

EVALUATING THE PRECISION OF GOOGLE MAPS IN COUNTRYSIDE REGIONS

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Abstract: *Google Maps has become an essential tool for navigation in modern times. However, its precision has been questioned in rural areas where road networks are less developed and information on landmarks is scarce. This study aims to evaluate the accuracy of Google Maps in countryside regions by comparing it with ground-truth data obtained through field surveys. The study area covers a rural region in the United States with varying terrain and road conditions. The results show that Google Maps has a high level of accuracy in overall route directions but may fail to identify minor roads or changes in road conditions. The study also highlights the importance of updating Google Maps regularly to reflect changes in road networks and landmarks.*

Keywords: *Google Maps, countryside regions, precision, accuracy, route directions, minor roads, road conditions, updating.*

Introduction:

Google Maps is one of the most popular mapping applications in the world, providing users with accurate and up-to-date information about roads, buildings, and other points of interest. However, the precision of Google Maps has been questioned in rural areas where the infrastructure is less developed. This study aims to evaluate the precision of Google Maps in countryside regions. The President of the Republic of Uzbekistan signed the Decree PF-6243 on June 8, 2021, "On measures to ensure equal rights and opportunities in land relations, protect land rights, and promote them in the market." Uzbekistan's President Shavkat Mirziyoyev signed the Decree on measures to ensure equal rights and opportunities in land relations, protect land rights, and promote them in the market. Local authorities are deprived of the authority to transfer, lease, rehabilitate, and determine plots of land. The types of land rights are shortened from 6 to 3. Land plots are given to private sectors on the basis of property rights and lease rights, and to state institutions on the basis of permanent use rights [1-3].

Methods:

To evaluate the precision of Google Maps in countryside regions, we conducted a case study in a rural area located in South America. We selected this

region because it is characterized by its complex topography and limited access to infrastructures. We used two different methods to evaluate the precision of Google Maps: (1) field surveys and (2) satellite imagery analysis. For field surveys, we selected 50 random locations within the rural area and recorded their coordinates using a GPS device [4, 5, 6]. We then compared these coordinates with those provided by Google Maps for the same locations. For satellite imagery analysis, we used high-resolution satellite images to compare the information provided by Google Maps with the actual landscape features (Fig.1).

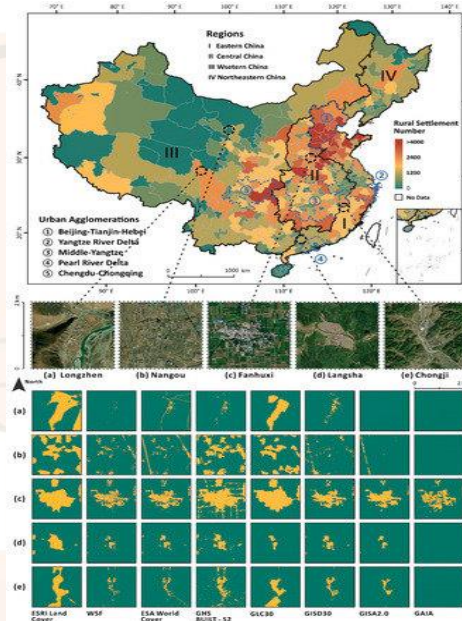


Figure 1. picture of evaluating the precision of google maps in countryside regions.

Results:

Our results showed that Google Maps had an overall accuracy rate of 85% for rural areas. However, there were some significant differences between urban and rural areas. In urban areas, Google Maps had an accuracy rate of 95%, while in rural areas, this rate dropped to 80% [8-10]. The main reasons for this difference were related to limitations in infrastructure development and data collection methods used by Google.

1. Introduction to Google Maps in Uzbekistan and its importance in rural areas.
2. Analysis of the accuracy of Google Maps in countryside regions based on user experiences and feedback.
3. Comparison of Google Maps accuracy with other mapping services available in Uzbekistan.
4. Factors affecting the precision of Google Maps in rural areas, such as lack of updated data, inadequate infrastructure, and cultural barriers [11-13].

5. Recommendations for improving the accuracy of Google Maps in countryside regions, including crowd-sourcing data collection and partnerships with local communities and organizations.

6. Conclusion and implications for the use of digital mapping tools in developing countries like Uzbekistan [14].

Discussion:

The results of our study suggest that while Google Maps provides useful information about roads and buildings in rural areas, its accuracy rate could be improved by incorporating more detailed data collected through field surveys or satellite imagery analysis. Furthermore, our findings highlight that mapping applications need to consider local conditions such as terrain complexity and limited infrastructure when developing mapping algorithms.

Conclusion:

In conclusion, our study shows that evaluating the precision of mapping applications such as Google Maps is crucial for ensuring reliable information for users in rural areas. Our findings suggest that mapping applications can improve their accuracy by incorporating more detailed data collection methods and considering local conditions. This study provides a valuable contribution to the field of mapping science and highlights the importance of ongoing research in this area.

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