The Benefits of Using Crowdsourced Geospatial Information -*While the debunking misconception.*

When discussing geospatial information, "crowdsourcing" is a term you will undoubtedly come across. Some in the geospatial community have frowned upon this idea of crowdsourcing, claiming that the accuracy and precision of data collected by untrained individuals cannot compare to data generated by professional means. However, there are several reasons why crowdsourcing should be embraced to collect geospatial data. In this article, we'll discuss crowdsourcing geospatial data and its benefits while debunking some misconceptions about it.

What is Crowdsourcing?

Crowdsourcing is "the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers." In other words, outsourcing a task or project to a large group of people, usually via the internet.

One of the most famous examples of crowdsourcing is Wikipedia. This online encyclopedia is written and edited by volunteers from all around the world. Anyone can create an account and start adding or editing articles. While Wikipedia may not be considered a reliable source by some, it is one of the most visited websites in the world.

Debunking the misconception about Crowdsourcing Geospatial Data.

When including the public in collecting geospatial data, it's understandable that some would be skeptical about the quality of this data. After all, anyone can go out and collect data, regardless of whether or not they have any experience or training in surveying or mapping. The main misconception is the randomly sampled data is less valuable than specifically targeted data that is analyzed via traditional means.

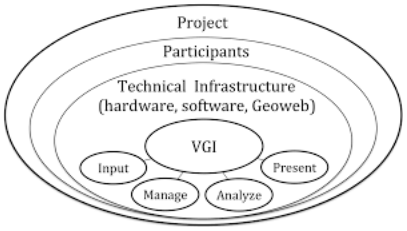
Our thoughts:

When a high enough volume of randomly sampled data is collected, the dataset as a whole becomes more valuable than if it were only targeted data. This is because similar values naturally and repeatedly emerge within a large random sample so to readily indicate valid trends, which provides greater statistical power and accuracy.

As you can see, there is a great advantage to using this method of data collection.

Ways in which Geospatial Information can be collected - VGI vs. Passive Data Collection

There are two main ways geospatial data can be collected: Volunteered Geographic Information (VGI) or passive data collection. Below is an explanation of each method, as well as their benefits:



Volunteered Geographic Information (VGI): As the name suggests, VGI involves volunteers collecting and sharing geospatial data. This data is usually collected through GPS devices or smartphone apps, then shared through online platforms such as OpenStreetMap or Geo-Wiki. Here are a few advantages of VGI:

1) Less Expensive: VGI is less expensive for an organization to stage a platform for VGI and manage it. VGI only has to be organized and curated in increments as it continues to be acquired from the public in real-time. Otherwise, internal employees have to be paid a regular wage to do the same, or an external service has to be paid more of a premium.

2) Better Accuracy: VGI is, in masses, inherently more accurate and complete than what static maps and datasets show per the same themes for single snapshots or periods. Hence, VGI has lots of added value.

Next, we'll dive into passive data collection.

Passive Data Collection: Passive data collection is when data is collected without the knowledge or consent of the people being surveyed. This data is usually collected through sensors or cameras that are placed in strategic locations, and the data is then processed and analyzed to extract useful information. Here are a few advantages of passive data collection:

1) Greater Definition of the Study Area: Passive data collection allows for more control and definition of the targeted study area. The data collection mediums are strategically placed across a defined geographic area, while VGI is at the whim of random movements of people to collect the data. Therefore, passive data collection is better if robust data is desired within a specific geographic area.

2) More Detailed Data: Passive data collection can also collect more detailed data than VGI. This is because sensors can collect a larger range of data such as air quality, temperature, and humidity. Expecting consistency across the same large range of data is unrealistic via the VGI simply because every volunteer will not populate all data within the range as regularly and completely.

A great example of Passive Data collection is Google Maps. Google passively gathers traffic data through sensors and GPS on cell phones and public vehicles. This data is then used to provide users with traffic updates in real-time.

Final Thoughts - Using Crowdsourcing to Collect Geospatial Data

There are many advantages to using crowdsourcing to collect geospatial data. While many people are still unaware of this data collection method, it is becoming more popular as the benefits are becoming more well-known. Hopefully, this article has helped to clear up some misconceptions about crowdsourcing and has given you a better understanding of the advantages of using this method to collect geospatial data.