


A dark blue horizontal band at the top of the page contains a topographic map with contour lines and several small white icons representing buildings or structures.

Geodatabase Archiving

A light gray decorative graphic at the bottom of the page, consisting of a wavy line and a small topographic map icon on the right side.

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Manage historical data for better decision-making

Archiving in ArcGIS provides the functionality to record and access changes made to all or a subset of data in a geodatabase. Geodatabase archiving is the mechanism for capturing, managing and analysing data change.

Organisations need to preserve the changes made to their data in order to answer common questions, such as:

- » What was the value for a specific attribute at a certain moment?
- » How has a particular feature or row changed through time?
- » How has a spatial area evolved over time?

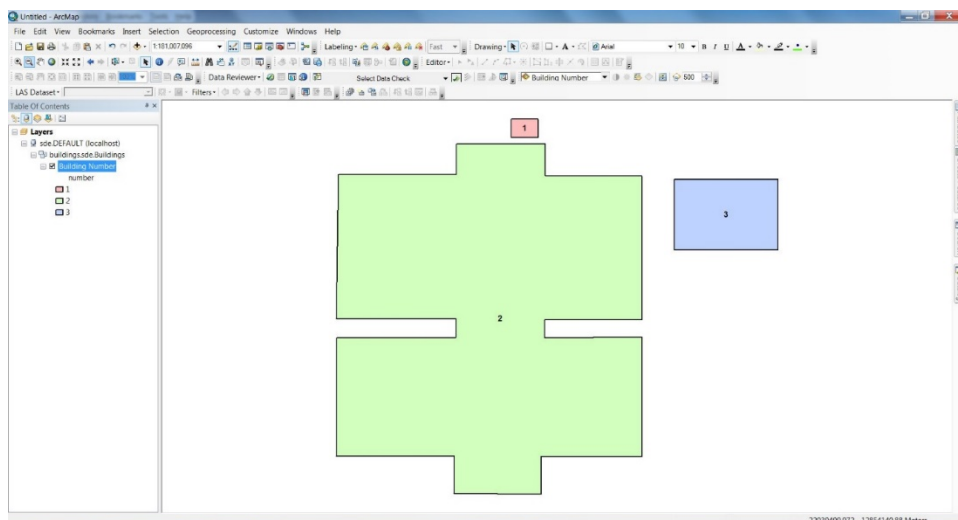
Geodatabase archiving allows you to analyse your data as it changes over time. For example – a local government body could examine things like population and development, and look at how those factors are influencing the economy and environment.

The archive class and the Geodatabase History Viewer can also act as useful problem-solving tools for parcel management. As edits are made to parcels over time, they can be kept in the archive class. If you want to view how the parcels looked at a certain moment – for taxation purposes, for example – you could use the Geodatabase History Viewer to switch to the appropriate date and time. If instead you would like to see how a certain parcel has changed over time, you could add the parcel archive class to the map and select the appropriate parcel by its ID number. This would show every representation of the selected parcel through time.

Archiving example

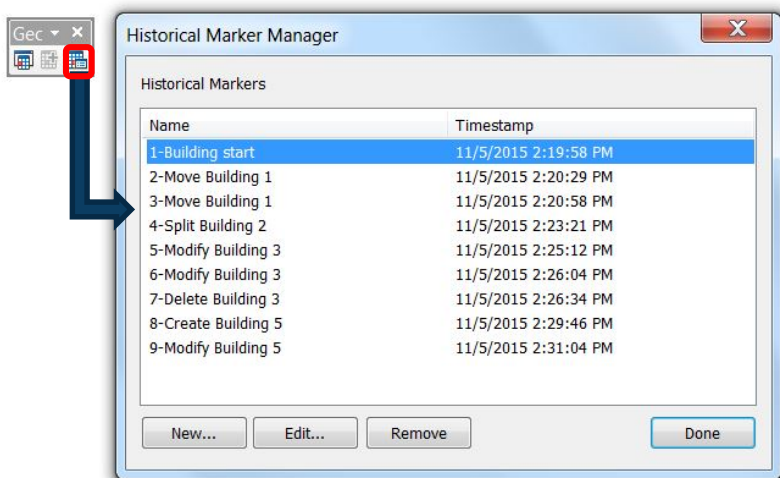
The following example uses a dataset containing building polygons to describe the ArcGIS archiving functionality.

The building dataset consists of three buildings:



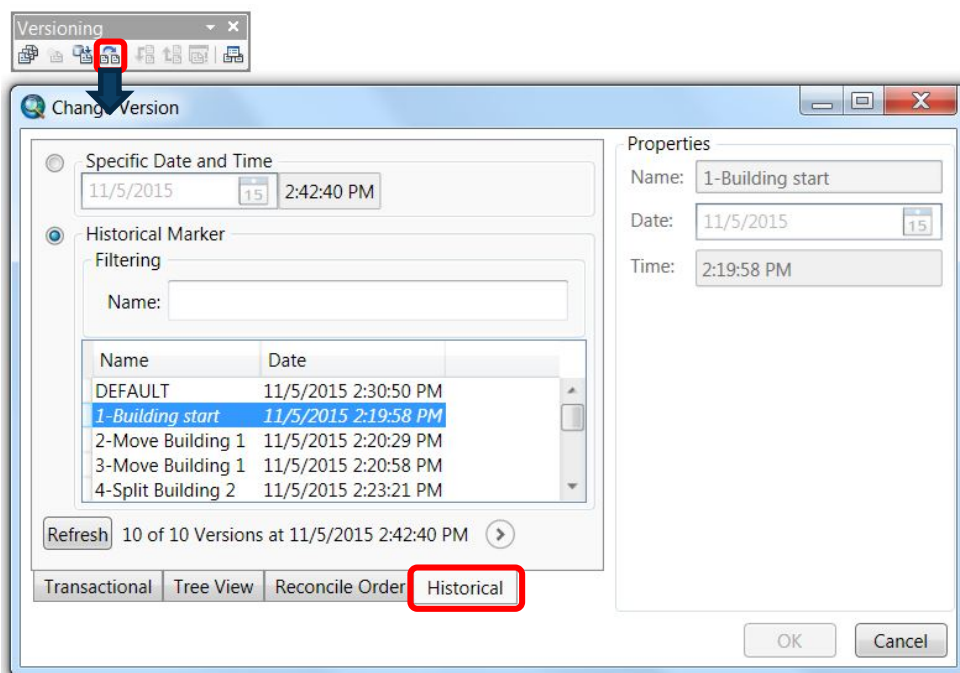
These buildings have had several edits applied to them. After each edit was made, it was saved to default. The archive class, therefore, has kept a record of each edit made to the buildings feature class. After each edit was made, a historical marker was created in the Historical Marker Manager. This makes it easy to connect to the historical version for the moment of each particular edit.

The following graphic shows the Historical Marker Manager being opened from the geodatabase history toolbar. The manager displays the historical markers that were made:



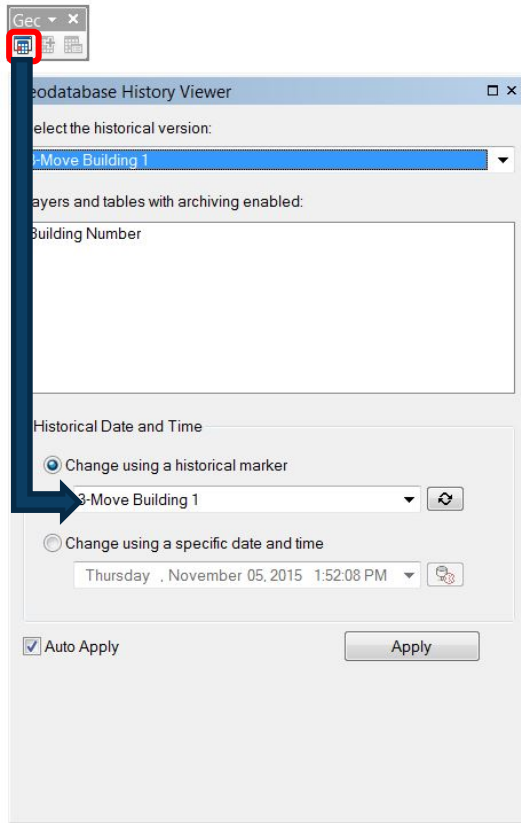
By changing to a historical version of the buildings' feature class, the Geodatabase History Viewer becomes enabled.

The following graphic shows the change version button on the versioning toolbar being pressed to open the change version dialog box. The '1-Building start' historical marker is used to change to a historical version:

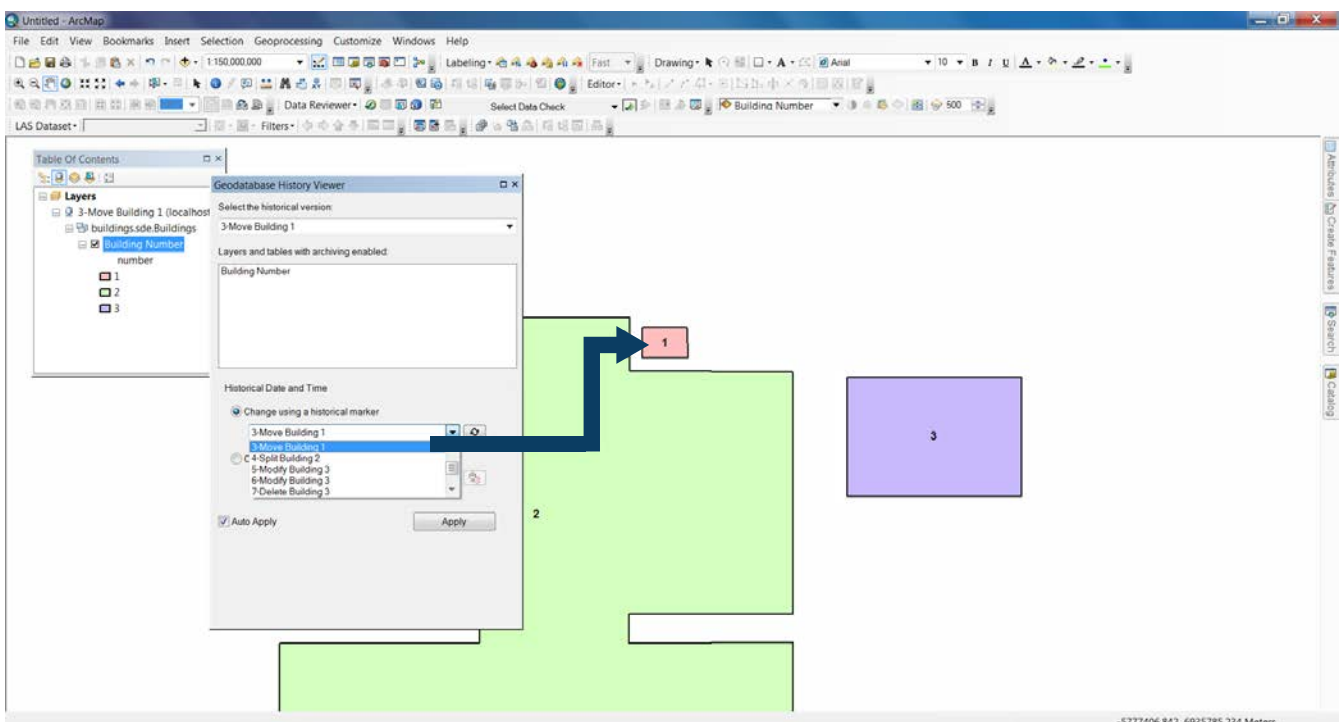


Now that the Geodatabase History Viewer is enabled, it is easy to switch between the historical markers designated for each edit and view the representation of the buildings throughout their history.

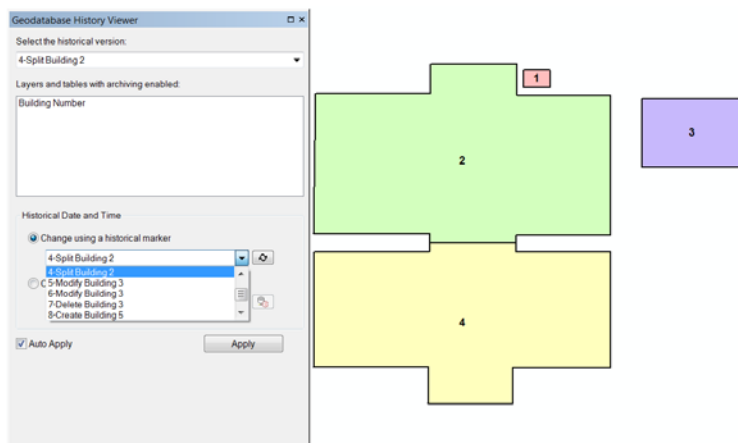
The following graphic depicts the Geodatabase History Viewer button on the geodatabase history toolbar being clicked to open the Geodatabase History Viewer. The '3-Move Building 1' historical marker is used to change the map view to reflect the historical version particular to that historical date and time:



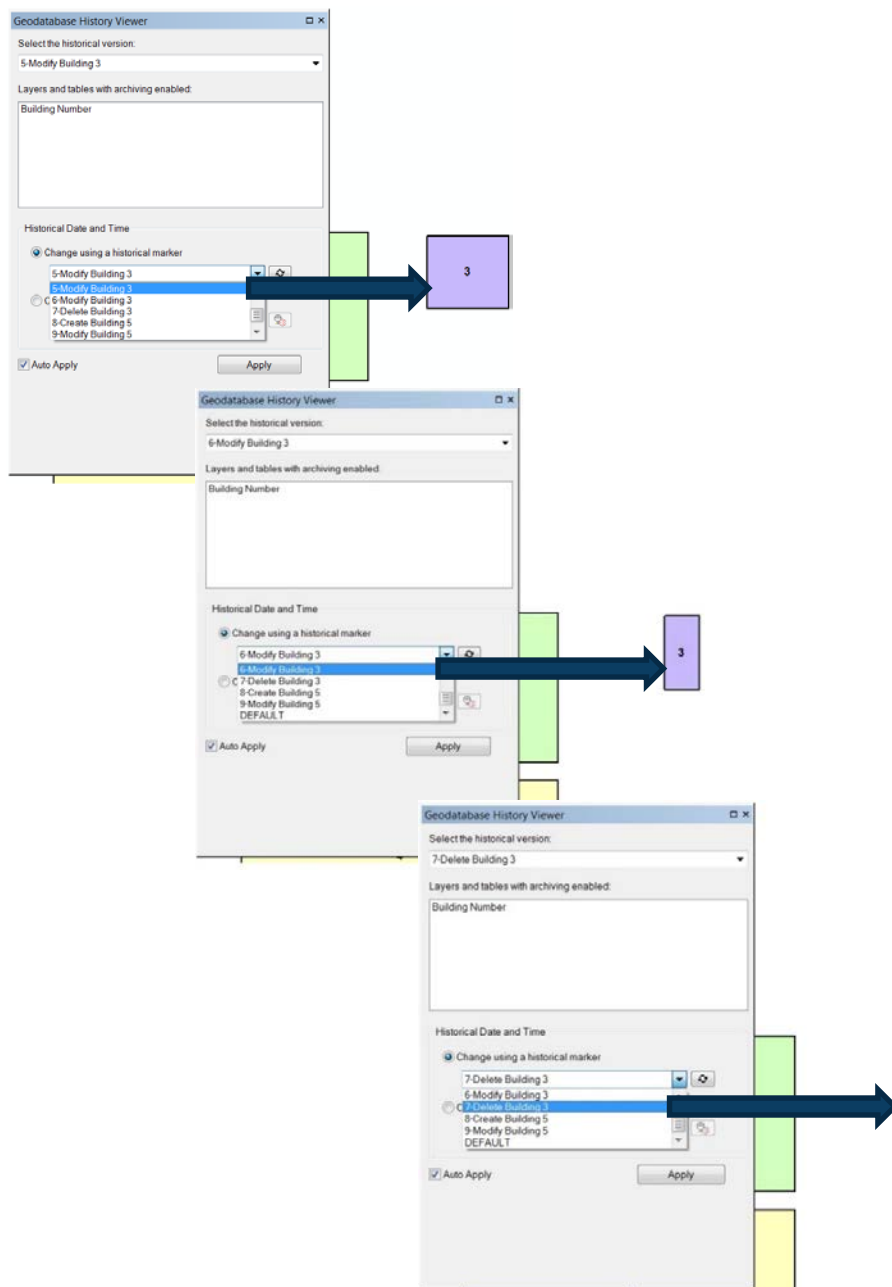
Switching to the '3-Move Building 1' historical marker shows the moment in time when the edit was made to move the location of building 1:



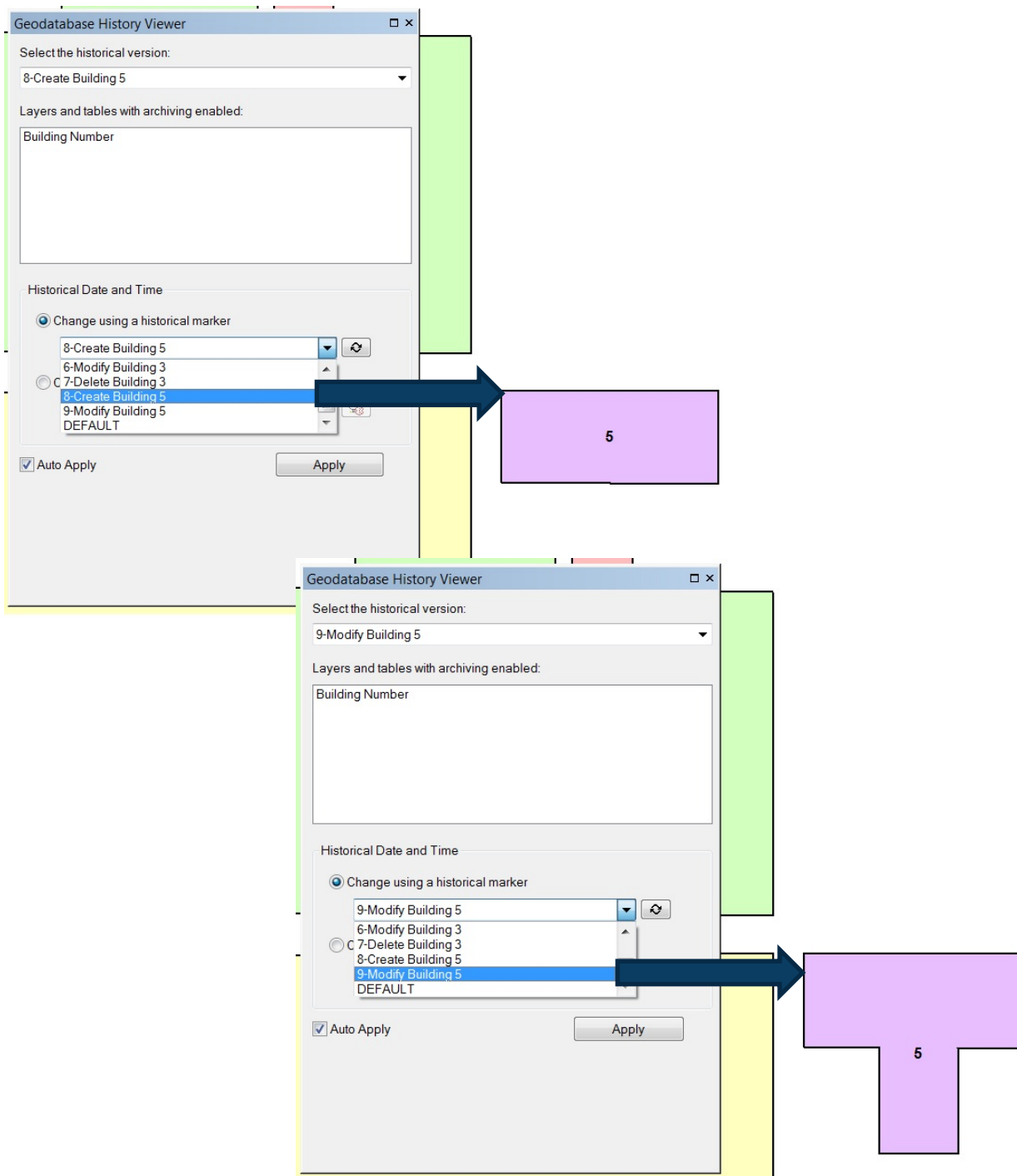
Historical marker '4-Split Building 2' shows the moment when building 2 was split into buildings 2 and 4:



By switching through historical markers 5, 6 and 7, you can see how building 3 is modified and then deleted over time:



The historical markers 8 and 9 display the moments in time showing edits to create building 5, and then add an extension to it:



You can also add the buildings' archive class to the map in order to view all the representations of the buildings throughout their history.

The following graphic shows how symbolising the map with the values from the gdb_from_date field can colour code the archive class based on the moment in time when updates were saved to default. This displays the various representations of each of the buildings throughout the history of the dataset. Building 4, being the last building updated, is colour coded for the most recent date and time:

The screenshot illustrates the configuration of a map's symbology in ArcGIS. The 'Layer Properties' dialog is open to the 'Symbology' tab, where the 'Value Field' is set to 'gdb_from_date'. A color ramp is applied to the unique values of this field. The 'Table of Contents' shows the following list of dates and times for the 'Building Number Archive' layer:

Color	Date and Time
Light Blue	11/5/2015 2:19:31 PM
Light Green	11/5/2015 2:20:26 PM
Light Purple	11/5/2015 2:20:52 PM
Light Orange	11/5/2015 2:23:12 PM
Light Green	11/5/2015 2:25:06 PM
Light Green	11/5/2015 2:25:59 PM
Light Purple	11/5/2015 2:29:29 PM
Light Red	11/5/2015 2:30:50 PM

The main map area shows a building footprint color-coded according to these dates. The building is primarily light orange, with a small light blue section at the top and a small light red section at the bottom right. The 'Table of Contents' on the left shows the 'Building Number Archive' layer selected, and the 'Layer Properties' dialog on the right shows the 'Symbology' tab with the 'gdb_from_date' field selected and the color ramp applied.