There are four simple things to remember before you start.[1]

First, patches are based on land cover, not land use. It's about what covers the land, not how it is defined as being used by zoning categories such as residential, commercial, etc.
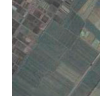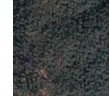
The land cover types are:

buildings *pavement* *bare soil* *fine vegetation* *coarse vegetation*

Second, a patch boundary is a line that marks differences in the mix of land cover types. In other words, a boundary is located where the heterogeneity of land cover mixes change.

Third, patches change shape and they do so in two ways. First, the boundary can stay the same and the contents change. Or, the boundary can move — either becoming bigger or smaller — as patches around it or inside of it change.

Finally, the size of a patch depends on the research question you are asking. For example, you can draw the patches of your block, neighborhood or your watershed.

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[1] Cadenasso, M. L., S. T. A. Pickett, and K. Schwarz. 2007. "Spatial heterogeneity in urban ecosystems: reconceptualizing land cover and a framework for classification." *Frontiers in Ecology and Environment* 5:80-88.
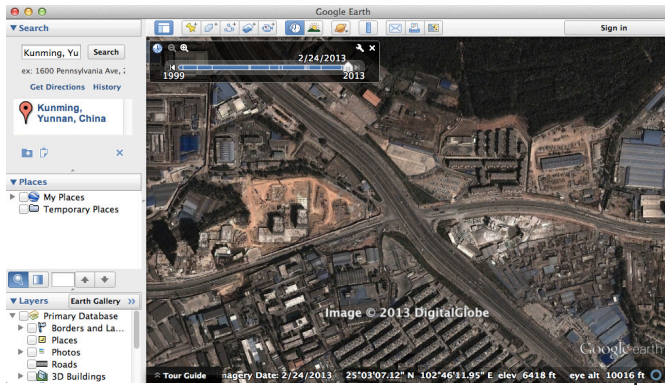
Zoom to your chosen location and center image

View > Historical Imagery

View > Status Bar

Preferences > Navigation > Mouse Wheel > Slow

Zoom to an eye alt that you can remember

eg: 10,000ft. ——

Hide all labels: Places, Layers, and Search results

File > View Size > TV Playback > 1280x720p

File > Save > Save Image...

Pull Historical Imagery slider backwards

File > Save > Save Image...

Pull Historical Imagery slider backwards

File > Save > Save Image...

Repeat for desired number of years

Adobe Illustrator
free trial: adobe.com/downloads

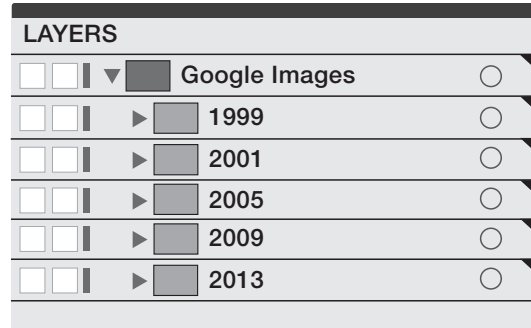File > New...   (Size: 20" x 12")

File > Save as...

PLACING IMAGES

File > Place Image...

Repeat until all images are placed within layer

Label folder and individual layers, organize by date.

LAYERS		
▼ ■ Google Images	○
▶ ■ 1999	○
▶ ■ 2001	○
▶ ■ 2005	○
▶ ■ 2009	○
▶ ■ 2013	○

PATCH PREPARATION

Window > Layers... Create New Layer

Label as 'Patch Boundary' with appropriate year

Use the Pen Tool (p) to create patch boundaries

PEN TOOL (P)

Window > Tools *and/or*   Window > Controls
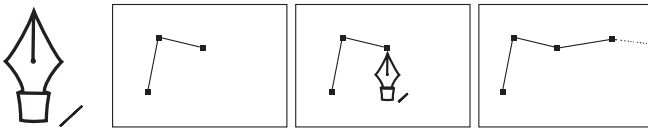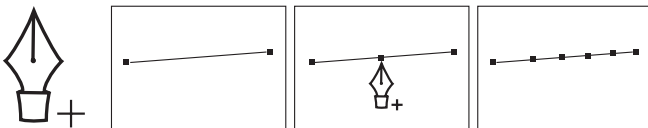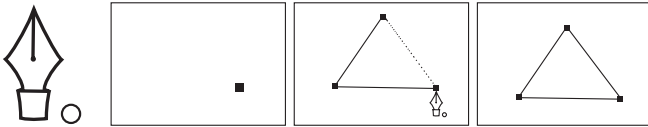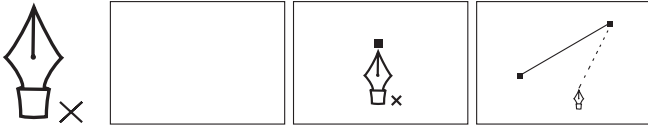
Fill Color

Line Color

No Fill or No Line Color

Try drawing with the following pen settings

, , Stroke: 6pt

WIELDING THE PEN

PATCH PROGRESSION

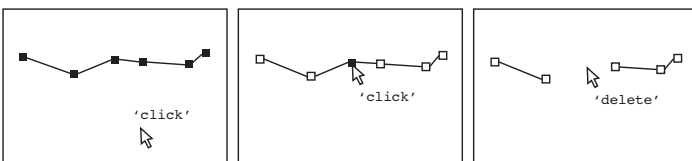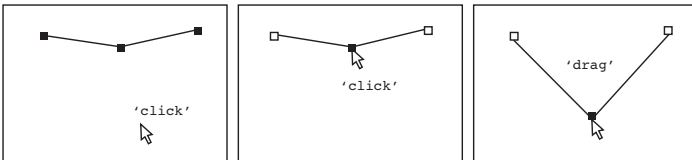Window > Layers, select 'Patch Boundary'

Drag the layer to the 'New Layer' button,

This will duplicate the layer

Use Direct Selection Tool (a) to edit previous lines.

DIRECT SELECTION TOOL (A)

NARRATIVES

Duplicate 'Patch Boundary' layer, again.

Activate Live Paint Bucket (k)

Fill irrelevant patches with white

Relevant patches will be left uncovered

Apply rule for each year's patch layer and repeat

LIVE PAINT BUCKET (K)

Select all boundary lines on a 'Patch Boundary' layer

Click with the Live Paint Bucket (k)

This makes patches able to be filled with color

NARRATIVE EXAMPLE

Question:
How do the patches change around villages?

Rule:
Every patch that is not adjacent to a village patch is painted white.

Result:
This reveals the transition whereby villagers change livelihood and lifestyle from agriculture to something else, while staying in place.

EXPORT

File > Export... Format: TIFF (tif)