Abstract. Geographical Information Systems (GIS) have proved to be a powerful means of adding value to and exploring historic data in a wide variety of contexts. Historic data which have been input into, and manipulated using, GIS software include (i) textual records which can be linked to spatial locations and (ii) historic maps which have been scanned and converted to digital images. Data sources which fall into the first category may refer to point locations (e.g., a town or village on a large scale map), or zones (often administrative regions) for areas at a variety of spatial scales. In terms of (ii), maps may be enhanced through digitization of the objects that the maps contain, creating separate digital layers representing features such as coastlines, streets, locations of specific places, etc. These data can be further enriched through the attachment of attributes to these features which can be interrogated using standard database management tools. Historic spatial data are subject to a number of particular issues that may affect how they can be used. Accuracy of the information contained in the data, both in a spatial (e.g., precision of survey) and a non-spatial attribute sense (e.g., counts of people in a given category in a particular area), must be considered as must the mode of representation of the data (points, areas etc). Comparison of data derived from different sources which may be separated by large time periods, and which may have been generated with very different purposes in mind, is potentially highly problematic. This paper reviews the key categories of geographical historical data available as well as the kinds of data-related problems faced by those who wish to explore historic environments using GIS. Reference is made to case studies utilizing historic maps and administrative records of various periods from the middle ages up to the start of the 21st Century. The studies relate to a variety of national and specific urban areas and each serves to highlight particular issues concerning the capture and use of mappable historic data.