



Pintail duck photo by Peter LaTourette

Climate Change, Wildlife, and Wildlands

Trail Talk

Everglades and South Florida



This outline offers suggestions for the elements of a talk on the potential impacts of climate change on the Everglades and South Florida. You are encouraged to develop your own personal talk based on the materials in the *Climate Change, Wildlife, and Wildlands* toolkit; this outline is merely intended to provide ideas. You also may use the ideas in this outline to help you weave the topic of climate change into your talks on other subjects.

Visual Aids

- Tape measure or yardstick
- Trail cards of Florida panther, coral reef, American alligator from the *Climate Change, Wildlife, and Wildlands* toolkit
- Flash card, *South Florida's Vulnerability to Sea Level Rise*, printed out from the CD-ROM and laminated for durability, if desired
- Global warming wheel card supplied with *Climate Change, Wildlife, and Wildlands* toolkit

Recommended Sites for Talk

Everglades National Park: Shark Valley tram tour or observation tower, Royal Palm Visitor Center trails, Pa-hay-okee Overlook, or any other site in or near Shark River Slough or Taylor Slough. This talk can be easily modified to be given in any coastal area of south Florida and also can be modified for classroom use.



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Goals

- To help visitors appreciate that global climate change is a serious issue that may affect wildlife and the physical environment in south Florida.
- To help visitors realize that they can be part of the solution, rather than only part of the problem.

Objectives

- Visitors will be able to explain the potential magnitude and significance of changes in nature.
- Visitors will be able to explain why many scientists believe that humans are contributing to changes in climate that may have significant and long-lasting impacts on plants and wildlife. They will understand that these impacts will come on top of the many stresses already faced by south Florida's natural environment.
- Visitors will be able to name at least two species of wildlife and two natural features (e.g., coral reefs and mangrove swamps) that may be affected by climate change.

- Visitors will be able to decide whether they believe their actions contribute to climate change and whether they want to help slow it.
- Visitors will be able to list at least two actions people can choose to take if they want to reduce greenhouse gas emissions.

Theme

Change is a natural feature of the environment, but not all changes are natural. Many scientists believe that human actions are exacerbating changes in climate that may have serious impacts on ecosystems in the Everglades and South Florida.

Introduction

(sections in ***bold italics*** are suggested language for talk)

- Begin with an attention-grabber, such as a personal story or an anecdote that helps the audience relate personally to the landscape around them. Work in "universals"—values and concepts everyone can relate to, such as family, tradition, natural beauty, etc.

- Hold up a yardstick or tape measure marked at 3 inches, 10 inches, and 20 inches.
- Ask the audience to imagine how the scene around them might change if the sea were 3, 10, or 20 inches higher. Refer to the Everglades and South Florida Case Study for details.
- Ask questions such as: ***What would happen to the Everglades? What would happen to the shoreline around Florida Bay? How would higher sea levels affect coastal areas when storms or hurricanes come through?***

Transition

- ***South Florida's seas are rising. Since 1846, south Florida's sea level has risen by about 12 inches. Scientists predict that seas will rise even faster in the future.***
- Hold up the flash card showing how south Florida would look with predicted sea level rise.
- ***Even at today's rate of sea level rise, south Florida's seas would be 3 inches higher by the year 2025. By 2100 it would be 10 inches higher than today. But scientists believe the rate of sea level rise will increase so much that the sea***

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will rise 20 inches above today's level by 2100. Anyone want to guess why? (Correct answer: global warming.)

Body of Talk

- ***Change is natural in coastal areas. Waves, wind, and storms alter the coastline all the time. Even if there weren't any global warming, the south Florida coastline would look quite different in 10 or 20 years just from natural erosion.***
- ***But many scientists believe that humans may be accelerating the rate of change by contributing to a global warming trend.*** Explain what global warming is and how it happens, how global warming contributes to sea level rise. (This information may be found in the Everglades and South Florida case study.)
- ***Here on the coast, rising sea levels can have major impacts.*** Describe how sea level rise would affect the Everglades, the Keys, Florida Bay, and mangrove swamps. (This information may be found in the Everglades and South Florida case study.)
- For a visual demonstration, show the audience how the impact on the Everglades depends on the outcome of a

race between the rising sea and the natural dike of mangrove wetlands that stand between the Everglades and Florida Bay. Use a volunteer from the audience to represent the rising sea. The volunteer should put his or her hands together palms-down at belt height, and slowly raise them to shoulder height. At the same time, standing next to the volunteer, you should put your hands palm-down at belt height and place your right hand on top of the left. Keep your right hand where it is and put your left hand on the right. Keep the left hand where it is and put your right hand on top of it. Your hands should now be slightly higher than they were before. Keep "building layers of peat" by placing one hand on the other and trying to keep pace with the volunteer's slowly rising hands.

- ***Rising seas aren't the only way global warming could affect natural areas in south Florida.*** Describe the impacts of warmer water temperatures on coral reefs. (This information may be found in the Everglades and South Florida case study.) Use trail cards of coral reef, alligator, and Florida panther from the toolkit to show images of affected species and explain briefly how global warming could affect each of them.

- ***Do you want to see south Florida change in these ways? Is there anything we can do about it?*** Discuss how everyone contributes to global warming and everyone can be part of the solution. Explain that people's choices now can have an effect on the atmosphere and climate for decades into the future.
- Ask the audience to suggest ways to reduce their own emissions. Be prepared with your own suggestions in case people have trouble coming up with ideas. Suggestions might include using energy more efficiently at home (e.g., buying energy-efficient ENERGY STAR[®] appliances, replacing incandescent light bulbs with compact fluorescents wherever practical), taking public transportation or walking when possible, buying products manufactured from recycled materials—such as recycled paper or fleece clothing made from recycled plastic bottles.
- Bring out the global warming wheel card and choose a volunteer to answer questions about his/her household's home energy use, transportation habits, and waste practices to come up with a rough estimate of the household's greenhouse gas emissions. Then flip over the card to show how

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the household could reduce emissions by taking the actions shown on the wheel card.

Conclusion

- *Change is part of life, and some climate change is natural. But it appears that by burning fossil fuels, we humans are contributing to rapid changes that may take place faster—and perhaps on a greater scale—than the natural changes we would expect to experience in this region during the next several hundred years.*
- *We have to decide whether these human-induced changes are acceptable, and how much change we are willing to tolerate before we act.*

- *We can't look into a crystal ball and know for sure what the future will bring. But the majority of scientists today believe that human-induced global warming is for real and that many of the impacts we've discussed today will be caused by our actions, our choices.*
- *Climate change is a problem that can be alleviated by individual actions. Every one of us contributes to global warming, and every one of us can make a difference. This isn't just an issue for big companies and electric utilities and governments. If we all act to reduce our emissions, we can help reduce the impacts of climate change on wildlife and beautiful places like this.*
- *Hold up yardstick again. How high will the sea rise during the next 100 years? The answer may depend partly on us. Is it important to you to know that the*

Everglades will still be here in 100 years? Is it important enough to warrant changes in your lifestyle in order to avoid environmental changes in the future? The responsibilities of stewardship are becoming more complicated than they used to be. At one time, simply conserving land and water may have been enough. But now we need to start thinking about the atmosphere as well. Maybe our actions, and those of our neighbors, communities, and nation, can help slow the changes to the Everglades and South Florida.

- *Do we want to experiment with our atmosphere and our planet to find out if our actions indeed have a long-lasting impact on the environment?*

Global Warming —
What's Your Score?

In the United States, a typical household of two people generates approximately 60,000 pounds of carbon dioxide (CO₂) emissions every year from household activities and personal transportation.

Emissions Source
On average, how much does your household spend on natural gas or fuel oil each month?
Pick closest amount.

- \$25
- \$50
- \$100

Pounds of CO₂ Emitted PER YEAR

- 20,000 lbs./year
- 25,000 lbs./year
- 35,000 lbs./year

Home Heating

EPA United States Environmental Protection Agency
Office of Air Quality
Office of Air Pollution
Office of Atmospheric
EPA-430-F-007
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Resources

- *Climate Change, Wildlife, and Wildlands* toolkit
- EPA's global warming site: www.epa.gov/globalwarming
- EPA state fact sheets: www.epa.gov/globalwarming/impacts/stateimp/