- Give your time and energy to a national wildlife refuge, national fish hatchery or in your own community (see http://www.serve.gov/)
- Project BudBurst http://www.budburst.ucar.edu/ and the National Phenology Network, http://www.usanpn.org/ are just two places where you can become part of a nationwide network gathering data on climate change effects on plants and wildlife
- Teach the next generation about the importance of natural resources by taking them outside. Visit a National Wildlife Refuge or other protected land
- Talk to your neighbors, civic associations, local service groups to engage them in discussions and action
- Online and local libraries are filled with information. There are great books for young audiences on the subject of climate change

Photo:University Corporation for Atmospheric Research©

Additional Resources

U.S. Global Change Research Program
http://www.globalchange.gov/

National Park Service Regional Impacts Web Page
http://www.nps.gov/climatechange/atlanticcoast.cfm

Environmental Protection Agency
http://www.epa.gov/climatechange/wycd/index.html

Seasons End
http://www.seasonsend.org/

For more information on how the U.S. Fish and Wildlife Service is working with others to conserve the nature of America in a changing climate, visit http://www.fws.gov/home/climatechange/

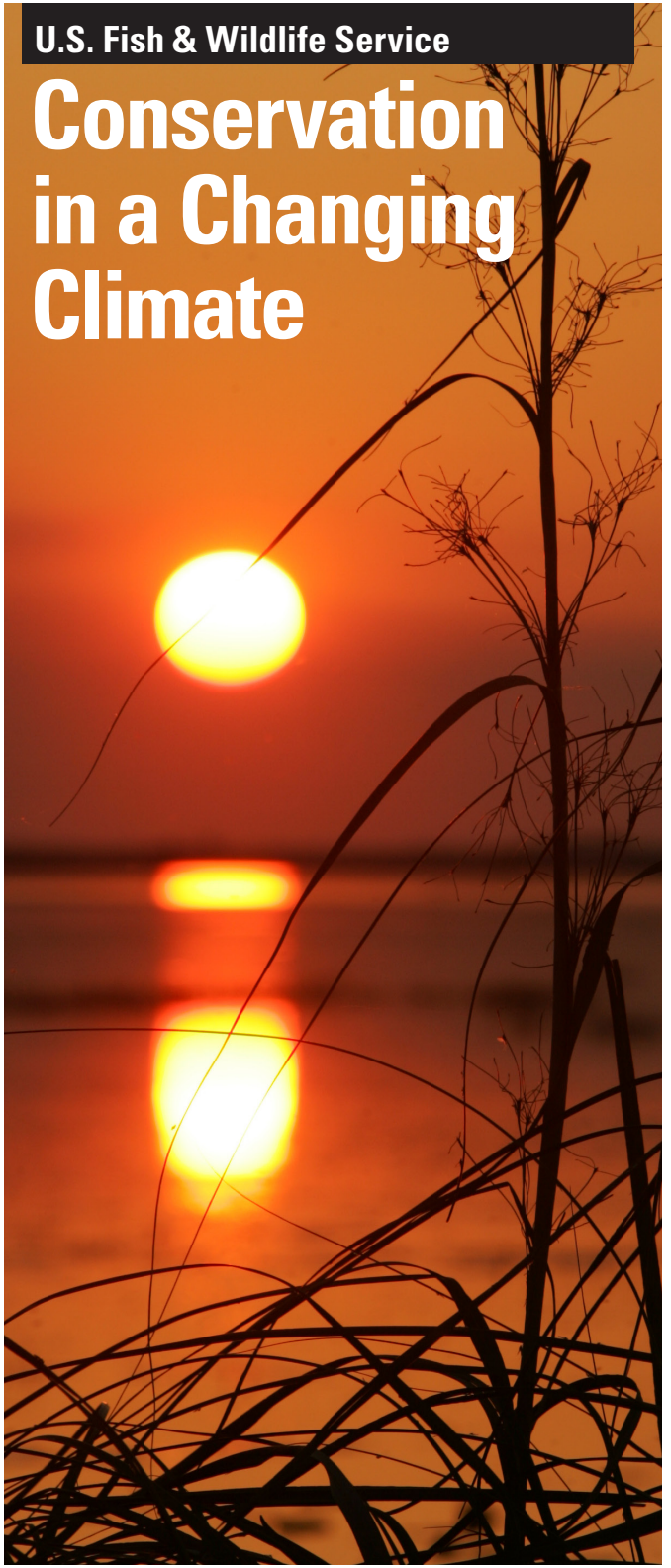
Photo:USFWS/Steve Hillebrand

http://www.fws.gov

January 2011

U.S. Fish & Wildlife Service

Conservation in a Changing Climate



Climate change is real

The unmistakable signs of a rapidly changing climate are everywhere:

- Global average air temperature has increased and excessive heat waves are on the rise
- Average sea level has risen
- Flowers are blooming earlier, lakes freezing later, migratory birds delaying their flights south
- The timing and interconnectedness of the wild food chain is being disrupted

Climate change is disrupting natural systems

Natural systems—such as lakes, rivers, oceans, coral reefs, forests, grasslands—produce our oxygen, our water, our food, and provide jobs such as commercial fishing and timber harvesting. They also support outdoor activities, generating jobs and millions of dollars in revenue. Forests, wetlands and other natural landscapes help soak up greenhouse gases that trap heat and have been scientifically linked to global warming.

Climate change is harming wildlife and wild places

Photo: USFWS/Ryan Hagerty

Climate change is the transformational conservation challenge of our time, not only because of its direct effects on species and habitats but because of its influence on other stressors. These include habitat loss and fragmentation, invasive species, and water scarcity:

These combined forces have enormous implications for management of fish and wildlife and their habitats around the world:

- Polar bear population declines have been noted in Canada, as well as extirpations of Bay checkerspot butterfly populations in the San Francisco Bay area
- Across the continental U.S., climate change is affecting the migration cycles and body condition of migratory songbirds, causing decoupling of the arrival dates of birds on their breeding grounds and the availability of the food they need for reproduction
- Evidence is growing that higher water temperatures resulting from climate change are affecting cold- and cool-water fish populations across the country

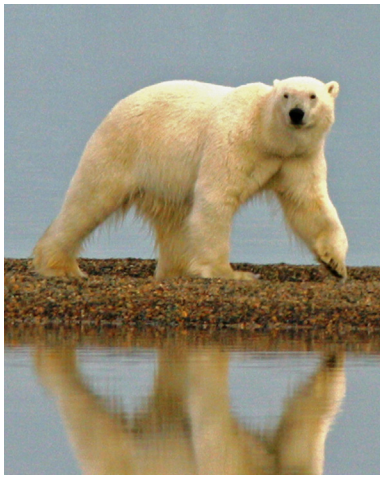


Photo: USFWS/Susanne Miller

- Along coasts, rising sea levels have begun to affect fish and wildlife habitats, including those used by shorebirds and sea turtles that nest on coastal National Wildlife Refuges
- In the oceans, subtropical and tropical corals in shallow waters have already suffered major bleaching events driven by increases in sea surface temperatures

Climate change impacts can be reduced

The U.S. Fish and Wildlife Service's strategic plan is partnership-driven and science-based. We've incorporated input from employees, partners and the public to build a five-year plan of action:

- *Adaptation* – Planned management actions to help reduce the impacts of climate change on fish, wildlife, and their habitats. This includes efforts to work with other agencies, organizations, landowners, and stakeholders to protect and connect large intact habitats that support many species
- *Mitigation* – Reducing our carbon footprint by using less energy, consuming fewer materials, and appropriately altering land management practices. This includes carbon sequestration by growing plants, such as trees and grasses
- *Engagement* – Reaching out to the public and partners to collectively build knowledge, share information, and seek collaborative solutions to the challenges posed by climate change

Hundreds of individual innovations are taking place on Service lands across the country. The agency is using green building design for all visitor centers on national wildlife refuges. It is deploying hybrid vehicles across the country. The Service is also working with energy partners and nonprofit land trusts to sponsor carbon sequestration projects in scores of communities.

You can take action now

Small changes in our everyday lives can make a big difference for current and future generations of Americans. Here are a few ways you can help mitigate the effects of climate change and support wildlife conservation where you live:

- Plant native trees and shrubs that absorb carbon dioxide and slow the spread of invasive species
- Recycle paper, plastics, glass
- Use recycled products that use less energy to manufacture
- Change to energy efficient light bulbs and appliances
- Reduce gasoline consumption; Walk or bike whenever you can
- Program your thermostat

Photo: USFWS