Bird Audio Classification
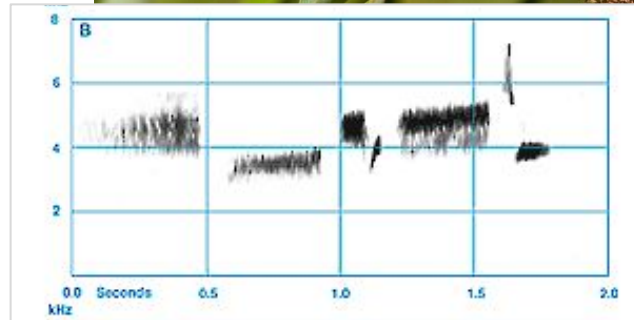
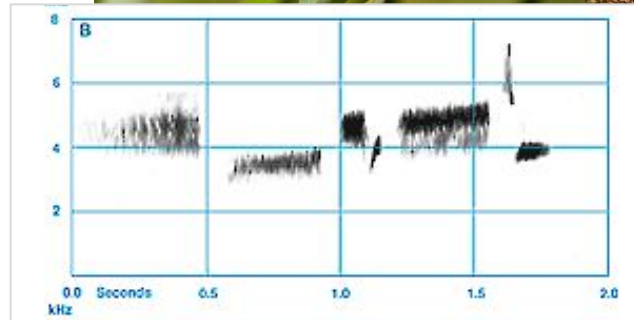Casey Bruns 08.27.2019

Agenda

1. Background
2. Process
3. Results
4. Next Steps

Golden-cheeked Warbler
image source

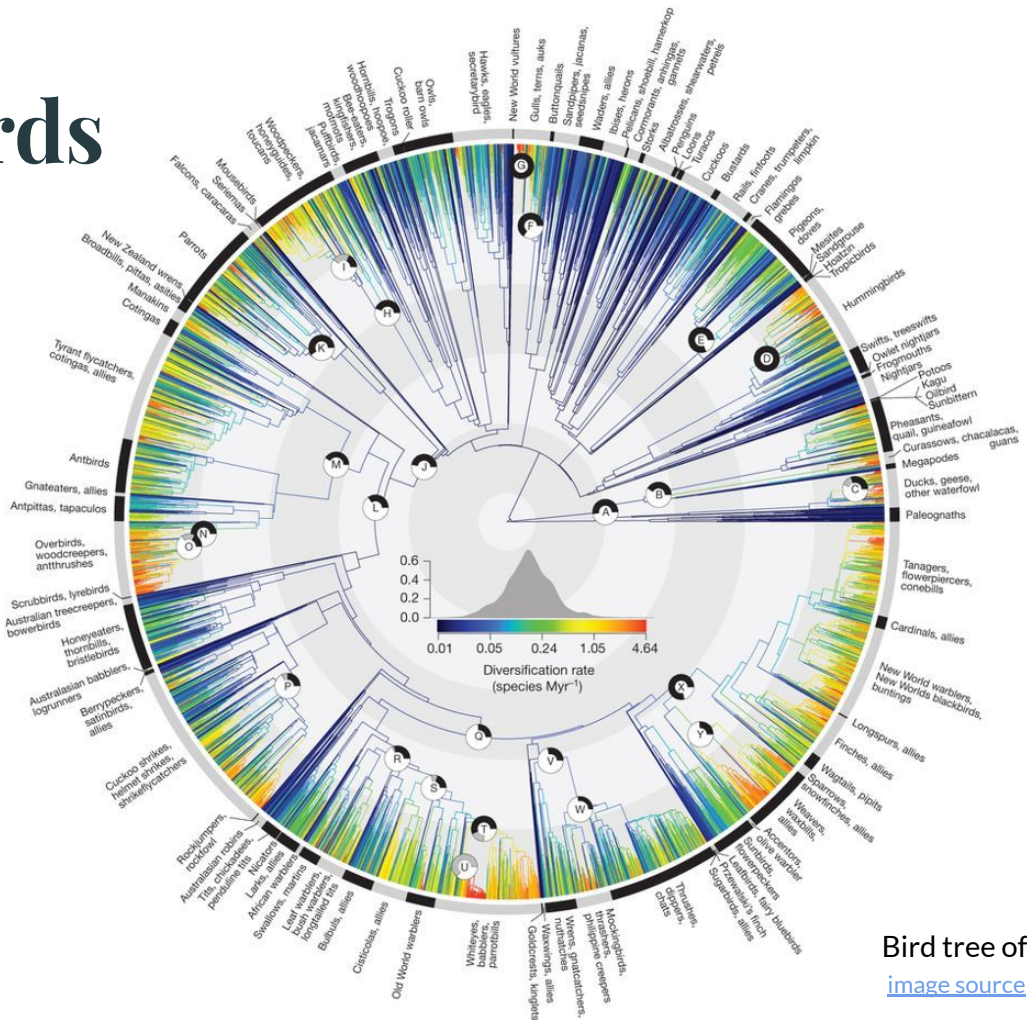# Agenda

1. **Background**
2. Process
3. Results
4. Next Steps

Golden-cheeked Warbler
image source

Background - Birds
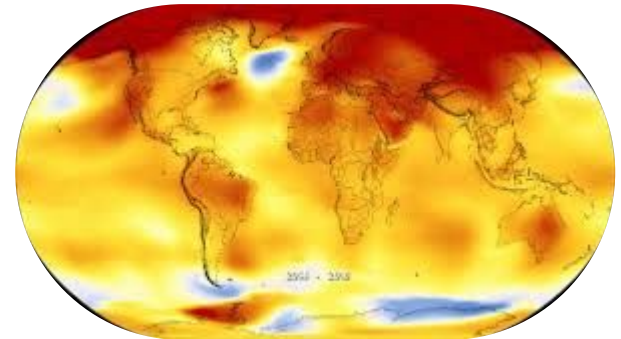
- Well studied

- Diverse

- Ancient

Bird tree of life
image source

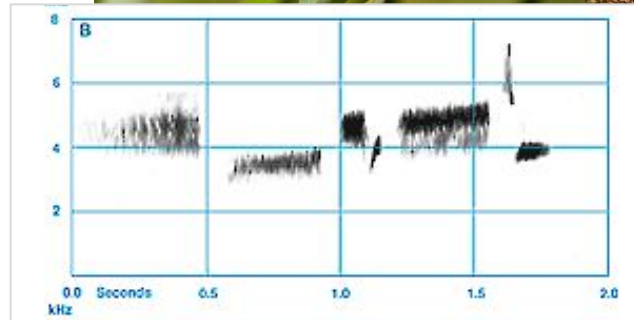# Background – Bird Communication

Background – Who Cares?

NASA Climate Change: 1880-2018

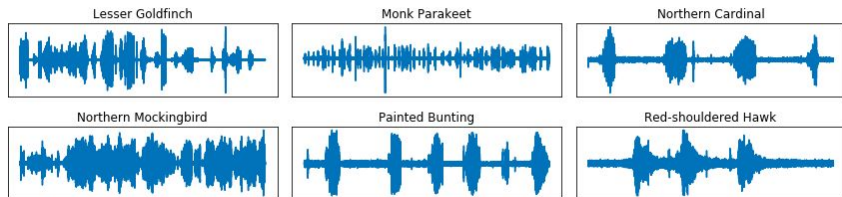# Agenda

1. Background
2. **Process**
3. Results
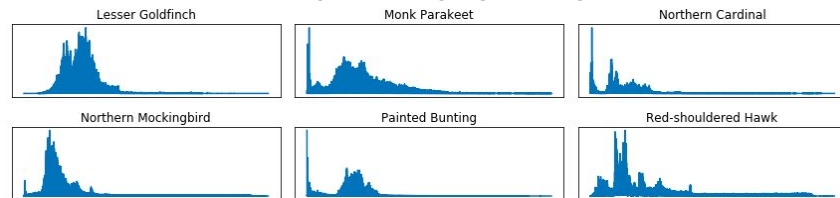4. Next Steps

Golden-cheeked Warbler
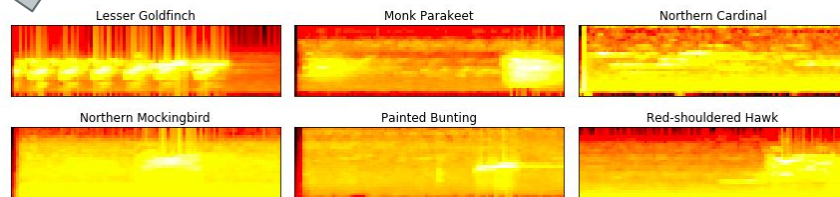image source

Process

Time Series

Painted Bunting

Fourier Transform
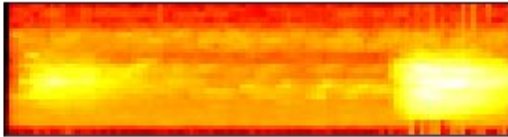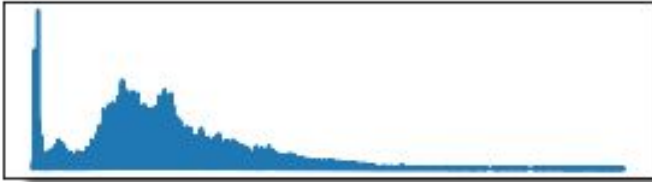
Monk Parakeet

Filter Bank Coefficients

Red-shouldered Hawk
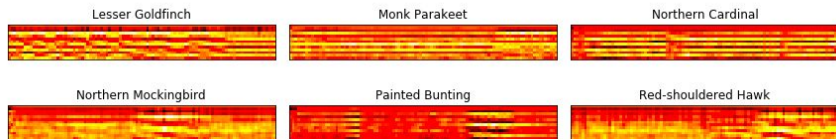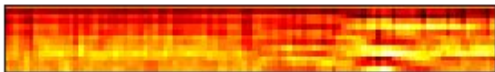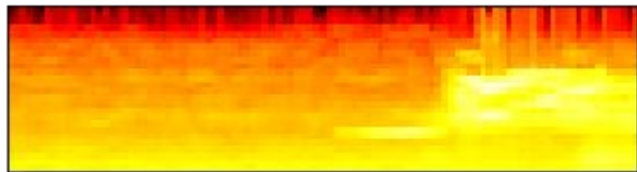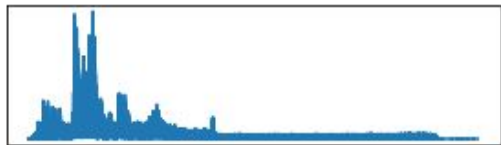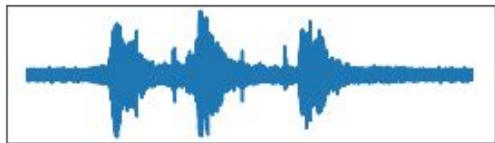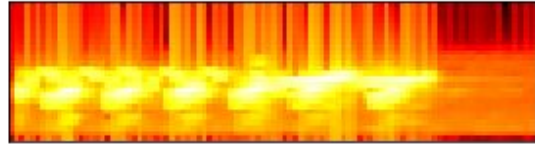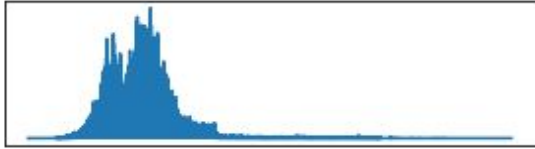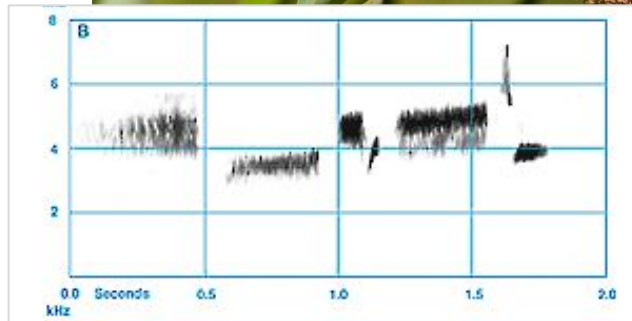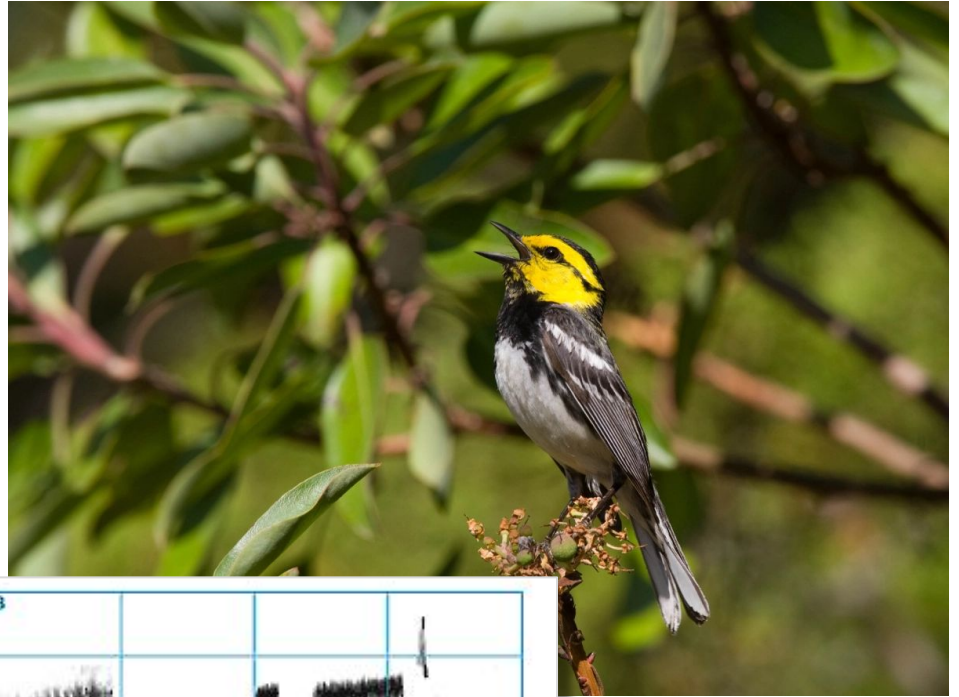
Mel Frequency Cepstrum Coefficients

Lesser Goldfinch

Agenda

1. Background
2. Process
3. **Results**
4. Next Steps
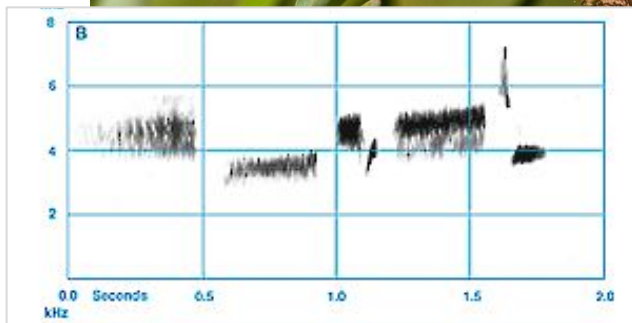

Golden-cheeked Warbler
image source

Results

- Trained on just 10 species

- 67% accuracy

Agenda

1. Background
2. Process
3. Results
4. **Next Steps**

Golden-cheeked Warbler
image source

Next Steps

- All 765 species

- + Noise (and other common misclassifications)

- Application