# **DISCLAIMER: READ BEFORE CONTINUING**

## THE LOWER PLATTE NORTH NATURAL RESOURCE DISTRICT MAKES NO GUANARNTEE OF THE ACCURACY OF THIS DATA AND TAKES NO RESPONSIBILITY FOR THE CONSEQUENCES THAT MAY COME FROM APPLYING THIS DATA

The METOS weather station network, accessed through FieldClimate, is a free service that is offered by the Lower Platte North Natural Resource District (referred to as LPNNRD) for users that live within the district.

Data is collected by various weather stations placed in various locations within varying topography and physical land features. NONE of this data is reviewed by professional meteorologists or agrometeorologists.

The LPNNRD strongly advises against the use of this collected data alone for critical decision-making within agriculture, irrigation, or various other industries or applications that are dependent or influenced by weather. The LPNNRD specifically disclaims responsibility or liability for individuals or entities using the METOS weather station network in place of professional advice or consulting including, but not limited to, disclaiming all implied warranties of merchantability, fitness for a particular purpose, title, and non-infringement. It is always advised to consult professionals on critical decisions.

Along with claiming no liability or responsibility for the use of the provided data from the weather station network, the LPNNRD has no responsibility for the results of individuals or entities that may use the data in decision-making. This includes not being responsible for a loss of profit or any damage that may follow based upon the unsanctioned application of data from the LPNNRD weather station network.

By using FieldClimate through the LPNNRD public account, you are acknowledging that any reliance upon the information is at your own risk, that the content may include technical inaccuracies or errors, and that you agree to not hold LPNNRD responsible for any consequences that may come from the interpretation or application of this data.

## Accessing the Lower Platte North NRD Weather Station Network

1) The online platform that our data is organized on is FieldClimate. To access FieldClimate, go to the following link:

https://www.fieldclimate.com/auth/login

2) The login for the **shared, public** account is as follows:

NOTE: This is a SHARED account across the district. Do not change any of the settings on the account itself or on the stations.

Username: LPNNRDpublic

Password: LPNNRDpublic

3) Selecting the desired weather station data to view.

You have two options:

<u>Option 1:</u> You will see a map with dots on it and a number floating above each of the dots (this is the temperature of the latest reading). Each of these dots are weather stations.



You can zoom in and out using the cursor on your mouse. To move your view, you can click and drag. Both these actions can be done to zero in on your desired station to view.

Once you find your desired station, you can hover your mouse over the dot. A box will pop up and tell you the station name, station ID number, and the date and time of the latest reading. You can then click on this dot, and the station data will pull up.



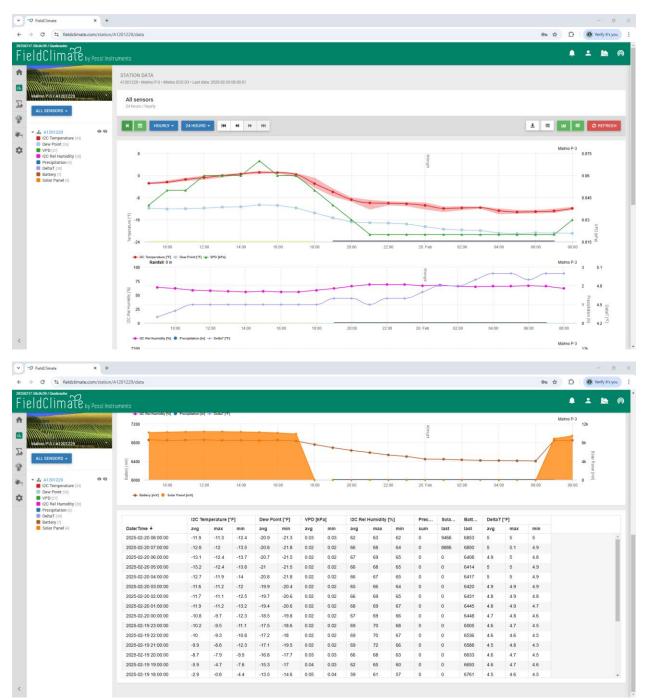
<u>Option 2:</u> If you want to instead find your station via a station list, scroll on the main dashboard page to underneath the stations map. Here you will find the stations list.

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<b>n</b>	Stations List								
	RAIN, 24 HOURS 👻 🔠								
20	STATION ID 1	STATION NAME	DEVICE TYPE	LAST DATA READING	BATTERY [mV]				
	0120A068	USC-03	iMetos ECO D3	2025-02-19 15:00:01	<b>6776</b>				
	0120A07B	Platte 1	iMetos ECO D3	2025-02-19 15:30:01	■ 6815				
	0120A674	Wahoo Schools	iMetos ECO D3	2025-02-19 15:00:01	■ 6835				
\$	0120A6B7	Abie	iMetos ECO D3	2025-02-19 15:00:01	<b>6747</b>				
	0120A7A0	Bellwood	iMetos ECO D3	2025-02-19 15:00:01	■ 6818				
	0120A7A1	Lindsay	iMetos ECO D3	2025-02-19 15:00:01	<b>6827</b>				
	0120A7B0	Swedeburg	IMetos ECO D3	2025-02-19 15:00:01	<b>6776</b>				
	0120A7C0	Saunders 2	iMetos ECO D3	2025-02-19 15:00:01	■ 6824				
	0120A7C3	Wanahoo	iMetos ECO D3	2025-02-19 15:00:01	<b>6770</b>				
	A1201223	Saunders 1	iMetos ECO D3	2025-02-19 15:00:01	<b>6</b> 759				
	A1201224	NB-01	iMetos ECO D3	2025-02-19 15:00:01	■ 6796				
	A1201225	Mead	iMetos ECO D3	2025-02-19 15:00:01	6835				
	A1201226	Butler 1	iMetos ECO D3	2025-02-19 15:00:01	■ 6776				
	A1201229	Malmo P-3	iMetos ECO D3	2025-02-19 15:00:01	<b>6844</b>				
	A120122A	Colfax 2	iMetos ECO D3	2025-02-19 15:00:01	<b>6801</b>				
				«< < 1 2 >	»				

Under the 'STATION NAME' column, you will find the names of all active stations. Find the name of the desired station that you want to view, and then click on the corresponding station ID (to the left of the station name) to pull up the data viewing page for that station.

### Viewing the Data

Following the steps from above, you will be brought to the following display page for your selected station:



#### What data is shown?

The following data is organized into three graphs, as well as a table underneath the graphs:

#### First Graph (Top Graph)

- I2C Temperature = the air temperature is collected in Fahrenheit.
- Dew Point = The temperature at which air is so cool that water vapor in the air turns into liquid water. Truly, this is a measurement of how much moisture is in the air.
- VPD = Vapor Pressure Deficit. The difference between the amount of moisture that is currently in the air versus the maximum amount of moisture the air can hold at a given temperature. Basically, this tells you how much room there is in the air for more moisture before the air is saturated. The lower the VPD, the closer the air moisture is to saturation. Given in units of pressure (kPa).

#### Second Graph (Middle Graph)

- I2C Relative Humidity = The measure of the amount of moisture that is in the air versus the amount of moisture the air can hold at a given temperature. Given in terms of a percentage (%).
- Precipitation = The rainfall or melted snowfall that passed through the rain funnel on the weather station. Given in units of inches (in).
- DeltaT = This is an indicator for suitable spraying conditions for pest management. It is based on a relationship between the relative humidity and the air temperature. This is given in degrees Fahrenheit. The range that is ideal for effective pesticide use is 35.5 F to 46.5 F (DeltaT, NOT air temperature).

#### Third Graph (Bottom Graph)

- Battery = Measurement of the battery output in the weather station. Given in milliVolts (mV). If the reading is between 6,800mV 6,300mV, this battery is good. Please contact us if you notice a station with a battery at or below 6,300mV.
- Solar Panel = The weather station is powered by a solar panel. This is a measurement of the power that is being input into the battery to recharge it. Given in milliVolts (mV).

#### Selecting Displayed Data

The graphs default to showing hourly data for the past 24 hrs. This can be changed by changing the settings in the two boxes circled in the screenshot below.

Fi	eldClimate by Pessi Instr	truments	. ± 1	<b>a</b> ⊚
<b>↑</b>	Swedeburg / 0120A7B0	STATION DATA 0128A780 - Swedeburg - BMetor ECO 03 - Last data: 2025-02-21 12:00:01		
25 **	ALL SENSORS -	All sensors 34 hours / hours H E Hours - 24 Hours - H4 44 39 391	±	FRESH
\$	Out inspectation (i)     Over Point (ii)     VPO (iii)     Prov (iii)     Providing (iii)     Providing (iii)     Providing (iii)     Obtain (iii)     Obtain (iii)     Solar Panel (ii)		Swedeburg 0.4	

The box on the left that says 'HOURLY' is the frequency of data points that you want to show. The options are:

- Raw = Shows all the readings that the station takes without averaging them over a period. For example, in the winter, the station is set to transfer a reading every 30 minutes. This setting will then show a data point for every 30 minutes.
- Hourly = Takes all the data points taken within an hour, averages them, and shows this as a data point.
- Daily = Averages all data points taken within a 24-hour period.
- Monthly = Averages all data points taken within a month.

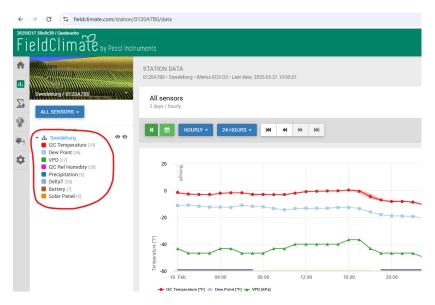
Once the frequency of data is chosen, the blue box to the right (in the screenshot above, it says '24 HOURS') can be used to select the range of time that you want the graphs to display.

Once these two boxes are selected as desired, click the red 'REFRESH' button to the right.

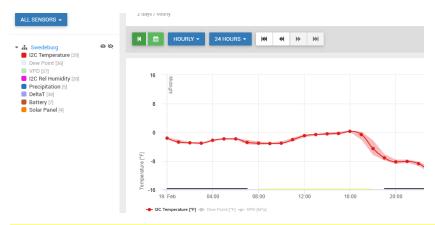


Note: As you change the frequency of data, the options for the range of displayed data on the graphs change. For example, if you turn frequency of data to monthly, you can then make the range of time displayed on the graphs go all the way back to 36 months.

If you want to view only certain data types on the graphs and not others, you can turn off the visibility of individual data types. Go to the column on the left side of the page, underneath the blue box that says 'All Sensors'.



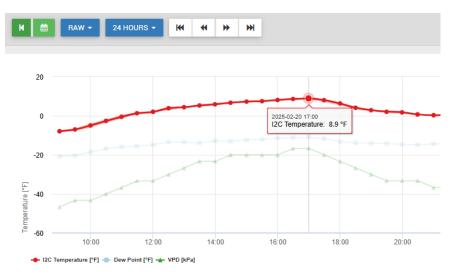
For the sensors that you want to make invisible on the graphs, click them. They will then be darkened in the column and invisible on the graphs. See the screenshot below.



Note: If you do make any data types invisible, as shown above, ALWAYS turn their visibility back on afterwards (go back to the column on the left and click on the darkened, turned off data types to turn them back on). People might be confused and question if the station is working properly if they log on and see only some of the data showing.

## **Analyzing Data**

On the graphs, you can hover your mouse over data points and a box will pop up telling you the date, time, data type, and the measurement of this data type at the given time/date.



There is also a table that is present at the bottom of the page, underneath the graphs. It displays all the data that is shown in the graphs, just in a numeric, table format.

Idclimate by Pessi In	atrumento																
William .	🔶 12C Rel Humidity (%) 🌑	Precipitation (in)	Della T (*	7]													
wedeburg / 0120A780 +	7500 7000 - E 6500 -										Midnight						-
		12:00 mel (mV)	14:00	1	6.00	18:00	•••	20:00	22.00	•••	21. Feb	02:00	• • •	04:00	01	3:00	08:00
Precipitation [5]		100 70		10173	Daw Bai	int form		141	100 84	1 Manual ditta	R/ 1	Dree	Fala	Datt	Della	1000	
Precipitation [5]     DeltaT [38]     Battery [7]	Date/Time +		mperature		Dew Poi		VPD [kF	-		I Humidity		Prec	Sola	Batt	DeltaT		min
Precipitation [5]     DeltaT [38]     Battery [7]	Date/Time + 2025-02-21 10:00:00	I2C Ter avg 9.8	mperature max 10.7	[°F] min 8.7	Dew Poi avg -8.9	int [°F] min -9.6	VPD [kF avg 0.13	ea] min 0.13	I2C Re avg 41	I Humidity max 42	[%] min 41	Prec sum	Sola last 10046	Batt last 6790	DeltaT avg 4.8	[°F] max 4.8	min 4.7
Precipitation [5]     DeltaT [38]     Battery [7]		avg	max	min	avg	min	avg	min	avg	max	min	sum	last	last	avg	max	
Precipitation [5]     DeltaT [38]     Battery [7]	2025-02-21 10:00:00	<b>avg</b> 9.8	max 10.7	min 8.7	avg -8.9	min -9.6	avg 0.13	min 0.13	avg 41	max 42	min 41	sum 0	last 10046	last 6790	avg 4.8	max 4.8	4.7
Precipitation [5]     DeltaT [38]     Battery [7]	2025-02-21 10:00:00 2025-02-21 09:30:00	avg 9.8 6.9	max 10.7 7.9	min 8.7 5.4	avg -8.9 -10.8	min -9.6 -11.7	avg 0.13 0.11	min 0.13 0.1	avg 41 43	max 42 44	min 41 42	sum 0 0	last 10046 10031	last 6790 6790	avg 4.8 4.6	max 4.8 4.7	4.7 4.6
E 120 Per lamidig (20) Precipitation (3) Dettar (3) Bettery (7) Solar Panel (4)	2025-02-21 10:00:00 2025-02-21 09:30:00 2025-02-21 09:00:00	avg 9.8 6.9 3.6	max 10.7 7.9 4.6	min 8.7 5.4 2	avg -8.9 -10.8 -12.6	min -9.6 -11.7 -13.4	avg 0.13 0.11 0.09	min 0.13 0.1 0.08	avg 41 43 45	max 42 44 48	min 41 42 44	sum 0 0 0	last 10046 10031 9859	last 6790 6790 6784	avg 4.8 4.6 4.6	max 4.8 4.7 4.6	4.7 4.6 4.6
Precipitation [5] DeltaT [38] Battery [7]	2025-02-21 10:00:00 2025-02-21 09:30:00 2025-02-21 09:00:00 2025-02-21 09:00:00	avg 9.8 6.9 3.6 -1.1	max 10.7 7.9 4.6 1.5	min 8.7 5.4 2 -3	avg -8.9 -10.8 -12.6 -14.1	min -9.6 -11.7 -13.4 -14.6	avg 0.13 0.11 0.09 0.06	min 0.13 0.1 0.08 0.05	avg 41 43 45 53	max 42 44 48 56	min 41 42 44 49	sum 0 0 0 0	last 10046 10031 9859 9931	last 6790 6790 6784 6793	avg 4.8 4.6 4.6 4.6	max 4.8 4.7 4.6 4.6	4.7 4.6 4.6 4.6
Precipitation [5]     DeltaT [38]     Battery [7]	2025-02-21 10:00:00 2025-02-21 09:00:00 2025-02-21 09:00:00 2025-02-21 08:00:00 2025-02-21 08:00:00	avg 9.8 6.9 3.6 -1.1 -6	max 10.7 7.9 4.6 1.5 -3.7	min 8.7 5.4 2 -3 -7.5	avg -8.9 -10.8 -12.6 -14.1 -16.1	min -9.6 -11.7 -13.4 -14.6 -17.3	avg 0.13 0.11 0.09 0.06 0.04	min 0.13 0.1 0.08 0.05 0.04	avg 41 43 45 53 60	max 42 44 48 56 62	min 41 42 44 49 57	sum 0 0 0 0 0 0 0	last 10046 10031 9859 9931 7093	last 6790 6790 6784 6793 6761	avg 4.8 4.6 4.6 4.6 4.7	max 4.8 4.7 4.6 4.6 4.6 4.7	4.7 4.6 4.6 4.6 4.6 4.6
Precipitation [5]     DeltaT [38]     Battery [7]	2025-02-21 10:00:00 2025-02-21 09:30:00 2025-02-21 09:00.00 2025-02-21 08:30:00 2025-02-21 08:00:00 2025-02-21 07:30:00	avg 9.8 6.9 3.6 -1.1 -6 -6.7	max 10.7 7.9 4.6 1.5 -3.7 -6.1	min 8.7 5.4 2 -3 -7.5 -7.7	avg -8.9 -10.8 -12.6 -14.1 -16.1 -16.6	min -9.6 -11.7 -13.4 -14.6 -17.3 -17.5	avg 0.13 0.11 0.09 0.06 0.04 0.04	min 0.13 0.1 0.08 0.05 0.04 0.04	avg 41 43 45 53 60 60	max 42 44 48 56 62 61	min 41 42 44 49 57 60	sum 0 0 0 0 0 0 0 0 0	last 10046 10031 9859 9931 7093 3973	last 6790 6790 6784 6793 6761 6266	avg 4.8 4.6 4.6 4.6 4.7 4.7	max 4.8 4.7 4.6 4.6 4.7 4.8	4.7 4.6 4.6 4.6 4.6 4.6 4.6
Precipitation [5]     DeltaT [38]     Battery [7]	2025-02-21 10:00:00 2025-02-21 09:30:00 2025-02-21 09:00:00 2025-02-21 09:00:00 2025-02-21 08:00:00 2025-02-21 07:30:00 2025-02-21 07:00:00	avg 9.8 6.9 3.6 -1.1 -6 -6.7 -6.5	max 10.7 7.9 4.6 1.5 -3.7 -6.1 -6	min 8.7 5.4 2 -3 -7.5 -7.7 -6.8	avg -8.9 -10.8 -12.6 -14.1 -16.1 -16.6 -15.9	min -9.6 -11.7 -13.4 -14.6 -17.3 -17.5 -16.2	avg 0.13 0.11 0.09 0.06 0.04 0.04 0.04	min 0.13 0.1 0.08 0.05 0.04 0.04 0.04	avg 41 43 45 53 60 60 60 62	max 42 44 48 56 62 61 63	min 41 42 44 49 57 60 61	sum 0 0 0 0 0 0 0 0 0 0 0 0	last 10046 10031 9859 9931 7093 3973 0	last 6790 6790 6784 6793 6761 6266 6220	avg 4.8 4.6 4.6 4.6 4.7 4.7 4.7	max 4.8 4.7 4.6 4.6 4.7 4.8 4.8 4.6	4.7 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6
Precipitation [5]     DeltaT [30]     Battery [7]	2025-02-21 10:00:00 2025-02-21 09:30:00 2025-02-21 09:30:00 2025-02-21 08:30:00 2025-02-21 08:00:00 2025-02-21 07:30:00 2025-02-21 07:30:00 2025-02-21 07:00:00	avg 9.8 6.9 3.6 -1.1 -6 -6.7 -6.5 -6.7	max 10.7 7.9 4.6 1.5 -3.7 -6.1 -6 -6.4	min 8.7 5.4 2 -3 -7.5 -7.7 -6.8 -7.1	avg -8.9 -10.8 -12.6 -14.1 -16.1 -16.6 -15.9 -16.1	min -9.6 -11.7 -13.4 -14.6 -17.3 -17.5 -16.2 -16.4	avg 0.13 0.11 0.09 0.06 0.04 0.04 0.04 0.03	min 0.13 0.1 0.08 0.05 0.04 0.04 0.04 0.03	avg 41 43 45 53 60 60 60 62 62	max 42 44 48 56 62 61 63 63	min 41 42 44 49 57 60 61 62	sum 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	last 10046 10031 9859 9931 7093 3973 0 0	last 6790 6784 6793 6761 6266 6220 6226	avg 4.8 4.6 4.6 4.6 4.7 4.7 4.6 4.6	max 4.8 4.7 4.6 4.6 4.7 4.8 4.6 4.7 4.8 4.6 4.7	4.7 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6

Note: Adjusting the frequency of data points shown and the range of time that you want displayed, as shown earlier, also changes this table as well as the graphs. Don't forget to click the red 'REFRESH' button!

## **Exporting Data**

You can export this data as an Excel sheet or download a .png file of the graphs. First, make sure that the frequency of data points that you want is set, as well as the range of time that you want exported. This is done, as shown earlier, by changing the two blue boxes that are above the first graph. Once this is set, refresh the page using the red 'REFRESH' button to the right. Then, click the left circled button to download the picture of the graphs or the right circled button to download the Excel sheet.

<sup>20250</sup> Fi	eldClimate by Pessi Inst		0 <b>4</b> ± \$
<b>^</b>		STATION DATA 0123A/380 - Sweddeurg - Metor ECO 03 - Last data: 2025-62-21 10:00.01	
25	Swedeburg / 0120A7B0	All sensors 24 hours / cam	$\frown$
*	A Swedeburg     E2C Temperature [29]     Dew Point [36]	K 🗂 NAW - 24 HOURS - KK K >> 3H	
\$	VPD [gmt log RCD hel Humdity [28] Precipitation [1] DetaT [38] Battey [7] Solar Panel [4]		Swedeburg 0.24 0.18 0.12

## **Contact Info**

If problems or questions arise, please reach out to us at the Lower Platte North NRD.

Phone: 402-443-4675

Email: jstover@lpnnrd.org

I hope that this weather network is useful to you as well as anyone else in the district that uses it. Thank you!