Abstract

Hiking trails are subject to change over time due to several factors, manmade and natural. Changes in trail condition pose a danger to unprepared hikers. Collecting data about trail conditions in rough and remote terrain can be difficult and expensive. Gathering information through volunteers can be a cheap and effective alternative. In this project, hiking trail locations and features were obtained from the City of Santa Barbara. A web application and website were developed as a proof of concept to show users existing data for hiking trails in Santa Barbara and to collect volunteered geographic information (VGI) about trail conditions from users onsite. Three different analysis methodologies were performed on the VGI to determine its validity. A positional analysis of the features submitted presented clustering of the VGI towards the original feature point, a thematic analysis revealed a general consensus on the condition of a feature, and a comparison of the VGI data against control points using photographs taken with a mobile device exhibited variances in the distance from the original feature. The VGI data was then modified into the same format as the City of Santa Barbara's dataset to demonstrate how it could be prepared for submission to the city. The results of this project show that a website and web application can be used to collect VGI on hiking trails. The VGI data collected can be used to update the City of Santa Barbara's hiking trails dataset.