Turkey Vulture Migration Project Report

Team member:

Project Purpose:

Work Flow:

1. Extract

Original data sources: data.world

(<https://data.world/makeovermonday/2018-w-4-turkey-vulture-migration-in-north-and-south-america>)

Additional data sources:

([https://www.datarepository.movebank.org/discover?query=Cathartes+aura&filtertype=\*&filter=&submit\_search-filter-controls\_add=Add&rpp=20&sort\_by=score&order=DESC&location=l2](https://www.datarepository.movebank.org/discover?query=Cathartes+aura&filtertype=*&filter=&submit_search-filter-controls_add=Add&rpp=20&sort_by=score&order=DESC&location=l2))

Data format: CSV files

1. Transform: what data cleaning or transformation was required.

The type of transformation needed for this data (cleaning, joining, filtering, aggregating, etc).

1. Load: the final database, tables/collections, and why this was chosen

The type of final production database to load the data into (relational or non-relational).

The final tables or collections that will be used in the production database.

Additional information:

1. How to use move bank to download data needed

<https://www.hawkmountain.org/science/learn-to-use-tracking-maps/page.aspx?id=4515>

<https://www.makeovermonday.co.uk/week4-2018/>

https://www.movebank.org/panel\_embedded\_movebank\_webapp

Variation is key to the adaptability of species and their ability to survive changes to the Earth’s climate and habitats. Plasticity in movement strategies allows a species to better track spatial dynamics of habitat quality. We describe the mechanisms that shape the movement of a long-distance migrant bird (turkey vulture, Cathartes aura) across two continents using satellite tracking coupled with remote-sensing science. Using nearly **10 years of data from 24 satellite-tracked vultures** in four distinct populations, we describe an enormous amount of variation in their movement patterns. We related **vulture movement to environmental conditions and found important correlations explaining how far they need to move to find food (indexed by the normalized difference vegetation index) and how fast they can move based on the prevalence of thermals and temperature.** We conclude that the extensive variability in the movement ecology of turkey vultures, facilitated by their energetically efficient thermal soaring, suggests that this species is likely to do well across periods of modest climate change. The large scale and sample sizes needed for such analysis in a widespread migrant emphasizes the need for integrated and collaborative efforts to obtain tracking data and for policies, tools and open datasets to encourage such collaborations and data sharing.

Guidelines for ETL Project

This document contains guidelines, requirements, and suggestions for Project 1.

Team Effort

Due to the short timeline, teamwork will be crucial to the success of this project! Work closely with your team through all phases of the project to ensure that there are no surprises at the end of the week.

Working in a group enables you to tackle more difficult problems than you'd be able to working alone. In other words, working in a group allows you to work smart and dream big. Take advantage of it!

Project Proposal

Before you start writing any code, remember that you only have one week to complete this project. View this project as a typical assignment from work. Imagine a bunch of data came in and you and your team are tasked with migrating it to a production data base.

Take advantage of your Instructor and TA support during office hours and class project work time. They are a valuable resource and can help you stay on track.

Finding Data

Your project must use 2 or more sources of data. We recommend the following sites to use as sources of data:

data.world

Kaggle

You can also use APIs or data scraped from the web. However, get approval from your instructor first. Again, there is only a week to complete this!

Data Cleanup & Analysis

Once you have identified your datasets, perform ETL on the data. Make sure to plan and document the following:

The sources of data that you will extract from.

The type of transformation needed for this data (cleaning, joining, filtering, aggregating, etc).

The type of final production database to load the data into (relational or non-relational).

The final tables or collections that will be used in the production database.

You will be required to submit a final technical report with the above information and steps required to reproduce your ETL process.

Project Report

At the end of the week, your team will submit a Final Report that describes the following:

Extract: your original data sources and how the data was formatted (CSV, JSON, pgAdmin 4, etc).

Transform: what data cleaning or transformation was required.

Load: the final database, tables/collections, and why this was chosen.

Please upload the report to Github and submit a link to Bootcampspot.