 24 | 13.6 | 08.9 | 10.4 | 08.4 | 11.9 | 12.1 | 07.8 | 07.6 | 04.0 | 12.1 | 14.2 | 05.0 | 09.7 |
| 25 | 07.4 | 98.9 | 11.6 | 09.1 | 12.7 | 14.0 | 13.6 | 08.7 | 05.2 | 06.0 | 10.6 | 98.8 | 08.1 |
| 1926 | 13.0 | 13.1 | 05.9 | 13.2 | 12.3 | 12.9 | 13.3 | 10.6 | 12.3 | 09.2 | 03.4 | 10.2 | 10.8 |
| 27 | 00.4 | 14.7 | 07.9 | **99.8** | 15.5 | 08.1 | 12.8 | 09.8 | 05.4 | 06.8 | 12.8 | 22.3 | 09.7 |
| 28 | 00.7 | 07.5 | 18.5 | 12.6 | 15.4 | **05.2** | 05.5 | 10.4 | 15.1 | 07.2 | 01.1 | 10.6 | 09.2 |
| 29 | 25.4 | **27.8** | 16.5 | 12.6 | 15.4 | 09.3 | 12.3 | 08.4 | 11.0 | 99.9 | 03.3 | 98.9 | 11.7 |
| 30 | 99.9 | 22.2 | 03.9 | 15.6 | 13.2 | 14.4 | 07.7 | 09.9 | 16.5 | 02.1 | 98.3 | 12.0 | 09.6 |
| 1931 | 04.5 | 06.4 | 16.5 | 11.9 | 14.0 | 09.5 | 05.4 | 11.4 | 14.9 | 06.0 | 13.6 | 08.0 | 10.2 |
| 32 | 04.8 | 25.2 | 15.0 | 04.0 | 14.7 | 15.1 | 10.4 | 15.2 | 01.7 | 02.2 | 11.1 | 12.8 | 11.0 |
| 33 | 16.6 | 08.2 | 12.3 | 13.1 | 16.9 | 13.6 | 11.3 | 09.7 | 20.9 | 10.5 | 16.6 | 20.7 | 14.2 |
| 34 | 04.9 | 08.8 | 05.3 | 12.2 | 11.7 | 16.6 | 12.7 | 09.7 | 14.3 | 00.3 | 11.5 | 11.5 | 09.9 |
| 35 | 12.8 | 91.8 | 20.4 | 08.6 | 20.9 | 11.5 | 10.9 | 14.4 | 04.9 | 98.0 | 10.0 | 04.9 | 09.1 |
| 1936 | 98.0 | 11.5 | 14.5 | 11.2 | 22.2 | 15.8 | 06.9 | 11.7 | 17.9 | 06.9 | 06.9 | 00.1 | 10.3 |
| 37 | 16.0 | 00.5 | 09.9 | 15.7 | 16.6 | 11.0 | 11.8 | 17.0 | 05.5 | 14.5 | 13.5 | 18.9 | 12.6 |
| 38 | 97.3 | 14.8 | 02.8 | 15.0 | 12.0 | 06.6 | 11.5 | 13.3 | 14.7 | 02.8 | 99.5 | 15.2 | 08.8 |
| 39 | 05.9 | 03.6 | 14.6 | 09.1 | 20.0 | 12.7 | 09.1 | 18.4 | 18.5 | 19.6 | 02.1 | 10.7 | 12.0 |
| 40 | 22.2 | 16.7 | 07.7 | *13.1* | *20.0* | 16.6 | 09.2 | 08.9 | 03.5 | 15.6 | 00.0 | 13.3 | 12.2 |
| 1941 | 17.7 | 05.1 | 13.0 | 18.2 | 15.7 | 15.7 | 14.4 | 04.4 | 19.3 | 15.1 | 19.3 | 06.5 | 13.7 |
| 42 | 20.5 | 18.6 | 17.3 | 17.1 | 12.5 | 13.3 | 09.6 | 13.0 | 07.1 | 02.4 | 10.8 | 06.2 | 12.4 |
| 43 | 07.6 | 97.7 | 12.1 | 01.2 | 14.4 | 15.2 | 12.7 | 07.7 | 10.2 | 12.5 | 07.9 | 12.4 | 09.3 |
| 44 | 99.4 | 11.8 | 07.9 | 13.7 | 16.6 | *09.0* | 13.8 | 13.3 | 11.5 | 10.3 | 05.0 | 08.4 | 10.1 |
| 45 | 09.1 | 07.1 | 12.5 | 11.5 | 12.1 | 10.0 | 12.6 | 10.3 | 14.9 | 11.8 | 18.3 | 08.4 | 11.6 |
| Highest and lovest monthly means 1762——1945, 183 years. | | | | | | | | | | | | | |
| Max. | 30.9 | 27.8 | 23.7 | 21.5 | 22.6 | 19.6 | 18.1 | 20.7 | 22.6 | 26.7 | 21.0 | 27.6 | 14.3 |
| Min. | 87.9 | 87.4 | 92.9 | 99.8 | 06.4 | 05.2 | 02.7 | 00.7 | 98.3 | 94.8 | 93.1 | 89.7 | 05.6 |
| *D* | 43.0 | 40.4 | 30.8 | 21.7 | 16.2 | 14.4 | 15.4 | 20.0 | 24.3 | 31.9 | 27.9 | 37.9 | 8.7 |

## Trondheim.

IV. *Pressure at sealevel, true means, 1762——1945, 183 Years.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| d | 6.36 | 5.89 | 5.13 | 3.56 | 2.86 | 2.54 | 2.57 | 3.10 | 4.00 | 5.11 | 4.83 | 5.77 | 1.28 |
| $D$/d | 6.76 | 6.85 | 6.01 | 6.10 | 5.66 | 5.67 | 5.99 | 6.45 | 6.08 | 6.24 | 5.78 | 6.57 | 6.79 |
| Theoretical: 6.68 | | | | | | | | | | | | | |

V. *Pressure, true means. 5-year and longer means.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 1761—65 | 07.84 | 08.54 | 09.18 | 12.28 | 14.72 | 12.06 | 08.16 | 08.48 | 09.06 | 06.88 | 07.54 | 11.56 | 09.70 |
| 66—70 | 11.62 | 06.74 | 11.82 | 11.96 | 15.02 | 12.54 | 13.38 | 10.82 | 11.06 | 12.42 | 06.26 | 08.12 | 10.98 |
| 71—75 | *03.00* | *05.22* | *11.84* | *11.60* | *17.20* | *12.96* | *10.08* | *07.92* | *06.80* | *04.98* | *05.82* | *10.58* | *09.00* |
| 76—80 | *09.88* | *02.86* | *08.00* | *11.78* | *10.94* | *10.62* | *10.46* | **14.68** | *12.62* | *12.50* | *05.64* | *11.48* | *10.14* |
| 81—85 | 05.96 | 07.40 | 06.22 | 13.22 | 12.74 | 14.28 | 10.62 | 12.06 | 09.24 | **17.24** | 07.32 | **13.50** | 10.82 |
| 86—90 | 10.32 | 03.78 | 11.76 | 14.68 | 14.18 | 12.50 | **08.08** | 10.30 | 07.28 | 12.26 | 11.10 | 02.52 | 09.90 |
| 91—95 | 03.78 | 07.42 | 10.08 | 13.82 | 11.22 | 12.78 | 11.72 | 12.04 | 12.06 | 06.68 | 07.04 | 03.68 | 09.34 |
| 96—1800 | 06.20 | 10.56 | **14.82** | 12.64 | 13.70 | 11.66 | 10.08 | 11.26 | 10.04 | 07.40 | 03.38 | 11.24 | 10.22 |
| 1801—05 | *05.00* | *05.66* | *05.88* | **09.22** | *12.08* | *11.00* | *10.38* | *11.50* | *13.46* | *09.40* | *07.12* | *04.54* | **08.76** |
| 06—10 | *05.80* | *05.10* | *14.10* | *13.24* | *15.22* | *14.12* | *11.36* | *09.00* | *09.28* | *12.16* | *05.28* | *02.64* | *09.78* |
| 11—15 | *10.02* | *03.66* | *11.98* | *13.66* | *14.34* | *13.66* | *12.88* | *12.26* | *13.90* | *06.70* | *07.24* | *08.20* | *10.72* |
| 1816—20 | **03.52** | 03.92 | **03.52** | 12.12 | 14.06 | 10.96 | 10.06 | 08.44 | 11.32 | 11.62 | 11.88 | 10.98 | 09.38 |
| 21—25 | 08.10 | 08.20 | 07.40 | 11.32 | 13.90 | 15.02 | 11.60 | 11.34 | 10.78 | 07.36 | **99.16** | **01.66** | 08.84 |
| 26—30 | **17.12** | 13.40 | 06.18 | 09.74 | 15.68 | 13.14 | 09.26 | 09.34 | 11.84 | 10.76 | 10.78 | 10.52 | **11.50** |
| 31—35 | 10.30 | 06.72 | 12.18 | 14.72 | 14.48 | 12.32 | **13.46** | 11.62 | 13.56 | 08.36 | 08.96 | 07.76 | 11.20 |
| 36—40 | 05.76 | 06.86 | 10.34 | 14.10 | 16.92 | 12.12 | 10.00 | 10.84 | 11.02 | 09.34 | 05.34 | 12.34 | 10.42 |
| 41—45 | 06.96 | 09.26 | 08.84 | 13.72 | 15.66 | 10.70 | 09.74 | 10.50 | 13.32 | 04.00 | 07.14 | 06.66 | 09.72 |
| 46—50 | 13.84 | **99.78** | 10.22 | 11.20 | 15.10 | 11.62 | 11.84 | 10.60 | 14.72 | 10.90 | 07.36 | 12.28 | 10.80 |
| 51—55 | 05.92 | 06.96 | 13.12 | 15.24 | 13.70 | 12.92 | 12.92 | 12.24 | 12.88 | 05.94 | 11.98 | 04.02 | 10.66 |
| 56—60 | *06.32* | *09.92* | *08.70* | *12.54* | *15.76* | *12.74* | *11.96* | *12.88* | *11.02* | *10.98* | **14.62** | *07.28* | *11.24* |
| 61—65 | *08.18* | *12.64* | *07.50* | *15.06* | *14.88* | *12.56* | *09.34* | *10.36* | *10.84* | *09.44* | *08.44* | *10.30* | *10.80* |
| 66—70 | 07.00 | 02.22 | 10.62 | 11.08 | 14.04 | 13.96 | 13.44 | 12.16 | 09.24 | 09.62 | 05.70 | 07.38 | 09.68 |
| 71—75 | **03.52** | 14.94 | 12.22 | 11.40 | 12.74 | 13.26 | 11.78 | 10.64 | 08.74 | 07.70 | 10.00 | 06.86 | 10.32 |
| 76—80 | 14.32 | 05.64 | 07.34 | 13.62 | 13.56 | 12.92 | 09.90 | 12.20 | 09.44 | 08.96 | 08.38 | 07.94 | 10.34 |
| 81—85 | 09.54 | 11.32 | 09.56 | **16.18** | **13.70** | **13.30** | 11.38 | 09.94 | 13.06 | 11.12 | **08.16** | 06.58 | 11.14 |
| 86—90 | 07.46 | **17.32** | 09.80 | 12.14 | 14.58 | 15.10 | 08.32 | 08.62 | 12.98 | 09.80 | 08.78 | 09.82 | 11.24 |
| 91—95 | 08.88 | 10.24 | 06.76 | 15.54 | 15.56 | 15.10 | 11.06 | 07.92 | 08.98 | 07.12 | 10.70 | 05.06 | 10.24 |
| 96—1900 | 10.40 | 08.76 | 08.40 | 11.44 | 14.56 | 15.08 | 12.84 | 12.82 | 07.84 | 10.10 | 10.90 | 08.40 | 10.94 |
| 1901—05 | 07.00 | 06.24 | 09.08 | 10.16 | 15.30 | **15.98** | 12.52 | 09.00 | **16.36** | 09.78 | 08.80 | 08.40 | 10.70 |
| 06—10 | 04.84 | 03.48 | 10.22 | 12.26 | 14.68 | 13.40 | 11.10 | 09.22 | 15.54 | 13.54 | 08.80 | 07.34 | 10.38 |
| 11—15 | 10.82 | 05.36 | 04.98 | 11.20 | 14.62 | 13.78 | 13.20 | 11.98 | 14.08 | 16.36 | 04.00 | 03.64 | 10.34 |
| 16—20 | 06.38 | 09.14 | 10.32 | 09.68 | **17.78** | 12.36 | 12.78 | 09.22 | **06.66** | 11.32 | 09.00 | 08.26 | 10.24 |
| 21—25 | 05.94 | 09.26 | 10.78 | 11.80 | **10.08** | 11.24 | 10.38 | **07.62** | 07.78 | 08.18 | 10.42 | 02.16 | 08.82 |
| 26—30 | 07.88 | 17.06 | 10.54 | 10.76 | 14.36 | **09.98** | 10.32 | 09.82 | 12.06 | 05.04 | 03.78 | 10.80 | 10.20 |
| 31—35 | 08.72 | 08.08 | 13.90 | 09.96 | 15.64 | 13.26 | 10.14 | 12.08 | 11.34 | **03.40** | 12.56 | 11.58 | 10.88 |
| 36—40 | 07.88 | 09.42 | 09.90 | 12.82 | 18.16 | 12.54 | 09.70 | 13.86 | 12.02 | 11.88 | 04.40 | 11.64 | 11.18 |
| 41—45 | 10.86 | 08.06 | 12.56 | 12.34 | 14.26 | 12.64 | 12.62 | 09.74 | 12.60 | 10.42 | 12.26 | 08.38 | 11.42 |
| 25 year and longer means. | | | | | | | | | | | | | |
| 1766—90 | 08.156 | 05.200 | 09.928 | 12.648 | 14.016 | 12.580 | 10.524 | 11.156 | 09.400 | 11.880 | 07.228 | 09.240 | 10.168 |
| 1791—1815 | 06.160 | 06.480 | 11.372 | 12.516 | 13.312 | 12.644 | 11.284 | 11.212 | 11.748 | 08.468 | 06.012 | 06.060 | 09.764 |
| 1816—40 | 08.960 | 07.820 | 07.924 | 12.400 | 15.008 | 12.712 | 10.876 | 10.316 | 11.704 | 09.488 | 07.224 | 08.652 | 10.268 |
| 1841—65 | 08.244 | 07.712 | 09.676 | 13.552 | 15.020 | 12.108 | 11.160 | 11.316 | 12.556 | 08.252 | 09.908 | 08.108 | 10.644 |
| 1866—90 | 08.368 | 10.288 | 09.908 | 12.884 | 13.724 | 13.708 | 10.964 | 10.712 | 10.692 | 09.440 | 08.204 | 07.596 | 10.544 |
| 1891—1915 | 08.388 | 06.816 | 07.888 | 12.120 | 14.944 | 14.668 | 12.144 | 10.188 | 12.560 | 11.380 | 08.640 | 06.568 | 10.520 |
| 1916—40 | 07.360 | 10.592 | 11.088 | 11.004 | 15.204 | 11.876 | 10.664 | 10.520 | 09.972 | 07.967 | 08.032 | 08.888 | 10.264 |

## Trondheim.

V. *Pressure, true means. 25-year and longer means.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $M^{01-30}$ ..... | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 125-year mean. | | | | | | | | | | | | | |
| 1816—1940... | 08.2640 | 08.6456 | 09.2968 | 12.3920 | 14.7800 | 13.0144 | 11.1616 | 10.6104 | 11.4968 | 09.3048 | 08.4016 | 07.9624 | 10.4480 |
| 100-year mean. | | | | | | | | | | | | | |
| 1816—1915... | 08.490 | 08.159 | 08.849 | 12.738 | 14.674 | 13.299 | 11.286 | 10.633 | 11.878 | 09.640 | 08.494 | 07.731 | 10.494 |
| 1821—1920... | 08.633 | 08.420 | 09.189 | 12.617 | 14.860 | 13.369 | 11.422 | 10.672 | 11.645 | 09.625 | 08.350 | 07.595 | 10.537 |
| $M_{100}$ ..... | 08.6 | 08.3 | 09.0 | 12.7 | 14.8 | 13.3 | 11.4 | 10.7 | 11.8 | 09.6 | 08.4 | 07.7 | 10.5 |
| 50-year mean. | | | | | | | | | | | | | |
| 1876—1925... | 08.56 | 08.68 | 08.72 | 12.40 | 14.44 | 13.83 | 11.35 | 09.85 | 11.27 | 10.63 | 08.79 | 06.76 | 10.44 |
| 30-year mean. 1901—30. | | | | | | | | | | | | | |
| $M^{01-30}$ ..... | 07.14 | 08.42 | 09.32 | 10.98 | 14.47 | 12.79 | 11.72 | 09.48 | 12.08 | 10.70 | 07.47 | 06.77 | 10.11 |
| Normal ..... | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 |
| 30-year mean. 1866—95. | | | | | | | | | | | | | |
| 1866—95..... | 08.45 | 10.28 | 09.38 | 13.35 | 14.03 | 13.94 | 10.98 | 10.25 | 10.41 | 09.05 | 08.62 | 07.17 | 10.49 |
| 175-year mean. 1766—1940. | | | | | | | | | | | | | |
| | 07.948 | 07.844 | 09.683 | 12.446 | 14.461 | 12.899 | 11.088 | 10.774 | 11.233 | 09.553 | 07.893 | 07.873 | 10.310 |

VI. *Pressure at sealevel, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $M^{01-30}$ ..... | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 | |
| 1762..... | —6.7 | —3.0 | 2.8 | 4.4 | 1.4 | —3.7 | —7.7 | —7.1 | —6.7 | 4.5 | —5.6 | 15.6 | —1.0 | ± 5.8 |
| 63..... | 13.5 | —4.7 | 2.8 | —0.8 | —1.4 | —1.4 | —9.0 | —6.8 | —1.7 | —5.8 | —0.1 | —2.1 | —1.4 | 4.2 |
| 64..... | —8.8 | —2.1 | 4.1 | —0.2 | —2.5 | —3.6 | 0.3 | 4.0 | —4.7 | —7.0 | 4.2 | 3.9 | —1.0 | 3.8 |
| 65..... | 5.7 | 10.5 | —10.3 | 3.0 | 3.6 | 5.0 | —1.3 | 4.8 | —2.1 | —10.8 | 1.7 | 6.4 | 1.4 | 5.4 |
| 1766..... | 14.7 | 1.5 | —0.8 | 6.3 | —3.6 | 3.7 | 4.2 | 5.1 | —0.3 | —0.9 | 10.1 | 10.5 | 4.2 | 5.1 |
| 67..... | | | | | | | | | | | | | | |
| 68..... | 7.6 | 1.0 | 7.4 | 1.3 | 5.0 | 3.7 | 4.7 | 3.8 | 1.3 | 3.2 | —9.3 | 2.6 | 2.7 | 4.2 |
| 69..... | 1.6 | —3.5 | 4.8 | 0.0 | —1.3 | —3.3 | —1.6 | —4.8 | —5.5 | 12.6 | —4.6 | 0.3 | —0.4 | 3.7 |
| 70..... | —1.3 | —7.3 | 1.2 | —2.8 | 2.5 | —5.4 | 1.1 | 2.5 | —0.7 | —6.3 | —2.4 | —6.8 | —2.1 | 3.4 |
| 1771..... | —7.0 | 7.7 | 7.2 | 1.0 | —0.5 | 4.9 | —4.6 | —5.2 | 4.8 | —11.4 | —2.4 | —7.5 | —1.1 | 5.4 |
| 72..... | *—1.4* | *—9.1* | *—6.0* | *1.3* | *6.4* | *1.7* | *—0.6* | *—1.9* | *—5.4* | **—15.9** | *—10.8* | *5.0* | *—3.0* | 5.5 |
| 73..... | *—4.5* | *0.7* | *11.2* | *—2.4* | *—0.9* | *—1.7* | *3.5* | *3.2* | *—12.8* | *—6.4* | *—3.4* | *0.1* | *—1.1* | 4.2 |
| 74..... | *—5.8* | *—6.1* | *3.7* | *—3.0* | *2.8* | *—4.7* | *—2.4* | *—0.2* | *—6.0* | *7.7* | *4.6* | *13.9* | *0.4* | 5.1 |
| 75..... | *—1.8* | *—9.1* | *—3.4* | *6.1* | *5.7* | *0.6* | *—4.0* | *—3.8* | *—7.1* | *—2.6* | *3.6* | *7.4* | *—0.7* | 4.6 |
| 1776..... | *3.3* | **—21.0** | *1.3* | *6.7* | *4.5* | *—5.4* | *—3.3* | *—1.8* | *—3.0* | *5.3* | *—0.1* | *4.5* | *—0.7* | 5.0 |
| 77..... | *1.6* | *—3.5* | *—1.6* | *6.9* | *—5.2* | *—4.5* | *—1.5* | *1.2* | *2.2* | *—2.7* | *1.0* | *4.6* | *—0.1* | 3.0 |
| 78..... | *—3.4* | *—3.4* | *—0.6* | *—2.8* | *—4.8* | *—1.1* | *—2.5* | *6.0* | *2.4* | *—4.3* | *—6.6* | *0.9* | *—1.7* | 3.2 |
| 79..... | *10.1* | *2.3* | *7.0* | *—5.0* | *—8.1* | *4.0* | *1.6* | *9.3* | *—2.9* | *5.0* | *—2.8* | *0.4* | *1.8* | *4.9* |
| 80..... | 2.3 | —2.1 | —12.6 | —1.9 | —4.2 | —3.9 | —0.5 | **11.2** | 3.9 | 5.7 | —0.8 | 13.0 | 0.9 | 5.2 |
| 1781..... | 1.8 | —7.0 | —0.5 | 0.2 | 3.9 | 3.5 | 0.1 | 4.2 | —1.6 | 10.1 | —6.6 | 9.0 | 1.4 | 4.0 |
| 82..... | *—6.3* | *5.6* | —9.0 | 4.7 | —5.5 | 1.3 | —2.3 | *4.8* | —1.9 | *7.9* | 9.6 | 1.9 | 0.9 | 5.1 |
| 83..... | —9.7 | —7.9 | —4.7 | 6.2 | —0.6 | —0.2 | 2.9 | 3.9 | —7.1 | *0.1* | 5.3 | 7.5 | —0.3 | 4.7 |
| 84..... | 4.5 | —0.9 | —2.7 | —3.9 | —1.9 | —2.7 | —3.7 | 1.3 | 1.5 | *12.8* | —3.3 | 2.0 | 0.3 | 3.4 |
| 85..... | 4.0 | 5.2 | 1.5 | 3.9 | —4.7 | 5.5 | —2.4 | —1.4 | —5.2 | *1.8* | —5.9 | 13.1 | 1.3 | 4.6 |

## Trondheim.

VI. *Pressure at sealevel, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M. 01—30 | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 | |
| 1786 | —3.5 | 5.2 | 5.1 | 6.0 | —3.7 | 3.5 | —3.5 | 1.1 | —11.4 | *8.2* | 11.9 | —5.2 | 1.2 | ± 5.7 |
| 87 | 10.4 | —4.8 | —4.1 | 1.9 | —1.0 | —0.8 | —5.0 | —0.8 | 1.1 | *—4.3* | *—1.1* | *2.6* | —0.5 | 3.2 |
| 88 | *5.5* | *—3.3* | *—2.5* | 6.6 | 1.2 | 1.2 | —1.6 | —1.9 | —2.6 | *10.3* | 1.5 | 4.5 | 1.6 | 3.6 |
| 89 | —1.0 | —13.2 | 4.1 | —6.6 | —1.7 | —2.1 | —2.6 | 6.9 | —4.8 | *—6.1* | —1.1 | —13.5 | —3.5 | 5.3 |
| 90 | 4.7 | —7.0 | 9.7 | 10.5 | 3.6 | —3.3 | —5.4 | —1.3 | —6.4 | —0.3 | 6.8 | —9.8 | 0.2 | 5.7 |
| 1791 | —19.2 | —2.7 | —1.9 | 0.9 | —3.4 | —1.7 | —2.8 | 4.9 | 1.6 | —2.0 | —4.7 | —9.6 | —3.4 | 4.6 |
| 92 | —3.1 | 4.8 | —2.3 | —1.6 | —6.0 | 0.4 | —0.1 | 5.2 | —8.5 | 4.9 | —0.4 | —14.0 | —1.7 | 4.3 |
| 93 | 3.4 | —11.2 | 5.4 | 7.5 | 0.9 | —2.3 | —0.9 | —0.3 | 1.9 | —12.0 | 9.7 | 0.5 | 0.2 | 4.7 |
| 94 | —3.6 | 3.3 | 3.2 | 3.2 | —4.5 | 3.3 | 3.0 | —0.8 | —0.2 | —6.6 | 1.4 | 9.0 | 0.9 | 3.5 |
| 95 | 5.9 | 0.9 | —0.5 | 4.1 | *—3.4* | 0.2 | 0.9 | 3.7 | *5.0* | —4.4 | —8.3 | —1.5 | 0.2 | 3.2 |
| 1796 | —13.5 | 1.8 | 5.1 | 5.4 | —8.1 | —6.7 | —6.2 | 4.7 | —1.4 | —6.6 | 1.0 | —0.6 | —2.1 | 5.1 |
| 97 | 5.0 | 1.0 | 6.6 | 7.5 | —4.3 | —1.3 | 0.0 | —2.3 | —6.7 | —1.9 | —1.5 | —6.6 | —0.4 | 3.7 |
| 98 | —4.9 | —6.3 | —1.5 | 4.2 | 5.9 | 1.6 | —4.3 | 4.3 | —5.5 | —1.0 | —7.1 | 13.0 | —0.1 | 5.0 |
| 99 | 4.3 | 3.7 | *7.5* | *—3.3* | —0.7 | 2.1 | —0.9 | —2.9 | 1.4 | 1.8 | —2.5 | 19.8 | 2.5 | 4.2 |
| 1800 | 4.6 | 10.6 | 9.9 | —5.6 | 3.2 | —1.4 | 3.3 | 5.0 | 1.9 | —8.8 | —10.5 | —3.4 | 0.7 | 5.7 |
| 1801 | —7.9 | —1.7 | —9.9 | —0.6 | —0.8 | —1.7 | —1.4 | 8.0 | 2.6 | —4.1 | —8.6 | —7.2 | —2.8 | 4.5 |
| 02 | 1.2 | —6.3 | —13.6 | —5.1 | —1.5 | —5.0 | —6.8 | 1.7 | *1.0* | *—6.4* | *—0.8* | *—1.5* | —3.6 | 4.2 |
| 03 | *6.2* | *—5.7* | *6.4* | *—2.3* | *—5.8* | *0.0* | 6.4 | *2.2* | *1.8* | *4.6* | *—8.0* | *—2.6* | *0.3* | *4.3* |
| 04 | *—7.6* | *5.7* | *—2.6* | *—3.7* | *—2.8* | *0.3* | *—3.0* | *—1.7* | *2.2* | *—6.0* | *3.1* | *7.4* | *—0.7* | 3.8 |
| 05 | *—2.4* | *—5.7* | *2.6* | *2.8* | *—1.2* | *—2.6* | *—1.8* | *—0.2* | *—0.8* | *5.4* | *12.4* | *—7.4* | *0.1* | 3.8 |
| 1806 | *—13.6* | *—3.6* | *—0.6* | *7.4* | *3.3* | *1.4* | *—2.1* | *—1.8* | *1.2* | *2.7* | *—5.6* | *—11.0* | *—1.8* | *4.5* |
| 07 | *4.6* | *—8.8* | *7.1* | *1.7* | *—1.5* | *0.6* | *—0.4* | *2.2* | *—7.7* | *—2.0* | *—9.2* | *0.2* | *—1.1* | 3.8 |
| 08 | *—7.1* | *5.1* | *11.8* | *—2.5* | *—0.4* | *1.4* | *3.0* | *0.1* | *—2.4* | *—6.6* | *2.3* | *4.2* | *0.8* | 3.9 |
| 09 | *—2.4* | *—5.8* | *9.0* | *0.6* | *0.4* | *—0.3* | *1.2* | *—2.4* | *—8.2* | *10.4* | *5.6* | *—10.8* | *—0.2* | 4.8 |
| 10 | *12.0* | *—3.4* | *—3.3* | *4.0* | *1.8* | *3.5* | *—3.4* | *—0.6* | *3.0* | *2.8* | *—4.2* | *—3.4* | *0.7* | 3.8 |
| 1811 | *3.4* | *—9.2* | *7.2* | *0.8* | *—2.4* | *—0.6* | *3.0* | *2.0* | *2.4* | *—5.6* | *—0.4* | *—6.0* | *—0.4* | 3.6 |
| 12 | *—0.8* | *—8.0* | *1.6* | *3.4* | *0.1* | *—1.1* | *0.5* | *6.4* | *—0.7* | *—11.4* | *3.8* | *11.6* | *0.5* | 4.1 |
| 13 | *9.0* | *—11.1* | *7.0* | *2.1* | *—2.8* | *3.4* | *—1.1* | *5.3* | *3.0* | *—2.6* | *—4.7* | *5.4* | *1.1* | 4.8 |
| 14 | *—2.6* | *8.3* | *4.6* | *1.9* | *4.9* | *3.8* | *0.7* | *1.1* | *4.3* | *—1.2* | *—4.6* | *—3.0* | *1.5* | 3.4 |
| 15 | *5.6* | *—3.7* | *—7.0* | *5.1* | *—0.6* | *—1.2* | *2.8* | *—1.0* | *0.0* | *0.8* | *4.6* | *—1.0* | *0.4* | 2.8 |
| 1816 | *—4.6* | *—8.0* | *0.1* | 1.6 | *0.9* | *—1.1* | *—2.0* | *—0.6* | *—2.9* | *—0.7* | *—1.7* | *—4.1* | *—1.9* | 2.4 |
| 17 | *—6.0* | *—15.1* | *—5.6* | 2.3 | *—3.9* | *0.8* | *—4.9* | *—2.5* | *4.0* | *6.7* | *1.6* | *—0.4* | *—1.9* | 4.5 |
| 18 | —10.2 | —3.0 | —16.4 | 2.3 | 4.4 | —0.3 | 0.4 | 3.3 | —1.7 | 3.2 | 7.1 | 3.1 | —0.6 | 4.6 |
| 19 | —2.3 | —2.8 | —3.8 | —0.1 | —0.2 | —2.9 | 0.4 | 3.3 | —3.3 | 0.1 | 4.2 | 10.9 | 0.3 | 2.9 |
| 20 | 5.2 | 6.5 | —3.2 | —0.5 | —3.4 | —5.7 | —2.1 | —8.8 | 0.0 | —4.7 | 10.7 | 11.4 | 0.5 | 5.2 |
| 1821 | *5.8* | *7.8* | —4.7 | —5.4 | —4.8 | 6.1 | —0.6 | 2.7 | —2.4 | —1.1 | —7.2 | —9.6 | —1.1 | 4.8 |
| 22 | —5.0 | —8.2 | —13.8 | 7.9 | 5.3 | 4.1 | —0.2 | 1.0 | —2.0 | —2.1 | —7.6 | 8.5 | —1.0 | 5.5 |
| 23 | 12.0 | —3.7 | 0.1 | —1.8 | —1.4 | 0.3 | —2.2 | 1.5 | —4.7 | —1.8 | 0.8 | —8.9 | —0.8 | 3.3 |
| 24 | —7.1 | 1.0 | *—2.4* | 1.8 | —4.8 | 3.4 | —2.5 | 3.0 | 0.9 | —6.3 | —13.3 | —16.7 | —3.5 | 5.3 |
| 25 | —0.7 | 2.1 | 11.3 | —0.9 | 2.7 | —2.8 | 5.0 | 1.0 | 1.6 | —5.4 | —14.4 | 1.0 | 0.1 | 4.1 |
| 1826 | 9.0 | —0.3 | 0.9 | —5.9 | 4.3 | 5.2 | —1.7 | 0.7 | —1.7 | —3.6 | 0.2 | —0.5 | 0.6 | 2.8 |
| 27 | —2.3 | *7.7* | *—15.7* | *3.7* | *—4.0* | *—4.1* | *—3.5* | 0.3 | 7.4 | 5.8 | 6.8 | —2.8 | 0.0 | 5.3 |
| 28 | 13.8 | 6.5 | —1.8 | —0.7 | 1.7 | —0.2 | —4.1 | 0.5 | 0.7 | 0.1 | 4.4 | 2.9 | 2.0 | 3.1 |
| 29 | 15.0 | 7.0 | 1.8 | —0.6 | 2.6 | 2.9 | —3.6 | 0.6 | —7.0 | —3.2 | 4.5 | 18.3 | 3.2 | 5.6 |
| 30 | 14.6 | 4.1 | —0.8 | —2.8 | 1.3 | —2.1 | 0.7 | —2.9 | —0.7 | 1.2 | 0.5 | 0.7 | 1.2 | 2.7 |
| 1831 | 5.6 | 1.7 | 8.6 | 2.9 | 3.1 | 0.3 | 2.4 | 3.6 | 4.6 | —1.5 | 0.3 | 1.2 | 2.7 | 3.0 |
| 32 | 3.3 | 9.3 | —4.7 | 9.2 | —1.9 | —0.2 | —0.5 | 3.4 | —2.1 | 0.2 | 7.9 | 1.1 | 2.1 | 3.6 |
| 33 | 13.9 | —3.5 | 12.6 | *0.0* | 2.0 | —3.3 | 1.6 | —2.5 | 5.3 | 0.5 | —5.0 | —13.1 | 0.7 | 5.3 |
| 34 | —1.6 | —0.5 | 0.5 | 8.3 | *—1.8* | *—1.1* | *4.9* | *2.9* | *4.1* | *—6.1* | *—0.4* | 10.4 | 1.7 | 3.6 |
| 35 | —5.2 | —15.4 | —2.6 | —1.8 | —1.5 | 1.9 | 0.4 | 3.2 | —4.6 | —4.8 | 4.5 | 5.2 | —1.7 | 4.3 |
| 1836 | —6.9 | —8.3 | —15.2 | —1.5 | 7.8 | —4.1 | —5.1 | —1.5 | —3.5 | —7.7 | —4.4 | —4.4 | —4.5 | 5.9 |
| 37 | 0.5 | —2.1 | 2.6 | 7.5 | —1.2 | 2.6 | 1.9 | 5.4 | 2.6 | —7.2 | —9.1 | 5.1 | 0.7 | 4.0 |

## Trondheim.

VI. *Pressure at sealivel, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 | |
| 1838 | **23.8** | 1.8 | 3.5 | —3.9 | 5.1 | 1.5 | 0.4 | —2.8 | 4.4 | —6.4 | —3.5 | 5.1 | 2.4 | ± 5.2 |
| 39 | —13.9 | —9.1 | 6.1 | 10.1 | 1.9 | —0.2 | 0.4 | 1.4 | —4.4 | 10.5 | 6.1 | 7.7 | 1.4 | 6.0 |
| 40 | —10.2 | 10.0 | 8.2 | 3.3 | —1.5 | —3.2 | —6.1 | 4.2 | —4.5 | 4.0 | 0.1 | 14.2 | 1.6 | 5.8 |
| 1841 | 3.5 | 8.6 | 1.0 | 2.9 | —1.0 | —2.9 | —7.9 | —3.2 | 1.0 | —10.1 | —4.3 | —6.2 | —1.5 | 4.4 |
| 42 | 11.5 | —3.4 | —10.3 | 6.0 | —0.2 | —1.9 | —0.5 | 6.7 | 2.4 | —5.6 | 1.5 | —3.3 | 0.3 | 4.4 |
| 43 | —12.7 | —2.0 | 5.7 | 0.6 | 1.7 | 0.4 | —1.2 | 4.3 | 3.1 | —12.0 | —0.4 | —0.3 | —1.1 | 3.7 |
| 44 | —2.8 | —4.4 | —2.5 | 2.0 | 6.4 | —3.5 | —1.1 | —2.4 | 3.8 | —3.0 | **7.7** | **20.8** | 1.8 | 5.0 |
| 45 | —0.2 | 5.5 | 3.8 | 2.1 | —1.1 | —2.6 | 0.9 | —0.4 | —4.2 | —2.8 | —6.3 | —11.7 | —1.4 | 3.5 |
| 1846 | 0.6 | —7.1 | —5.7 | 1.1 | —1.6 | 2.0 | —2.6 | 5.6 | 0.9 | —2.0 | 7.2 | 0.2 | —0.1 | 3.0 |
| 47 | 12.3 | —3.3 | 4.1 | —4.9 | —0.5 | —0.2 | 3.4 | 4.1 | —6.3 | 2.6 | —2.2 | 7.2 | 1.4 | 4.3 |
| 48 | 13.5 | —12.5 | 1.9 | —1.0 | 1.5 | —1.6 | —2.3 | —2.8 | 0.9 | 4.1 | —5.6 | 9.7 | 0.5 | 4.8 |
| 49 | —5.9 | —5.7 | 0.9 | 2.3 | 4.7 | —5.6 | —1.3 | 1.2 | 7.8 | —2.1 | 4.5 | 13.1 | 1.2 | 4.6 |
| 50 | 13.2 | —14.5 | 3.4 | 3.5 | —1.1 | —0.5 | 3.5 | —2.6 | 9.8 | —1.6 | —4.6 | —2.8 | 0.5 | 5.1 |
| 1851 | 0.5 | 0.4 | —0.1 | 5.2 | 0.3 | —1.7 | —3.0 | 3.9 | **10.5** | —3.2 | 3.8 | 5.0 | 1.8 | 3.1 |
| 52 | —12.1 | —4.5 | *6.9* | 10.1 | —3.0 | —4.8 | 5.5 | 1.1 | —6.0 | —1.3 | —3.4 | —10.7 | —1.8 | 5.8 |
| 53 | —4.2 | 1.0 | 6.4 | —0.7 | 3.8 | 0.1 | —3.8 | 1.9 | —4.1 | —3.9 | 9.8 | 6.5 | 1.1 | 3.8 |
| 54 | 1.6 | —7.9 | 8.5 | 4.4 | —1.6 | 4.1 | 5.9 | 5.3 | —0.9 | —2.9 | 0.7 | **—17.1** | 0.0 | 5.1 |
| 55 | *8.3* | *3.8* | *—2.6* | *2.2* | *—3.5* | *2.9* | *1.5* | *1.5* | *4.4* | *—12.5* | *11.5* | *2.4* | 1.7 | 4.8 |
| 1856 | —6.3 | 2.4 | 13.1 | 0.1 | 0.5 | —3.5 | —1.2 | 2.5 | —1.3 | 8.6 | 1.3 | —11.3 | 0.4 | 4.3 |
| 57 | 2.0 | 2.2 | 7.1 | 4.5 | 5.6 | 2.5 | —4.0 | 10.3 | 2.3 | 0.6 | 13.0 | 1.5 | 4.0 | 4.6 |
| 58 | *7.3* | *11.4* | *—8.7* | *1.7* | *—3.3* | *4.8* | *—0.5* | *6.8* | *0.2* | *—2.0* | *5.4* | *5.3* | *2.4* | 4.8 |
| 59 | *—2.2* | *—5.7* | *—10.2* | *—3.0* | *5.9* | *0.5* | *3.9* | *2.6* | *—4.6* | *—3.4* | *5.2* | *0.9* | *—0.8* | 4.0 |
| 60 | *—4.7* | *—2.7* | *—4.3* | *4.4* | *—2.4* | *—4.6* | *3.1* | *—5.3* | *—2.0* | *—2.4* | *10.7* | *6.0* | *—0.3* | 4.4 |
| 1861 | *11.6* | *—1.3* | *—11.3* | *6.8* | *—0.7* | *4.1* | *—7.0* | *—4.4* | *—2.2* | *6.6* | *—8.2* | *9.1* | *0.3* | 6.1 |
| 62 | *2.9* | *11.7* | *2.8* | *—0.2* | *0.7* | *—6.3* | *—8.2* | *3.9* | *4.9* | *—9.5* | *10.7* | *—1.0* | *1.1* | 5.2 |
| 63 | *—12.0* | *—0.7* | *—0.7* | *—0.3* | *—1.5* | *—1.5* | *2.7* | *—0.2* | *—11.0* | *—3.3* | *—0.5* | *—7.3* | *—3.0* | 3.5 |
| 64 | *13.6* | *6.6* | *—5.7* | *7.8* | *4.1* | *—3.4* | *2.1* | *4.2* | *—2.5* | *4.2* | *4.5* | *9.1* | *3.7* | 5.6 |
| 65 | *—10.7* | *4.9* | *5.9* | *6.2* | —0.7 | *5.9* | *—1.4* | *0.8* | *4.5* | *—4.3* | *—1.8* | *7.6* | *1.4* | 4.6 |
| 1866 | —13.9 | —9.0 | 0.1 | 4.8 | 0.3 | 2.1 | —1.5 | —3.1 | —7.2 | 8.1 | —8.1 | —4.8 | —2.7 | 5.2 |
| 67 | 1.3 | —6.0 | 4.9 | —8.4 | 5.1 | 2.4 | 0.5 | 4.2 | 0.0 | —4.1 | 2.8 | 3.3 | 0.5 | 3.6 |
| 68 | —3.3 | —13.3 | —6.1 | —0.1 | —1.2 | 1.2 | 6.2 | 2.1 | 2.9 | —3.0 | 4.2 | —6.3 | —1.4 | 4.2 |
| 69 | 8.3 | *—8.5* | 2.5 | 1.8 | —3.9 | 0.2 | 1.8 | 4.9 | —10.1 | —3.2 | —9.1 | 1.1 | —1.2 | 4.6 |
| 70 | *7.1* | *5.9* | *5.2* | *2.3* | *—2.6* | —0.1 | 1.7 | 5.2 | 0.1 | —3.2 | 1.2 | 9.6 | 2.7 | 3.7 |
| 1871 | 3.6 | 3.6 | —3.8 | —1.3 | 0.7 | 3.9 | —5.9 | 1.2 | 2.4 | 2.6 | 7.6 | —0.1 | 1.2 | 3.1 |
| 72 | —4.3 | 7.9 | 1.4 | 0.8 | —4.2 | 1.6 | 2.6 | 5.6 | —9.1 | —5.0 | —1.7 | —0.7 | —0.4 | 3.7 |
| 73 | —6.3 | 3.8 | 7.5 | 4.2 | —2.4 | —1.2 | —0.1 | —2.8 | —6.0 | —10.4 | —1.8 | —4.2 | —1.6 | 4.2 |
| 74 | —13.6 | 4.0 | 0.3 | —3.7 | 1.2 | 1.0 | 0.6 | —2.9 | —6.3 | —9.0 | 3.1 | 1.8 | —1.9 | 4.0 |
| 75 | 2.7 | 13.4 | 9.2 | 2.0 | —4.1 | —3.0 | 3.2 | 4.6 | 2.2 | 6.8 | 5.3 | 3.5 | 3.8 | 5.0 |
| 1876 | *9.6* | *1.0* | *—12.5* | *—0.1* | *4.1* | *3.7* | *—1.3* | *1.9* | *—5.0* | *2.6* | *10.4* | 4.5 | *1.6* | 4.7 |
| 77 | *1.3* | *—6.9* | *—5.3* | *4.6* | *—2.0* | *—0.2* | *—3.8* | *2.2* | *—0.4* | —5.3 | —10.8 | 2.2 | *—2.0* | 3.8 |
| 78 | *2.5* | 1.6 | —4.3 | 6.0 | —7.3 | 0.5 | 0.2 | 1.5 | *—6.4* | —3.8 | 0.8 | —1.8 | —0.9 | 3.1 |
| 79 | *13.9* | *—4.0* | *2.6* | *1.5* | *—0.3* | *—1.1* | *—3.3* | *—0.3* | *—2.5* | *—0.7* | 9.5 | 6.7 | *1.6* | 4.1 |
| 80 | 8.8 | —5.5 | 9.7 | 1.1 | 0.8 | 0.7 | —0.8 | 8.2 | 1.0 | —1.5 | —5.5 | —5.9 | 0.9 | 4.1 |
| 1881 | 3.4 | 11.2 | —3.6 | 6.2 | 3.7 | —1.3 | —4.1 | —6.9 | 8.1 | 9.1 | —3.5 | 2.0 | 2.0 | 5.3 |
| 82 | 3.3 | —1.1 | *—7.3* | *2.3* | 3.2 | —0.3 | —2.8 | —3.6 | 0.9 | 8.1 | —0.3 | 6.0 | 0.7 | 3.3 |
| 83 | 4.4 | 6.7 | 4.1 | 8.7 | —2.4 | 3.6 | —2.5 | —0.5 | *—0.3* | —4.9 | —3.9 | —0.8 | 1.0 | 3.6 |
| 84 | —7.8 | 4.5 | 7.8 | 6.5 | —3.6 | 1.0 | 1.7 | 8.6 | 1.5 | —5.6 | 7.7 | —3.2 | 1.6 | 5.0 |
| 85 | 8.9 | —6.7 | 0.3 | 2.2 | —4.9 | —0.5 | 6.1 | 4.6 | —5.4 | —4.6 | 3.3 | —5.1 | —0.1 | 4.4 |
| 1886 | —4.6 | 14.8 | 7.2 | 1.8 | —1.0 | —1.4 | —2.9 | —0.4 | *—0.7* | *7.0* | *—0.3* | *—8.0* | 1.0 | 4.2 |
| 87 | 2.3 | 7.6 | 3.0 | 0.4 | 0.7 | 4.2 | —0.7 | 0.7 | —2.5 | —4.9 | —0.8 | —5.0 | 0.4 | 2.7 |
| 88 | 7.3 | 8.4 | —1.5 | 2.1 | —3.7 | 4.6 | —4.9 | 2.3 | 4.5 | —4.4 | —1.7 | 3.0 | 1.4 | 4.0 |
| 89 | 3.9 | —2.5 | 0.7 | 0.5 | 4.2 | 5.9 | —0.9 | —5.1 | 0.9 | 3.3 | 5.1 | 7.6 | 2.0 | 3.4 |

## Trondheim.

VI. *Pressure at sealevel, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 | |
| 1890 | —7.1 | 16.3 | —6.9 | 0.9 | 0.2 | —1.8 | —7.5 | —1.9 | 2.2 | —5.5 | 4.1 | 17.5 | 0.9 | ± 6.0 |
| 91 | 6.3 | 9.9 | —7.7 | 10.5 | —4.5 | **6.8** | 0.5 | —3.2 | —4.3 | —2.3 | 6.3 | —2.6 | 1.3 | 5.4 |
| 92 | —6.5 | 0.0 | 6.9 | 1.4 | —1.3 | —1.2 | 1.5 | —1.7 | —6.9 | —3.3 | 6.8 | 0.3 | —0.3 | 3.2 |
| 93 | 6.8 | —2.4 | —3.5 | 5.4 | 5.1 | 1.1 | —0.6 | 2.3 | —11.5 | —9.1 | —1.7 | —3.4 | —0.9 | 4.4 |
| 94 | —2.4 | —12.5 | —2.6 | 8.5 | —0.6 | 1.0 | 0.1 | —4.0 | 5.7 | 3.9 | 0.9 | —2.8 | —0.4 | 3.8 |
| 95 | 4.7 | 14.2 | —5.8 | —3.1 | 6.6 | 3.8 | —4.7 | —1.3 | 1.4 | —7.1 | 3.7 | —0.2 | 1.0 | 4.7 |
| 1896 | 5.1 | 8.0 | —7.0 | 0.0 | 4.3 | 0.8 | 2.5 | 2.5 | —5.3 | —4.5 | 7.1 | 5.9 | 1.6 | 4.4 |
| 97 | 10.9 | —4.0 | —2.9 | 2.6 | —1.3 | 3.0 | 0.2 | 0.3 | —6.5 | 6.8 | 6.7 | 3.5 | 1.6 | 4.1 |
| 98 | 0.0 | —6.4 | 1.7 | 6.0 | —5.8 | 0.7 | —0.9 | 1.9 | 0.9 | 4.0 | 0.4 | —8.4 | —0.5 | 3.1 |
| 99 | —2.4 | 1.9 | —1.0 | —5.8 | 3.7 | 5.0 | 2.5 | 7.6 | —9.3 | —4.8 | —2.9 | 11.8 | 0.5 | 4.9 |
| 1900 | 2.9 | 2.3 | 4.7 | —0.6 | —0.6 | 1.9 | 1.4 | 4.3 | —1.1 | —4.5 | 5.7 | —4.8 | 1.0 | 2.9 |
| 1901 | 4.5 | 2.4 | 1.5 | —0.6 | 7.5 | 0.8 | 5.8 | 1.9 | 5.9 | —1.2 | 1.2 | —3.0 | 2.2 | 3.0 |
| 02 | —7.3 | 3.5 | —3.5 | 8.0 | —3.8 | 4.2 | —2.1 | 0.0 | 2.3 | 1.6 | 9.5 | 5.4 | 1.5 | 4.3 |
| 03 | 0.5 | —12.1 | —8.6 | —4.2 | —1.3 | 5.8 | —1.5 | —7.3 | 6.3 | —4.9 | —2.8 | 7.2 | —1.9 | 5.2 |
| 04 | —0.5 | —1.8 | 10.5 | —4.8 | —0.9 | 0.8 | 2.5 | 1.7 | 8.9 | 1.1 | —1.3 | —4.2 | 1.0 | 3.2 |
| 05 | 2.3 | —2.8 | —1.0 | —2.6 | 2.5 | 4.3 | —0.6 | 1.2 | —2.1 | —1.2 | —0.1 | 2.6 | 0.2 | **1.9** |
| 1906 | —5.1 | —8.5 | —8.5 | 3.8 | —1.7 | 3.2 | 1.0 | 0.9 | 8.1 | 1.1 | 0.5 | —2.4 | —0.6 | 3.7 |
| 07 | 4.7 | —5.7 | —0.7 | 0.0 | —1.1 | —4.9 | 1.0 | —4.7 | 0.5 | —0.7 | 8.0 | 5.9 | 0.2 | 3.2 |
| 08 | —1.3 | —7.6 | 7.9 | 5.0 | 0.2 | 3.1 | 2.6 | 0.8 | 0.3 | 13.3 | 2.0 | 5.9 | 2.7 | 4.2 |
| 09 | —1.1 | 8.0 | 0.9 | 3.0 | 4.1 | 1.6 | —7.0 | —2.1 | 3.8 | —7.5 | —0.4 | —4.9 | —0.1 | 3.7 |
| 10 | —8.5 | —10.8 | 5.0 | —5.5 | —0.6 | 0.0 | —0.6 | 3.7 | 4.5 | 8.0 | —3.6 | —1.8 | —0.8 | 4.4 |
| 1911 | 7.5 | —4.0 | 4.2 | —1.5 | 3.7 | 0.6 | 4.7 | 4.3 | —3.0 | 2.4 | —3.6 | 1.8 | 1.4 | 3.4 |
| 12 | 6.7 | —3.0 | —5.9 | 5.8 | —3.3 | —2.6 | 3.8 | —3.5 | 5.7 | 0.5 | —4.5 | —8.6 | —0.7 | 4.5 |
| 13 | 8.0 | 3.0 | —10.2 | 0.5 | —1.0 | 1.0 | 3.0 | 4.5 | 6.7 | —0.1 | —8.3 | —4.2 | 0.3 | 4.2 |
| 14 | 2.0 | —8.4 | —8.3 | —1.1 | —0.7 | 2.7 | 0.1 | 5.9 | —3.4 | 9.5 | —1.9 | —5.2 | —0.7 | 4.1 |
| 15 | —5.6 | —2.8 | —1.4 | —2.7 | 1.9 | 3.2 | —4.1 | 1.2 | 3.9 | **16.0** | 0.8 | 0.4 | 0.9 | 3.7 |
| 1916 | —8.0 | —2.5 | 1.5 | —1.5 | —1.1 | —3.3 | —0.1 | 0.0 | 0.6 | —3.2 | —1.5 | —2.0 | —1.7 | 2.1 |
| 17 | 11.2 | 4.8 | 1.9 | —5.0 | 4.7 | 3.1 | 5.5 | —1.5 | —7.7 | —12.0 | —6.1 | 2.2 | 0.1 | 5.5 |
| 18 | —4.8 | 2.0 | 9.7 | 10.0 | 5.8 | —3.4 | 0.9 | 0.1 | **—13.8** | 0.4 | 6.1 | —2.0 | 0.9 | 4.9 |
| 19 | 6.3 | 1.8 | —2.3 | —4.6 | **8.1** | —1.2 | 2.1 | —4.7 | —7.4 | 5.6 | 2.7 | —2.1 | 0.4 | 4.1 |
| 20 | —8.3 | —2.4 | —5.7 | —5.5 | —1.1 | 2.6 | —3.0 | 4.7 | 1.1 | 12.3 | 6.3 | 11.2 | 1.0 | 5.4 |
| 1921 | —11.1 | 10.2 | —8.3 | 7.3 | —3.5 | 1.0 | 0.6 | —2.1 | —0.3 | —1.7 | **13.5** | —7.8 | —0.2 | 5.6 |
| 22 | 5.0 | —0.1 | —2.1 | —2.4 | —6.3 | —3.0 | —3.6 | —0.7 | 0.3 | 7.7 | —1.6 | —5.4 | —1.0 | 3.2 |
| 23 | —6.5 | 3.2 | **14.4** | 3.6 | —7.9 | —6.3 | —1.6 | —3.9 | —6.6 | —15.3 | —7.1 | —0.2 | —2.8 | **6.4** |
| 24 | 6.5 | 0.5 | 1.1 | —2.6 | —2.6 | —0.7 | —3.9 | —1.9 | —8.1 | 1.4 | 6.7 | —1.8 | —0.4 | 3.2 |
| 25 | 0.3 | —9.5 | 2.3 | —1.9 | —1.8 | 1.2 | 1.9 | —0.8 | —6.9 | —4.7 | 3.1 | —8.0 | —2.0 | 3.5 |
| 1926 | 5.9 | 4.7 | —3.4 | 2.2 | —2.2 | 0.1 | 1.6 | 1.1 | 0.2 | —1.5 | —4.1 | 3.4 | 0.7 | 2.5 |
| 27 | —6.7 | 6.3 | —1.4 | **—11.2** | 1.0 | —4.7 | 1.1 | 0.3 | —6.7 | —3.9 | 5.3 | 15.5 | —0.4 | 5.3 |
| 28 | —6.4 | —0.9 | 9.2 | 1.6 | 0.9 | **—7.6** | —6.2 | 0.9 | 3.0 | —3.5 | —6.4 | 3.8 | —0.9 | 4.2 |
| 29 | 18.3 | **19.4** | 7.2 | 1.6 | 0.9 | —3.5 | 0.6 | —1.1 | —1.1 | —10.8 | —4.2 | —7.9 | 1.6 | **6.4** |
| 30 | —7.2 | 13.8 | —5.4 | 4.6 | —1.3 | 1.6 | —4.0 | 0.4 | 4.4 | —8.6 | —9.2 | 5.2 | —0.5 | 5.5 |
| 1931 | —2.6 | —2.0 | 7.2 | 0.9 | —0.5 | —3.3 | —6.3 | 1.9 | 2.8 | —4.7 | 6.1 | 1.2 | 0.1 | 3.3 |
| 32 | —2.3 | 16.8 | 5.7 | —7.0 | 0.2 | 2.3 | —1.3 | 5.7 | —10.4 | —8.5 | 3.6 | 6.0 | 0.9 | 5.8 |
| 33 | 9.5 | —0.2 | 3.0 | 2.1 | 2.4 | 0.8 | —0.4 | 0.2 | 8.8 | —0.2 | 9.1 | 13.9 | 4.1 | 4.2 |
| 34 | —2.2 | 0.4 | —4.0 | 1.2 | —2.8 | 3.8 | 1.0 | 0.2 | 2.2 | —10.4 | 4.0 | 4.7 | —0.2 | 3.1 |
| 35 | 5.7 | —16.6 | 11.1 | —2.4 | 6.4 | —1.3 | —0.8 | 4.9 | —7.2 | —12.7 | 2.5 | —1.9 | 1.0 | 6.1 |
| 1936 | —9.1 | 3.1 | 5.2 | 0.2 | 7.7 | 3.0 | —4.8 | 2.2 | 5.8 | —3.8 | —0.6 | —6.7 | 0.2 | 4.4 |
| 37 | 8.9 | —7.9 | 0.6 | 4.7 | 2.1 | —1.8 | 0.1 | 7.5 | —6.6 | 3.8 | 6.0 | 12.1 | 2.5 | 5.2 |
| 38 | —9.8 | 6.4 | —6.5 | 4.0 | —2.5 | —6.2 | —0.2 | 3.8 | 2.6 | —7.9 | —8.0 | 8.4 | —1.3 | 5.5 |
| 39 | —1.2 | —4.8 | 5.3 | —1.9 | 5.5 | —0.1 | —2.6 | 8.9 | 6.4 | 8.9 | —5.4 | 3.9 | 1.9 | 4.6 |
| 40 | 15.1 | 8.3 | —1.6 | 2.1 | 5.5 | 3.8 | —2.5 | —0.6 | —8.6 | 4.9 | —7.5 | 6.5 | 2.1 | 5.6 |
| 41 | 10.6 | —3.3 | 3.7 | 7.2 | 1.2 | 2.9 | 2.7 | —5.1 | 7.2 | 4.4 | 11.8 | —0.3 | 3.6 | 5.0 |

## Trondheim.

VI. *Pressure at sealevel, true means, departures from the normal.*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M $^{01-30}$ ..... | 07.1 | 08.4 | 09.3 | 11.0 | 14.5 | 12.8 | 11.7 | 09.5 | 12.1 | 10.7 | 07.5 | 06.8 | 10.1 | |
| 1942..... | 13.4 | 10.2 | 8.0 | 6.1 | —2.0 | 0.5 | —2.1 | 3.5 | —5.0 | —8.3 | 3.3 | —0.6 | 2.3 | ± 5.2 |
| 43..... | 0.5 | —10.7 | 2.8 | —9.8 | —0.1 | 2.4 | 1.0 | —1.8 | —1.9 | 1.8 | 0.4 | 5.6 | —0.8 | 3.2 |
| 44..... | —7.7 | 3.4 | —1.4 | 2.7 | 2.1 | —3.8 | 2.1 | 3.8 | —0.6 | —0.4 | —2.5 | 1.6 | 0.0 | 2.7 |
| 45..... | 2.0 | —1.3 | 3.2 | 0.5 | —2.4 | —2.8 | 0.9 | 0.8 | 2.8 | 1.1 | 10.8 | 1.6 | 1.5 | 2.5 |
| Mean deviation, d 1762 — — 1945, 183 years. | | | | | | | | | | | | | | |
| $d$ ±..... | 6.36 | 5.89 | 5.13 | 3.56 | 2.86 | 2.54 | 2.57 | 3.10 | 4.00 | 5.11 | 4.83 | 5.75 | 1.28 | 4.31 |
| Greatest positive and negative departures and their difference, $D$, 183 years. | | | | | | | | | | | | | | |
| Max. ..... | 23.8 | 19.4 | 14.4 | 10.5 | 8.1 | 6.8 | 6.4 | 11.2 | 10.5 | 16.0 | 13.5 | 20.8 | 4.2 | 13.4 |
| Min. ..... | —19.2 | —21.0 | —16.4 | —11.2 | —8.1 | —7.6 | —9.0 | —8.8 | —13.8 | —15.9 | —14.4 | —17.1 | —4.5 | —13.5 |
| $D$ ..... | 43.0 | 40.4 | 30.8 | 21.7 | 16.2 | 14.4 | 15.4 | 20.0 | 24.3 | 31.9 | 27.9 | 37.9 | 8.7 | 26.9 |
| $\frac{D}{d}$ ..... | 6.76 | 6.85 | 6.01 | 6.10 | 5.66 | 5.67 | 5.99 | 6.45 | 6.08 | 6.24 | 5.78 | 6.59 | 6.79 | 6.26 |

$\frac{D}{d}$ theoretical $= \sigma_{183} = 6.68$

*VII a. General table for Trondheim.*

Temperature.

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean of monthly values |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean (100 years) .... | — 3.1 | — 2.6 | — 0.6 | 3.6 | 8.2 | 12.3 | 14.3 | 13.3 | 9.6 | 4.9 | 0.3 | — 2.1 | 4.8 | |
| Probable error of mean | ± 0.20 | 0.19 | 0.16 | 0.12 | 0.11 | 0.13 | 0.12 | 0.11 | 0.08 | 0.11 | 0.14 | 0.18 | 0.06 | 0.14 |
| Highest monthly mean | 2.4 | 3.6 | 4.2 | 8.7 | 14.0 | 17.0 | 20.4 | 17.7 | 12.7 | 8.9 | 5.6 | 3.5 | 7.1 | |
| Lowest » » | —10.3 | — 9.7 | — 8.8 | — 2.6 | 4.2 | 7.4 | 11.0 | 10.1 | 7.0 | — 0.1 | — 3.5 | — 9.4 | 3.0 | |
| Difference $D$ (183 years) | 12.7 | 13.3 | 13.0 | 11.3 | 9.8 | 9.6 | 9.4 | 7.6 | 5.7 | 9.0 | 9.1 | 12.9 | 4.1 | 10.28 |
| Mean monthly max ... | 5.68 | 5.67 | 7.34 | 12.15 | 18.63 | 22.95 | 24.58 | 22.54 | 17.73 | 13.21 | 8.51 | 6.47 | 25.65 | |
| » » min. .. | —14.99 | —14.05 | —11.96 | — 5.01 | 0.43 | 4.49 | 7.63 | 6.59 | 2.63 | — 3.97 | — 9.36 | —13.52 | —18.27 | |
| Difference $\delta$ (161 years) | 20.67 | 19.72 | 19.30 | 17.16 | 18.20 | 18.46 | 16.95 | 15.95 | 15.10 | 17.18 | 17.87 | 19.99 | 43.92 | 18.05 |
| Absolute max..... | 11.0 | 11.6 | 14.1 | 21.1 | 25.9 | 30.6 | 35.0 | 30.1 | 24.7 | 19.2 | 15.0 | 13.2 | 35.0 | |
| » min. ..... | —30.0 | —26.1 | —23.3 | —15.7 | —10.0 | — 0.6 | 1.7 | 1.6 | — 2.9 | —14.1 | —19.2 | —23.4 | —30.0 | |
| *Difference* $A_r$ (161 years) ..... | 41.0 | 37.7 | 37.4 | 36.8 | 35.9 | 31.2 | 33.3 | 28.5 | 27.6 | 33.3 | 34.2 | 36.6 | 65.0 | 34.46 |
| Mean deviation $d$.... | ± 2.33 | 2.27 | 1.90 | 1.40 | 1.33 | 1.52 | 1.45 | 1.30 | 1.00 | 1.31 | 1.59 | 2.06 | 0.71 | 1.62 |

## Trondheim.

*VII b. General table for Trondheim. Atmospheric pressure at sealevel.* 1000 +

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year | Mean of monthly values |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean (100 years) .... | 08.6 | 08.3 | 09.0 | 12.7 | 14.8 | 13.3 | 11.4 | 10.7 | 11.8 | 09.6 | 08.4 | 07.7 | 10.5 | |
| Probable error of mean | ± 0.54 | 0.50 | 0.44 | 0.30 | 0.24 | 0.22 | 0.22 | 0.26 | 0.34 | 0.43 | 0.41 | 0.49 | 0.11 | 0.37 |
| Highest monthly mean | 30.9 | 27.8 | 23.7 | 21.5 | 22.6 | 19.6 | 18.1 | 20.7 | 22.6 | 26.7 | 21.0 | 27.6 | 14.3 | |
| Lowest » » | 87.9 | 87.4 | 92.9 | 99.8 | 06.4 | 05.2 | 02.7 | 00.7 | 98.3 | 94.8 | 93.1 | 89.7 | 05.6 | |
| Difference $D$ (183 years) | 43.0 | 40.4 | 30.8 | 21.7 | 16.2 | 14.4 | 15.4 | 20.0 | 24.3 | 31.9 | 27.9 | 37.9 | 8.7 | 26.99 |
| Mean monthly max. .. | 32.26 | 30.97 | 30.55 | 30.55 | 29.90 | 26.82 | 23.85 | 24.22 | 27.64 | 29.42 | 30.47 | 31.97 | 41.15 | |
| » » min. .. | 77.87 | 79.98 | 82.85 | 89.91 | 94.65 | 95.61 | 95.09 | 93.14 | 89.56 | 83.05 | 80.00 | 78.94 | 67.44 | |
| Difference $\delta$ (161 years) | 54.39 | 50.99 | 47.70 | 40.64 | 35.25 | 31.21 | 28.76 | 31.08 | 38.08 | 46.37 | 50.47 | 53.03 | 73.71 | 42.33 |
| Absolute max..... | 51.7 | 49.1 | 49.4 | 45.0 | 44.2 | 43.2 | 46.9 | 36.0 | 41.3 | 45.6 | 48.5 | 53.2 | 53.2 | |
| » min..... | 49.2 | 55.0 | 54.3 | 67.4 | 74.2 | 78.2 | 80.6 | 74.4 | 69.0 | 57.1 | 50.7 | 48.3 | 48.3 | |
| Difference $A_r$ (161 years) ..... | 102.5 | 94.1 | 95.1 | 77.6 | 70.0 | 65.0 | 66.3 | 61.6 | 72.3 | 88.5 | 97.8 | 104.9 | 104.9 | 82.92 |
| Mean deviation $d$.... | ± 6.36 | 5.89 | 5.13 | 3.56 | 2.86 | 2.54 | 2.57 | 3.10 | 4.00 | 5.11 | 4.83 | 5.75 | 1.28 | 4.31 |

*VIII a. Precipitation, mm (Bakke, Rosenvinges obs.)*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1854..... | | | | 3 | 56 | 19 | 56 | 91 | 148 | 80 | | | |
| 55..... | | | | 59 | 29 | 91 | 8 | 51 | 89 | | | | |
| 1856..... | | | | 69 | 20 | 71 | 98 | 59 | 26 | 117 | | | |
| 57..... | | | | 7 | 11 | 95 | 73 | 77 | 107 | | | | |
| 58..... | | | | 88 | 34 | 56 | 41 | 59 | **158** | | | | |
| 59..... | | | | 53 | 18 | 41 | 85 | 75 | 65 | | | | |
| 60..... | | | | 43 | 36 | 68 | 62 | 57 | 99 | | | | |
| 1861..... | *14* | *53* | *45* | 57 | 56 | 7 | 79 | 109 | 68 | *46* | *79* | *61* | 674 |
| 62..... | *7* | *49* | *21* | 23 | 1 | 48 | **145** | 101 | 67 | 123 | 13 | *77* | 675 |
| 63..... | 45 | *37* | 72 | 55 | 86 | 25 | 81 | 56 | 61 | 41 | 126 | 235 | 920 |
| 64..... | 38 | 29 | 48 | 40 | **95** | 66 | 75 | 66 | 63 | 93 | 71 | 100 | 784 |
| 65..... | 72 | 34 | 11 | 72 | 25 | **111** | 85 | 38 | 147 | 74 | 90 | 164 | 923 |
| 1866..... | 128 | 0 | 33 | 30 | 49 | 33 | 69 | 77 | 43 | 93 | 85 | 187 | 827 |
| 67..... | 35 | 114 | 48 | 59 | 42 | 92 | 62 | 51 | 78 | 37 | **220** | 122 | 960 |
| 68..... | 61 | 139 | 56 | 53 | 80 | 72 | 27 | 55 | 42 | 24 | 101 | 42 | 752 |
| 69..... | 34 | 44 | 23 | 61 | 42 | 58 | 56 | 80 | 84 | 115 | 96 | 25 | 718 |
| 70..... | 52 | 29 | 56 | 49 | 93 | 61 | 99 | 49 | 119 | 63 | 53 | 20 | 743 |
| 1871..... | 27 | 115 | 82 | 41 | 40 | 26 | 78 | **151** | 82 | 33 | 69 | 120 | 864 |
| 72..... | 11 | 15 | 28 | 31 | 51 | 34 | 40 | 18 | 48 | 47 | 66 | 15 | 404 |
| 73..... | 70 | 145 | 19 | 85 | 50 | 42 | 84 | 91 | 73 | 106 | 95 | 279 | **1139** |
| 74..... | 131 | 82 | 94 | 77 | 37 | 74 | 70 | 72 | 63 | 94 | 89 | 36 | 919 |
| 75..... | 57 | 55 | 51 | **137** | 39 | 74 | 68 | 49 | 82 | 48 | 68 | 79 | 807 |
| 1876..... | 66 | 29 | 34 | 48 | 38 | 46 | 97 | 42 | 83 | 78 | 36 | 44 | 641 |
| 77..... | 17 | 45 | 41 | 32 | 58 | 63 | 85 | 40 | 98 | 102 | 62 | 41 | 684 |
| 78..... | 66 | **229** | 86 | 28 | 63 | 62 | 67 | 44 | 87 | 58 | 53 | 40 | 883 |
| 79..... | 21 | 48 | 109 | 13 | 40 | 30 | 11 | 77 | 82 | 173 | 101 | 99 | 804 |
| 80..... | 75 | 34 | 42 | 35 | 49 | 8 | 49 | 35 | 106 | 145 | 94 | 159 | 831 |
| 1881..... | **144** | 22 | 107 | 75 | 29 | 47 | 91 | 122 | 40 | 45 | 62 | 126 | 910 |
| 82..... | 107 | 114 | **137** | 29 | 27 | 38 | 46 | 47 | 25 | 8 | 19 | 27 | 624 |
| 83..... | 30 | 65 | 73 | 41 | 57 | 46 | 46 | 90 | 63 | **226** | 30 | 81 | 848 |
| 84..... | *103* | *61* | *27* | *47* | *64* | *75* | *74* | *43* | *56* | *113* | *111* | *101* | *876* |
| 85..... | *9* | *38* | *82* | *50* | *41* | *64* | 79 | 41 | 68 | 58 | 94 | **297** | 921 |

## Trondheim.

*VIII b. Number of days with precipitation $\geqq$ 0.3 mm. (Bakke, Rosenvinges obs.)*

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1861 | | | | 18 | 13 | 4 | 15 | 18 | 12 | | | | |
| 62 | | | | 14 | 1 | 10 | 18 | 18 | 15 | 17 | *6* | *4* | |
| 63 | 11 | 9 | 12 | 13 | 16 | 13 | 17 | 18 | 15 | 16 | 19 | 22 | 181 |
| 64 | 7 | 7 | 9 | 12 | 13 | 17 | 15 | 21 | 12 | 17 | 10 | 10 | 150 |
| 65 | 12 | 14 | 3 | 17 | 8 | 20 | 18 | 14 | 22 | 16 | 15 | 13 | 172 |
| 1866 | 17 | 0 | 9 | 8 | 14 | 11 | 15 | 16 | 11 | 15 | 13 | 17 | 146 |
| 67 | 6 | 14 | 14 | 14 | 12 | 14 | 15 | 14 | 16 | 14 | 28 | 14 | 175 |
| 68 | 11 | 21 | 7 | 13 | 15 | 19 | 7 | 11 | 12 | 11 | 15 | 8 | 150 |
| 69 | 8 | 15 | 8 | 16 | 14 | 14 | 20 | 15 | 19 | 20 | 12 | 9 | 170 |
| 70 | 11 | 11 | 15 | 16 | 19 | 14 | 16 | 9 | 14 | 8 | 13 | 7 | 153 |
| 1871 | 4 | 13 | 15 | 13 | 12 | 8 | 15 | 20 | 12 | 14 | 13 | 22 | 161 |
| 72 | 4 | 4 | 6 | 12 | 13 | 10 | 12 | 8 | 14 | 9 | 10 | 4 | 106 |
| 73 | 10 | 17 | 2 | 14 | 13 | 14 | 12 | 17 | 16 | 17 | 17 | 24 | 173 |
| 74 | 18 | 13 | 13 | 12 | 11 | 16 | 13 | 21 | 15 | 16 | 11 | 10 | 169 |
| 75 | 10 | 7 | 13 | 17 | 10 | 18 | 11 | 14 | 16 | 6 | 11 | 17 | 150 |
| 1876 | 14 | 5 | 10 | 12 | 11 | 9 | 21 | 10 | 18 | 16 | 9 | 8 | 143 |
| 77 | 5 | 11 | 9 | 7 | 11 | 15 | 17 | 13 | 17 | 17 | 13 | 9 | 144 |
| 78 | 14 | 21 | 17 | 8 | 11 | 12 | 14 | 10 | 17 | 12 | 11 | 7 | 154 |
| 79 | 5 | 6 | 16 | 6 | 10 | 9 | 7 | 11 | 15 | 21 | 14 | 15 | 135 |
| 80 | 16 | 9 | 12 | 9 | 17 | 4 | 17 | 9 | 14 | 22 | 18 | 16 | 163 |
| 1881 | 15 | 5 | 13 | 14 | 8 | 13 | 23 | 18 | 7 | 11 | 19 | 8 | 154 |
| 82 | 22 | 21 | 22 | 10 | 13 | 10 | 13 | 11 | 10 | 5 | 5 | 7 | 149 |
| 83 | 9 | 8 | 14 | 10 | 15 | 11 | 8 | 15 | 12 | 17 | 9 | 18 | 146 |
| Mean 20 years | 10.9 | 11.1 | 11.4 | 12.0 | 12.5 | 12.9 | 14.4 | 13.8 | 14.4 | 14.2 | 13.3 | 12.2 | 153.1 |
| Mean precipitation 1864—83, 20 years. | | | | | | | | | | | | | |
| mm | 62.1 | 69.3 | 58.9 | 51.9 | 50.2 | 54.2 | 65.3 | 64.6 | 75.4 | 83.0 | 78.0 | 90.3 | 803.3 |
| % | 7.7 | 8.6 | 7.3 | 6.5 | 6.3 | 6.8 | 8.1 | 8.1 | 9.4 | 10.3 | 9.7 | 11.2 | 100.0 |

Printed 16th May 1949.
GRONDAHL & SØNS BOKTRYKKERI. OSLO