Automated detection of emergency landing sites for drones

Using open source software Grass GIS and its Python API

Introduction

The company Amazon recently announced they are developing aerial drone systems to deliver packages to customers. Other companies have followed suit with announcing the incorporation of drones into their services. However good these systems are, fail safes need to be in place in the event of failure. That’s where remote sensing can help, by providing analysis of the area where drones will operate.

Objective question

Where can a drone safely land in a city, given that it has a limited range from a point of failure?

Objective overview

This is meant as a dynamic solution to the question posed previously. The goal is to leverage open-source software to solve a problem that applies to not just one specific location at a specific time, but any location at any time. This also simplifies the reproducibility since all actions performed on the data is documented in the code. This will be achieved with open source GRASS GIS, and Python.

Data Details

Methodology

References

* Software
  + GRASS Development Team, 2012. Geographic Resources Analysis Support System (GRASS) Software. Open Source Geospatial Foundation Project. [http://grass.osgeo.org](http://grass.osgeo.org/)
  + Python Software Foundation. Python Language Reference, version 2.7. Available at <http://www.python.org>
  + Source code available on my Github account: <https://github.com/Farm8763>
* Data