

# Exploring Bird Population Dynamics

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# Data



The data, collected from The Department of the Interior (DOI), represent the first ten years of data collection (2007-2017) on bird observations in the National Capital Region as part of the Inventory and Monitoring Program.

The dataset contains: administrative & sub-unit code unit code, name of the site where the monitoring took place, name of the plot within the site, type of location (e.g., forest), the date and year when the monitoring was done, times when the observation started and ended, name of the observer, codes and names of the species observed, environmental conditions during the observation, any disturbances noted during the count...



# Research Questions

1. "How do bird populations in different locations change over the years?"
2. "What is the impact of environmental conditions on bird observations?"

To answer the questions, I will focus on the number of observations, species diversity, location types (Forest, Grassland), and environmental variables like temperature.



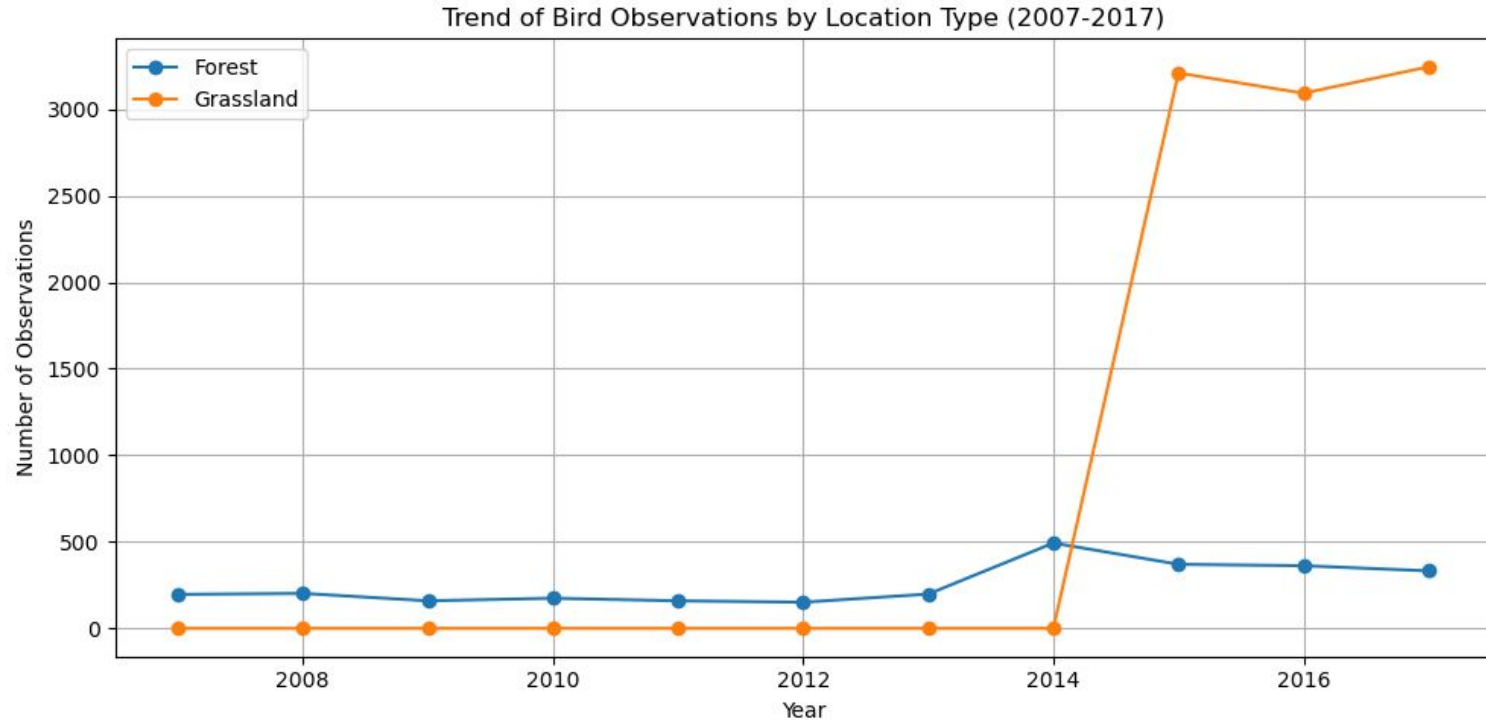
## Table - number of bird observations by year and location type

Observations were recorded only in forests from 2007 to 2014.

Starting in 2015, observations were also recorded in grasslands, with a significant number of observations compared to forests.

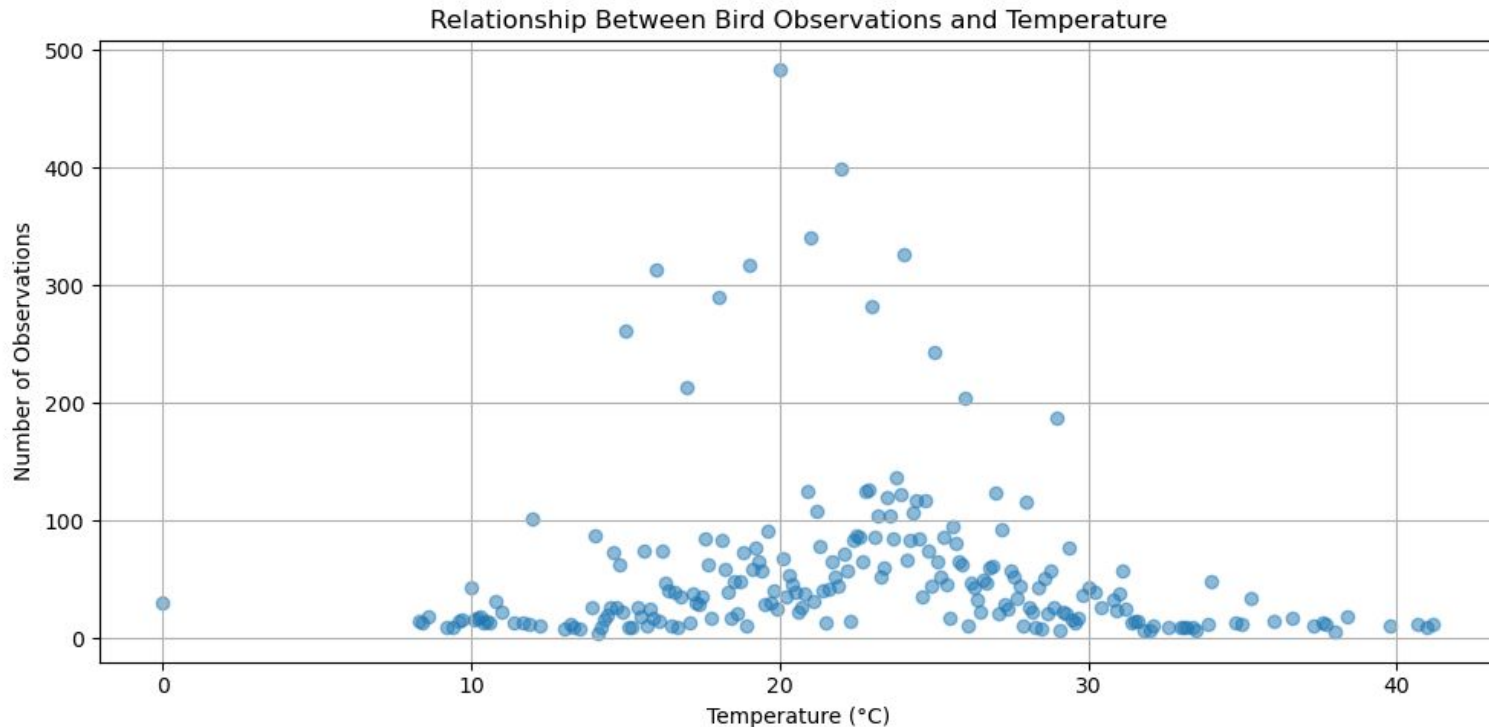
Location_Type	Forest	Grassland
Year		
2007	196	0
2008	202	0
2009	159	0
2010	174	0
2011	159	0
2012	151	0
2013	198	0
2014	493	0
2015	370	3209
2016	362	3092
2017	332	3245

# line plot - trend of bird observations over the years for each location type





# Scatter plot - relationship between bird observations and temperature





## Takeaway

### Interpretation of trends

- The increase in grassland observations may reflect changes in monitoring efforts or ecological transitions.

### Speculation on data patterns

- The apparent correlation with temperature may indicate that certain temperatures are more favorable for observing a higher number of birds, possibly due to birds' activity levels or migratory patterns.

# Thank You

