

National Capital Parks-East

Climate Friendly

National Park Service
U.S. Department of the Interior

Washington, D.C.
Maryland



Junior Ranger

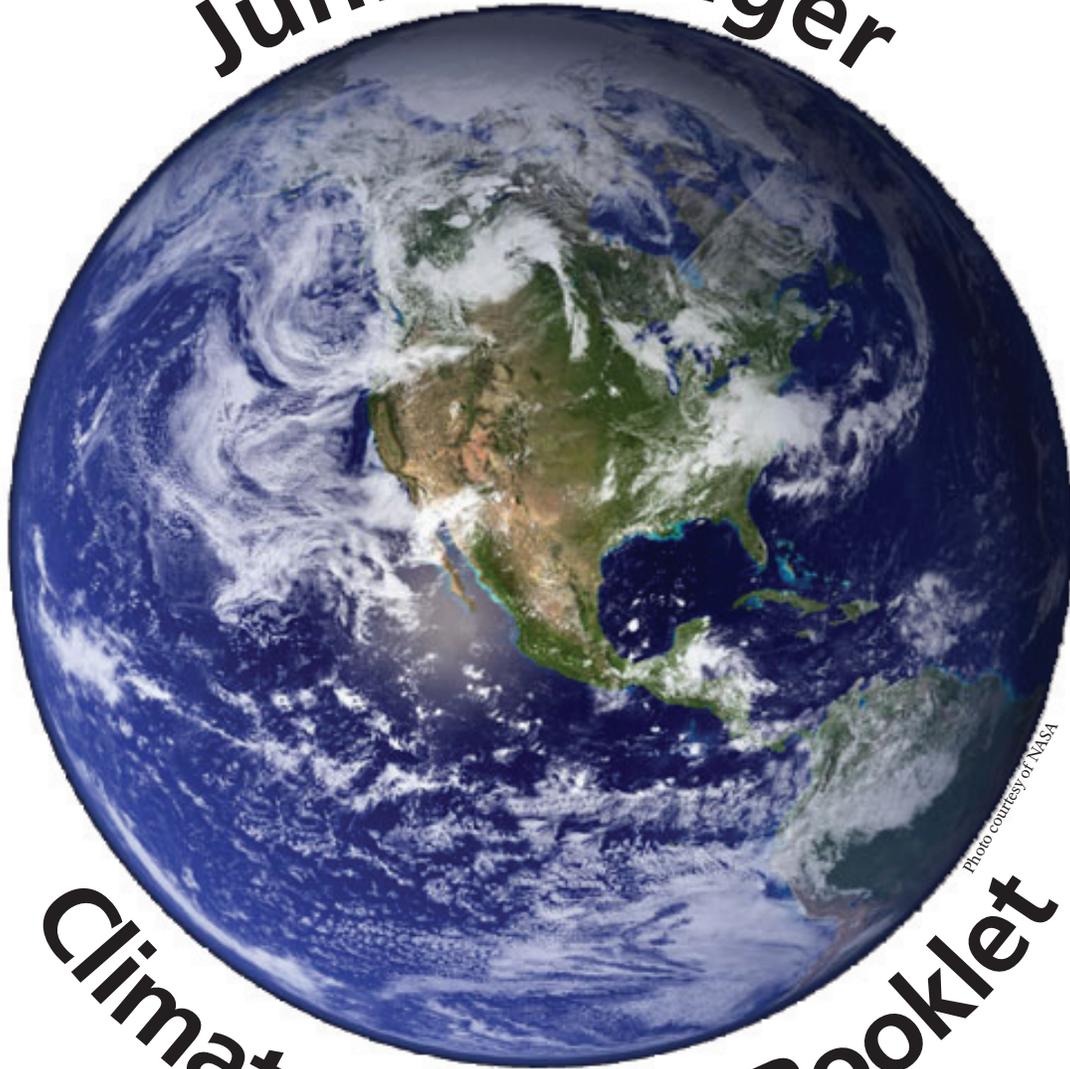


Photo courtesy of NASA

Climate Friendly Booklet



This booklet belongs to:

Welcome to National Capital Parks-East!

Welcome Junior Ranger!

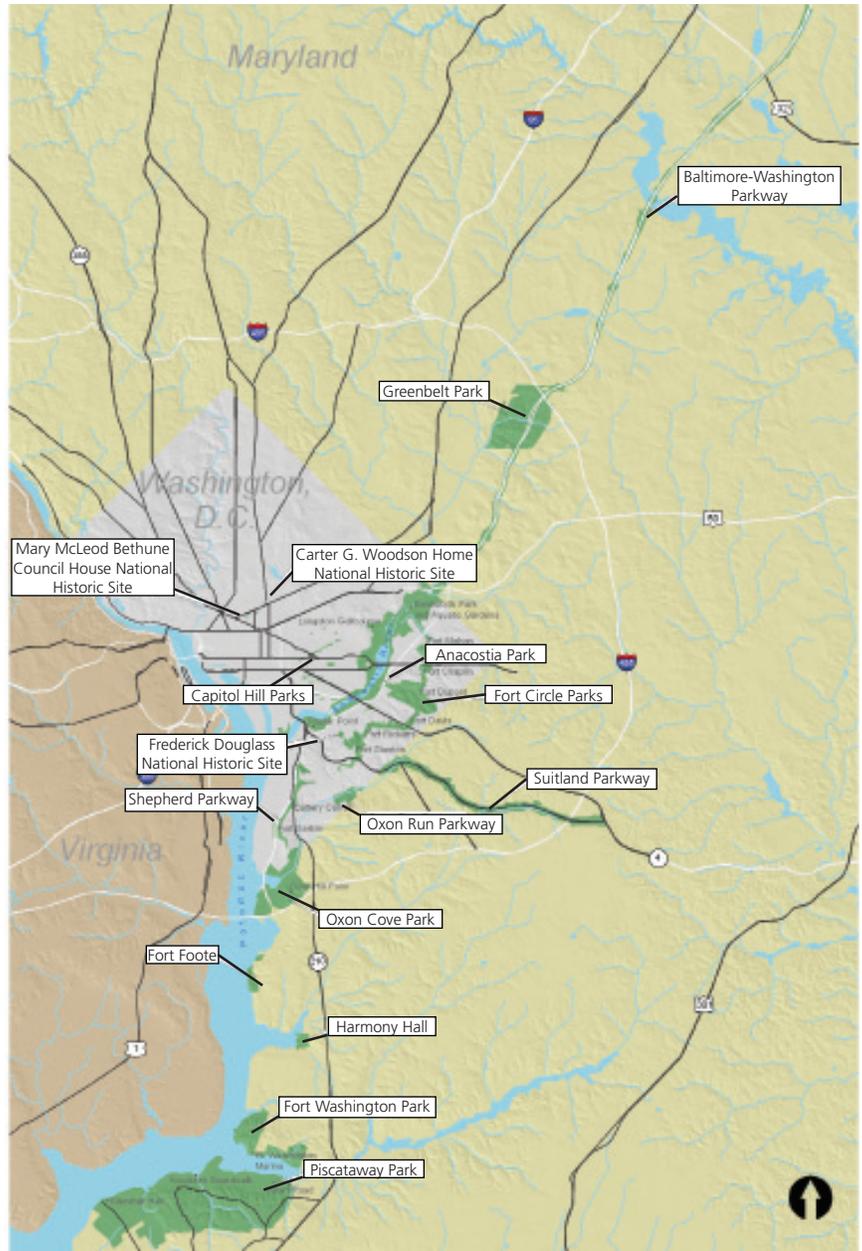
National Capital Parks-East (NACE) welcomes you as a Junior Park Ranger. NACE is one of the many jewels of the National Park System dedicated to conserving resources and providing safe and enjoyable experiences for this and future generations. NACE consists of 16 major park sites, parkways and statues of more than 8,000 acres of natural, cultural, historical and recreational parklands located in Washington, D.C. and Maryland. For more information, visit www.nps.gov/nace.

NACE Jr. Ranger books and programs are stepping stones to learn more about the National Park Service, while making a difference for years to come. Any comments or questions about this booklet or Jr. Ranger programs are welcomed and should be sent to:

Ms. Lori M. Spillman
National Capital Parks-East
1900 Anacostia Drive, SE
Washington, DC 20020
202-692-6036

lori_m_spillman@nps.gov

We thank you for your interest in National Capital Parks-East and hope that this booklet sparks an interest for you to explore, learn and protect your national parks.



Alexy Romeo

Alexy Romeo
Superintendent

How do I become a Junior Ranger?

*It's easy as
1..2..3!*

To become a Junior Ranger...

1. Complete at least 5 of the 10 activities.
2. Show your booklet to a park ranger to get their signature.
3. Earn your badge and certificate!



Easy activity pages are marked with a leaf.



Hard activity pages are marked with a flower.



Explore, Learn, Protect...
Become a Junior Ranger!

Always remember... Be Safe!

- Stay on marked trails, so you don't injure yourself or plants and wildlife.
- Wear sunscreen to protect yourself from the sun's harmful rays.
- Bring plenty of water when outside on hot days.
- Follow the rules of the park written on signs.
- Don't forget to ask a park ranger if you have any questions!



What is climate change?



Climate change means big changes in temperature, rainfall, snow, or wind patterns that last a long time. Climate change may change the world's environments and ecosystems over time.

Many leading scientists believe that **human activities** have caused most of the climate change we see today. Burning **fossil fuels** (coal, oil, gas) for energy in homes, business, and cars has increased the amount of **greenhouse gases** in the atmosphere. Too many of these gases causes a **global warming** of the planet.

So far, the Earth has warmed over 1 degree Fahrenheit in the past 100 years and it may increase from 3 to 7 degrees more! This may not seem like a big deal, but just that one degree was a large enough increase in temperature to melt ice from ice caps that caused **sea level to rise 4 to 8 inches!** By 2100, the planet may warm another 3 to 7 degrees, which can cause a 6 inch to 2 foot rise in sea level.

Complete the climate change word search below by finding the words in the word bank



Word Bank:

global
warming
climate
sun
greenhouse
recycle
renewable
energy
pollution
carbon
parks
river
fossil fuel
protect

What is a greenhouse gas?

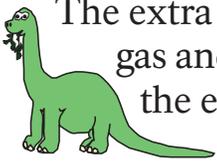
A **greenhouse gas (GHG)** is a gas that traps heat from the sun in our atmosphere, like a greenhouse traps heat for plants. The most common GHGs are carbon dioxide, water vapor, and methane. If we did not have this greenhouse effect, Earth would be freezing!

Why are greenhouse gases bad?

Greenhouse gases are not bad in small amounts, but a large amount traps too much heat in our atmosphere, causing **global warming**.



The extra GHGs come from burning **fossil fuels**, like coal, natural gas and oil, for energy. These are called “fossil fuels” since they are made from the energy of animals and plants that lived millions of years ago. Cutting down trees, farming, and creating a lot of waste also causes extra GHGs.



In the United States, we get **70% of our energy** from fossil fuels that give off GHGs! In the entire world, the United States gives off one-fifth, or 20% of all the human-made GHGs! We are a big country with a lot of people who give off GHGs, even YOU!

When Do YOU Send Greenhouse Gases into the Air?

Whenever you...



- Watch TV
- Use the Air Conditioner
- Turn on a Light
- Use a Hair Dryer
- Ride in a Car
- Play a Video Game
- Use the Computer
- Wash or Dry Clothes
- Use a Dish Washer
- Microwave a Meal



This is called your **carbon footprint**, or the amount of greenhouse gases you send into the air.

We all cause extra greenhouse gases, but there are ways to lower the amount of gases that everyone can do! Go to **page 13** to see how!

Climate Friendly Parks



The **National Park System** was created in 1916 to conserve and protect the scenery and the natural and historic objects for present and future generations to enjoy. Parks all across the United States are becoming Climate Friendly Parks. More parks are joining everyday. Check out www.nps.gov/climatefriendlyparks for more information.



Test your National Park Service knowledge!

- Where are most of the Climate Friendly Parks located? (see Climate Friendly map above)
 - Around the coast
 - In the middle of the country
 - Near the mountains
 - In deserts
- Why did these parks become Climate Friendly parks?
 - To get a badge
 - To impress their friends
 - To help stop climate change and protect the park
 - To win a contest
- What is the symbol of the National Park Service?
 - A tree
 - An arrowhead
 - A car
 - A map
- About how many National Parks are there in the United States?
 - 392
 - 8001
 - 35
 - 3
- National Capital Parks-East's Kenilworth Park and Aquatic Gardens is the only national park made for:
 - Trees
 - Birds
 - Insects
 - Water plants
- Park rangers can be seen in every park. A park ranger is...
 - Helpful
 - A source of information
 - Protects and preserves the park
 - All of the above

Why are parks important?

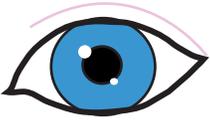


National parks
protect the environment,
preserve history,
and encourage community involvement.

Take a walk! Use your senses to experience your park.

(Remember: Stay on the trails and do not touch anything that could be harmful!)

LOOK



What do you see?

LISTEN



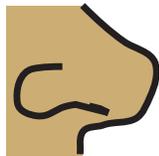
What do you hear?

TOUCH



What do you feel?

BREATHE



What do you smell?

What is your favorite thing about the park?

Carbon Sink

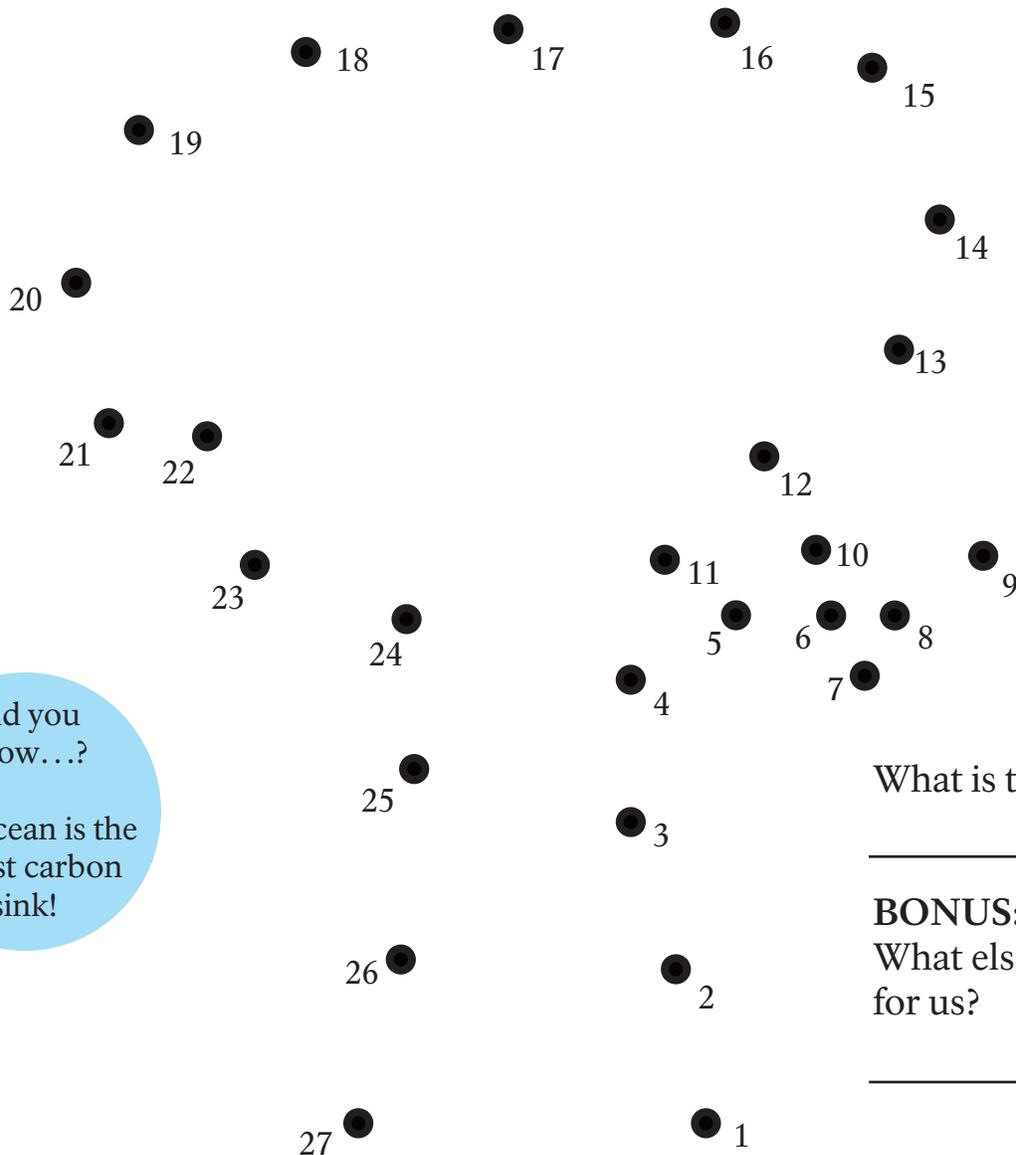


A **carbon sink** is a natural or man-made place that takes in and stores carbon. Too much carbon in the atmosphere causes global warming. Natural carbon sinks can be found in national parks throughout the country!

Natural sinks include:

- Trees
- Oceans
- Soil
- Salt marshes

Connect the dots to create a carbon sink!



Did you know...?

The ocean is the largest carbon sink!

What is this carbon sink?

BONUS:

What else does it provide for us?

Does climate change affect the parks?



Climate change affects parks all over the country! **Kenilworth Park and Aquatic Gardens** and **Anacostia Park** are some of the affected parks in our area. Both parks sit on the banks of the **Anacostia River** in Washington, D.C., which could be flooded due to rising sea levels and an increase in the amount of rain. Kenilworth Park also has many wetlands that could disappear due to climate change.

At Kenilworth Park, rangers are studying the frogs.



Why frogs?

Frogs are like the environment's alert system. Their skin is very sensitive to changes to their habitat. When the frogs begin disappearing, we're in trouble!

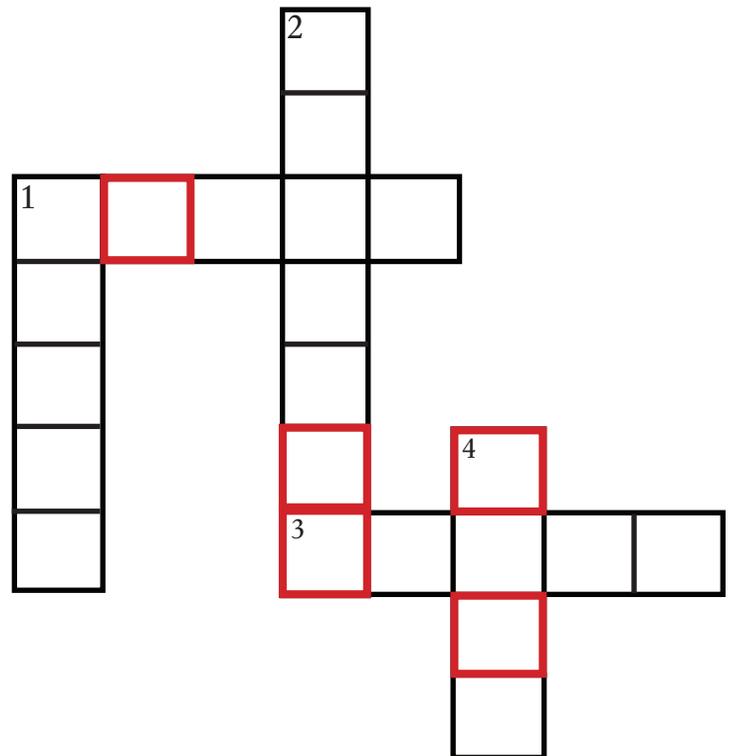
Complete the climate change crossword puzzle to find the secret word!

DOWN

1. Global warming can cause a lot of rain, which makes the rivers _____.
2. Warmer climate can change how birds _____ south for the winter and north for the summer.
4. Many plants and animals will struggle to survive when the sun emits more _____ that causes a warmer climate.

ACROSS

1. _____ are one of the first animal indicators of climate change. (Hint: Read the information above!)
3. _____ one can help stop global warming!



Unscramble the red boxes to find the secret word! (Hint: It has to do with GLOBAL warming)

Zero Waste



National Capital Parks-East sites are working towards zero waste in their parks. **Greenbelt Park**, with the closest camping grounds to Washington, D.C., is just one park that has a trash-free initiative. The more things that can be recycled, reused, and brought home help the park stay trash-free!



REDUCE the amount of waste you make.
REUSE items that can be used again.
RECYCLE items like glass bottles, plastic bottles, metal cans, and paper.

Circle the items at the picnic that you can recycle!



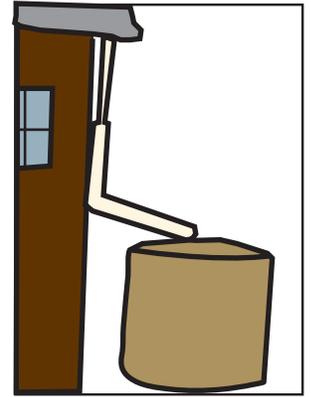
Did you know...?
Recycling one aluminum can saves enough energy to run a TV for three hours!

What do you do at home to reduce your waste?

Frederick Douglass



Frederick Douglass, a former slave and an activist for equality in the 1800s, built two **rain cisterns** ("**sis-turns**") at his house, Cedar Hill, in Anacostia. A cistern is designed to capture and store rainwater. It can be outside, like a giant barrel, or underground. Frederick Douglass used the water for household chores. Little did he know that he was not only being practical, but also helping to save water! You can you can learn more about Frederick Douglass when you visit the Frederick Douglass National Historic Site.



A drawing of a modern rain cistern

Draw your own house and rain cistern below!

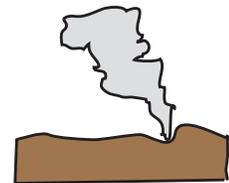
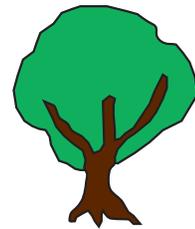
What is another way you can save water?

Renewable Energy



Right now, we get most of our energy from coal and oil, which produce a LOT of greenhouse gases! Renewable energy like **solar**, **wind**, **biomass**, **geothermal**, and **hydropower** do not produce very many greenhouse gases and are available almost everywhere. If the whole world switched to renewable energy, we could stop global warming in its tracks!

Match the different types of renewable energy, on the left, with the pictures of where they come from on the right.



Spread the word!



How would you tell others about global warming?

(Hint: You can write a poem, a letter, or a song or draw a picture!)

A large, empty rectangular area with rounded corners, designed for a student to write or draw. The top and left edges are decorated with scroll-like borders, suggesting a scroll or a piece of paper. The rest of the area is blank white space.

Do your part!



Here are ways that you can help create a more Climate Friendly planet!

- Reduce greenhouse gas emissions, your *carbon footprint*
 - Save energy
 - ◆ Turn off lights, the television, and computer when you are not using them.
 - ◆ Unplug chargers when you are not using them .
 - ◆ Wash your clothes in cold or warm water instead of hot.
 - Save water
 - ◆ Take shorter showers.
 - ◆ Turn off the faucet while you brush your teeth.
 - Instead of using a car to get around, try walking, riding a bike, or taking the bus.
 - Recycle paper, plastic, glass, and cans! It saves natural resources like trees, oil and metals.
 - Plant trees. Trees help clean our air by absorbing carbon dioxide, a greenhouse gas, and giving off oxygen.
 - Buy products that save energy, are made from recycled materials, or can be recycled.
 - ◆ Ask a parent to replace light bulbs in your house with energy efficient light bulbs.
 - ◆ Tell your parents about energy efficient products.
- Pick up litter.
- Read about the environment and teach others what you have learned.

At the park:

- If possible, take the shuttle into the park instead of driving.
- Pack your own reusable water bottle.
- Pack in what you pack out.
 - Don't leave any trash!

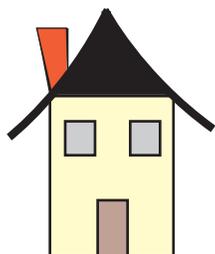
Did you know....?

In 2008, Americans changed their habits enough to reduce greenhouse gas emissions to equal the amount given off by 29 million cars!

At-home activity:

Write three ways you reduced your carbon footprint this week:

1. _____
2. _____
3. _____



This Certifies that you have
completed the National Capital Parks-East
Climate Friendly Junior Ranger Program

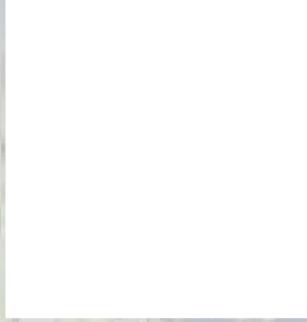


Congratulations! You are now a **CLIMATE FRIENDLY JUNIOR RANGER**

Junior Ranger's name: _____

Park Ranger's signature: _____

Date: _____



Put park passport
stamp here!



This booklet is for children of all ages, but recommended for children aged 6-15.



Want to continue the Junior Ranger fun at home?
Become a WebRanger!

A WebRanger is...

- ..a caretaker
- ..an adventurer
- ..a discoverer

There are over 50 activities created just for you!
You can even earn a WebRangers patch, FREE!
Log onto the WebRanger program at **www.nps.gov/webrangers**.



This booklet was designed as a part of the Junior Ranger Ambassador Program: a cooperation between the National Park Service and the Student Conservation Association. This program was created to improve the Junior Ranger experience in National Parks.

