



madison

AUDUBON



society

Climate Initiative

Lesson 5: Winter World & Climate Change



What do all animals need to survive?

What do all animals need to survive?

Food



© Nana B Agyei



© Jason Devaun



© Joshua Mayer



© frankieleon



© Chhris Luczkow

What do all animals need to survive?

Water



© Christine Mujul



© pfly



© Jake Stimpson

What do all animals need to survive?

Shelter



© Maja Dumat



© Ilona L



© Jaroslaw Pczarski




What does it mean to **Adapt**?



What does it mean to **Adapt**?

Make **changes**
in behavior or body
so it is easier to live in
their **environment**

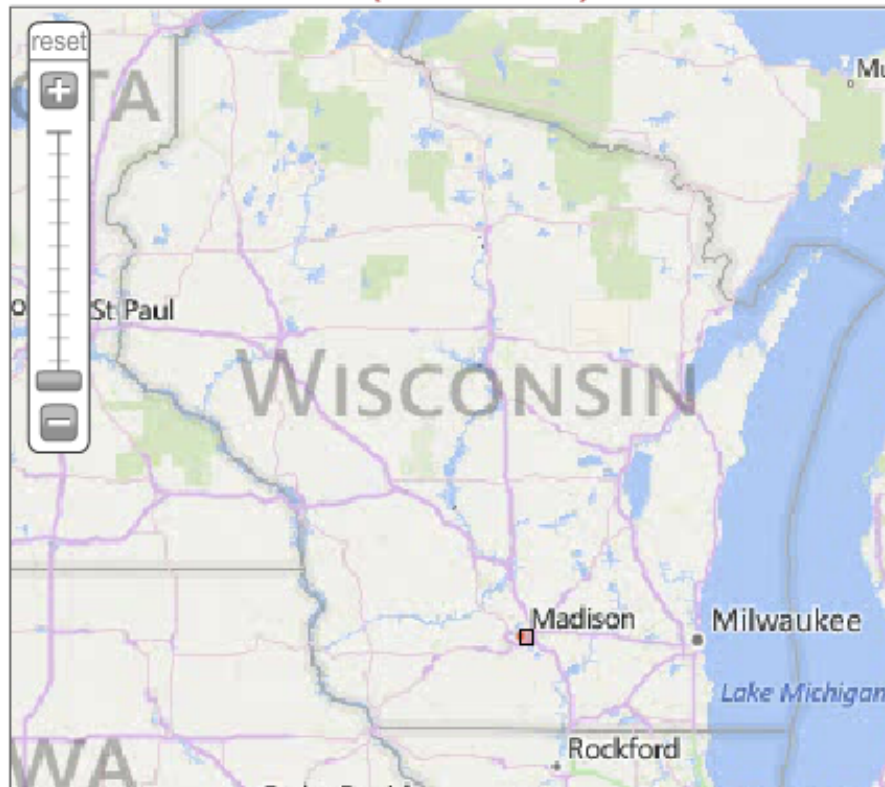


What happens in the winter?

What happens in the winter?

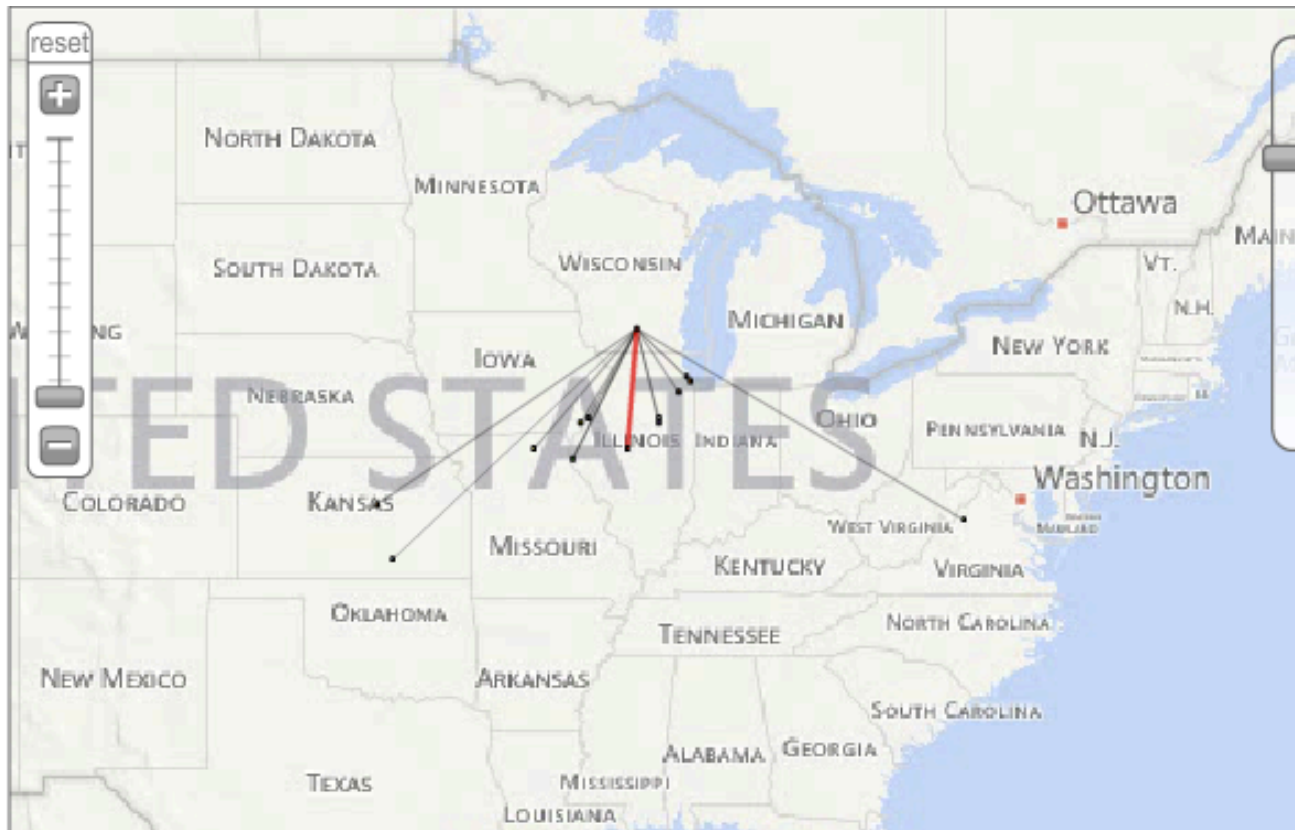


WI climate

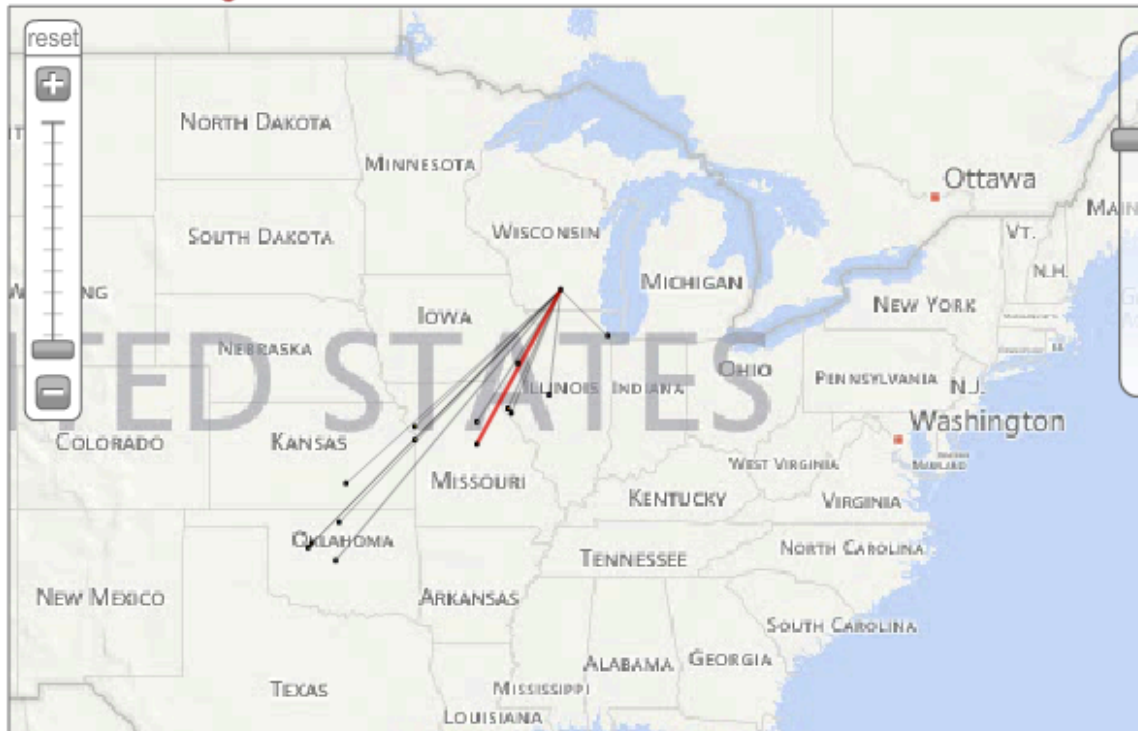


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<http://www.wicci.wisc.edu/climate-map.php>

WI climate in 50 years



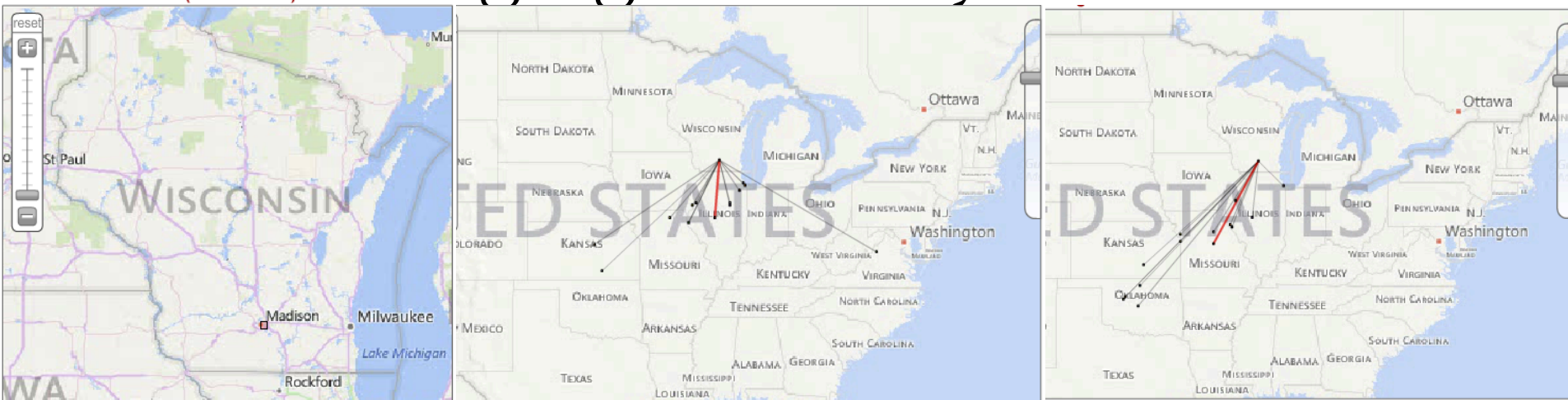
WI climate in 100 years



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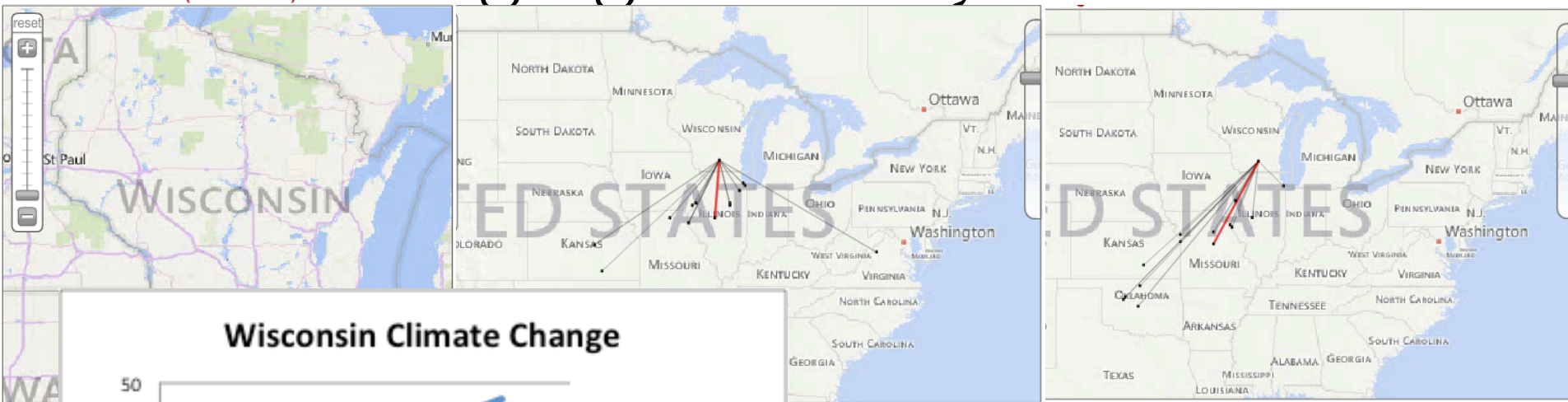
Changing February Climate



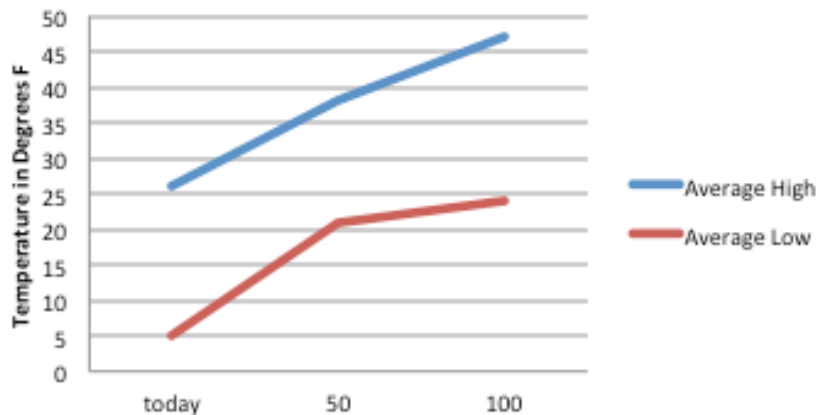
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Changing February Climate



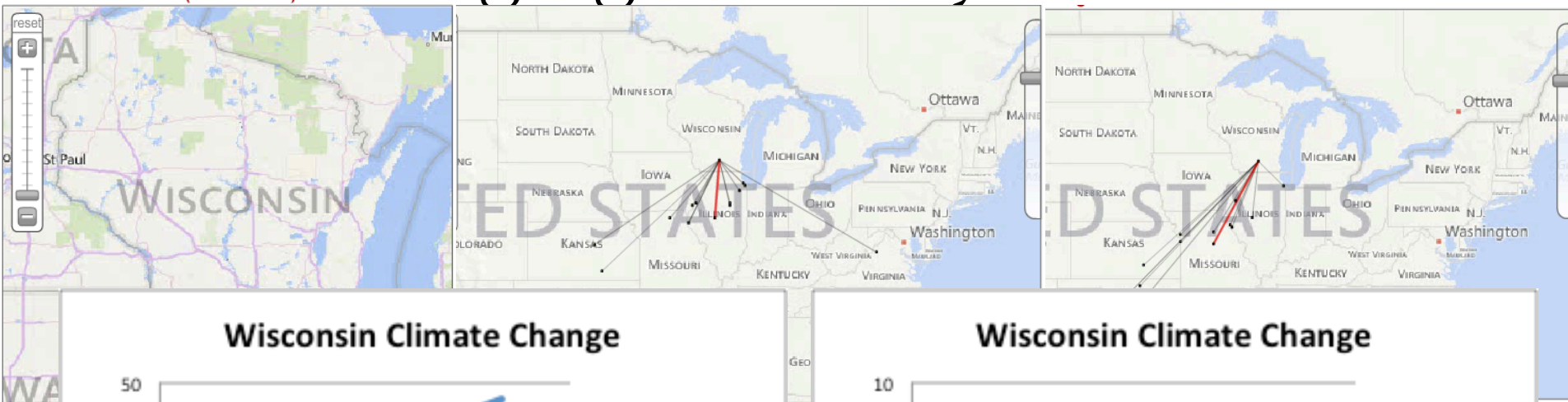
Wisconsin Climate Change



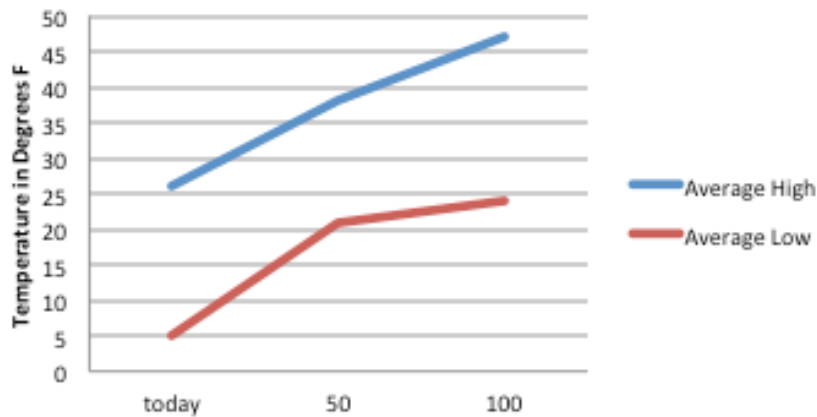
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Changing February Climate

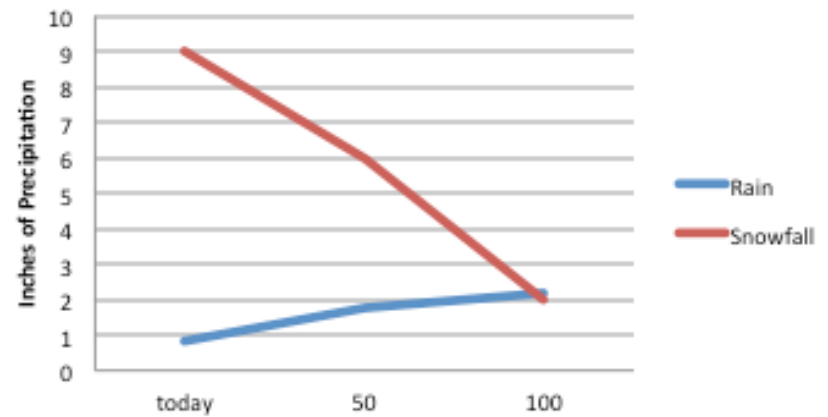
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Wisconsin Climate Change



Wisconsin Climate Change





Finding food, water, & shelter in winter:

Finding food, water, & shelter in winter:

Some animals Migrate!



Finding food, water, & shelter in winter:

Some animals Migrate!



© Don McCullough



© Joshua Mayer

Adapting to Cold & Snow

Some animals stay here

Change their behavior

OR

Their bodies



© Rodney Campbell

How will winter change?



© Mahalie Stackpole



© Adrian Scottow

How Do Birds Survive the Cold?



© Kristin Shoemaker

Switch Food Sources



© George Gentry/U.S. Fish and Wildlife Service



© Kurt Bauschardt

Reduce Heat Loss



© Andy Morffew

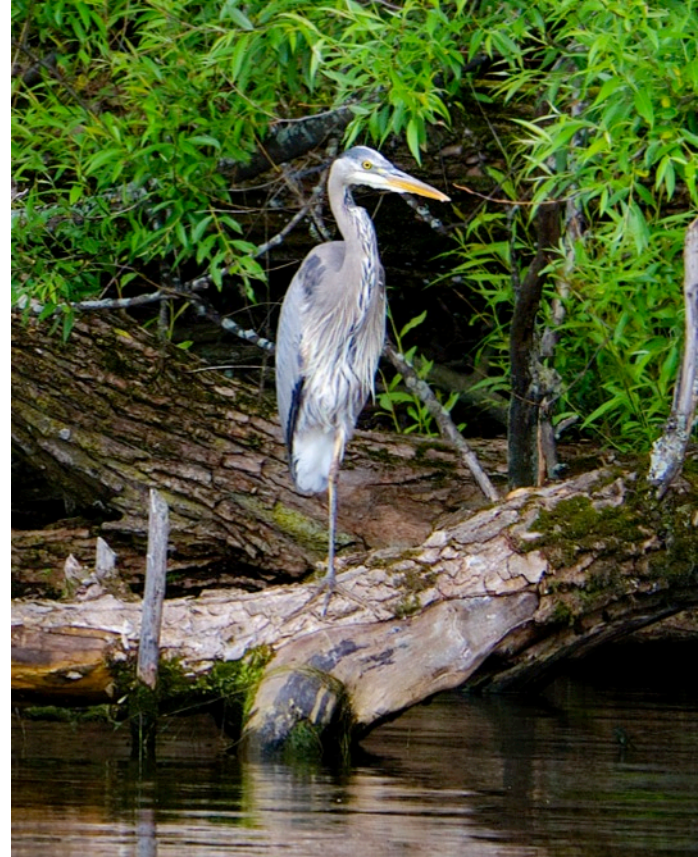


© Kelly Colgan Azar

Reduce Heat Loss



© hedera.baltica



© Jamie McCaffrey

MICROclimate



© Liz West



© Ilona L



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© Tomi Tapio K



© John Johnston

MICROclimate

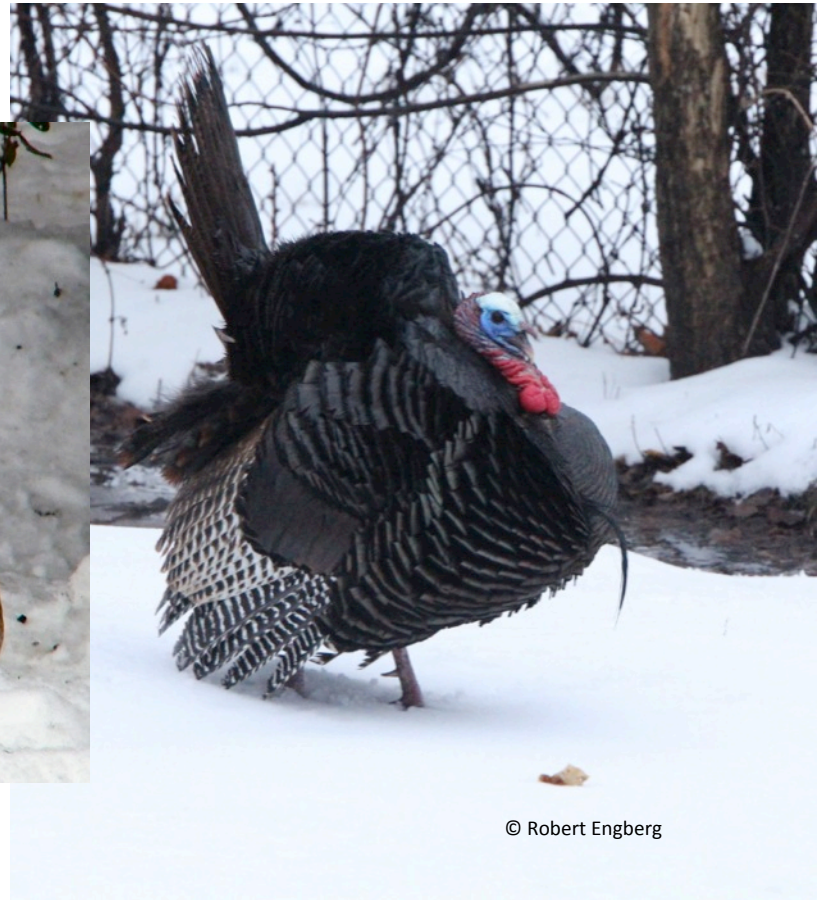


© Nathan Stone/USFS

More freeze/thaw = more ice



© Alan Kotok



© Robert Engberg

Less snow = good for deer!



© John Carr/USFWS

Less snow = good for deer!



© Nicholas A. Tonelli



© Steve Slater



Color-changers

Snowshoe Hare



© Miguel Vieira



© D. Sikes



© DeaShoot

Weasels



© Kurt Bauschardt



© Keith Williams

Mis-match



© Jana M. Cisar / USFWS



© Malcom Manners



© CP Ewing

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Approximate Current Range



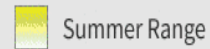
Winter



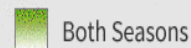
Summer



Winter Range



Summer Range



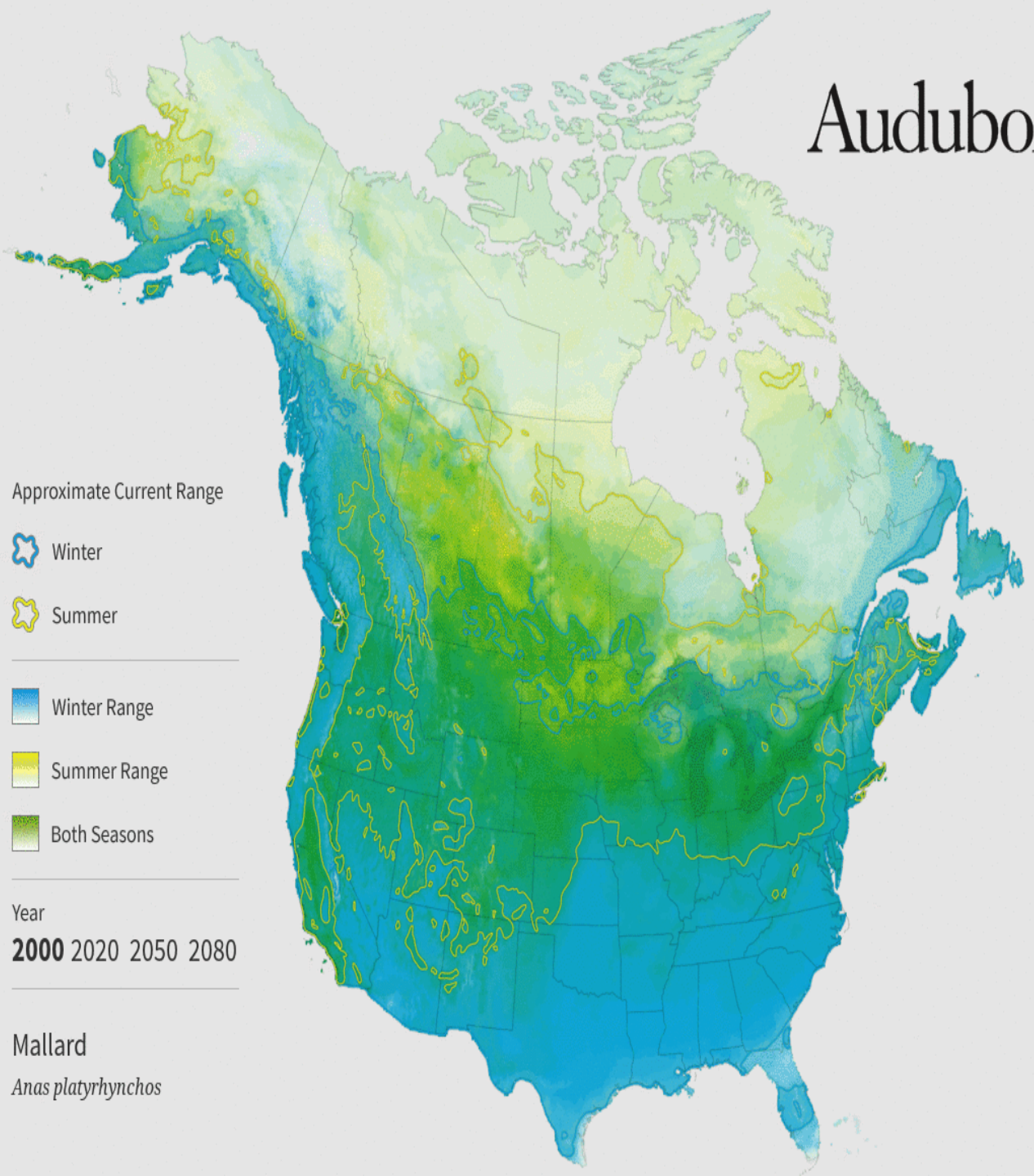
Both Seasons

Year

2000 2020 2050 2080

Mallard

Anas platyrhynchos



Summer ↓ 75%
Winter ↓ 9%



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