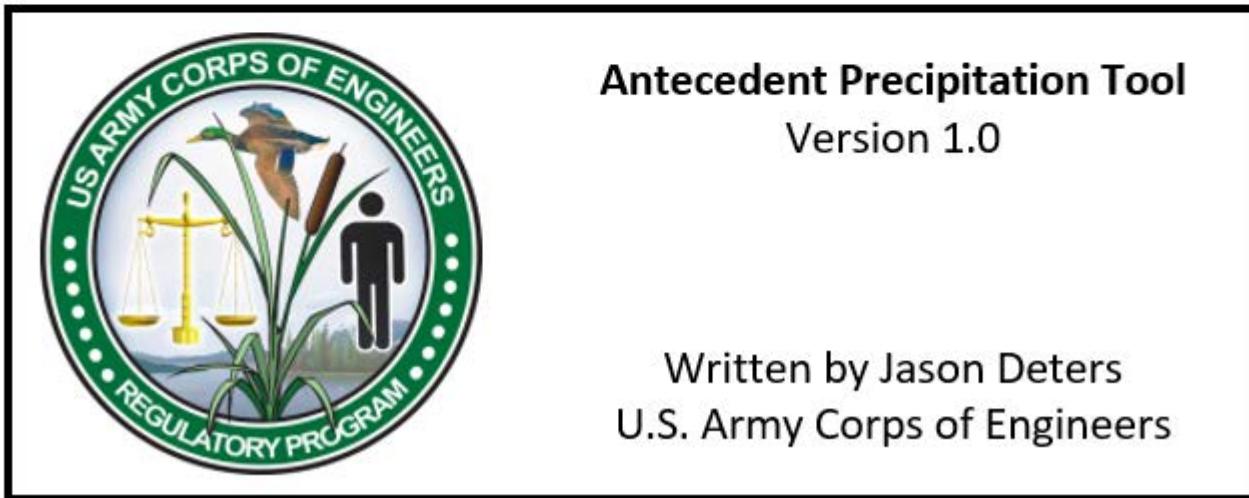
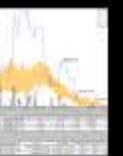


How to Generate a Single-point Analysis for Many Dates at Once Using CSV Input





Antecedent
Precipitation
Tool



Launch
the APT





Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyyhhMMMMMMMyyyyyyhdMMMsodMMMs
dMMMMMMMMMMMMMMMMMMhysshmMMMMMMMMMMMMMMMMMs
dMMNyMMMyymMMh+
dMMm MMM dMN
dMMm MMM+ dMM
+dMMm++MMMdNMM
hMMMMNNMMMMNM
hMMMMNMhyyyyyhhhhhNMhyyyyyhhhhhNM
ymm



-Written by:
Jason C. Deters,
U.S. Army Corps of Engineers

Launching Graphical User Interface...

Enter the Latitude and Longitude of the location to be analyzed in Decimal Degree format (DD.ddddddd)

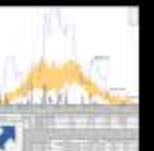
NOTE: Longitudes in the U.S. are negative, so your entry should start with a minus "-" symbol.

Latitude (DD): Longitude (-DD): Scope: Single Point

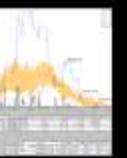
Run a single date or click "+" to add more

YYYY-MM-DD

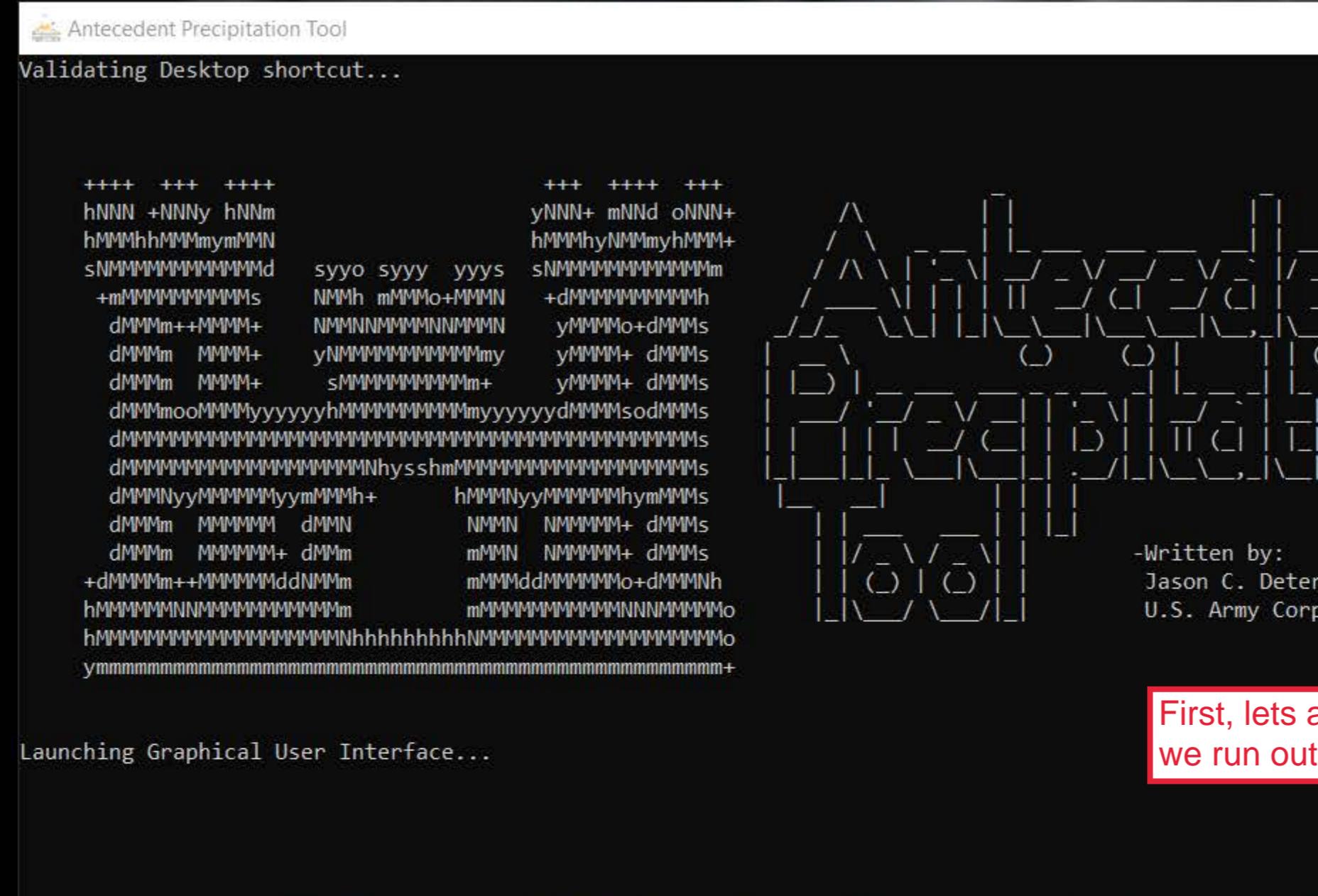
1



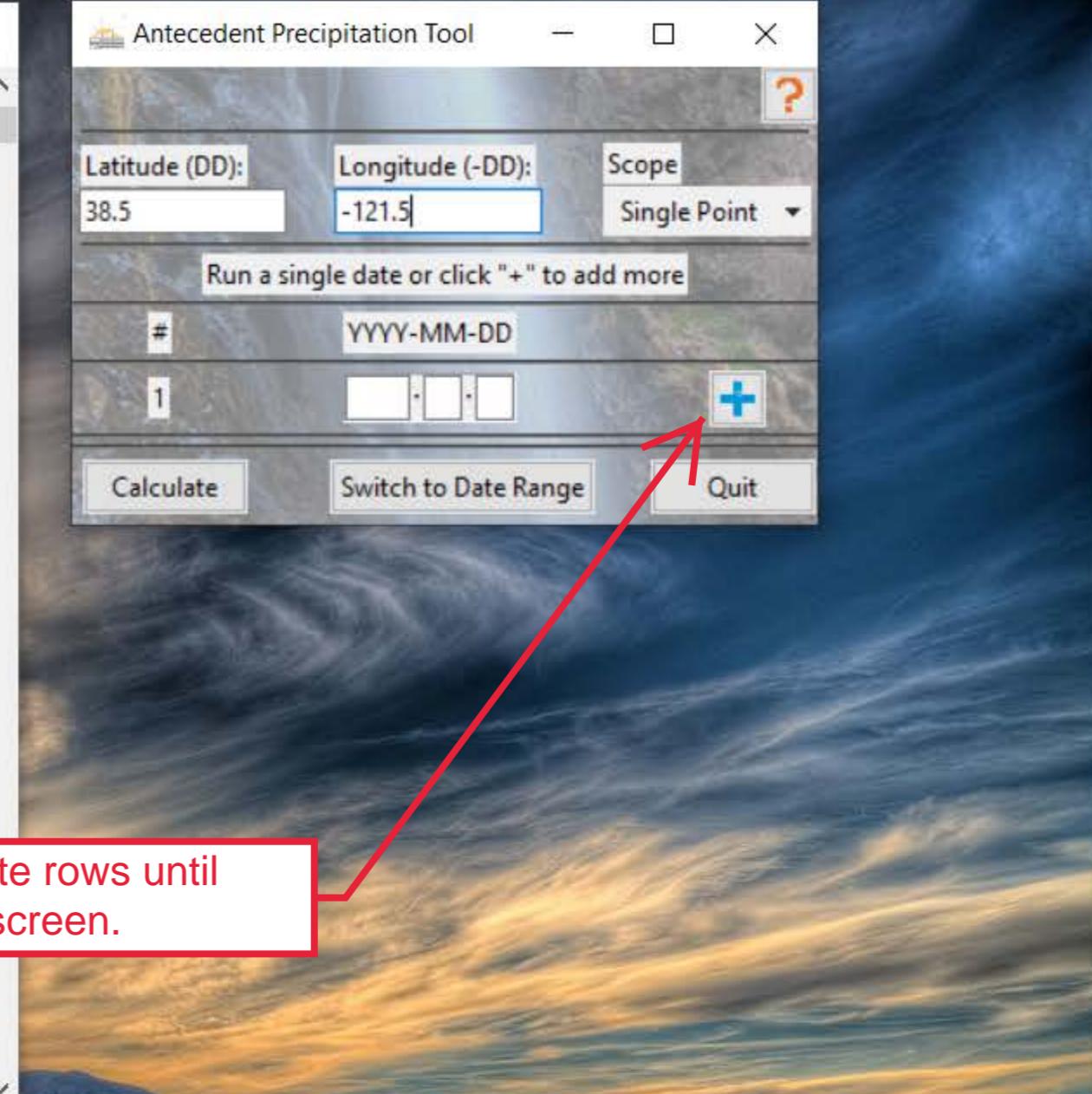
Antecedent Precipitati...



Antecedent Precipitati...



Launching Graphical User Interface...



First, lets add additional date rows until we run out of room on the screen.

Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm+++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyydMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMhysshMMMMMMMMMMMMMMMMMs
dMMNyMMMyymMMh+ hMMNyMMMyhmMMs
dMMm MMM dMN
dMMm MMMMM+ dMM
+dMMm+++MMMMMdNMM
hMMMMNNMMMMMMMM
hMMMMNMhyyyyy hhhhNNMMMMMMMMMMMMMM
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+



-Written by:
Jason C. Deters,
U.S. Army Corps of Engineers

Launching Graphical User Interface...

On a standard 1080P Monitor, the maximum number of date rows seems to be 20-21.

If you want to do more dates than this at once, we'll need to switch to "CSV Input."

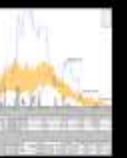
To get to CSV Input, we first have to cycle through the "Date Range" mode.

The screenshot shows the Antecedent Precipitation Tool's graphical user interface. At the top, there are input fields for Latitude (DD) set to 38.5, Longitude (-DD) set to -121.5, and a Scope dropdown set to "Single Point". Below these are instructions: "Run a single date or click "+" to add more". A list of 20 rows for entering dates follows, each consisting of a row number, a date format placeholder ("YYYY-MM-DD"), and three input boxes for year, month, and day. At the bottom are buttons for "Calculate", "Switch to Date Range" (which has a red arrow pointing to it), and "Quit".

#	YYYY-MM-DD			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Calculate Switch to Date Range Quit

Antecedent
Precipitati...



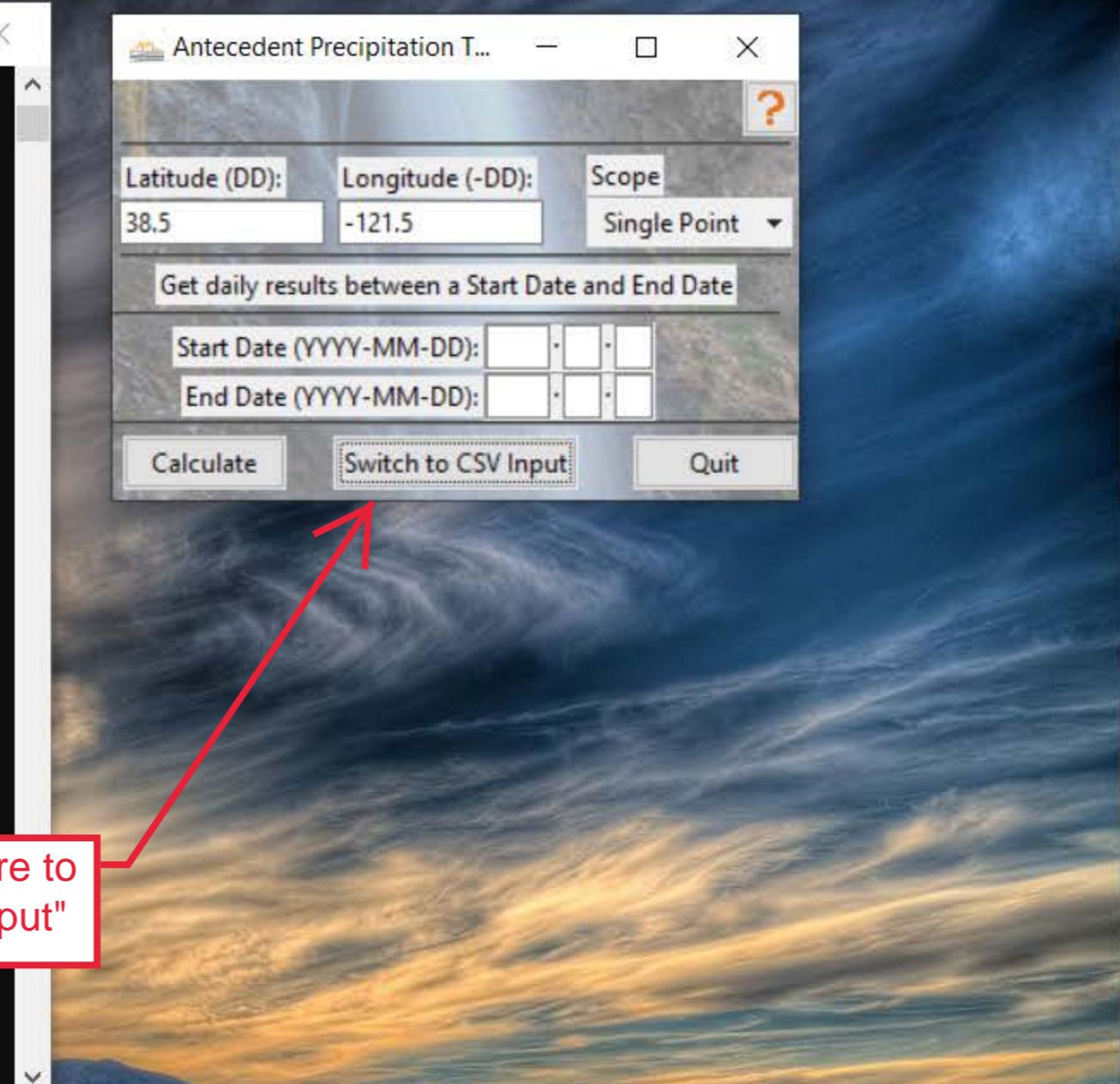
Antecedent Precipitati...



Validating Desktop shortcut...

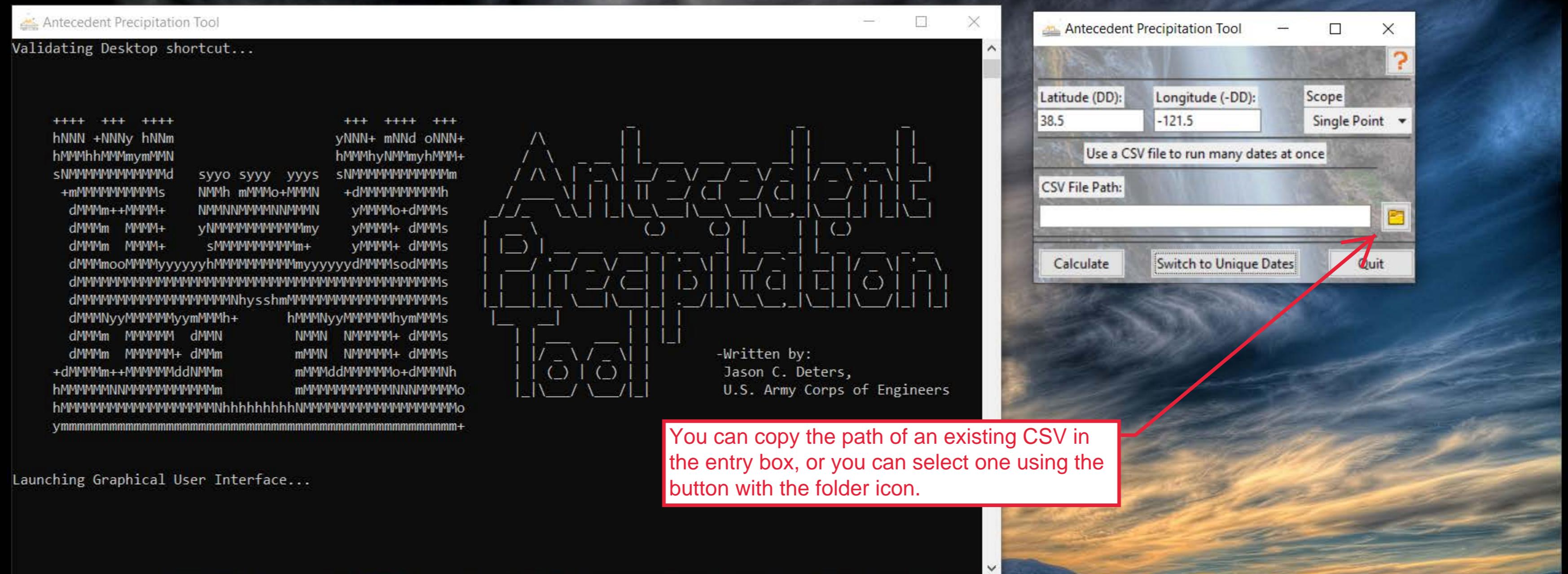


Launching Graphical User Interface...



-Written by:
Jason C. Deters,
U.S. Army Corps of Engineers

Click once more to
get to "CSV Input"



You can copy the path of an existing CSV in the entry box, or you can select one using the button with the folder icon.



Validating Desktop shortcut...

hNNN +NNNy hNNm
hMMMhhMMMyMymMMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMMd++MMMM+
dMMMd MMMM+
dMMMd MMMM+
dMMMdooMMMyyyyyyhy
dMMMMMMMMMMMMMM
dMMMMMMMMMMMMMM
dMMMNyyMMMMMyymMM
dMMMd MMMMM dMMI
dMMMd MMMMM+ dMMI
+dMMMd++MMMMMd
hMMMMMMNNMMMMMM
hMMMMMMMMMMMMMM
ymmmmmmmmmmmmmm

syyo syyy yyys
NMMh mMMMo+MMMN
NMMNNMMMMNNMMN
yNMMMMMMMMMMMy
sMMMMMMMMMMM+
dMMMMMMMMMM
yMMMM+ dMMMs
yMMMM+ dMMMs
dMMMsodMMMs
dMMMMMMMMMMMM
dMMMMMMMMMMMM
dMMMNyyMMMMMyymMM
dMMMd MMMMM dMMI
dMMMd MMMMM+ dMMI
+dMMMd++MMMMMd
hMMMMMMNNMMMMMM
hMMMMMMMMMMMMMM
ymmmmmmmmmmmmmm

There will always be a file "Template.csv" in the default folder.

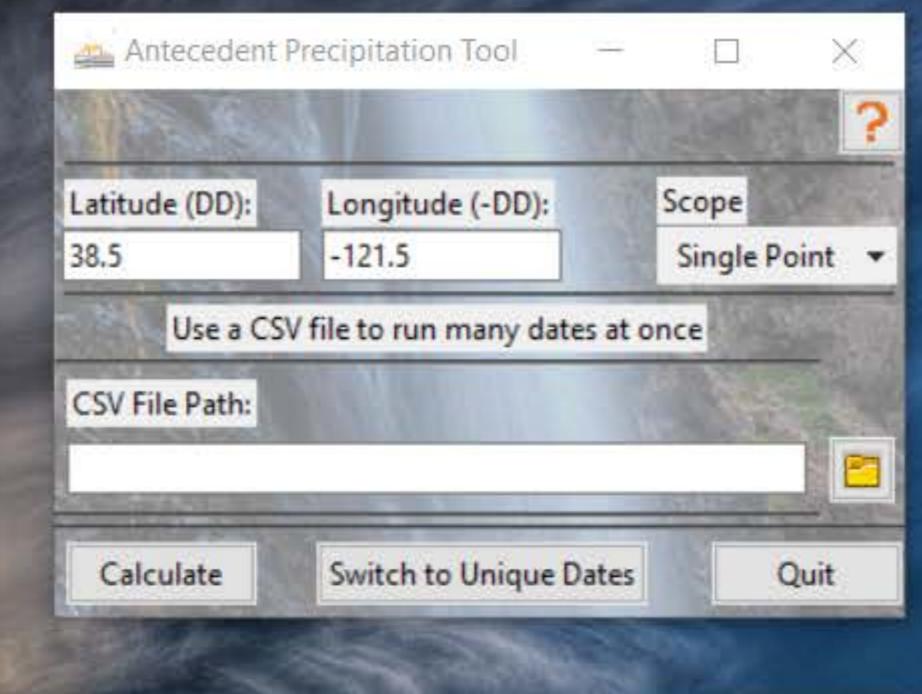
You can quickly edit this file to serve as your Input CSV.

There will always be a file titled "APT Batch Template.csv" in the default folder.

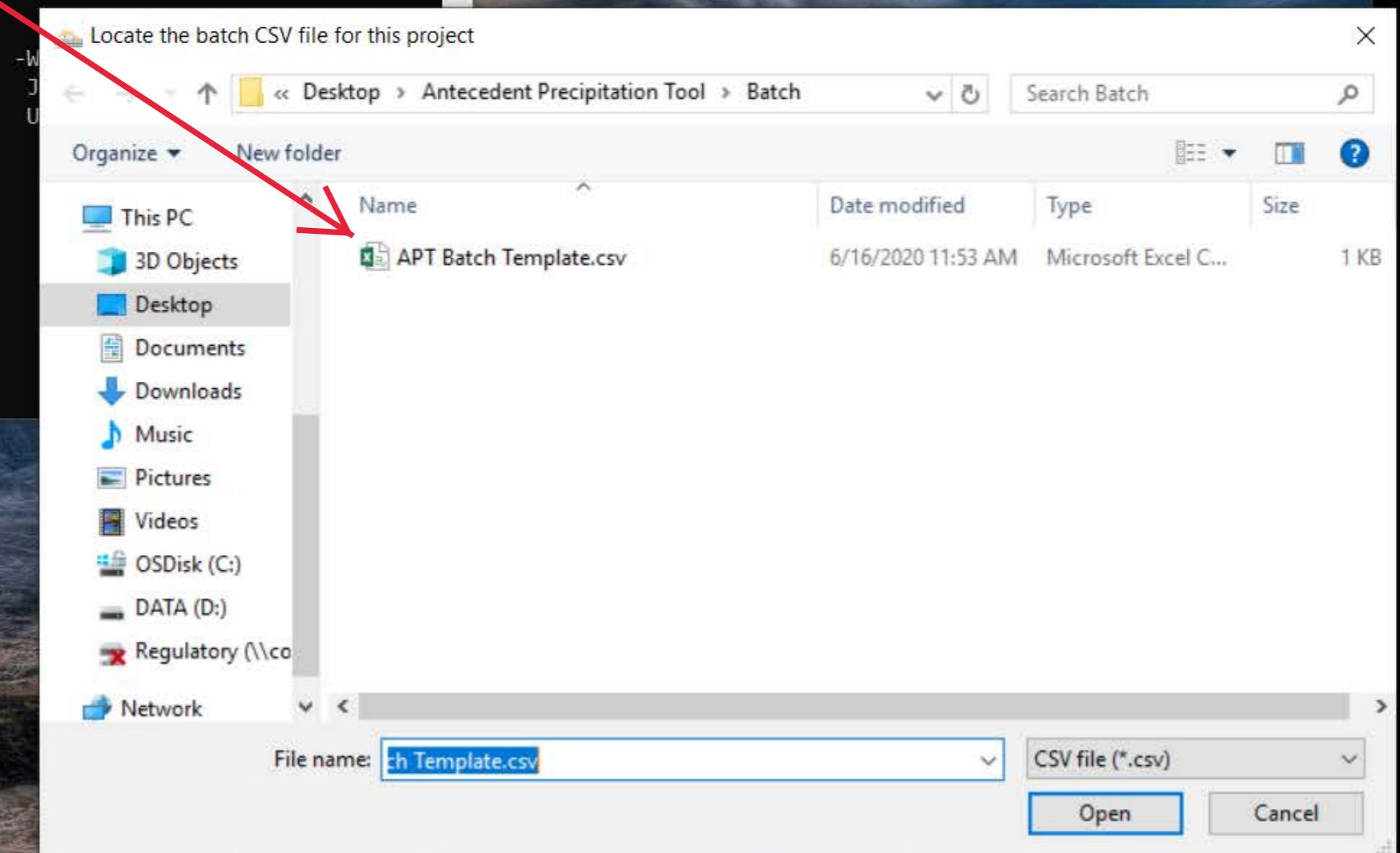
You can quickly edit this file and save it to serve as your Input CSV.

Start by right-clicking on the file.

Launching Graphical User Interface...



Antecedent Precipitati...



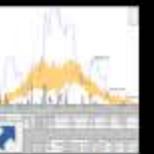
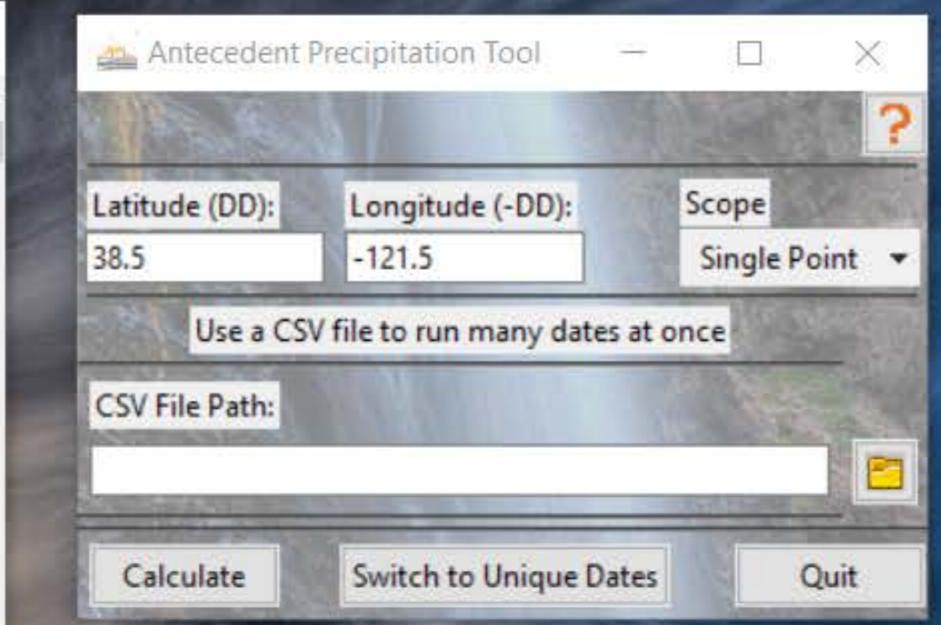


Antecedent Precipitation Tool
Validating Desktop shortcut...

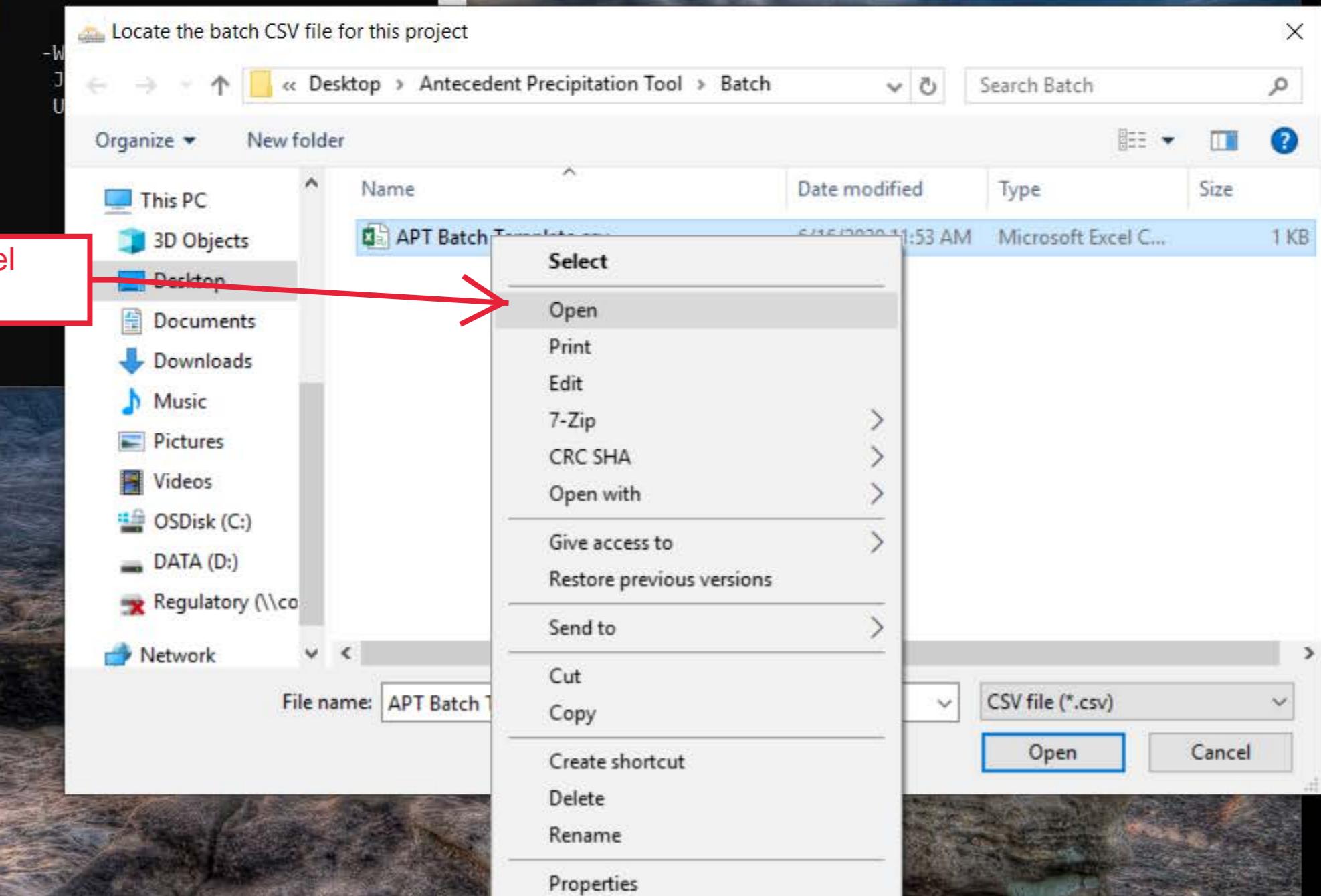
++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMNyyMMMMMyymMMh+ hMMNyyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMm
+dMMm++MMMMMdNMm
hMMMMMNMMMMMMMMm
hMMMMMMMMMMMMMNhhhhhNMMMMMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+

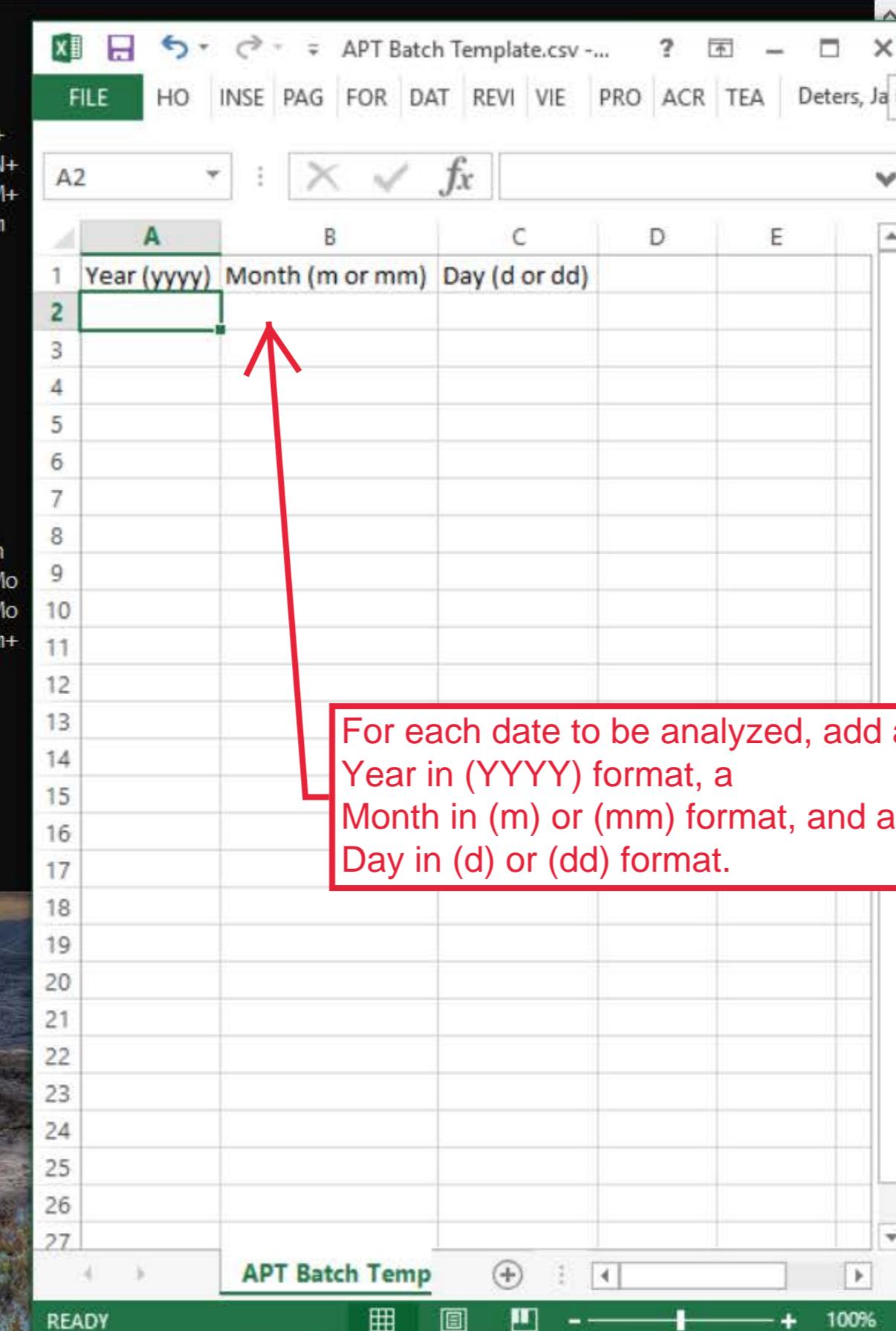
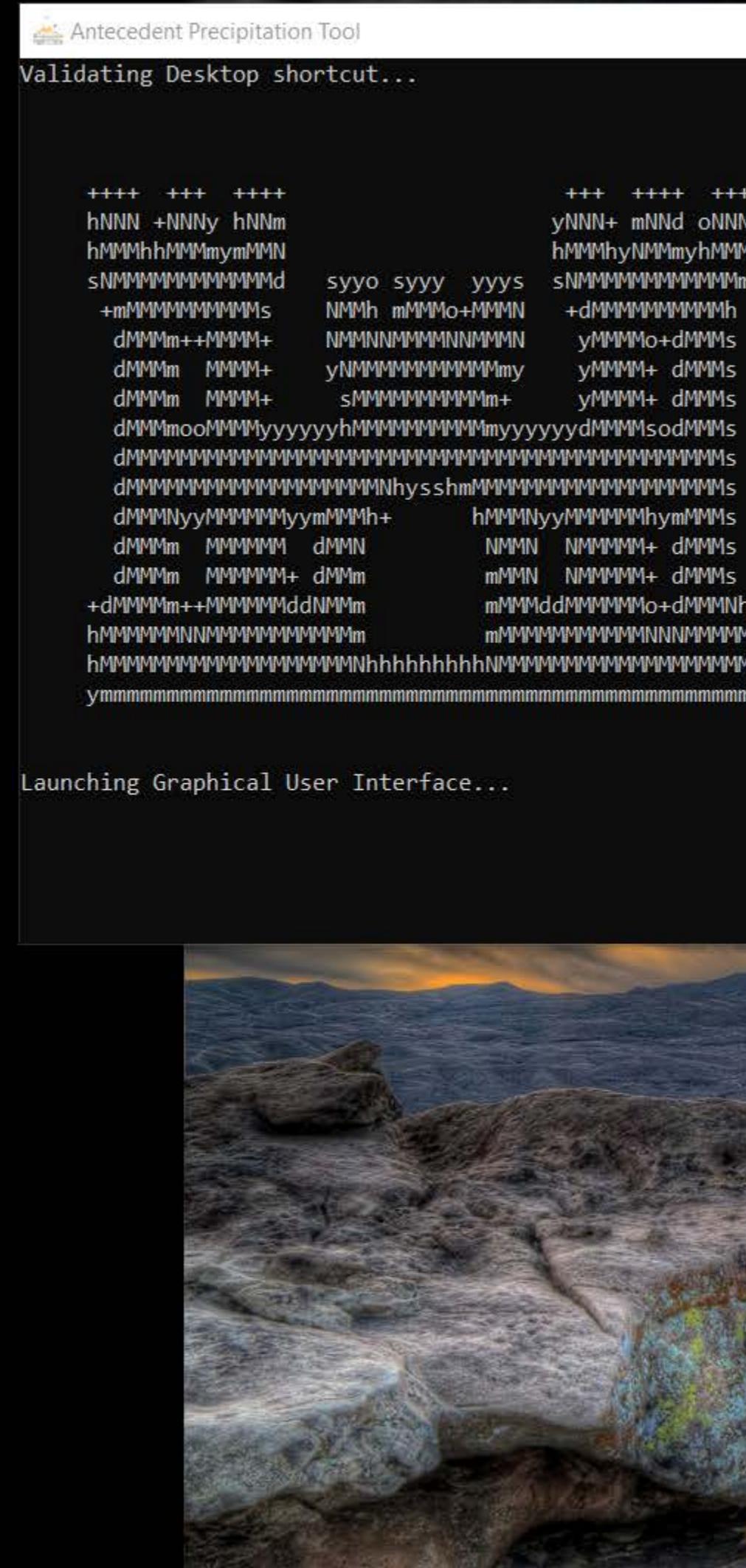
Launching Graphical User Interface

Now select "Open" to open the file in Excel
(or your preferred spreadsheet editor.)

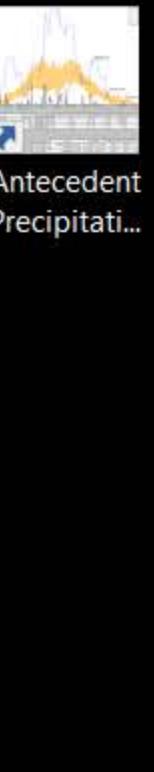
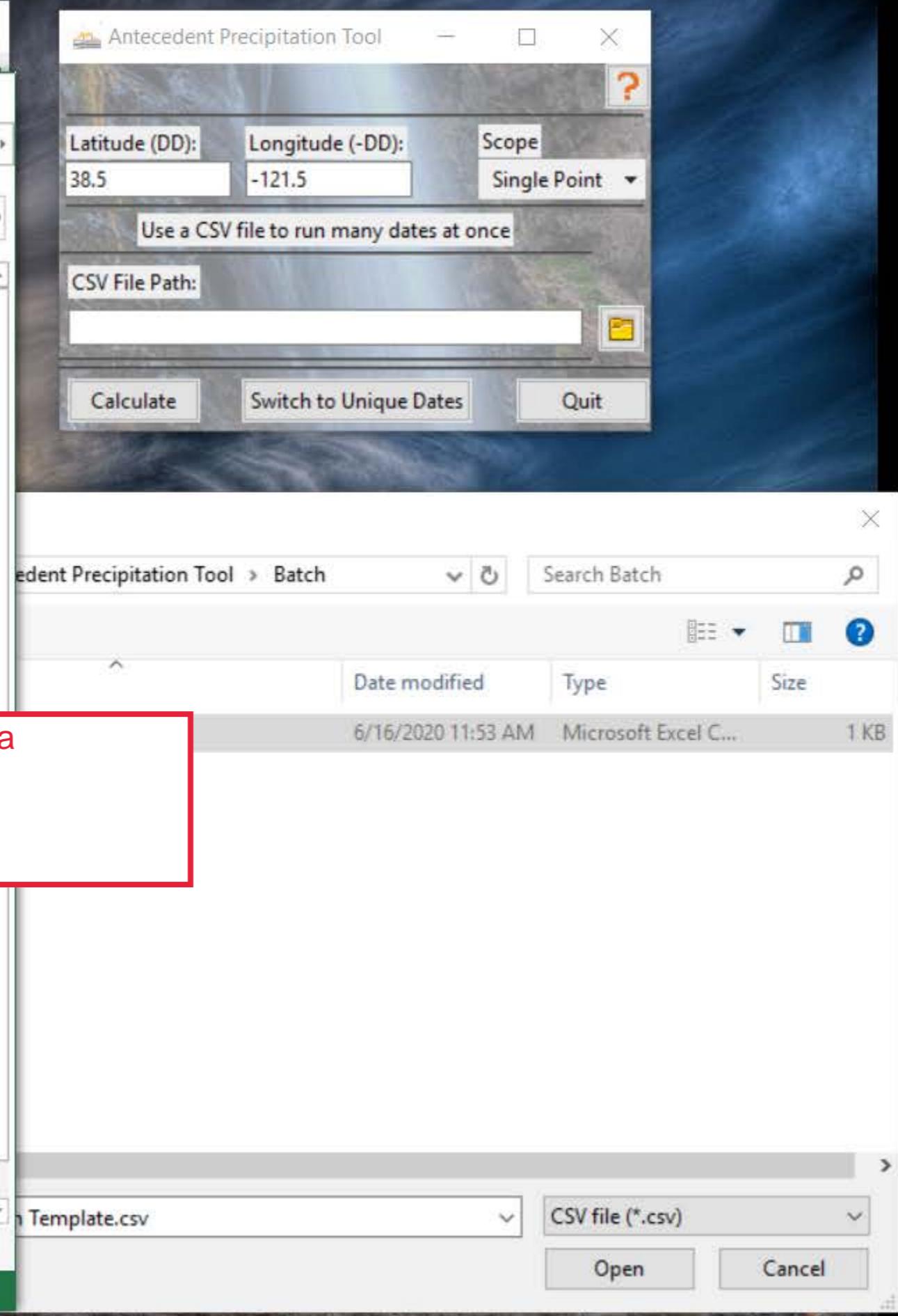


Antecedent
Precipitati...





For each date to be analyzed, add a Year in (YYYY) format, a Month in (m) or (mm) format, and a Day in (d) or (dd) format.



Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMNhMMMyMmMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMNs
dMMNyMMMMMyymMMh+ hMMNyMMMMhymMMs
dMMm MMMMM dMMN NMMN NMMMM+ dMMMs
dMMm MMMMM+ dMMm mMMN NMMMM+ dMMMs
+dMMNm++MMMMMdNMMm mMMddMMMMMo+dMMNh
hMMMMMNMMMMMMMMNm mMMMMMMMMNNNMMMMNs
hMMMMMMMMMMMMMMMNhhhhhhhNMMMMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm

FILE

B31

X ✓ fx

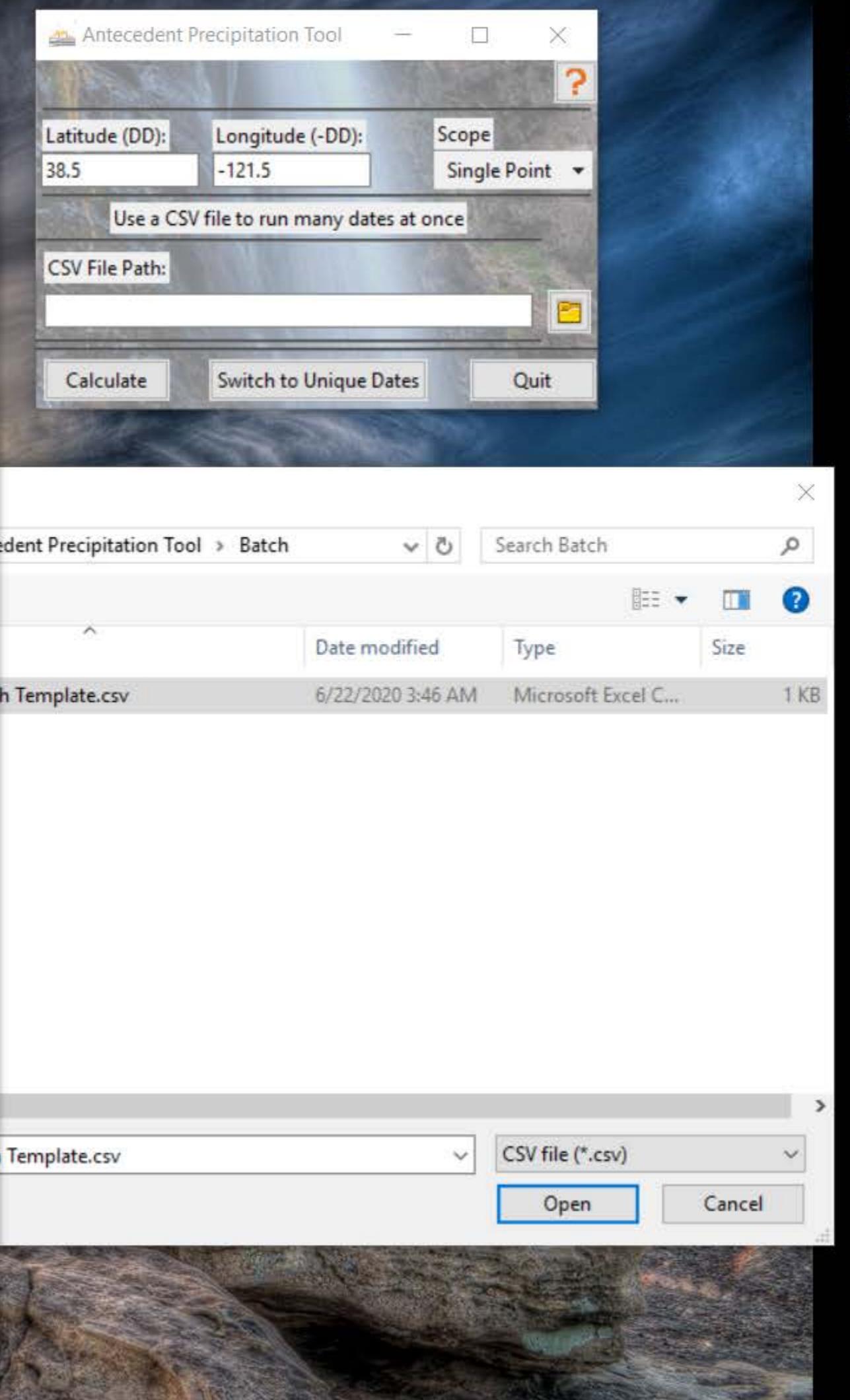
10

	A	B	C	D	E
2	1967	10	31		
3	1969	1	22		
4	1972	4	10		
5	1972	9	2		
6	1973	3	15		
7	1973	5	18		
8	1978	3	7		
9	1979	2	2		
10	1980	6	5		
11	1982	5	28		
12	1986	1	1		
13	1986	4	22		
14	1987	11	12		
15	1989	12	15		
16	1990	2	14		
17	1990	5	11		
18	1990	9	13		
19	1991	2	4		
20	1991	4	8		
21	1991	11	29		
22	1994	8	26		
23	1995	12	3		
24	1995	12	19		
25	1997	2	1		
26	1997	4	12		
27	1998	6	6		
28	1998	9	2		
29	2000	4	24		
30	2001	3	10		
31	2002	10	30		

APT Batch Temp

READY

100%

Antecedent
Precipitati...



Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMMN
sNMMMMMMMMMMMd
+mMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMNyyMMMMMyymMMh+
dMMm MBBBBB dMMN
dMMm MBBBBB+ dMMm
+dMMm++BBBBBddNMMm
hMMMMNNNNNNNNNNNNM
hMMMMNNNNNNNNNNNNM
ymm+

Launching Graphical User Interface...

APT Batch Template.csv - Excel

Deters, Jason C CIV USARMY CESPK (USA)

Info

APT Batch Template

Desktop » Antecedent Precipitation Tool » Batch

Protect Workbook
Control what types of changes people can make to this workbook.

Inspect Workbook
Before publishing this file, be aware that it contains:
 Absolute path
 Contains formulas

Versions
There are no previous versions of this file.

Browser View Options
Pick what users can see when this workbook is viewed on the Web.

File menu options:
Info, New, Open, Save, Save As, Save as Adobe PDF, Print, Share, Export, Close, Account, Options

A red arrow points from the "Save As" option in the File menu to the "Save As" button in the bottom right corner of the dialog.

You can directly save over the "APT Batch Template.csv" file, but I prefer to keep it empty by clicking "Save As"

Antecedent Precipitation Tool

Latitude (DD): 38.5 Longitude (-DD): -121.5 Scope: Single Point

Use a CSV file to run many dates at once

CSV File Path:

Calculate, Switch to Unique Dates, Quit

Batch

Search Batch

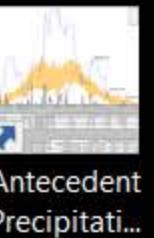
Date modified	Type	Size
Template.csv	6/22/2020 3:46 AM	Microsoft Excel C... 1 KB

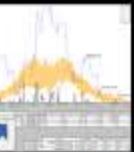
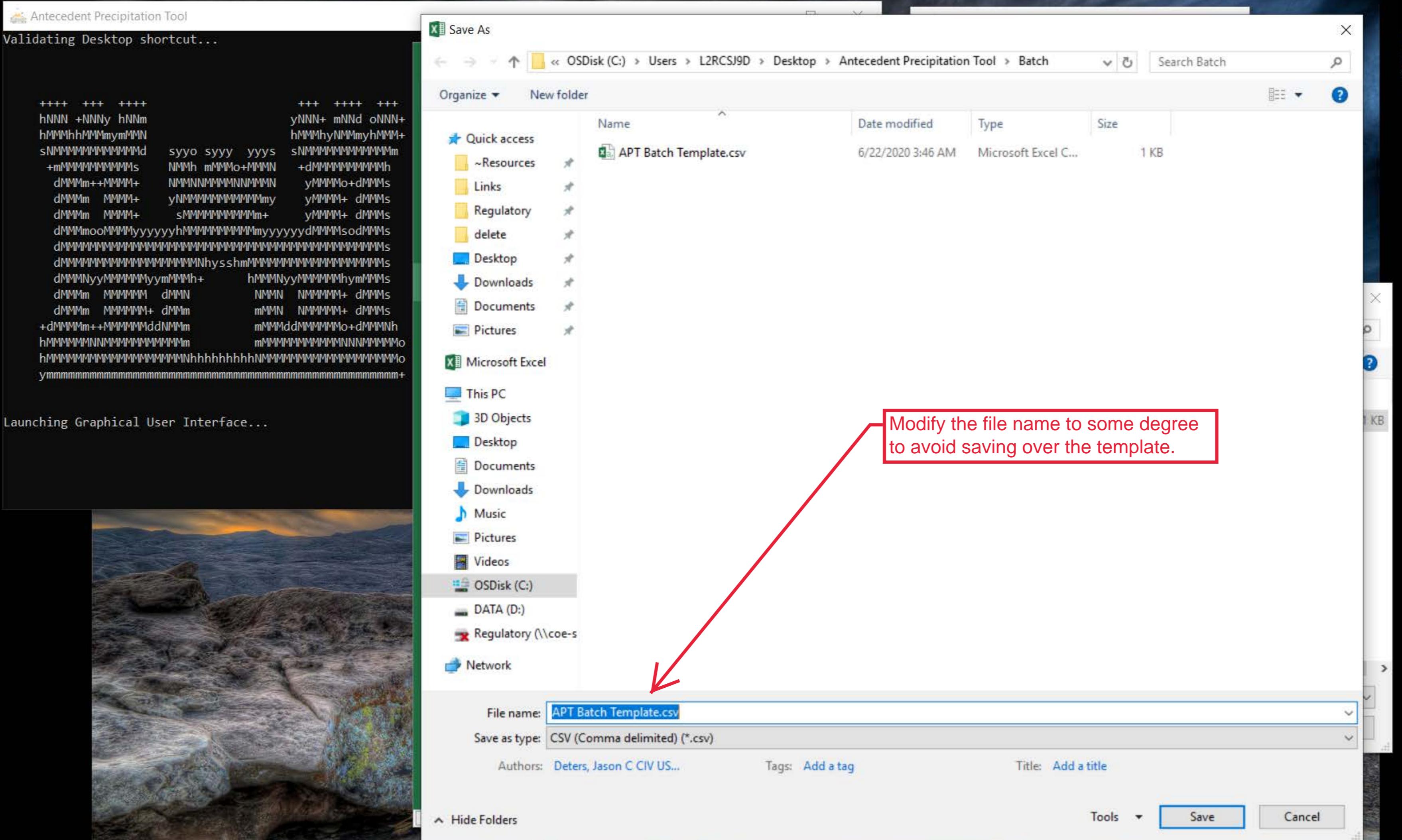
Template.csv

CSV file (*.csv)

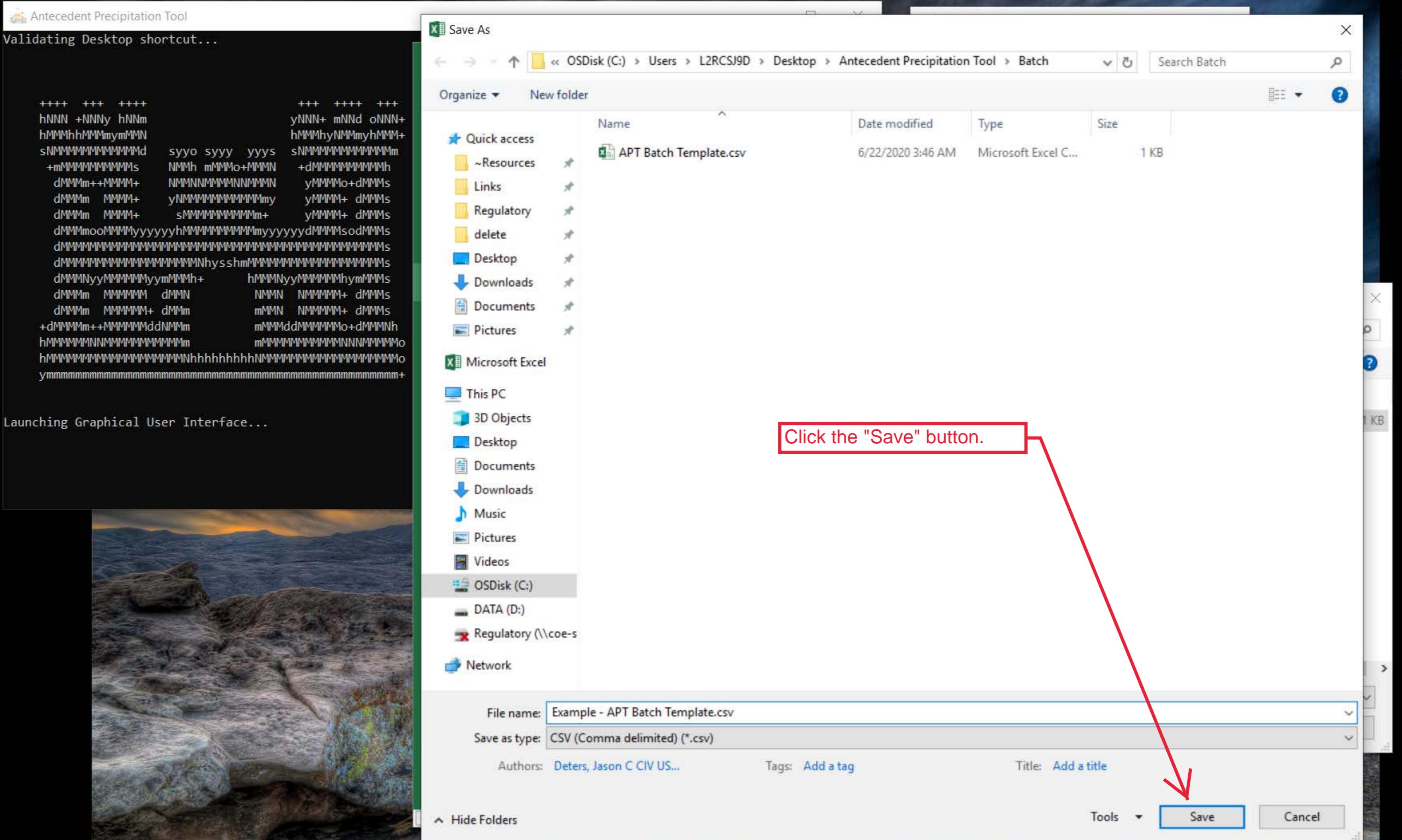
Open, Cancel

Antecedent Precipitation Tool icon





Antecedent Precipitati...



Antecedent Precipitati...



Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm+++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMNs
dMMNyMMMMMyymMMh+ hMMNyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMM
+dMMm+++MMMMMdNMMm
hMMMMMNMMMMMMMMm
hMMMMMMMMMMMMNNhhhhhNMMMMMMMMMMMMMMMo
ymm+

Launching Graphical User Interface...

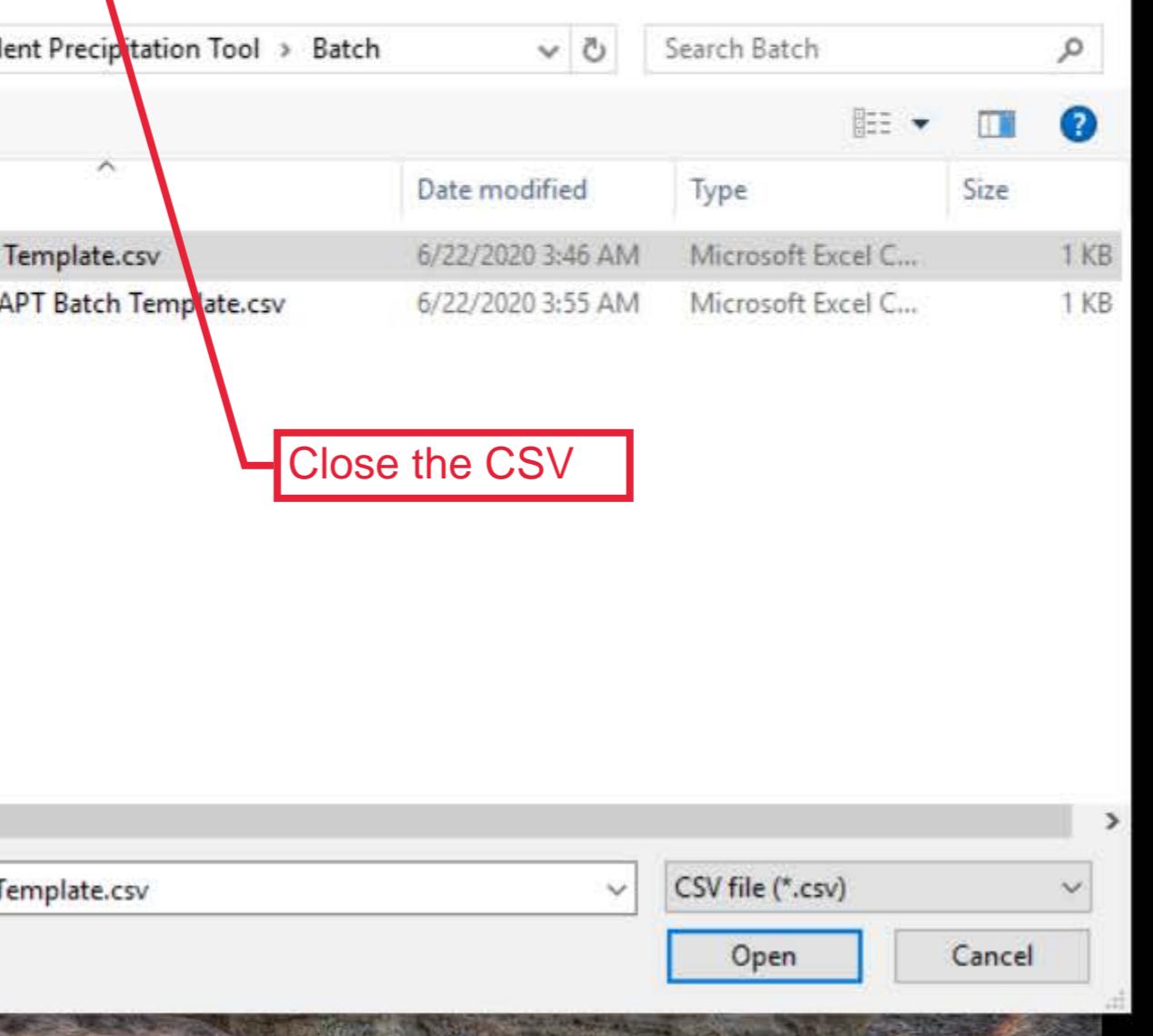
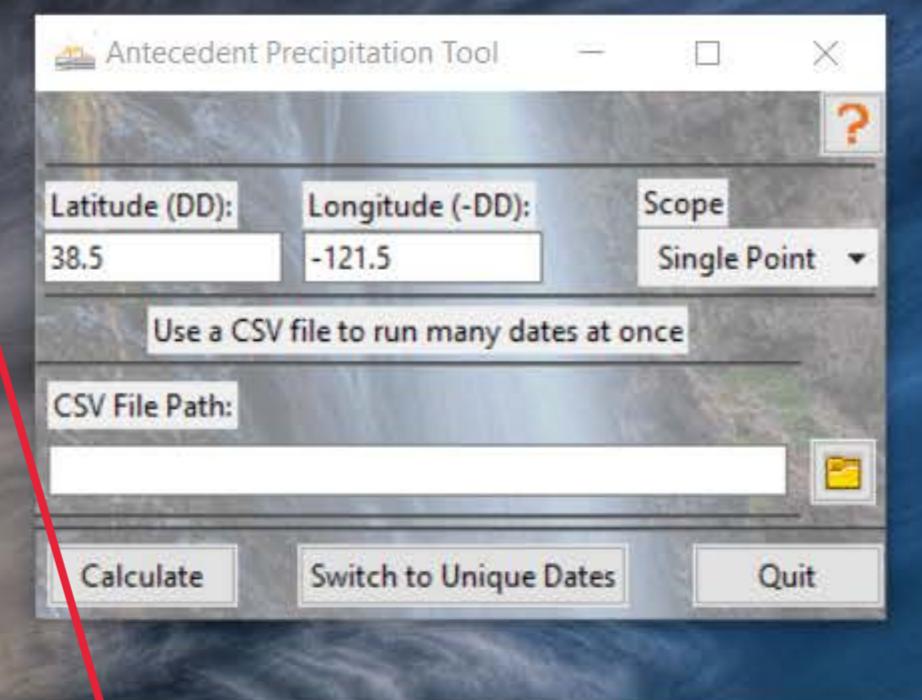


	A	B	C	D	E
2	1967	10	31		
3	1969	1	22		
4	1972	4	10		
5	1972	9	2		
6	1973	3	15		
7	1973	5	18		
8	1978	3	7		
9	1979	2	2		
10	1980	6	5		
11	1982	5	28		
12	1986	1	1		
13	1986	4	22		
14	1987	11	12		
15	1989	12	15		
16	1990	2	14		
17	1990	5	11		
18	1990	9	13		
19	1991	2	4		
20	1991	4	8		
21	1991	11	29		
22	1994	8	26		
23	1995	12	3		
24	1995	12	19		
25	1997	2	1		
26	1997	4	12		
27	1998	6	6		
28	1998	9	2		
29	2000	4	24		
30	2001	3	10		
31	2002	10	30		

Example - APT I

READY

100%



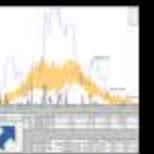
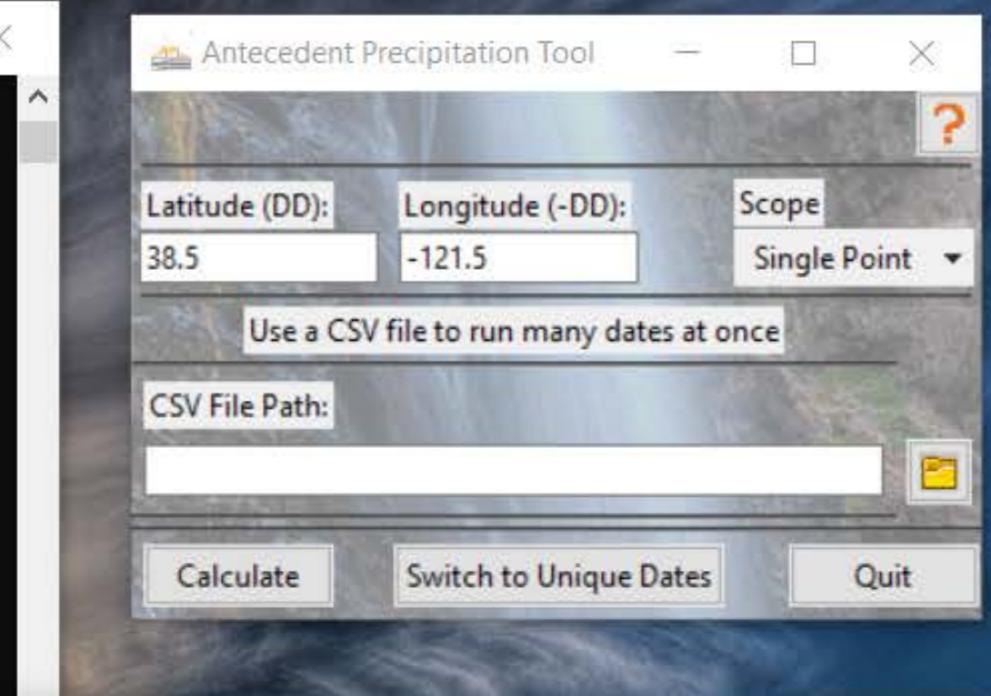
Close the CSV



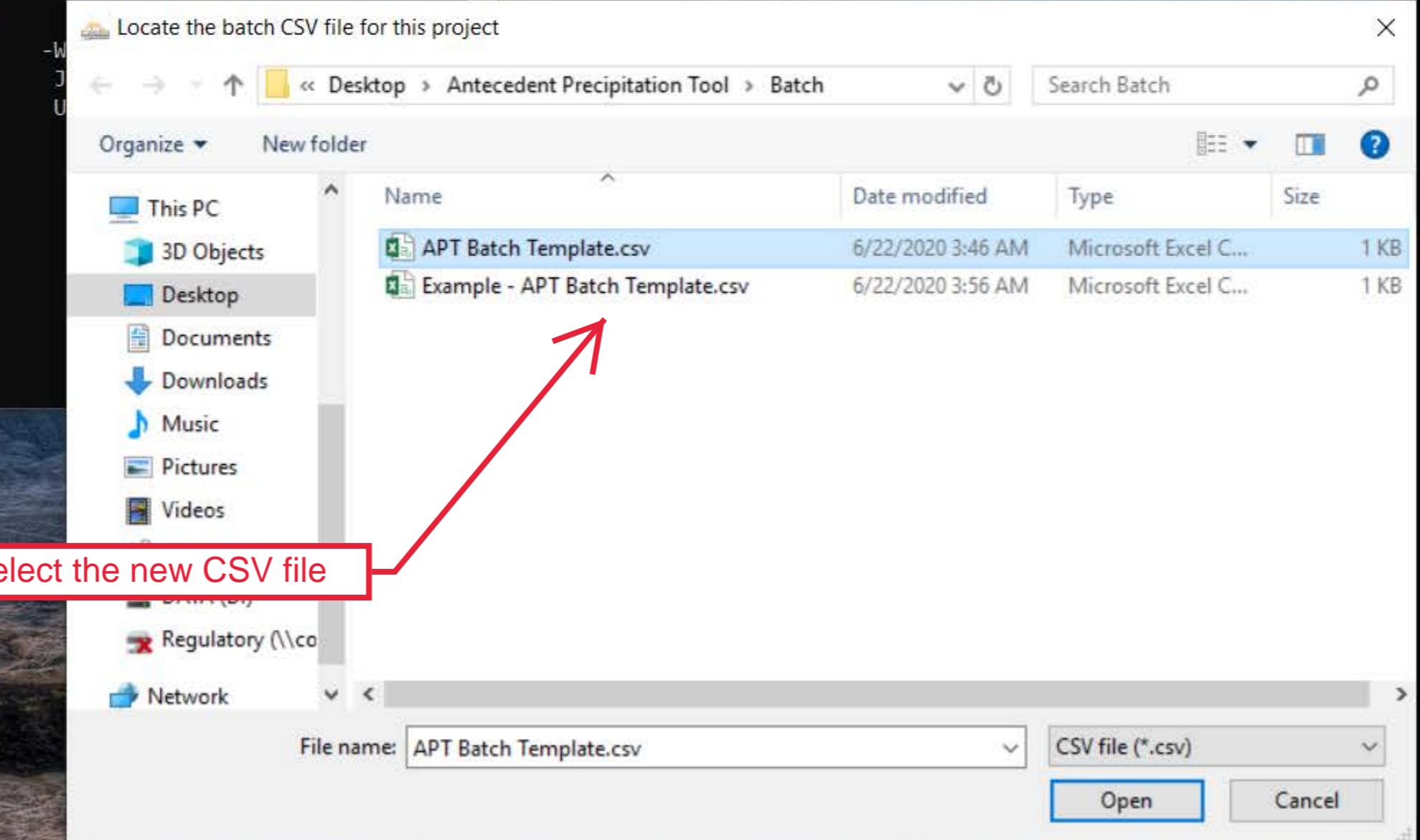
Validating Desktop shortcut...

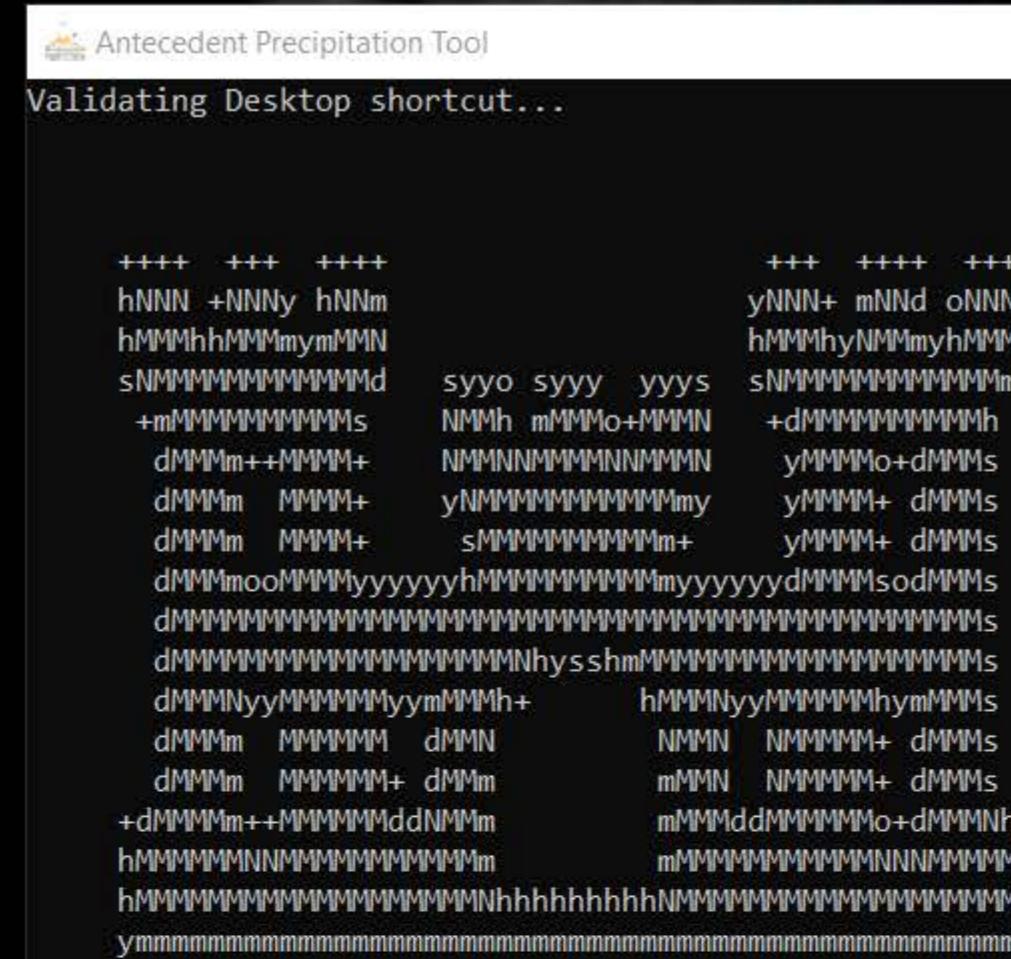
++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMNyyMMMMMyymMMh+ hMMNyyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMm
+dMMm++MMMMMdNMM
hMMMMNNMMMMMMMM
hMMMMMMMMMMMMNNhhhhhhhNMMMMMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+

Launching Graphical User Interface...

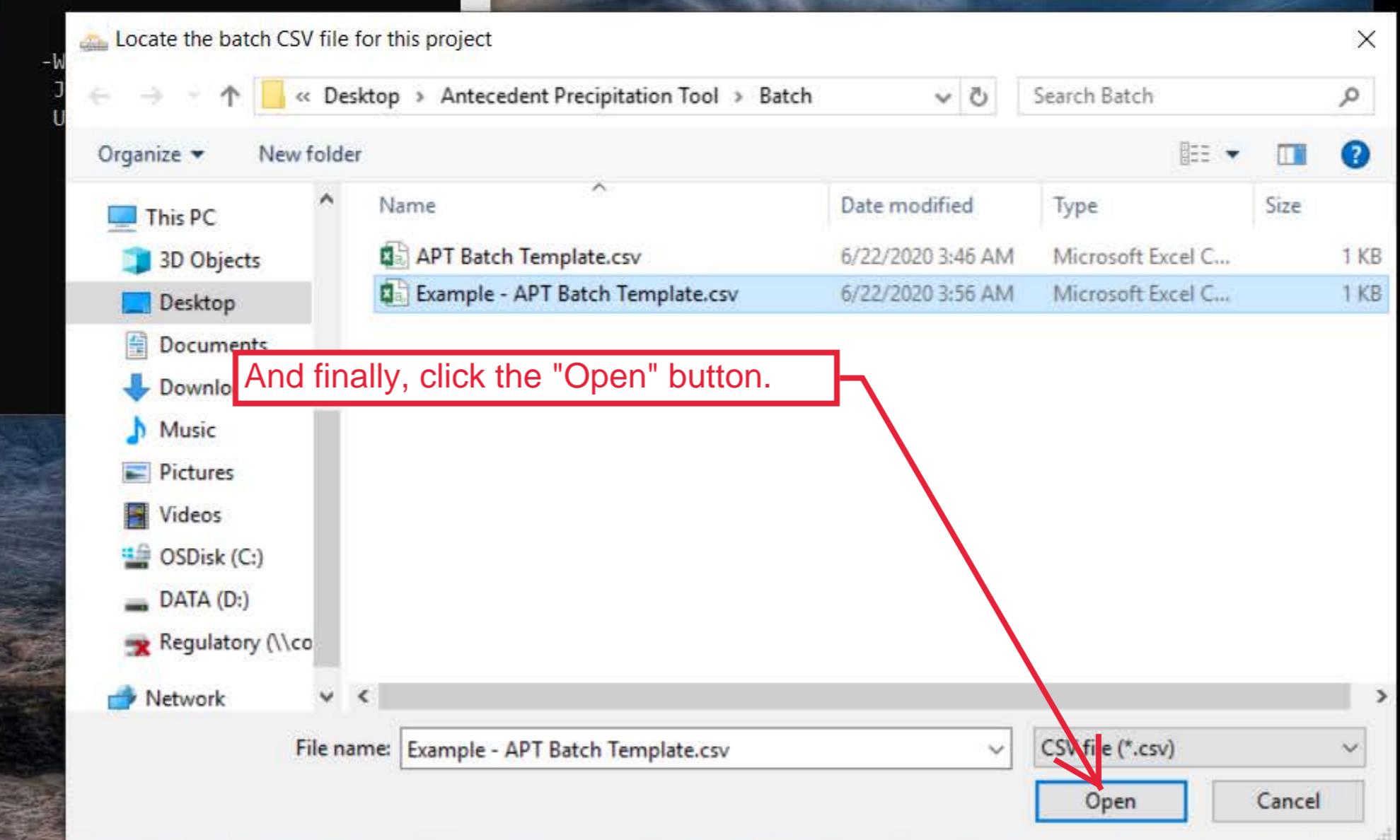
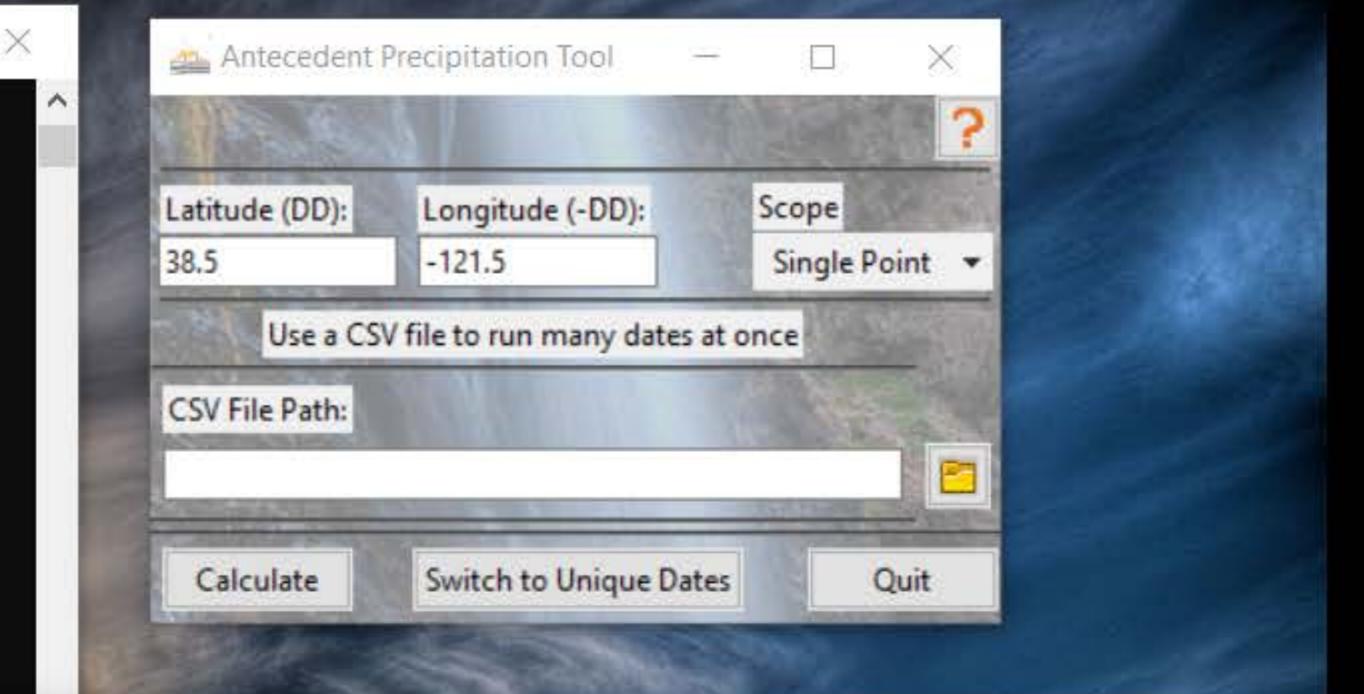
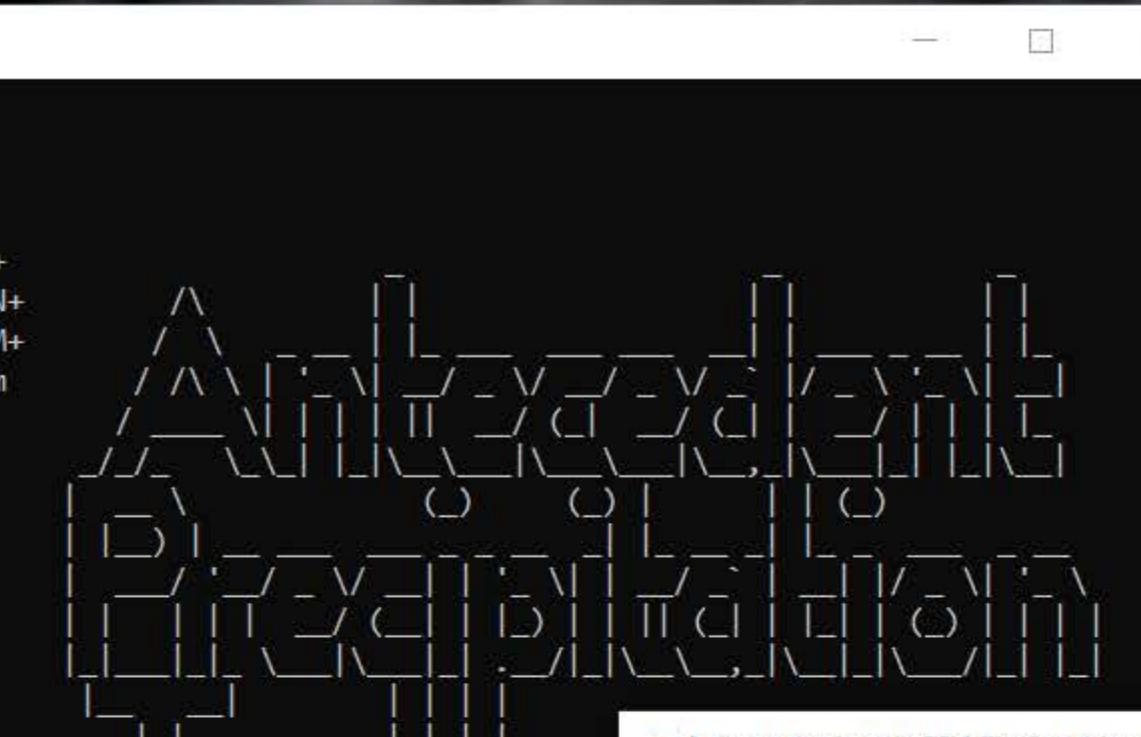


Antecedent
Precipitati...





Launching Graphical User Interface..





Validating Desktop shortcut...

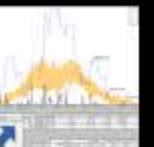
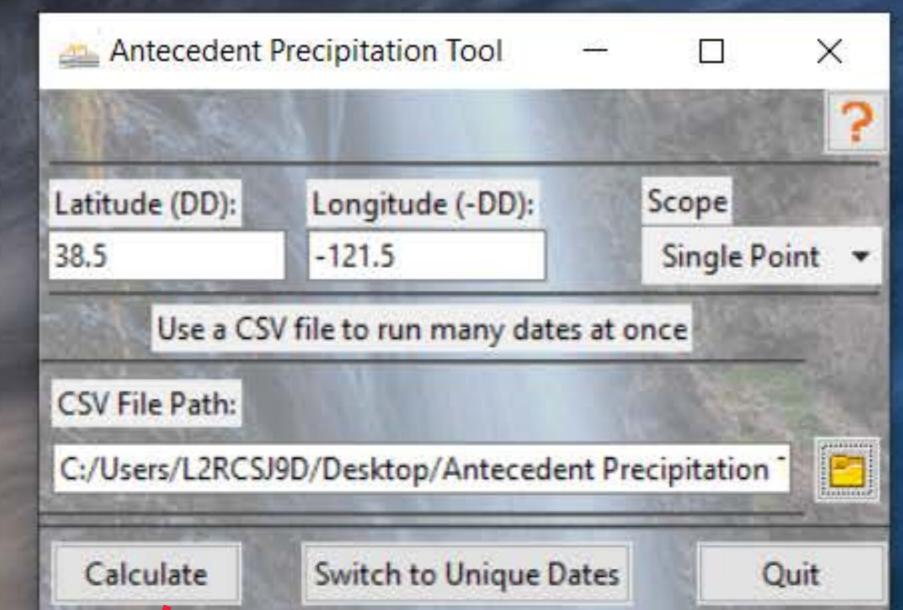
++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMNyyMMMMMyymMMh+ hMMNyyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMM
+dMMMd++MMMMMdNMM
hMMMMMNMMMMMMMM
hMMMMNMhyyyyy hhhhNNMMMMMMMMMMMMMMMM
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm



-Written by:
Jason C. Deters,
U.S. Army Corps of Engineers

Launching Graphical User Interface...

Now if we click the "Calculate" button, the tool will analyze a day for each row of the CSV.



Antecedent
Precipitati...

Antecedent Precipitation Tool

May	-75	-64	11	Dry	Season
Jun	-129	-45	84	Dry	Season
Jul	-153	-14	139	Dry	Season
Aug	-139	-3	136	Dry	Season
Sep	-96	-1	96	Dry	Season
Oct	-42	0	43	Dry	Season
Nov	31	30	0	Wet	Season
Dec	58	58	0	Wet	Season

<---Selected Month

```
#----- GRAPH & TABLE GENERATION -----#
Constructing graph, plotting data, and configuring tables...
Generating figure with graph and tables...

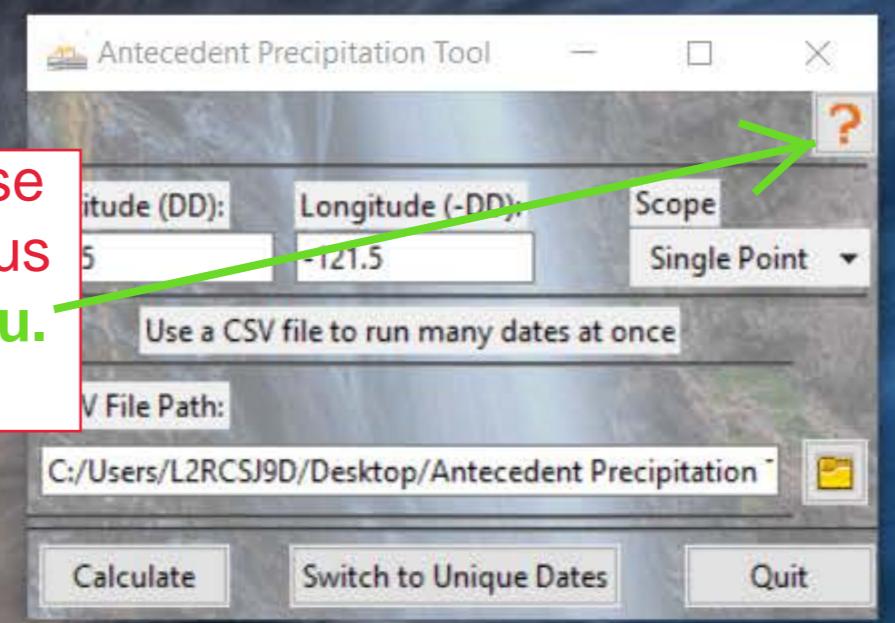
Saving C:\Users\L2RCSJ9D\Desktop\Antecedent Precipitation Tool\Outputs\v1_0_3\38.5, -121.5\2002-10-30.pdf
Closing figure...

Opening Batch Results CSV in new process...
Opening finalPDF in new process...
Attempting to delete temporary files...

All tasks took 1 minutes and 7 seconds to complete

Ready for new input.
```

We are skipping to the end because these details are already covered in the previous walkthroughs, available in the **Help Menu**.





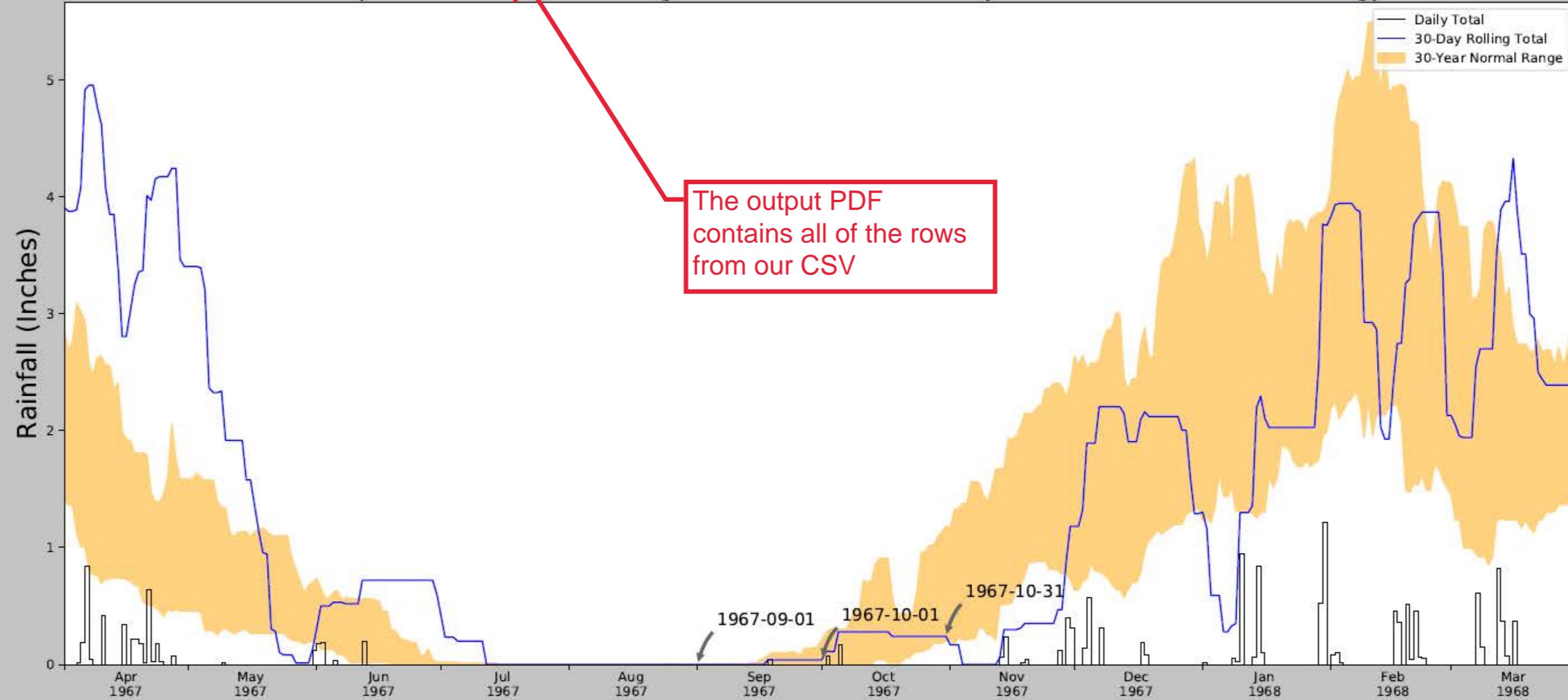
1 / 30



61.2%



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	38.5, -121.5
Observation Date	1967-10-31
Elevation (ft)	7.14
Drought Index (PDSI)	Incipient drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
1967-10-31	0.203543	1.182677	0.240157	Normal	2	3	6
1967-10-01	0.0	0.216535	0.03937	Normal	2	2	4
1967-09-01	0.0	0.0	0.0	Normal	2	1	2
Result							Normal Conditions - 12



May	-75	-64	11	Dry
Jun	-129	-45	84	Dry
Jul	-153	-14	139	Dry
Aug	-139	-3	136	Dry
Sep	-96	-1	96	Dry
Oct	-42	0	43	Dry
Nov	31	30	0	Wet
Dec	58	58	0	

Season: 1

(38.5, -121.5) Batch Result.csv - Excel

Our CSV dates are presented in tabular format as well.

	A	B	C	D	E	F	G	H	I	J
1	Latitude	Longitude	Date	Image Name	Image Source	PDSI Value	PDSI Class	Season	ARC Score	Antecedent Precip Condition
2	38.5	-121.5	10/31/1967	None	None	-0.69	Incipient drought	Dry Season	12	Normal Conditions
3	38.5	-121.5	1/22/1969	None	None	2.61	Moderate wetness	Wet Season	16	Wetter than Normal
4	38.5	-121.5	4/10/1972	None	None	-1.65	Mild drought	Dry Season	9	Drier than Normal
5	38.5	-121.5	9/2/1972	None	None	0.67	Incipient wetness	Dry Season	13	Normal Conditions
6	38.5	-121.5	3/15/1973	None	None	-0.16	Normal	Wet Season	18	Wetter than Normal
7	38.5	-121.5	5/18/1973	None	None	-1.3	Mild drought	Dry Season	10	Normal Conditions
8	38.5	-121.5	3/7/1978	None	None	2.16	Moderate wetness	Wet Season	18	Wetter than Normal
9	38.5	-121.5	2/2/1979	None	None	0.67	Incipient wetness	Wet Season	13	Normal Conditions
10	38.5	-121.5	6/5/1980	None	None	1.23	Mild wetness	Dry Season	13	Normal Conditions
11	38.5	-121.5	5/28/1982	None	None	2.64	Moderate wetness	Dry Season	12	Normal Conditions
12	38.5	-121.5	1/1/1986	None	None	0.42	Normal	Wet Season	14	Normal Conditions
13	38.5	-121.5	4/22/1986	None	None	2.1	Moderate wetness	Dry Season	15	Wetter than Normal
14	38.5	-121.5	11/12/1987	None	None	-3.44	Severe drought	Wet Season	10	Normal Conditions
15	38.5	-121.5	12/15/1989	None	None	-1.75	Mild drought	Wet Season	13	Normal Conditions
16	38.5	-121.5	2/14/1990	None	None	-1.89	Mild drought	Wet Season	11	Normal Conditions
17	38.5	-121.5	5/11/1990	None	None	1.47	Mild wetness	Dry Season	10	Normal Conditions
18	38.5	-121.5	9/13/1990	None	None	-0.12	Normal	Dry Season	12	Normal Conditions
19	38.5	-121.5	2/4/1991	None	None	-3.02	Severe drought	Wet Season	11	Normal Conditions
20	38.5	-121.5	4/8/1991	None	None	1.83	Mild wetness	Dry Season	15	Wetter than Normal
21	38.5	-121.5	11/29/1991	None	None	-1.1	Mild drought	Wet Season	9	Drier than Normal
22	38.5	-121.5	8/26/1994	None	None	-1.58	Mild drought	Dry Season	12	Normal Conditions
23	38.5	-121.5	12/3/1995	None	None	3.38	Severe wetness	Wet Season	7	Drier than Normal
24	38.5	-121.5	12/19/1995	None	None	3.38	Severe wetness	Wet Season	12	Normal Conditions
25	38.5	-121.5	2/1/1997	None	None	3.65	Severe wetness	Wet Season	17	Wetter than Normal
26	38.5	-121.5	4/12/1997	None	None	1.84	Mild wetness	Dry Season	8	Drier than Normal
27	38.5	-121.5	6/6/1998	None	None	5.95	Extreme wetness	Dry Season	17	Wetter than Normal
28	38.5	-121.5	9/2/1998	None	None	5.7	Extreme wetness	Dry Season	13	Normal Conditions
29	38.5	-121.5	4/24/2000	None	None	-0.48	Normal	Dry Season	15	Wetter than Normal
30	38.5	-121.5	3/10/2001	None	None	-1.83	Mild drought	Wet Season	14	Normal Conditions
31	38.5	-121.5	10/20/2002	None	None	2.20	Severe drought	Dry Season	9	Drier than Normal

(38.5, -121.5) Batch Result



Antecedent Precipitation Tool

May	-75	-64	11	Dry Season
Jun	-129	-45	84	Dry Season
Jul	-153	-14	139	Dry Season
Aug	-139	-3	136	Dry Season
Sep	-96	-1	96	Dry Season
Oct	-42	0	43	Dry Season
Nov	31	30	0	Wet Season
Dec	58	58	0	

<---Selected Month

38.5, -121.5

File Home Share View

← → ↑ << Desktop >> Antecedent Precipitation Tool > Outputs > v1_0_3 > 38.5, -121.5

Search 38.5, -121.5

Dates Quit

#--
Constructing graph, plotting
Generating figure with graph

Saving C:\Users\L2RCSJ9D\Desktop
Closing figure...

Opening Batch Results CSV in
Opening finalPDF in new process
Attempting to delete temporary

All tasks took 1 minutes and

Ready for new input.

Quick access

~Resources

Links

Regulatory

delete

Desktop

Downloads

Documents

Pictures

This PC

3D Objects

Desktop

Documents

Downloads

Music

Pictures

Videos

OSDisk (C:)

DATA (D:)

Regulatory (\\\coe-spk\001sa)

Network

33 items 1 item selected

Antecedent Precipitation Tool

Latitude (DD): 38.5 Longitude (-DD): -121.5 Scope Single Point

Use a CSV file to run many dates at once

Dates Quit

Station Data

- (38.5, -121.5) Batch Result.pdf
- 1967-10-31.pdf
- 1972-04-10.pdf
- 1973-03-15.pdf
- 1978-03-07.pdf
- 1980-06-05.pdf
- 1986-01-01.pdf
- 1987-11-12.pdf
- 1990-02-14.pdf
- 1990-09-13.pdf
- 1991-04-08.pdf
- 1991-11-29.pdf
- 1995-12-03.pdf
- 1997-02-01.pdf
- 1998-06-06.pdf
- 2000-04-24.pdf
- 2002-10-30.pdf

Finally, the output folder is opened to the user knows where their data was saved.