Migration Patterns for Data Visualization

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**PROJECT OVERVIEW**

In order to put into practice what I am learning in a data visualization class I’m taking, I wanted to develop a project with potentially real world implications. Combining my some of my personal interests with publicly available datasets, I decided to investigate the migration patterns of various species of birds in North America.

Bird hits are a real problem for the FAA, and theoretically is something that may be an even bigger problem for the burgeoning drone technology. Using datasets from [ebird.org](file:///C:\Users\lnylund\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\57L2GSQO\ebird.org) and <http://wildlife.faa.gov/> and other related information, I hope to answer a number of questions regarding migration patterns. Ultimately, I would like to animate this data to show how populations change and move over the course of time.

**QUESTIONS TO ANSWER**

The following list may grow as I examine the data further and discover other questions that may be relevant to a drone flight, or are just interesting in relation to bird flight.

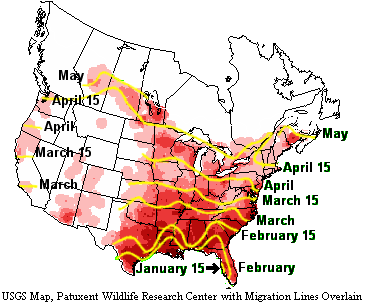
1. What are the highest density bird areas? (Planning to begin with Oregon data, and expand to other geos later.)
2. When are those areas more or less populated?
3. What types of species will be found in these areas? (Size of birds may have an impact)
4. What is a typical flight path and elevation?

**TECHNOLOGY**

This is designed to be a demo, and as such it will be run locally using Python SimpleHTTPServer to host. The bulk of the work with be done with JavaScript libraries D3.js and leaflet.js. Samples shown below.

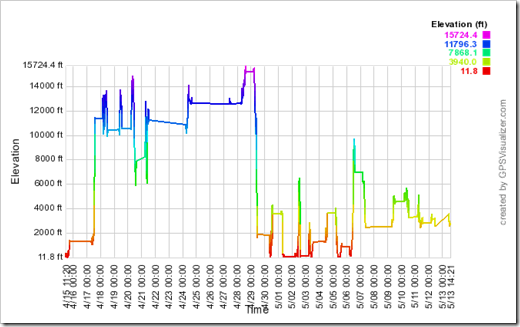
**SAMPLE GRAPHS:**

What paths are they taking and when will they be in an area?



<https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcRKNTXPUyHIhbGs4SKVpJSwWzKfV5nM55JVl85D8owtKwJtgWnk>

What altitude are the bird flying at?

<http://lh5.ggpht.com/_rWRhetumRmg/TdBI0dCHuiI/AAAAAAAACKU/SdR5rLXHckI/elevation-04-15-to-05-13_thumb%5B3%5D.png?imgmax=800>