

ABSTRACT

Maps are a form of graphical language that record geographical information, and serve as a medium for storing and communicating geographical information. Maps mainly express the natural distribution of space, as well as social, cultural and economic information.

*Digitization of existing maps is one of the most important tasks of Geographic Information System (GIS). A **geographic information system (GIS)** is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.*

***Digitization** is the representation of an object, image, sound, document or a signal (usually an analog signal) by a discrete set of its points or samples. The result is called digital representation or, more specifically, a digital image, for the object, and digital form, for the signal.*

In this project, digitization of a map has been done for a specific purpose, measurement of length of a river. For this the scanned map or satellite map has been segmented in such a way that only the part of river is visible. And for this, Threshold based image segmentation technique has been used here. After segmentation, filtering has been done to remove extra dots/noise. The user needs to select points along the river on the map. For scale, user must select first two points with known actual distance.

This project report describes the importance of digitization of maps, method used for segmentation and distance measurement. Some other segmentation techniques have also been explained in the report.