

# ***CARTOGRAPHIC CONCEPTS AND TECHNIQUES***

Cartography is about maps. This includes the art, science and technology of map making, the use of maps as research tools and as sources of information, and the study of maps as historical documents and works of art.

## ***Definition of Cartography***

Cartography has always been closely associated with Geography and Surveying. Its recognition as a distinct discipline is relatively recent. Scientific journals dealing with Cartography began to appear in the middle of the twentieth century. Numerous definitions of Cartography have appeared in the literature. Earlier definitions tend to emphasize map making while more recent definitions also include map use within the scope of Cartography.

More often than not, the map user is different from the map maker and the map maker rarely collects the original data. Recognition of this has led to a redefinition of Cartography which is based in part on work by communications theorists. In this context, Cartography is viewed as being concerned with a particular form of communications process which relies on graphic images, i.e. maps, to convey information about data and the spatial relationships between them, e.g. a geographic environment. The cartographer is the map maker. The map is the communications medium. The data may be about towns, temperatures, bedrock, people, crops, water depths, algae growth patterns, the stars, or even about cellular structure, neural networks, or DNA. The map represents the spatial relationships among the individual pieces of data. The map user "reads" the map and interprets its information content in the context of his or her own objectives and knowledge of the environment or spatial pattern which the map describes.

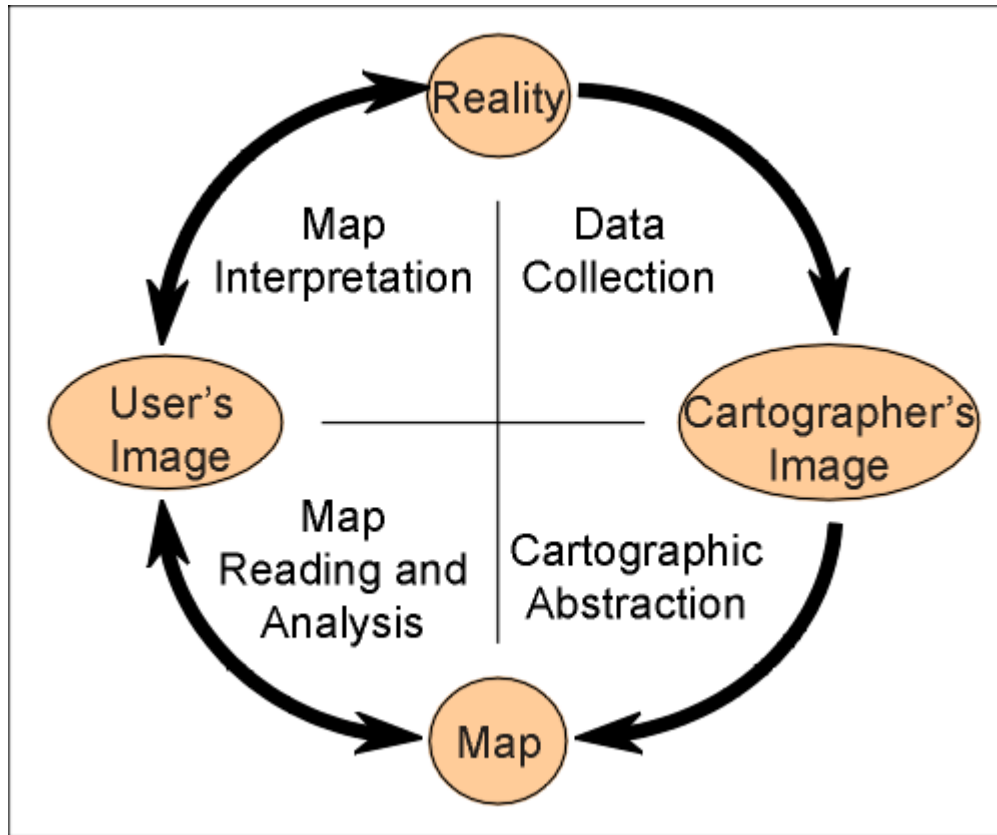
## ***Scope of Cartography***

Cartography is the art, science and technology of map making and map use, and the study of maps in all its aspects.

## ***Cartographic Communication***

Several models of cartographic communication have been proposed. While differing in detail, the models share a common recognition of the separation between map making and map use but emphasize the close relationship between these processes by treating them as components of a communication system. Effective use of maps requires understanding of the nature of maps and the mapping process while good map design requires understanding of how the maps will be used. The communications model also serves to emphasize that map use is not

simply the reverse of map making but requires a distinct set of skills. Cartographic Communication Process



Cartographic communication is a special form of graphic communication which differs from verbal communication. Verbal communication is sequential. Ideas are presented in a sequential fashion, allowing the writer or speaker to control the order in which information is conveyed. The emphasis is on parts linked by logic. In contrast, maps are synoptic, presenting information in a holistic fashion. The map user receives all of the information at once. Thus the map maker is unable to control the order in which information is received except by using map design to emphasize the most important information.

### ***Cartographic Processes***

The communications model of Cartography emphasizes that maps are used by a wide range of users for many different purposes. The role of the cartographer in the communications process is primarily associated with map making. However, the cartographer must have a good understanding of the subject matter of the map as well as a good understanding of how the map is likely to be used in order to design an effective map.

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