

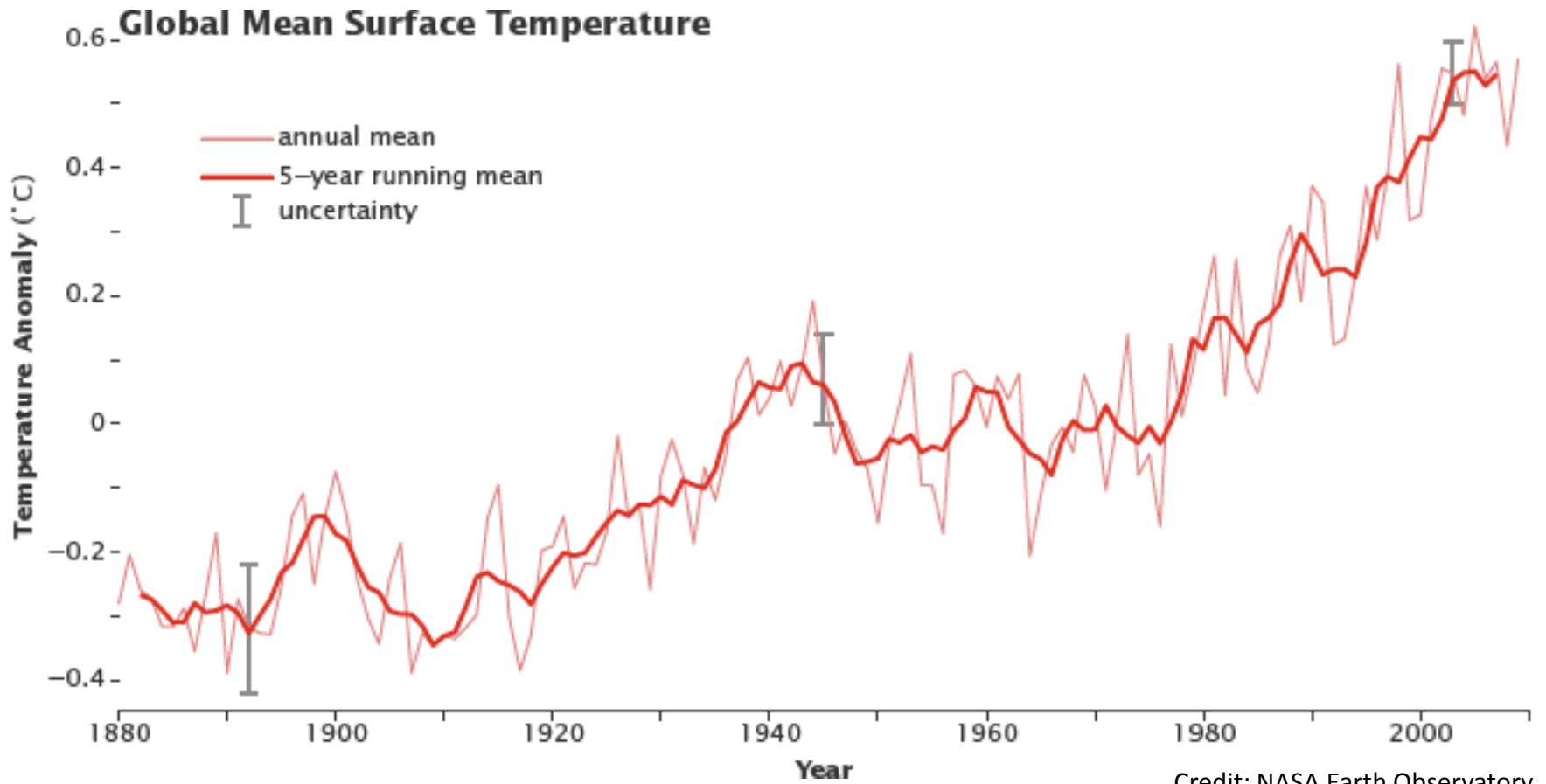
Audubon Climate Report

The Future for North American Birds



Audubon



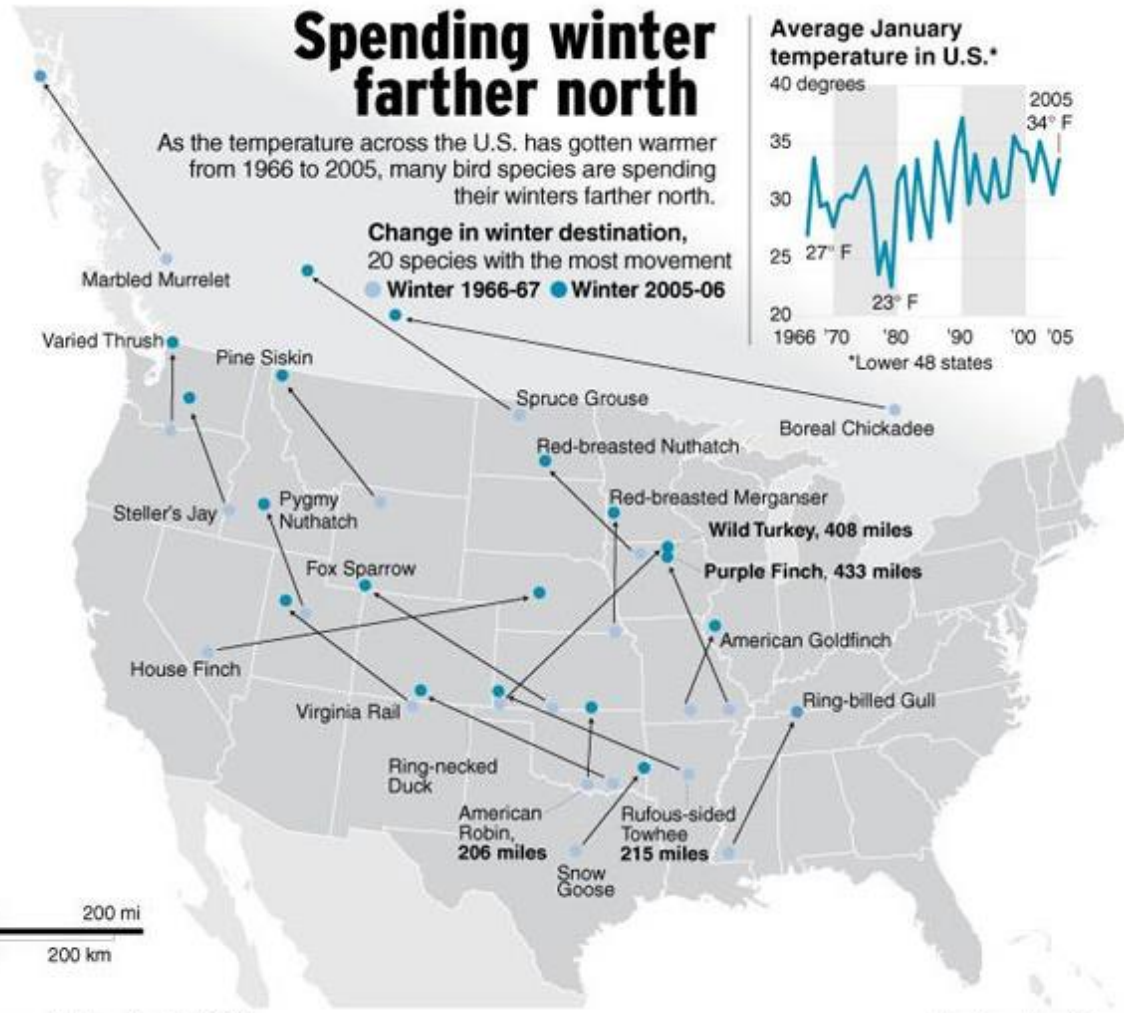


Credit: NASA Earth Observatory





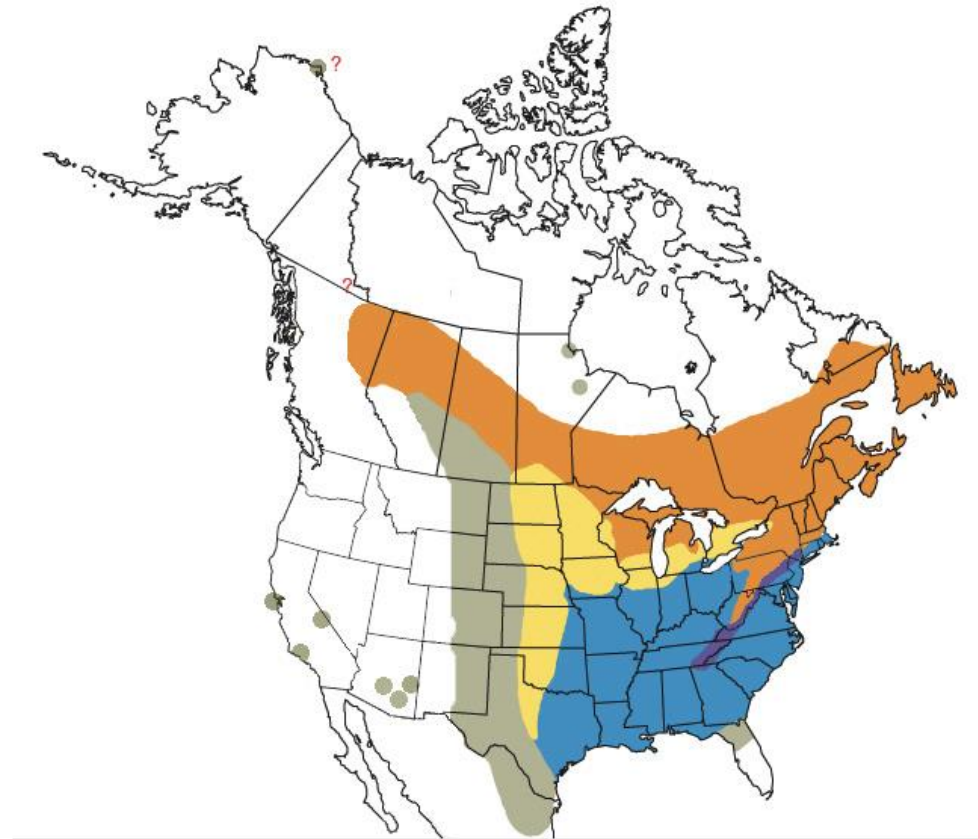
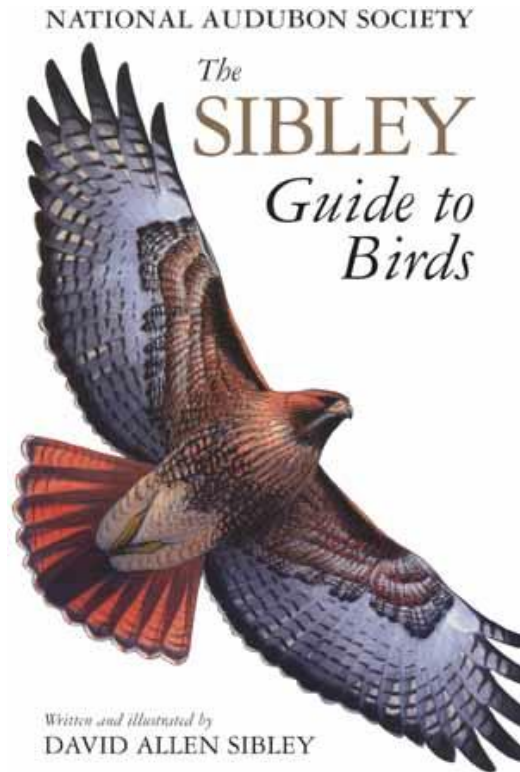




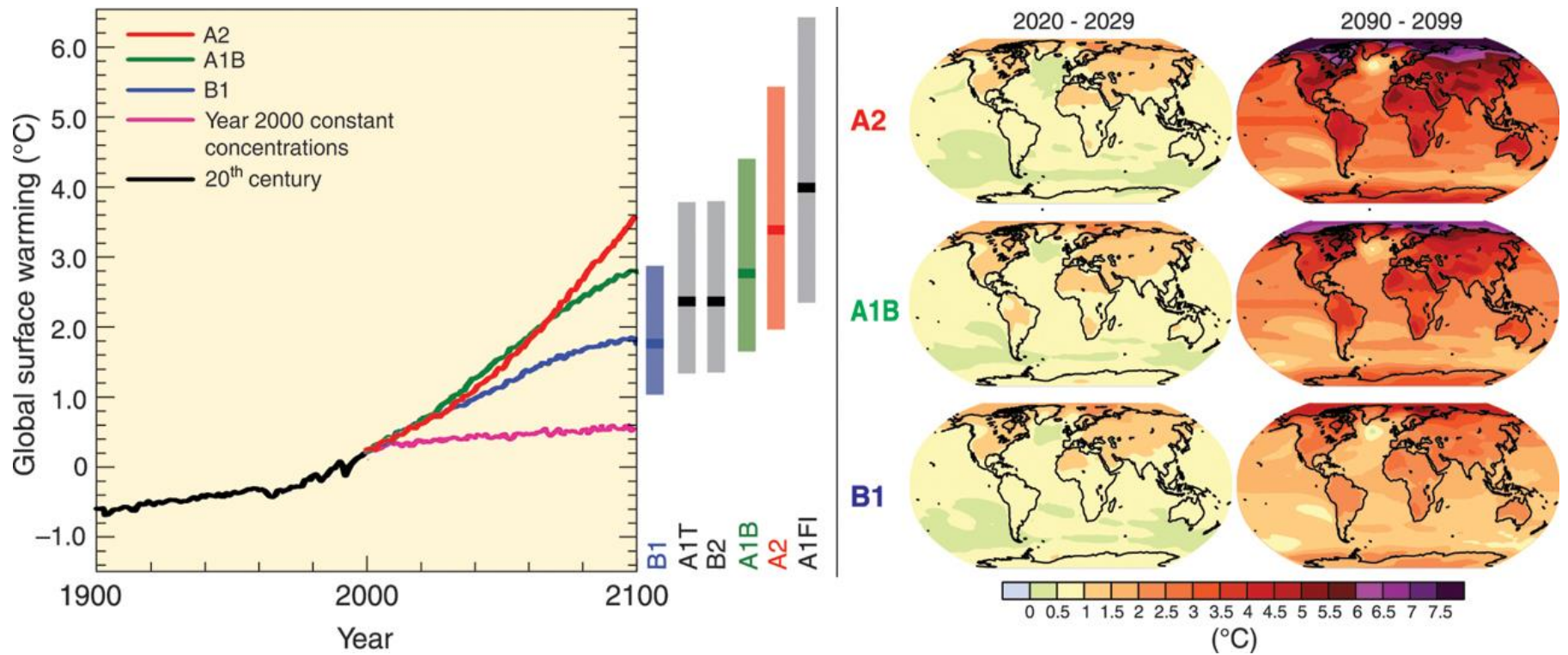
Sources: Audubon Society; NOAA

The Associated Press

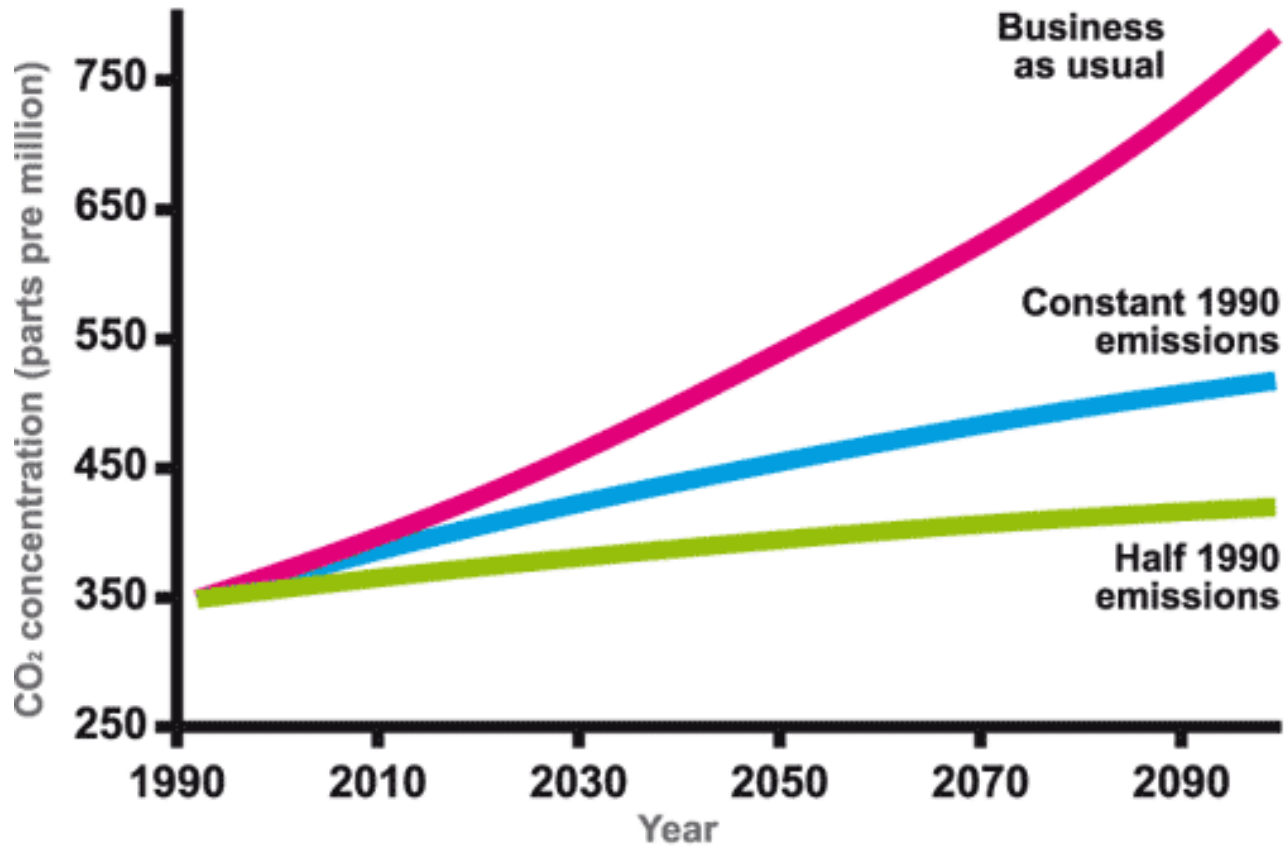
Guide to Future Bird Ranges



Range of Future Climates



Climate by Scenario



Bioclimatic Variables

Annual Mean Temperature (C°)

Mean Diurnal Range (Mean of monthly [maximum temperature – minimum temperature]) (C°)

Isothermality

Maximum Temperature of Warmest Month (C°)

Minimum Temperature of the Coldest Month (C°)

Temperature Annual Range (C°)

Mean Temperature of Wettest Quarter (C°)

Mean Temperature of Driest Quarter (C°)

Mean Temperature of Warmest Quarter (C°)

Mean Temperature of Coldest Quarter (C°)

Annual Precipitation (mm)

Precipitation of Wettest Month (mm)

Precipitation of Driest Month (mm)

Precipitation of Wettest Quarter (mm)

Precipitation of Driest Quarter (mm)

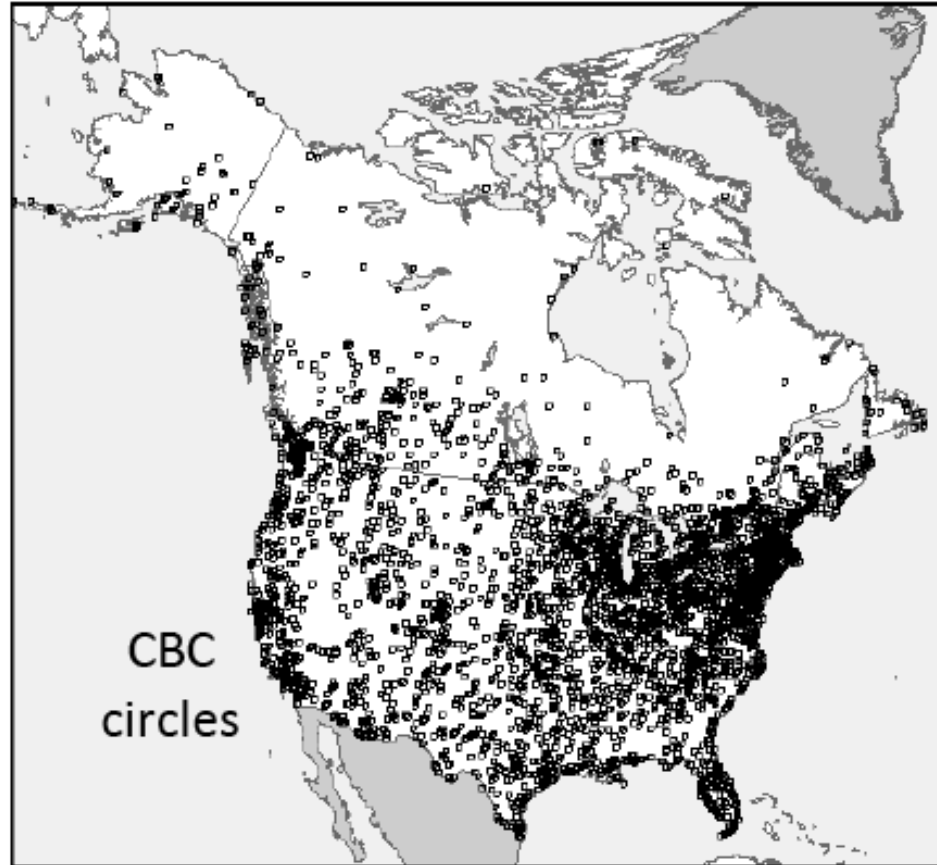
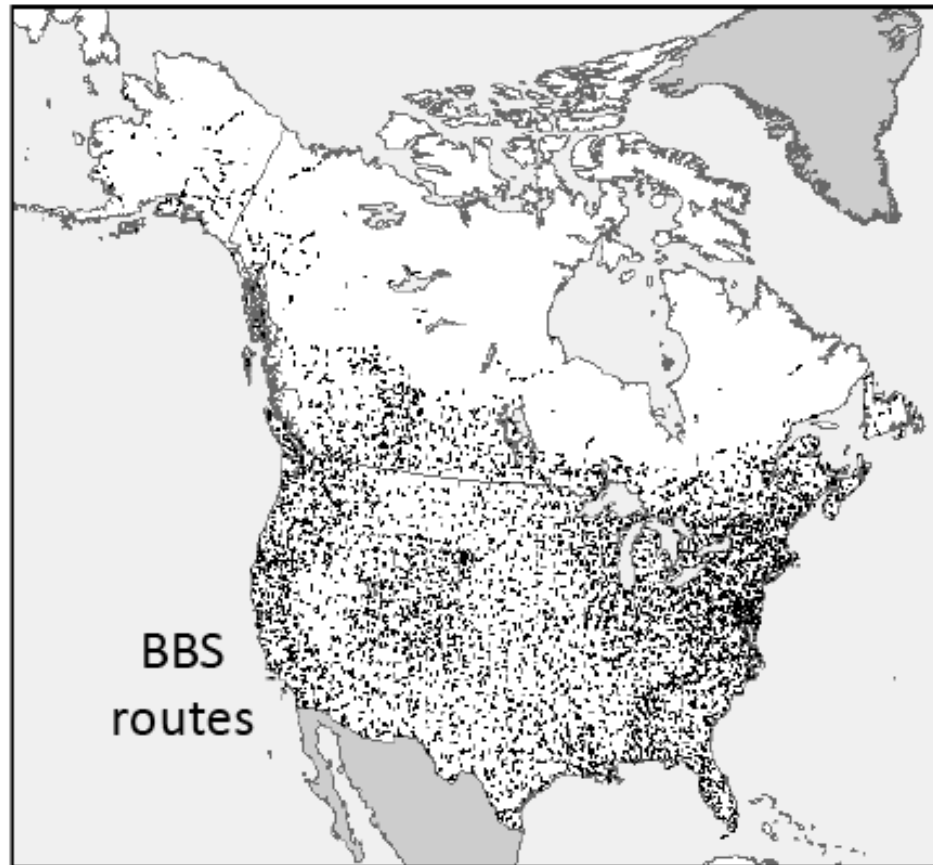
Precipitation of Warmest Quarter (mm)

Precipitation of Coldest Quarter (mm)





Summer and Winter Bird Count Data



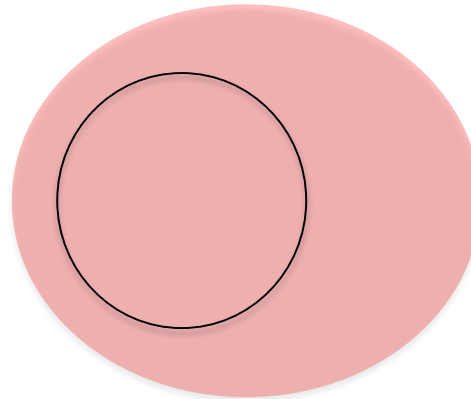
Pinyon Jay



Current vs. Future Ranges

Climate Stable

Anna's and Black-chinned Hummingbirds

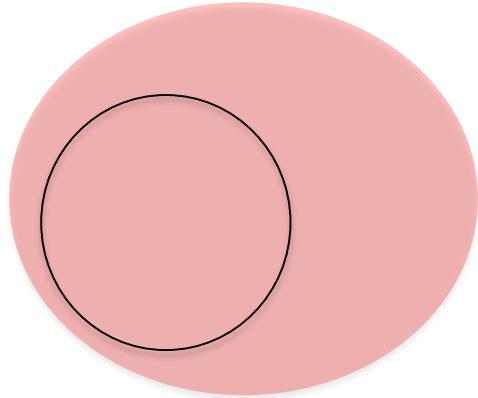


EXPAND



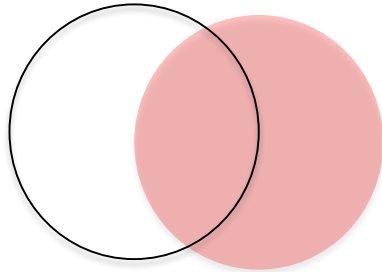
Current vs. Future Ranges

**Climate
Stable**



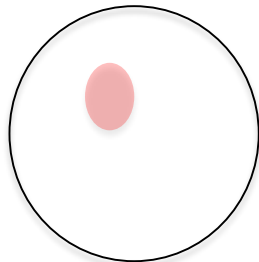
EXPAND

**Climate
Threatened**



SHIFT

**Climate
Endangered**

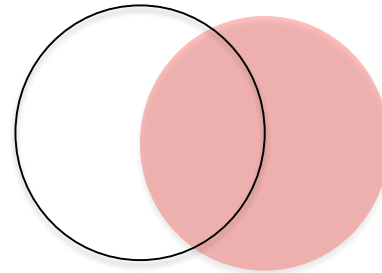


CONTRACT

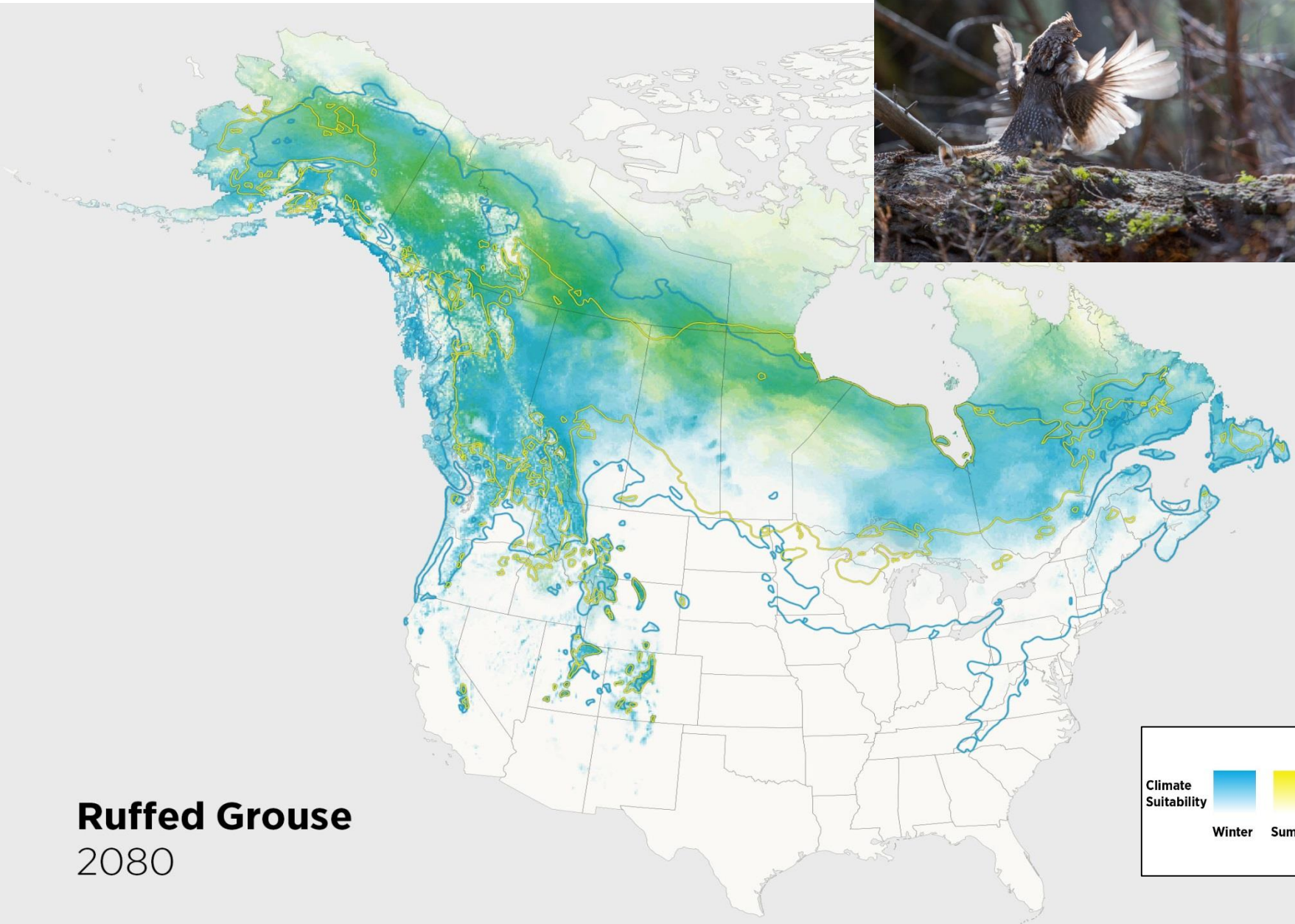
Current vs. Future Ranges

Climate Threatened

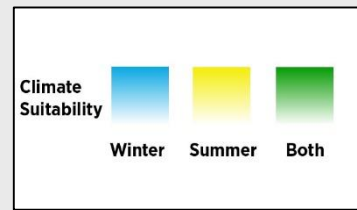
Common Loon



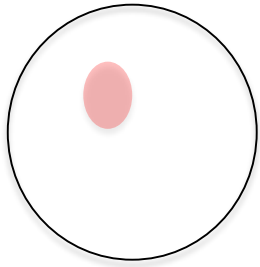
SHIFT



Ruffed Grouse
2080



Green-tailed Towhee



CONTRACT

82% decrease in summer 2080 from 2000 range

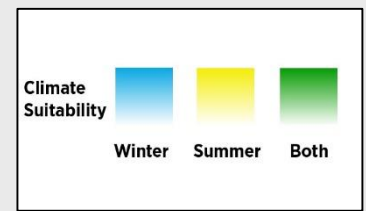


Climate Endangered

Baird's Sparrow



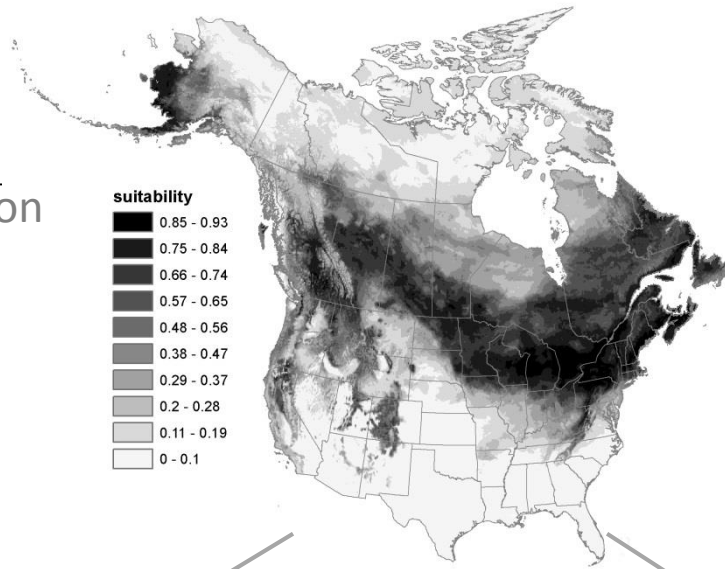
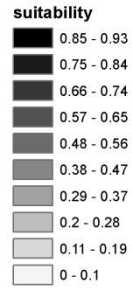
Baird's Sparrow
2080







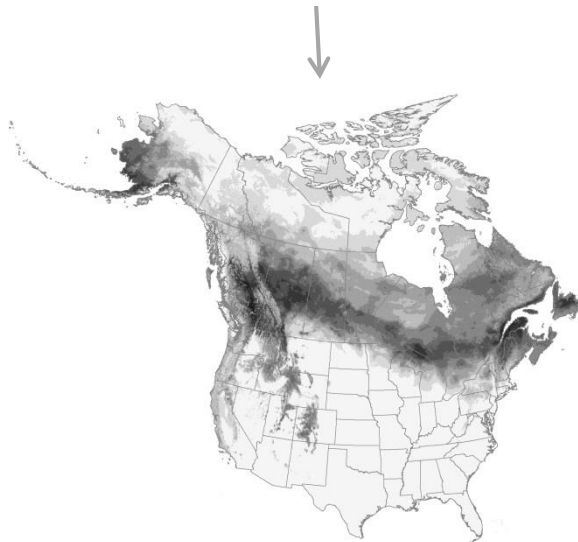
current distribution



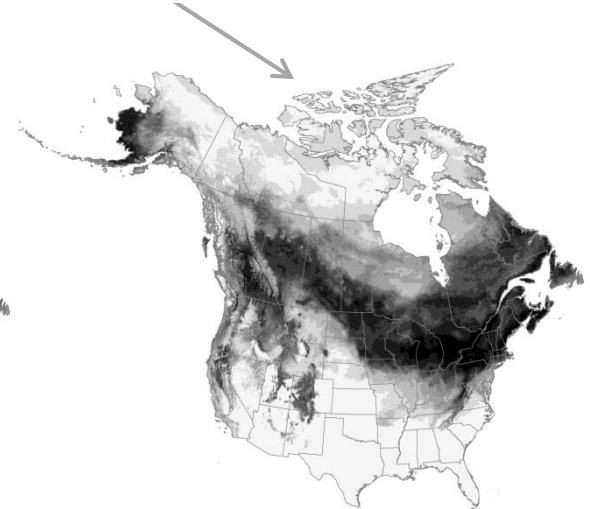
Biological Response
"track and move"



Biological Response
"suffer in place"

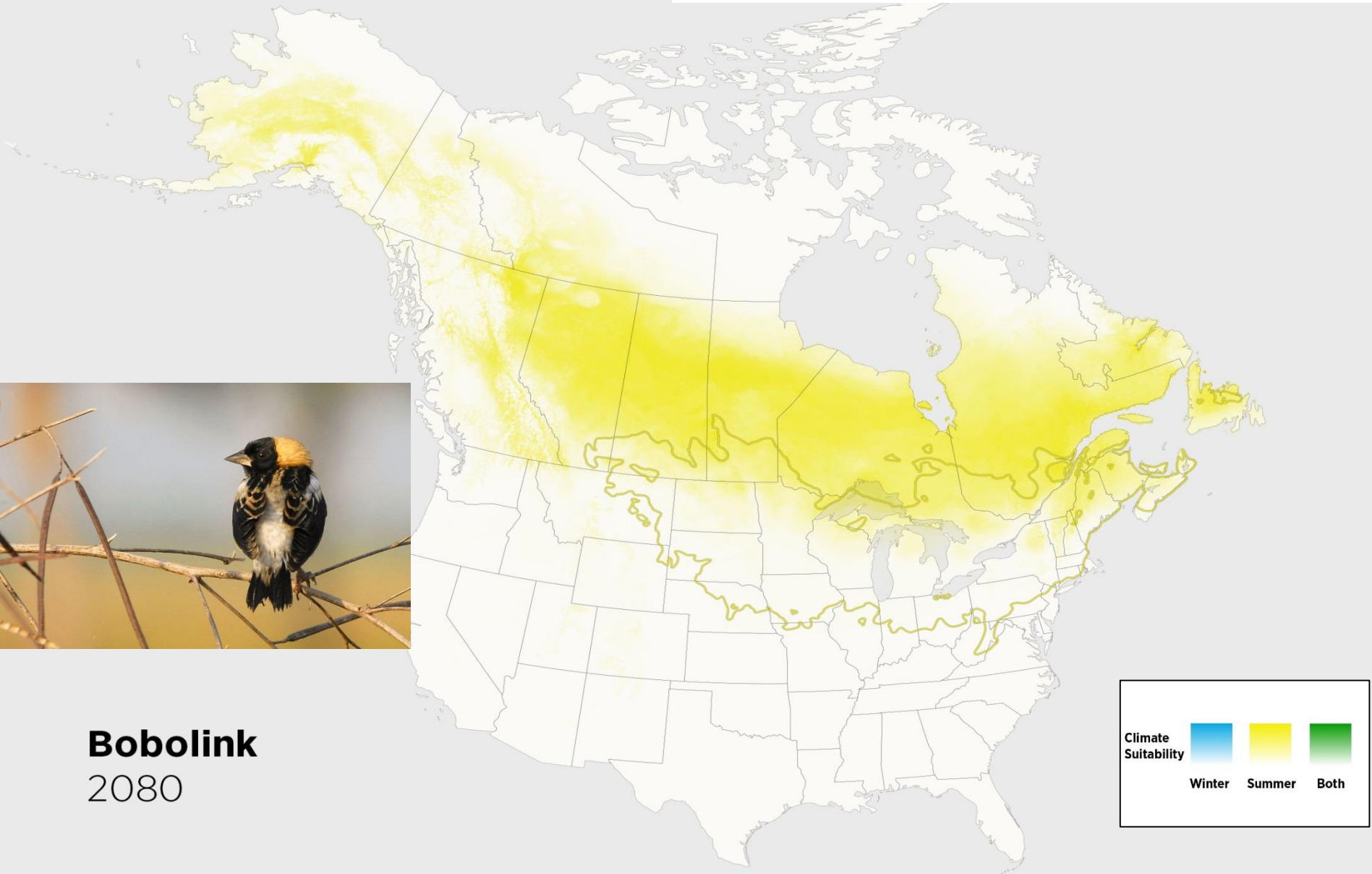


Biological Response
"adapt in place"



potential distribution across futures

Bobolink



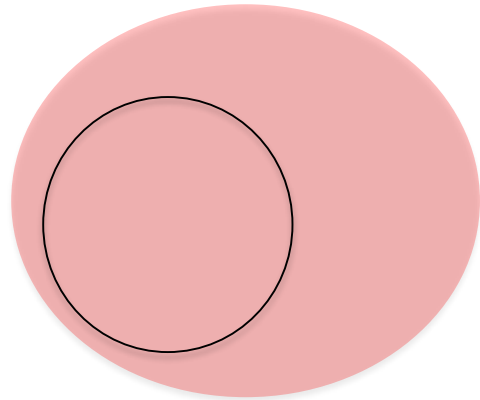
Bobolink
2080



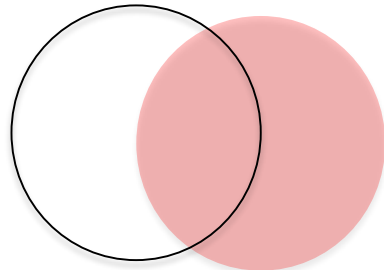




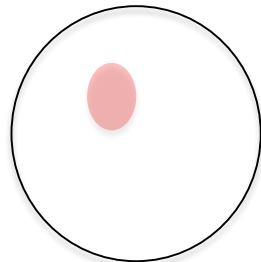
Conservation Strategies



PROTECT



ASSIST

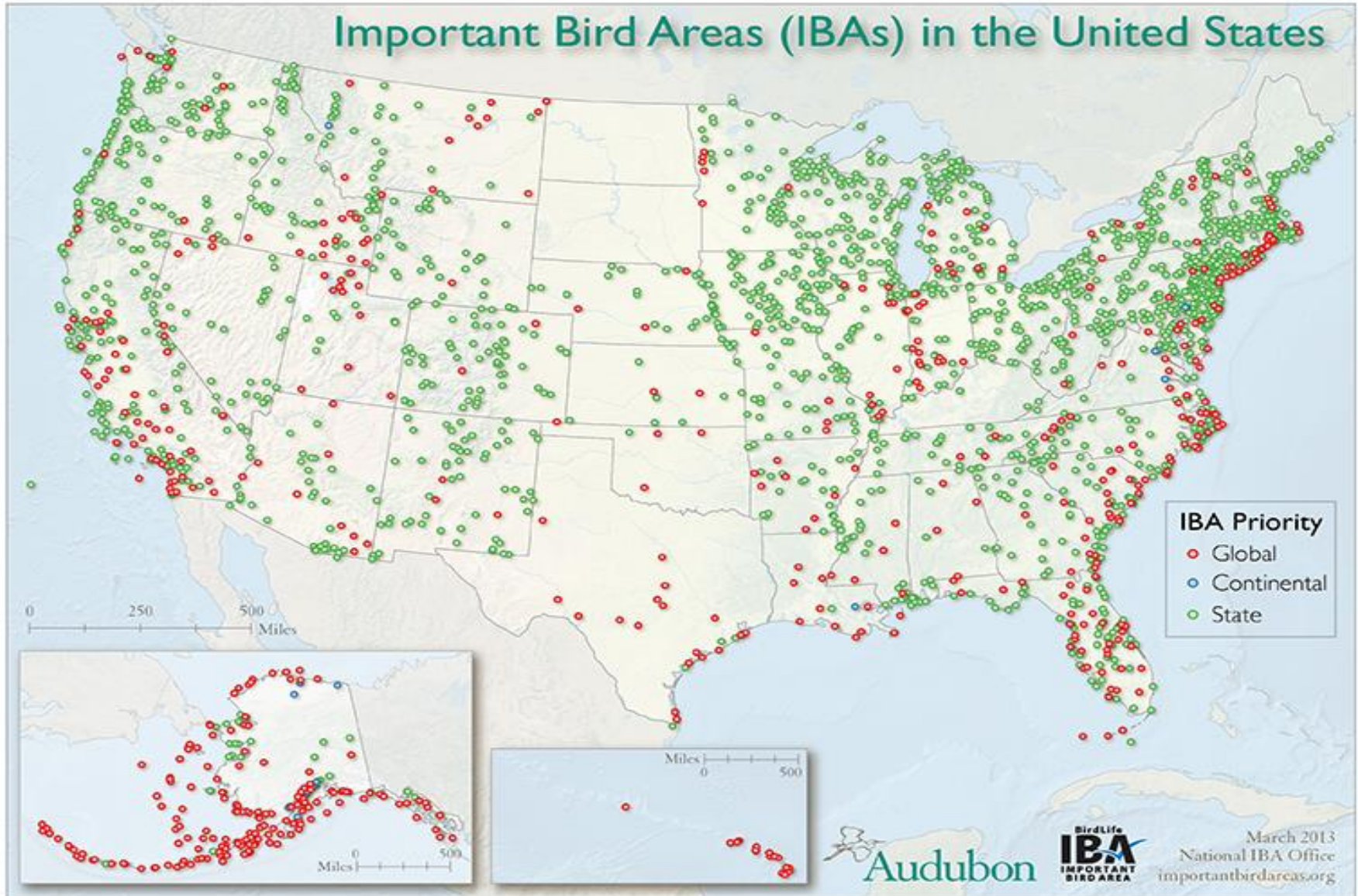


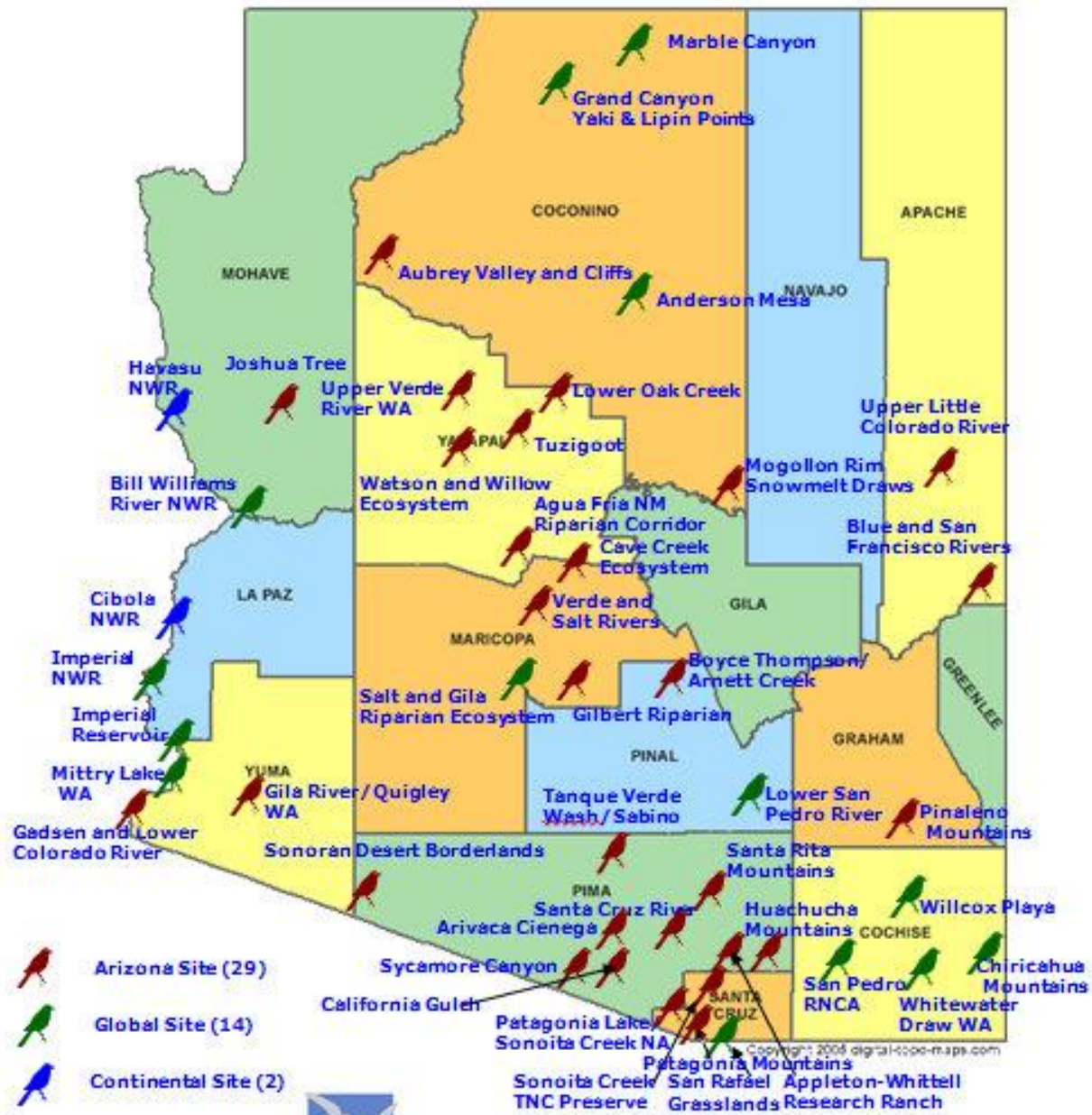
ACTION

NOW



Important Bird Areas (IBAs) in the United States





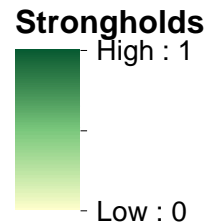
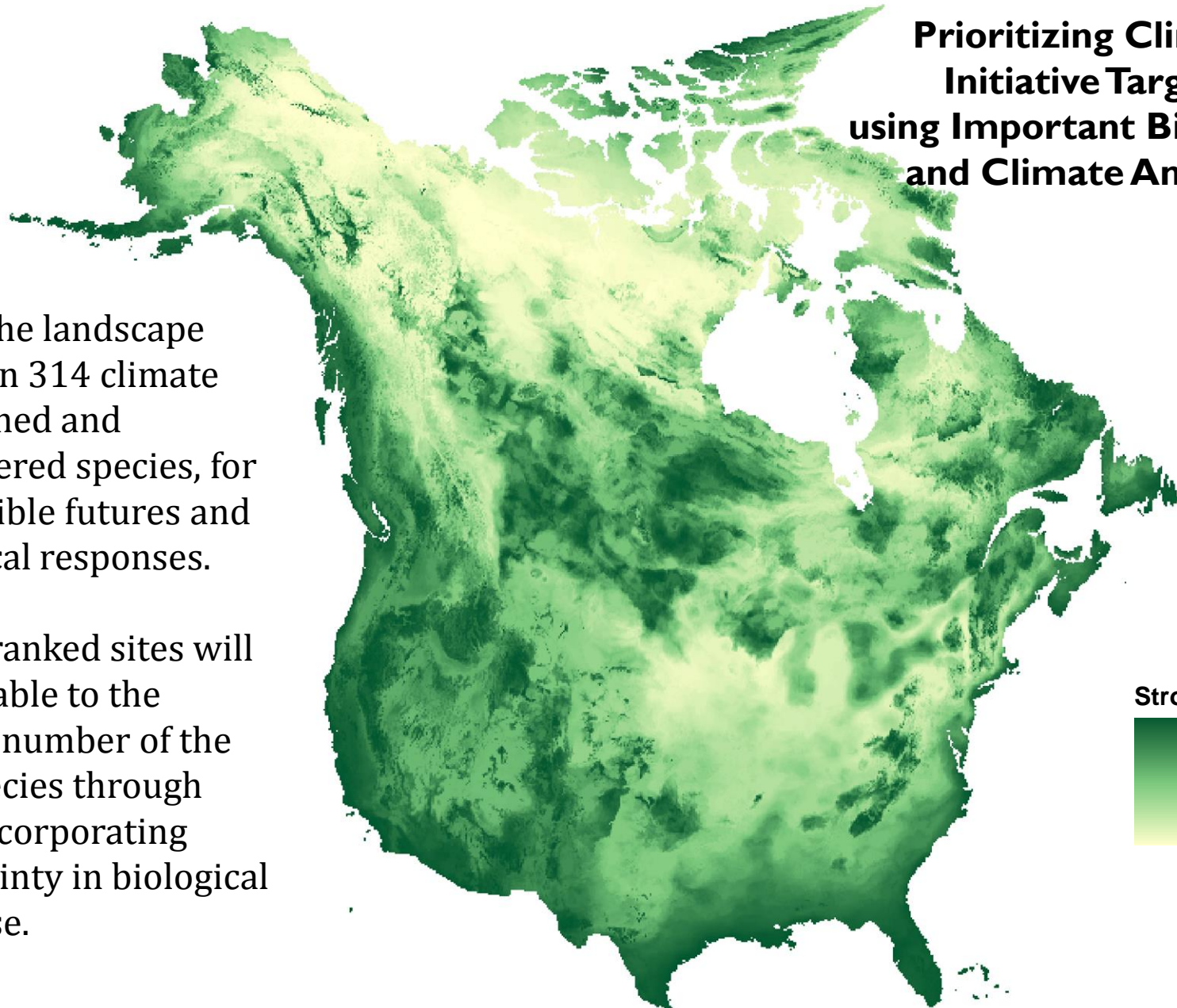
Arizona Important Bird Areas

Climate Strongholds

Prioritizing Climate Initiative Targets using Important Bird Areas and Climate Analysis

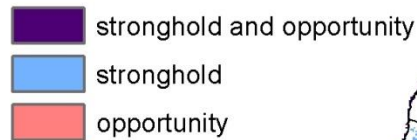
Ranks the landscape based on 314 climate threatened and endangered species, for all possible futures and biological responses.

Highly ranked sites will be valuable to the highest number of the 314 species through time, incorporating uncertainty in biological response.

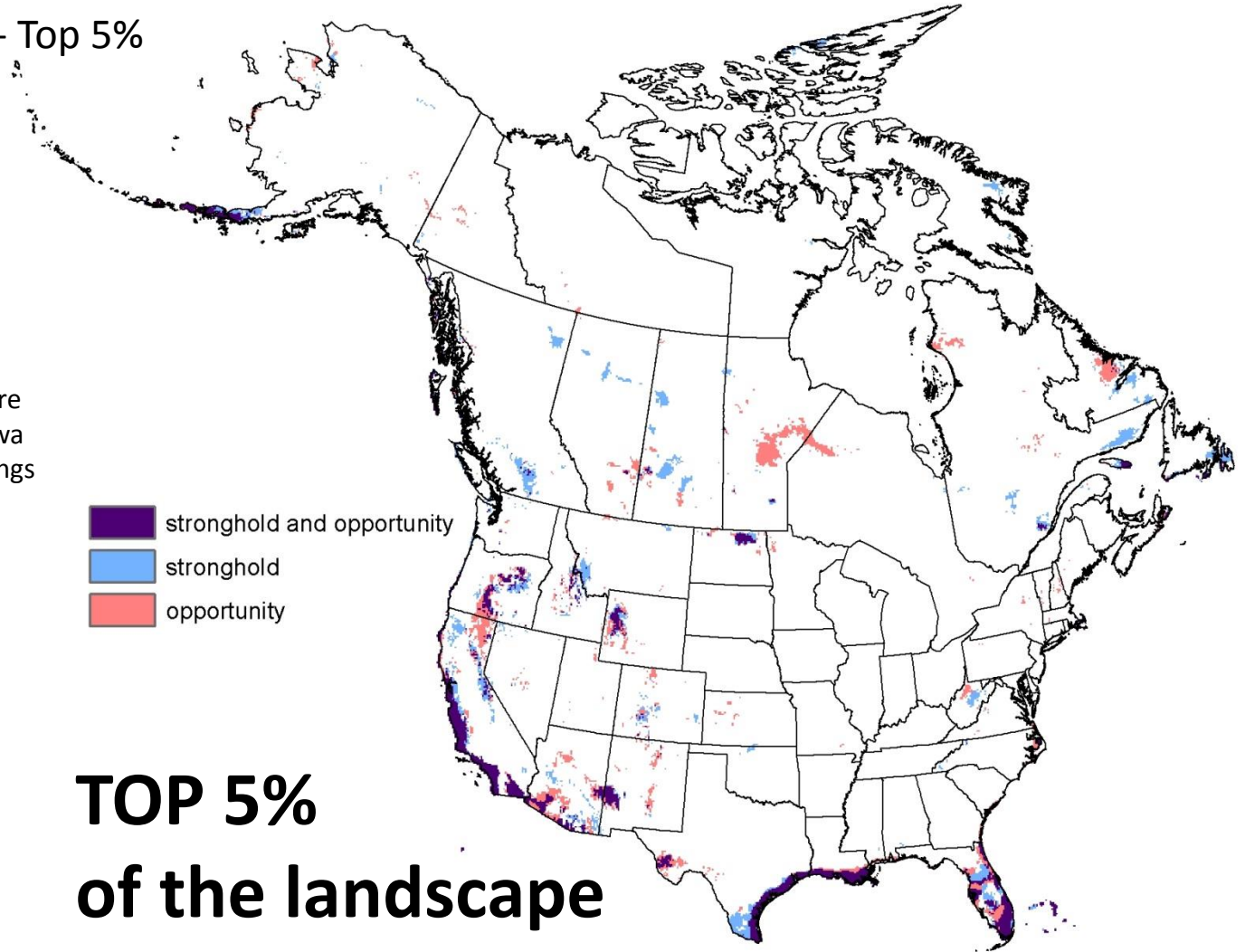


Highest Ranked Pixels - Top 5%

The map shows **only** the most valuable 5% of pixels in the entire continent. All of the pixels in Iowa and elsewhere have value rankings that we can look at in a more focused way.



TOP 5% of the landscape



Arizona Strongholds And Important Bird Areas

Rivers

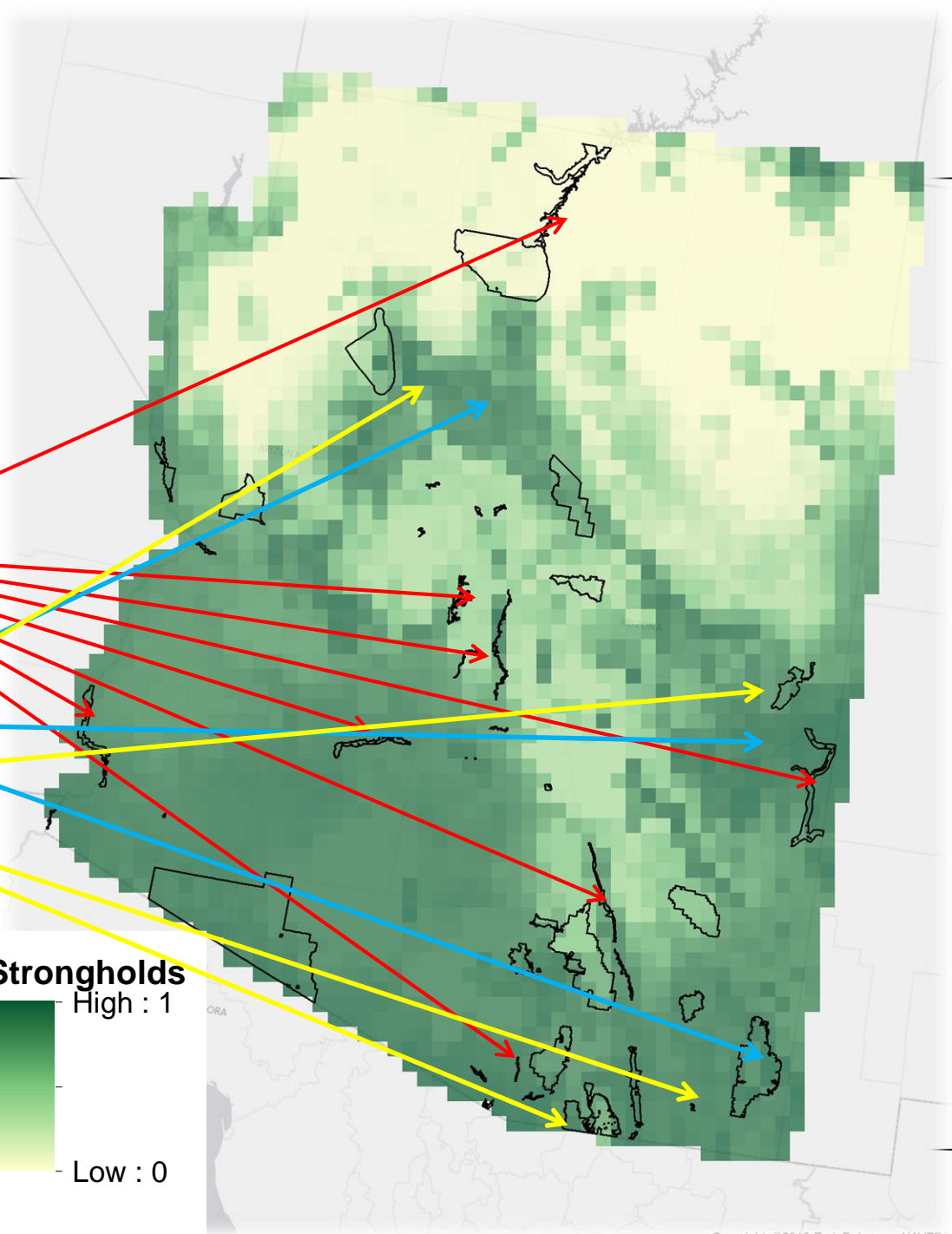
Mountains

Grasslands

Strongholds

High : 1

Low : 0





Hairy Woodpecker

Audubon's climate model projects a 78 percent loss of current summer range by 2080, with a strong shift northward noticeable at both seasons.



Red-breasted Nuthatch

Audubon's climate model shows an overall northward drift of the species' range, with more disruption and range loss in summer than in winter.



Ring-necked Duck

92 % summer range shift as predicted by Audubon's climate model. Winter range is predicted to remain stable





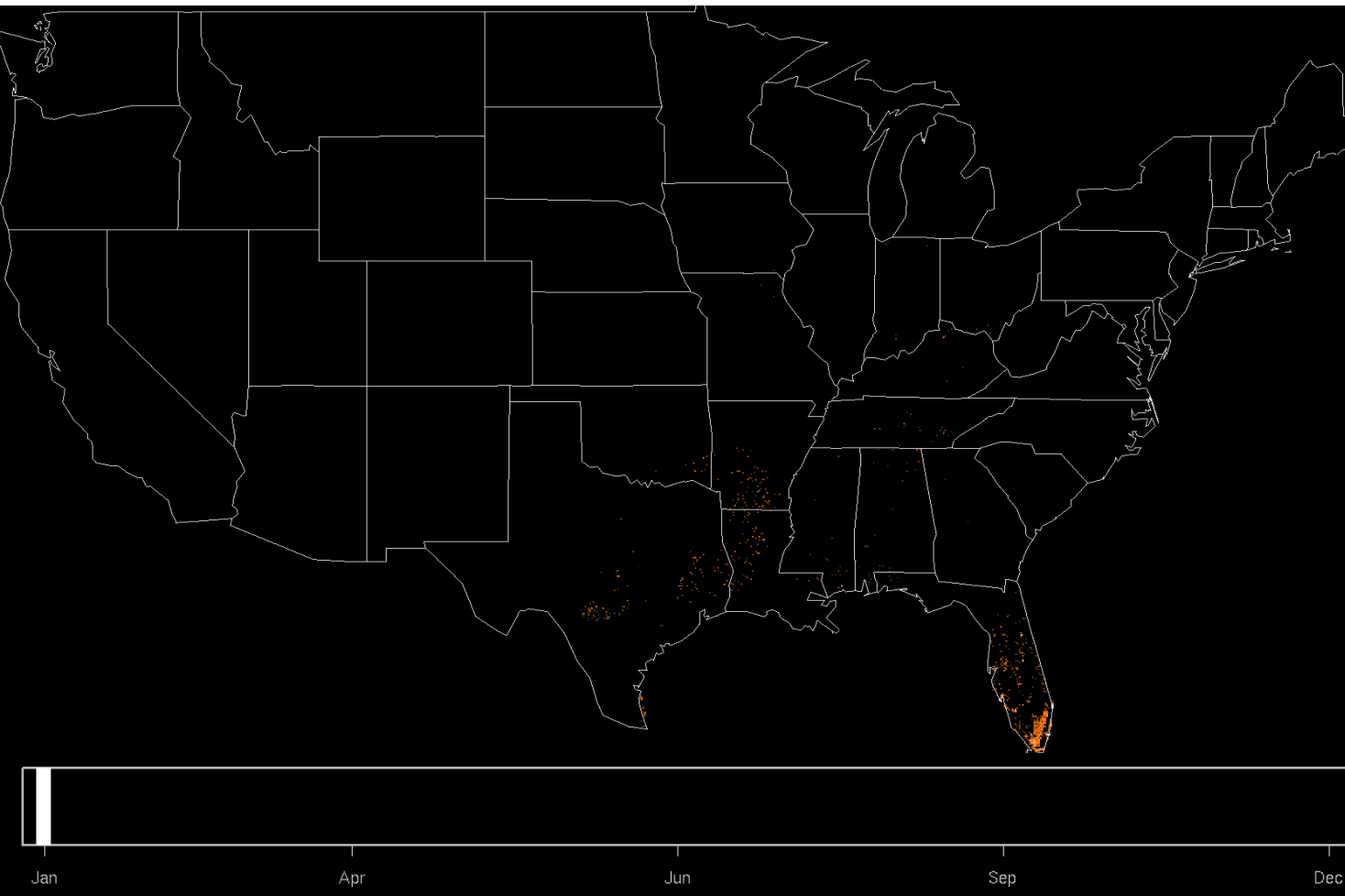


Credit: American Museum of Natural History

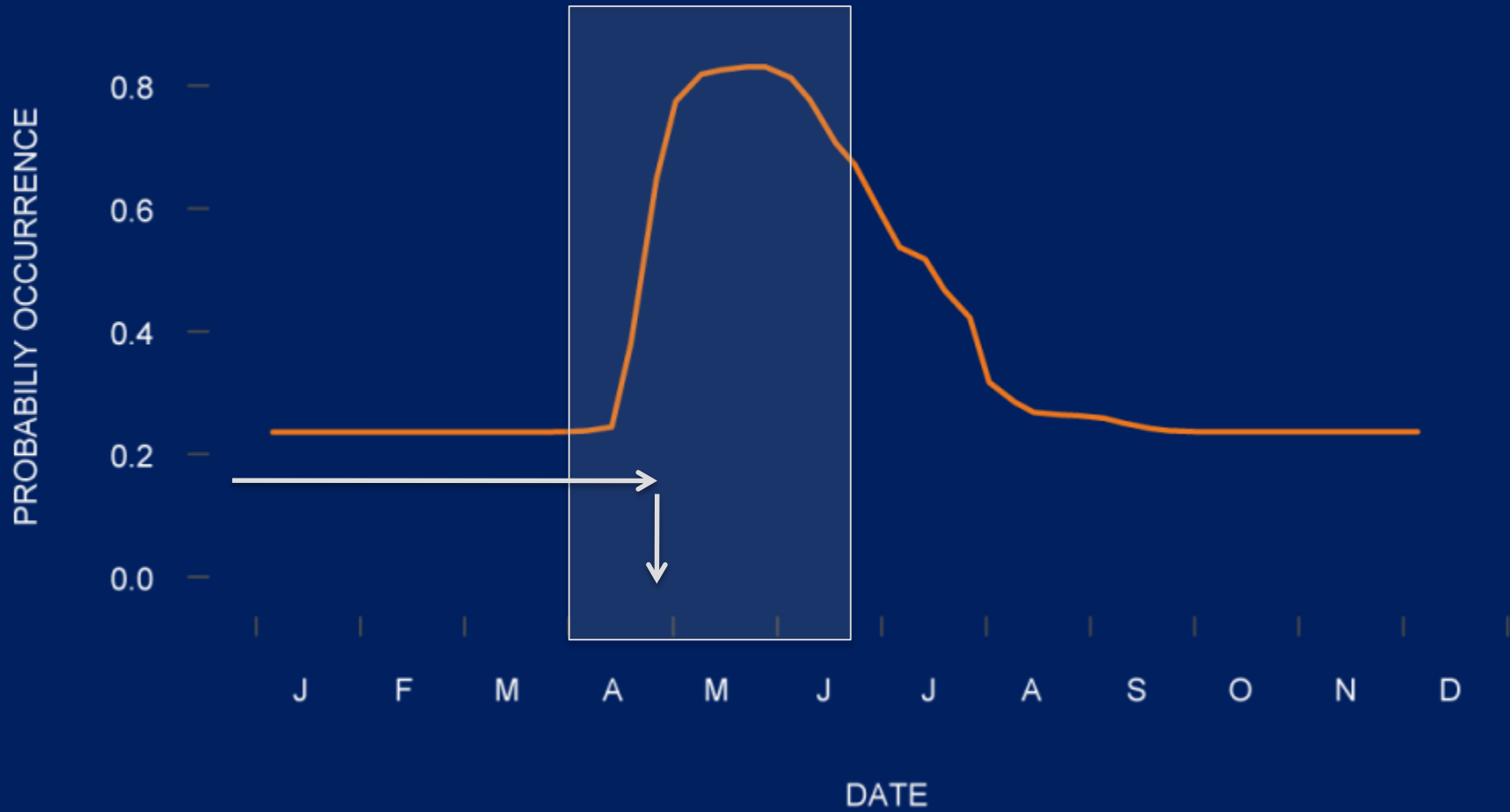




Indigo Bunting (*Passerina cyanea*)

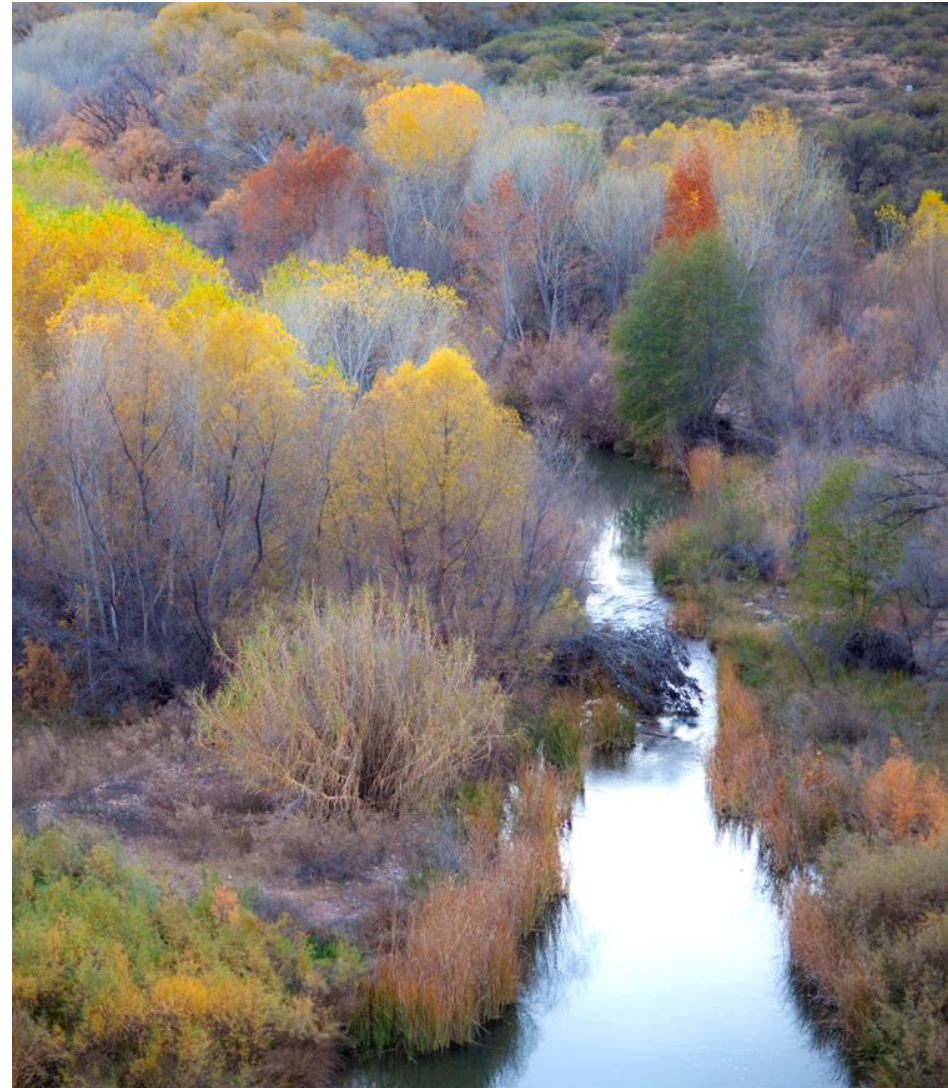


Yellow Warbler | Migration Dates

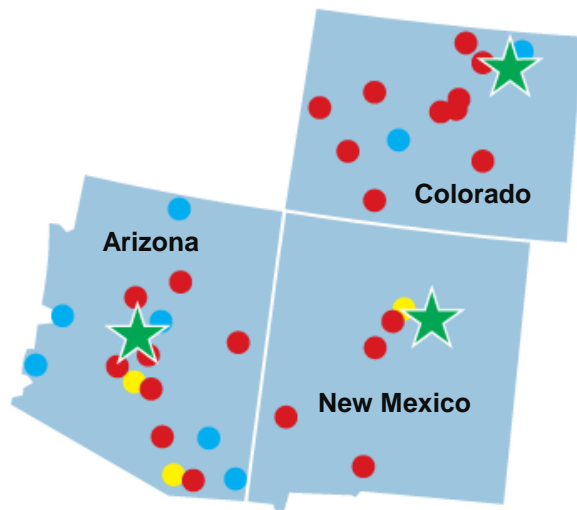


BY THE NUMBERS

- **30,000 members**
- **56,000 + actions to protect riparian areas**
- **26 members met with 13 members of Congress and delivered 2,000 constituent post cards**
- **Dozens of meetings with agency reps**
- **12 fact sheets published**
- **Monthly WRAN newsletter**
- **Umpteen webinars !**



Western Rivers Action Network



- Audubon Chapters
- Audubon Centers
- Global IBAs
- ★ Audubon State Offices



Audubon Chapters

Collaborating to advance river protection and water conservation



Growing the Network

Recruiting new activists and volunteers



Volunteer Training

Workshops to train volunteers in advocacy and outreach techniques



Policy Action

Over 2,000 CO WRAN members have weighed in on the state water plan. Over 2,400 NM WRAN members have sent letters opposing the Gila River diversion.



Media Outreach

Submitted and published LTEs and Op-eds in target media outlets



Balanced Development

Spring runoff that feeds the Colorado River was preserved. Funding for a pipeline that would drain the Gila River was denied.



WESTERN RIVERS ACTION NETWORK

[http://conservation.audubon.org/
westernrivers](http://conservation.audubon.org/westernrivers)

azwran@audubon.org 602-468-6470

Audubon's Birds and Climate Change Report

314 Species on the Brink

Shrinking and shifting ranges could imperil nearly half of U.S. birds within this century.



Baird's Sparrow

By 2080, this grassland bird is expected to lose 100 percent of its current breeding range.

[See the climate forecast map »](#)



Tony Bynum

Take Action

Climate change threatens the birds we see every day. I pledge to help build a brighter future for the 314 birds at risk.

Your Email Address

Pledge