

VIDEO CREATION FROM TRACKING ANALYST

Software required:

- 1) ESRI ArcMap and Tracking Analyst
- 2) Free-ware – Virtualdub (download from internet)
- 3) Microsoft MovieMaker (usually comes with a PC)

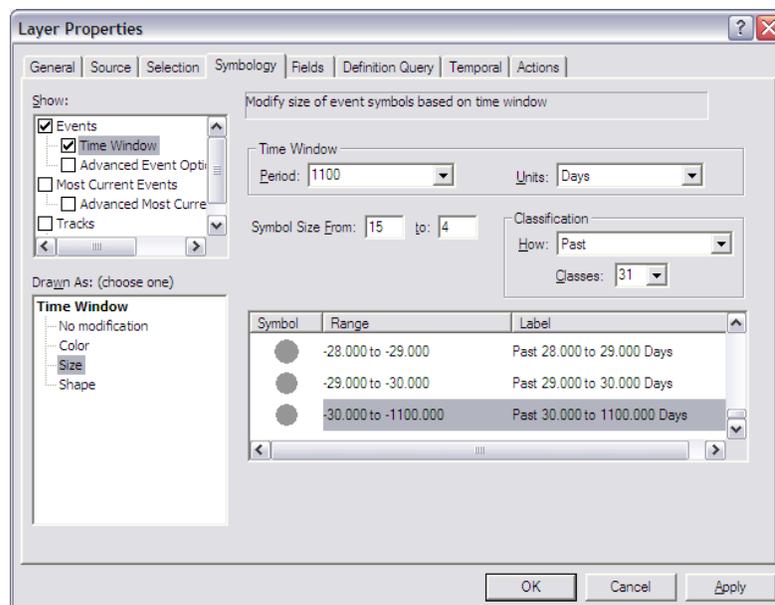
STEP 1: CREATE TEMPORAL LAYER IN TRACKING ANALYST

The key step here is to set up the DATE field to match Tracking Analyst requirements, which are very specific. See the help file in ArcMap for more information. You can use a field with a **Date** type, or format the text to match the import types that Tracking analyst requires. I won't go into any more detail than that. However, for the foreclosure data, I used good ol' ArcView 3.3 to create a DATE field.

STEP 2: SET UP SYMBOLIZATION

There are a lot of ways to symbolize in Tracking Analyst. In the .mxd file I have used a couple, but the best one appeared to be the Time Window and Size mechanisms. I wish I could use time and color, but it didn't work. What I wanted to do was to have the foreclosure dots appear and then get smaller over 30 days, and then stay on the map. This isn't easy to do – I imagine there may be something easier than what I did, but here it is.

- Set the Period to 31 days (my time of interest +1)
- Set the classifications to 31 classes (so each class is one day)
- Went to the last class and typed in “-1100” – so that ALL points over 30 days stayed on the map. This took me a while to figure out.



STEP 3: LOCK LABELS!!!

During playback, etc – it is **highly recommended that you lock the labels** on the map. You may have to turn on the “Labeling” toolbar under View/Toolbars to see it. This way, the labels don’t need to get redrawn every time the map is output. For a video, which will draw the map hundreds of times, this will speed up your output DRAMATICALLY



STEP 4: SET UP YOUR MAP AREA (INCLUDING THE ASPECT RATIOS)

My final output is a Windows Movie File. WMV files generally use a 4:3 aspect ratio (now we’re getting into video talk). The map window does not need to have this ratio, but you’ll get black bars around the sides of the video. For the Countywide map that is pretty much unavoidable, but for smaller areas try it.

Zoom, pan, etc your map to the area you want to show. Then unlock, and relock the labels.

STEP 5: SET UP DATE TAGS

This was one of the hardest things to figure out. I spent hours playing with video editing, and then I found the link below. Basically, you need to create a point file (all points in the same location) that has a DATE field that you want to show. Here is the link that showed me how to do this:

<http://support.esri.com/index.cfm?fa=knowledgebase.techarticles.articleShow&d=24807>

I created a DATE_POINT file, with one point for each month (again I used a DATE format field) and placed the dots in the bottom left of my video area.

STEP 6: OUTPUT THE VIDEO!!

Finally – **get me my video!** Go to the Animation Tool, and create the VIDEO!

Not so fast (of course). My first couple of attempts – the video **looked like crap** – all the colors were washed out. Basically it comes down to the fact that ESRI’s output is only 256 colors: See this link:

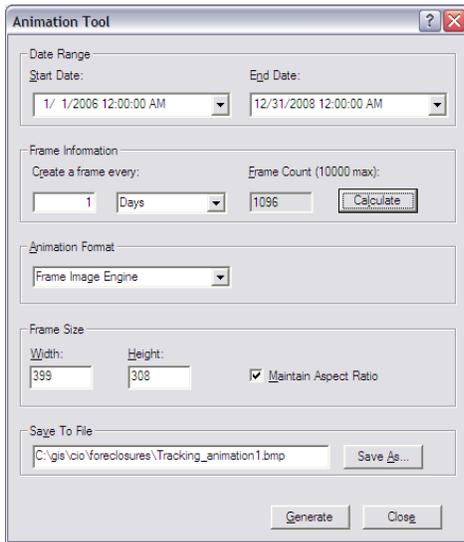
<http://support.esri.com/index.cfm?fa=knowledgebase.techarticles.articleShow&d=27661>

So I was lost, until I discovered the **Frame Image Engine** Animation Format. Basically each frame is output as a separate bitmap.

Here are the steps:

1. Set the start and end date
2. Set the Frame Information to create a frame at the right interval (the default is seconds – for foreclosures I used a day). **Check the Frame Count** – to see if this is realistic
3. Change the Animation Format to **Frame Image Engine**
4. Change the Frame size to something that will be realistic on a computer – probably 500 pixels in any one direction. Yes – you want to maintain aspect ratio.
5. **Click Generate** – go have some coffee.

Here is an example:



Basically – this will output 1,096 .bmp files, each number sequentially.

STEP 7: GENERATE AN AVI FILE FROM THE BMP FILES WITH VIRTUALDUB

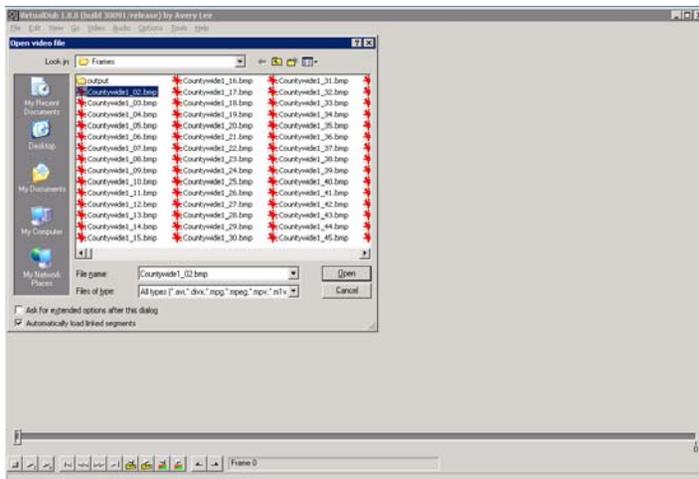
Welcome to the wonderful world of Video editing. I tinkered and tinkered with this part. There are thousands of ways to go from here, so if someone is a video expert, please let me know what I am doing wrong.

Virtualdub is an open-licensed product that you will download here: <http://www.virtualdub.org/>

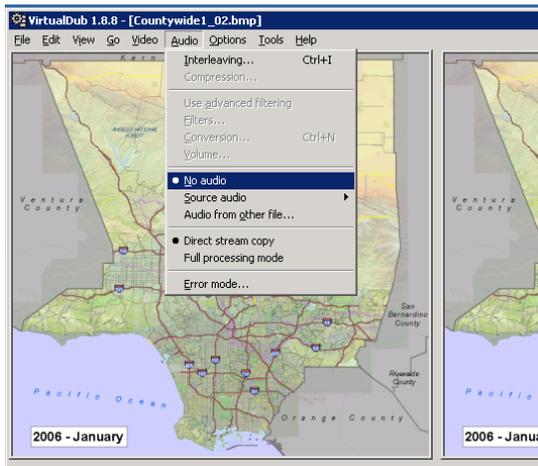
There are other versions (like virtualdubmod) but I found the original to work the best.

The steps are straightforward, BUT there are so many variations you want to get this right.

1. Start VirtualDub
2. Under File – click Open Video File
3. Navigate to where the bmp files were output, and the Click on the first one. In the picture below, this starts with 02 since I deleted the first frame.



4. You will see two frames (the input on the left and the output on the right).
5. Under the Audio menu, click **No Audio**



6. Under the Video menu, click **Frame Rate**. The default (as you see) is 10 frames per second (fps). The more frames per second, the faster the video will run. For your background – the US standard is 30 FPS, but this is really meaningless here since we are compressing things over time. For the foreclosure video I used 20 fps to ensure that my 1096 frames played in under 1 minute. You can play with this.
7. Under File – select **Save as AVI** or hit F7 (same thing). Select your output location, and **OK**
8. The video will generate (and generally VERY fast).

At the end of this you will have a HUGE, uncompressed video file. Mine was almost 1 Gb. But we are basically there.

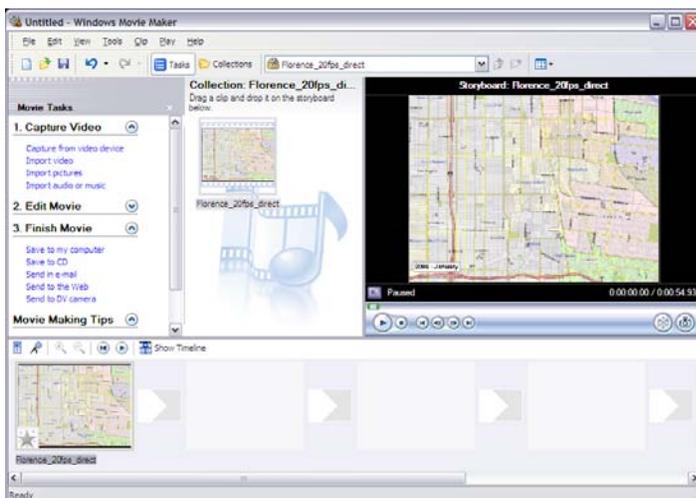
STEP 6: OUTPUT THE VIDEO VIA WINDOWS MOVIE MAKER!!

This isn't probably the best way to get a final product, but it worked well for me, since it was simple, fast, and compressed the 1 Gb videos down to about 4 Mb.

Accessing Movie Maker in the County

The icon to start it is generally removed from County PCs – so go to Start/Run and type **moviemk**, then:

1. Under **Capture Video** - select "Import Video" and select the AVI file that was just output
2. Under **Finish Movie** – select "Save to Computer"



3. Pick a file location
4. I used the "Best Quality for playback on my computer (recommended)" Note it is recommended 😊
5. Click "Next" and the video will output