

## Kyiv

In Handbooks this station is also named/called as **Kyiv, observatory**. The station was not relocated during 1812-1850

Longitude: **30°30'**; Latitude: **50°27'**; Height: **183 m**

Starting year: **1812**

Availability of data (data for such periods **ARE** available/present in original tables):

- 1812-1819.11;
- 1823.11-1825.11;
- 1837.9-1841.2.

Number of subdaily air temperature and pressure measurements:

- 1812-1825 - 3 times/day: 06:00, 14:00, 22:00 (only temperature) (see Photo 1);
- 1837-1841 - 3 times/day: 06:00, 14:00, 22:00 (see Photo 2).

Other variables (measurements/observations):

- clouds and precipitation in **words** (! состояние атмосферы/state of atmosphere) (see Photo 1 and 2)

Kyiv, 1825 год.

| Сентябрь.   |       |                | Октябрь.    |                            |                            | Ноябрь.     |       |                            |
|-------------|-------|----------------|-------------|----------------------------|----------------------------|-------------|-------|----------------------------|
| Температура | Ветер | Состояние неба | Температура | Ветер                      | Состояние неба             | Температура | Ветер | Состояние неба             |
| 1           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 2           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 3           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 4           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 5           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 6           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 7           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 8           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 9           | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 10          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 11          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 12          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 13          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 14          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 15          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 16          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 17          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 18          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 19          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 20          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 21          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 22          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 23          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 24          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 25          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 26          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 27          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 28          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 29          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 30          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |
| 31          | +8.0  | -15.0          | +10.0       | С. зало, облачно, в. дождь | С. зало, облачно, в. дождь | +8.0        | +2.0  | С. зало, облачно, в. дождь |

Photo 1. An example of an original data table for the period of 1812-1825 (Kyiv)



## Kharkiv

**Comment.** Two different books with names **Kharkiv\_university** and **Kharkiv** containing data for 1843 were found in the archive and digitized separately. However, it seems that they belong to the same station because data are almost the same.

### Kharkiv\_university

Longitude: **50°00'**; Latitude: **36°14'**; Height: **140 m**

Starting year: **1840**

Availability of data (data for such periods **ARE** available/present in original tables):

1840.4-10; However (1840.05.01-1840.05.19 and 1840.07-1840.08 no pressure data)  
1843.01.14-1843.12;  
1845.01.14-1847.12.

Number of subdaily air temperature and pressure measurements:

1840.4-1840.8 - 9 times/day: 06:00, 08:00, 10:00, 12:00, 14:00, 16:00, 18:00, 20:00, 22:00  
(see Photo 3 and Photo 4);

1840.9-1840.10 - 3 times/day: 09:00, 15:00, 21:00 (see Photo 5);

1843.01.14-1843.12 – 6 times/day: 06:00, 09:00, 12:00, 15:00, 18:00, 21:00 (see Photo 6);

1845.01.14-1847.12 - 6 times/day: 06:00, 09:00, 12:00, 15:00, 18:00, 21:00 (the same as Photo 6).

Other variables (measurements/observations) (see Photos below):

- two different pressure measurements («Баром. Русск лин.» and «Барометръ при 13 $\frac{1}{3}$ °R»);
- wind;
- precipitation;
- Tx and Tn
- atmosphere condition.

The image shows an open notebook. The left page is handwritten with the text: "Метеорологи́я Харьковскаго университета 1840р. (IV-X)". The right page is a printed table titled "Барометрическія наблюденія въ Харьковѣ 1840г.". The table has columns for "Day", "Month", and "Time". The data is organized in a grid format, with rows representing days and columns representing different times of day. Red lines are drawn across the table, highlighting specific data points or trends.

Photo 3. An example of an original data table for the period of 1840.04-1840.08 (air pressure, **Kharkiv\_university**)

Day Month Температура  
Средняя Апрель Май Июнь Июль Август Сентябрь Октябрь Ноябрь Декабрь

Air temperature

Time

| Day | mean | Апрель | Май  | Июнь | Июль | Август | Сентябрь | Октябрь | Ноябрь | Декабрь |
|-----|------|--------|------|------|------|--------|----------|---------|--------|---------|
| 1   | +2.0 | 0      | +1   | +2.2 | +3.5 | +4.8   | +5.5     | +6.2    | +6.8   | +7.2    |
| 2   | +2.0 | 0      | +0.5 | +1.5 | +2.8 | +4.2   | +5.2     | +5.8    | +6.5   | +7.0    |
| 3   | +2.0 | 0      | +1   | +2.5 | +3.8 | +5.2   | +6.2     | +6.8    | +7.5   | +8.0    |
| 4   | +2.0 | 0      | +1.5 | +3.1 | +4.5 | +5.8   | +6.8     | +7.5    | +8.2   | +8.8    |
| 5   | +2.0 | +1.5   | +2   | +3.1 | +4.5 | +5.8   | +6.8     | +7.5    | +8.2   | +8.8    |
| 6   | +2.0 | +1     | +2.2 | +3.5 | +4.8 | +6.2   | +7.2     | +7.8    | +8.5   | +9.0    |
| 7   | +2.0 | +2.2   | +2.8 | +3.8 | +5.2 | +6.5   | +7.5     | +8.2    | +8.8   | +9.5    |
| 8   | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 9   | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 10  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 11  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 12  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 13  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 14  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 15  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 16  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 17  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 18  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 19  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 20  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 21  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 22  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 23  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 24  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 25  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 26  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 27  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 28  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 29  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 30  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |
| 31  | +2.0 | +2.5   | +3.2 | +4.2 | +5.5 | +6.8   | +7.8     | +8.5    | +9.2   | +9.8    |

Photo 4. An example of an original data table for the period of 1840.04-1840.08 (air temperature, Kharkiv\_university)

Month Сентябрь Year 1840 года.

| Day<br>Число | Time of measurements<br>Часы | Air temperature<br>Температура в градусах | Air pressure<br>Давление в атмосферах |      | State of atmosphere<br>Состояние атмосферы         | Remarks<br>Замечания         | Mean temperature<br>Средняя температура |
|--------------|------------------------------|---|---------------------------------------|------|--|------------------------------|---|
|              |                              |   | max                                   | min  |  |                              |   |
| 1            | 0                            | 15  | 59,2                                  | 59,2 | No clouds<br>ясно                                  | No wind<br>штиль             | 16,9                                    |
|              | 3                            | 18  | 59,4                                  | 59,4 |  |                              |   |
|              | 9                            | 25  | 59,8                                  | 59,8 |  |                              |   |
| 2            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 3            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 4            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 5            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 6            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 7            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 8            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  | North wind<br>северный ветер | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 9            | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 10           | 0                            | 15  | 59,2                                  | 59,2 | Cumuli-Stratus<br>Cumuli-Stratus<br>Nimbus         |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 11           | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>Cumuli-Stratus<br>Cumuli-Stratus         | North wind<br>северный ветер | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 12           | 0                            | 15  | 59,2                                  | 59,2 | Cumuli-Stratus<br>Cumuli-Stratus<br>Cumuli-Stratus |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 13           | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 14           | 0                            | 15  | 59,2                                  | 59,2 | Cumuli-Stratus<br>Cumuli-Stratus<br>Cumuli-Stratus |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 15           | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |
| 16           | 0                            | 15  | 59,2                                  | 59,2 | Breeze<br>ветерок                                  |                              | 16,8                                    |
|              | 3                            | 18  | 59,2                                  | 59,2 |  |                              |   |
|              | 9                            | 25  | 59,2                                  | 59,2 |  |                              |   |

Photo 5. An example of an original data table for the period of 1840.09-1840.10 (Kharkiv\_university)



## Kharkiv

Longitude: **50°00'**; Latitude: **36°14'**; Height: **140 m** (These are coordinates of Kharkiv\_university; information about location of Kharkiv was not found)

Starting year: **1843**

Availability of data (data for such periods **ARE** available/present in original tables):

1843-1844

Number of subdaily air temperature and pressure measurements:

1843-1844 – 6 times/day: 06:00, 09:00, 12:00, 15:00, 18:00, 21:00 (see Photo 7);

Other variables (measurements/observations) (see Photos below):

- wind;
- atmosphere condition (state of atmosphere).

The image shows two pages of a handwritten weather logbook. The left page is for the month of February (Февраль) and the right page is for January (Январь). The tables are organized by day and time of measurement (06:00, 09:00, 12:00, 15:00, 18:00, 21:00). The columns include:
 

- Часы (Time)
- Барометр (Barometer)
- Термометр (Thermometer)
- Ветер (Wind)
- Состояние атмосферы (State of atmosphere)
- Примечания (Remarks)

 Red annotations on the left page point to the 'Day' and 'Time of measurements' columns. The data is written in cursive Russian script.

Photo 7. An example of an original data table for the period of 1843 (**Kharkiv**)

## Poltava

The station was not relocated during 1824-1850

Longitude: **34°33'**; Latitude: **49°36'**; Height: **160 (140?) m**

Starting year: **1824**

Availability of data (data for such periods **ARE** available/present in original tables):

1824-1831;

1836-1843;

1845-1850.

Number of subdaily air temperature and pressure measurements:

1824-1831 - 3 times/day: at sunrise, at midday, at sunset (only temperature, see Photo 8);

1836-1837 - 3 times/day: at sunrise, midday and at sunset (see Photo 9);

1838-1843 - 3 times/day: 07:00, 14:00, 21:00 (see Photo 10).

1845-1846 - 3 times/day: 07:00, 14:00, 21:00 (almost the same as on Photo 10)

1847-1850 - 3 times/day: 07:00, 14:00, 21:00 (see Photo 11).

- pressure observations were conducted since 1836 (see Photo 9);

- temperature of barometer: since 1847 (see Photo 11);

- height of barometer (air pressure adjusted to temperature of  $13\frac{1}{3}$  R): since 1847 (see Photo

11).

Other variables (measurements/observations):

- wind;

- atmospheric condition (state of atmosphere);

- humidity (vapor pressure)/упругость паровъ (since 1847, see Photo 11)

Photo 8. An example of an original data table for the period of 1824-1831 (Poltava)

Матрица метеорологических наблюдений  
за июль 1836 г.

Примечания

| day | at sunrise |         | at midday |         |      |         | at sunset |         |      |         | remarks                                    |
|-----|------------|---------|-----------|---------|------|---------|-----------|---------|------|---------|--|
|     | temp       | wind    | temp      | wind    | temp | wind    | temp      | wind    | temp | wind    |  |
| 1   | 22         | св.в.з. | 23        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 5 туман, дождь и мороз ночью.              |
| 2   | 23         | св.в.з. | 23        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 6 { Дождь и мороз ночью и в начале месяца. |
| 3   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 7 {  |
| 4   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 8 { Дождь и мороз в начале месяца.         |
| 5   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 9 { Дождь и мороз в начале месяца.         |
| 6   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 10 { Дождь и мороз в начале месяца.        |
| 7   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 11 { Дождь и мороз в начале месяца.        |
| 8   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 12 { Дождь и мороз в начале месяца.        |
| 9   | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 13 { Дождь и мороз в начале месяца.        |
| 10  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 14 { Дождь и мороз в начале месяца.        |
| 11  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 15 { Дождь и мороз в начале месяца.        |
| 12  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 16 { Дождь и мороз в начале месяца.        |
| 13  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 17 { Дождь и мороз в начале месяца.        |
| 14  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 18 { Дождь и мороз в начале месяца.        |
| 15  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 19 { Дождь и мороз в начале месяца.        |
| 16  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 20 { Дождь и мороз в начале месяца.        |
| 17  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 21 { Дождь и мороз в начале месяца.        |
| 18  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 22 { Дождь и мороз в начале месяца.        |
| 19  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 23 { Дождь и мороз в начале месяца.        |
| 20  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24 { Дождь и мороз в начале месяца.        |
| 21  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 25 { Дождь и мороз в начале месяца.        |
| 22  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 26 { Дождь и мороз в начале месяца.        |
| 23  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 27 { Дождь и мороз в начале месяца.        |
| 24  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 28 { Дождь и мороз в начале месяца.        |
| 25  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 29 { Дождь и мороз в начале месяца.        |
| 26  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 30 { Дождь и мороз в начале месяца.        |
| 27  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 10. 2. 1837                                |
| 28  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. |  |
| 29  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. |  |
| 30  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. |  |
| 31  | 24         | св.в.з. | 24        | св.в.з. | 24   | св.в.з. | 24        | св.в.з. | 24   | св.в.з. |  |

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Photo 9. An example of an original data table for the period of 1836-1837 (Poltava)

| №  | Время суток | Ветер | Атмосферные условия | month    |         | year |      | time |      | Атмосферные условия | Средняя температура | Средняя влажность |
|----|-------------|-------|---------------------|----------|---------|------|------|------|------|---------------------|---------------------|-------------------|
|    |             |       |                     | Сентябрь | Октябрь | 1838 | 1839 | день | ночь |                     |                     |                   |
| 1  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 2  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 3  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 4  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 5  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 6  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 7  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 8  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 9  | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 10 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 11 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 12 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 13 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 14 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 15 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 16 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 17 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 18 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 19 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 20 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 21 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 22 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 23 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 24 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 25 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 26 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 27 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 28 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 29 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 30 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |
| 31 | 30 - 1/2    | Штиль | Облачно             | 6        | 10      | 15   | 2    | 8    | 2    | Облачно             | Облачно             | 6 - 16 29 - 2     |

Photo 10. An example of an original data table for the period of 1838-1839 (Poltava)

pressure at 13.3 R

temperature 1

temperature 2

vapor pressure

wind atmospheric conditions

month year time

temperature of barometer pressure at 13.3 R

wind atmospheric conditions

Photo 11. An example of an original data table for the period of 1847-1850 (Poltava)

## Kamyanets-Podilsky

Longitude: **26°35'**; Latitude: **48°40'**; Height: **228**

Starting year: **1844**

Availability of data (data for such periods **ARE** available/present in original tables):

04.1844-11.1848 – 4 times/day: 8:00, 12:00, 16:00, 20:00

Other variables (measurements/observations)

- wind;
- atmosphere condition (state of atmosphere).

The image shows a handwritten data table with the following columns and headers:

- Month and year** (with a red box around '1844')
- Temperature** (with a red arrow pointing to a value)
- Pressure** (with a red arrow pointing to a value)
- Wind** (with a red arrow pointing to a value)
- State of atmosphere** (with a red arrow pointing to a value)

The table contains multiple rows of data, with a hand visible on the left side pointing to a specific entry. The handwriting is in Cyrillic script.

Photo 12. An example of an original data table for the period of 1844-1848 (Kamyanets-Podilsky)

## Lugansk

The station was relocated in 1843

Longitude: **39°15'**; Latitude: **48°34'**; Height: **62 m**

Starting year: **1827**

Availability of data (data for such periods **ARE** available/present in original tables):

1827-1850

Number of subdaily air temperature and pressure measurements:

1827.01.01-1827.05.31 – 2 times/day: morning, midday (only temperature, see Photo 13);

1827.06.01-1827.09.16 – 1 time/day: midday (only temperature);

1827.09.17-1828.01.21 – 2 times/day: morning, midday (only temperature);

1828.01.22-1829.08.31 – 3 times/day: morning, midday, evening (only temperature, see Photo 14);

1829.09.01-1837.03.31 – 3 times/day: morning, midday, evening (see Photo 15);

1837.04.01-1850 – 8 times/day: 8:00, 10:00, 12:00, 14:00, 16:00, 18:00 20:00, 22:00 (see Photo 16,17,18);

- pressure observations were conducted since 01.09.1829 (see Photo 15);

- temperature of barometer: since 01.04.1837;

- height of barometer (air pressure adjusted to temperature of  $13\frac{1}{3}$  R): since 01.02.1838 (see Photo 18).

Other variables (measurements/observations):

- wind (see Photo 16);

- atmosphere condition (state of atmosphere) (see Photo 16);

- precipitation (since 01.02.1837) (see Photo 17)

- humidity (vapor pressure)/у́пруго́сть па́ровъ (see Photo 17)

| Day of month | Temperature |        | Wind | Atmosphere | Month |
|--------------|-------------|--------|------|------------|-------|
|              | morning     | midday |      |            |       |
| 1            | 12          | 18     | W    | clear      | Jan   |
| 2            | 12          | 17     | N    | partly     | Jan   |
| 3            | 12          | 17     | N    | partly     | Jan   |
| 4            | 12          | 18     | W    | partly     | Jan   |
| 5            | 12          | 18     | W    | partly     | Jan   |
| 6            | 12          | 17     | W    | partly     | Jan   |
| 7            | 6           | -1     | W    | partly     | Jan   |
| 8            | 3           | -3     | W    | partly     | Jan   |
| 9            | 3           | -6     | W    | partly     | Jan   |
| 10           | 4           | -3     | W    | partly     | Jan   |
| 11           | 5           | -2     | W    | partly     | Jan   |
| 12           | 6           | -3     | W    | partly     | Jan   |
| 13           | 2           | -4     | W    | partly     | Jan   |
| 14           | 1           | -16    | W    | partly     | Jan   |
| 15           | 6           | -3     | W    | partly     | Jan   |
| 16           | 6           | -3     | W    | partly     | Jan   |
| 17           | 6           | 0      | W    | partly     | Jan   |
| 18           | 7           | -5     | W    | partly     | Jan   |
| 19           | 12          | 14     | W    | partly     | Jan   |
| 20           | 9           | 14     | W    | partly     | Jan   |
| 21           | 4           | 13     | W    | partly     | Jan   |
| 22           | 13          | 16     | W    | partly     | Jan   |
| 23           | 12          | 14     | W    | partly     | Jan   |
| 24           | 12          | 14     | W    | partly     | Jan   |
| 25           | 9           | 0      | W    | partly     | Jan   |
| 26           | 2           | 12     | W    | partly     | Jan   |
| 27           | 3           | 4      | W    | partly     | Jan   |
| 28           | 8           | 5      | W    | partly     | Jan   |
| 29           | 6           | 8      | W    | partly     | Jan   |
| 30           | 12          | 10     | W    | partly     | Jan   |
| 31           | 0           | 0      | W    | partly     | Jan   |

Photo 13. An example of an original data table for the period of 1827-1828 (**Lugansk**)

| Day of month | Temperature |        |         | Wind | Sky         | Month | Remarks                   |
|--------------|-------------|--------|---------|------|-------------|-------|---------------------------|
|              | morning     | midday | evening |      |             |       |                           |
| 1            | +7,1        | +11,8  | +7,0    | S.W. | günstig     | May   | Regen aus Alpengebirg     |
| 2            | +7,2        | +11,3  | +7,2    | S.   | günstig     |       | leicht bewölkt Regen      |
| 3            | +7,2        | +11,2  | +6,3    | S.W. | mittelmäßig |       | leicht                    |
| 4            | +7,1        | +11,3  | +7,0    | S.W. | günstig     |       | fall                      |
| 5            | +10,2       | +16,2  | +11,1   | S.W. | günstig     |       | Wundeloch Regen im fall   |
| 6            | +10,2       | +16,2  | +13,0   | S.W. | günstig     |       | leicht Regenlosfall       |
| 7            | +7,5        | +11,0  | +7,1    | S.W. | günstig     |       | leicht                    |
| 8            | +10,0       | +16,0  | +13,3   | W.   | günstig     |       | leicht                    |
| 9            | +9,1        | +13,9  | +10,2   | W.   | günstig     |       | leicht                    |
| 10           | +11,0       | +17,7  | +13,1   | S.   | mittelmäßig |       | leicht Regen              |
| 11           | +13,1       | +19,7  | +13,3   | W.   | günstig     |       | Gewitter aus Regen        |
| 12           | +7,2        | +10,5  | +7,5    | S.W. | mittelmäßig |       | Wundeloch Regen im fall   |
| 13           | +7,3        | +10,5  | +7,4    | S.W. | mittelmäßig |       | leicht                    |
| 14           | +8,5        | +12,1  | +10,3   | S.W. | günstig     |       | fall                      |
| 15           | +8,3        | +12,3  | +11,1   | S.W. | günstig     |       | fall mit feinem Regen     |
| 16           | +7,2        | +10,6  | +10,0   | S.   | günstig     |       | leicht                    |
| 17           | +9,7        | +13,2  | +10,2   | S.W. | günstig     |       | Wundeloch Regen           |
| 18           | +7,2        | +10,6  | +10,1   | S.O. | günstig     |       | Regen im fall             |
| 19           | +10,0       | +14,2  | +10,0   | S.W. | günstig     |       | Regen im fall             |
| 20           | +10,1       | +15,1  | +11,4   | S.W. | günstig     |       | Regen im fall             |
| 21           | +9,1        | +13,5  | +10,2   | W.   | günstig     |       | Regen im fall             |
| 22           | +7,7        | +11,0  | +11,1   | W.   | günstig     |       | Regen im fall             |
| 23           | +7,3        | +10,5  | +10,0   | S.W. | mittelmäßig |       | fall                      |
| 24           | +9,1        | +13,3  | +11,5   | S.W. | günstig     |       | leicht, gegen Abend Regen |
| 25           | +8,3        | +12,1  | +10,6   | S.W. | mittelmäßig |       | leicht, Regen             |
| 26           | +7,2        | +10,6  | +10,5   | S.W. | mittelmäßig |       | leicht                    |
| 27           | +11,1       | +15,9  | +11,1   | S.O. | günstig     |       | gutes                     |
| 28           | +13,0       | +17,8  | +13,7   | S.O. | mittelmäßig |       | gutes                     |
| 29           | +11,1       | +15,9  | +11,1   | S.O. | günstig     |       | gutes                     |
| 30           | +13,6       | +17,5  | +13,1   | S.O. | günstig     |       | gutes                     |
| 31           | +12,0       | +16,5  | +11,5   | S.W. | günstig     |       | Gewitter gegen Abend      |
| Summe        | 153,0       | 156,3  | 156,3   |      |             |       |                           |

| May                |       |       |       |
|--------------------|-------|-------|-------|
| Bemerkungen        |       |       |       |
| Summe von 12 Tagen | 72.2  | 186.8 | 113.9 |
| 19                 | 165.4 | 313.5 | 209.2 |
|                    | 237.6 | 480.3 | 323.1 |
| Wundeloch          | 7.66  | 15.49 | 10.29 |

14te und 15te mit einem Gewitter aus Nord Ost auf Ost.  
 Das Gewitter 14te und 15te aus Nord Ost auf Ost.  
 16te und 17te mit einem Gewitter aus Nord Ost auf Ost.  
 Das Gewitter 14te und 15te aus Nord Ost auf Ost.  
 Das Gewitter 14te und 15te aus Nord Ost auf Ost.  
 Das Gewitter 14te und 15te aus Nord Ost auf Ost.

Photo 14. An example of an original data table for the period of 1828-1829.08 (Lugansk)



Температура воздуха, сырости, содержания в нем пара и ветра выписаны в этом журнале и высота барометра в сухом виде выписана в Ровенском журнале. Сырость выписана в Ровенском журнале. Высота барометра в сухом виде выписана в Ровенском журнале. Часы считаются по новому стилю. *Самара, Россия, 1877 год.* Month and year

| Time<br>day<br>↓<br>dry<br>thermomet.<br>wet<br>thermomet. | 5 час утра   |                                     | 10 час утра  |                                     | 12 час утра  |                                     | 2 час по полдню                                    |                                     | 4 час по полдню                                    |                                     | 6 час по полдню                                    |                                     | 8 час вечера                                       |                                     | 10 час вечера                                      |                                     | precipitation<br>в сухом виде<br>в дожде           |                                     | Дулмань | Наблюдения |     |
|--|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|---------|------------|-----|
|  | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях | Температура<br>воздуха<br>в градусах<br>и в линиях | сырости<br>в градусах<br>и в линиях |         |            |     |
| 1  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 2  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 3  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 4  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 5  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 6  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 7  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 8  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 9  | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 10   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 11   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 12   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 13   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 14   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 15   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 16   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 17   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 18   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 19   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 20   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 21   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 22   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 23   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 24   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 25   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 26   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 27   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 28   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 29   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 30   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |
| 31   | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...  | ...                                 | ...     | ...        | ... |

Тысяча одна тысяча восемьсот семьдесят семь

Photo 17. An example of an original data table for the period of 1837.04-1850 (Lugansk)

Высота барометра в Российской империи. Меркатор при барометре равном 10 в Волжбу. Числа отняты от их истинной величины. Санкт-Петербург 1845 года. Month and year

| Time<br>Day | 8 час утра |             | 10 час утра |             | 12 час утра |             | 2 час ночи |             | 4 час утра |             | 6 час утра |             | 8 час утра |             | 10 час утра |             | Remarks                                    | Направление ветра |
|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|-------------|-------------|--|-------------------|
|             | Барометр   | Температура | Барометр    | Температура | Барометр    | Температура | Барометр   | Температура | Барометр   | Температура | Барометр   | Температура | Барометр   | Температура | Барометр    | Температура |  |                   |
| 1           | 574.0      | +14.5       | 574.0       | +14.5       | 574.0       | +14.5       | 574.0      | +14.5       | 574.0      | +14.5       | 574.0      | +14.5       | 574.0      | +14.5       | 574.0       | +14.5       | (17) Числа отняты от их истинной величины. | Средняя           |
| 2           | 572.0      | +14.0       | 572.0       | +14.0       | 572.0       | +14.0       | 572.0      | +14.0       | 572.0      | +14.0       | 572.0      | +14.0       | 572.0      | +14.0       | 572.0       | +14.0       | Числа отняты от их истинной величины.      | Средняя           |
| 3           | 570.0      | +13.5       | 570.0       | +13.5       | 570.0       | +13.5       | 570.0      | +13.5       | 570.0      | +13.5       | 570.0      | +13.5       | 570.0      | +13.5       | 570.0       | +13.5       | Числа отняты от их истинной величины.      | Средняя           |
| 4           | 568.0      | +13.0       | 568.0       | +13.0       | 568.0       | +13.0       | 568.0      | +13.0       | 568.0      | +13.0       | 568.0      | +13.0       | 568.0      | +13.0       | 568.0       | +13.0       | Числа отняты от их истинной величины.      | Средняя           |
| 5           | 566.0      | +12.5       | 566.0       | +12.5       | 566.0       | +12.5       | 566.0      | +12.5       | 566.0      | +12.5       | 566.0      | +12.5       | 566.0      | +12.5       | 566.0       | +12.5       | Числа отняты от их истинной величины.      | Средняя           |
| 6           | 564.0      | +12.0       | 564.0       | +12.0       | 564.0       | +12.0       | 564.0      | +12.0       | 564.0      | +12.0       | 564.0      | +12.0       | 564.0      | +12.0       | 564.0       | +12.0       | Числа отняты от их истинной величины.      | Средняя           |
| 7           | 562.0      | +11.5       | 562.0       | +11.5       | 562.0       | +11.5       | 562.0      | +11.5       | 562.0      | +11.5       | 562.0      | +11.5       | 562.0      | +11.5       | 562.0       | +11.5       | Числа отняты от их истинной величины.      | Средняя           |
| 8           | 560.0      | +11.0       | 560.0       | +11.0       | 560.0       | +11.0       | 560.0      | +11.0       | 560.0      | +11.0       | 560.0      | +11.0       | 560.0      | +11.0       | 560.0       | +11.0       | Числа отняты от их истинной величины.      | Средняя           |
| 9           | 558.0      | +10.5       | 558.0       | +10.5       | 558.0       | +10.5       | 558.0      | +10.5       | 558.0      | +10.5       | 558.0      | +10.5       | 558.0      | +10.5       | 558.0       | +10.5       | Числа отняты от их истинной величины.      | Средняя           |
| 10          | 556.0      | +10.0       | 556.0       | +10.0       | 556.0       | +10.0       | 556.0      | +10.0       | 556.0      | +10.0       | 556.0      | +10.0       | 556.0      | +10.0       | 556.0       | +10.0       | Числа отняты от их истинной величины.      | Средняя           |
| 11          | 554.0      | +9.5        | 554.0       | +9.5        | 554.0       | +9.5        | 554.0      | +9.5        | 554.0      | +9.5        | 554.0      | +9.5        | 554.0      | +9.5        | 554.0       | +9.5        | Числа отняты от их истинной величины.      | Средняя           |
| 12          | 552.0      | +9.0        | 552.0       | +9.0        | 552.0       | +9.0        | 552.0      | +9.0        | 552.0      | +9.0        | 552.0      | +9.0        | 552.0      | +9.0        | 552.0       | +9.0        | Числа отняты от их истинной величины.      | Средняя           |
| 13          | 550.0      | +8.5        | 550.0       | +8.5        | 550.0       | +8.5        | 550.0      | +8.5        | 550.0      | +8.5        | 550.0      | +8.5        | 550.0      | +8.5        | 550.0       | +8.5        | Числа отняты от их истинной величины.      | Средняя           |
| 14          | 548.0      | +8.0        | 548.0       | +8.0        | 548.0       | +8.0        | 548.0      | +8.0        | 548.0      | +8.0        | 548.0      | +8.0        | 548.0      | +8.0        | 548.0       | +8.0        | Числа отняты от их истинной величины.      | Средняя           |
| 15          | 546.0      | +7.5        | 546.0       | +7.5        | 546.0       | +7.5        | 546.0      | +7.5        | 546.0      | +7.5        | 546.0      | +7.5        | 546.0      | +7.5        | 546.0       | +7.5        | Числа отняты от их истинной величины.      | Средняя           |
| 16          | 544.0      | +7.0        | 544.0       | +7.0        | 544.0       | +7.0        | 544.0      | +7.0        | 544.0      | +7.0        | 544.0      | +7.0        | 544.0      | +7.0        | 544.0       | +7.0        | Числа отняты от их истинной величины.      | Средняя           |
| 17          | 542.0      | +6.5        | 542.0       | +6.5        | 542.0       | +6.5        | 542.0      | +6.5        | 542.0      | +6.5        | 542.0      | +6.5        | 542.0      | +6.5        | 542.0       | +6.5        | Числа отняты от их истинной величины.      | Средняя           |
| 18          | 540.0      | +6.0        | 540.0       | +6.0        | 540.0       | +6.0        | 540.0      | +6.0        | 540.0      | +6.0        | 540.0      | +6.0        | 540.0      | +6.0        | 540.0       | +6.0        | Числа отняты от их истинной величины.      | Средняя           |
| 19          | 538.0      | +5.5        | 538.0       | +5.5        | 538.0       | +5.5        | 538.0      | +5.5        | 538.0      | +5.5        | 538.0      | +5.5        | 538.0      | +5.5        | 538.0       | +5.5        | Числа отняты от их истинной величины.      | Средняя           |
| 20          | 536.0      | +5.0        | 536.0       | +5.0        | 536.0       | +5.0        | 536.0      | +5.0        | 536.0      | +5.0        | 536.0      | +5.0        | 536.0      | +5.0        | 536.0       | +5.0        | Числа отняты от их истинной величины.      | Средняя           |
| 21          | 534.0      | +4.5        | 534.0       | +4.5        | 534.0       | +4.5        | 534.0      | +4.5        | 534.0      | +4.5        | 534.0      | +4.5        | 534.0      | +4.5        | 534.0       | +4.5        | Числа отняты от их истинной величины.      | Средняя           |
| 22          | 532.0      | +4.0        | 532.0       | +4.0        | 532.0       | +4.0        | 532.0      | +4.0        | 532.0      | +4.0        | 532.0      | +4.0        | 532.0      | +4.0        | 532.0       | +4.0        | Числа отняты от их истинной величины.      | Средняя           |
| 23          | 530.0      | +3.5        | 530.0       | +3.5        | 530.0       | +3.5        | 530.0      | +3.5        | 530.0      | +3.5        | 530.0      | +3.5        | 530.0      | +3.5        | 530.0       | +3.5        | Числа отняты от их истинной величины.      | Средняя           |
| 24          | 528.0      | +3.0        | 528.0       | +3.0        | 528.0       | +3.0        | 528.0      | +3.0        | 528.0      | +3.0        | 528.0      | +3.0        | 528.0      | +3.0        | 528.0       | +3.0        | Числа отняты от их истинной величины.      | Средняя           |
| 25          | 526.0      | +2.5        | 526.0       | +2.5        | 526.0       | +2.5        | 526.0      | +2.5        | 526.0      | +2.5        | 526.0      | +2.5        | 526.0      | +2.5        | 526.0       | +2.5        | Числа отняты от их истинной величины.      | Средняя           |
| 26          | 524.0      | +2.0        | 524.0       | +2.0        | 524.0       | +2.0        | 524.0      | +2.0        | 524.0      | +2.0        | 524.0      | +2.0        | 524.0      | +2.0        | 524.0       | +2.0        | Числа отняты от их истинной величины.      | Средняя           |
| 27          | 522.0      | +1.5        | 522.0       | +1.5        | 522.0       | +1.5        | 522.0      | +1.5        | 522.0      | +1.5        | 522.0      | +1.5        | 522.0      | +1.5        | 522.0       | +1.5        | Числа отняты от их истинной величины.      | Средняя           |
| 28          | 520.0      | +1.0        | 520.0       | +1.0        | 520.0       | +1.0        | 520.0      | +1.0        | 520.0      | +1.0        | 520.0      | +1.0        | 520.0      | +1.0        | 520.0       | +1.0        | Числа отняты от их истинной величины.      | Средняя           |
| 29          | 518.0      | +0.5        | 518.0       | +0.5        | 518.0       | +0.5        | 518.0      | +0.5        | 518.0      | +0.5        | 518.0      | +0.5        | 518.0      | +0.5        | 518.0       | +0.5        | Числа отняты от их истинной величины.      | Средняя           |
| 30          | 516.0      | +0.0        | 516.0       | +0.0        | 516.0       | +0.0        | 516.0      | +0.0        | 516.0      | +0.0        | 516.0      | +0.0        | 516.0      | +0.0        | 516.0       | +0.0        | Числа отняты от их истинной величины.      | Средняя           |

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Photo 18. An example of an original data table for the period of 1837.04-1850 (Lugansk)

## Dnipro

Longitude: **35°03'**; Latitude: **48°27'**; Height: **98 (85?)**

Starting year: **1833**

Pressure and temperature data. Availability of data (data for such periods **ARE** available/present in original tables):

1833-1842 – 3 times/day: morning (10:00), midday (14:00), evening (22:00);

1850 – 3 times/day: morning (10:00), midday (14:00), evening (22:00).

Other variables (measurements/observations) (see Photos below):

- wind; - clouds.

The image shows a handwritten meteorological data table for the year 1839. The table is organized into several sections:

- Header:** Includes station name "Донецко-Городская", month "Август", and year "1839".
- Temperature Section:** Columns for "Температура воздуха (°C) Показ." with sub-columns for "вечер", "день", "утро" and "ср." (average). Rows are numbered 1-31 for each day.
- Humidity Section:** Columns for "Относительная влажность (%)", "Недостаток насыщения (мм)", and "Гигрометр".
- Soil Temperature Section:** Columns for "Температура поверхности почвы (°C)" with sub-columns for "1", "7", "13", "19", "макс", "мин".
- Summary Section:** Includes "Среднее за 1 день", "Среднее за 10 дней", "Среднее за 20 дней", "Среднее за месяц", and "Среднее за год".
- Bottom Section:** Contains "Число дней с..." and "Число дней со средней суточной температурой" with various sub-categories.

A red arrow on the left side of the page points to the "Time of measurement" column in the temperature section.

Photo 19. An example of an original data table for the period of 1839-1842 (Dnipro)

Вспомогательная таблица  
 Станция Днепропетровская Месяц декабрь Год 1839

Вспомогательная таблица  
 Направление и скорость ветра (в сек.)

ТАБЛИЦА метеорологических наблюдений  
 Год 1839 Месяц декабрь

Долгота Днепропетровск (Восточная)  
 Район Днепропетровск  
 Начальник станции Василий Иванович  
 Наблюдатель П. Семеновский

Высота барометра над уровнем моря \_\_\_\_\_ м. Высота метеоплощадки \_\_\_\_\_ м.  
 Высота флюгера над поверхностью земли: а) \_\_\_\_\_ м. б) \_\_\_\_\_ м.  
 в) \_\_\_\_\_ м. г) \_\_\_\_\_ м.

Помера приборов, по которым производится наблюдения:  
 Барометр № \_\_\_\_\_ Гигрометр № \_\_\_\_\_  
 Термометры в будке: \_\_\_\_\_  
 Термометры на высоте: \_\_\_\_\_  
 Спиритный № \_\_\_\_\_  
 Спиритный № \_\_\_\_\_  
 Максимальный № \_\_\_\_\_  
 Минимальный № \_\_\_\_\_  
 Проверка часов \_\_\_\_\_  
 Замена багиста \_\_\_\_\_  
 Проверка осадкомерных (дождемерных) ведер на течь \_\_\_\_\_  
 Предметы для определения видимости (в светлое время) \_\_\_\_\_  
 Предметы для определения видимости (в темное время) \_\_\_\_\_

Повторяемость измерений скорости ветра по срокам: 0-1 2-5 6-10 11-15 16-19 20-24 25-29 30-31

Данные за месяц: 590.3 589.8 590.1

Данные за день: \_\_\_\_\_

Ветер: \_\_\_\_\_

Средняя скорость за месяц: \_\_\_\_\_

Средняя скорость за день: \_\_\_\_\_

Проверил \_\_\_\_\_  
 Технический контроль \_\_\_\_\_

Копия. Купченко  
 Сед. С.А.В.

Photo 20. An example of an original data table for the period of 1839-1842 (Dnipro)







### **Kherson**

The station seems to be relocated in 1825 and 1837 (however, there is no exact information regarding these relocations).

Longitude: **32°34'**; Latitude: **46°38'**; Height: **20 m**

Starting year: **1808**

Availability of data (data for such periods **ARE** available/present in original tables):

1808.11;  
1809;  
1810.1-5, 9-12;  
1811.1-5;  
1812-1814;  
1815.1-11;  
1817.4-12;  
1818.1-2;  
1823.8-12;  
1824.9-10;  
1825-1826;  
1827.1-6;  
1837.1-4;  
1838;  
1839.1-6.

Number of subdaily air temperature and pressure measurements:

1808-1825.02 - 3 times/day: 06:00, 14:00, 22:00 (see Photo 24);

1825.03-1827 - 2 times/day: 10:00, 22:00. However, extreme temperature (Tn, Tx) was also measured (see Photo 25); There is also a column with 'daily precipitation', however it is always empty!

1837-1839 - 3 times/day: 06:00, 14:00, 22:00 (see Photo 26);

Other variables (measurements/observations) (see Photos below):

- ? сушь-сырость/dryness-wetness (it seems to be related to humidity)
- wind direction and speed
- clouds and precipitation in **words** (! состояние атмосферы/state of atmosphere)
- ? высота ординарной воды/height of ordinary water. (Probably, this variable is related to atmospheric precipitation)

**Temperature** — ТЕРМОМЕТРЪ

**Pressure** — Барометръ на 30 на французск. стъб. терзисашии вода.

**Humidity?** ГИРОМЕТРЪ Сухость. Сырость.

**Wind** ВѢТЪ Наврас-леніе

**height of ordinary water** Высота обыкновенной воды в 4 часа утра.

**State of atmosphere** Состояніе атмосферы, водяныя, свѣ- щенныя и огненныя метеоры.

**Day of month** — morning, midday, evening

| Day of month | Time of measurements | Temperature |          | Pressure | Humidity? |         | Wind | State of atmosphere           | Height of ordinary water |        |       |       |
|--------------|----------------------|-------------|----------|----------|-----------|---------|------|-------------------------------|--------------------------|--------|-------|-------|
|              |                      | on North?   | on South |          | Dryness   | Wetness |      |                               | Upper                    | Lower  | Upper | Lower |
| 1            | Утро                 | + 3.0       | + 4.0    | 29.65    | 2         |         | ЮЮЗ  | ясно, временно сіяніе солнца. | 1                        | 7      |       |       |
|              | Полдень              | 4.2         | 5.3      | 29.65    | 2         |         | ЮЮЗ  |                               | 1                        | 6      |       |       |
|              | Вечеръ               | 3.0         | 4.6      | 29.67    | 2         |         | ЮЮЗ  |                               | 1                        | 1      |       |       |
| 2            | Утро                 | - 0.0       | - 2.0    | 29.85    | 5         |         | З    | ясно.                         | 1                        | 1      |       |       |
|              | Полдень              | + 1.5       | + 2.2    | 29.83    | 6         |         | З    |                               | 1                        | 1      |       |       |
|              | Вечеръ               | 0.0         | 0.0      | 29.80    | 9         |         | З    |                               | 1                        | 1      |       |       |
| 3            | Утро                 | - 1.5       | - 2.0    | 29.80    | 24        |         |      | ясно, временно сіяніе солнца. | 1                        | 1      |       |       |
|              | Полдень              | + 2.0       | + 2.6    | 29.49    | 24        |         |      |                               | 1                        | 2      |       |       |
|              | Вечеръ               | 1.2         | 1.0      | 29.28    | 24        |         |      |                               | 1                        | 2      |       |       |
| 4            | Утро                 | 0.0         | + 1.0    | 30.05    | 26        |         |      | ясно, обильно сіяніе солнца.  | 1                        | 11     |       |       |
|              | Полдень              | + 2.3       | 3.4      | 30.05    | 24        |         |      |                               | 1                        | 11     |       |       |
|              | Вечеръ               | 2.5         | 3.0      | 30.05    | 26        |         |      |                               | 1                        | 10     |       |       |
| 5            | Утро                 | + 1.2       | + 0.5    | 30.05    | 29        |         |      | ясно.                         | 1                        | 10 1/2 |       |       |
|              | Полдень              | 2.5         | 3.0      | 30.05    | 28        |         | ЮЗ   |                               | 1                        | 4      |       |       |
|              | Вечеръ               | 2.0         | 2.5      | 30.05    | 28        |         | ЮЗ   |                               | 1                        | 5      |       |       |
| 6            | Утро                 | - 1.2       | - 1.0    | 30.00    | 23        |         | Ю    | ясно, временно сіяніе солнца. | 1                        | 4      |       |       |
|              | Полдень              | + 2.0       | + 3.0    | 30.02    | 26        |         | Ю    |                               | 1                        | 5      |       |       |
|              | Вечеръ               | 0.0         | 0.0      | 30.02    | 24        |         | Ю    |                               | 1                        | 4      |       |       |
| 7            | Утро                 | 0.0         | 0.0      | 29.90    | 2         |         | З    | ясно и шель свѣта.            | 1                        | 4      |       |       |
|              | Полдень              | + 1.2       | + 1.5    | 29.85    | 3         |         | З    |                               | 1                        | 6      |       |       |
|              | Вечеръ               | 1.5         | 1.5      | 29.80    | 5         |         | З    |                               | 1                        | 7      |       |       |
| 8            | Утро                 | - 1.2       | 0.0      | 29.70    | 10        |         | ЗСЗ  | ясно, обильно сіяніе солнца.  | 1                        | 7      |       |       |
|              | Полдень              | + 2.5       | + 3.5    | 29.70    | 10        |         | ЗСЗ  |                               | 1                        | 7      |       |       |
|              | Вечеръ               | 2.2         | 3.0      | 29.72    | 9         |         | ЗСЗ  |                               | 1                        | 7      |       |       |
| 9            | Утро                 | - 1.0       | - 0.5    | 29.80    | 18        |         |      | ясно.                         | 1                        | 11     |       |       |
|              | Полдень              | + 4.0       | + 5.0    | 29.75    | 19        |         |      |                               | 1                        | 11 1/2 |       |       |
|              | Вечеръ               | 4.0         | 4.6      | 29.75    | 19        |         |      |                               | 1                        | 11     |       |       |
| 10           | Утро                 | 0.0         | + 1.0    | 29.43    | 16        |         |      | ясно.                         | 1                        | 11     |       |       |
|              | Полдень              | + 4.6       | 5.4      | 29.42    | 14        |         | ЮЗ   |                               | 1                        | 2      |       |       |
|              | Вечеръ               | 5.0         | 5.1      | 29.40    | 11        |         | ЮЗ   |                               | 1                        | 2      |       |       |
| 11           | Утро                 | + 2.0       | + 2.9    | 29.33    | 13        |         | С    | ясно, временно сіяніе солнца. | 1                        | 2      |       |       |
|              | Полдень              | 3.0         | 4.0      | 29.34    | 14        |         | С    |                               | 1                        | 1      |       |       |
|              | Вечеръ               | 3.2         | 4.1      | 29.30    | 12        |         | С    |                               | 1                        | 1      |       |       |
| 12           | Утро                 | - 2.6       | - 1.4    | 29.43    | 20        |         | С    | ясно и шель свѣта.            | 1                        | 11 1/2 |       |       |
|              | Полдень              | 2.0         | 3.3      | 29.40    | 22        |         | С    |                               | 1                        | 11 1/2 |       |       |
|              | Вечеръ               | 2.3         | 3.0      | 29.45    | 24        |         | С    |                               | 1                        | 11 1/2 |       |       |
| 13           | Утро                 | - 14.6      | - 13.8   | 30.07    | 29        |         | СЗ   | ясно.                         | 1                        | 7      |       |       |
|              | Полдень              | 11.5        | 10.5     | 30.05    | 27        |         | СЗ   |                               | 1                        | 7      |       |       |
|              | Вечеръ               | 12.4        | 11.2     | 30.02    | 25        |         | СЗ   |                               | 1                        | 6      |       |       |
| 14           | Утро                 | - 15.0      | - 13.3   | 30.00    | 24        |         | С    | ясно.                         | 1                        | 7      |       |       |
|              | Полдень              | 11.6        | 10.5     | 30.05    | 20        |         | С    |                               | 1                        | 6      |       |       |
|              | Вечеръ               | 12.0        | 11.2     | 30.02    | 22        |         | С    |                               | 1                        | 5 1/2  |       |       |
| 15           | Утро                 | - 10.0      | - 12.0   | 29.70    | 9         |         | СЗ   | ясно.                         | 1                        | 6      |       |       |
|              | Полдень              | 8.0         | 7.2      | 29.65    | 10        |         | СЗ   |                               | 1                        | 7 1/2  |       |       |
|              | Вечеръ               | 7.5         | 6.7      | 29.60    | 10        |         | СЗ   |                               | 1                        | 7 1/2  |       |       |
| 16           | Утро                 | - 3.6       | - 2.7    | 29.78    | 20        |         | СЗ   | ясно, временно сіяніе солнца. | 1                        | 7      |       |       |
|              | Полдень              | 3.0         | 2.0      | 29.70    | 18        |         | СЗ   |                               | 1                        | 7      |       |       |
|              | Вечеръ               | 4.2         | 2.2      | 29.72    | 20        |         | СЗ   |                               | 1                        | 8      |       |       |

Photo 24. An example of an original data table for the period of 1808-1825.02 (Kherson)

| Year<br>Год 1827<br>Мѣсяц<br>Апрѣль<br>Число | СОСТОЯНІЕ ТЕМПЕРАТУРЫ ПО РЕОМУ-<br>РОВУ ТЕРМОМЕТРУ.<br>Air temperature |                         |            |                |               |                     |            |                         |                         |                         | СОСТОЯНІЕ<br>Pressure | ВѢТРЪ.<br>Wind | ПОГОДА.<br>State of atmosphere | Precipitation<br>Количество<br>дождя. | Evaporation<br>Испареніе.<br>Доны и испаренія<br>въ теченіи дня. | ПО ТИ ПО-<br>МЕТРУ.<br>Humidity |
|--|--|-------------------------|------------|----------------|---------------|---------------------|------------|-------------------------|-------------------------|-------------------------|-----------------------|----------------|--------------------------------|---------------------------------------|--|---------------------------------|
|  | Въ 10 часовъ пополуночи  | Въ 10 часовъ пополуночи | Сред. вѣд. | Самая высокая. | Самая низшая. | Сред. вѣд.          | Разн. вѣд. | Температура жидкой воды | Въ 10 часовъ пополуночи | Въ 10 часовъ пополуночи |                       |                |                                |                                       |  |                                 |
|  | 10:00  | 22:00                   | mean       | Tx             | Tn            | $\frac{T_x+T_n}{2}$ | Tx-Tn      | Twater                  |                         |                         |                       |                |                                |                                       |  |                                 |
| 1  | 4.0  | 4.2                     | 8.0        | 12.0           | 7.2           | 10.0                | 4.8        | 19.2                    | 20.0                    | 19.2                    |                       |                |                                |                                       |  |                                 |
| 2  | 3.1  | 6.1                     | 7.1        | 14.1           | 6.1           | 9.1                 | 7.1        | 19.1                    | 20.6                    | 19.6                    |                       |                |                                |                                       |  |                                 |
| 3  | 4.0  | 7.0                     | 8.2        | 13.0           | 7.2           | 9.0                 | 7.0        | 19.0                    | 20.7                    | 19.7                    |                       |                |                                |                                       |  |                                 |
| 4  | 4.0  | 7.0                     | 12.0       | 19.0           | 4.0           | 11.0                | 4.0        | 19.2                    | 20.8                    | 19.8                    |                       |                |                                |                                       |  |                                 |
| 5  | 3.5  | 4.1                     | 10.1       | 17.1           | 7.1           | 9.1                 | 7.1        | 19.1                    | 20.9                    | 19.9                    |                       |                |                                |                                       |  |                                 |
| 6  | 3.0  | 5.0                     | 7.0        | 14.0           | 7.0           | 8.0                 | 7.0        | 19.0                    | 21.0                    | 20.0                    |                       |                |                                |                                       |  |                                 |
| 7  | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.1                    | 20.1                    |                       |                |                                |                                       |  |                                 |
| 8  | 4.0  | 4.0                     | 7.0        | 14.0           | 7.0           | 7.0                 | 7.0        | 19.0                    | 21.2                    | 20.2                    |                       |                |                                |                                       |  |                                 |
| 9  | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.3                    | 20.3                    |                       |                |                                |                                       |  |                                 |
| 10   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.4                    | 20.4                    |                       |                |                                |                                       |  |                                 |
| 11   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.5                    | 20.5                    |                       |                |                                |                                       |  |                                 |
| 12   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.6                    | 20.6                    |                       |                |                                |                                       |  |                                 |
| 13   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.7                    | 20.7                    |                       |                |                                |                                       |  |                                 |
| 14   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.8                    | 20.8                    |                       |                |                                |                                       |  |                                 |
| 15   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 21.9                    | 20.9                    |                       |                |                                |                                       |  |                                 |
| 16   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.0                    | 21.0                    |                       |                |                                |                                       |  |                                 |
| 17   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.1                    | 21.1                    |                       |                |                                |                                       |  |                                 |
| 18   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.2                    | 21.2                    |                       |                |                                |                                       |  |                                 |
| 19   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.3                    | 21.3                    |                       |                |                                |                                       |  |                                 |
| 20   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.4                    | 21.4                    |                       |                |                                |                                       |  |                                 |
| 21   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.5                    | 21.5                    |                       |                |                                |                                       |  |                                 |
| 22   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.6                    | 21.6                    |                       |                |                                |                                       |  |                                 |
| 23   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.7                    | 21.7                    |                       |                |                                |                                       |  |                                 |
| 24   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.8                    | 21.8                    |                       |                |                                |                                       |  |                                 |
| 25   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 22.9                    | 21.9                    |                       |                |                                |                                       |  |                                 |
| 26   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 23.0                    | 22.0                    |                       |                |                                |                                       |  |                                 |
| 27   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 23.1                    | 22.1                    |                       |                |                                |                                       |  |                                 |
| 28   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 23.2                    | 22.2                    |                       |                |                                |                                       |  |                                 |
| 29   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 23.3                    | 22.3                    |                       |                |                                |                                       |  |                                 |
| 30   | 3.0  | 5.0                     | 6.0        | 13.0           | 7.0           | 6.0                 | 7.0        | 19.0                    | 23.4                    | 22.4                    |                       |                |                                |                                       |  |                                 |

Photo 25. An example of an original data table for the period of 1825.03-1827 (Kherson)

| Day                           | Air temperature<br>Воздух | Pressure<br>Давление | Humidity?<br>Влажность? | Wind<br>Ветер | State of atmosphere<br>Состояние атмосферы | Day                   | Temperature<br>Температура | Pressure<br>Давление | Humidity?<br>Влажность? | Wind<br>Ветер | State of atmosphere<br>Состояние атмосферы |
|-------------------------------|---------------------------|----------------------|-------------------------|---------------|--|-----------------------|----------------------------|----------------------|-------------------------|---------------|--|
| 10 <sup>o</sup> Temp. morning | -13°                      | 30.1                 | +3                      | 0 миль        | ясно                                       | 15 <sup>o</sup> Temp. | -13 1/2°                   | 30.3                 | +5                      | NO wind       | ясно                                       |
| Temp. midday                  | -7 1/2°                   | 2                    | 2                       | 2             | 2  | Temp.                 | -9 3/4°                    | 2                    | -                       | NO wind       | 2  |
| Temp. evening                 | -6°                       | 2                    | -                       | 2             | ясно                                       | Temp.                 | -11 1/4°                   | 30.2                 | -                       | NO wind       | 2  |
| 11 <sup>o</sup> Temp.         | -10°                      | 30.                  | +2                      | NO wind       | ясно                                       | 16 <sup>o</sup> Temp. | -8 1/2°                    | 30.1                 | +4                      | NO wind       | ясно                                       |
| Temp.                         | -8 3/4°                   | 2                    | -                       | NO wind       | ясно                                       | Temp.                 | -5 1/2°                    | 2                    | -                       | 2             | 2  |
| Temp.                         | -7 1/2°                   | 2                    | -                       | 2             | ясно                                       | Temp.                 | -3°                        | 2                    | -                       | 2             | 2  |
| 12 <sup>o</sup> Temp.         | -10 1/4°                  | 30.2                 | +2                      | NO wind       | ясно                                       | 17 <sup>o</sup> Temp. | -3°                        | 30.1                 | 0                       | NO wind       | ясно                                       |
| Temp.                         | -4 1/2°                   | 2                    | -                       | NO wind       | 2  | Temp.                 | -1 1/2°                    | 2                    | -                       | 2             | 2  |
| Temp.                         | -4 1/2°                   | 2                    | -                       | 2             | ясно                                       | Temp.                 | -3°                        | 2                    | -                       | NO wind       | 2  |
| 13 <sup>o</sup> Temp.         | -6 1/2°                   | 30.2                 | +4                      | NO wind       | ясно                                       | 18 <sup>o</sup> Temp. | -8 3/4°                    | 30.2                 | -2                      | wind          | ясно                                       |
| Temp.                         | -3 1/2°                   | 2                    | -                       | 2             | ясно                                       | Temp.                 | -1 1/2°                    | 2                    | -                       | NO wind       | 2  |
| Temp.                         | -2                        | 2                    | -                       | NO wind       | ясно                                       | Temp.                 | -1°                        | 2                    | -                       | NO wind       | 2  |
| 14 <sup>o</sup> Temp.         | -11 1/2°                  | 30.2                 | +7                      | NO wind       | ясно                                       | 19 <sup>o</sup> Temp. | -6 1/2°                    | 30.2                 | -2                      | NO wind       | ясно                                       |
| Temp.                         | -8 1/2°                   | 2                    | -                       | 2             | -  | Temp.                 | 0°                         | 2                    | -                       | 2             | 2  |
| Temp.                         | -9°                       | 2                    | -                       | 2             | -  | Temp.                 | -1 1/2°                    | 2                    | -                       | 2             | 2  |
| 15 <sup>o</sup> Temp.         | -13 1/2°                  | 30.1                 | +5                      | NO wind       | ясно                                       | 20 <sup>o</sup> Temp. | -7 3/4°                    | 30.1                 | -1                      | NO wind       | ясно                                       |
| Temp.                         | -13 1/2°                  | 2                    | -                       | 2             | 2  | Temp.                 | -1 1/2°                    | 2                    | -                       | 2             | 2  |
| Temp.                         | -11°                      | 2                    | -                       | 2             | 2  | Temp.                 | -1 1/2°                    | 2                    | -                       | NO wind       | 2  |

Photo 26. An example of an original data table for the period of 1837-1839 (Kherson)

## Odessa (Odesa university)

In Handbooks this station is also named as **Odessa\_observatory**. The station was not relocated during 1839-1850

Longitude: **30°46'**; Latitude: **46°26'**; Height: **43 m**

Starting year: **1839**

Availability of data (data for such periods **ARE** available/present in original tables):

1839.04 – 1850.06.13

Number of subdaily air temperature and pressure measurements:

1839.04 – 4 times/day: 06:00, 12:00, 16:00, 21:00.

1839.05 – 5 times for pressure: 04:00, 6:00, 12:00, 16:00, 21:00. And 7 times for temperature: 04:00, 6:00, 12:00, 14:00, 16:00, 18:00, 21:00.

1839.06 - 07. – 6 times for pressure: 04:00, 6:00, 12:00, 16:00, 18:00, 21:00. And 7 times for temperature: 04:00, 6:00, 12:00, 14:00, 16:00, 18:00, 21:00.

1839.08 - 12 – 5 times for pressure: 6:00, 12:00, 16:00, 18:00, 21:00. And 6 times for temperature: 6:00, 12:00, 14:00, 16:00, 18:00, 21:00.

1840 - 1841 – 5 times for pressure: 9:00, 12:00, 16:00, 18:00, 21:00. And 6 times for temperature: 6:00, 9:00, 12:00, 16:00, 18:00, 21:00.

1842.01.01 - 1842.02.19 – 3 times: 9:00, 15:00, 21:00.

1842.02.19 - 1842.09.22 – 3 times for pressure: 9:00, 15:00, 21:00. And 5 times for temperature: 6:00, 9:00, 12:00, 15:00, 18:00, 21:00.

1842.09.23 - 1842.10.15 – 3 times: 9:00, 15:00, 21:00.

1842.10.16 - 1850 – commonly 3 times for pressure: 9:00, 15:00, 21:00. And 5 times for temperature: 6:00, 9:00, 12:00, 15:00, 18:00, 21:00.

However, some particular measurement time can differ, for instance, 08:00 instead of 09:00 in several days.

Also, temperature of barometer is also reported in the tables, see Photos 27 and 28.

*Observations barométriques, Mai 1839*

| Time of measurement | Pressure | Temperature | remarks |
|---------------------|----------|-------------|---------|
| 06:00               | 29.8     | 15.5        |         |
| 12:00               | 29.7     | 16.0        |         |
| 16:00               | 29.6     | 16.5        |         |
| 21:00               | 29.5     | 17.0        |         |
| 04:00               | 29.4     | 17.5        |         |
| 06:00               | 29.3     | 18.0        |         |
| 12:00               | 29.2     | 18.5        |         |
| 14:00               | 29.1     | 19.0        |         |
| 16:00               | 29.0     | 19.5        |         |
| 18:00               | 28.9     | 20.0        |         |
| 21:00               | 28.8     | 20.5        |         |
| 04:00               | 28.7     | 21.0        |         |
| 06:00               | 28.6     | 21.5        |         |
| 12:00               | 28.5     | 22.0        |         |
| 14:00               | 28.4     | 22.5        |         |
| 16:00               | 28.3     | 23.0        |         |
| 18:00               | 28.2     | 23.5        |         |
| 21:00               | 28.1     | 24.0        |         |
| 04:00               | 28.0     | 24.5        |         |
| 06:00               | 27.9     | 25.0        |         |
| 12:00               | 27.8     | 25.5        |         |
| 14:00               | 27.7     | 26.0        |         |
| 16:00               | 27.6     | 26.5        |         |
| 18:00               | 27.5     | 27.0        |         |
| 21:00               | 27.4     | 27.5        |         |
| 04:00               | 27.3     | 28.0        |         |
| 06:00               | 27.2     | 28.5        |         |
| 12:00               | 27.1     | 29.0        |         |
| 14:00               | 27.0     | 29.5        |         |
| 16:00               | 26.9     | 30.0        |         |
| 18:00               | 26.8     | 30.5        |         |
| 21:00               | 26.7     | 31.0        |         |
| 04:00               | 26.6     | 31.5        |         |
| 06:00               | 26.5     | 32.0        |         |
| 12:00               | 26.4     | 32.5        |         |
| 14:00               | 26.3     | 33.0        |         |
| 16:00               | 26.2     | 33.5        |         |
| 18:00               | 26.1     | 34.0        |         |
| 21:00               | 26.0     | 34.5        |         |
| 04:00               | 25.9     | 35.0        |         |
| 06:00               | 25.8     | 35.5        |         |
| 12:00               | 25.7     | 36.0        |         |
| 14:00               | 25.6     | 36.5        |         |
| 16:00               | 25.5     | 37.0        |         |
| 18:00               | 25.4     | 37.5        |         |
| 21:00               | 25.3     | 38.0        |         |
| 04:00               | 25.2     | 38.5        |         |
| 06:00               | 25.1     | 39.0        |         |
| 12:00               | 25.0     | 39.5        |         |
| 14:00               | 24.9     | 40.0        |         |
| 16:00               | 24.8     | 40.5        |         |
| 18:00               | 24.7     | 41.0        |         |
| 21:00               | 24.6     | 41.5        |         |
| 04:00               | 24.5     | 42.0        |         |
| 06:00               | 24.4     | 42.5        |         |
| 12:00               | 24.3     | 43.0        |         |
| 14:00               | 24.2     | 43.5        |         |
| 16:00               | 24.1     | 44.0        |         |
| 18:00               | 24.0     | 44.5        |         |
| 21:00               | 23.9     | 45.0        |         |
| 04:00               | 23.8     | 45.5        |         |
| 06:00               | 23.7     | 46.0        |         |
| 12:00               | 23.6     | 46.5        |         |
| 14:00               | 23.5     | 47.0        |         |
| 16:00               | 23.4     | 47.5        |         |
| 18:00               | 23.3     | 48.0        |         |
| 21:00               | 23.2     | 48.5        |         |
| 04:00               | 23.1     | 49.0        |         |
| 06:00               | 23.0     | 49.5        |         |
| 12:00               | 22.9     | 50.0        |         |
| 14:00               | 22.8     | 50.5        |         |
| 16:00               | 22.7     | 51.0        |         |
| 18:00               | 22.6     | 51.5        |         |
| 21:00               | 22.5     | 52.0        |         |
| 04:00               | 22.4     | 52.5        |         |
| 06:00               | 22.3     | 53.0        |         |
| 12:00               | 22.2     | 53.5        |         |
| 14:00               | 22.1     | 54.0        |         |
| 16:00               | 22.0     | 54.5        |         |
| 18:00               | 21.9     | 55.0        |         |
| 21:00               | 21.8     | 55.5        |         |
| 04:00               | 21.7     | 56.0        |         |
| 06:00               | 21.6     | 56.5        |         |
| 12:00               | 21.5     | 57.0        |         |
| 14:00               | 21.4     | 57.5        |         |
| 16:00               | 21.3     | 58.0        |         |
| 18:00               | 21.2     | 58.5        |         |
| 21:00               | 21.1     | 59.0        |         |
| 04:00               | 21.0     | 59.5        |         |
| 06:00               | 20.9     | 60.0        |         |
| 12:00               | 20.8     | 60.5        |         |
| 14:00               | 20.7     | 61.0        |         |
| 16:00               | 20.6     | 61.5        |         |
| 18:00               | 20.5     | 62.0        |         |
| 21:00               | 20.4     | 62.5        |         |
| 04:00               | 20.3     | 63.0        |         |
| 06:00               | 20.2     | 63.5        |         |
| 12:00               | 20.1     | 64.0        |         |
| 14:00               | 20.0     | 64.5        |         |
| 16:00               | 19.9     | 65.0        |         |
| 18:00               | 19.8     | 65.5        |         |
| 21:00               | 19.7     | 66.0        |         |
| 04:00               | 19.6     | 66.5        |         |
| 06:00               | 19.5     | 67.0        |         |
| 12:00               | 19.4     | 67.5        |         |
| 14:00               | 19.3     | 68.0        |         |
| 16:00               | 19.2     | 68.5        |         |
| 18:00               | 19.1     | 69.0        |         |
| 21:00               | 19.0     | 69.5        |         |
| 04:00               | 18.9     | 70.0        |         |
| 06:00               | 18.8     | 70.5        |         |
| 12:00               | 18.7     | 71.0        |         |
| 14:00               | 18.6     | 71.5        |         |
| 16:00               | 18.5     | 72.0        |         |
| 18:00               | 18.4     | 72.5        |         |
| 21:00               | 18.3     | 73.0        |         |
| 04:00               | 18.2     | 73.5        |         |
| 06:00               | 18.1     | 74.0        |         |
| 12:00               | 18.0     | 74.5        |         |
| 14:00               | 17.9     | 75.0        |         |
| 16:00               | 17.8     | 75.5        |         |
| 18:00               | 17.7     | 76.0        |         |
| 21:00               | 17.6     | 76.5        |         |
| 04:00               | 17.5     | 77.0        |         |
| 06:00               | 17.4     | 77.5        |         |
| 12:00               | 17.3     | 78.0        |         |
| 14:00               | 17.2     | 78.5        |         |
| 16:00               | 17.1     | 79.0        |         |
| 18:00               | 17.0     | 79.5        |         |
| 21:00               | 16.9     | 80.0        |         |
| 04:00               | 16.8     | 80.5        |         |
| 06:00               | 16.7     | 81.0        |         |
| 12:00               | 16.6     | 81.5        |         |
| 14:00               | 16.5     | 82.0        |         |
| 16:00               | 16.4     | 82.5        |         |
| 18:00               | 16.3     | 83.0        |         |
| 21:00               | 16.2     | 83.5        |         |
| 04:00               | 16.1     | 84.0        |         |
| 06:00               | 16.0     | 84.5        |         |
| 12:00               | 15.9     | 85.0        |         |
| 14:00               | 15.8     | 85.5        |         |
| 16:00               | 15.7     | 86.0        |         |
| 18:00               | 15.6     | 86.5        |         |
| 21:00               | 15.5     | 87.0        |         |
| 04:00               | 15.4     | 87.5        |         |
| 06:00               | 15.3     | 88.0        |         |
| 12:00               | 15.2     | 88.5        |         |
| 14:00               | 15.1     | 89.0        |         |
| 16:00               | 15.0     | 89.5        |         |
| 18:00               | 14.9     | 90.0        |         |
| 21:00               | 14.8     | 90.5        |         |
| 04:00               | 14.7     | 91.0        |         |
| 06:00               | 14.6     | 91.5        |         |
| 12:00               | 14.5     | 92.0        |         |
| 14:00               | 14.4     | 92.5        |         |
| 16:00               | 14.3     | 93.0        |         |
| 18:00               | 14.2     | 93.5        |         |
| 21:00               | 14.1     | 94.0        |         |
| 04:00               | 14.0     | 94.5        |         |
| 06:00               | 13.9     | 95.0        |         |
| 12:00               | 13.8     | 95.5        |         |
| 14:00               | 13.7     | 96.0        |         |
| 16:00               | 13.6     | 96.5        |         |
| 18:00               | 13.5     | 97.0        |         |
| 21:00               | 13.4     | 97.5        |         |
| 04:00               | 13.3     | 98.0        |         |
| 06:00               | 13.2     | 98.5        |         |
| 12:00               | 13.1     | 99.0        |         |
| 14:00               | 13.0     | 99.5        |         |
| 16:00               | 12.9     | 100.0       |         |
| 18:00               | 12.8     | 100.5       |         |
| 21:00               | 12.7     | 101.0       |         |
| 04:00               | 12.6     | 101.5       |         |
| 06:00               | 12.5     | 102.0       |         |
| 12:00               | 12.4     | 102.5       |         |
| 14:00               | 12.3     | 103.0       |         |
| 16:00               | 12.2     | 103.5       |         |
| 18:00               | 12.1     | 104.0       |         |
| 21:00               | 12.0     | 104.5       |         |
| 04:00               | 11.9     | 105.0       |         |
| 06:00               | 11.8     | 105.5       |         |
| 12:00               | 11.7     | 106.0       |         |
| 14:00               | 11.6     | 106.5       |         |
| 16:00               | 11.5     | 107.0       |         |
| 18:00               | 11.4     | 107.5       |         |
| 21:00               | 11.3     | 108.0       |         |
| 04:00               | 11.2     | 108.5       |         |
| 06:00               | 11.1     | 109.0       |         |
| 12:00               | 11.0     | 109.5       |         |
| 14:00               | 10.9     | 110.0       |         |
| 16:00               | 10.8     | 110.5       |         |
| 18:00               | 10.7     | 111.0       |         |
| 21:00               | 10.6     | 111.5       |         |
| 04:00               | 10.5     | 112.0       |         |
| 06:00               | 10.4     | 112.5       |         |
| 12:00               | 10.3     | 113.0       |         |
| 14:00               | 10.2     | 113.5       |         |
| 16:00               | 10.1     | 114.0       |         |
| 18:00               | 10.0     | 114.5       |         |
| 21:00               | 9.9      | 115.0       |         |
| 04:00               | 9.8      | 115.5       |         |
| 06:00               | 9.7      | 116.0       |         |
| 12:00               | 9.6      | 116.5       |         |
| 14:00               | 9.5      | 117.0       |         |
| 16:00               | 9.4      | 117.5       |         |
| 18:00               | 9.3      | 118.0       |         |
| 21:00               | 9.2      | 118.5       |         |
| 04:00               | 9.1      | 119.0       |         |
| 06:00               | 9.0      | 119.5       |         |
| 12:00               | 8.9      | 120.0       |         |
| 14:00               | 8.8      | 120.5       |         |
| 16:00               | 8.7      | 121.0       |         |
| 18:00               | 8.6      | 121.5       |         |
| 21:00               | 8.5      | 122.0       |         |
| 04:00               | 8.4      | 122.5       |         |
| 06:00               | 8.3      | 123.0       |         |
| 12:00               | 8.2      | 123.5       |         |
| 14:00               | 8.1      | 124.0       |         |
| 16:00               | 8.0      | 124.5       |         |
| 18:00               | 7.9      | 125.0       |         |
| 21:00               | 7.8      | 125.5       |         |
| 04:00               | 7.7      | 126.0       |         |
| 06:00               | 7.6      | 126.5       |         |
| 12:00               | 7.5      | 127.0       |         |
| 14:00               | 7.4      | 127.5       |         |
| 16:00               | 7.3      | 128.0       |         |
| 18:00               | 7.2      | 128.5       |         |
| 21:00               | 7.1      | 129.0       |         |
| 04:00               | 7.0      | 129.5       |         |
| 06:00               | 6.9      | 130.0       |         |
| 12:00               | 6.8      | 130.5       |         |
| 14:00               | 6.7      | 131.0       |         |
| 16:00               | 6.6      | 131.5       |         |
| 18:00               | 6.5      | 132.0       |         |
| 21:00               | 6.4      | 132.5       |         |
| 04:00               | 6.3      | 133.0       |         |
| 06:00               | 6.2      | 133.5       |         |
| 12:00               | 6.1      | 134.0       |         |
| 14:00               | 6.0      | 134.5       |         |
| 16:00               | 5.9      | 135.0       |         |
| 18:00               | 5.8      | 135.5       |         |
| 21:00               | 5.7      | 136.0       |         |
| 04:00               | 5.6      | 136.5       |         |
| 06:00               | 5.5      | 137.0       |         |
| 12:00               | 5.4      | 137.5       |         |
|                     |          |             |         |

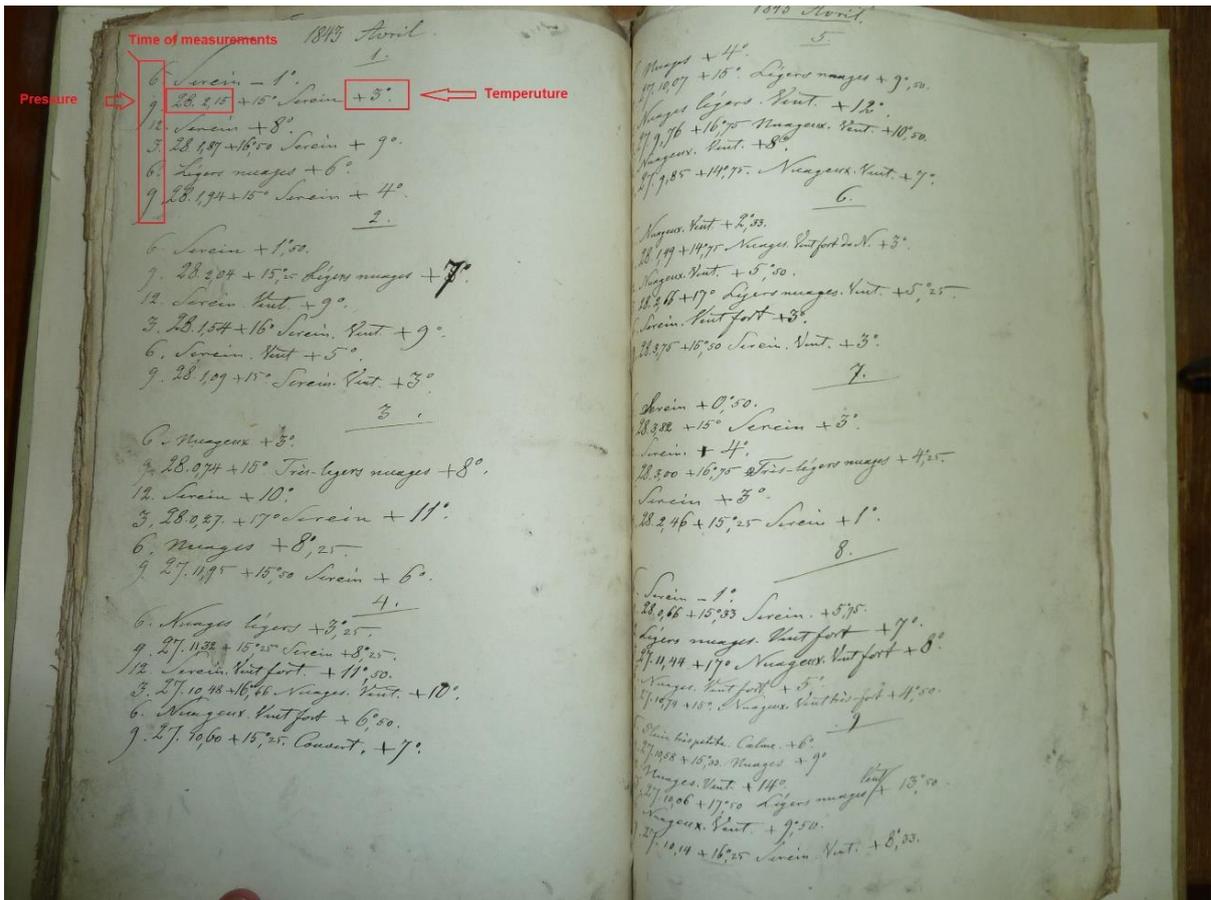


Photo 28. An example of an original data table for the period of 1842-1850 (Odessa)