

Flip-flops or Boots? Facilitator's Regional Guide

**...a cheat sheet to help you
guide the children's explorations
of U.S. regions**

Northwest

States: Idaho, Montana, Oregon, Washington, and Wyoming

Climates: Mild, High Elevation, Dry

Average Temperatures:

Summer Highs: 80°-90° F but highly variable throughout the region; as low as 50° F and as high as 100° F can be found there

Summer Lows: 50°-60° F with some areas reaching 30°-50° F

Winter Highs: 30°-40° F with some areas reaching 10°-30° F or 40°-50° F

Winter Lows: 0°-20° F with some areas reaching 20°-40° F or -10°-0° F

Annual Precipitation: 64" or more on the coast and certain inland areas, but drier inland with only 8-16" in much of the region

Extreme weather events: In this area where the Great Plains meet mountain ranges, warm, dry Chinook winds occur in the winter and can quickly – and with great variability – raise the frigid temperatures and melt/evaporate snow. Frequent strong winds occur in Wyoming. Washington is home to the world record for the most snowfall in one season – the winter of 1998-1999 delivered 1140" to Mt. Baker. The southeastern corner of Wyoming is vulnerable to tornados. Blizzards and wildfires also occur in this region.

Crops: Idaho produces potatoes and wheat while Montana contributes flaxseed and garbanzo beans. Oregon is the leading producer of blackberries, hazelnuts, loganberries, black raspberries, prunes and plums, Christmas trees, and dried herbs. Apples, wine grapes, and Christmas trees are grown in Washington. Wyoming is known for raising cattle and sheep, but also grows crops such as sugarbeets.

Plants: This region has extensive coniferous forests. In fact, the Pacific Coast is home to a temperate rainforest. Grasslands and scrublands make up the unforested regions.

Animals and their special adaptations: Caribou live in the Northwest, where their side hooves help them walk on snow and soft tundra. Bull trout inhabit the cold waters of the region. Gray wolves are adapted to a variety of habitats here, including temperate forests, mountains, and grasslands. Brown pelicans and leatherback sea turtles are found in many coastal regions of the U.S.

Novels: *Hattie Big Sky* by Kirby Larson



Wyoming.

High Plains

States: Kansas, Minnesota, Nebraska, North Dakota, and South Dakota

Climates: Dry, Continental

Average Temperatures:

Summer Highs: 80°-100° F

Summer Lows: 50°-70° F

Winter Highs: 40°-50° F in the southern areas and decreasing northward to as low as 10° F

Winter Lows: 0°-20° F with the southern areas dipping to 20° F and -10° F in the north

Annual Precipitation: 16-32", but reaching over 40" in southeast Kansas

Extreme weather events: The region is prone to tornados. Nebraska has frequent winds. Blizzards and wildfires also occur here.

Crops: Corn, wheat, soybeans, alfalfa, and pumpkins are grown in Kansas. Corn is an important crop in Nebraska, with a little under half of the total yield going into ethanol production and ultimately added to gasoline. In addition, soybeans, beans, and wheat are grown there. North Dakota farmers are great producers of flaxseed and canola, and most of the U.S. supply of wheat for pasta (durum) is grown there. Honey is also produced there. Minnesota produces corn and soybeans, and uniquely, wild rice (cultivated paddy rice and traditional Native American hand-harvested wild rice). Corn, grains, and sunflower seeds are grown in South Dakota.

Plants: Grasslands are the native plants of the majority of this region. The tall-grass prairie of the region, which is distinct from the short-grass prairie of the Great Plains, is made up of big bluestem, Indian grass, and switchgrass. Minnesota is also home to forests.

Animals and their special adaptations: Gray wolves are adapted to a variety of habitats here, including temperate forests and grasslands.

Novels: The "Little House" books by Laura Ingalls Wilder



South Dakota.

Midwest/Ohio Valley

States: Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, Ohio, and Wisconsin

Climates: Continental

Average Temperatures:

Summer Highs: 80°-90° F with temperatures cooling to 70° F around the Great Lakes and up to 100° F in a few southern regions

Summer Lows: 60°-70° F and as low as 50° F in the north

Winter Highs: 30°-50° F with the lowest temperatures in the north

Winter Lows: 0°-30° F



Wisconsin.

Annual Precipitation: 32-64", but Wisconsin and Michigan tend to be drier

Crops: Corn and soybeans are commonly grown in this region. Illinois also contributes pumpkins. The popcorn variety of corn, tomatoes, and mint are specialties of Indiana. In addition to crops, Iowa is the number one producer of hogs and eggs. Missouri contributes cotton and rice. The Great Lakes moderate temperatures by absorbing heat in summer and releasing it in fall; this unique effect permits Michigan to grow apples, grapes, and cherries – fruits that are normally grown further south. Ohio is the number one producer of Swiss cheese in the U.S. and also produces a large crop of pumpkins. Wisconsin produces peas, carrots, and cranberries.

Extreme weather events: The Gulf of Mexico and Great Lakes influence the weather patterns of this region. The Great Lakes' influence on weather is called the "lake effect." In the winter, winds from the west pick up moisture from the lakes and deposit heavy snowfall along eastern lakeshores, such as in Michigan and Ohio. Fog occurs along the shorelines. The region is highly prone to tornados, especially in Missouri. Blizzards and wildfires also occur here.

Plants: Forests once covered much of this region, with grasslands predominating in some areas. Ohio's eastern and southern regions are covered in hardwood forests; red and white oak and walnut are used as logs, lumber, chips, and used to make furniture and paper. Other broadleaf trees abundant in the Midwest include elm, maple, beech, hickory, ash, and birch. Conifers are found here.

Animals and their special adaptations: Kirtland's warblers nest in the young jack pine forests of Michigan, dining on insects, blueberries, and pine sap, before migrating to the southeastern coast of the U.S., and finally to the Bahamas. Gray wolves are adapted to a variety of habitats here, including temperate forests and grasslands.

Novels: *Adventures of Huckleberry Finn* by Mark Twain; *Chasing Redbird* and *Walk Two Moons* by Sharon Creech

New England/Mid-Atlantic

States: Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia

Climates: Continental

Average Temperatures:

Summer Highs: 70° -90° F

Summer Lows: 50° -70° F

Winter Highs: 30° -50° F, dipping to 10° F in the north and rising to 60° F in southern Virginia

Winter Lows: 10° -30° F, dipping to -10° F in the north (or even lower in northern Maine!) and rising to 40° F in southern Virginia

Annual Precipitation: 32-64"

Crops: Christmas trees, greenhouse, and nursery products are grown in this region, and ocean products are important. Most crops in Connecticut are nursery and greenhouse products. Delaware produces soybeans, corn, and apples. Maine is the number one producer of wild blueberries; maple syrup is another major crop. Massachusetts contributes cranberries; and New York, cabbage, corn, and onions. Pennsylvania ranks first in the production of mushrooms in the U.S. Vermont produces maple syrup and apples. Virginia contributes tomatoes and corn, while West Virginia produces apples and peaches.

Extreme weather events: The Great Lakes have an influence on regional weather called the "lake effect." In the winter, winds from the west pick up moisture from the lakes and deposit heavy snowfall along eastern lakeshores, such as in Pennsylvania and New York. Fog also occurs along the shorelines. Nor'easters are storms along the East Coast of the U.S. where the winds come from the northeast. Tropical storms and hurricanes, tornados, and wildfires occur in this region.

Plants: Forests blanketed the East when the first Europeans arrived in America, but much has been cleared for farming and cities. Fir, spruce, and red and white pines are common trees in the Northeast.

Animals and their special adaptations: White-tailed deer are more abundant than in colonial times. Muskellunge, northern pike, and walleyed pike occupy Northeast waterways. Bullfrogs, the largest native frogs, are found in the eastern U.S. Delmarva Peninsula Fox squirrels are found in mature forests and groves near waterways; they are protected by the Endangered Species Act. Brown pelicans and leatherback sea turtles are found in many coastal regions of the U.S.

Novels: *26 Fairmount Avenue* by Tomie dePaola



Maine.

Southeast

States: Alabama, Georgia, Florida, South Carolina, Tennessee

Climates: Mild, Tropical (southern tip of Florida)

Average Temperatures:

Summer Highs: 90°-100° F with northern areas slightly cooler and higher altitude regions dropping to 70°-80° F

Summer Lows: 60°-80° F

Winter Highs: 50°-70° F, with cooler areas in the north and rising to 80° F in Florida

Winter Lows: 30°-50° F, dipping to 20° F in the north and rising to 70° F in southern Florida

Annual Precipitation: 32-64" with certain areas receiving 64-96"

Crops: Peanuts and cotton are major Alabama crops. Georgia also grows peanuts and cotton in addition to peaches, pecans, and onions. Florida supplies most of the U.S. production of citrus, especially oranges. Avacados, bok choy, tropical fruits, peanuts, and many other fresh vegetables are also grown in Florida, and in fact, most of the vegetables consumed in the U.S. in the winter are grown there. North Carolina supplies greenhouse and nursery products, cotton, soybeans, corn, sweet potatoes, wheat, peanuts, blueberries, cucumbers, and Christmas trees. South Carolina produces leafy greens and peaches; in addition, it is home to the only tea farm in North America. Tennessee contributes corn and soybeans.

Extreme weather events: Tropical storms and hurricanes occur here, as well as tornados and wildfires.

Plants: The South is home to extensive forests. Longleaf, shortleaf, and loblolly pines are coniferous trees that grow in the region. Bald cypress is found in swamps. The broadleaf trees tupelo, red gum, and magnolia grow in the region, and palms and other tropical trees are found in the Everglades.

Animals and their special adaptations: For the red-cockaded woodpeckers who breed in the mature pine forests of the South and Southeast, raising young is a group effort: Juvenile males stick around to help their parents raise the next year's brood. Opossums, the only marsupials (pouched animals related to kangaroos) found in the U.S., are the subject of regional folklore. Florida is home to American alligators, crocodiles, Florida panthers, and West Indian manatees. The poisonous water moccasin snake is found in the Southeast. Kirtland's warblers nest in the young jack pine forests of Michigan, dining on insects, blueberries, and pine sap, before migrating to the southeastern coast of the U.S., and finally to the Bahamas. Red wolves are native to the region; they are Federally listed as endangered. Brown pelicans and leatherback sea turtles are found in many coastal regions of the U.S.

Novels: *Alabama Moon* by Watt Key; *Hoot* by Carl Hiaasen



Georgia.

South

States: Arkansas, Louisiana, Mississippi, Oklahoma, Texas

Climates: Mild, Dry

Average Temperatures:

Summer Highs: 90°-100° F with certain areas spanning above and below that range

Summer Lows: 60°-80° F

Winter Highs: 50°-70° F, with cooler areas in the north and rising to 80° F in Texas

Winter Lows: 20°-40° F, dipping to 10° F in the northwest and rising over 40° F along the coast

Annual Precipitation: 32-64" with coastal areas of Louisiana receiving over 64"; it is drier away from the Gulf – central Texas receives 16-32" and even less in the west

Crops: Arkansas is the number one producer of rice in the U.S. and also grows soybeans and cotton. Sugarcane, cotton, rice, sweet potatoes, soybeans, and Tabasco peppers are grown in Louisiana; seafood is also produced there. Cotton and soybeans are Mississippi's most valuable crops. Oklahoma contributes peanuts, wheat, and pecans; and Texas, greenhouse and nursery plants, cotton, corn, and sorghum.

Extreme weather events: The South central plains region is subject to unstable atmospheric conditions that can lead to large thunderstorms called supercells. Supercells produce tornados, making this region extremely vulnerable to these extreme weather events. Oklahoma has spring thunderstorms and tornados, and as it is on the plains with no shelter from mountains, there are strong winds. Tropical storms and hurricanes and wildfires also occur in the region.

Plants: Vegetation is diverse in the South. Forests are common in the eastern areas, tall-grass prairie extends through Oklahoma and Texas, and western Texas is dominated by scrubland and desert. Longleaf, shortleaf, and loblolly pines are coniferous trees that grow in the region. The broadleaf trees tupelo, red gum, and magnolia grow here. Bald cypress is found in swamps. Tall-grass prairie, which is distinct from the short-grass prairie of the Great Plains, is made up of big bluestem, Indian grass, and switchgrass. Oklahoma is home to one of the last remaining tall-grass prairie preserves. Cotton grew wild in Texas in the sixteenth century and bluebonnets and Indian paintbrush still bloom there.

Animals and their special adaptations: For the red-cockaded woodpeckers who breed in the mature pine forests of the South and Southeast, raising young is a group effort: Juvenile males help their parents raise the next year's brood. Coral snakes and American alligators are found here. Brown pelicans and leatherback sea turtles are found in many coastal regions of the U.S.

Novels: *Lorenzo and the Turncoat* by Lila Guzman and Rick Guzman



Texas.

Southwest

States: Arizona, California, Colorado, Nevada, New Mexico, Utah

Climates: Dry, High Elevation, Mild

Average Temperatures:

Summer Highs:	80° -100° F but highly variable throughout the region; as low at 60° F and greater than 110° F can be found there
Summer Lows:	50° -70° F, dipping to 30° F at higher altitudes and rising to 90° F in certain areas
Winter Highs:	20° -40° F, with cooler areas in the highlands and rising to 50° F or even 80° F in the southern and western areas
Winter Lows:	10° -20° F, dipping to 0° -20° F at higher altitudes and rising to 30° -50° F in the southern and western areas

Annual Precipitation: 8-32” with some regions receiving 32-64” and over 96” in certain areas of California

Crops: The dairy and beef industries are important in the Southwest. Cattle and sheep are Arizona’s main agricultural products, but the state also grows melons, lettuce, spinach, broccoli, cauliflower, and lemons. California is the top agricultural state and milk producer in the U.S. It benefits from its unique Mediterranean (mild) climate and year-round growing season. Almonds, artichokes, figs, olives, persimmons, pomegranates, prunes, raisins, and walnuts are all commercially produced only in California; the state is also known for its grapes. Colorado contributes cattle, onions, beans, lettuce, and peaches. New Mexico supplies onions and chili peppers. Barley, oats, and wheat are grown in Utah.

Extreme weather events: The region is prone to wildfires. Tornadoes occur in the eastern areas of Colorado and New Mexico. Blizzards also occur in Colorado. Northern California is known for its fog.

Plants: Scrubland, with sagebrush, creosote, scrub oak, chamise, manzanita, and mesquite, predominates. Coniferous forests and grasslands also make up large areas of the region. Coniferous (cone-bearing) trees grow in the region: Engelmann spruce, western white pine, and lodgepole pine grow in the Rocky Mountains and sugar pine, red cedar, and Sitka spruce grow on the Pacific Coast; Douglas fir and ponderosa pine are found in both areas. California is home to the giant redwoods. The Great Plains are home to short and medium grasses such as buffalo grass, side oats grama, and western wheatgrass; this unique ecosystem is distinct from the tall-grass prairie of High Plains and Southern grasslands. Sunflowers, blazing stars, pasqueflowers, and lupines are the flowering plants of the Great Plains. The Rockies are home to mosses, lichens, bitterroot, harebells, and Rocky Mountain



Arizona.

columbine. Poppies and godetias grow along the Pacific Coast. The southern areas are dominated by desert. Cacti, yuccas, mariposa lilies, and desert stars bloom there; saguaro cactus and a type of yucca called the Joshua tree are the largest specimens.

Animals and their special adaptations: The vast herds of bison now persist only in preserves. Mule deer, moose, and American elk, minks, skunks, racoons, badgers, wolverines, beavers, rabbits, muskrats, porcupines, squirrels, marmots, and prairie dogs live here. Wolves, foxes, coyotes, mountain lions, bobcats, lynxes, and occasionally jaguars and ocelots are some of the region's predators. Mexican gray wolves have been reintroduced to the mountains of the Southwest. While rattlesnakes are found in almost all states, they are common in the Southwest. Tortoises, venomous Gila monsters, kangaroo rats, and desert tortoises inhabit the deserts. Brown pelicans and leatherback sea turtles are found in many coastal regions of the U.S. California condors and sea otters are both Federally listed as endangered species.

Novels: *Island of the Blue Dolphins* by Scott O'Dell; *Weedflower* by Cynthia Kadohata

Suggested Internet Resources

Climate:

- National Weather Service <http://www.nws.noaa.gov/>
- KGAN WeatherEye® <http://weathereye.kgan.com/cadet/climate/climate.html>
- How Stuff Works climate map <http://maps.howstuffworks.com/united-states-climate-map.htm>
- Interactive climate map http://www.classzone.com/books/earth_science/terc/content/visualizations/es2103/es2103page01.cfm?chapter_no=21
- Photographs of climate zones http://www.fsl.noaa.gov/outreach/education/climgraph/CG_Figure_14a.gif.html and http://www.fsl.noaa.gov/outreach/education/climgraph/CG_Figure_14b.gif.html.

Temperatures:

- Download NASA's free interactive globe, World Wind, to virtually visit any place in the world and discover the day's temperature from the United States Naval Research Laboratory or students' GLOBE program measurements. <http://worldwind.arc.nasa.gov/index.html>
- National Weather Service <http://www.nws.noaa.gov/>
- KGAN WeatherEye® <http://weathereye.kgan.com/cadet/climate/climate.html>
- How Stuff Works summer and winter average temperature maps <http://maps.howstuffworks.com/united-states-summer-temperatures-map.htm> <http://maps.howstuffworks.com/united-states-winter-temperatures-map.htm>

Annual precipitation:

- Download NASA's free interactive globe, World Wind, to virtually visit any place in the world and discover the day's rainfall, barometric pressure, and cloud cover from students' GLOBE program measurements. <http://worldwind.arc.nasa.gov/index.html>
- National Weather Service <http://www.nws.noaa.gov/>
- KGAN WeatherEye® <http://weathereye.kgan.com/cadet/climate/climate.html>
- How Stuff Works precipitation map <http://maps.howstuffworks.com/united-states-annual-rainfall-map.htm>

Extreme weather events (e.g., tornados, hurricanes, wildfires):

- Download NASA's free interactive globe, World Wind, to virtually visit any place in the world. Explore hurricane animations and view current fire, flood, dust, smoke, storm, and volcanic activity data. <http://worldwind.arc.nasa.gov/index.html>
- University Corporation for Atmospheric Research (UCAR) Web Weather for Kids <http://eo.ucar.edu/webweather/>
- USDA Forest Service's interactive map of current wildfires <http://activefiremaps.fs.fed.us/>

Crops:

- North Central Integrated Pest Management Center crop profiles by state <http://www.ipmcenters.org/cropprofiles/ListCropProfiles.cfm?typeorg=state&USDARegion=National%20Site>
- State agricultural facts from Agriculture in the Classroom, a program coordinated by the United States Department of Agriculture http://www.agclassroom.org/kids/ag_facts.htm

Plants and animals and their special adaptations:

- U.S. Fish and Wildlife Service Wildlife Fact Sheets <http://www.fws.gov/species/#fact>
- The U.S. Marine Corps trains in a variety of climate zones and works to protect the ecosystems there. Their poster series is informative and creative. <http://www.fws.gov/angered/pubs/marines.html>

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