



Where is My Backyard?

Objectives and Standards

- To understand how animals, plants, and their climate are related to one another.

NSTA Standards Addressed

Content Standards

A, C, D, F, G

4-H SET Abilities Addressed

Categorize/Order/Classify

Develop Solutions

Draw/Design

Predict

Observe

Background

The climate of an area is linked to the types of habitats one can see there. A hot, dry climate allows desert habitats to form, warm and moist climates create forests and meadows, and hot and wet climates allow rainforests to flourish. These habitats are the homes of many animals, and if something changes or eliminates a habitat, the animals who live there are forced to find another place to live or perish. A changing climate can change habitats, impacting the animals living there. Some habitats are very unique and endangered species from extinction. This activity looks at how climate, habitat, and endangered species are all related.

CoCoRaHS Extension Ideas

Learn about an aspect of ecology in your community. Is a certain type of animal threatened or endangered? Is a certain type of animal particularly numerous and causing problems (mice or insects spreading disease)? Does the climate in your region play an active role in further threatening or increasing species' numbers? (Habitat deconstruction can decrease frog populations, allowing mosquito populations to increase. Mosquitos thrive in warm, moist environments, and temperature increases can increase the health of mosquito populations.) Conduct a summer project to learn more!

Supplies Needed

- 12 pieces of paper for habitats
- animal cards for each individual, provided
- small rewards, like candy

Preparation

1. On each sheet of paper, draw (or have youth create) each of the 12 scenes below, being sure to label what each habitat scene represents. Alternatively, you may wish to use hula hoops or other types of markers simply labeled with each habitat, as youth will be using these as safe spaces for the game.
 - Meadow, Mountains, Lakes, Forests, Urban areas, Suburban areas, Deserts, Underground, Rivers, Rainforests, Arctic, Oceans
2. Print off animal cards for each participant. You may choose to laminate them for multiple uses.
3. Distribute the habitat scenes throughout a large room, or in an open area of grass, to be safe spaces for the game.
4. Place the small reward or goal in a pile in one corner of the room or field.

Activity

1. Give each participant an animal card (there are 7 different animals, but multiple youth can play the same animal if necessary).
2. Explain that each animal is an endangered species on the planet that has a backyard just like each of us. Their backyard is their preferred habitat, or 'ideal' habitat. They can also survive in 'stressed' habitats, but it is not where they prefer to live. Just like people from Arizona can live in Alaska, it is a habitat they are not accustomed to, and don't have the right clothing for, but that they can survive in. Sometimes this puts them at a disadvantage (like having to buy scarves and jackets to survive). There are also places that the animals on the cards cannot live. A bird cannot live underground, and a bear can't live in the city. Why can't the animals on your cards live everywhere? They have adapted for a particular climate, and to a particular

habitat. If the climate in their backyard habitat changes their environment, they must find a new habitat in which they can survive.

3. Tell youth to look at their animal cards. Where are their ideal habitats? Their stressed habitats? Where can't their animal live?

4. Tell youth that they must cross the room or field, retrieve their prize (candy bar, etc.), and return. They may use habitats as safe spaces, but they cannot use habitats that their animals cannot survive in. Also, if they use a 'stressed' habitat, they must hop on one leg until they have been in an 'ideal' habitat safe space again.

5. The person playing the Climate Tagger may tag anyone not on a safe space. Once tagged, youth must go to the sidelines.

6. Once everyone has retrieved their prize or been tagged, a new round can begin. Take someone who was previously an animal and make them a Climate Tagger, as well. Explain that with the new Climate Tagger, we have changed climate, and it will be harder for animals to find habitats to survive. Repeat the game by removing habitats entirely, increasing the space between habitats, or changing the number of taggers. Ask youth what those changes might mean in the real world.

Discussion

A changing climate means more than just warmer weather. When global climate experiences a change, it is felt differently in different places and by different organisms. For instance, warmer weather will negatively affect many organisms' habitats in forests, where different trees and animals can live once it becomes warmer, creating more competition for food and shelter, and forcing less successful animals to find a new place to live. Animals with habitats in mountains feel the same pressure. If they prefer to live above the tree-line (the highest place on a mountain that trees can grow healthily), and it becomes warmer, the trees can grow healthily higher up the mountain and reduce the space in which animals who live above the tree line can live. Once the tree line migrates all the way up the mountain, there is no where else for the animals to go. You saw this if you removed habitat safe spaces during the game.

Animals aren't the only ones affected by a changing climate. If a community of humans lives on growing a certain kind of crop, and that crop can no longer grow in that area, the community will either have to adapt to growing a new crop, or move to where their crop can grow well. Both moving and changing crops can have impacts on other animals living in the area.

These are just two examples of how organisms must adapt to changing environments as a result of a shifting climate. When we added more Climate Taggers into the game, it became harder to make it from safe space to safe space. This shows how animals, including humans, have a hard time adapting to climate change when it is happening rapidly. With one Climate Tagger, it was easy to avoid being tagged; with 3, it became much harder. The faster climate changes, animals have a harder time adapting, and it is much more likely that they can become extinct or endangered. How do you think your animal would do if the climate changed dramatically?



Where is My Backyard Animal Cards



The Bearded Vulture

The Bearded Vulture lives in mountainous terrain, hunting among rocks, meadows, and high altitude lakes throughout the world. It is currently endangered throughout Europe, but seems fairly healthy in Asian environments.

IDEAL HABITATS

- Lake
- Forest
- Underground

STRESSED HABITATS

- River
- Suburban
- Meadow

UNLIVABLE HABITATS

- Desert
- Ocean
- Urban
- Rainforest
- Permafrost/Arctic regions



The Brown Bear

The Brown Bear, or grizzly, lives in northern Europe and North America. They are omnivores who feed mostly on plants, roots, and fish. They need a lot of room to roam and can only survive in cooler climates. Habitat loss is threatening the Brown Bear.

IDEAL HABITATS

- Forest
- Ocean
- Permafrost/Arctic regions
- River

STRESSED HABITATS

- Suburban
- Mountains
- Lake
- Meadow

UNLIVABLE HABITATS

- Underground
- Urban
- Rainforest
- Desert



The Polar Bear

The Polar Bear lives in areas surrounding the Arctic Ocean and associated seas. It is the world's largest carnivore species on land. It needs sea ice to rest on while fishing for food in cold ocean waters. A loss of sea ice is endangering the bear today.

IDEAL HABITATS

- Permafrost/Arctic regions
- Ocean

STRESSED HABITATS

- Lake
- River
- Mountain
- Forest
- Meadow

UNLIVABLE HABITATS

- Suburban
- Urban
- Rainforest
- Underground
- Desert



The Woodland Caribou

The Woodland Caribou needs large expanses of boreal forest to survive, hide from predators, and find enough food. Since 1950, they have decreased in number by 50%. They are adapted to live in cool climates.

IDEAL HABITATS

- Forest
- Mountains
- Permafrost/Arctic regions
- Meadow

STRESSED HABITATS

- River
- Lakes

UNLIVABLE HABITATS

- Desert
- Ocean
- Suburban
- Urban
- Rainforest
- Underground

Where is My Backyard Animal Cards



The Grey Wolf

The Grey Wolf, or timber wolf, was once the world's most widespread mammal. It is now found in a much smaller range because of human encroachment on their habitat. In many areas the wolf is thriving, in others it is nearing extinction.

IDEAL HABITATS

- Mountains
- Forest
- River
- Lakes
- Meadows

STRESSED HABITATS

- Desert
- Suburban
- Ocean
- Underground
- Permafrost/Arctic regions

UNLIVABLE HABITATS

- Urban
- Rainforest



The Giant Kangaroo Rat

The Giant Kangaroo Rat prefers desert-like environments, scurries in meadows, and digs holes in the ground, eating seeds and small insects. They can now only be found in California, living in 2% of their original habitat. They are threatened due to agricultural practices.

IDEAL HABITATS

- Underground
- Meadows
- Desert
- Suburban

STRESSED HABITATS

- Lakes
- Rivers
- Mountains
- Urban
- Permafrost/Arctic regions

UNLIVABLE HABITATS

- Rainforest
- Oceans



The Mississippi Gopher Frog

The Mississippi Gopher Frog loves southern pine forests and has strong hind feet to dig through and use other organisms' burrows for shelter. As of March, 2008, there were only an estimated 100 gopher frogs left in the wild.

IDEAL HABITATS

- Lake
- Forest
- Underground

STRESSED HABITATS

- River
- Suburban
- Meadow

UNLIVABLE HABITATS

- Desert
- Ocean
- Suburban
- Urban
- Rainforest
- Permafrost/Arctic regions



Please send us your feedback!

As a 4-H Educator, you know what has worked well, what has not, and how we can improve the *Tracking Climate in Your Backyard* curriculum. Please share your feedback about the curriculum. We'd love to receive copies of any reports or newspaper coverage about completed *Tracking Climate in Your Backyard* projects.

Fax or mail your completed feedback to Trisha Smrecak, Museum of the Earth, 1259 Trumansburg Rd., Ithaca, NY, 14850 or fax to: 607-273-6620.

Check the activity completed	Suggestions for improving the activity
Rainfall Activities <input type="checkbox"/> Make It Rain <input type="checkbox"/> Where Does the Rain Come From? <input type="checkbox"/> Stormy Weather	
Snowfall Activities <input type="checkbox"/> Confetti Snow Maps <input type="checkbox"/> How Much Water? <input type="checkbox"/> Edible Education <input type="checkbox"/> The Snowflake Game <input type="checkbox"/> Snow Journaling	
Temperature Activities <input type="checkbox"/> Energetic Weather <input type="checkbox"/> Shade of the Old Oak Tree <input type="checkbox"/> Temperature Through Time	
Wind Activities <input type="checkbox"/> Why Does the Wind Blow? <input type="checkbox"/> Make Your Own Wind Dial	
Hydrologic Cycle Activities <input type="checkbox"/> The Incredible Journey <input type="checkbox"/> Understanding Evapotranspiration <input type="checkbox"/> Pinecones: Mother Nature's Weather Forecasters <input type="checkbox"/> What is a Watershed?	
Climate Activities <input type="checkbox"/> Where is My Backyard? <input type="checkbox"/> Soak up the CO ₂ <input type="checkbox"/> Buckets O' CO ₂ : How Your Backyard Can Change the Ocean <input type="checkbox"/> Raise the Waters	
CoCoRaHS Participation <input type="checkbox"/> Precipitation measurements and other activities	

Please share your suggestions for improving the Tracking Climate in Your Backyard curriculum.

How have you used Tracking Climate in Your Backyard in your community?

Thank you for completing the Tracking Climate in Your Backyard curriculum feedback. We appreciate learning about how you are using the curriculum and receiving your suggestions for improving it.

Organization _____ Contact Person _____
 Email _____ Date _____