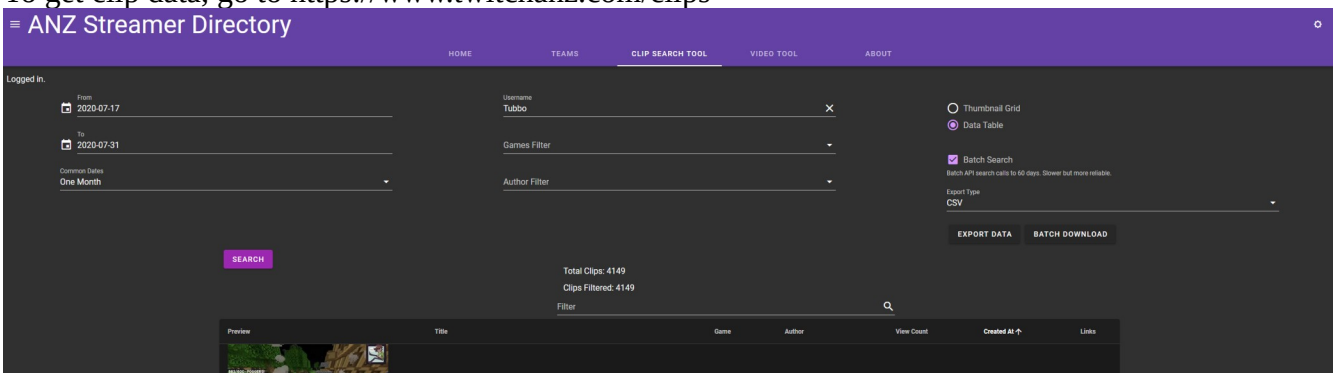
Assumptions

This assumes:

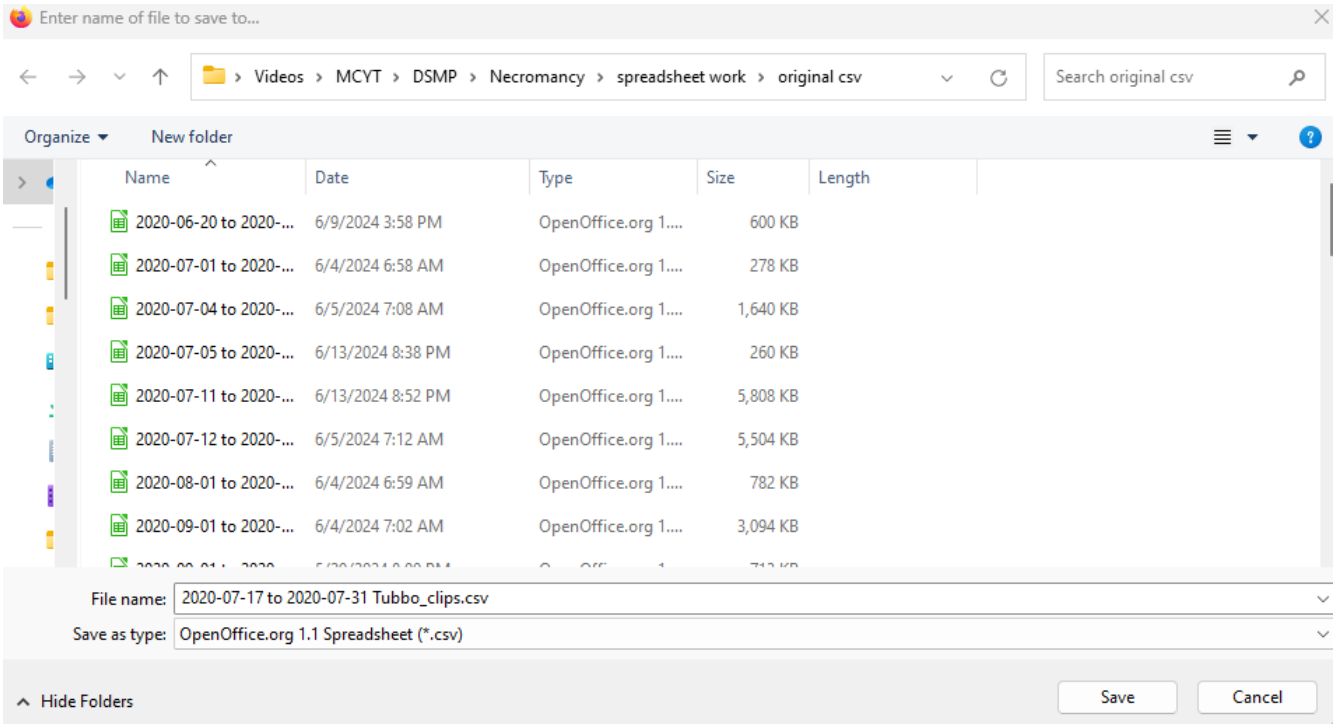
- FFmpeg (including ffmpeg.exe and ffprobe.exe) is installed and is on the PATH
- You have installed Anaconda or Miniconda or some other Python.
- Your Python has the libraries cv2 and pydub
- You have saved the file clip-necromancy-tool.py to your computer
- You are running Windows 11 (I haven’t tried any other OS and don’t know if it works)

Getting Clip CSV

To get clip data, go to https://www.twitchanz.com/clips

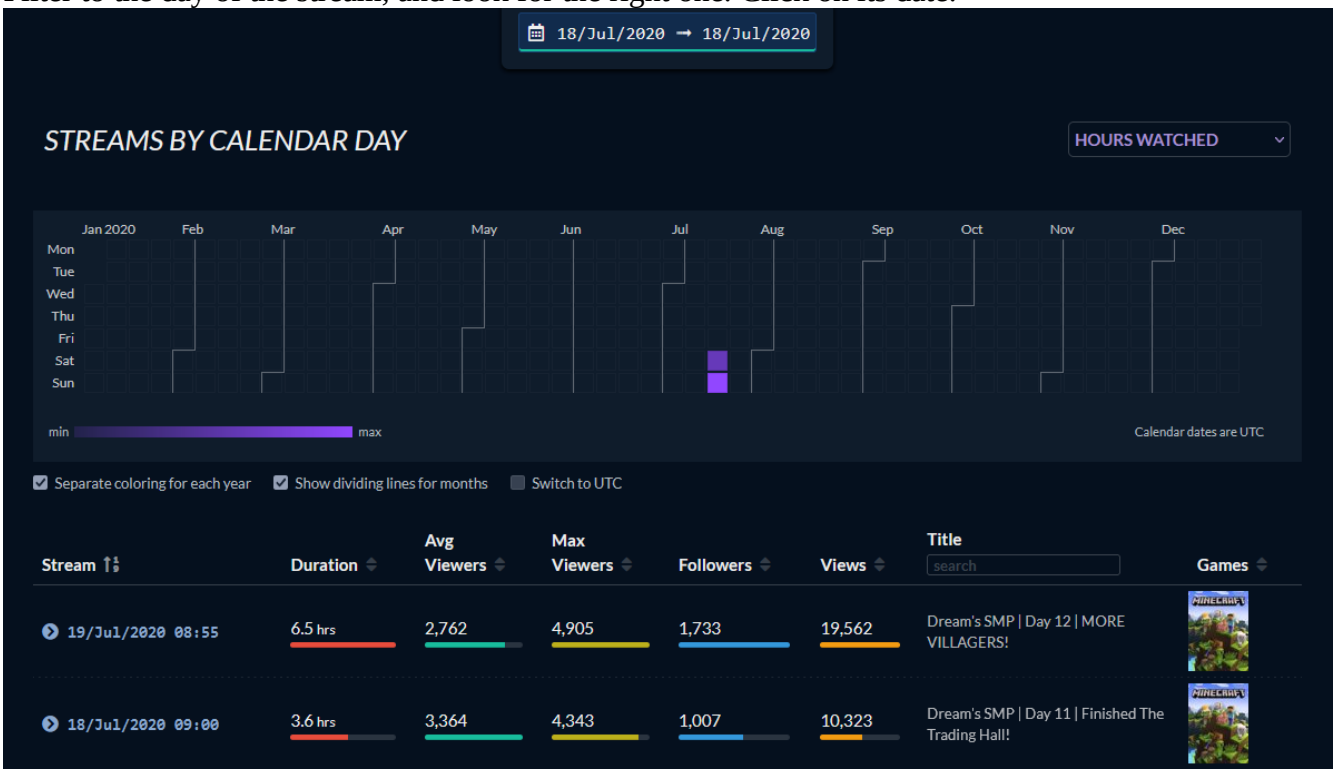


Choose the time period in question, starting a day before the stream (in case of timezone issues), and going out up to 60 days after it. Type the streamer's username. Games Filter is not useful because streamers don't always set their game for a stream correctly. Choose export type CSV, click "Export Data", and save the file with a descriptive title in a place you'll find again later.

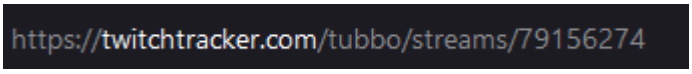


Getting Stream ID, VOD ID, maxtime

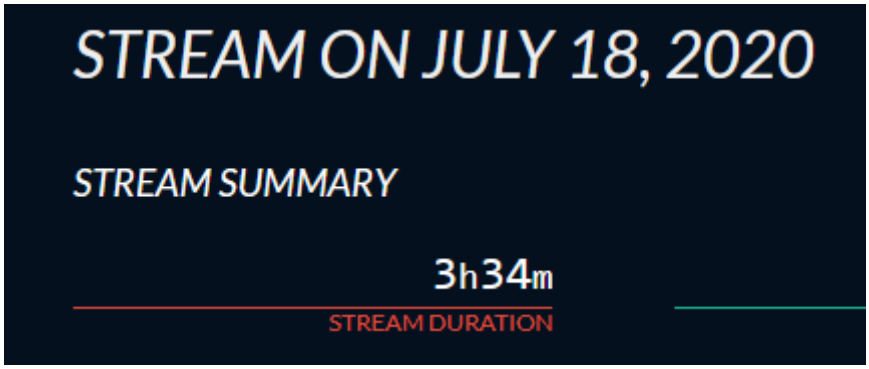
To get stream ID and maxtime from twitchtracker:
Go to https://twitchtracker.com/[streamer]/streams for the streamer.
Filter to the day of the stream, and look for the right one. Click on its date.



The number in the stream's URL is the stream ID.



The maxtime is the duration of the VOD converted to seconds. To be on the safe side, add one more minute.



To get stream ID and VOD ID from clips:

Open the clips CSV file, with a spreadsheet program like Excel or Calc.

	F	G	H	I	J	K
1	gamename	created_at	url	thumbnail_url	download_url	filename
2	Minecraft	2020-07-31T17:07:24Z	https://clips.twitch.tv/PleasantTardyButterflyKevinTurtle	https://clips-media-assets2.twitch.tv/AT-cm%7C804932292-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C804932292.mp4	AT-cm%7C804932292.mp4
3	Minecraft	2020-07-29T16:00:39Z	https://clips.twitch.tv/VibrantBadSmoothieBrokeBack	https://clips-media-assets2.twitch.tv/AT-cm%7C802510429-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C802510429.mp4	AT-cm%7C802510429.mp4
4	Minecraft	2020-07-31T16:49:39Z	https://clips.twitch.tv/GorgeousAbrasiveChimpanzeeLitty	https://clips-media-assets2.twitch.tv/AT-cm%7C804916221-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C804916221.mp4	AT-cm%7C804916221.mp4
5	Minecraft	2020-07-19T17:32:35Z	https://clips.twitch.tv/GracefulTriumphantHedgehogLitFam	https://clips-media-assets2.twitch.tv/AT-cm%7C790696726-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C790696726.mp4	AT-cm%7C790696726.mp4
6	Minecraft	2020-07-31T15:43:40Z	https://clips.twitch.tv/AbrasiveMuddyReubenUnSane	https://clips-media-assets2.twitch.tv/AT-cm%7C804864359-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C804864359.mp4	AT-cm%7C804864359.mp4
7	Minecraft	2020-07-22T19:40:19Z	https://clips.twitch.tv/SuccessfulSourFlamingoHeyGirl	https://clips-media-assets2.twitch.tv/AT-cm%7C794374003-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C794374003.mp4	AT-cm%7C794374003.mp4
8	Minecraft	2020-07-25T19:11:45Z	https://clips.twitch.tv/PeppyFamousSwordAllenHuhu	https://clips-media-assets2.twitch.tv/145152930-offset-13246-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/145152930-offset-13246.mp4	145152930-offset-13246.mp4
9	Minecraft	2020-07-18T17:55:24Z	https://clips.twitch.tv/AggressiveBreakableOctopusTwitchRPG	https://clips-media-assets2.twitch.tv/AT-cm%7C789486933-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C789486933.mp4	AT-cm%7C789486933.mp4
10	Minecraft	2020-07-24T16:19:34Z	https://clips.twitch.tv/HomelyClumsySalamanderTakeNRG	https://clips-media-assets2.twitch.tv/AT-cm%7C796571536-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C796571536.mp4	AT-cm%7C796571536.mp4
11	Minecraft	2020-07-17T21:01:14Z	https://clips.twitch.tv/BelovedRepleteClipsmomAsianGlow	https://clips-media-assets2.twitch.tv/AT-cm%7C788510981-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C788510981.mp4	AT-cm%7C788510981.mp4
12	Minecraft	2020-07-27T22:49:43Z	https://clips.twitch.tv/ExuberantNimbleMeatloafBloodTrail	https://clips-media-assets2.twitch.tv/AT-cm%7C800542817-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C800542817.mp4	AT-cm%7C800542817.mp4
13	Minecraft	2020-07-26T17:02:55Z	https://clips.twitch.tv/LightTastyAyeayeUWot	https://clips-media-assets2.twitch.tv/154689314-offset-5198-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/154689314-offset-5198.mp4	154689314-offset-5198.mp4
14	Minecraft	2020-07-17T17:12:50Z	https://clips.twitch.tv/TolerantShinyRedpandaBCouch	https://clips-media-assets2.twitch.tv/AT-cm%7C788244768-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C788244768.mp4	AT-cm%7C788244768.mp4
15	Minecraft	2020-07-25T16:17:08Z	https://clips.twitch.tv/LightSpookyChickpeaFeelsBadMan	https://clips-media-assets2.twitch.tv/AT-cm%7C797775165-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C797775165.mp4	AT-cm%7C797775165.mp4
16	Minecraft	2020-07-31T18:10:48Z	https://clips.twitch.tv/ColdSourCarrotNotATK	https://clips-media-assets2.twitch.tv/201236162-offset-12488-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/201236162-offset-12488.mp4	201236162-offset-12488.mp4
17	Minecraft	2020-07-20T21:08:24Z	https://clips.twitch.tv/HappySlipperyPuffinDoubleRainbow	https://clips-media-assets2.twitch.tv/AT-cm%7C792110781-preview-480x272.jpg	https://clips-media-assets2.twitch.tv/AT-cm%7C792110781.mp4	AT-cm%7C792110781.mp4

Filter the filename field to include “offset”, and sort by the field created_at.

Look for clips with a title matching the title you expect from the stream.

	B	C	D	G	J	K
1	broadcaster_nam	creator_name	title	created_at	download_url	filename
614	Tubbo	doublekay16	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:26:45Z	https://clips-media-assets2.twitch.tv/79156274-offset-12382.mp4	79156274-offset-12382.mp4
615	Tubbo	shuahua17	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:07Z	https://clips-media-assets2.twitch.tv/79156274-offset-12406.mp4	79156274-offset-12406.mp4
616	Tubbo	Joelertron	SKEPPY KILLS TUBBO (rare footage)	2020-07-18T18:27:07Z	https://clips-media-assets2.twitch.tv/79156274-offset-12402.mp4	79156274-offset-12402.mp4
617	Tubbo	KeatDawg	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:10Z	https://clips-media-assets2.twitch.tv/79156274-offset-12406.mp4	79156274-offset-12406.mp4
618	Tubbo	MortyBih	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:10Z	https://clips-media-assets2.twitch.tv/79156274-offset-12402.mp4	79156274-offset-12402.mp4
619	Tubbo	FartieFart	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:16Z	https://clips-media-assets2.twitch.tv/79156274-offset-12400.mp4	79156274-offset-12400.mp4
622	Tubbo	ExplodingWaffle101	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:25Z	https://clips-media-assets2.twitch.tv/79156274-offset-12416.mp4	79156274-offset-12416.mp4
623	Tubbo	SirScrax	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:30Z	https://clips-media-assets2.twitch.tv/79156274-offset-12408.mp4	79156274-offset-12408.mp4
624	Tubbo	xboj_	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:27:51Z	https://clips-media-assets2.twitch.tv/79156274-offset-12430.mp4	79156274-offset-12430.mp4
626	Tubbo	ceaterdolphin98	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T18:29:29Z	https://clips-media-assets2.twitch.tv/79156274-offset-12414.mp4	79156274-offset-12414.mp4
627	Tubbo	mattj_1	Dream's SMP | Day 9 | We Will Fight A Wither Today… at some point…	2020-07-18T20:51:56Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-20266.mp4	vod-681394538-offset-20266.mp4
628	Tubbo	FartieFart	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-18T22:40:40Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-11468.mp4	vod-683421969-offset-11468.mp4
629	Tubbo	waffleandmeat	Jschlatt's wise words	2020-07-19T01:33:32Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-29846.mp4	vod-681394538-offset-29846.mp4
630	Tubbo	waffleandmeat	Dream's SMP | Day 9 | We Will Fight A Wither Today… at some point…	2020-07-19T01:37:58Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-30012.mp4	vod-681394538-offset-30012.mp4
631	Tubbo	halfglassfulltypaguy	Dream's SMP | Day 9 | We Will Fight A Wither Today… at some point…	2020-07-19T04:00:14Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-29138.mp4	vod-681394538-offset-29138.mp4
632	Tubbo	aussie_tea_	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T05:51:49Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-4894.mp4	vod-683421969-offset-4894.mp4
635	Tubbo	maggiehatealot	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T07:07:07Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-2266.mp4	vod-683421969-offset-2266.mp4
636	Tubbo	mridkme	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T07:41:54Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-7660.mp4	vod-683421969-offset-7660.mp4
637	Tubbo	boyjedi1234	Dream's SMP | Day 10 | Villagers Are POGGERS!	2020-07-19T08:23:08Z	https://clips-media-assets2.twitch.tv/vod-682422748-offset-7652.mp4	vod-682422748-offset-7652.mp4
638	Tubbo	KetchupIsOk	The Cooking Stream Season 3 | But you control the Cooking!	2020-07-19T12:05:45Z	https://clips-media-assets2.twitch.tv/vod-679447480-offset-8596.mp4	vod-679447480-offset-8596.mp4
640	Tubbo	arihan01	Dream's SMP | Day 9 | We Will Fight A Wither Today… at some point…	2020-07-19T13:02:18Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-31980.mp4	vod-681394538-offset-31980.mp4
641	Tubbo	arihan01	Dream's SMP | Day 9 | We Will Fight A Wither Today… at some point…	2020-07-19T13:07:50Z	https://clips-media-assets2.twitch.tv/vod-681394538-offset-32178.mp4	vod-681394538-offset-32178.mp4
642	Tubbo	ugottabeyeetingme	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T14:04:30Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-2890.mp4	vod-683421969-offset-2890.mp4
643	Tubbo	ugottabeyeetingme	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T14:04:32Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-2896.mp4	vod-683421969-offset-2896.mp4
644	Tubbo	Saltz55	Dream's SMP | Day 11 | Finished The Trading Hall!	2020-07-19T14:49:14Z	https://clips-media-assets2.twitch.tv/vod-683421969-offset-10640.mp4	vod-683421969-offset-10640.mp4

The VOD ID is the first number in the filename field of the clips from the right stream that begins with “vod-”, and the stream ID is the first number from the filename that does not.

Reconstruction Tool Setup
Open clip-necromancy-tool.py in a text editor. I use Notepad++ for convenience, but Notepad would work.

You will only be changing values in the setup section at the beginning of the document.

Set original_clips_csv_path to be the full path to the clips CSV you downloaded.
Set chosenstreamid to the stream ID and chosenvodid to the VOD ID. If you could not find the VOD ID, set it to None, like `chosenvodid = None`.
Set outputfolderpath to the folder you want the program to make to store all the files for this reconstruction.
Set streamtitle to the title of the stream, or whatever you want the video to be named.
Set starttime to be 0, and maxtime to be the maxtime you calculated.
Set checkbetween to be True (this means the program will try to find clips on Twitch's servers that aren't listed in the CSV. Set it to False if the clips are a weird format or you don't want it to do that.)
Set downloadnonoffsetclips to be False and pause_at_end to be False (these are both for more complicated things I'm not covering right now.)
Leave everything else alone.

clip-necromancy-tool.py

```
import pandas as pd
import numpy as np
import os
import subprocess
import requests
import cv2
from pydub import AudioSegment, silence
from time import time
import requests
import shutil

#Setup:
#full path of originally downloaded full CSV file from https://www.twitchanz.com/clips/ , start with the day of the VOD and go 60 days after then.
original_clips_csv_path = r"D:\Videos\MCYT\DSMP\Necromancy\spreadsheet work\original csv\2020-07-17 to 2020-07-31 Tubbo_clips.csv"
#at least one of these two must have a value:
chosenstreamid = 79156274 #chosenstreamid = 38788861632 #set to None if not using. This will usually match twitchtracker
chosenvodid = 683421969 #set to None if not using. I don't know where you find these except by looking at clips.

#full path to folder where the clips should be saved
outputfolderpath = r"D:\Videos\MCYT\DSMP\Necromancy\2020-07-18 Tubbo Restoration"
streamtitle = "Dream's SMP | Day 11 | Finished The Trading Hall!"
starttime = 0 #first time in seconds t oinclude in restoration, put 0 by default
maxtime = 12900 # last time in seconds to include in restoration, put None by default
checkbetween = True #whether to have it check seconds between ones listed in CSV, usually default True
downloadnonoffsetclips = False #whether you _already have_ a CSV of non-offset-format clips, "nonoffsetclips.csv", to download in the working folde
pause_at_end = False

```

Navigate to the folder containing clip-necromancy-tool.py in the Anaconda Prompt window.
Run `python clip-necromancy-tool.py`, and wait for it to run. If it crashes, let me know and I'll try to figure out the problem.