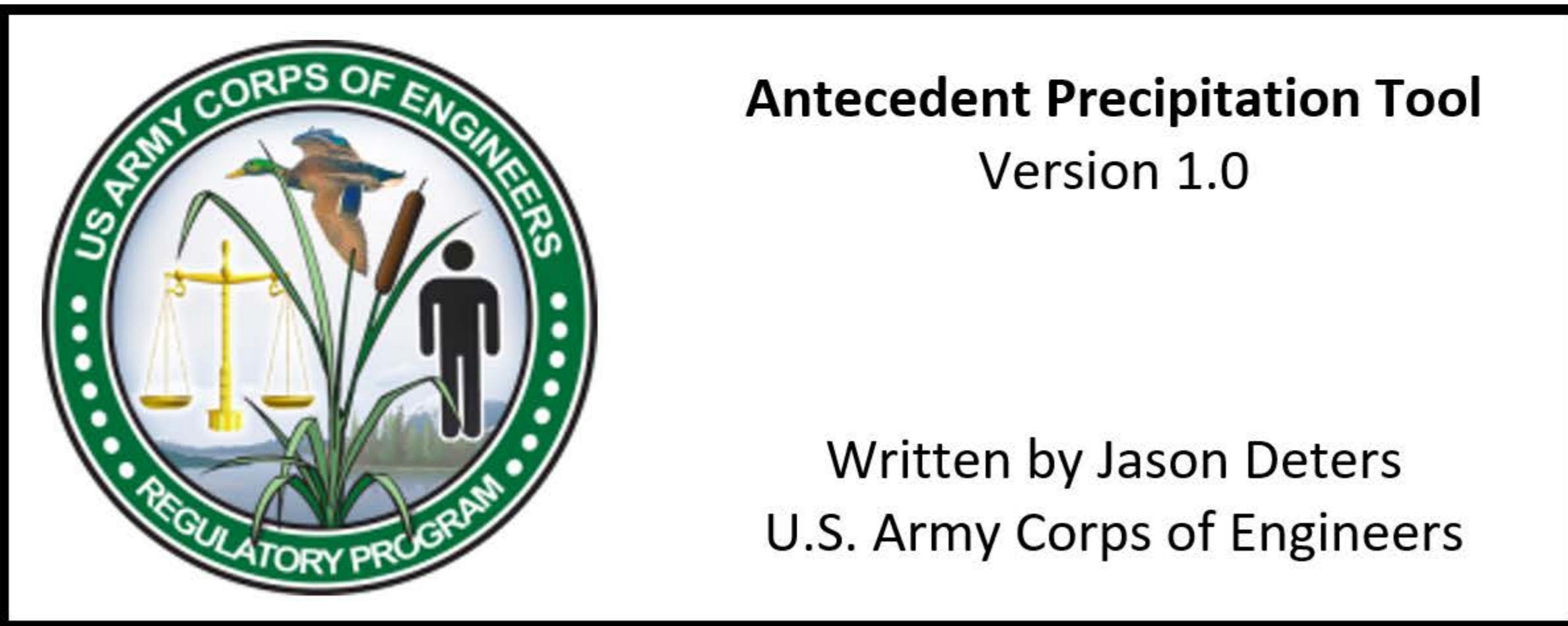


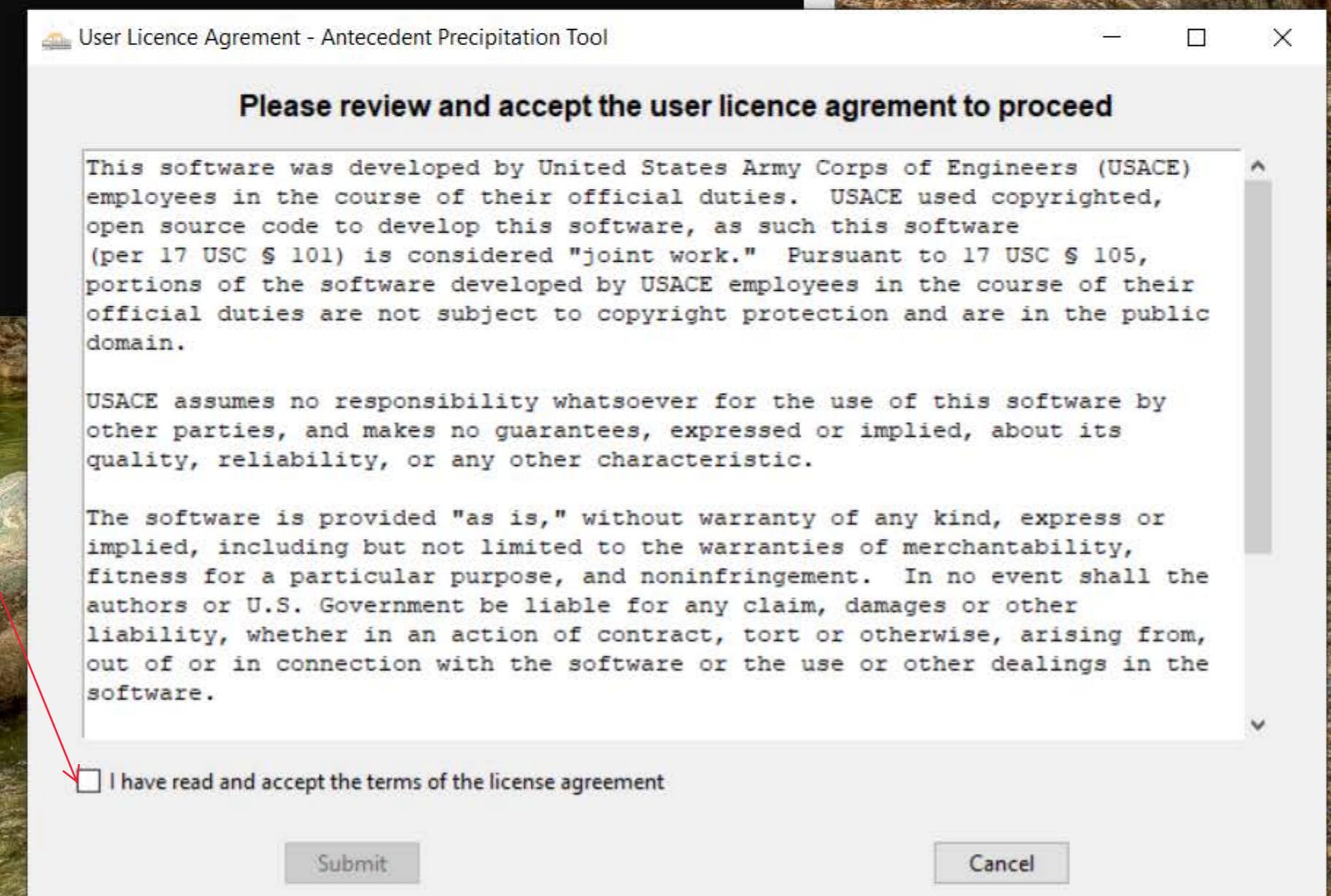
How to Generate a Single-point Analysis for a Single Date

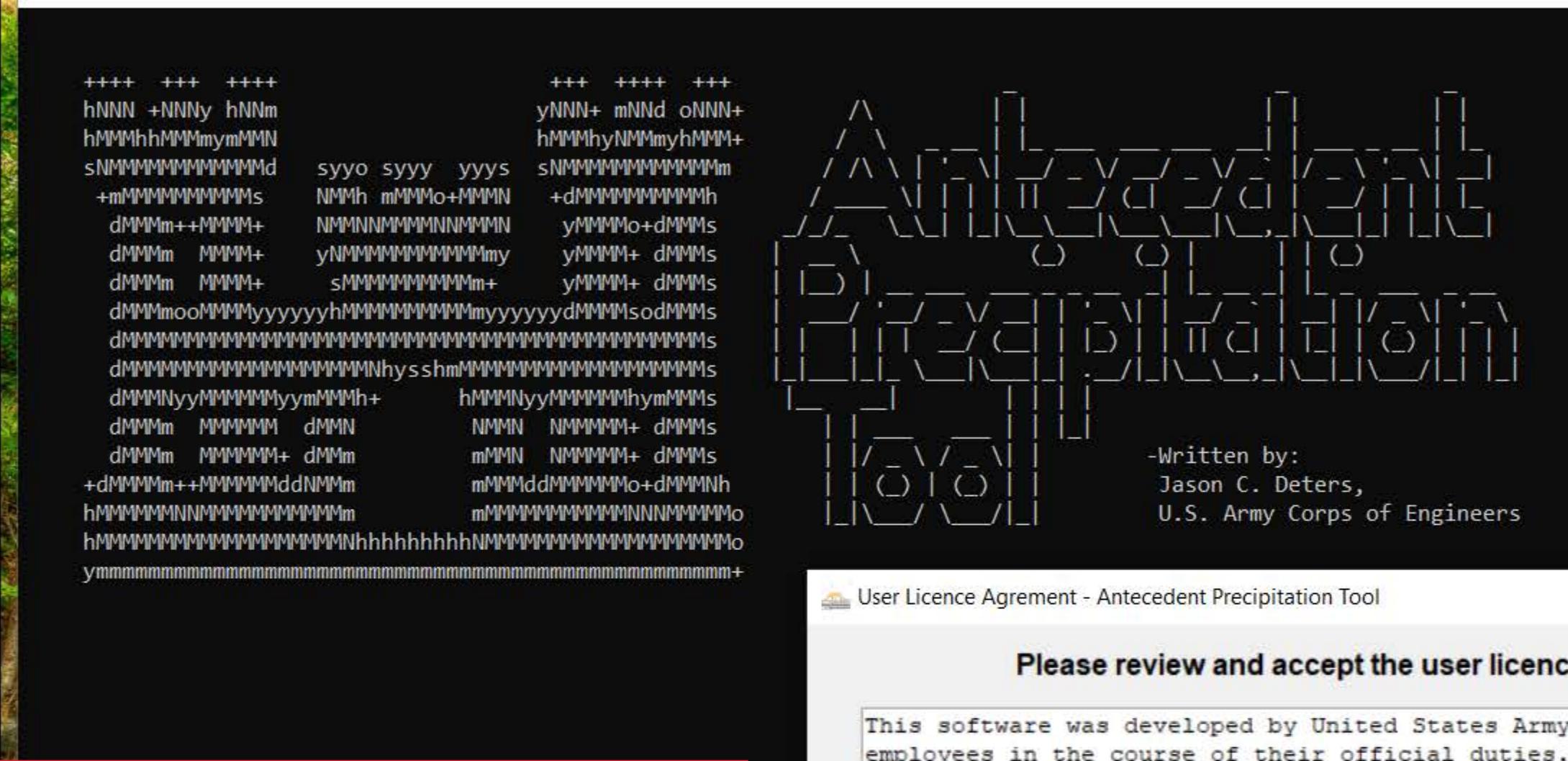




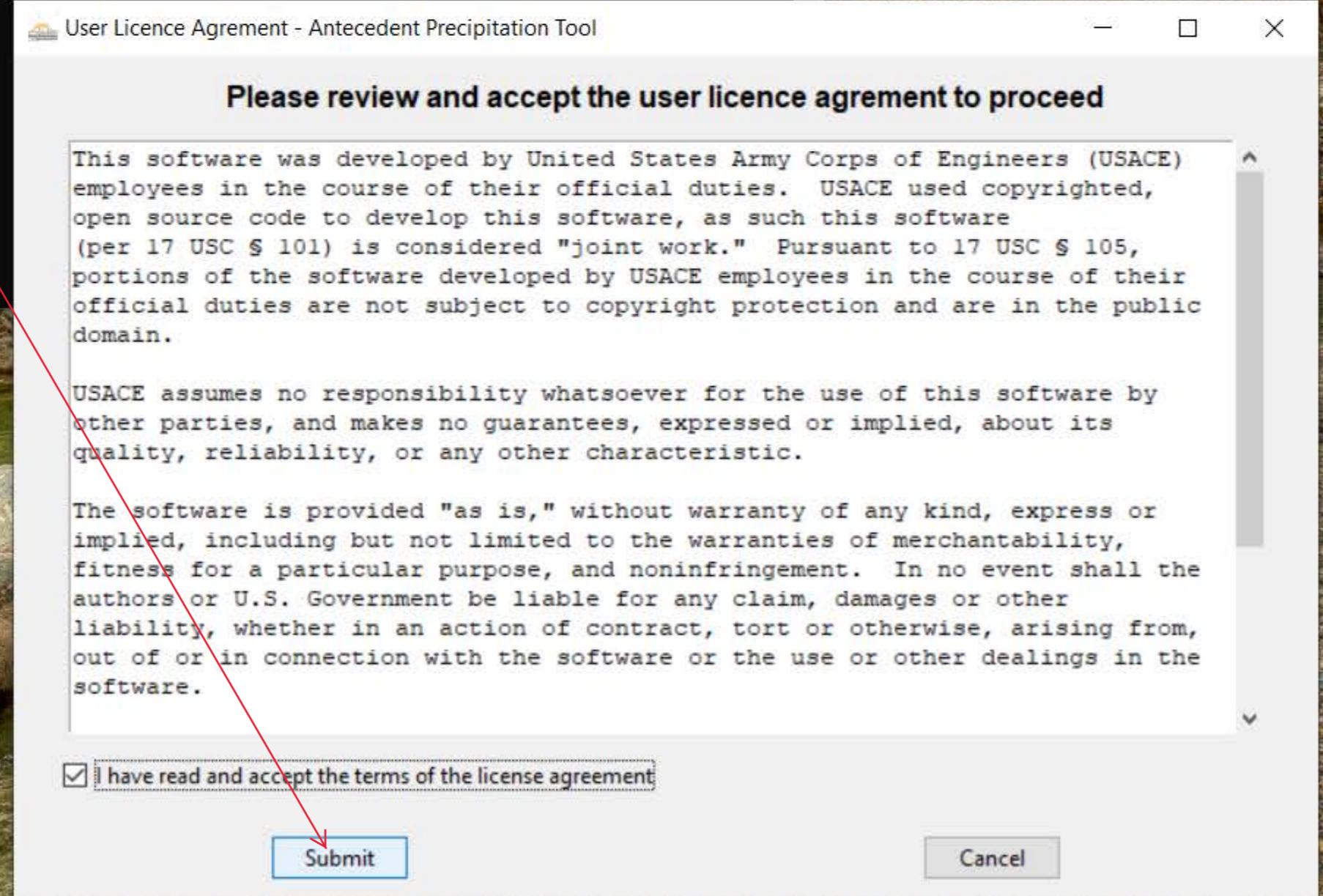
Double-click the APT
Desktop Shortcut

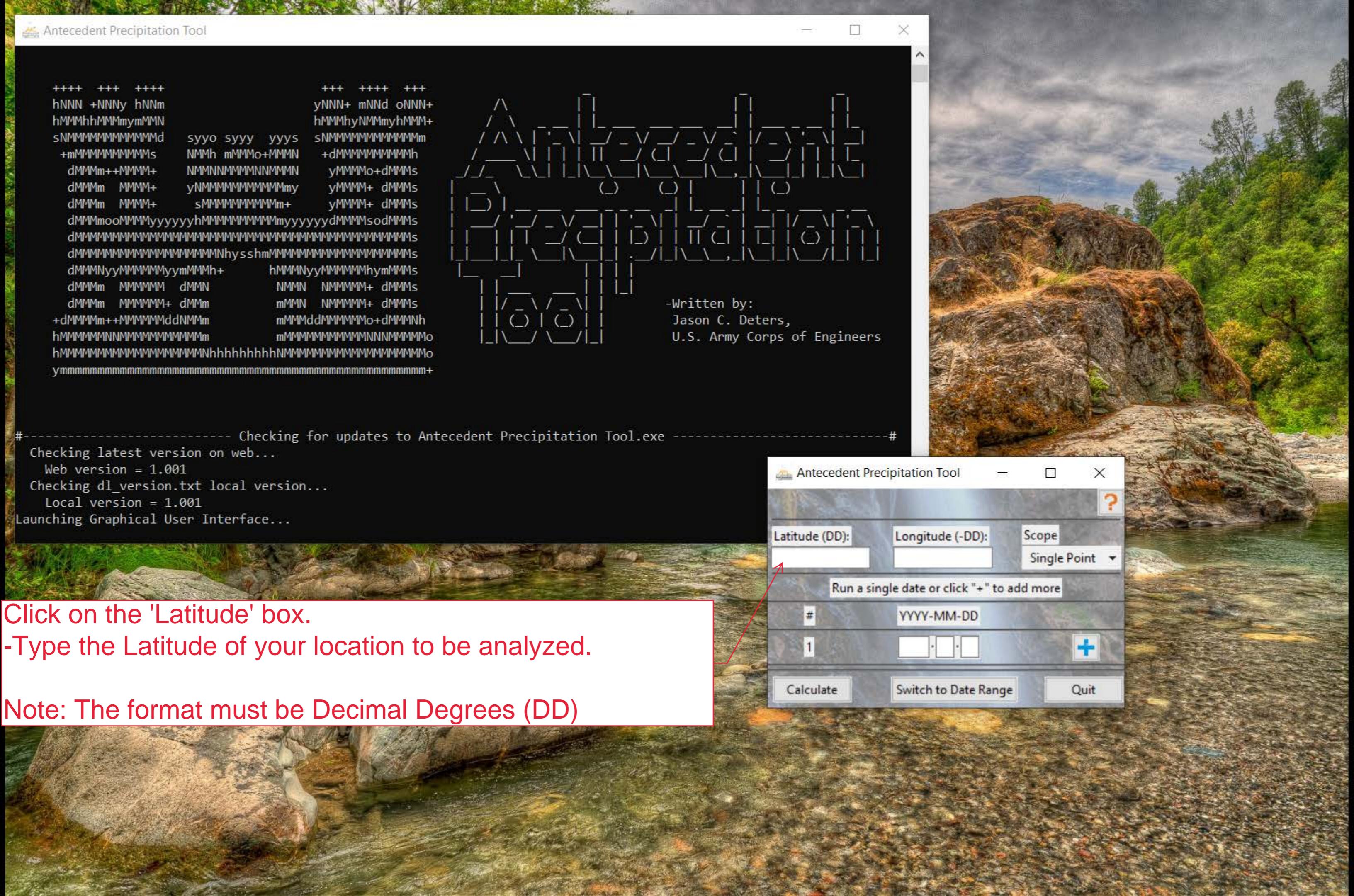
Antecedent
Precipitati...





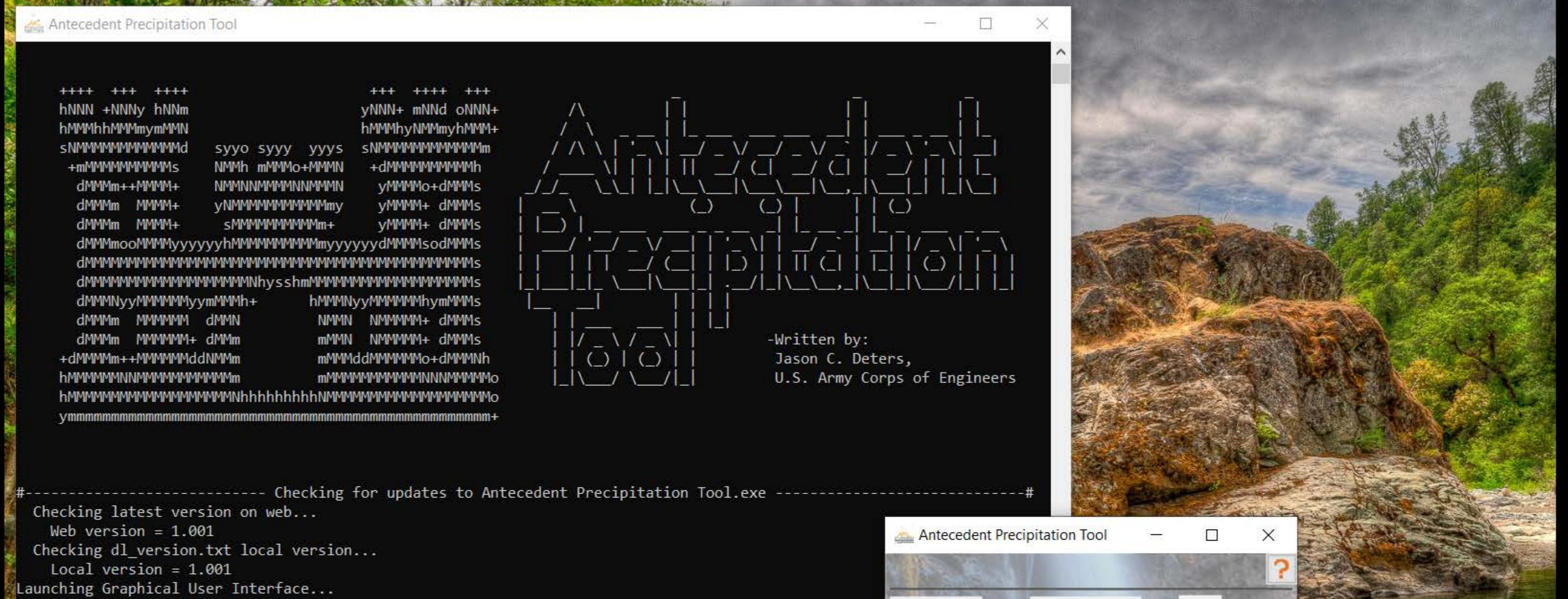
Once the agreement is checked, you can click the "Submit" button.





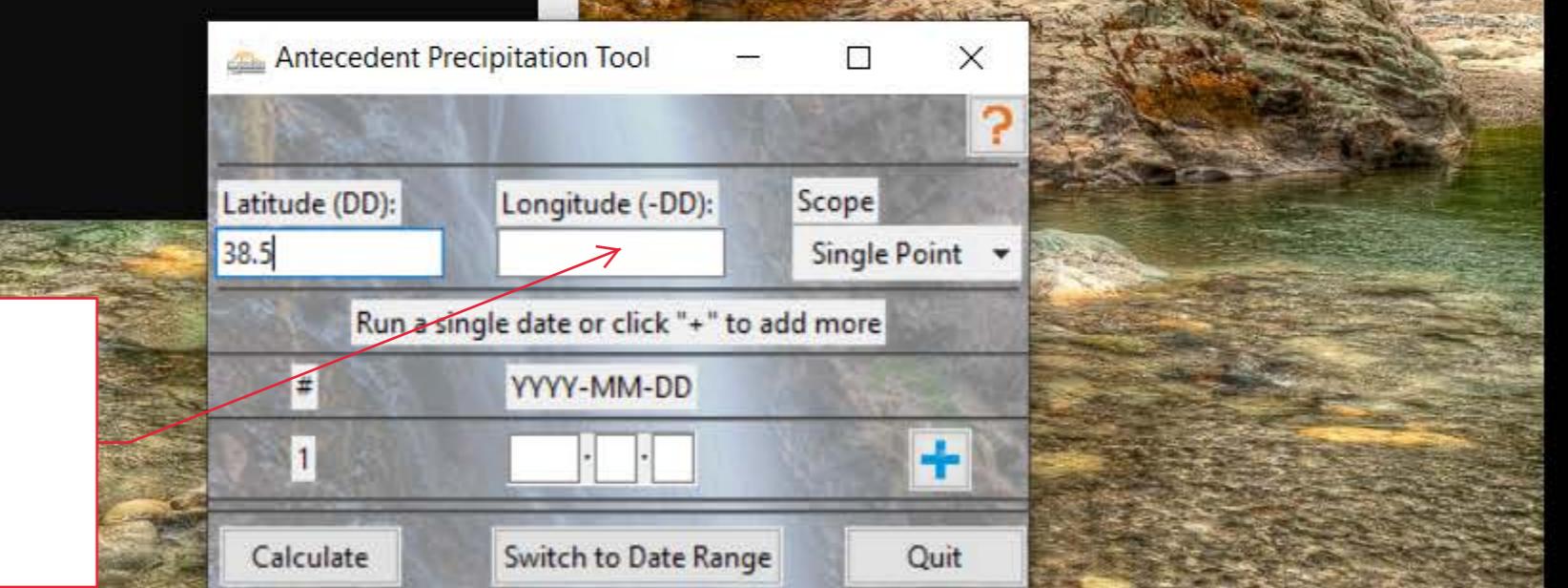
**Click on the 'Latitude' box.
-Type the Latitude of your location to be analyzed.**

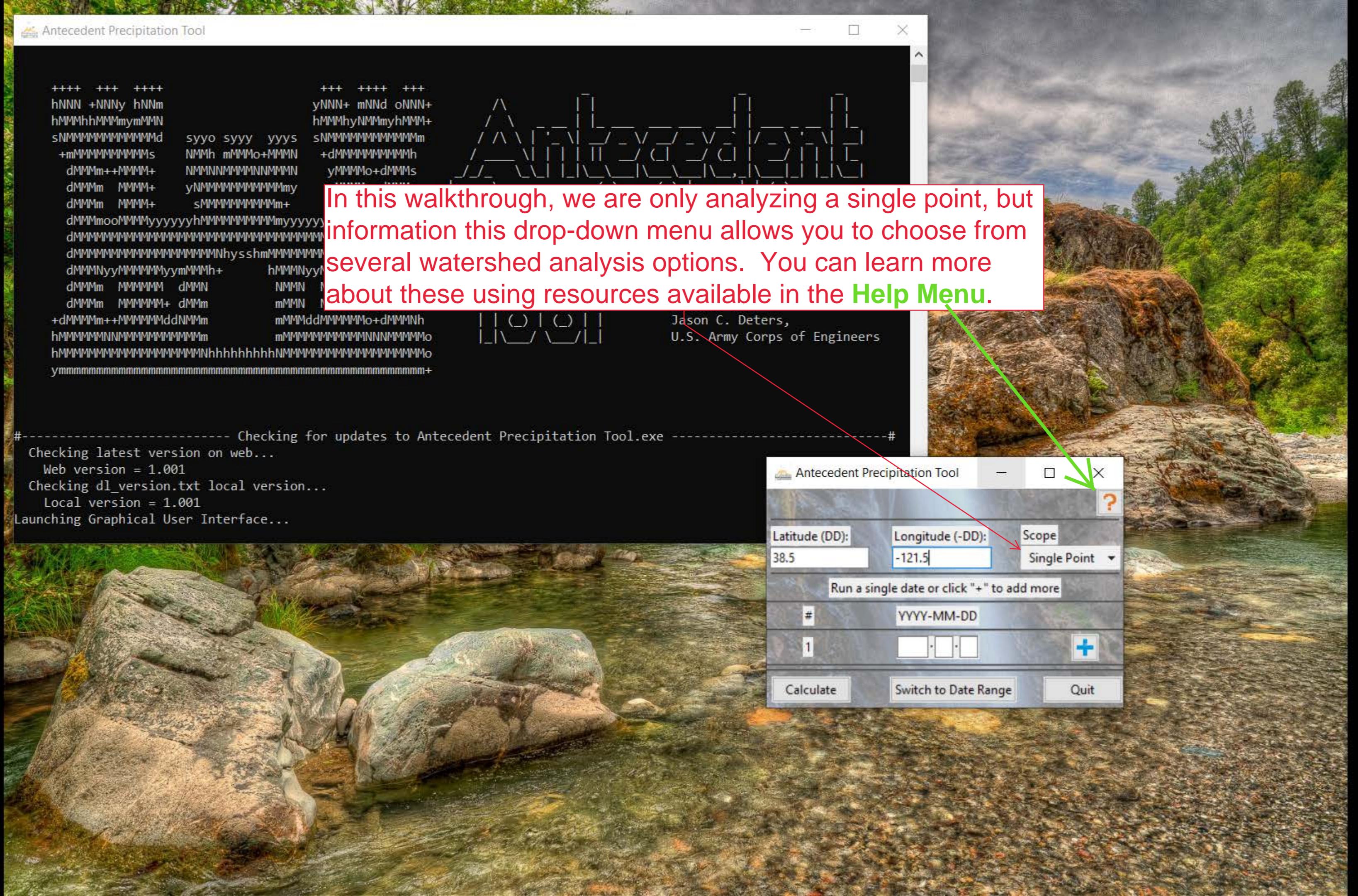
Note: The format must be Decimal Degrees (DD)

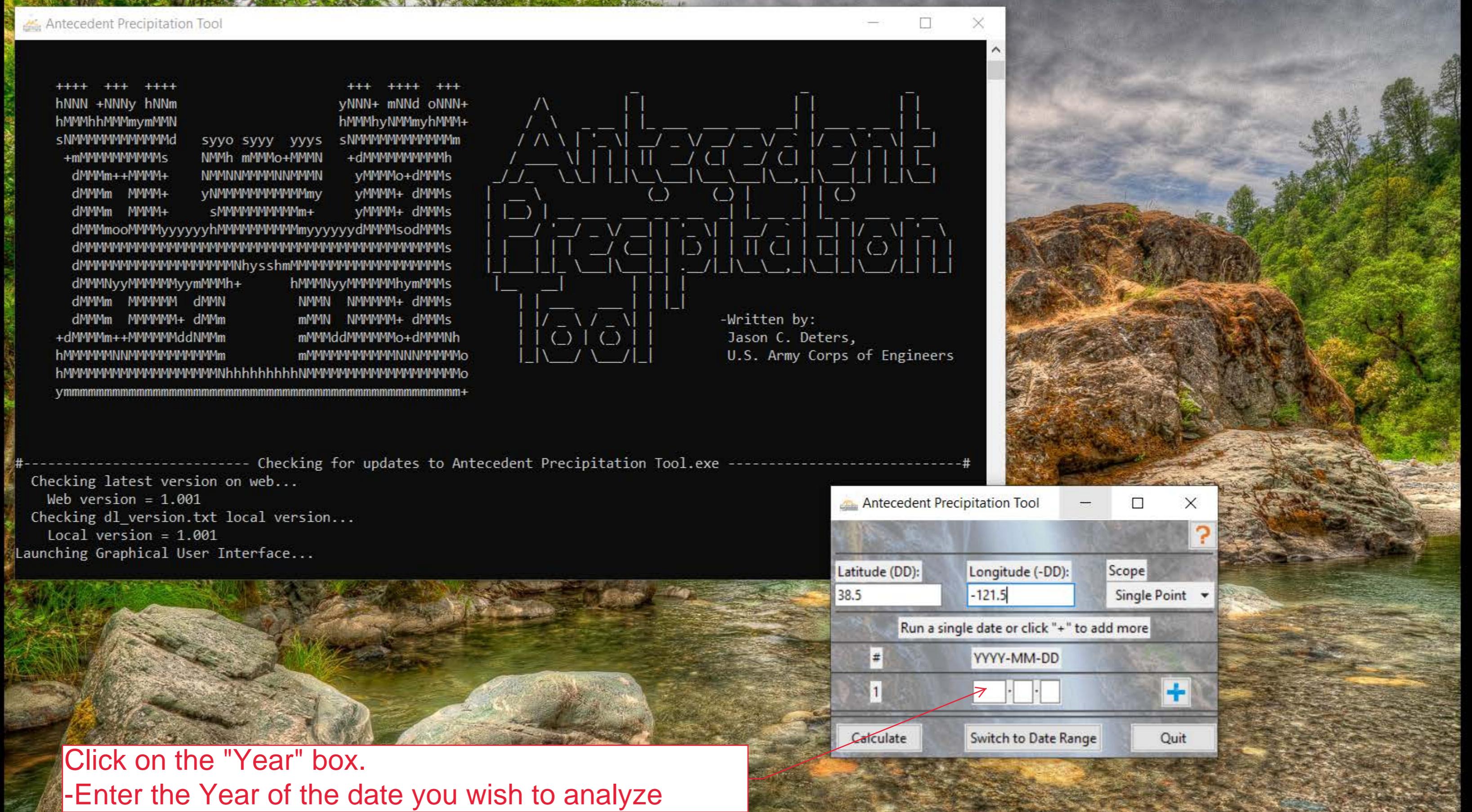


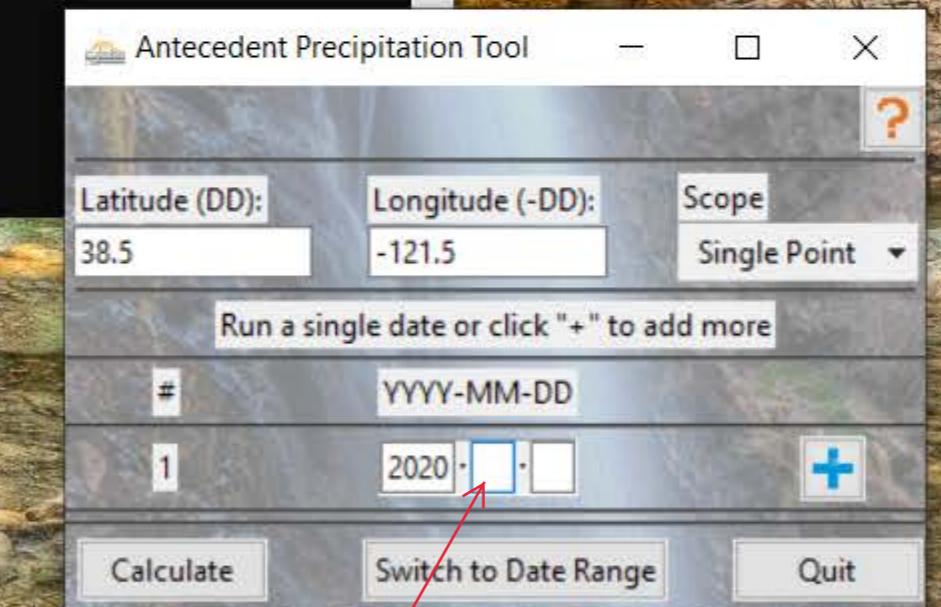
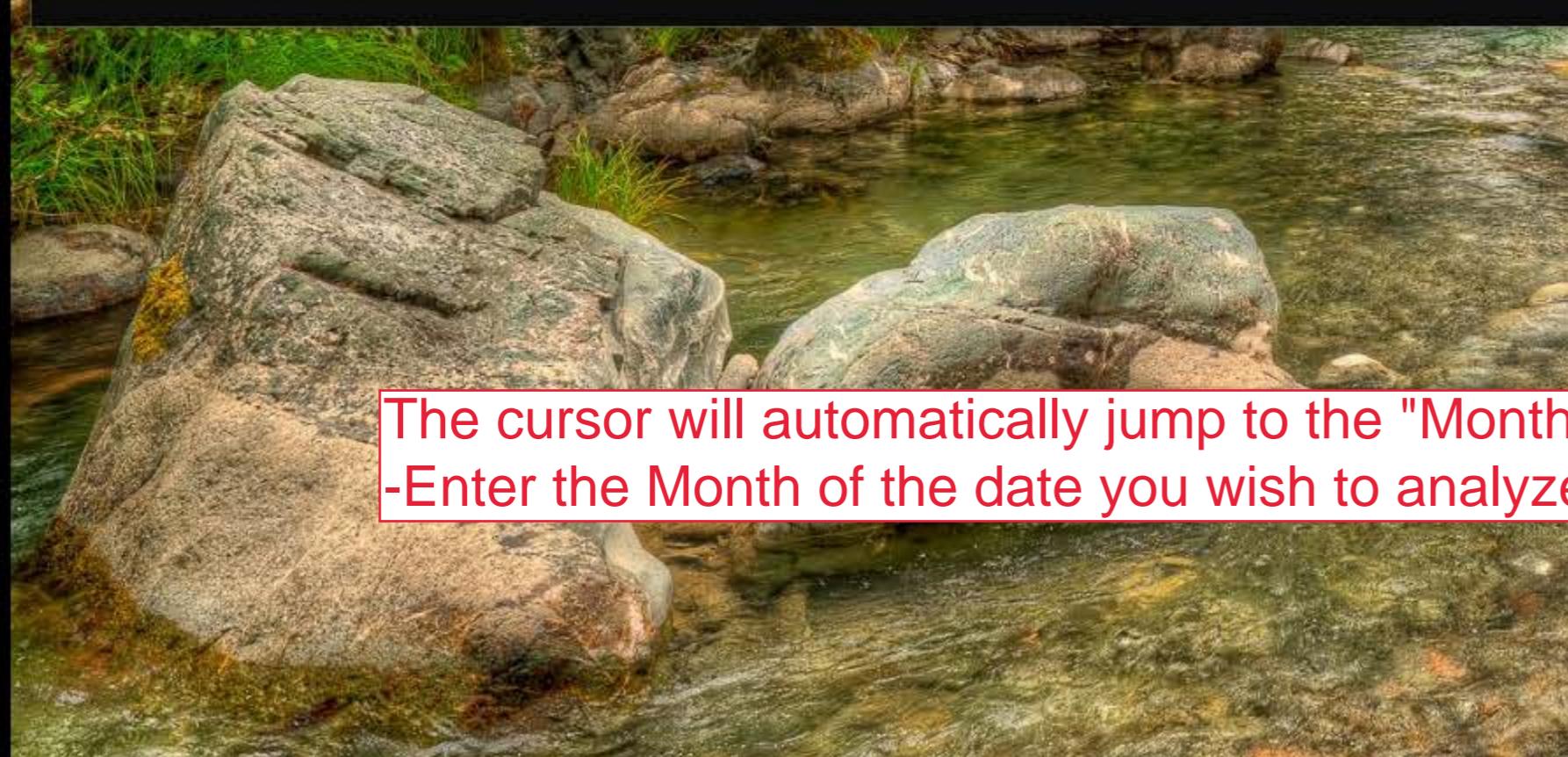
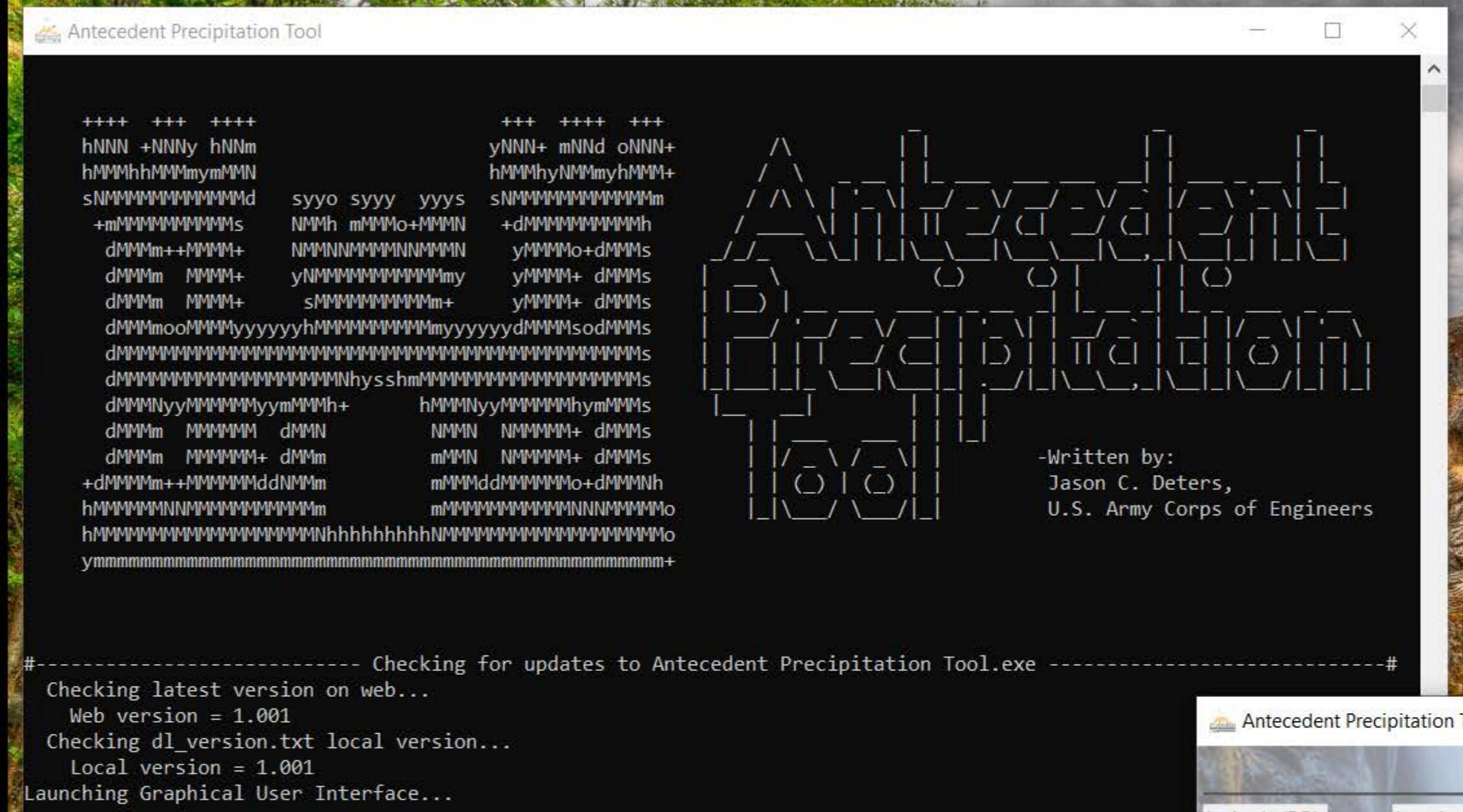
Click on the 'Longitude' box.
-Type the Longitude of your location to be analyzed.

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

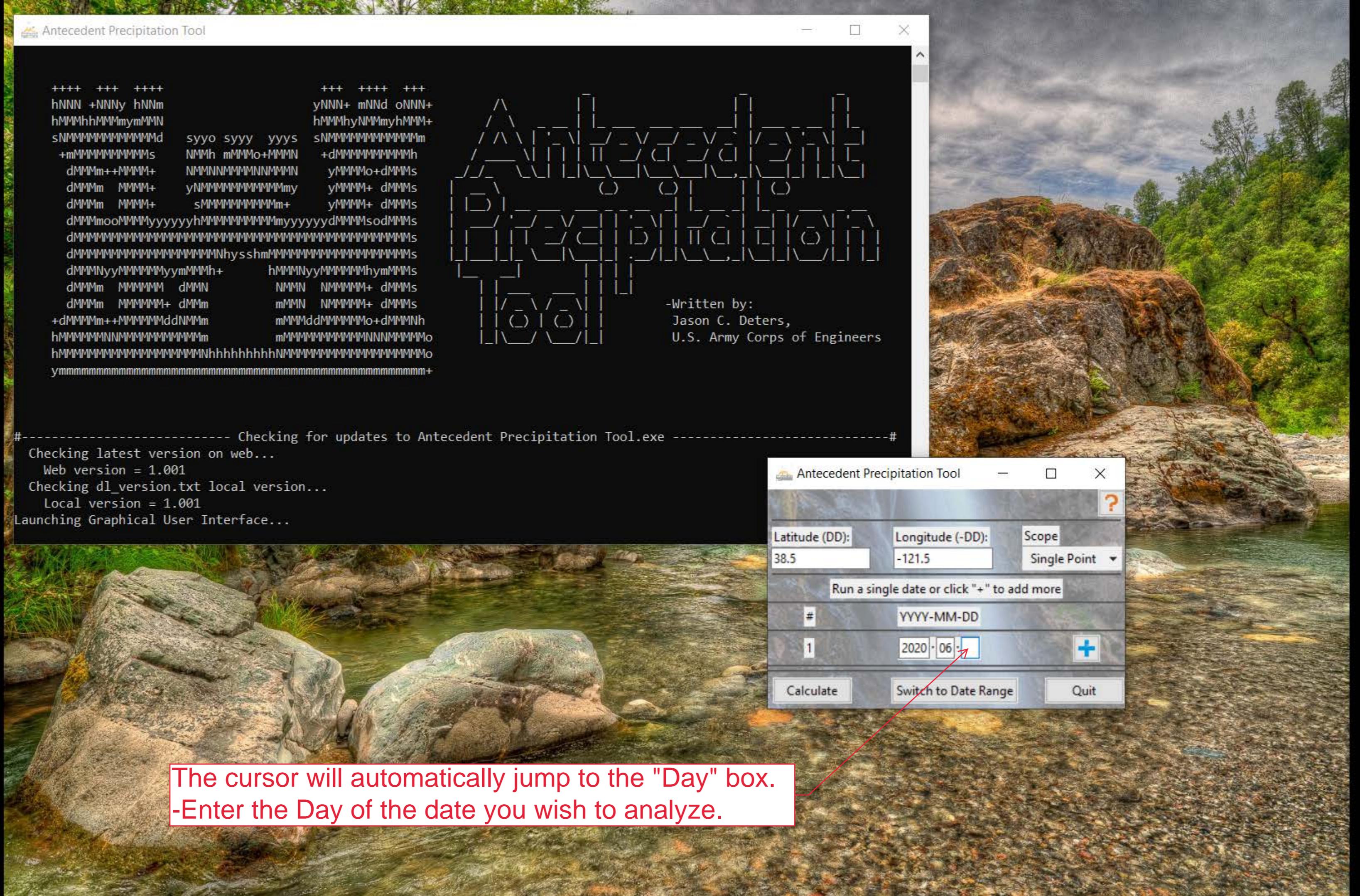


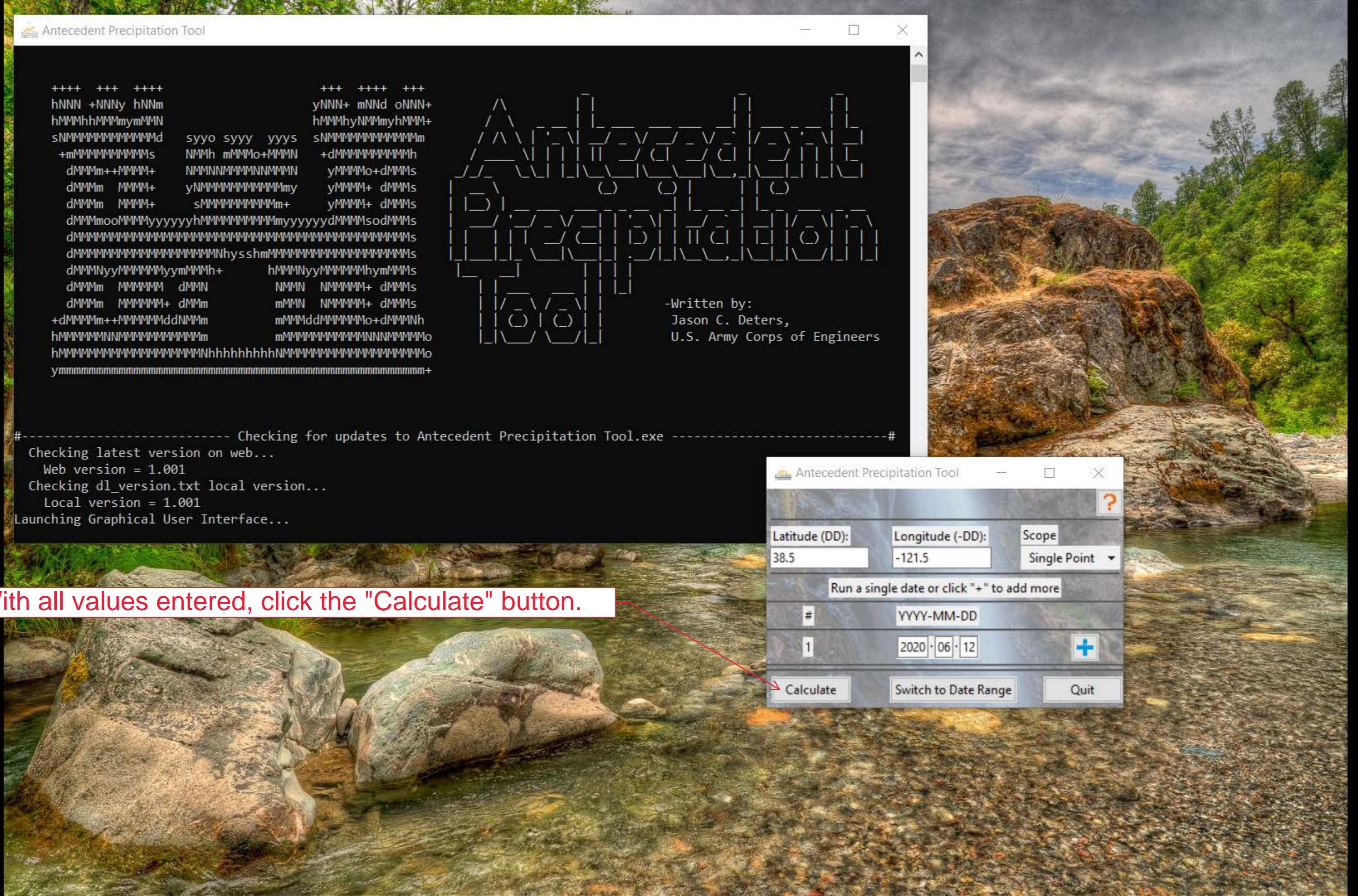






The cursor will automatically jump to the "Month" box.
-Enter the Month of the date you wish to analyze



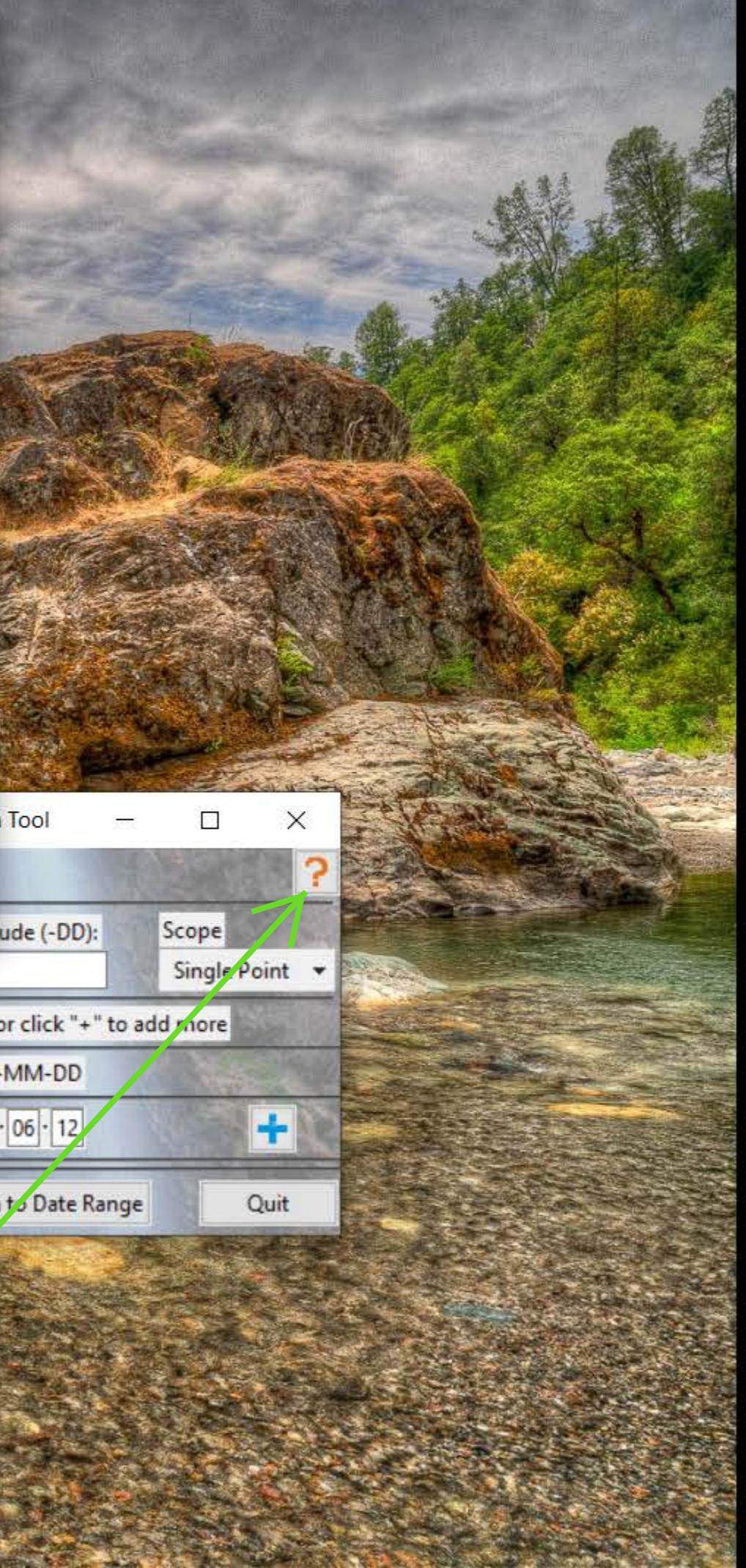
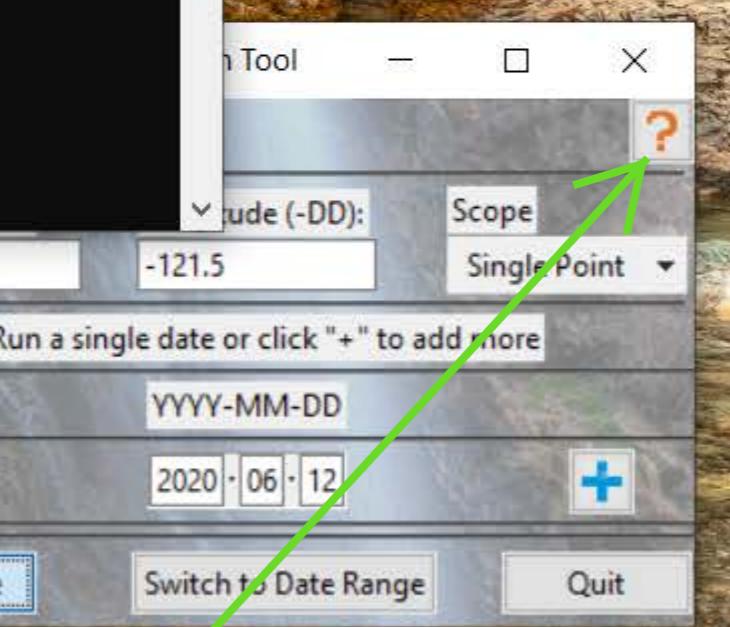


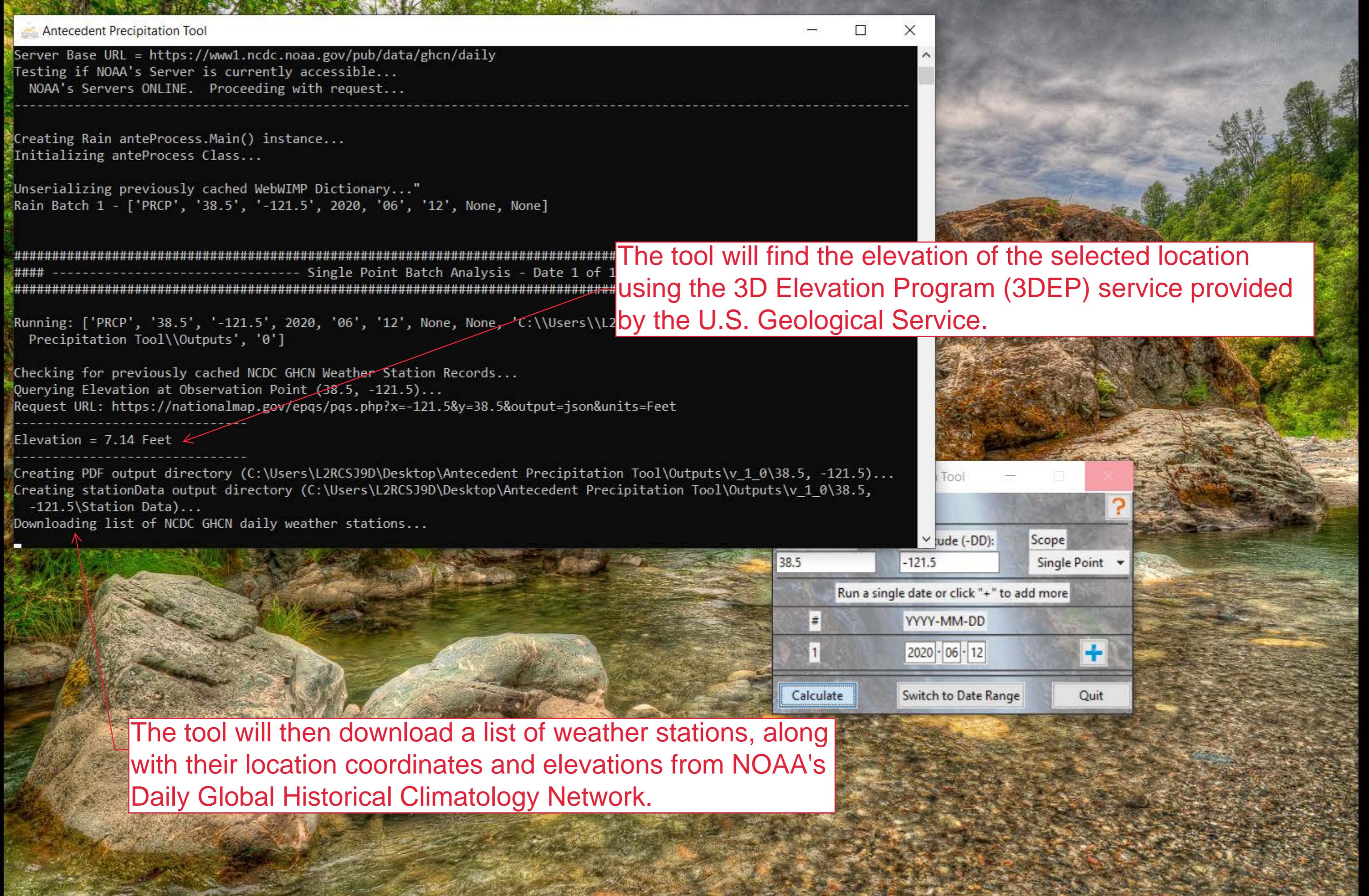
With all values entered, click the "Calculate" button.

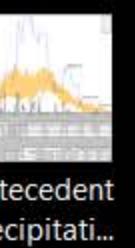
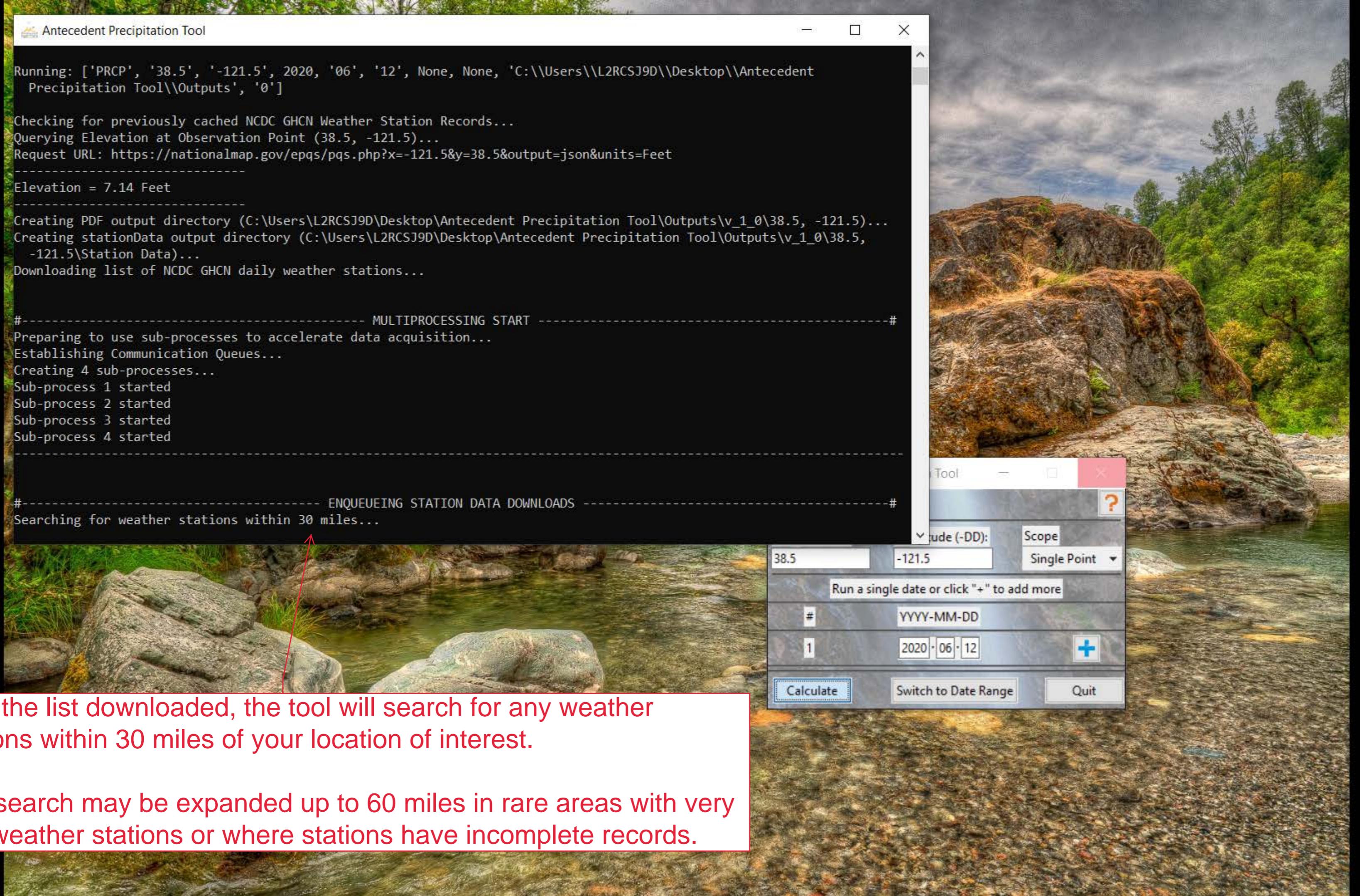
```
dMMMNyyMMMMMyymMMh+ hMMNyyMMMMMyymMMMs  
dMMMm MBBBBB dMMN NMMN NBBBBB+ dMMMs  
dMMMm BBBB+ dMMm mMN NBBBBB+ dMMMs  
+dMMMMm++BBBBBBddNMMm mMMddBBBBBBMo+dMMMNh  
hBBBBBBNNBBBBBBBBBBBm mBBBBBBBBBBBBNNNNBBBBBMo  
hBBBBBBBBBBBBBBBBBBBmhhhyyyyyNBBBBBBBBBBBBBBBMo  
yBBBBBBBBBBBBBBBBBBBmhhhhhhhNBBBBBBBBBBBBBBBMo  
----- 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..."
```

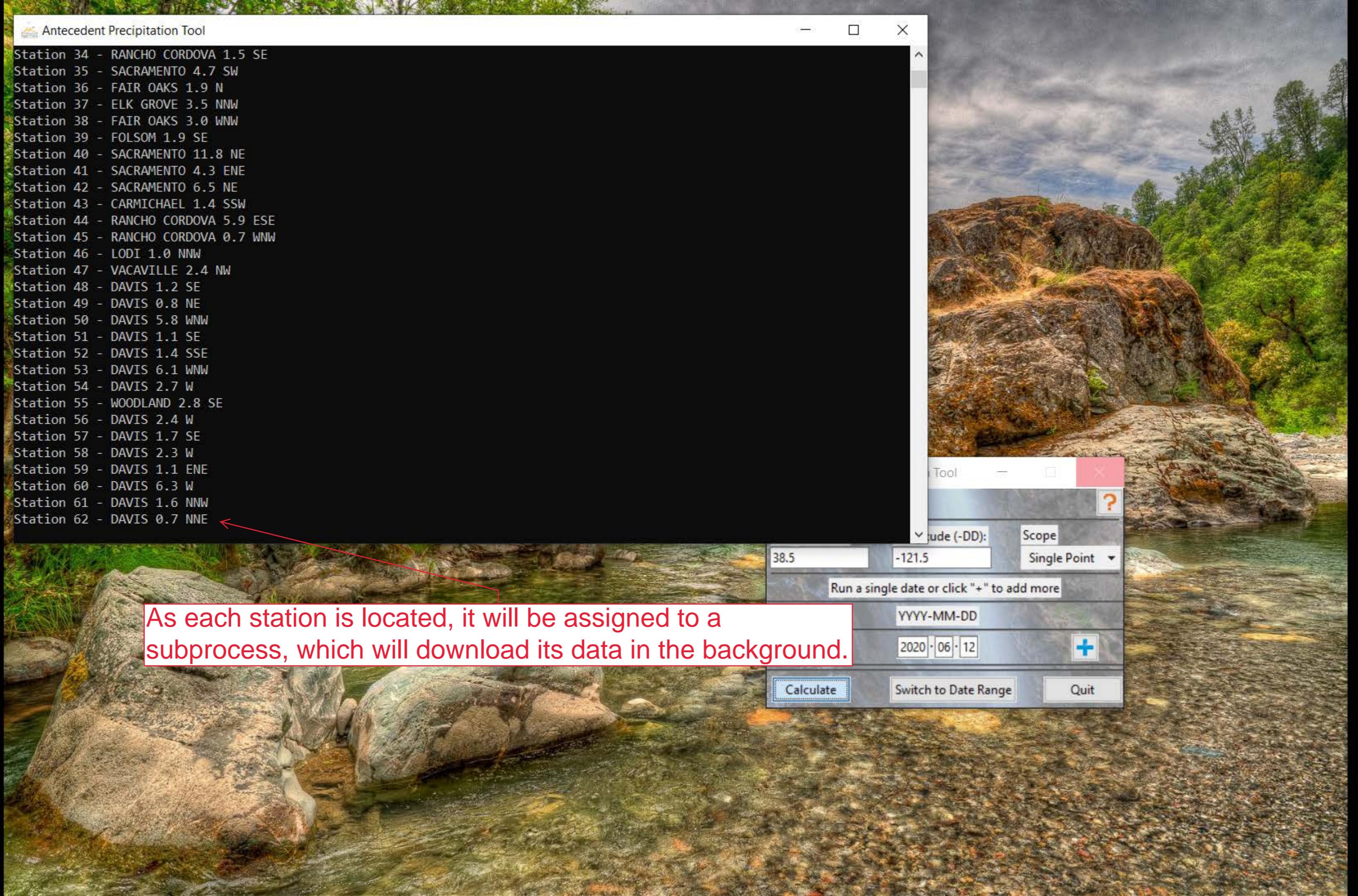
The first thing the tool will do is check whether NOAA's servers are active. During server maintenance or special instances (for example, during certain federal government shutdowns), this resource will not be active, and the tool will inform you that it cannot continue. Unfortunately, the only remedy to such situations is to wait and try again at a later time/date.

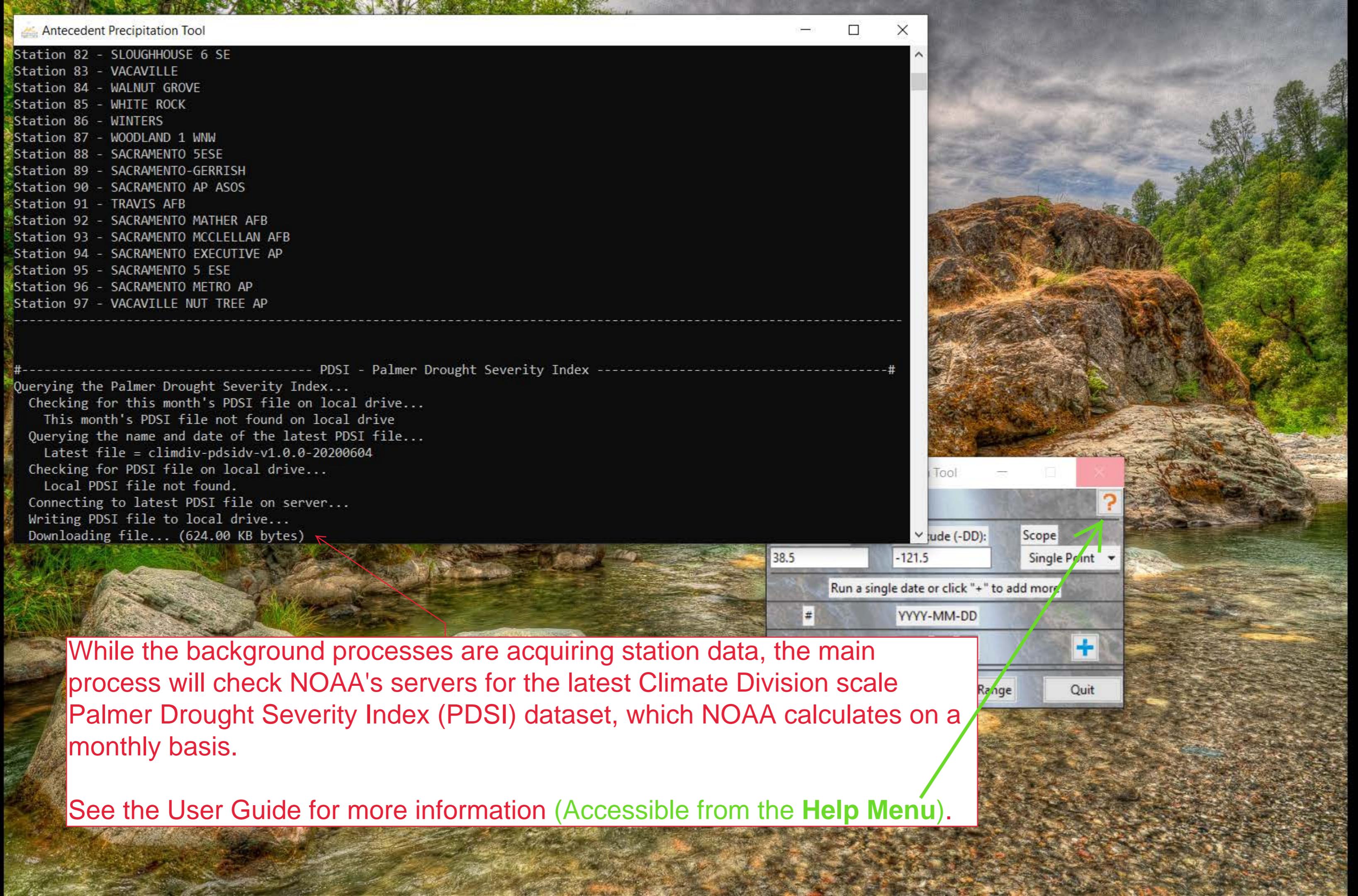
If you continue to receive messages saying the tool is offline, and you know your internet connection is working properly, open the **Help Menu** and click the Report Issue button to.











#-----

MULTIPROCESSING FINISH

Waiting for sub-processes to download stations:

83 stations remaining...

| Mon | DIFF | DST | DEF | Conclusion |
|-----|------|-----|-----|------------|
| Jan | 94 | 62 | 0 | Wet Season |
| Feb | 46 | 0 | 0 | Wet Season |
| Mar | 37 | 0 | 0 | Wet Season |
| Apr | -23 | -23 | 0 | Dry Season |
| 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



It can take quite a while for the background processes to download all of the weather station data, so the main process will also use this time to collect data from the Web-Based Water-Budget Interactive Modeling Program (WebWIMP), which it uses to determine whether the selected month falls within the Dry Season or the Wet Season for selected location.

For more information, see the User Guide in the Help Menu, or the document referenced below:

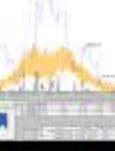
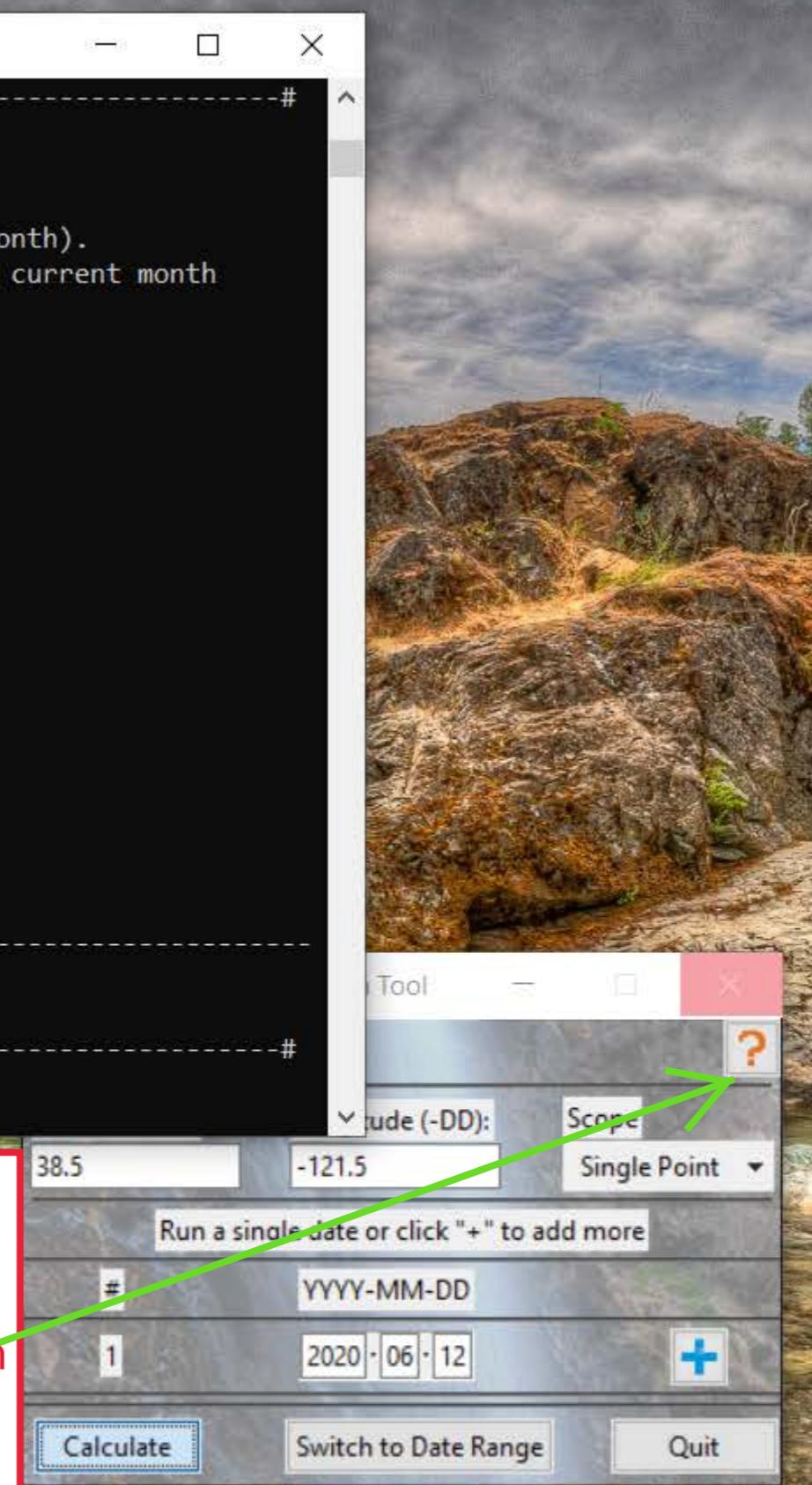
ERDC/EL TR-08-28

Regional Supplement to the Corps of Engineers Wetland Delineation Manual

Arid West Region (Version 2.0)

Section 5 - Difficult Wetland Situations in the Arid West

Wetlands that periodically lack indicators of wetland hydrology



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Antecedent Precipitation Tool

#----- Web WIMP - Web-based Water-Budget Interactive Modeling Program -----#

Scraping WebWIMP at 38.5,-121.5...

Terms:

DIFF is the rainfall and estimated snowmelt minus the adjusted potential evapotranspiration (mm/month).

DST is the estimated change in soil moisture from the end of the previous month to the end of the current month (mm/month).

DEF is the estimated deficit or unmet atmospheric demand for moisture (mm/month).

| Mon | DIFF | DST | DEF | Conclusion |
|-----|------|-----|-----|------------|
| Jan | 94 | 62 | 0 | Wet Season |
| Feb | 46 | 0 | 0 | Wet Season |
| Mar | 37 | 0 | 0 | Wet Season |
| Apr | -23 | -23 | 0 | Dry Season |
| 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

#----- MULTIPROCESSING FINISH -----#

Waiting for sub-processes to download stations:

69 stations remaining...

Tool X

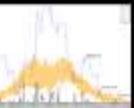
Latitude (-DD): Longitude (-DD): Scope:

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

Date: Format:

Count: Date:

It may take some time to download all the available stations, but as long as this number is decreasing occasionally, there is no reason to suspect the tool has frozen.

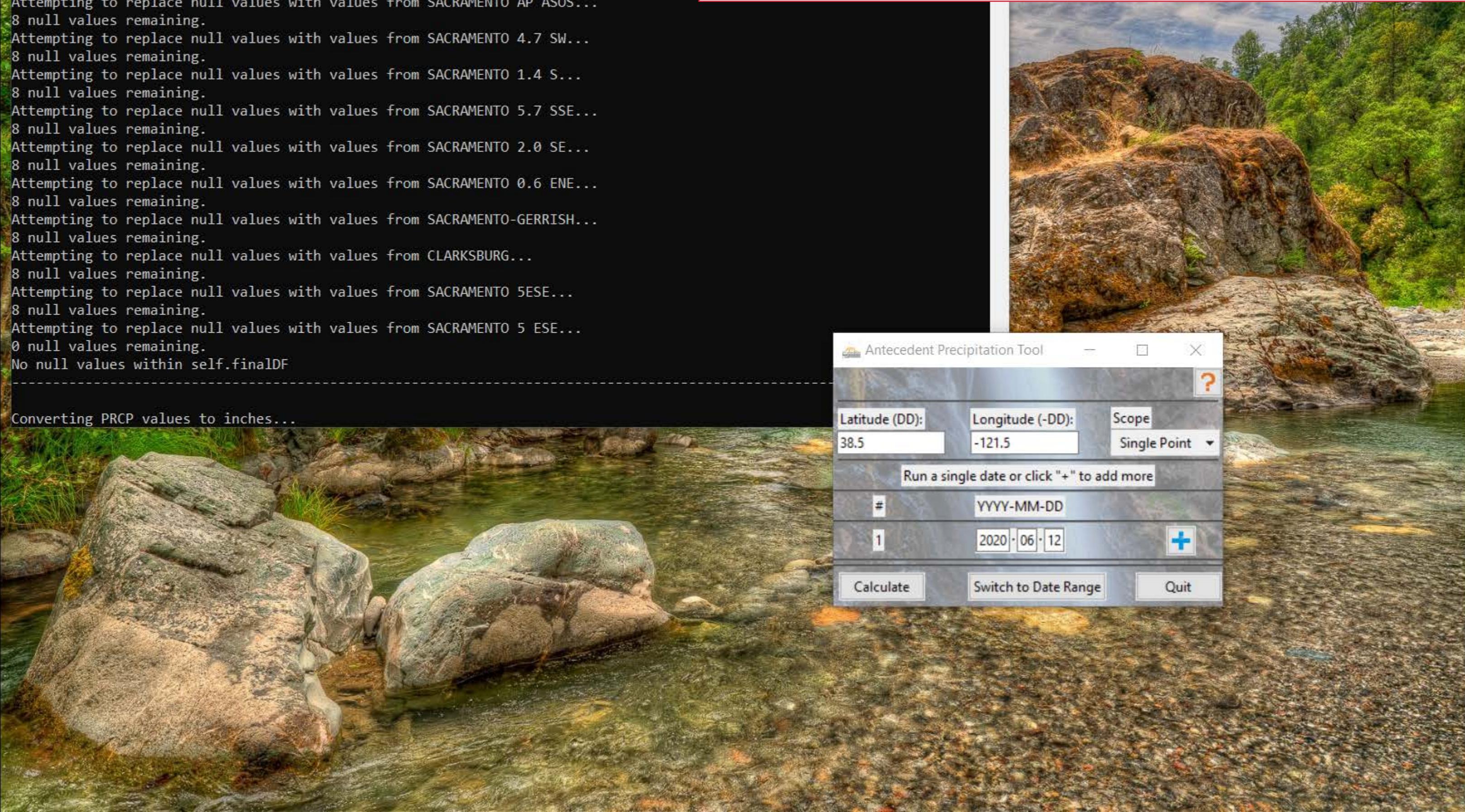
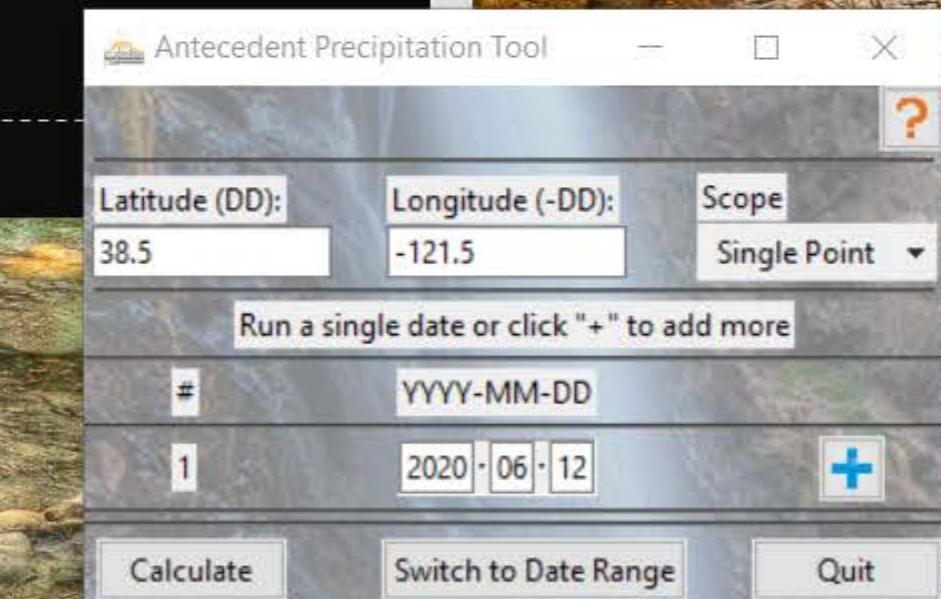


Antecedent
Precipitati...

```
Creating an empty dataframe to populate with weather station data...
11609 null values. ←
Searching for primary station...
Attempting to replace null values with values from SACRAMENTO EXECUTIVE AP...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO AP ASOS...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 4.7 SW...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 1.4 S...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5.7 SSE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 2.0 SE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 0.6 ENE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO-GERRISH...
8 null values remaining.
Attempting to replace null values with values from CLARKSBURG...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5ESE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5 ESE...
0 null values remaining.
No null values within self.finalDF
```

```
Converting PRCP values to inches...
```

The tool will create an empty dataset for the 31-year + 30-day range of dates required for the analysis, and then attempt to fill those dates with the available weather stations in order of suitability (See the User Guide for Suitability Information).



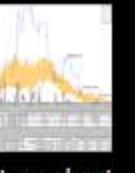
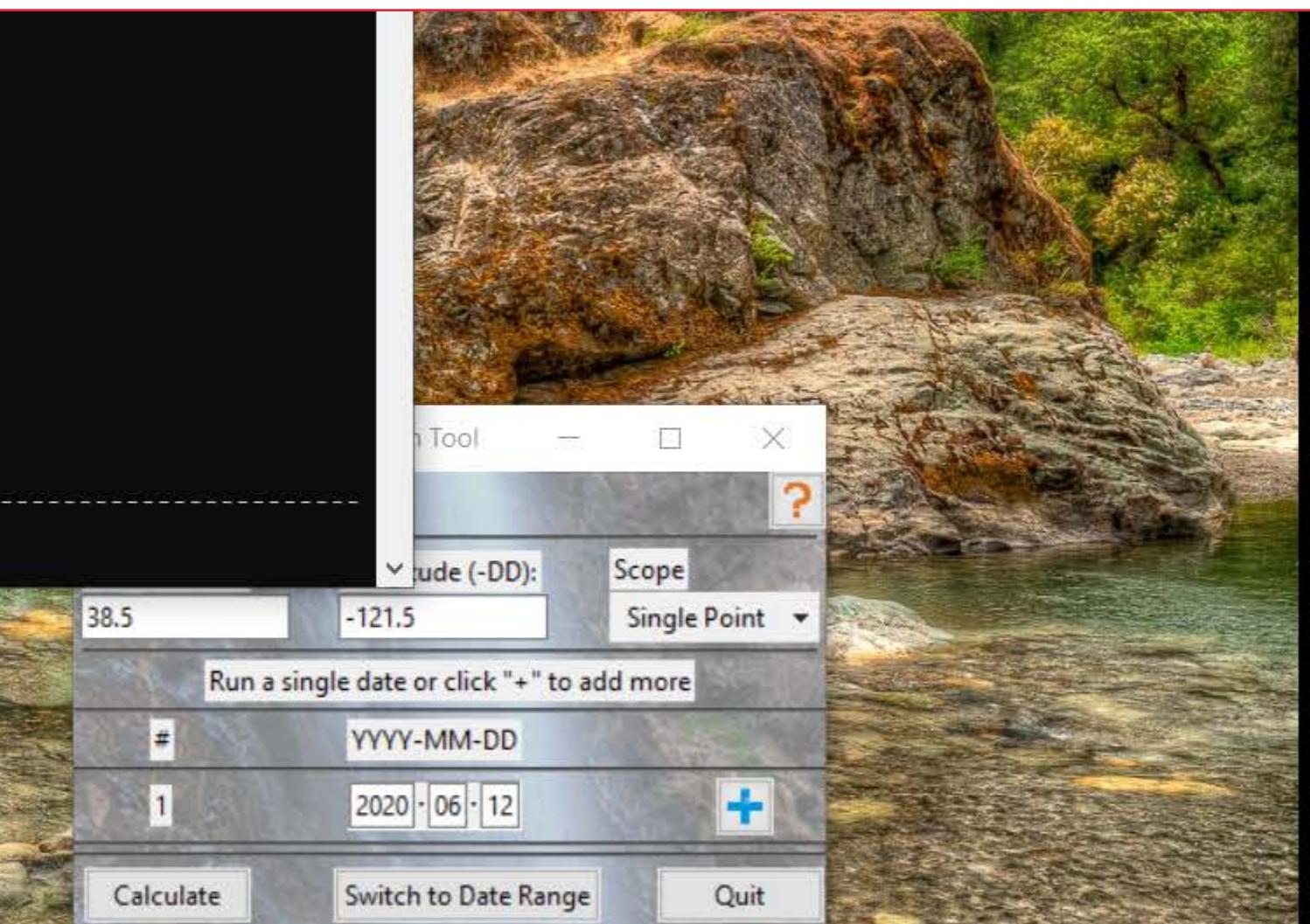
Antecedent Precipitation Tool

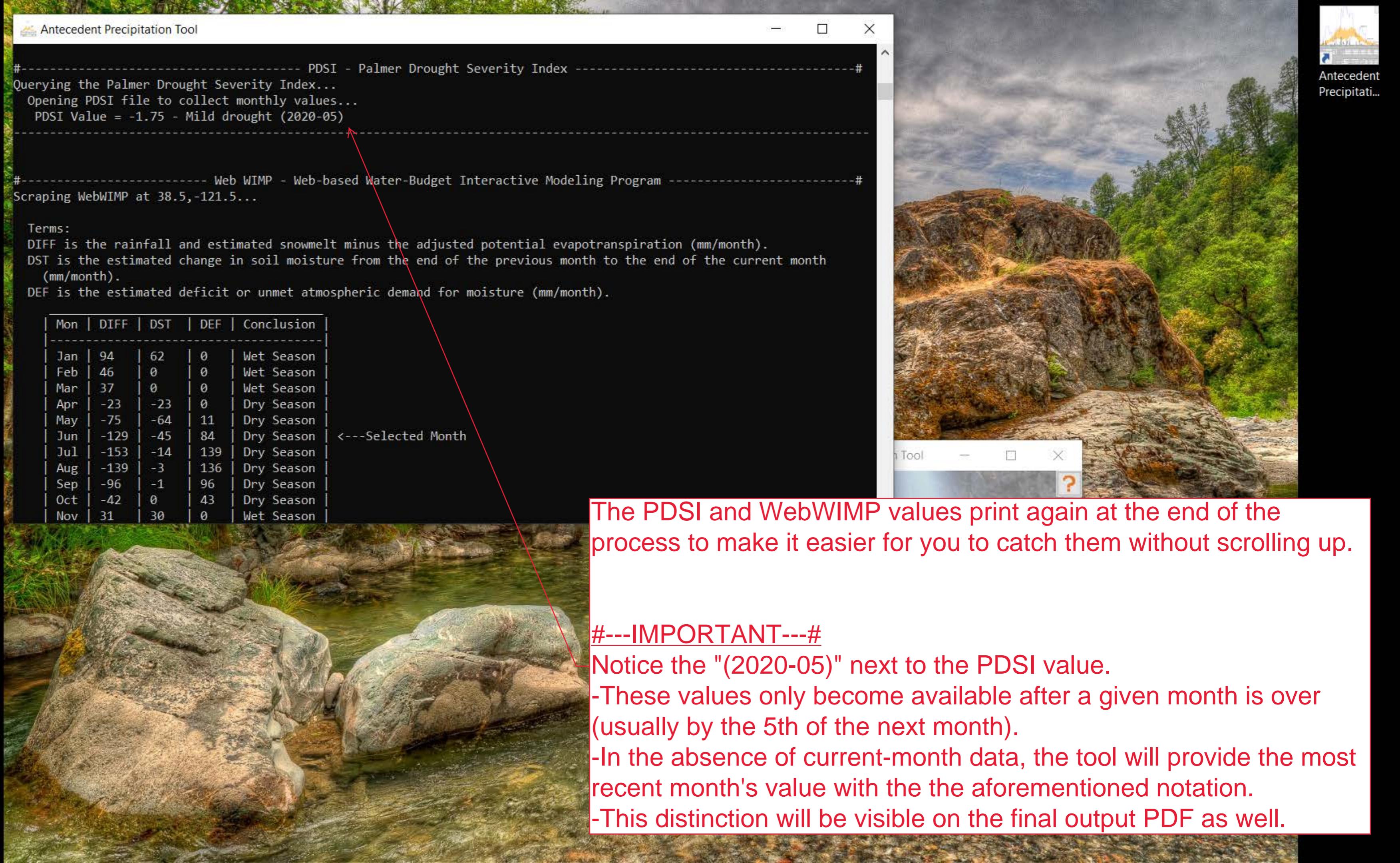
```
Creating an empty dataframe to populate with weather station data...
11609 null values.
Searching for primary station...
Attempting to replace null values with values from SACRAMENTO EXECUTIVE AP...
8 null values remaining. ←
Attempting to replace null values with values from SACRAMENTO AP ASOS...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 4.7 SW...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 1.4 S...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5.7 SSE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 2.0 SE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 0.6 ENE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO-GERRISH...
8 null values remaining.
Attempting to replace null values with values from CLARKSBURG...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5ESE...
8 null values remaining.
Attempting to replace null values with values from SACRAMENTO 5 ESE...
0 null values remaining. ←
No null values within self.finalDF
```

Converting PRCP values to inches...

A given station was only used if the number of null values remaining decreases after the replacement attempt.

So you can see here, and in the resulting output PDF, that only two stations actually contributed to the precipitation normalcy calculation..

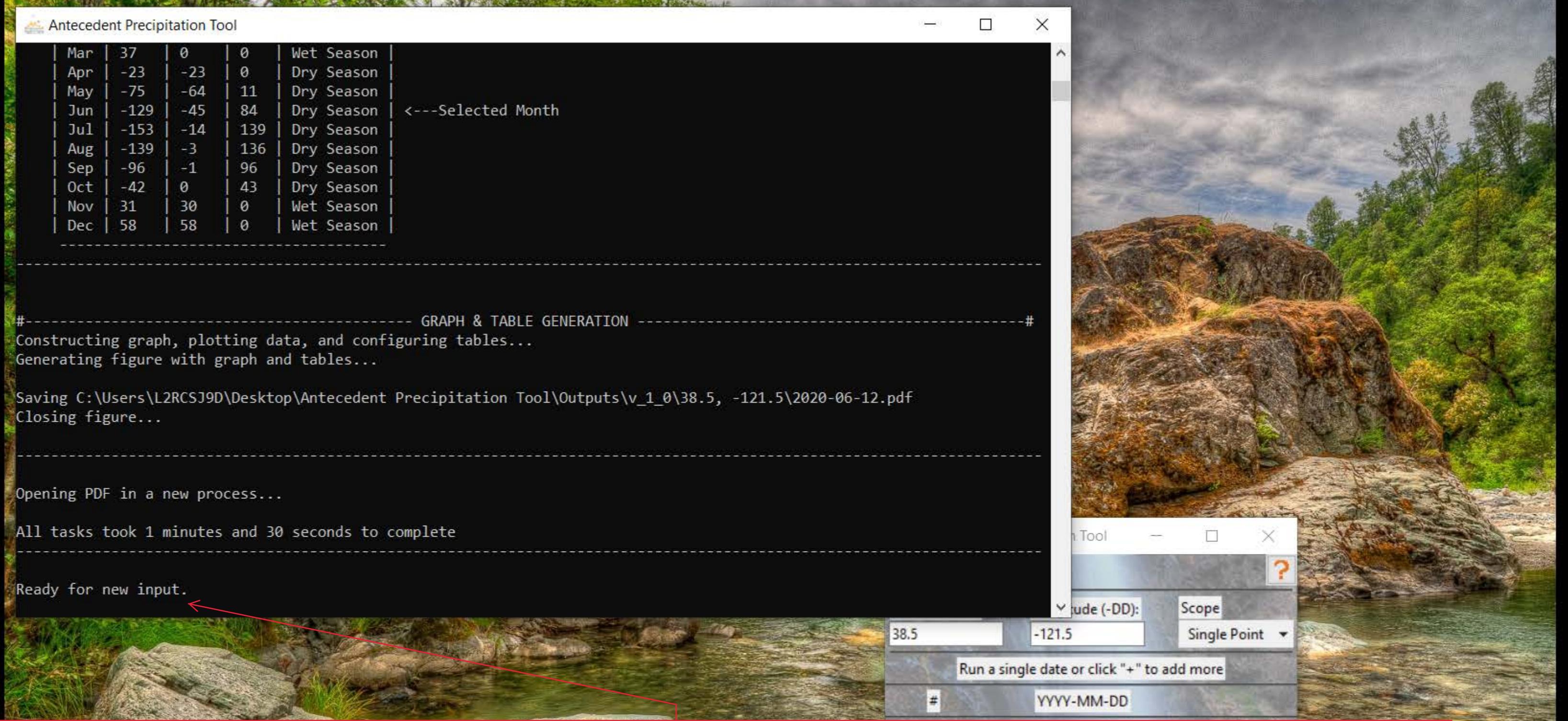




The PDSI and WebWIMP values print again at the end of the process to make it easier for you to catch them without scrolling up.

#---IMPORTANT---

- Notice the "(2020-05)" next to the PDSI value.
- These values only become available after a given month is over (usually by the 5th of the next month).
- In the absence of current-month data, the tool will provide the most recent month's value with the the aforementioned notation.
- This distinction will be visible on the final output PDF as well.



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.

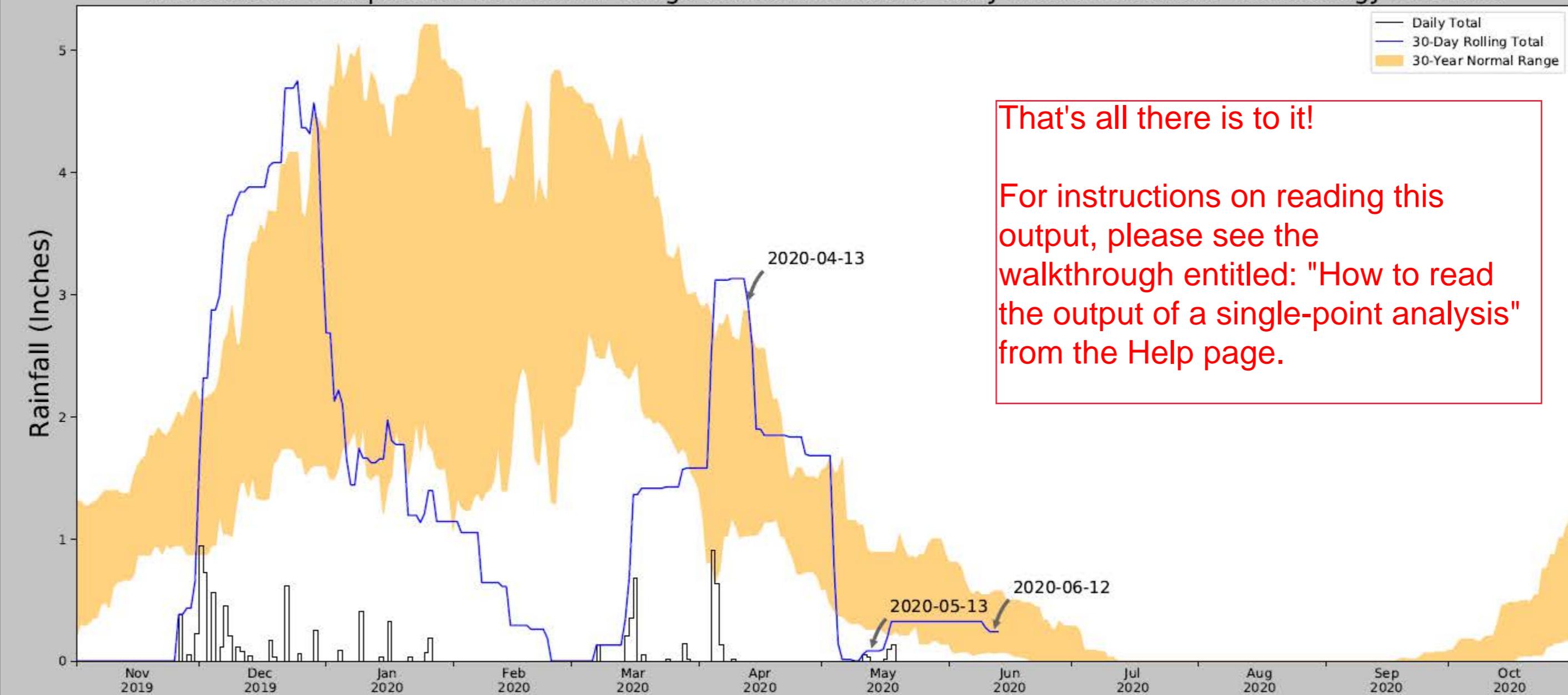
The actual outputs are saved at:
"[Install Location]\Antecedent Precipitation Tool\Output\[LATITUDE] [LONGITUDE]"



61.2%



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 |