

How to Generate a Single-point Analysis for a Single Date



**US Army Corps
of Engineers®**



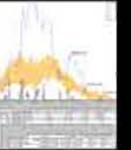
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



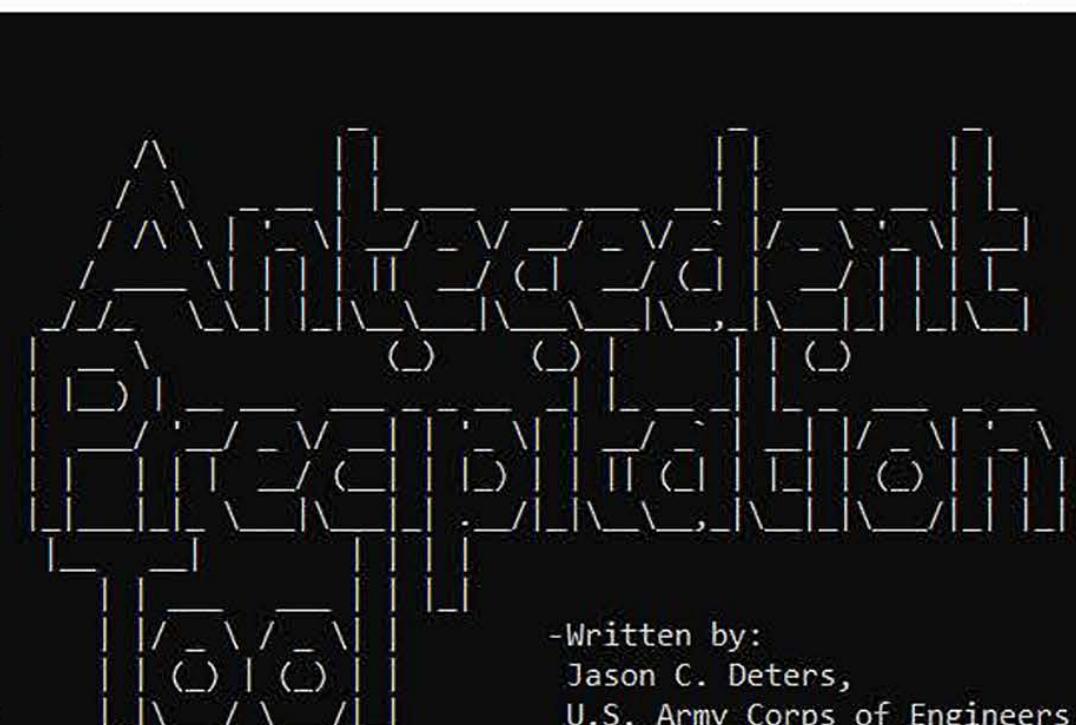
Double-click the APT
Desktop Shortcut

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```
++++ +++ +++
hNNN +NNNy hNNm
hMMMhhMMMyMmMMN
sNMMMMMMMMMMMd
+mMMMMMMMMMMMs
dMMMm++MMMM+
dMMMm MMM+ +
dMMMs MMM+
dMMMo+MMMM
yNMMMMMMMMMMMy
yNMMMMMMMMMMMy
sMMMMMMMMMMm+
dMMMooyMMMMyyymMMh+
dMMMs MMM dMMN
dMMMs MMM+ dMMm
+dMMMs++MMMMddNMMm
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hMMMMNNMMMMMMMMNm
yMMMMNNMMMMNNNNMMMo
```

```
+++ +++ +++
yNNN+ mNNd oNNN+
hMMMyhNMMyhMM+
sNMMMMMMMMMMMs
+dMMMMMMMMMMh
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yMM+ dMMMs
yMM+ dMMMs
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yMM+ dMMMs
dMMMo+dMMMs
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yMM+ dMMMs
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mMN NMM+ dMMMs
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mMMddMMMMMo+dMMNh
mMMddMMMMMo+dMMNh
mMMddMMMMMo+dMMNh
```



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



User License Agreement - Antecedent Precipitation Tool

Please review and accept the user license agreement to proceed

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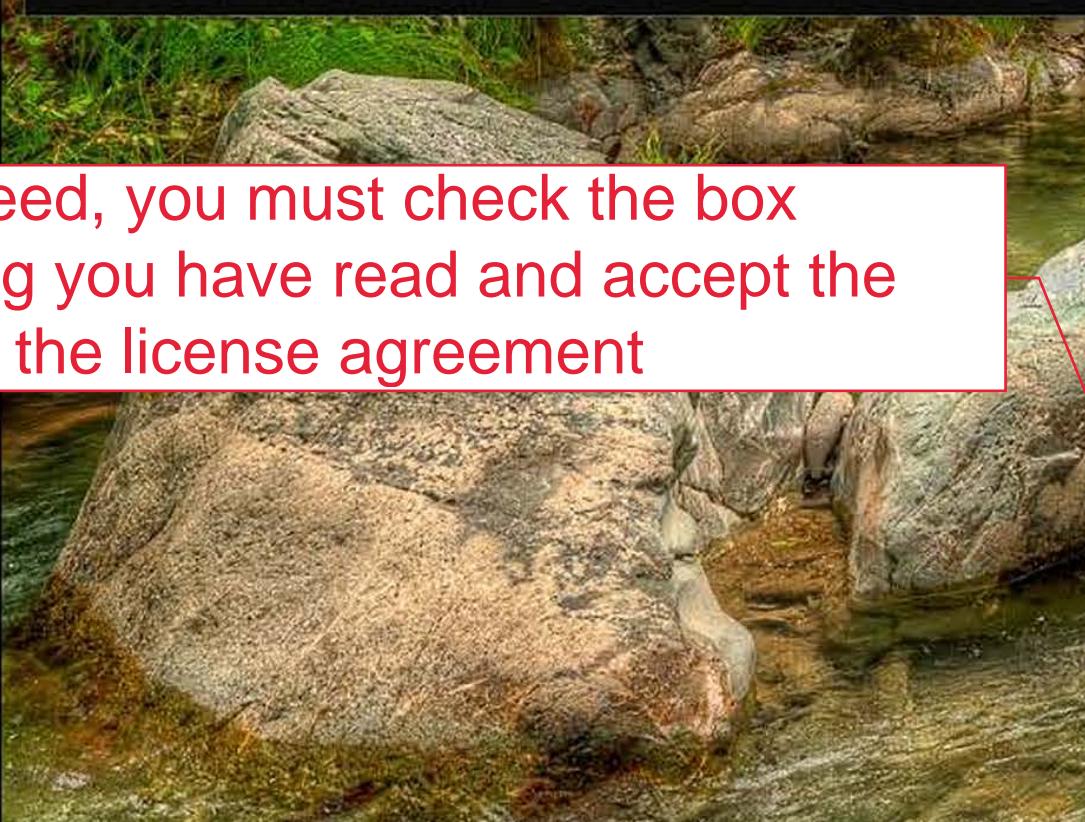
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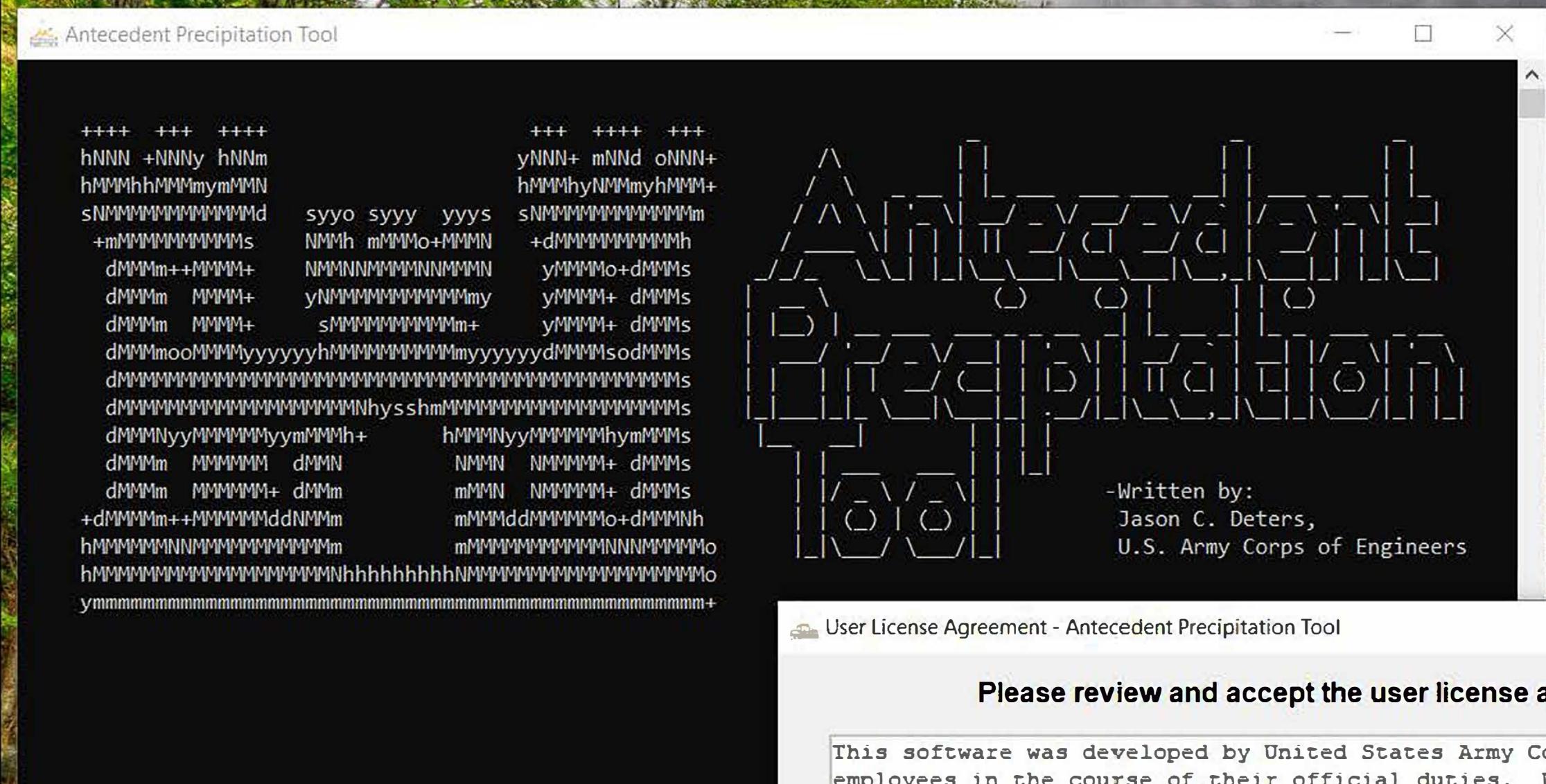
I have read and accept the terms of the license agreement

Submit

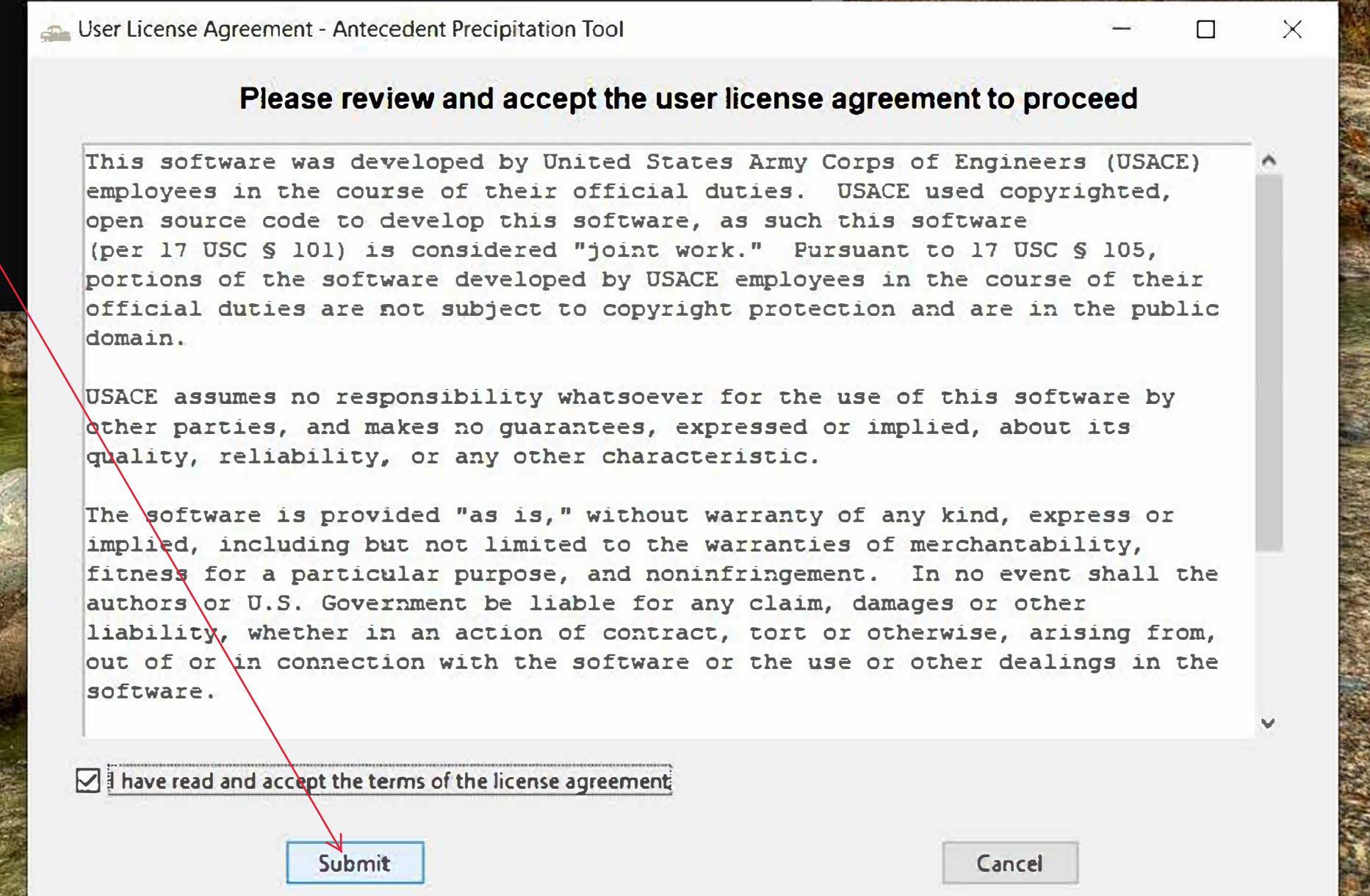
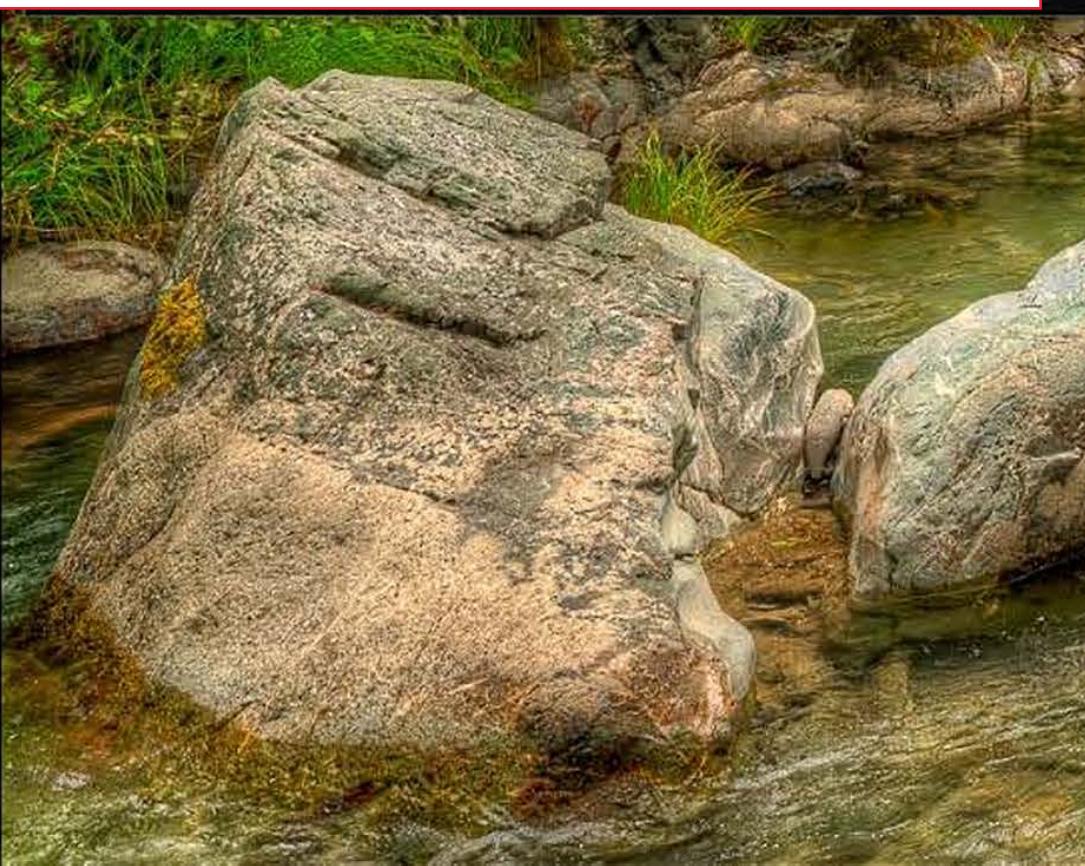
Cancel

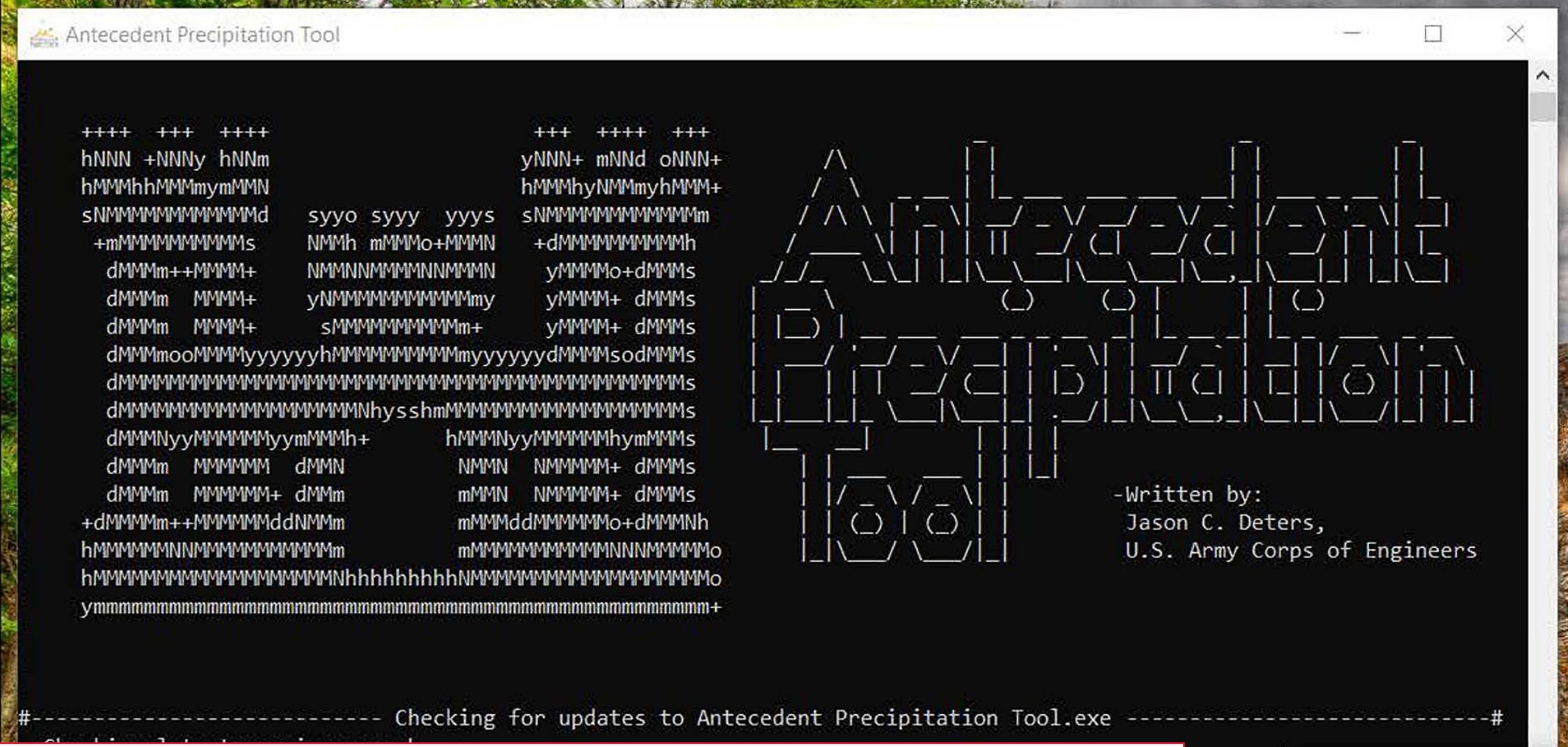
To proceed, you must check the box indicating you have read and accept the terms of the license agreement





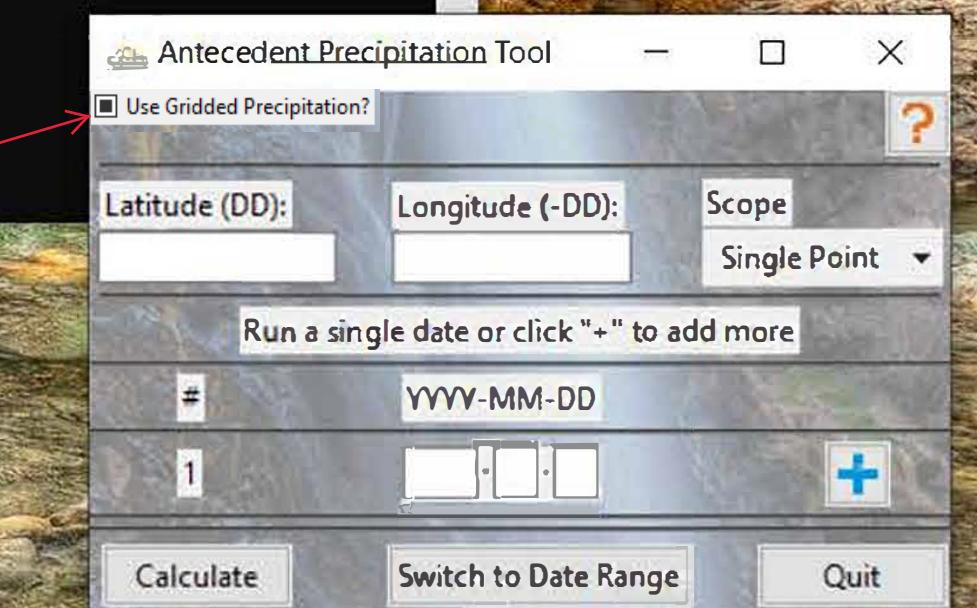
Once the agreement is checked, you can click the "Submit" button.

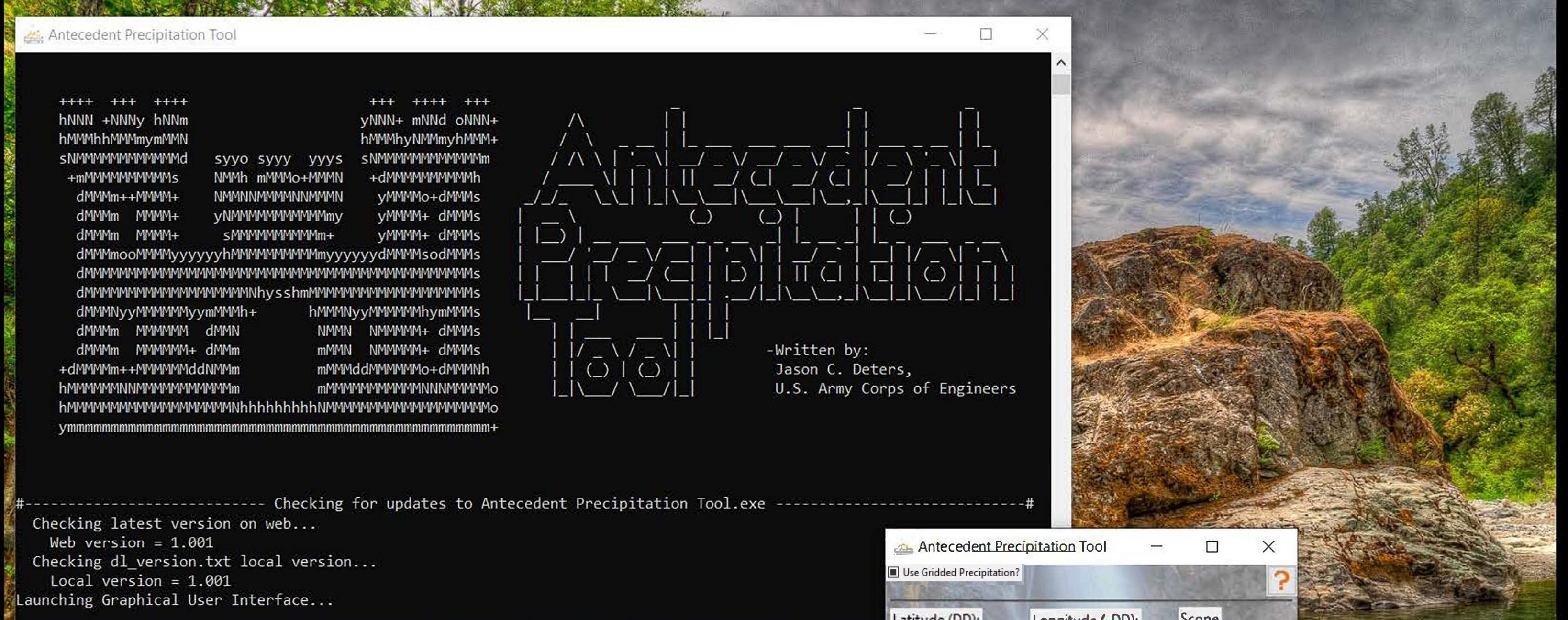




#--- Checking for updates to Antecedent Precipitation Tool.exe ---#

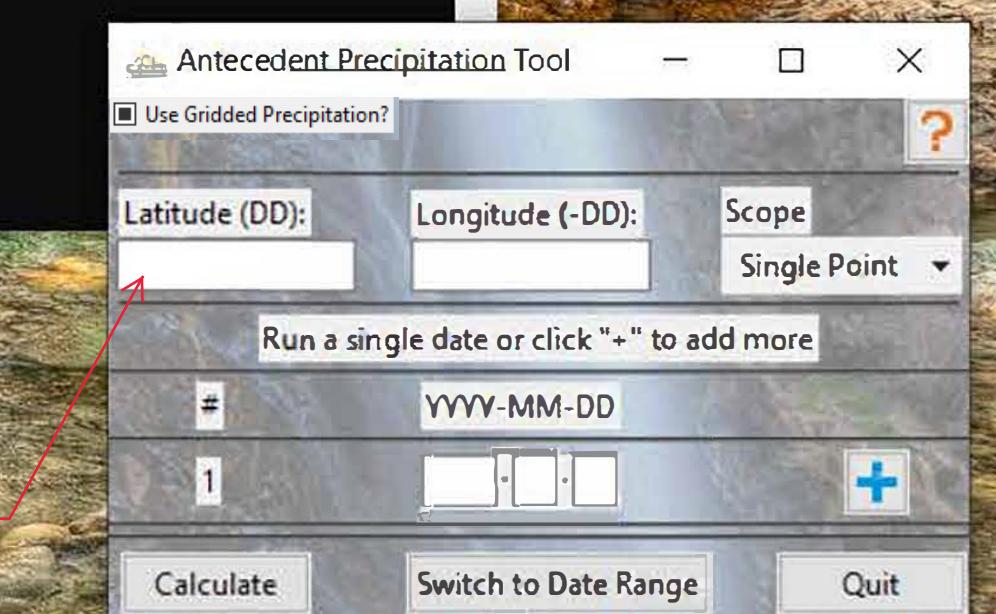
This walkthrough will primarily focus on using the station-based APT analysis but you can use the grid-based analysis by checking the "Use Gridded Precipitation?" box and the process will work in a similar manner.

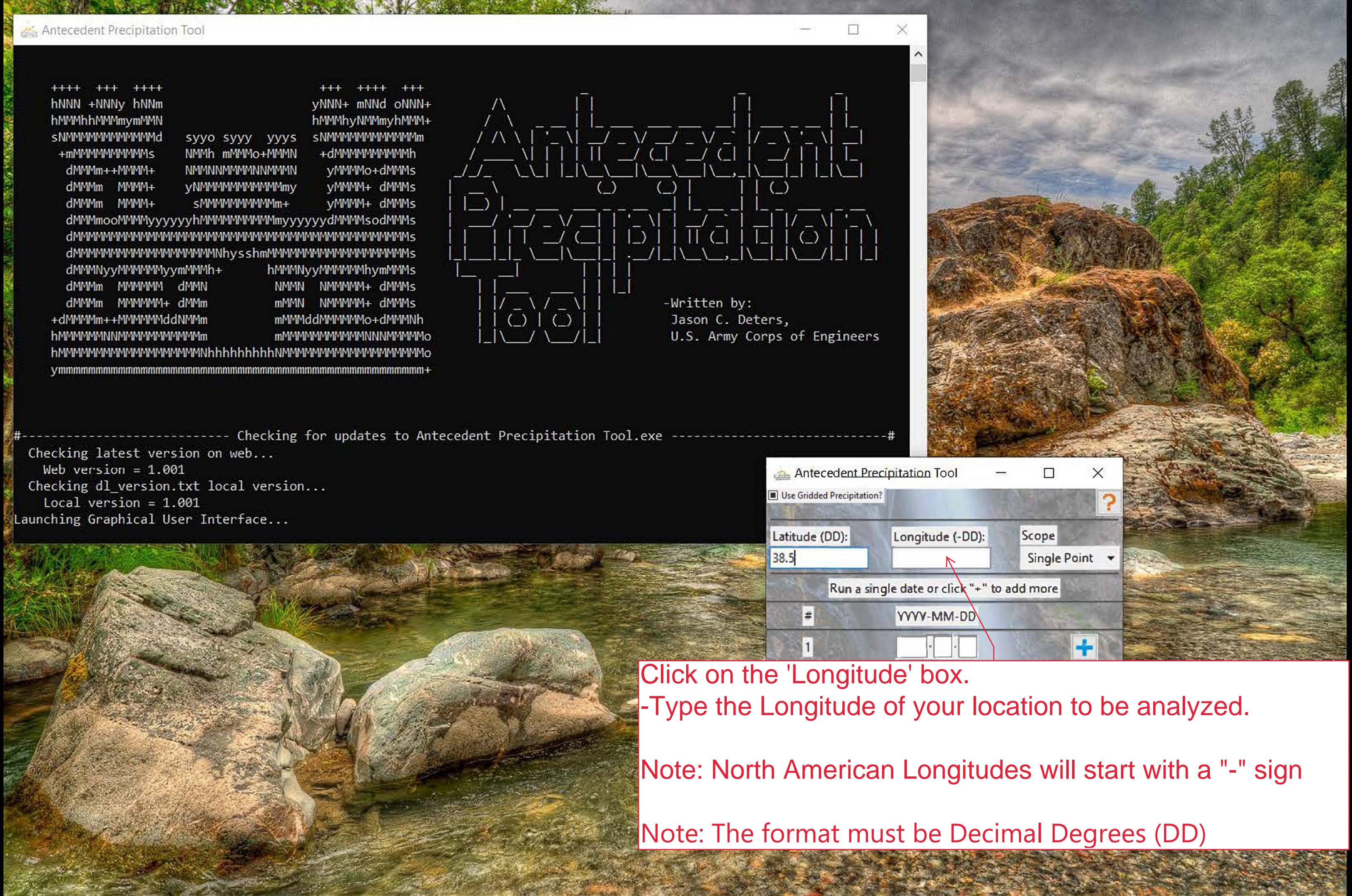




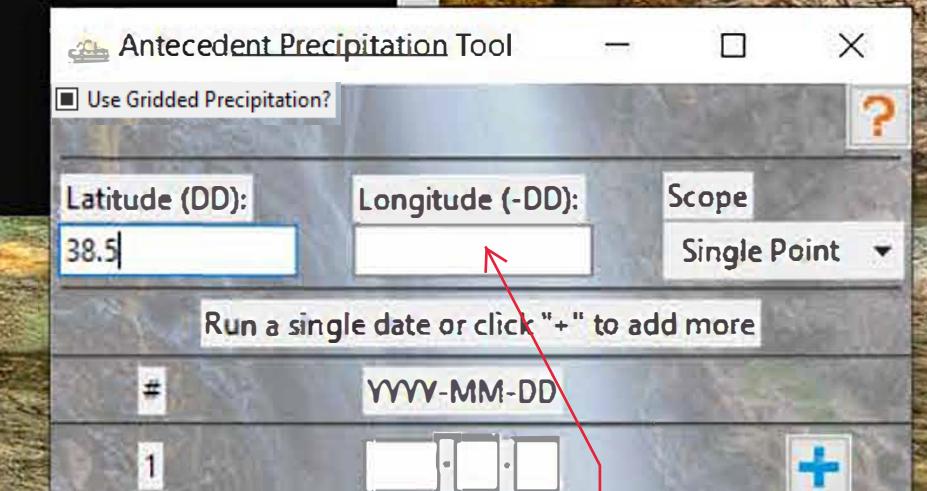
Click on the 'Latitude' box.
-Type the Latitude of your location to be analyzed.

Note: The format must be Decimal Degrees (DD)





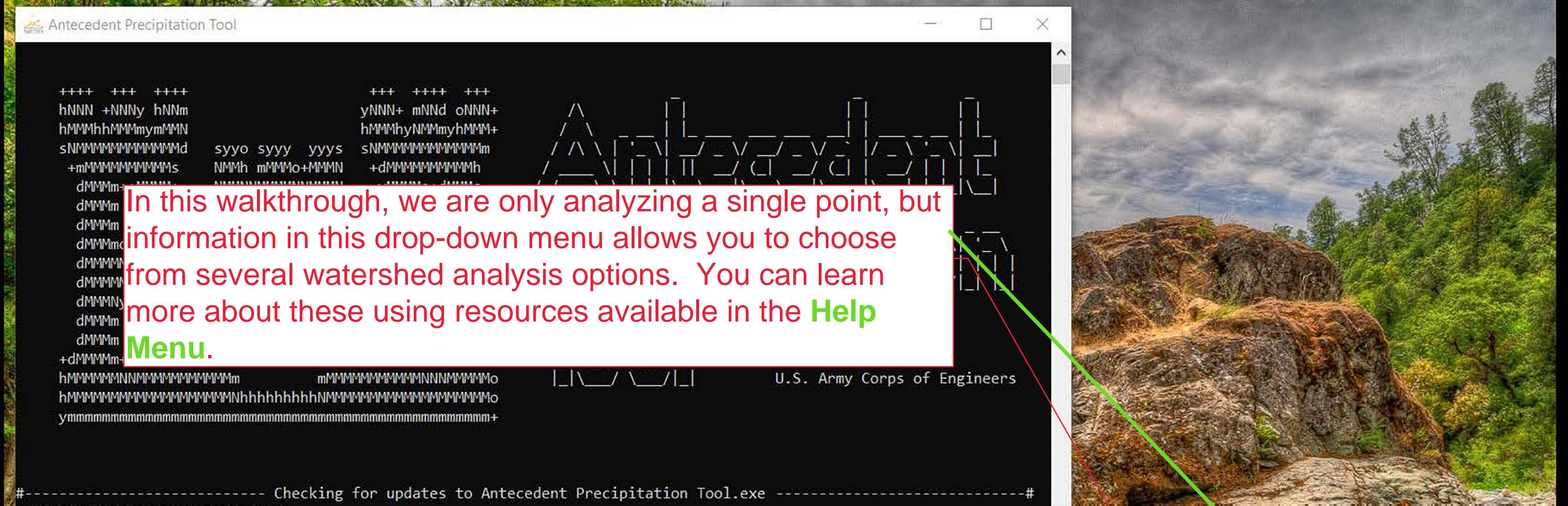
```
#----- Checking for updates to Antecedent Precipitation Tool.exe -----#
Checking latest version on web...
Web version = 1.001
Checking dl_version.txt local version...
Local version = 1.001
Launching Graphical User Interface...
```



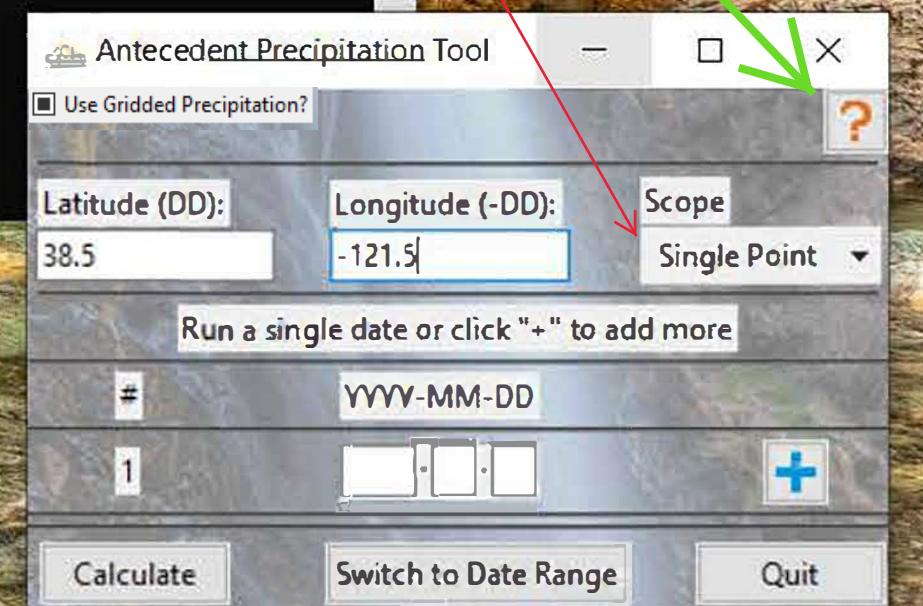
Click on the 'Longitude' box.
-Type the Longitude of your location to be analyzed.

Note: North American Longitudes will start with a "-" sign

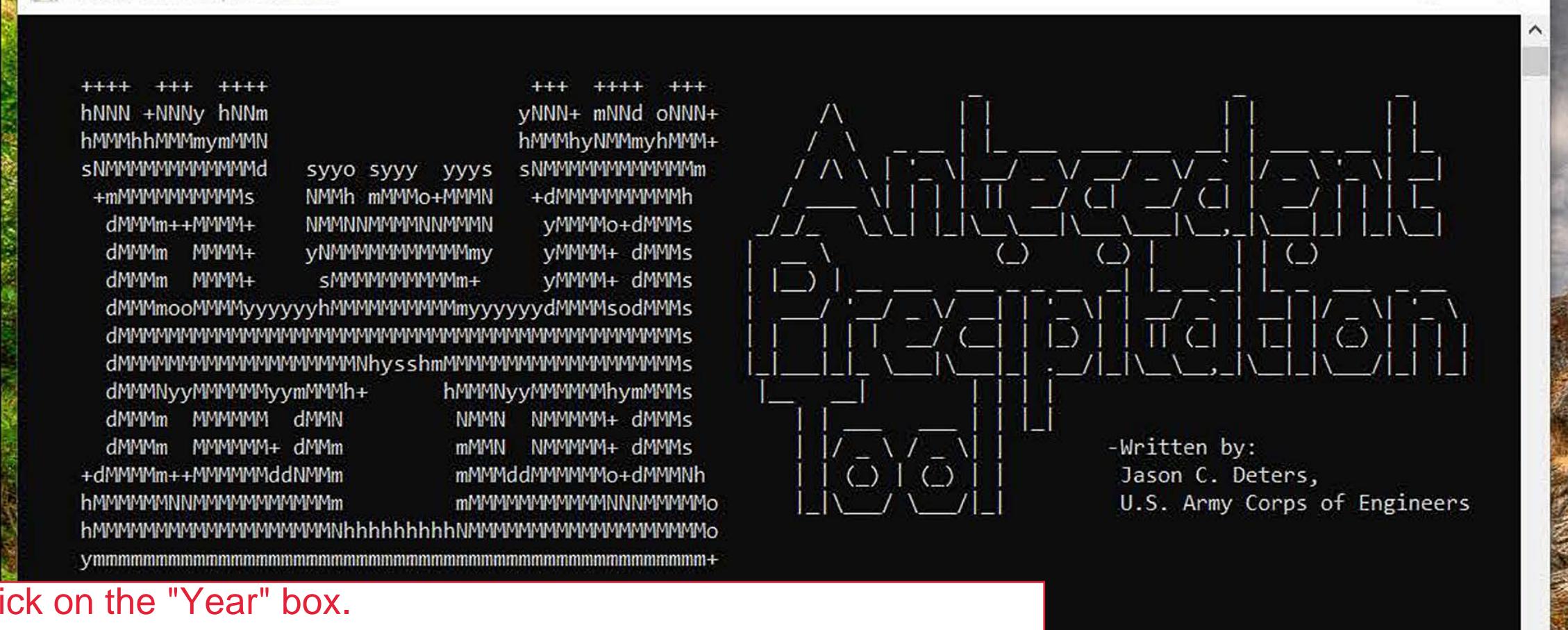
Note: The format must be Decimal Degrees (DD)



```
#----- Checking for updates to Antecedent Precipitation Tool.exe -----#
Checking latest version on web...
Web version = 1.001
Checking dl_version.txt local version...
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Launching Graphical User Interface...
```



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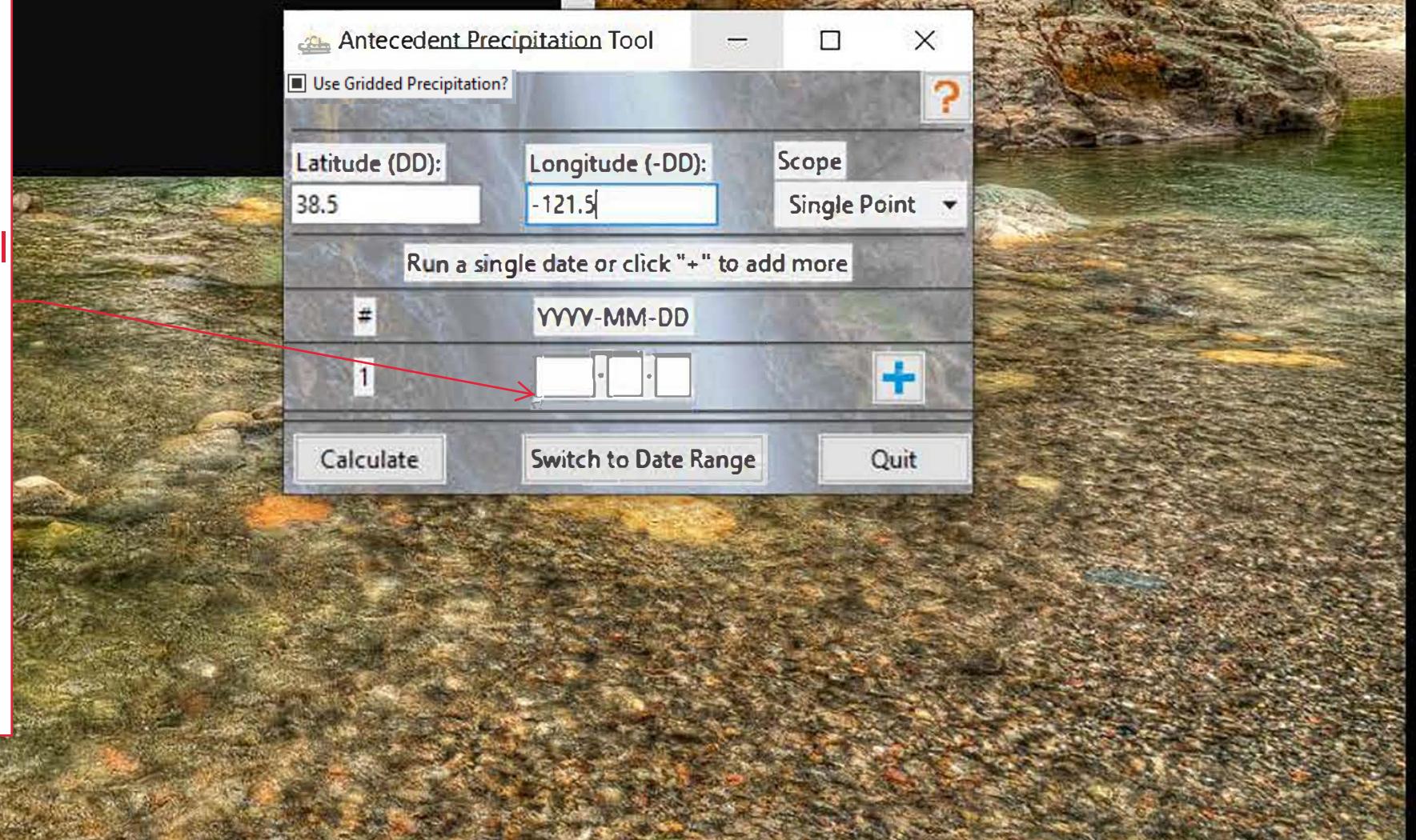
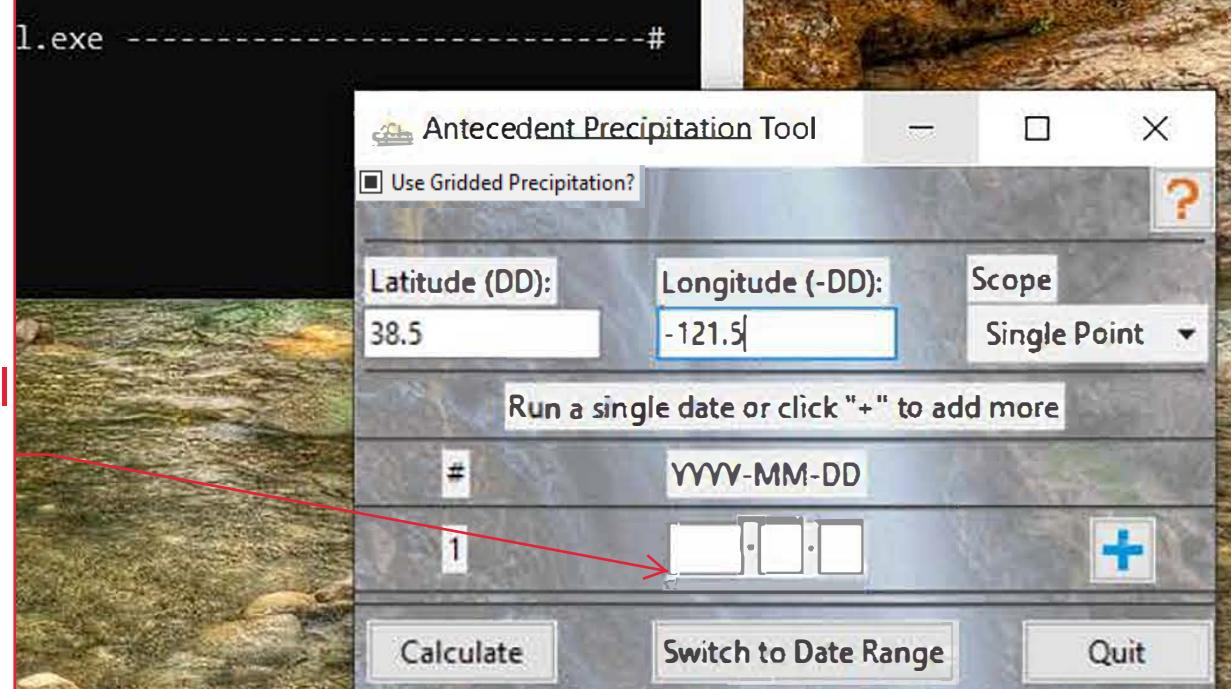
Click on the "Year" box.

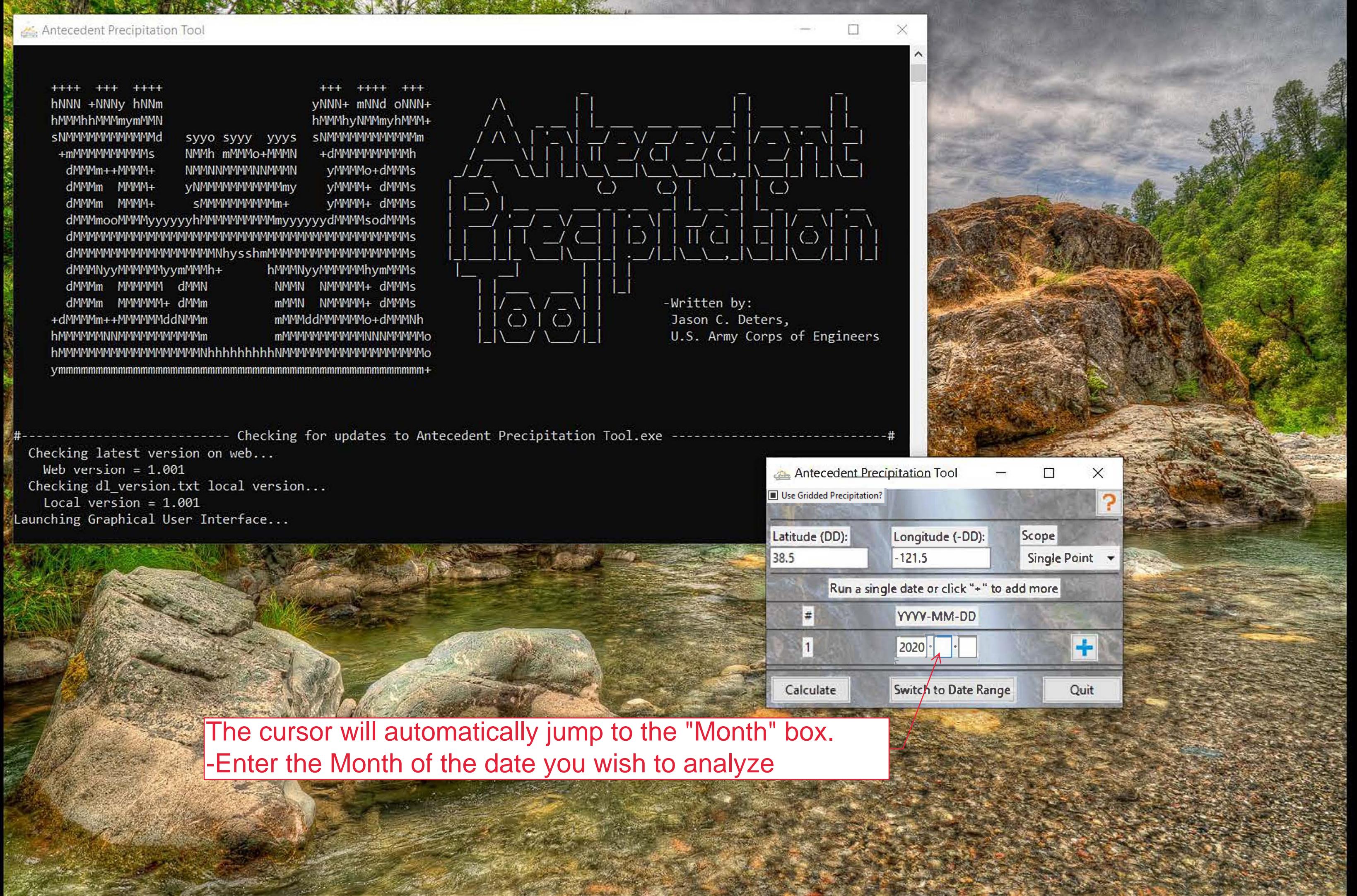
-Enter the Year of the date you wish to analyze

Note: When performing a station-based APT analysis, the APT will not accept dates below 1910. When performing a grid-based APT analysis, the APT will not accept dates below 1983.

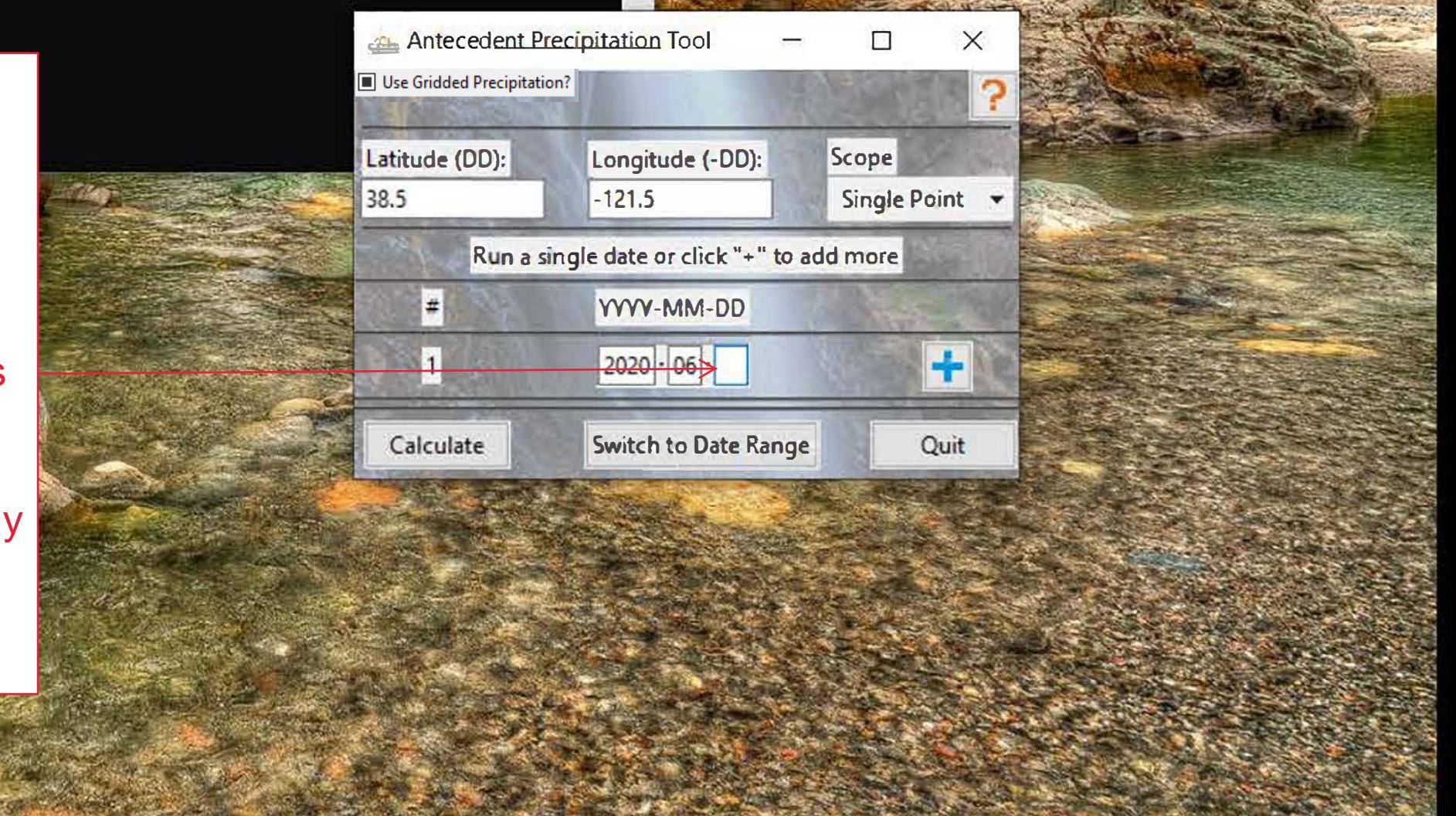
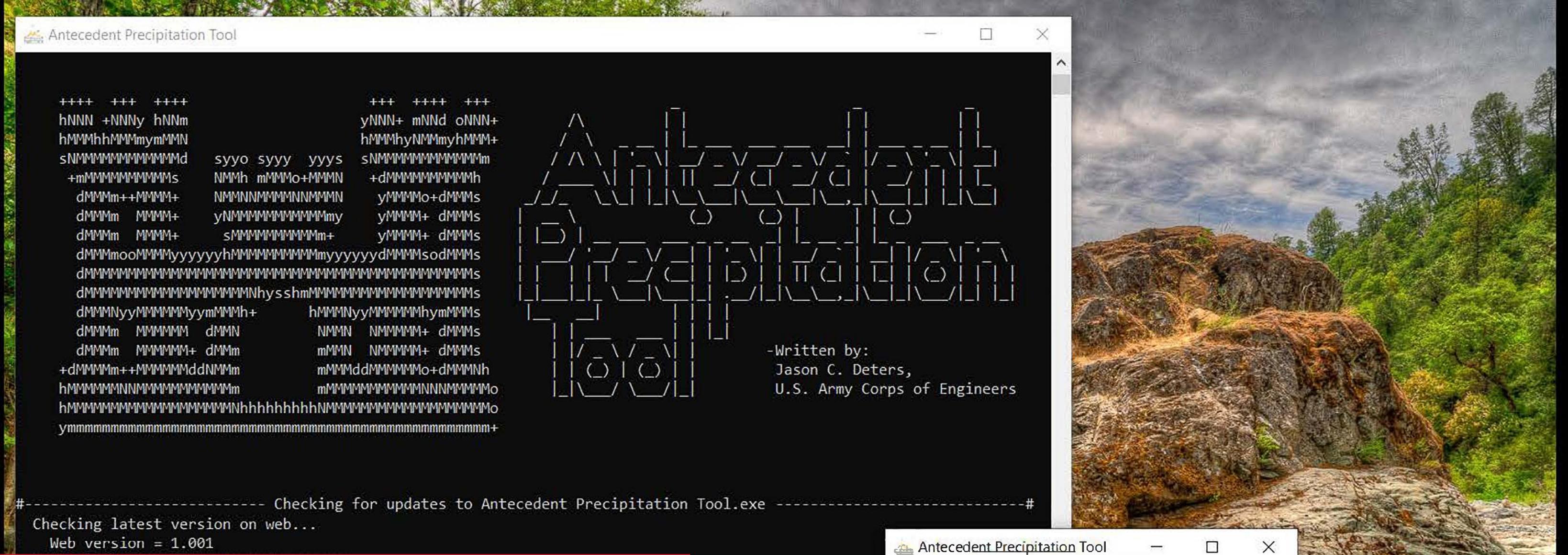
When performing a station-based analysis, calculating the Normal Range for 1910-01-01 requires data from as far back as 1878-09-01. The tool may fail to locate sufficient data to perform the analysis for such early dates (1910-1940). However, many places in the U.S. have such historic records available, which is why these years are allowed.

The earliest available gridded data is 1 January 1951 and the APT will require data between 1951-1983 for calculating the precipitation climatology.



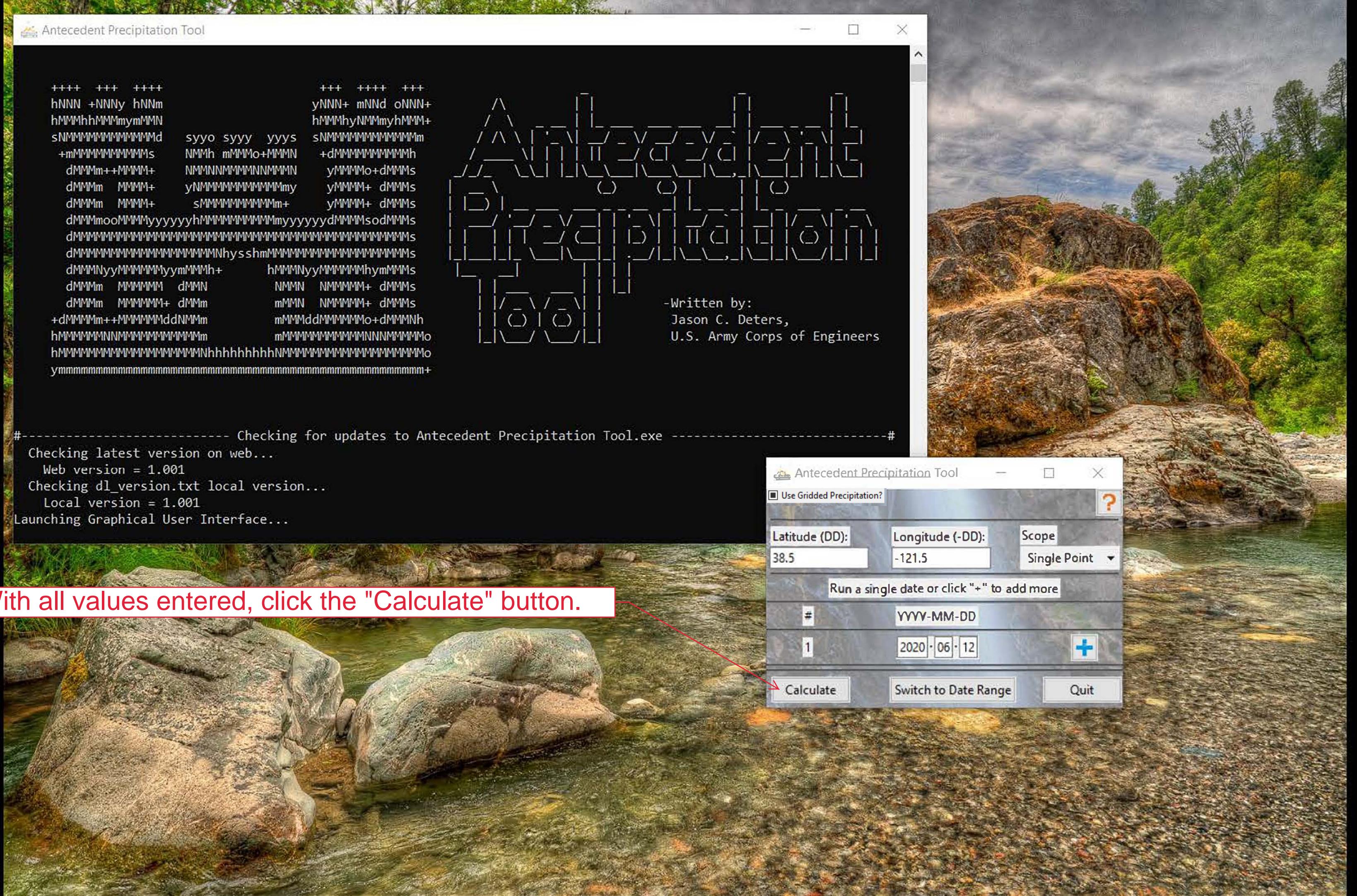


The cursor will automatically jump to the "Month" box.
-Enter the Month of the date you wish to analyze



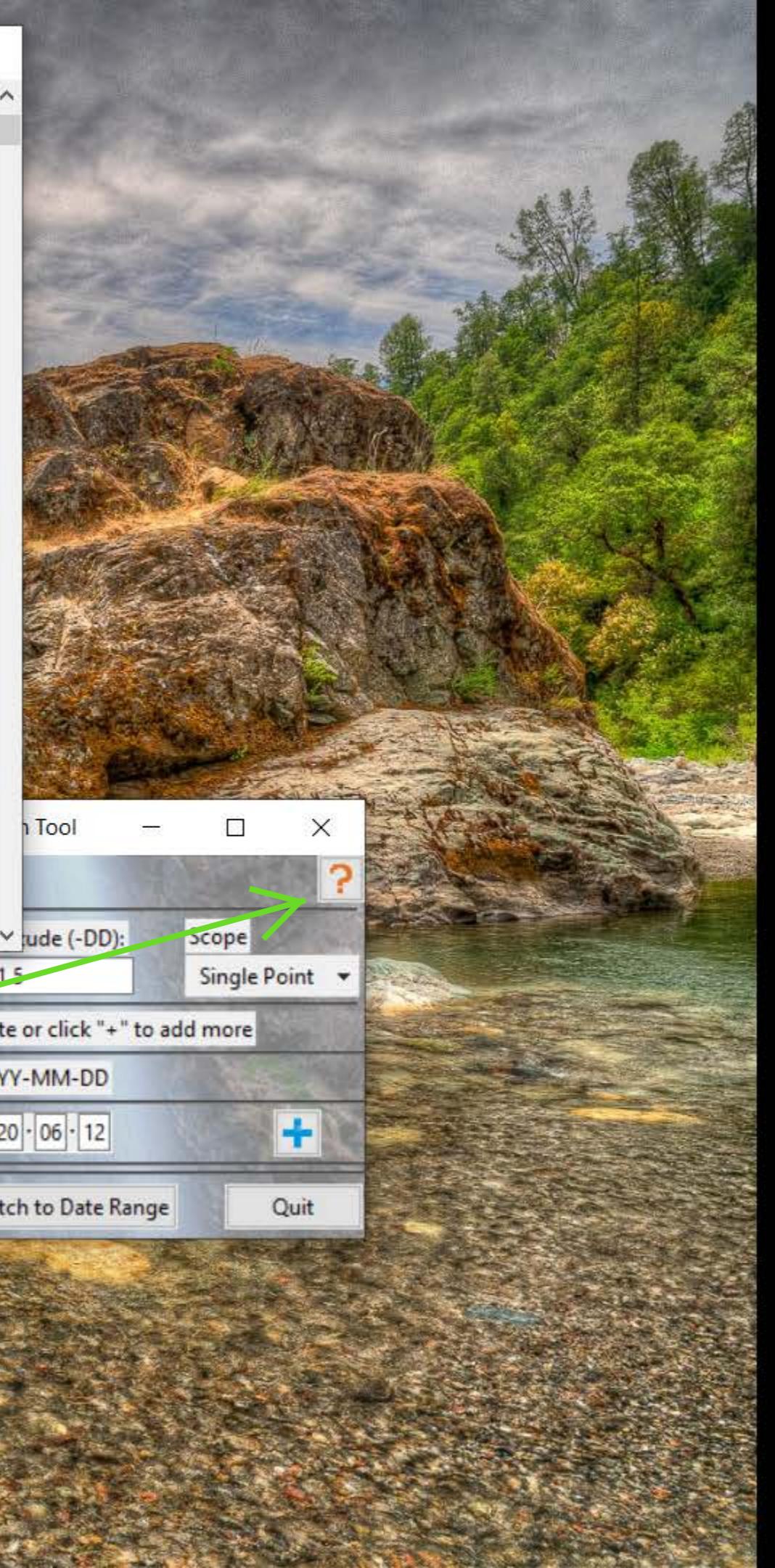
The cursor will automatically jump to the "Day" box.
-Enter the Day of the date you wish to analyze.

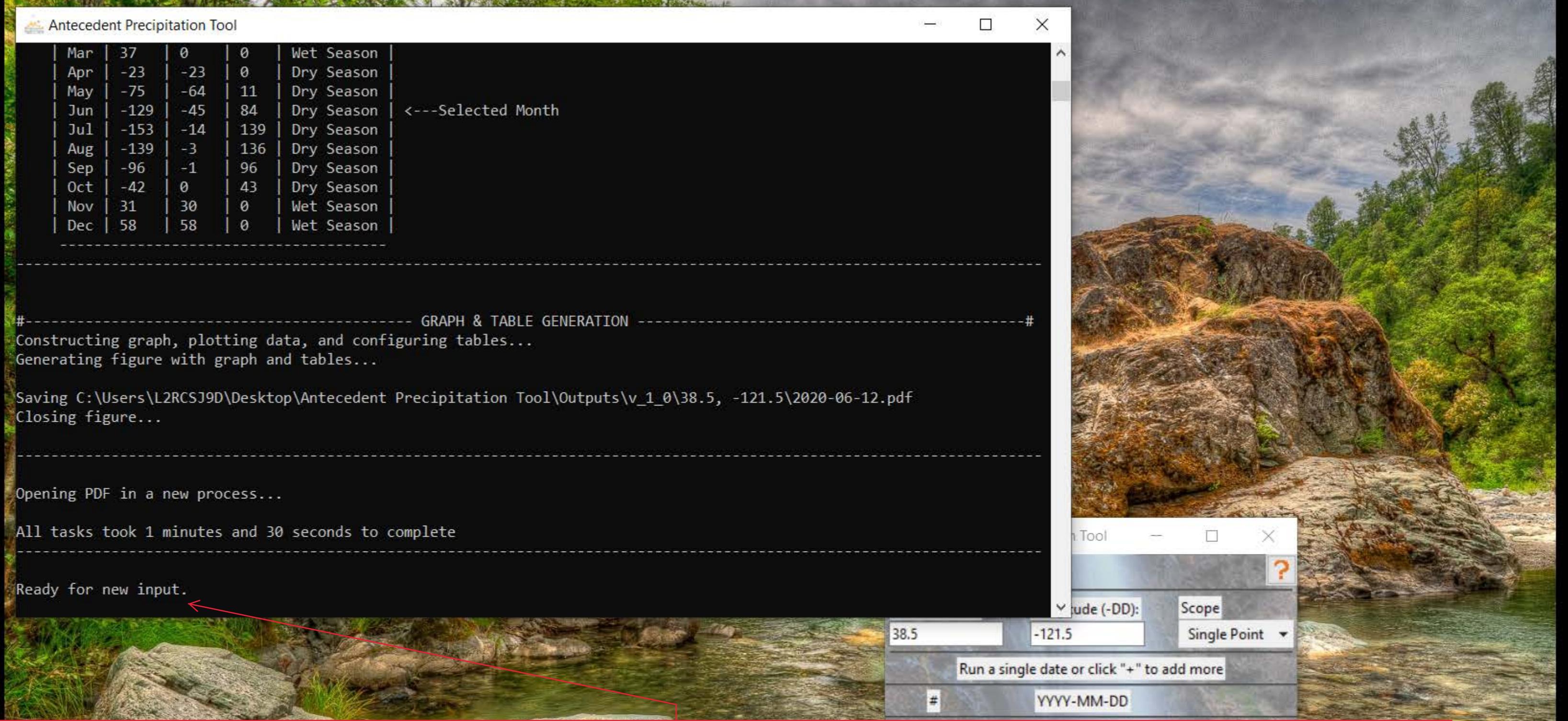
Note: The most recent date the tool will accept is two days prior to the current date for a station-based analysis and three days prior to the current date for a grid-based analysis. For a station-based analysis, this is because it usually takes at least two days for a new precipitation measurement to make it into the Global Historic Climatology Network (GHCN) database on which the APT relies. For a grid-based analysis, NOAA's data services only provide data within three days of the current date. Furthermore, gridded data for the current month and the previous two months are preliminary and subject to change.



```
dMMMNyyMMMMMyymMMh+ hMMNyyMMMMMyymMMMs  
dMMMm MBBBBB dMMN NMMN NBBBBB+ dMMMs  
dMMMm BBBB+ dMMm mMMN NBBBBB+ dMMMs  
+dMMMMm++BBBBBBddNNMm mMMMdBBBBBBMo+dMMMNh  
hBBBBBBNNBBBBBBBBBBBm mBBBBBBBBBBBBBBNNNNBBBBBMo  
hBBBBBBBBBBBBBBBBBBBmNhBBBBBBBBBBBBBBNNNNBBBBBMo  
yBBBBBBBBBBBBBBBBBBBmNhhhhhhhhhhhNBBBBBBBBBBBBBBBMo  
#----- Checking for updates to Antecedent Precipitation Tool.exe -----#  
Checking latest version on web...  
Web version = 1.001  
Checking dl_version.txt local version...  
Local version = 1.001  
Launching Graphical User Interface...  
##### ----- NOAA Server Status Check ----- #####  
Server Base URL = https://www1.ncdc.noaa.gov/pub/data/ghcn/daily  
Testing if NOAA's Server is currently accessible...  
NOAA's Servers ONLINE. Proceeding with request...  
Creating Rain anteProcess.Main() instance...  
Initializing anteProcess Class...  
Unserializing previously cached WebWIMP Dictionary..."
```

The DOS window that opens up during any use of the APT will provide you with essential information on the processing of the APT. If you encounter any errors, the messages provided in the prompt will help guide you to the proper solution. This information will also be provided in the "*\Antecedent Precipitation Tool\Logs\Antecedent_LOG.txt*" file as well. The Technical and User Guide found in the **Help Menu** can help you diagnose and resolve common errors found during processing.



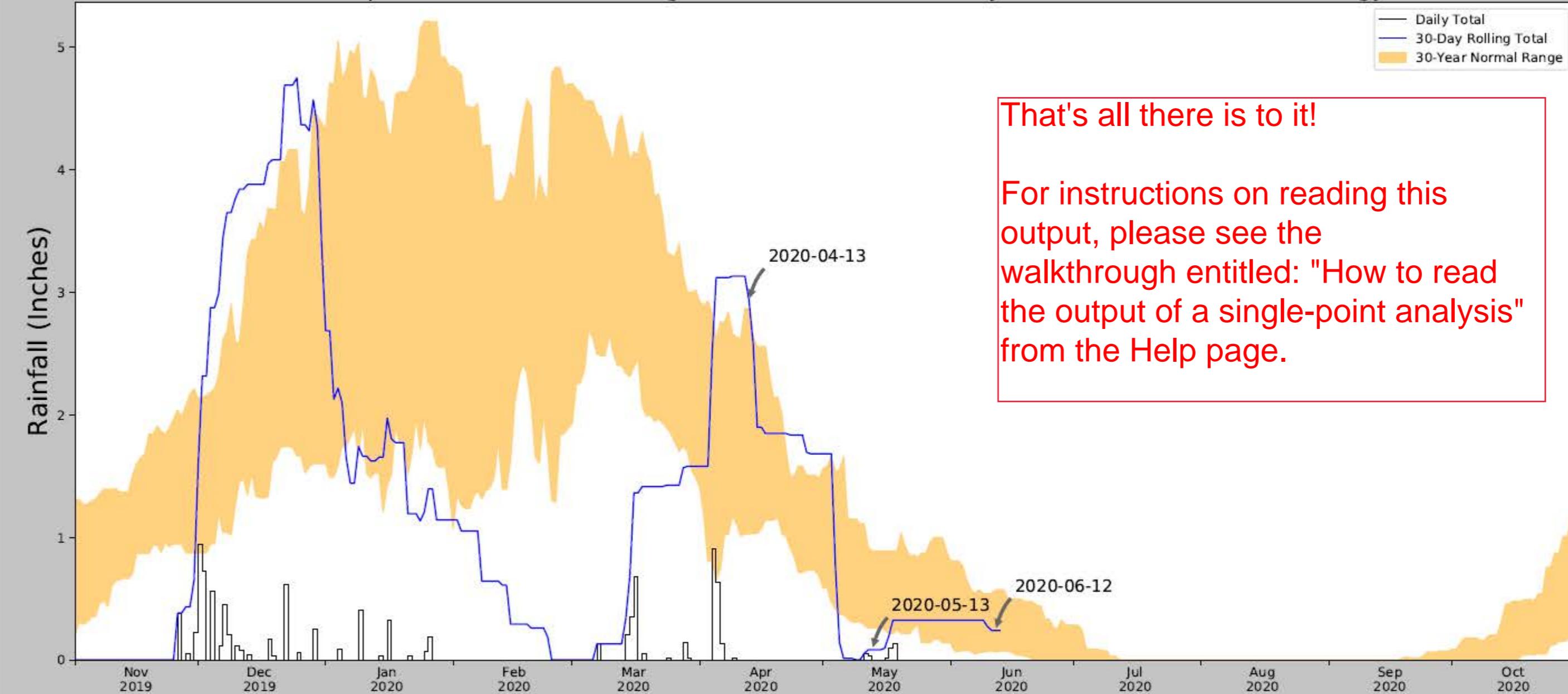


When the tool finishes running, it will report that it is "Ready for new input," but it will usually take a few seconds for the Output PDF to open.

The actual outputs are saved at:
"[Install Location]\Antecedent Precipitation Tool\Output\[LATITUDE] [LONGITUDE]"



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



That's all there is to it!

For instructions on reading this output, please see the walkthrough entitled: "How to read the output of a single-point analysis" from the Help page.

Coordinates	38.5, -121.5
Observation Date	2020-06-12
Elevation (ft)	7.14
Drought Index (PDSI)	Mild drought (2020-05)
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
2020-06-12	0.064961	0.572047	0.240157	Normal	2	3	6
2020-05-13	0.260236	0.887795	0.082677	Dry	1	2	2
2020-04-13	1.027559	2.866536	2.929134	Wet	3	1	3
Result							Normal Conditions - 11

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of Engineers

Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
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Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
SACRAMENTO EXECUTIVE AP	38.5069, -121.495	15.092	0.548	7.952	0.251	11344	90
SACRAMENTO 5 ESE	38.5556, -121.4169	38.058	5.91	30.918	2.842	8	0