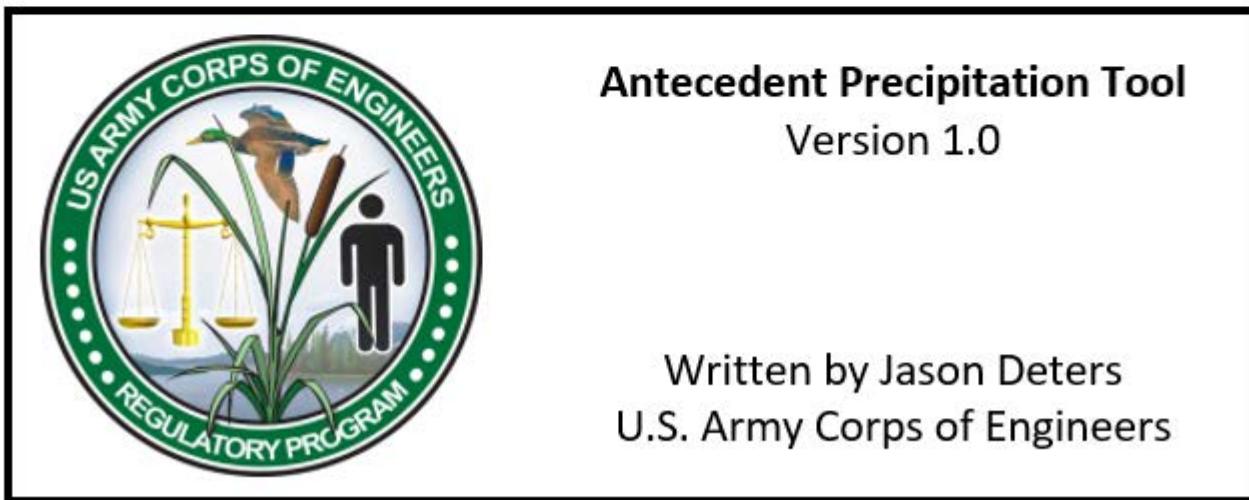
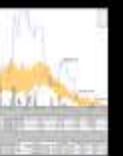


How to Generate a Single-point Analysis for Many Dates at Once Using CSV Input





Antecedent
Precipitation
Tool



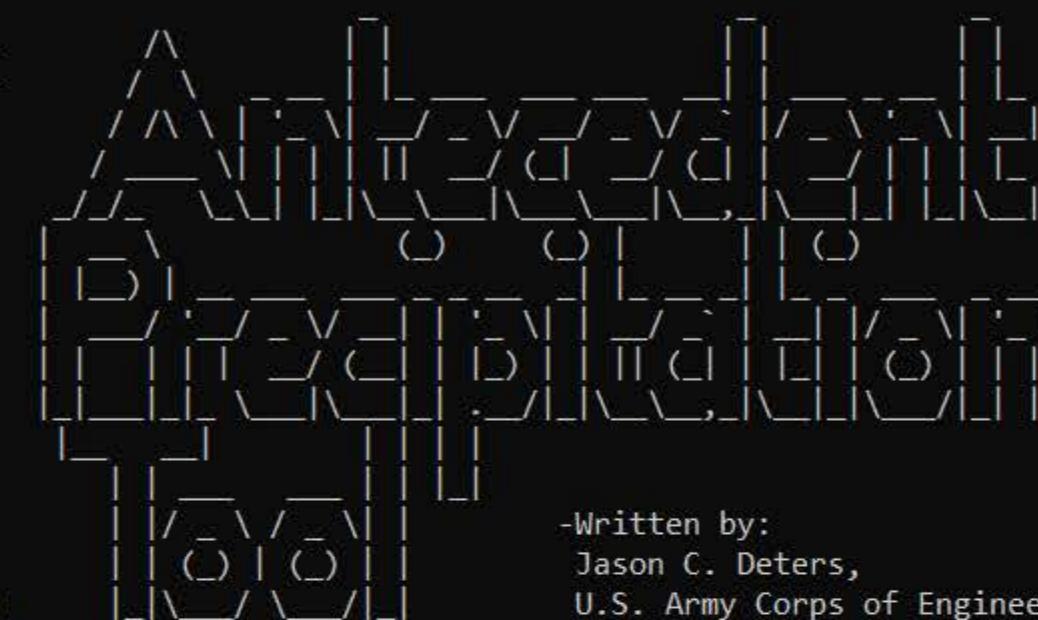
Launch
the APT





Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyyhhMMMMMMMyyyyyyhdMMMsodMMMs
dMMMs
dMMMs
dMMNyyMMMMMyymMMh+ hMMNyyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMM
+dMMm++MMMMMdNMM
hMMMMNNMMMMMMMM
hMMMMNMhyyyyyhhhhhNMMMMMMMMMMMMMMMM
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.dddddd)

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

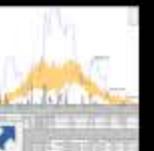
Latitude (DD): Longitude (-DD): Scope

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

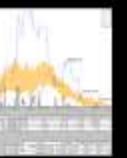
YYYY-MM-DD

1 [] . [] . [] + (Add)

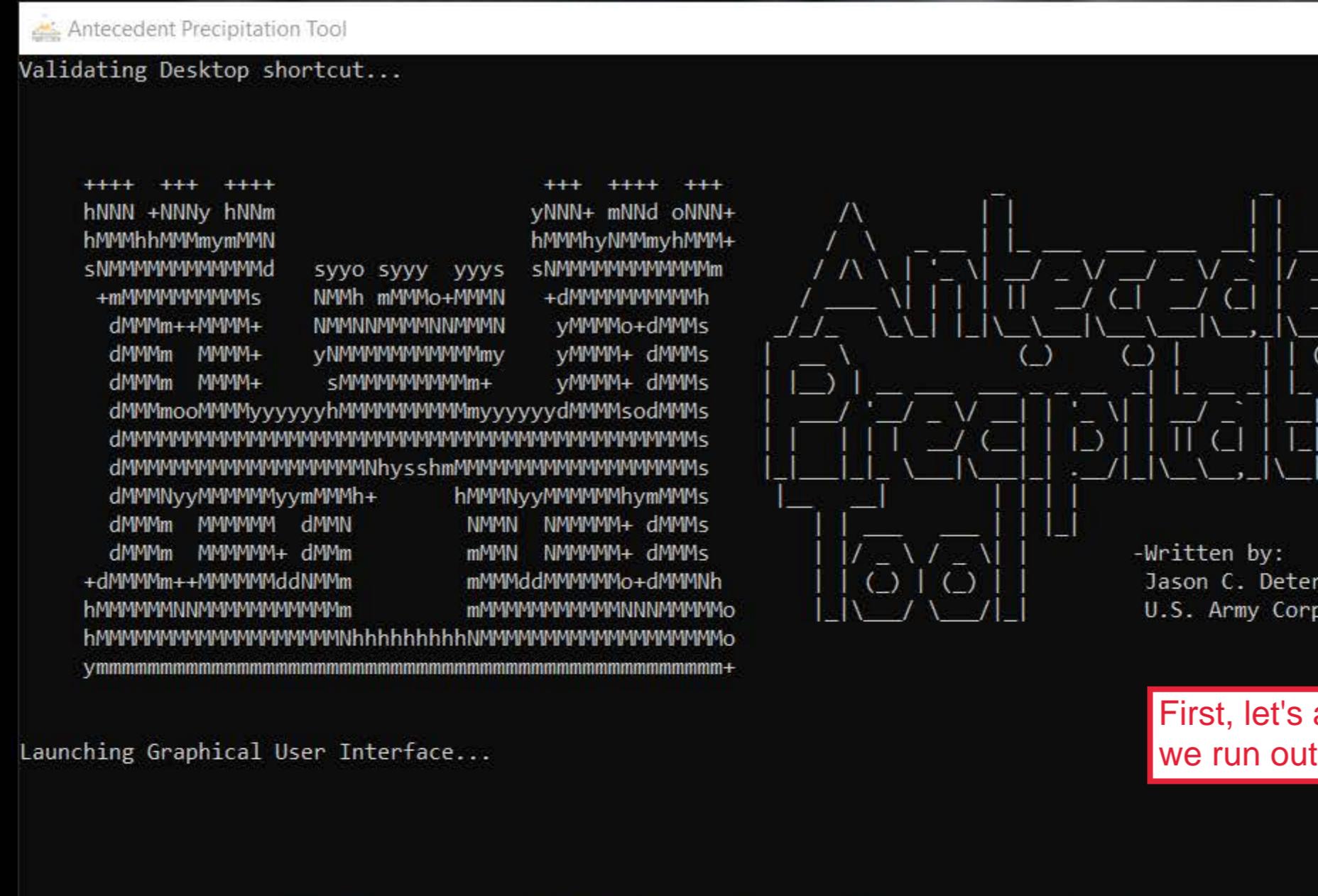
Calculate Switch to Date Range Quit



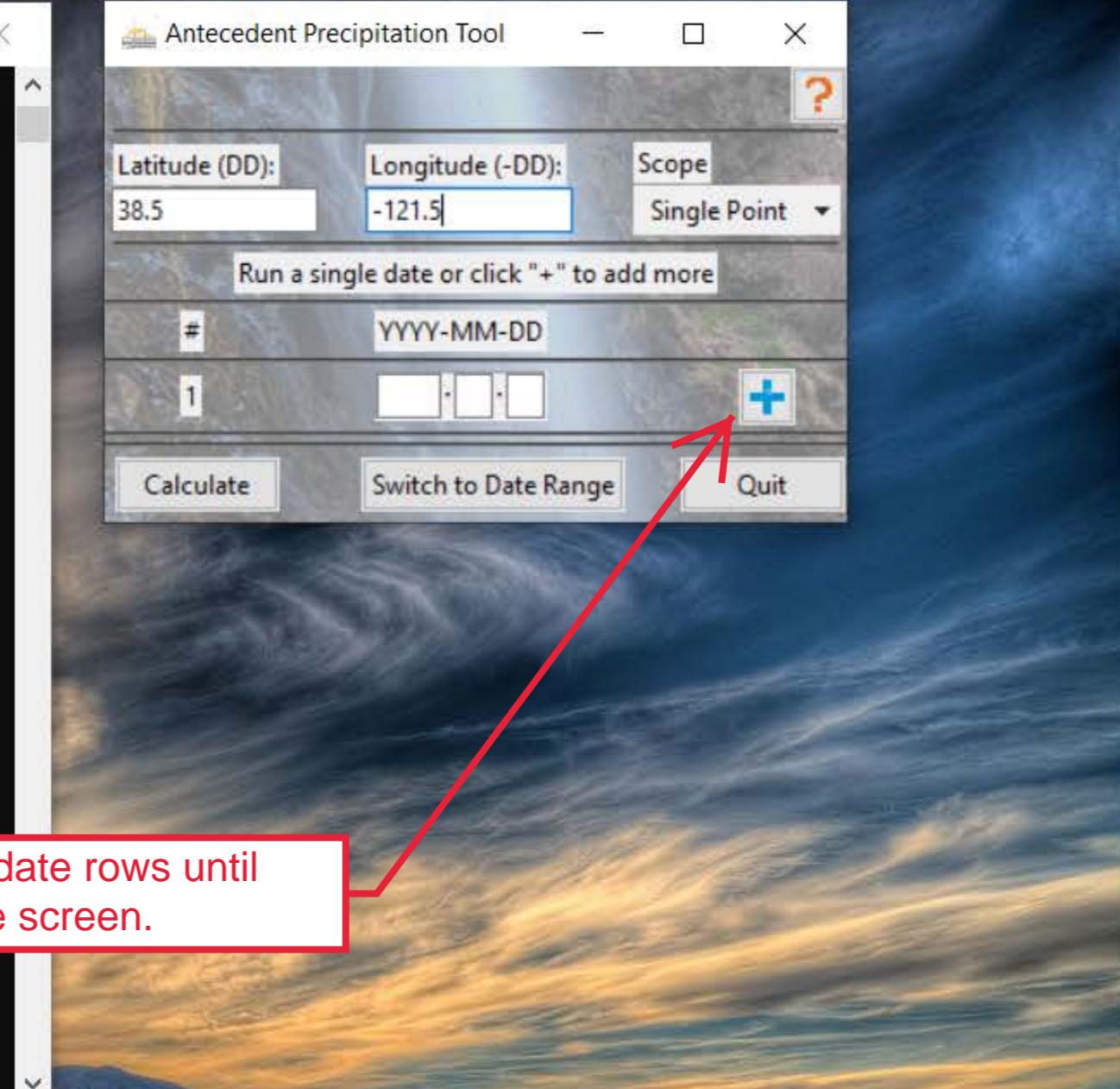
Antecedent Precipitati...



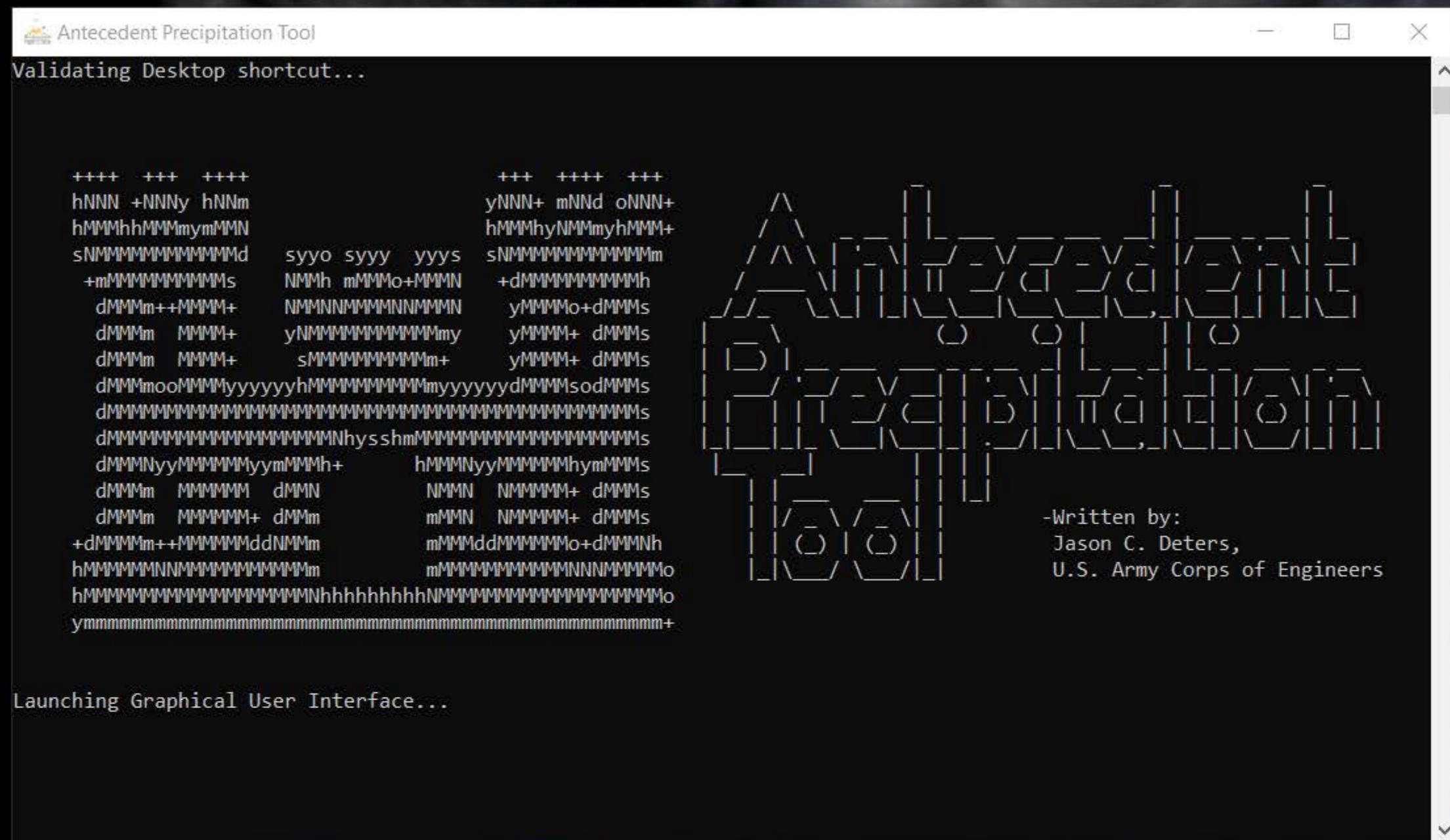
Antecedent Precipitati...



Launching Graphical User Interface...



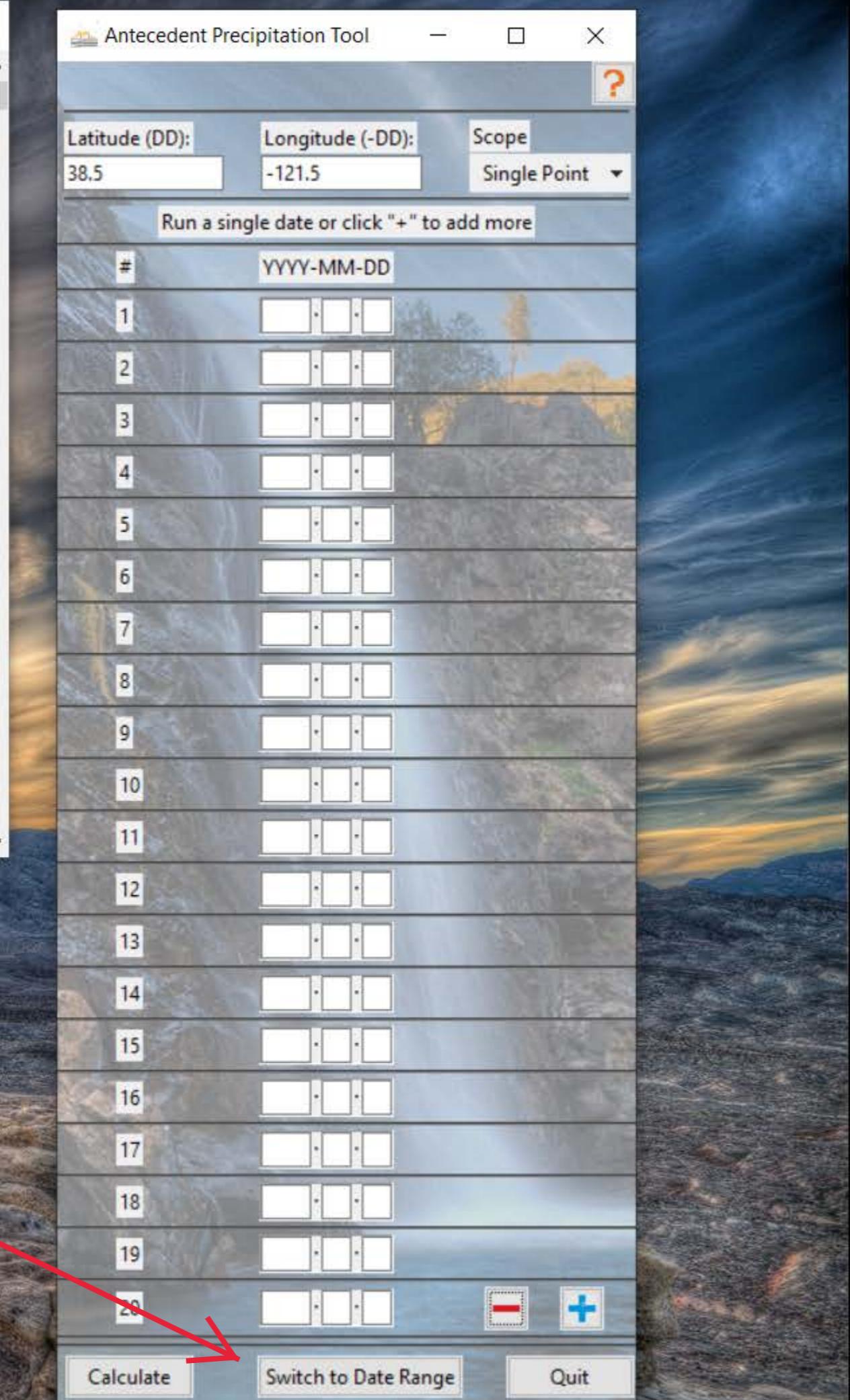
First, let's add additional date rows until we run out of room on the screen.

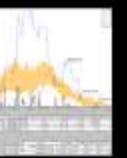


On a standard 1080P Monitor, the maximum number of date rows seems to be 20-21.

If you want to analyze more dates than this at once, you will need to switch to "CSV Input."

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





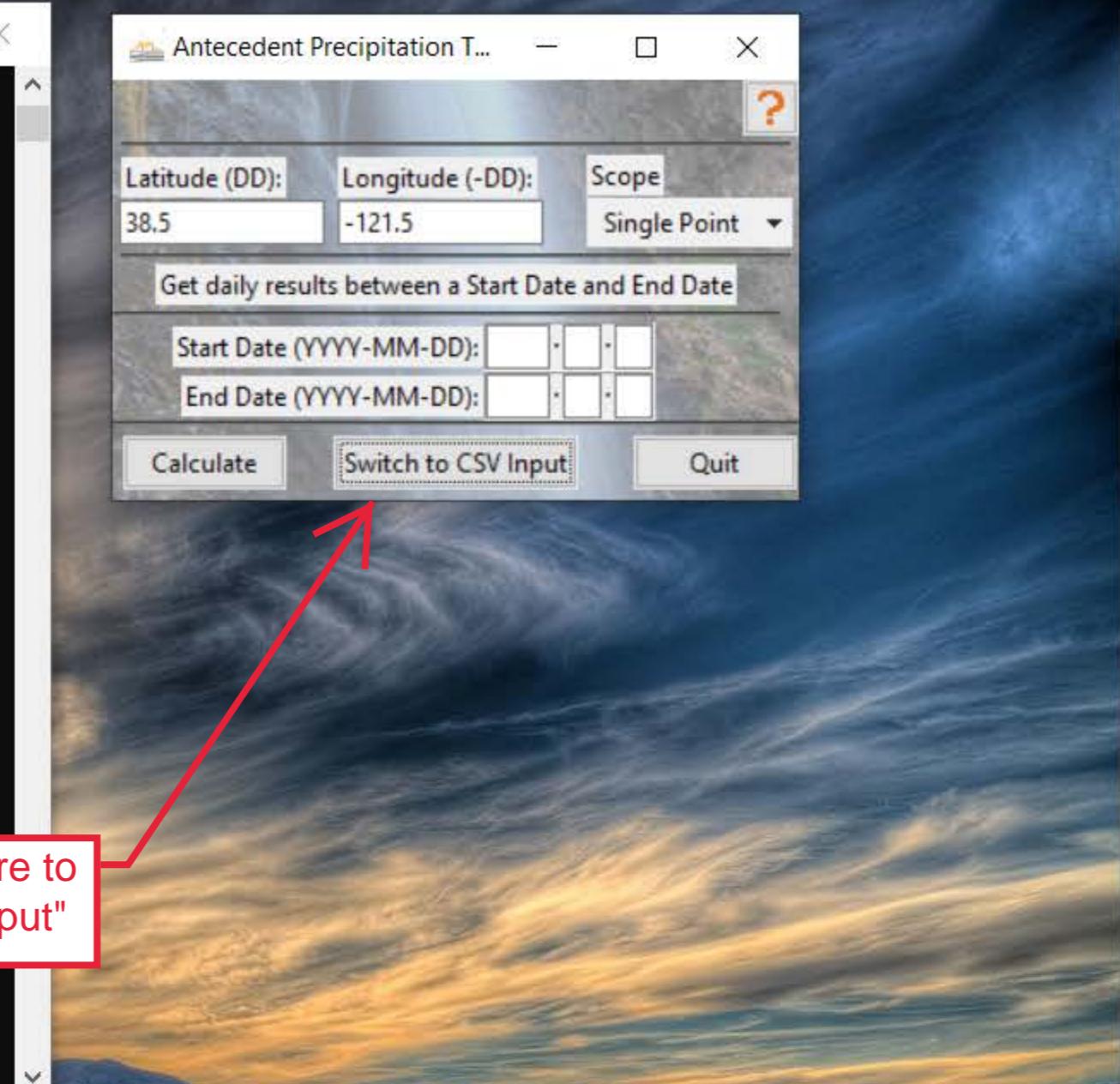
Antecedent Precipitati...



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"



Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm+++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyyhhMMMMMMMMMyyyyyydMMMsodMMMs
dMMMs
dMMMs
dMMMNyyMMMMMyymMMh+
dMMm MMMMM dMN
dMMm MMMMM+ dMM
+dMMm+++MMMMMdNMM
hMMMMNNMMMMMMMM
hMMMMNMhyyyyyhhh
ymm



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

Launching Graphical User Interface...



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

Use a CSV file to run many dates at once

CSV File Path:



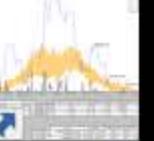
Calculate

Switch to Unique Dates

Quit



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.



Antecedent
Precipitati...



Validating Desktop shortcut...

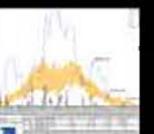
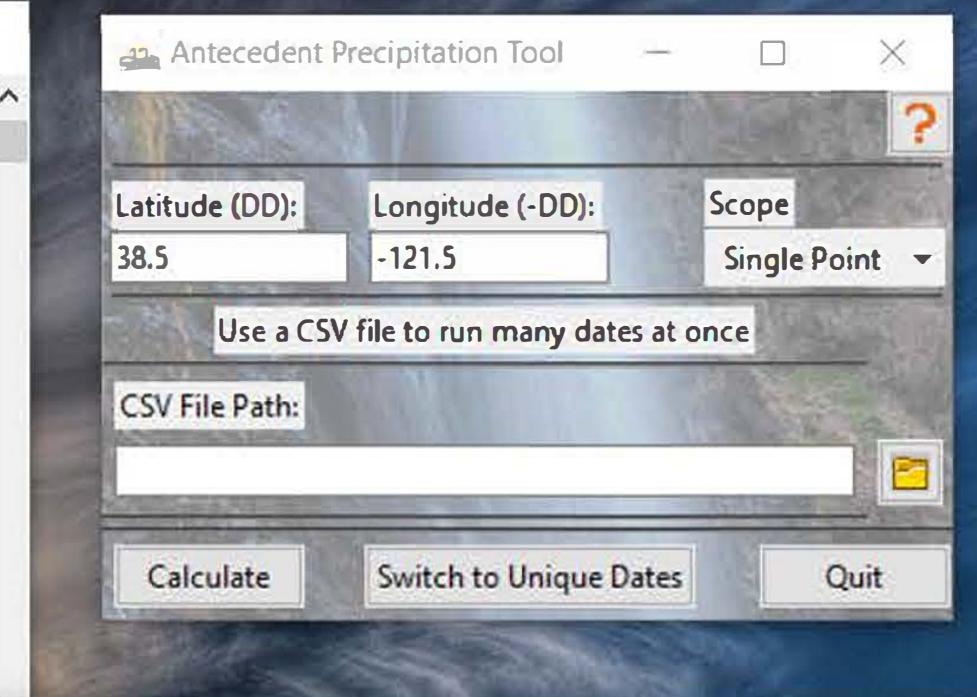
```
++++ +++ +++
hNNN +NNNy hNNm
hMMNhMMmymMMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyyhhMMMMMyyyyyydMMMsodMMMs
dMMMMMMMMMMMMMM
dMMMMMMMMMMMMMM
dMMNyMMMyymMM
dMMm MMM dMM
dMMm MMM+ dMM
+dMMm++MMMMddNMm
hMMMMNNNNMMMMMM
hMMMMMMMMMMMMMM
ymmmmmmmmmmmmmm
```

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

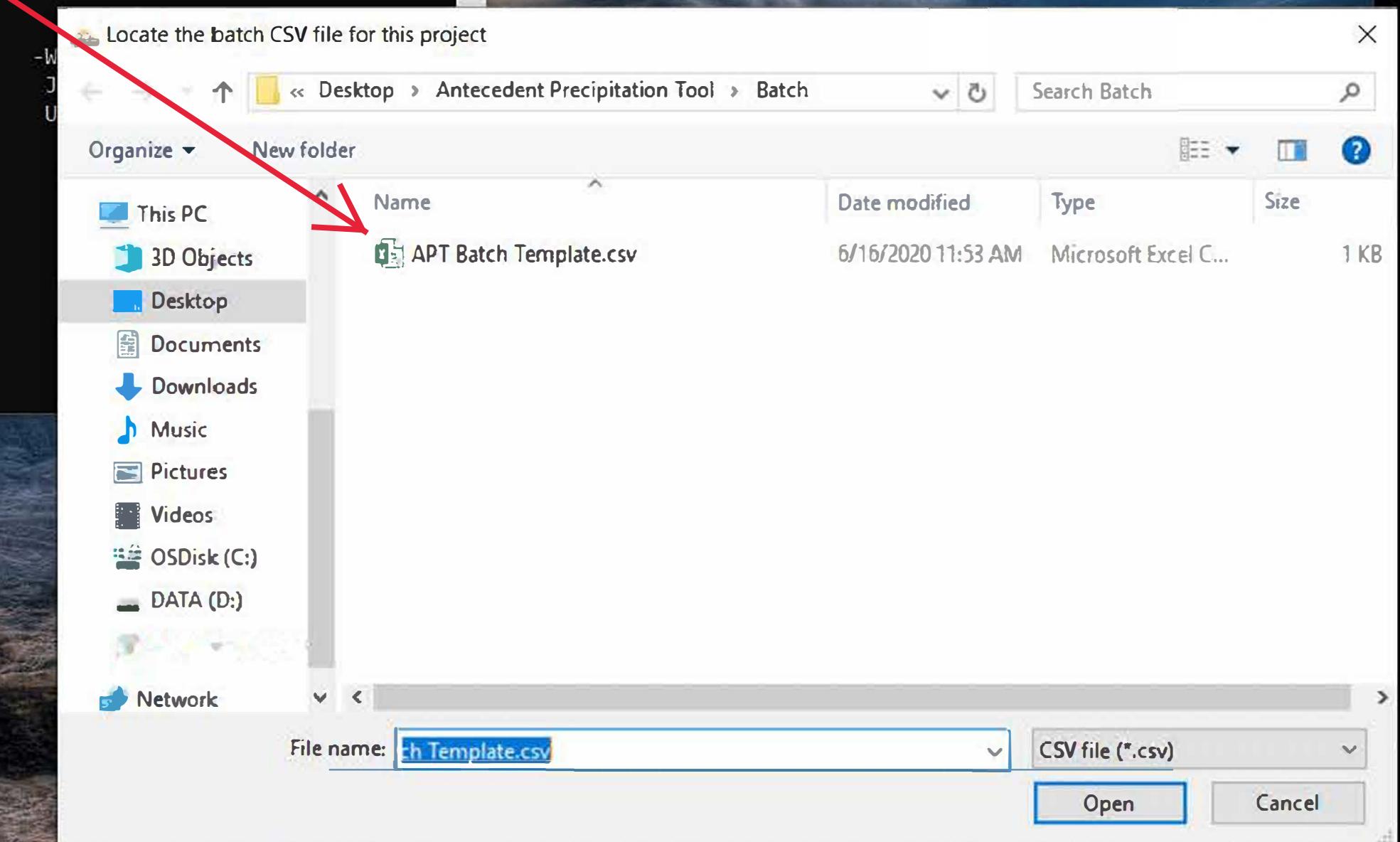
You can quickly edit this file and save it to serve as your Input CSV.

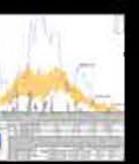
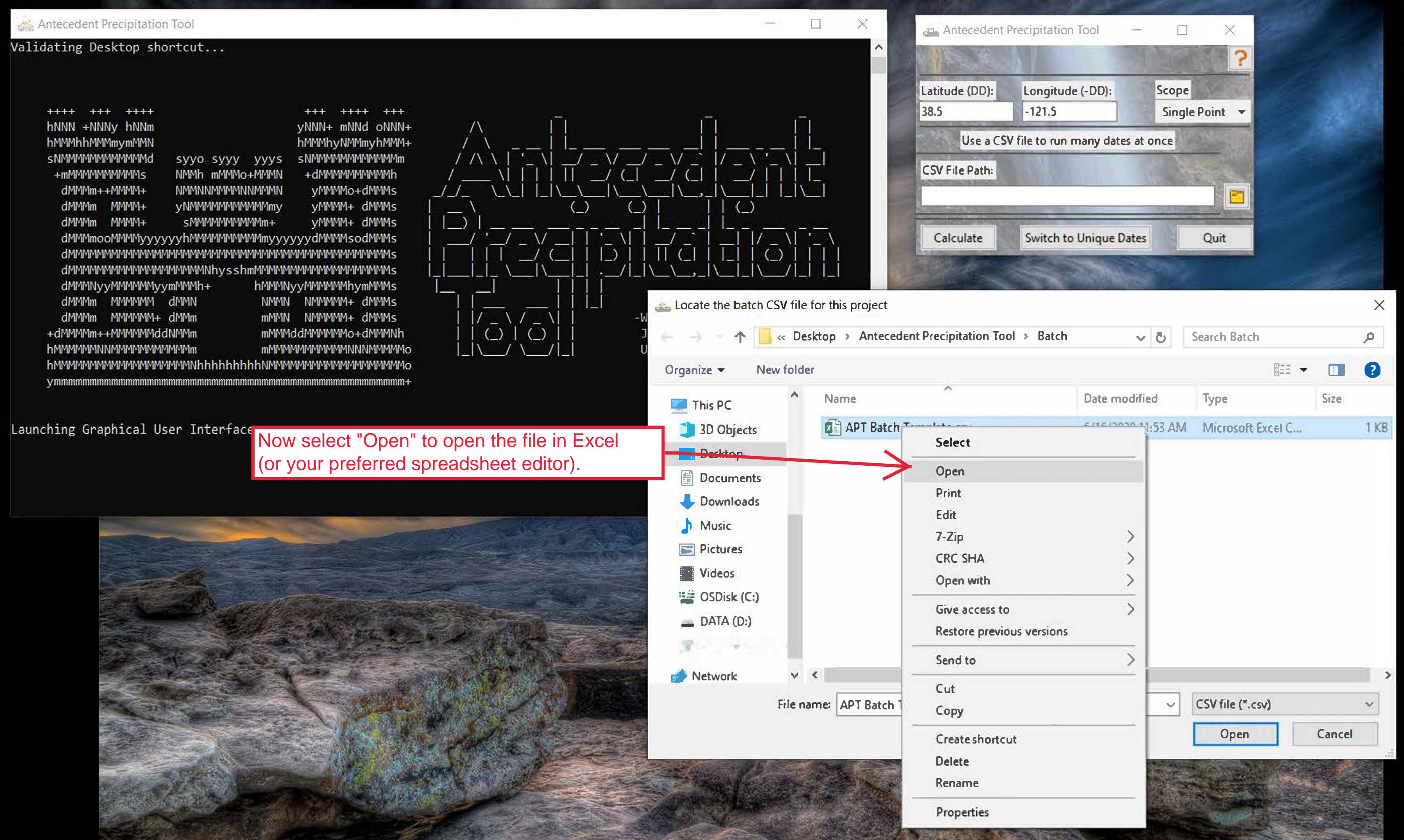
Start by right-clicking on the file.

Launching Graphical User Interface...

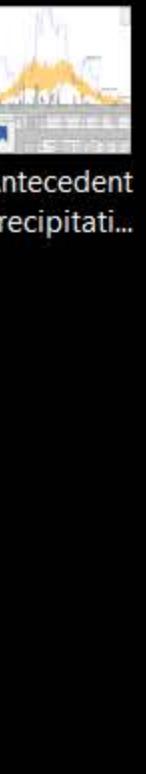
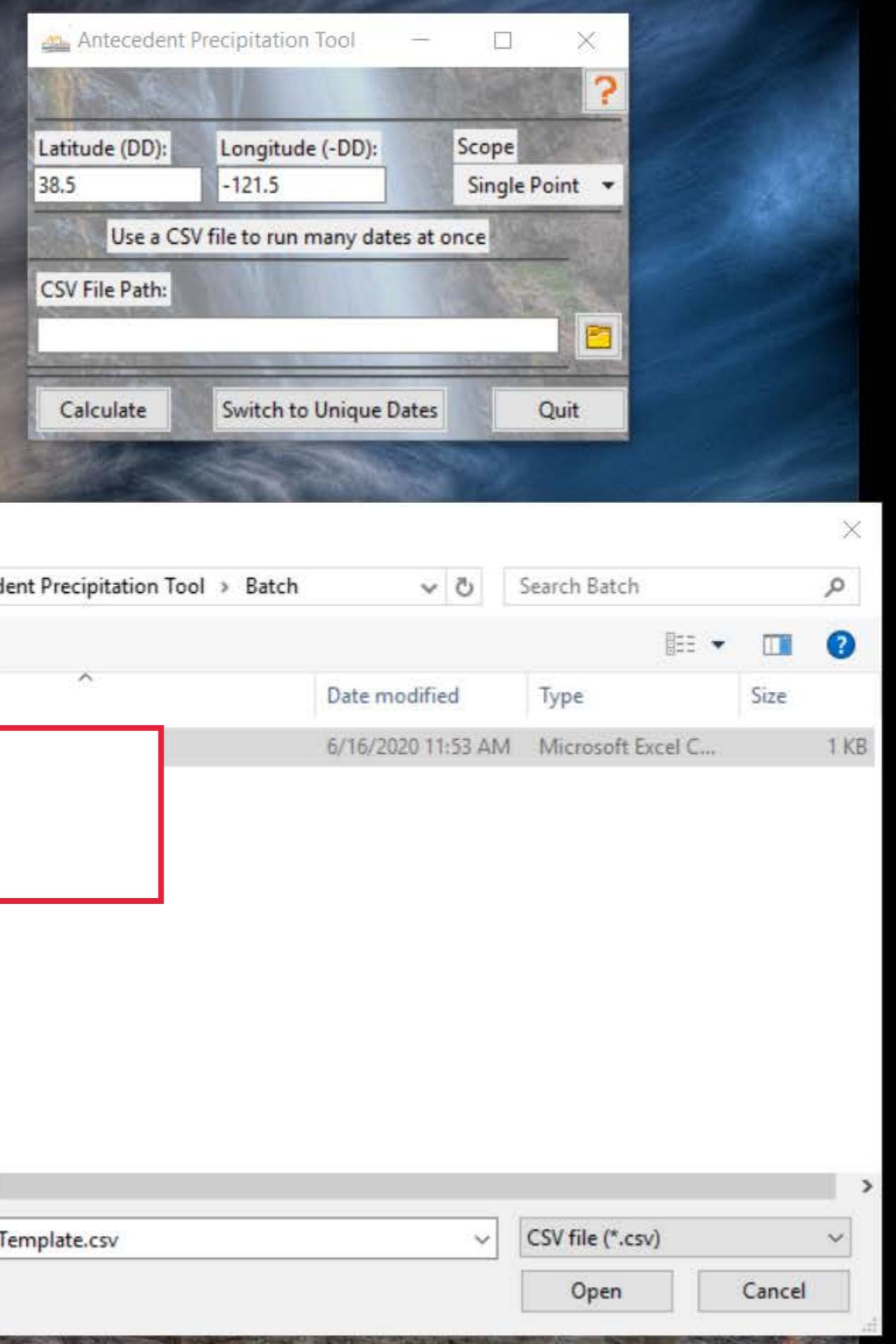
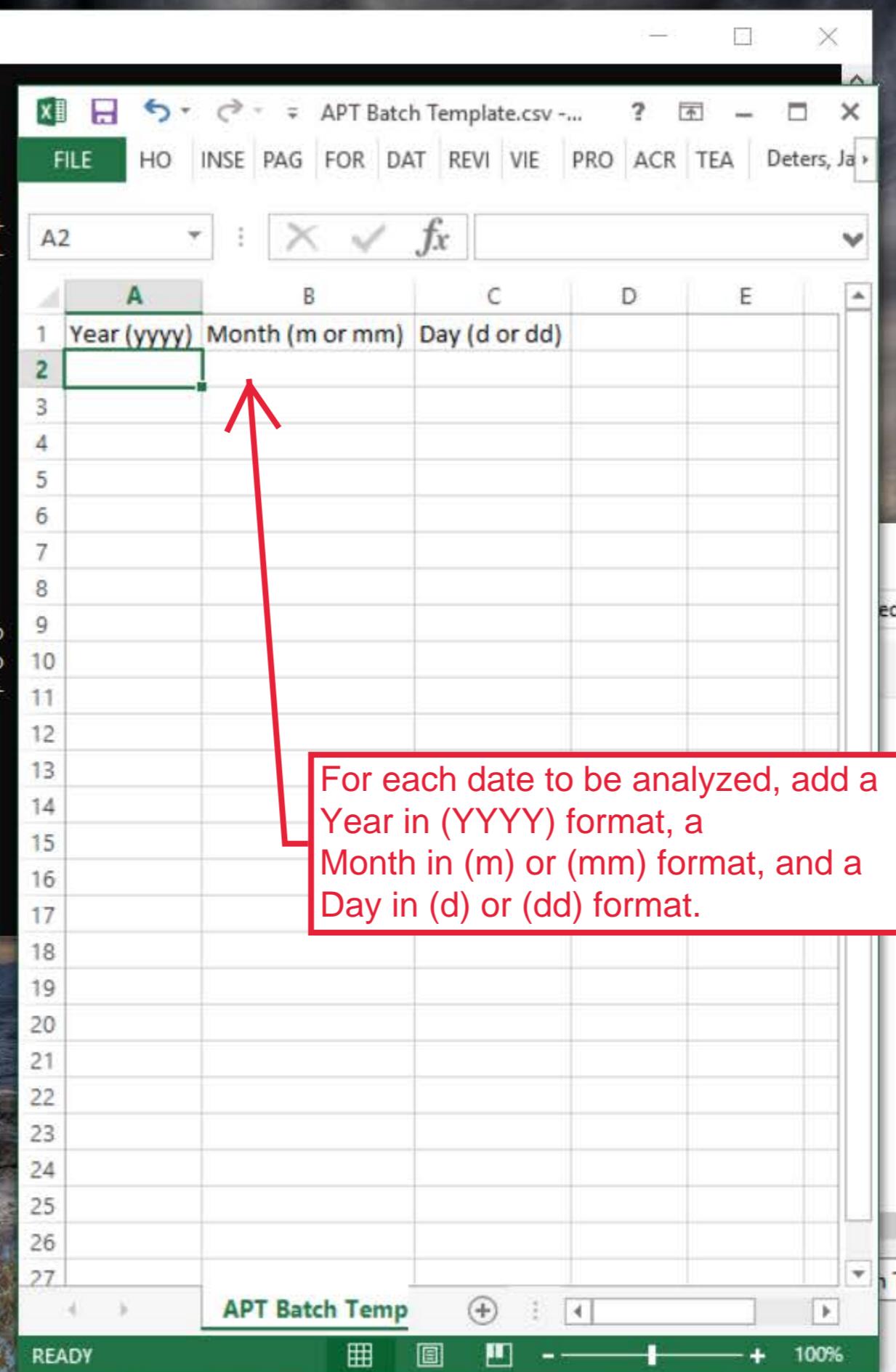
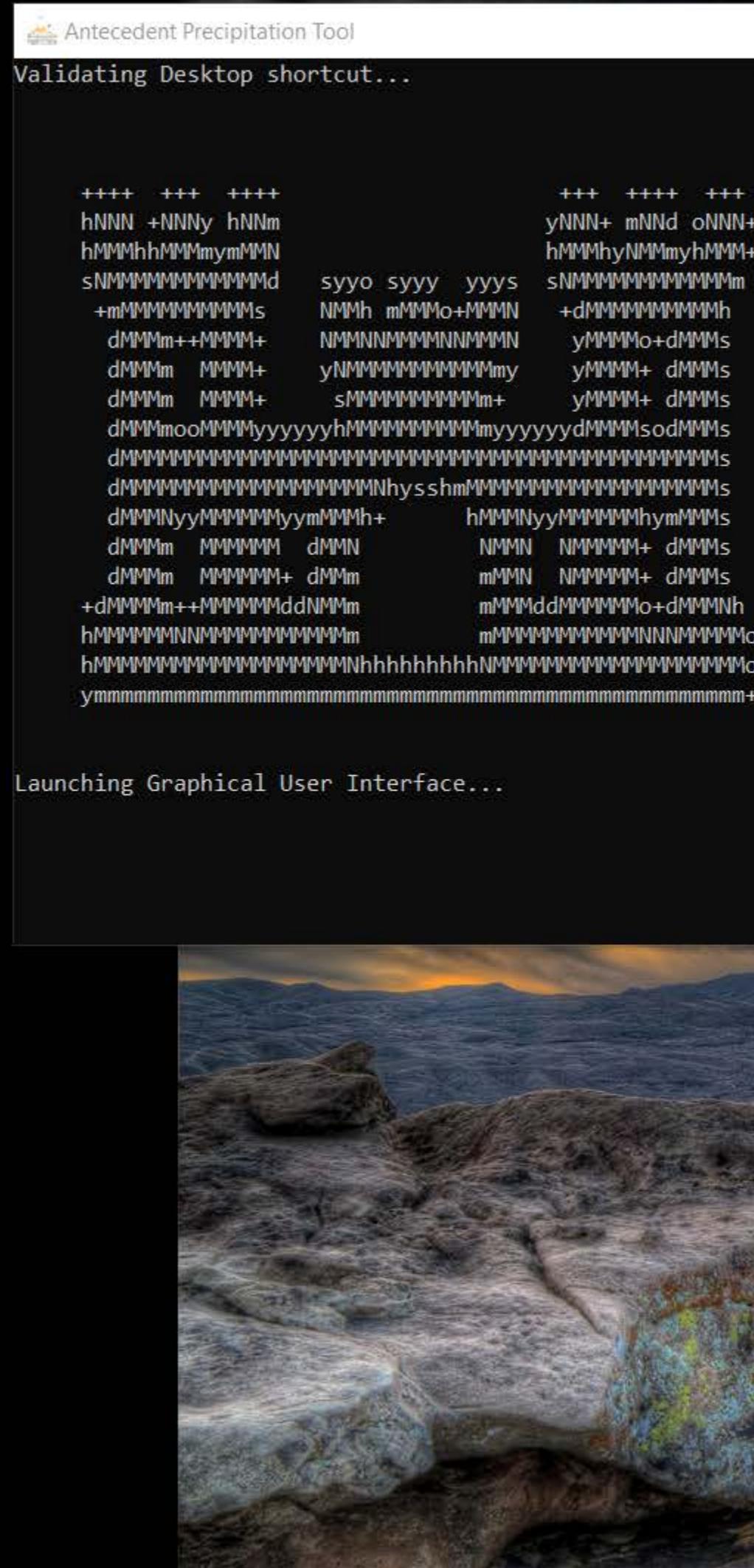


Antecedent
Precipitati...





Antecedent Precipitati...





Validating Desktop shortcut...

Once all desired dates are entered, save the file by first clicking the "File" button.

APT Batch Template.csv

	A	B	C	D	E
1					
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		

READY

APT Batch Template.csv

CSV file (*.csv)

Open Cancel

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

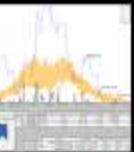
Use a CSV file to run many dates at once

CSV File Path:

Calculate Switch to Unique Dates Quit

edent Precipitation Tool > Batch Search Batch

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

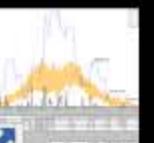
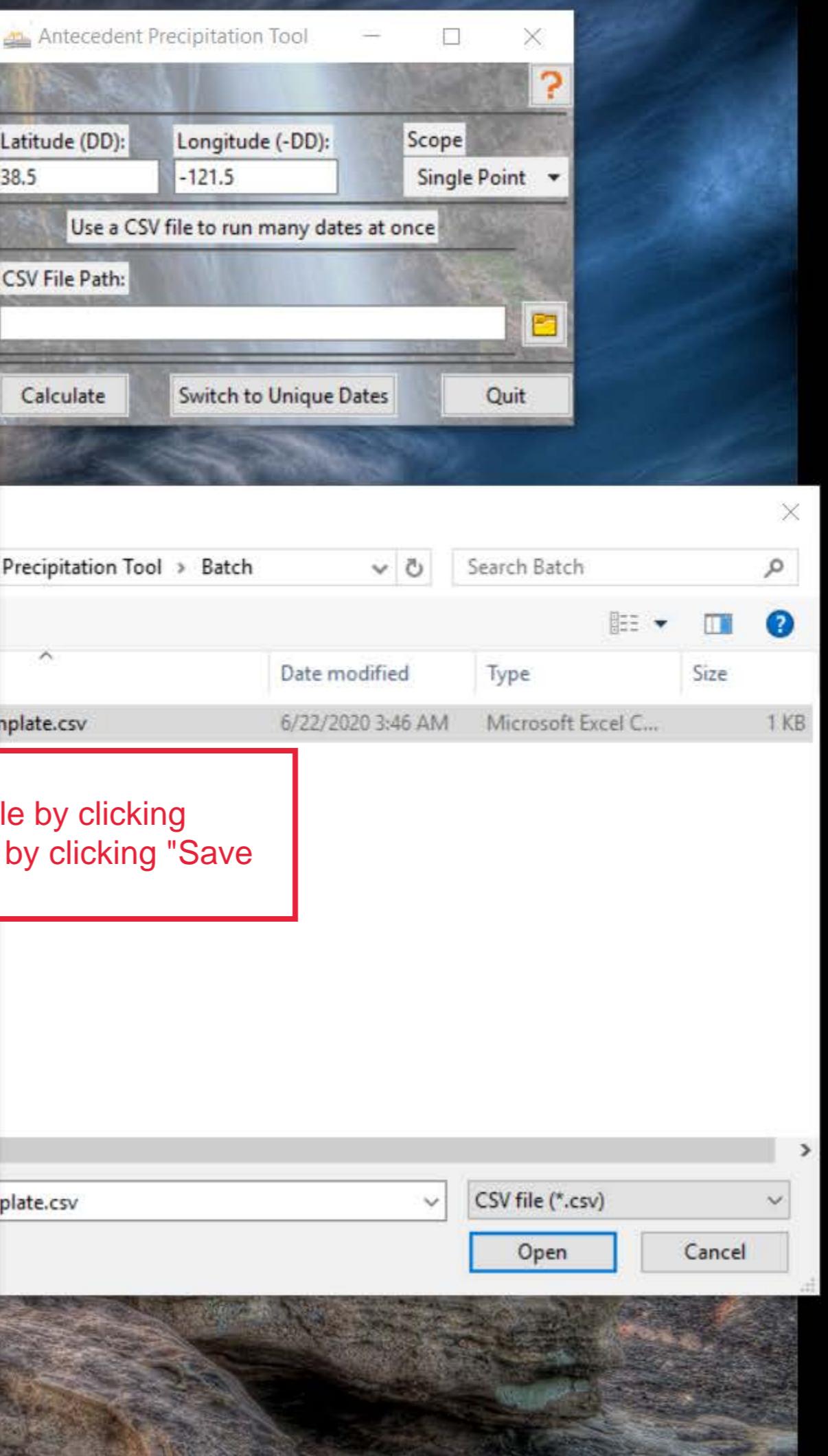
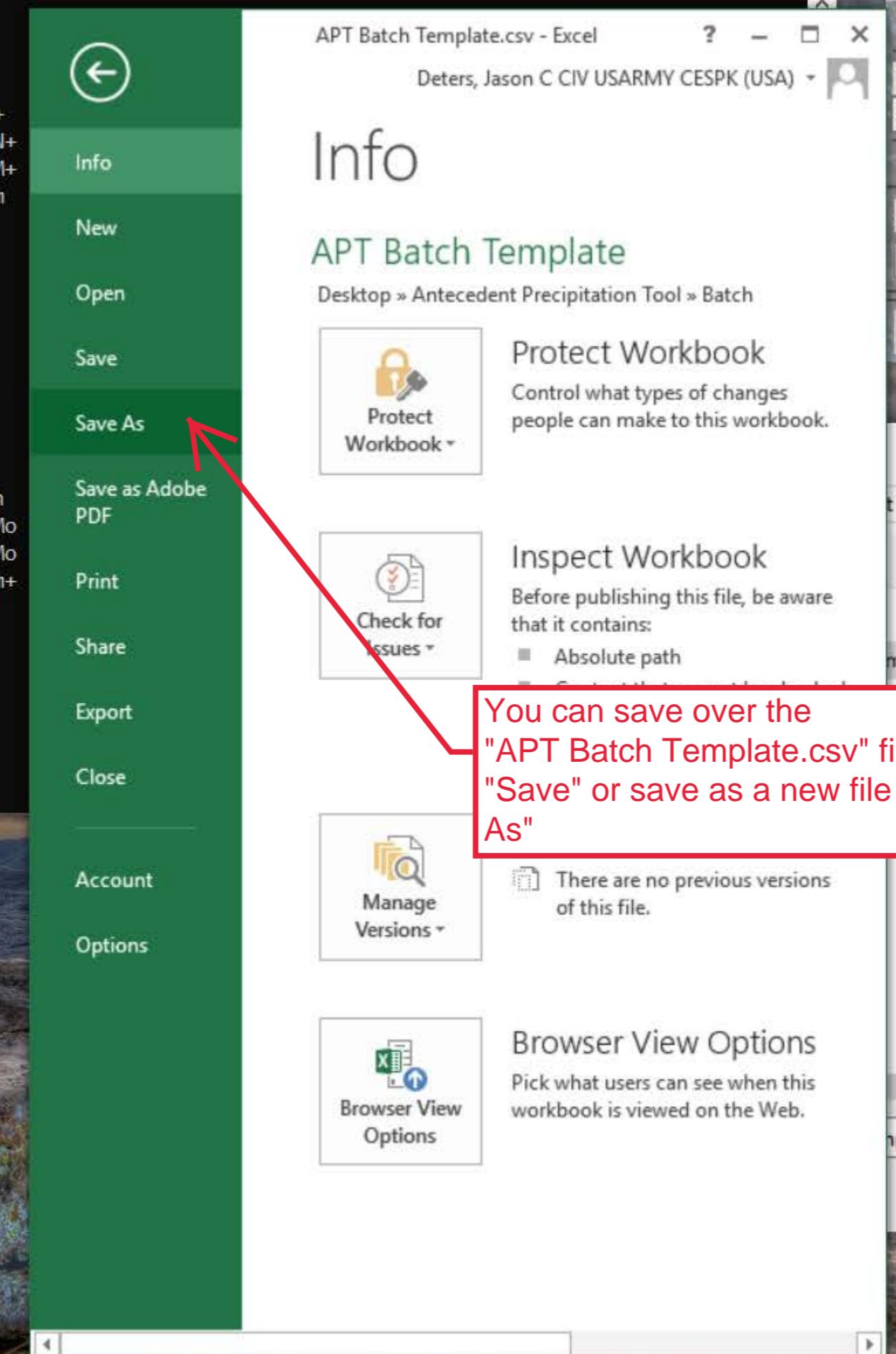


Antecedent
Precipitati...

Validating Desktop shortcut...

++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMMN
sNMMMMMMMMMMMd
+mMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMNs
dMMNyMMMMMyymMMh+
dMMm MMMMM dMN
dMMm MMMMM+ dMMm
+dMMm++MMMMMdNMMm
hMMMMMNMMMMMMMMm
hMMMMMMMMMMMMMMNNh
ymm+

Launching Graphical User Interface...

Antecedent
Precipitati...

Validating Desktop shortcut...

```
++++ +++ ++++
hNNN +NNNy hNNm      +++ ++++
yNNN+ mNNd oNNN+
hMMhMMmymMMN      hMMhyNMMyhMM+
sNMMMMMMMMMMMd      syyo syyy yyys
+mMMMMMMMMMMMs      NMMh mMMMo+MMMN
dMMm++MMMM+      NMMNMMMMNNMMN
dMMm MMM+      yNMMMMMMMMMMMy
dMMm MMM+      sMMMMMMMMMm+
dMMmooMMMyyyyyyyhMMMMMMMMMyyyyyy
dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMhysshMMMMMMMMMMMs
dMMMNyyMMMMMyymMMh+      hMMNyyMMMMMyhmMMs
dMMm MMMMM dMMN      NMMN NMMMM+ dMMMs
dMMm MMMMM+ dMMm      mMMN NMMMM+ dMMMs
+dMMm++MMMMMdNNMm      mMddMMMMMo+dMMNh
hMMMMMNMMNNMMMMNm      mMmmMMMMNNNNMMMo
hMMMMMMMMMMMMNNhhhhhNMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+
```

Launching Graphical User Interface...



Save As

OSDisk (C:) > Users > L2RCSJ9D > Desktop > Antecedent Precipitation Tool > Batch

Organize New folder

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

Quick access

- ~Resources
- Links
- Regulatory
- delete
- Desktop
- Downloads
- Documents
- Pictures

Microsoft Excel

- This PC
- 3D Objects
- Desktop
- Documents
- Downloads
- Music
- Pictures

Videos

- OSDisk (C:)
- DATA (D:)

Network

File name: APT Batch Template.csv

Save as type: CSV (Comma delimited) (*.csv)

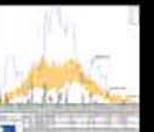
Authors: Deters, Jason C CIV US...

Tags: Add a tag

Title: Add a title

Tools Save Cancel

Modify the file name to some degree to avoid saving over the template.

Antecedent
Precipitati...

Validating Desktop shortcut...

```
+++ +++ +++
hNNN +NNNy hNNm      +++ ++++
yNNN+ mNNd oNNN+
hMMhMMmymMN
sNMMMMMMMMMMMd syyo syyy yyys
+mMMMMMMMMMMMs NMMh mMMMo+MMN
dMMm++MMMM+ NMMNMMMNMMN
dMMm MMM+ yNMMMMMMMMMMMy
dMMm MMM+ sMMMMMMMMMm+
dMMmooMMMyyyyyyyhMMMMMMMMMyyyyyy
dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM
dMMMMMMMMMMMMMMMMMMhysshMM
dMMNyMMMyymMMh+ hMMNyMMMyhmMMs
dMMm MMM dMMN NMMN NMMMM+ dMMMs
dMMm MMM+ dMMm mMMN NMMMM+ dMMMs
+dMMm++MMMMMdNMMm mMddMMMMMo+dMMNh
hMMMMNNMMNNMMNNMMMo
hMMMMNMhyyyyyhhhNNMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+
```

Launching Graphical User Interface...



Save As

OSDisk (C:) > Users > L2RCSJ9D > Desktop > Antecedent Precipitation Tool > Batch

Organize New folder

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

Quick access

- ~Resources
- Links
- Regulatory
- delete
- Desktop
- Downloads
- Documents
- Pictures

Microsoft Excel

- This PC
- 3D Objects
- Desktop
- Documents
- Downloads
- Music
- Pictures

Videos

- OSDisk (C:)
- DATA (D:)

Network

File name: Example - APT Batch Template.csv

Save as type: CSV (Comma delimited) (*.csv)

Authors: Deters, Jason C CIV US...

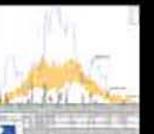
Tags: Add a tag

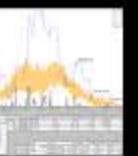
Title: Add a title

Tools

Save Cancel

Click the "Save" button.

Antecedent
Precipitati...



Antecedent Precipitation

 Antecedent Precipitation Tool

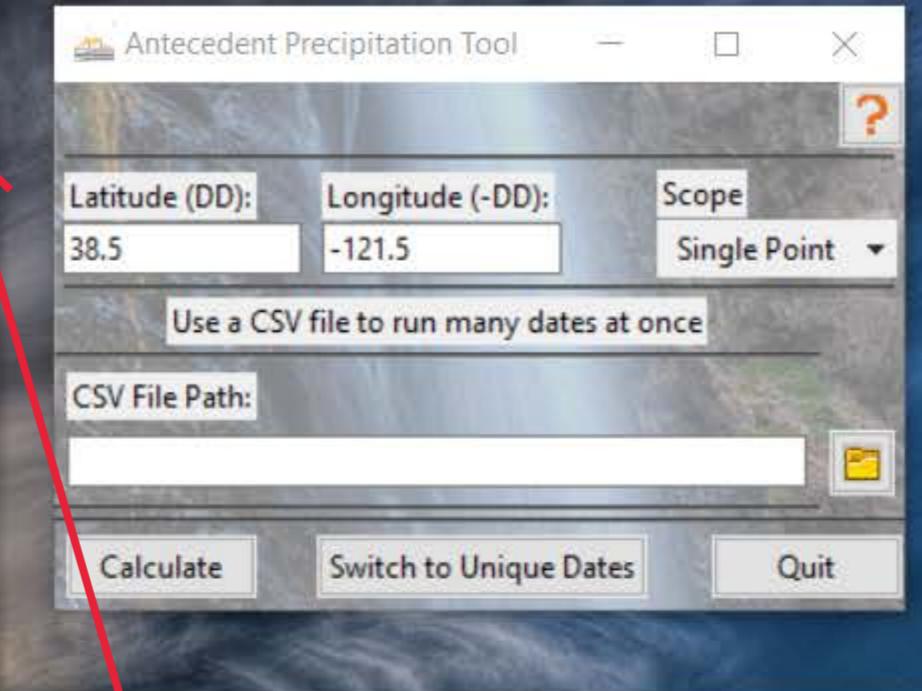
Validating Desktop shortcut...

Launching Graphical User Interface...

Example - APT Batch Te... ? - + Deter

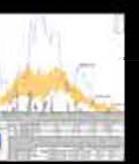
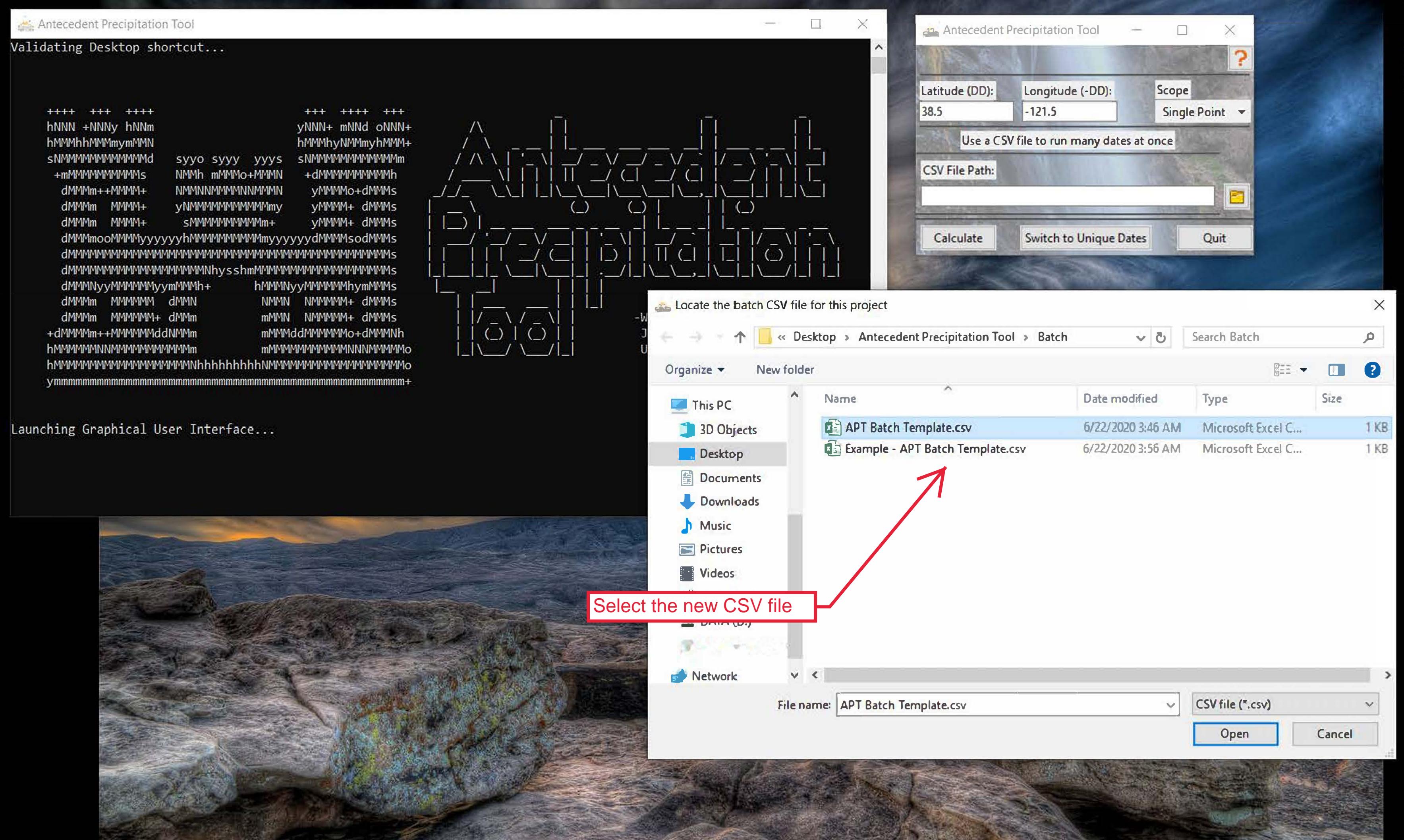
	A	B	C	D	E
2	1967	10	31		
3	1969	1	22		
4	1972	4	10		
5	1972	9	2		
6	1973	3	15		
7	1973	5	18		
8	1978	3	7		
9	1979	2	2		
10	1980	6	5		
11	1982	5	28		
12	1986	1	1		
13	1986	4	22		
14	1987	11	12		
15	1989	12	15		
16	1990	2	14		
17	1990	5	11		
18	1990	9	13		
19	1991	2	4		
20	1991	4	8		
21	1991	11	29		
22	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		
32					

READY

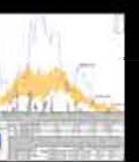
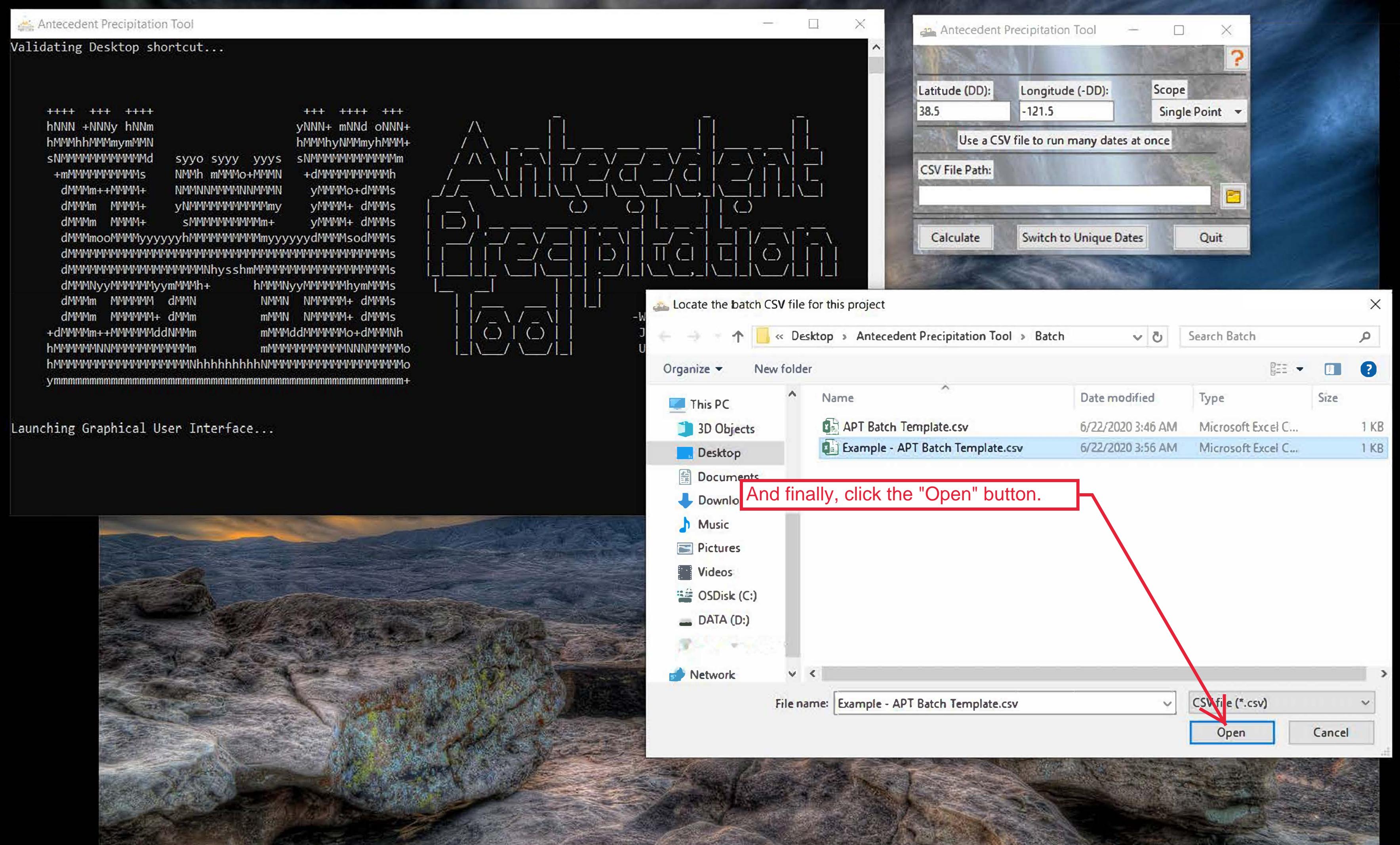


File	Date modified	Type	Size
Batch Template.csv	6/22/2020 3:46 AM	Microsoft Excel C...	1 KB
APT Batch Template.xlsx	6/22/2020 3:55 AM	Microsoft Excel C...	1 KB

Close the CSV



Antecedent Precipitati...

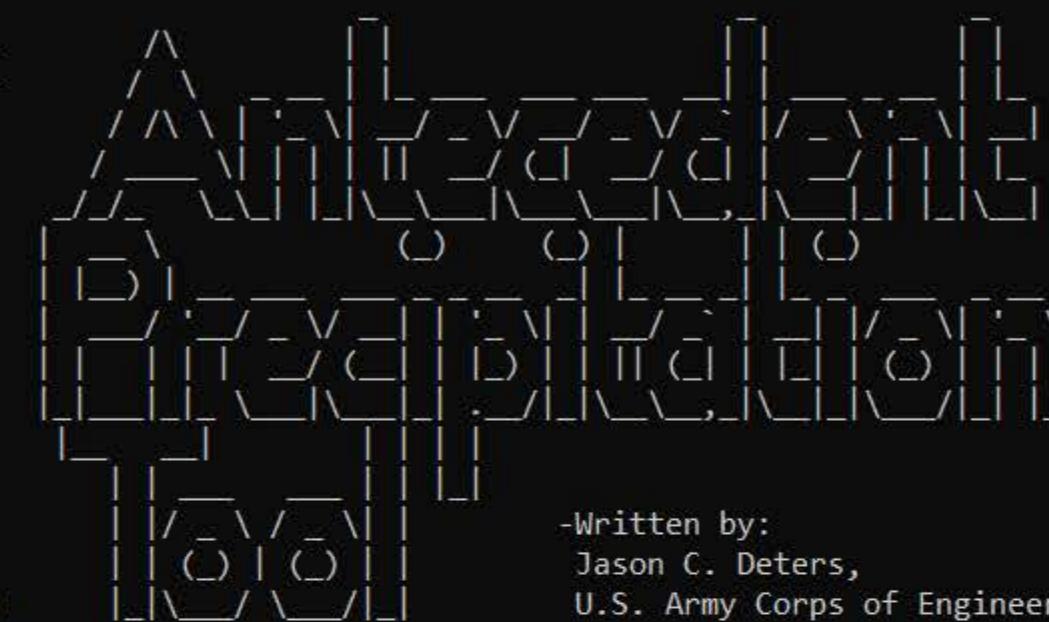


Antecedent Precipitati...



Validating Desktop shortcut...

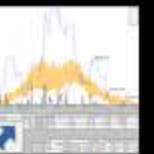
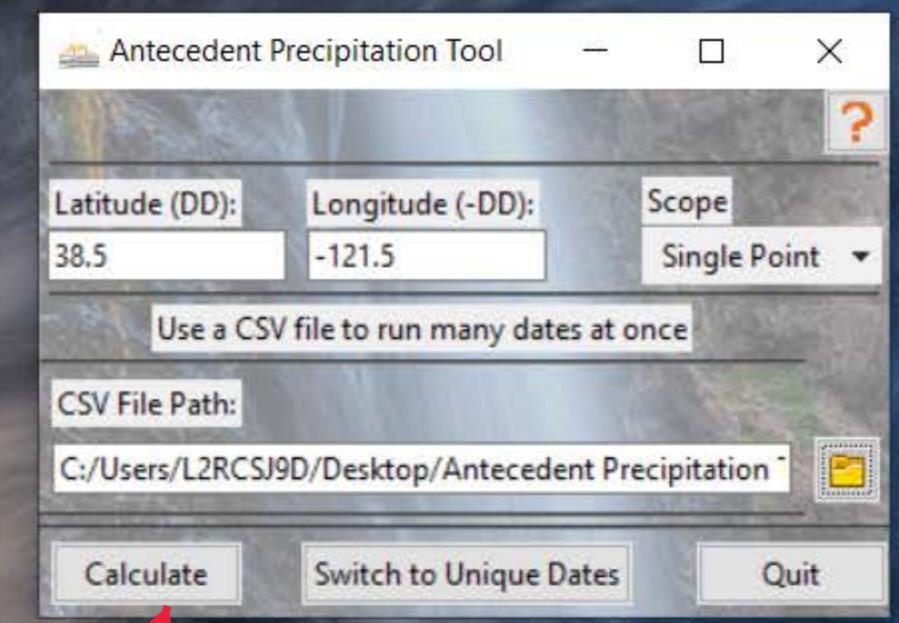
++++ +++ +++++
hNNN +NNNy hNNm
hMMhMMmymMN
sNMMMMMMMMMMMd
+mMMMMMMMMMs
dMMm++MMMM+
dMMm MMM+
dMMm MMM+
dMMmooMMMyyyyyy hMMMMMMMMMyyyyyy dMMMsodMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMs
dMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMNs
dMMNyyMMMMMyymMMh+ hMMNyyMMMMMyhmMMs
dMMm MMMMM dMN
dMMm MMMMM+ dMM
+dMMMm++MMMMMdNMM
hMMMMMNMMMMMMNm
hMMMMNMhyyyyy hhhhNNMMMMMMMMMMMMMMMo
ymmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm+



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

Launching Graphical User Interface...

Now, when you 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...

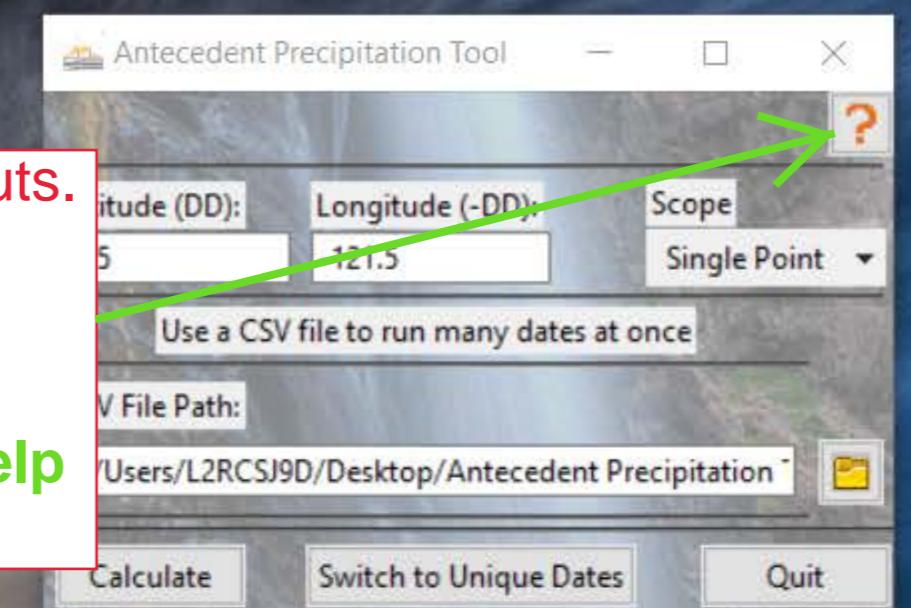
Opening finalPDF in new process...

Attempting to delete temporary files...

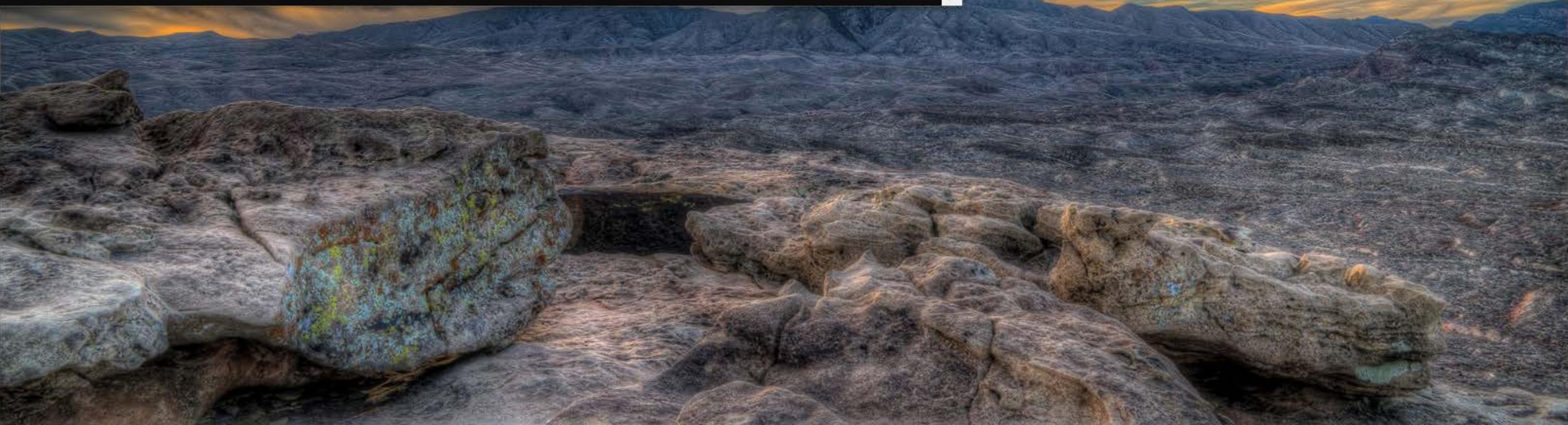
All tasks took 1 minutes and 7 seconds to complete

Ready for new input.

This walkthrough skips right to the outputs.
For more information on what happens
between the "Calculate" button and the
outputs, see "How to generate a single-
point analysis for a given date" in the **Help
Menu**.



Antecedent
Precipitati...



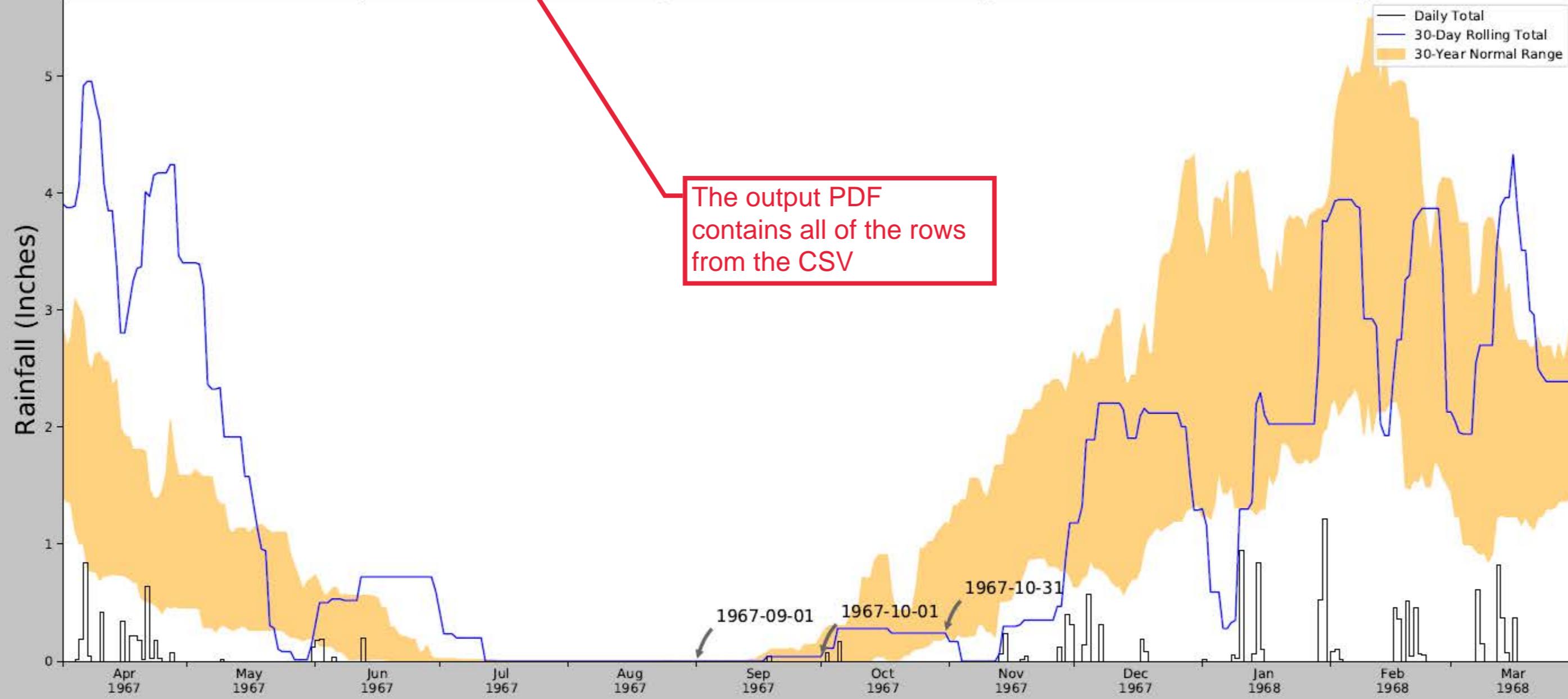


1 / 30

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

Antecedent
Precipitati...

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	

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.



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

Outputs for the CSV dates are presented in tabular format as well.

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	0	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:)

Network

33 items 1 item selected



Station Data



(38.5, -121.5) Batch Result.pdf



1969-01-22.pdf



1972-09-02.pdf



1973-05-18.pdf



1979-02-02.pdf



1982-05-28.pdf



1986-04-22.pdf



1989-12-15.pdf



1990-05-11.pdf



1991-02-04.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



(38.5, -121.5) Batch Result.csv



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



1994-08-26.pdf



1995-12-19.pdf



1997-04-12.pdf

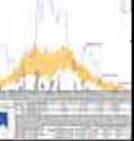


1998-09-02.pdf



2001-03-10.pdf

Finally, the output folder is opened so the user knows where their data were saved.



Antecedent
Precipitati...