



Application of GPS for Field measurement: A case Study of Karjat, Tehsil, Ahmednagar, Maharashtra

Dr. Vibhute N.M.

Dada Patil Mahavidyalaya, Karjat,
Dist- Ahmednagar

Prof. Kumbhar N.N.

Mudhoji College Phaltan,
Dist- Satara

Dr. Arun B. Patil

Arts & Com. College, Ashata
Tal- Ashata, Dist- Sangali

Abstract-

The Global Positioning System is tool to use find location of object on the earth. This system operated by U.S. Department of Defense. It work with 24 GPS Satellite signals. Now it available for civilian uses. Mobile phone GPS technology has enabled today's smartphones with suitable and highly well-organized means for end users to receive navigating information via a global positioning system process called "trilateration." For the present study Social and governmental offices and places are used for area measurement. Now various GPS applications are developed for different purposes. Mainly Latitude, Longitude and Height information provided by GPS system. Field Area Measurement app is used for present study. In this study different social offices / places are used for area measurements. This application is free to all users for navigation. Download the app for mobile phone and installed it. Find the location what we want and trace selected area and click on calculate button. Then we get area with our measurement scale. This is easy, user friendly app for best area calculation.

Key Words- Latitude, Longitude, GPS, Trilateration

Introduction-

The Global Positioning System (GPS), initially Navstar GPS. It is a satellite-based radio navigation system maintained by the government of United States and worked by the United States Air Force. It is a global navigation satellite system that arrange for geo-location and time information to a GPS receiver anywhere on or near the Earth where there is an open line of sight to four or more GPS satellites. In the mountains and buildings block are receive relatively weak GPS signals. Global Positioning System (GPS) satellites broadcast microwave signals to allow GPS receivers on or near the Earth's surface to decide time and location and derive velocity. The GPS system that one is operated by the U.S. Department of Defense (DoD) for use by both the military and the civilians.

Mobile phone GPS technology has enabled today's smartphones with suitable and highly well-organized means for end users to receive navigating information via a global positioning system process called "trilateration." In the mobile phone's built-in GPS receiver also communicates with an arrangement of satellites those gives navigation instructions for those either in an automobile or on foot. Better technologically advanced mobile phones can identify individual paths and attractions on maps. It also provide narrated tracking capability.

Study Area-

For the present study select some social places for Karjat tehsil, District Ahmednagar, Maharashtra, India. The latitudinal and longitudinal extension is $18^{\circ} 33' 09''$ north and $75^{\circ} 00' 39''$ east.



Aims and Objective-

- To find out area with help of GPS map area measurement app.
- To simplify area measurement process through GPS System.

Methodology

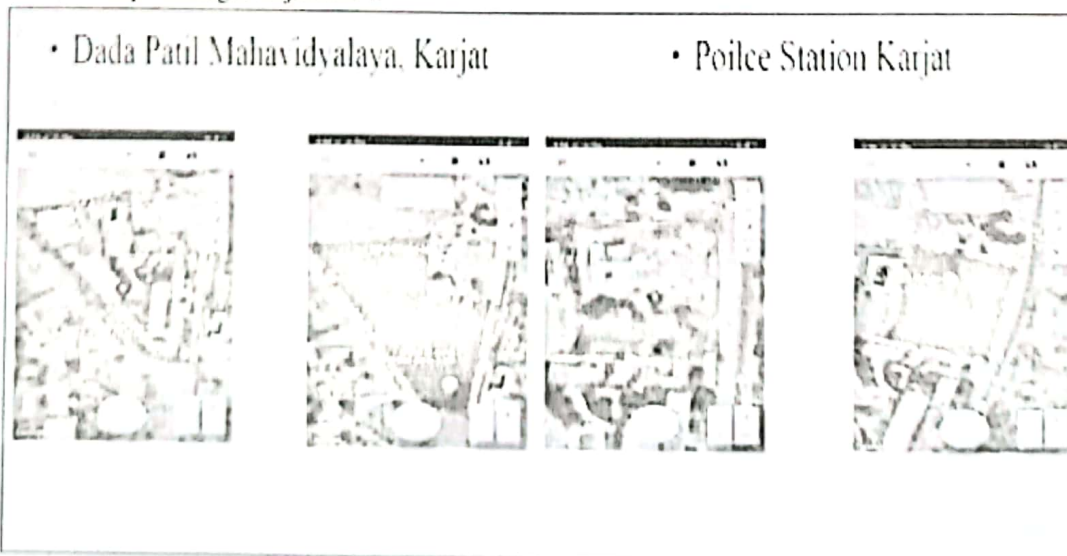
- Free download Fields area measuring app for an area measurement and installed this app on the Mobile.
- Find the area or Station which we want measure.
- Points on the map should be positioned clock wise or counter clock wise and path must not self-intersect.

Area Measurement on Field-

Fields area measurer is a smart tool for measuring areas on the map. This GPS area measurement app takes into account the World's geodesic structure and assists highly accurate distance and area measurement information. For area measurement we want to insert points around the station/place on map. Point insertion can be conducted in three ways: finger tool, pin tool and sensitive pin tool. Once we place our points on the map and then click on the calculate button, path completes itself and handles calculation. Area and perimeter of the resulting field area measurement is also calculated. This GPS area measurement app is mostly use full for measurement of agricultural areas, building areas.

Features of Fields Area Measurer App

- High accuracy
- Land Surveying app
- User friendly interface
- Perimeter measure
- Map, Satellite, Terrain and Hybrid modes
- Finger tool for path measurements
- Meter, Kilometer, Mile and Feet distance units available
- Pin tool for linear measurements
- Map tilt angle adjustment





Measurement of Area through Field Area Measurement App Public places in Karjat Tehsil				
Sr. No	Name of the Place	Co-ordinates		Area (Acr ²)
		Latitude	Longitude	
1.	Dada Patil Mahavidyalaya, Karjat	18.556539	75.007651,19	7.72
2.	Mahatma Gandhi Mahavidyalaya, Karjat & Sau. Sonabai Sonmali Vidyalaya, Karjat.	18.555500	75.006859,18	5.03
3.	Amarnath Mahavidyalaya, Karjat	18.553420	75.009842,18	0.87
4.	Police Station, Karjat	18.557889	75.007602,19	2.15
5.	Nagar Panchayat of Karjat	18.553608	75.009048,18	8.84
6.	Sub District Hospital, Karjat	18.545430	75.005368,18	3.99
7.	Civil Court, Karjat	18.550680	75.009421,19	0.02
8.	Krushi Uttpanna Bazar Samiti, Karjat	18.543945	75.006521	7.00
9.	Tehsil Office Karjat	18.547228	75.007229	0.93
10.	Sub Divisional Office Karjat	18.544662	75.004898	0.34

Conclusion-

Field area measurement app is easy to use, useful app for measurement distance, area and perimeter of station. This tool is helping for million people to measure their interested place, mark their required points and sharing their measured maps with their colleagues. This is limitless user tool for civilians. This app is best for land surveying purposes.

Reference-

1. "GPS: Global Positioning System (or Navstar Global Positioning System)" Wide Area Augmentation System (WAAS) Performance Standard, Section B.3, Abbreviations and Acronyms.
2. <https://www.google.com/search?source=hp&ei=F69eXOrbFYeTwgOgl4jIBw&q=field+area+measure&oq=field+area>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5805339/>
<https://play.google.com/store/apps/details?id=it.noframe.fieldsareameasure&hl...>