

2015 NYS Geospatial Applications Awards Competition Entry Form

Please use the below template to submit your entry for the **2105 NYS Geospatial Applications Awards Competition**. By entering the competition, you grant permission for the NYSGIS Association to publish and publicize your entry.

Required Information

Sponsoring Organization: Center for Earth and Environmental Science, State University of NY at Plattsburgh

Stakeholder/Participant List (by Organization): Dr. Danielle Garneau, State University of NY at Plattsburgh and Citizen Science participants

Title: Roadkill App

Abstract: Citizen Science can be a useful way to engage the public and to provide widespread observations that may lead to future research. The RoadkillGarneau project allows a user to populate and then observe a GIS database using readily available software. The app was developed on the Epicollect platform, originally meant for demographic and epidemiological applications. Loaded on either an iPhone or Android phone, the Epicollect RoadkillGarneau project enables a user to quickly submit information on wildlife sightings (in this case, usually deceased and along roadways) accompanied by basic information such as habitat, road metrics, scavenging and other conditions. App-based submission forms are useful for building a consistent database and engaging the public in observational reporting. Data entry time, location, and photo may be automatically collected; while the user can fill in additional information such as collector name, traffic conditions, habitat, species, and other data. Data may also be submitted without a smartphone using a Google form off of the principal investigator's (Danielle Garneau) Google website.

Statement of the Problem: To engage citizens in observing and recording wildlife sightings, an app needed to be developed that could easily and consistently populate a database, allow for comments as well as photographs, and encourage participation by displaying results quickly on an easily accessible and comprehensible map. The intent of this project was not only to encourage citizen science, but also to observe the extent of species that may not previously have been widely observed. One example is the occurrence of Virginia opossum in Clinton County, New York. Exceedingly rare mammals in the region, it was hoped that this app would help contribute to distributional data. At some future point the database may help identify areas where wildlife are prone to traffic mortality, which affords steps for mitigation.

Response to the Problem:

A narrative of the application, instructions, and links to several news articles are at <https://sites.google.com/site/daniellegarneau/home/smartphone-apps-for-wildlife->

[observations](#). A spreadsheet and map of observations to date is at <http://epicollectserver.appspot.com/project.html?name=RoadkillGarneau>. Several opossum observations led to additional research; see <https://sites.google.com/site/daniellegarneau/home/northern-movement-of-virginia-opossum-into-northern-ny>. A link to the RoadkillGarneau app was created on the webpage for Adventurers and Scientists for Conservation (<http://www.adventureandscience.org/>) and is hosted on citizen science portals SciStarter (<http://scistarter.com/>) and citizen science central (<http://www.birds.cornell.edu/citscitoolkit>).

Results: About 500 sightings were added to the RoadkillGarneau app database between mid-2012 and early 2015. The app generated several news stories which promoted GIS, wildlife observations, and citizen science. One news broadcast was aired nationally on NPR Weekend Edition, giving widespread exposure to the use of GIS in a way that most people can readily participate. This app lends itself to demonstrations and lectures to a wide variety of group interests and ages, exposing them to GIS and readily available smartphone apps, as well as encouraging a sense of place and participation in larger science projects (see for example, <http://www.adirondackvic.org/Armchair-Science-Lecture-Danielle-Garneau-2014.html>).

Return on Investment/Cost-Benefit Analysis:

This was an academic project meant to experiment with smartphone data collection, not a business application. It will be used in laboratory exercises and it is hoped to spark further research projects.

Key Participants: (Name, Organization, Title)

Danielle Garneau, Ph.D.
Associate Professor of Environmental Science
Center for Earth and Environmental Science

Contact Information:

Name	Phone #	Email
Danielle Garneau	(518) 564-4073	dgarn001@plattsburgh.edu

Submitted by:

Eileen Allen	(518) 564-2020	alleneb@plattsburgh.edu
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Deadline & Submission Information

The deadline for entries is Tuesday, September 15, 2015. Please E-mail this completed template to Ben Houston at Benjamin.h.houston@gmail.com, with "GIS Applications: [Name of Submitting Organization]" in the message Subject line.

Thank you for your submission and Good Luck!