



Brief Communication

THE BIGFOOT MAPPING PROJECT

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ABSTRACT. *The Bigfoot Mapping Project* was created to introduce technology that has not yet been incorporated into Bigfoot field research. By using historical sighting data sourced from ESRI, and providing functionality for crowdsourcing data, Bigfootmap.com makes spatially tagged sighting reports immediately available to both field researchers and data scientists. *The Bigfoot Mapping Project* is a living repository that is built on cloud-based software and is both mobile and workstation friendly. Unlike other research tools, standardization is enforced during data collection of recent reports, thus ensuring to provide high quality records.

KEY WORDS: ESRI, Crowdsourcing, Cloud-based, Sightings database, Sasquatch

The Solution

When researchers begin their study, it is challenging to identify quality data that is easily accessible. Products available in the community often have limited functionality and accessibility. This leaves researchers with the frustration of sourcing and aggregating data from multiple databases. Existing data sets are not standardized and typically are available in text formats only. *The Bigfoot Mapping Project* was created to address the lack of centralized information and encourage future reporting. This application broadens the scope of reported information by providing functionality such as spatially tagging reports as well as attaching image files to the submitted report. Additionally, users can view the depth of both historical data and recent reports in conjunction, on a map. Bigfootmap.com is not only workstation ready, it is also mobile friendly. This allows users to interact with the map by viewing their location inside the map portion of the website from their mobile device and easily identify whether they are within range of a reported

sighting. Furthermore, users can also log their sighting by capturing their location information from their mobile device.

The Data

The historical sighting map layer available in Bigfootmap.com was sourced from ARCGIS hub. “The data was gathered from the BFRO Website and enriched using land cover and other environmental data available through the enrich data option in ARCGIS Online.” (“Bigfoot locations,” 2018). By adding this map layer to the application, users can start their research with a vast amount of data which can be analyzed to discover hot spots, see trends, and to identify areas of interest. In addition to historical data, the data set is continuously growing with new submissions from the crowdsourcing tool called Survey123 created by ESRI and customized to fit the requirements of *The Bigfoot Mapping Project*. Sighting attributes that are collected in the standardized form are (see Figure 1):

- Location (Latitude, Longitude)

- Date and Time of Sighting
- Height (Ft)
- Sex
- Youth Sighted (with Parent, Yes; with-out Parent, No)
- Vocalization (Yes, No)
- Footprints (Yes, No)
- Wood Knocks (Yes, No)
- Attachments (Image Files)
- Description
- User Email

Each newly reported sighting is viewed by *The Bigfoot Mapping Project* team and is managed in an operations dashboard. Sightings are viewed to ensure data quality and if a data point from within the submission is considered erroneous, it is removed from the dataset. Examples of data that are considered erroneous include, but are not limited to: incorrect location set, duplicate submissions, questionable or inappropriate content.

The Map

In the web mapping application, the hosted feature layers (historical BFRO sightings and Survey123 submissions) from ARCGIS Online are used as a web mapping service (WMS). Data appears on the map as sightings and are logged into the database. The base map is powered by ESRI and consists of regularly updated aerial imagery and culture data. The map is updated in real time as these submissions are received. Tools in the map include (see Figure 2):

- Zoom in/Zoom Out
- Default Extent
- My Location
- Location Search
- Map Layer List
- Attribute Table
- Measurement Tool
- Submission Form
- Selection Tool

The Power of Crowdsourcing

Crowdsourcing has been used successfully in many fields such as search and rescue, disaster relief, and emergency management. Leveraging this proven technology to attain new insights and gather data is the foundation of *The Bigfoot Mapping Project's* approach to finding Bigfoot. Like other Bigfoot sighting repositories, *The Bigfoot Mapping Project* relies on reports from the public. What differentiates the project from others is the reporting system, which is designed to collect standardized, crowdsourced reports without interruption. The benefits of crowdsourcing include:

- Access. Users can submit sightings from any place at any time.
- Database population. A record can be created in a matter of minutes.
- Building the community. By sharing sightings in the app, users can investigate sightings in their own community or area of interest.
- Unexpected insights. It is impossible for one single researcher to be omnipresent; through crowdsourcing unexpected information may be discovered.

As with anything else there are also possible drawbacks to a crowdsourcing solution, such as the danger of manipulation. The application cannot tell if a report is truthful or if it was submitted with false information. This issue is mitigated by a careful review of each report by *The Bigfoot Mapping Project* team in the operations dashboard. Eventually, as the data set grows false or inaccurate reports will be easily identified as outliers and managed as such in the analysis of the dataset.

Bringing it all Together.

Introducing a new approach by using crowdsourcing technology in the field of Bigfoot research will provide a quality dataset

that is easily accessible and practical. Researchers are empowered to make intelligent decisions using information that can be gleaned not only from location of sighting, but other attributes contained in the database. Non-researchers can also participate in the growing community by submitting sighting reports in a structured form so that key information is collected in an intuitive workflow. The map and database are not static, new reports are logged in real-time, providing new information and insights every

day. In summary, *The Bigfoot Mapping Project* has the ability to bring previously unnoticed trends and behaviors of the elusive creature, Bigfoot, to the surface through a fast, accessible platform where everyone can participate.

LITERATURE CITED

W (2018, May 3). Bigfoot locations. Retrieved March 03, 2021, from https://hub.arcgis.com/datasets/9947fc49e6c44120b4a1b3133c073dbc_0



Scott Tompkins is the creator of *The Bigfoot Mapping Project* (bigfootmap.com). With a Bachelor of Science degree in GIS from the State University of New York at Cortland and over 14 years of GIS field experience, Scott has a well-versed perspective on the value of high-quality geographic data.

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Bigfoot Mapping Project

Throughout history and the world Bigfoot has gone by many names; Sasquatch, Yowie, Honey Island Swamp Monster, MoMo, Orang Pendek, Woolly Booger, Yeti. But no matter how you know it the experience of seeing or hearing a Bigfoot will remain as vivid a memory as ever. Share your sightings and what you remember about them here in the Bigfoot Map.

Location

Capture the location of your sighting here.

Press to set location



Lat: 18.04766 Lon: 1.40625

Date and Time of Sighting

Capture the date and time of your sighting here.

03/02/2021, 9:11 PM

Height

Capture the approximate height of your Bigfoot in **feet** (example 7 or 7.5 etc.) here. If you didn't see you Bigfoot leave this answer blank.

12³ 0

Sex

Was the Bigfoot you saw a male or a female? Capture that data here. Don't worry if you couldn't tell, most people don't get close enough anyways! Leave this blank if you don't know.

Male

Female

Did you see any young Bigfoot?

Did you see any young Bigfoot either with a parent or without.

Yes with Parent

Yes without Parent

No

Vocalization

Capture whether the Bigfoot vocalized during your sighting.

Yes

No

Footprints

Did you find any footprints?

Yes

No

Wood Knocks

Did you hear any wood knocks?

Yes

No

Pictures

Attach up to 5 pictures here. (Maximum file size is 10 MB)

1 Select image file (number of files allowed: 1 - 5)

Describe Your Encounter

Tell us about your sighting, what happened? How did you feel? What do you want other people to know about it? (1000 character limit)

1000

E-mail

Please provide your e-mail below. This information will not be shared with any third-party organizations, it is used for verification purposes only. (You will not be able to submit your sighting without completing this section.)

Figure 1. Standardized form accessed when submitting a sighting to *The Bigfoot Mapping Project*.

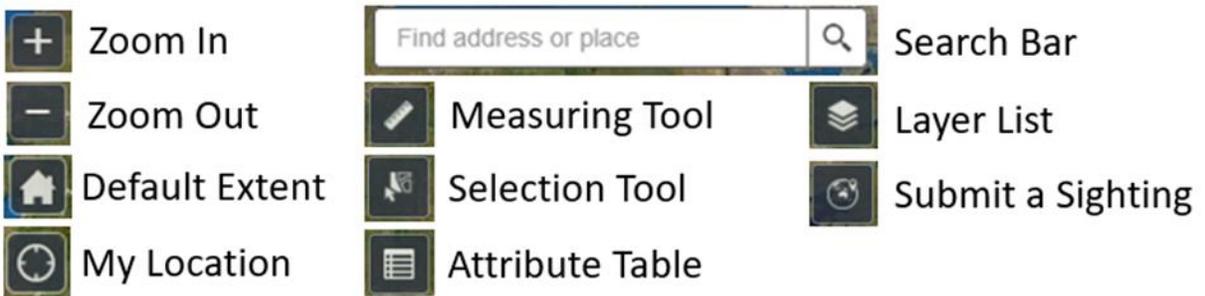
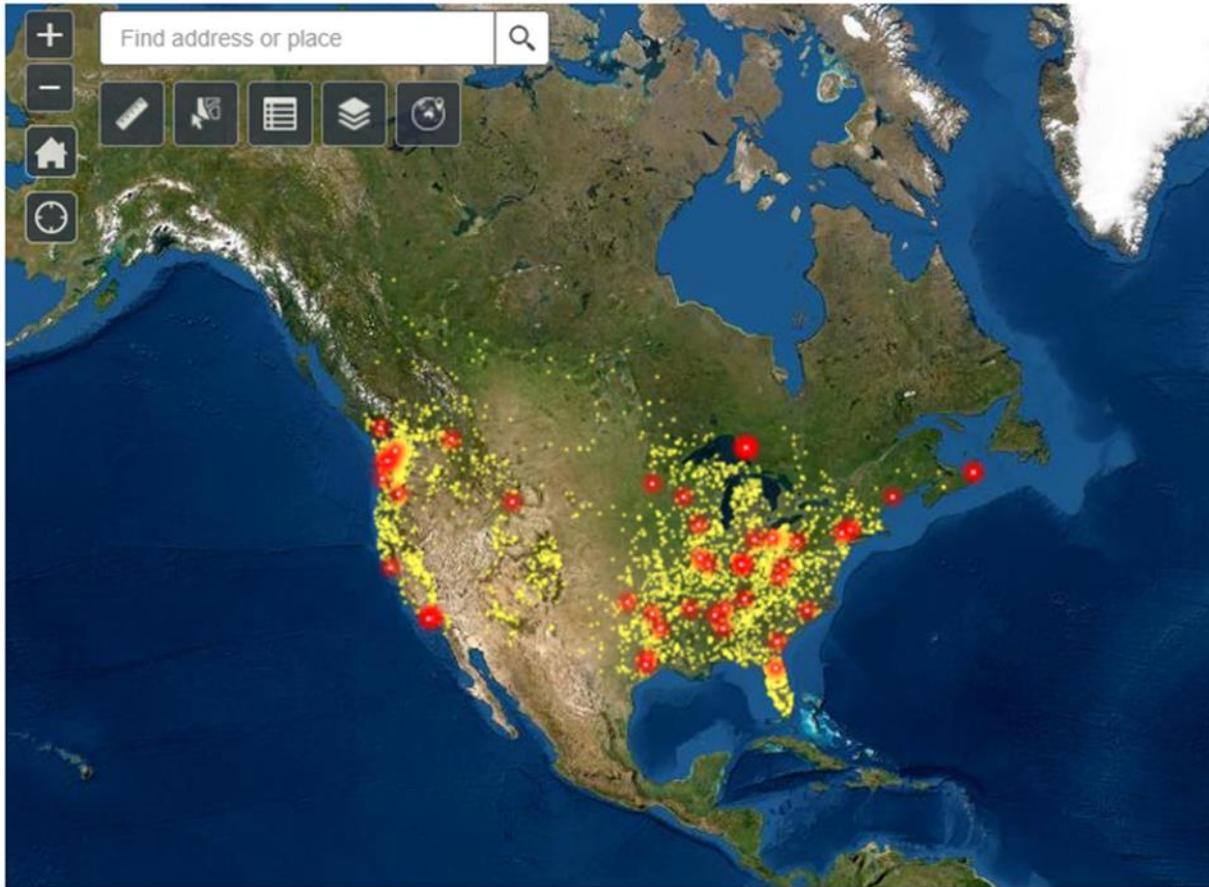


Figure 2. Web application that displays sighting data and provides tools for exploring the data.