

NORTH CAROLINA CHILD CARE HEALTH AND SAFETY BULLETIN

NORTH CAROLINA CHILD CARE HEALTH AND SAFETY RESOURCE CENTER

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About The Resource Center

The NC Child Care Health and Safety Resource Center is a project of the Department of Maternal and Child Health, School of Public Health, The University of North Carolina at Chapel Hill. Funding for the Resource Center originates with the Maternal and Child Health Title V Block Grant of USDHHS's Health Resources and Services Administration/Maternal and Child Health Bureau, awarded to the University under a contract from the Division of Public Health, NCDHHS.

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Wonder and Whimsy Children and Nature

Remember time spent outdoors exploring the natural world? Listening for bird calls while walking in the woods? Catching lightning bugs on a warm summer evening or leaping into a pile of crackling leaves in the fall? These are the experiences that create lasting memories. Natural settings also provide fertile soil for children's imagination. Their wild magical sides blossom as they create their own worlds full of invented creatures and characters.

As children explore and create objects from nature they transform their world into a science laboratory. Children learn about wind and currents when they launch their bark boat with its soft feather sail. They watch it turn and move forward on its journey toward the sea. They learn biology when they plant a garden in a pot. They watch the tiny seedlings sprout and grow into enormous sun flowers, or yummy peas. Children learn to nurture life as they take responsibility for watering and caring for their gardens. Spending time each day exploring the natural world improves cognitive functioning, self confidence, and physical and emotional health. Best of all - it is fun!

Experiences in natural settings also have a calming and healing effect. This is often referred to as a "restorative" effect. It is the feeling of well being and relaxation enjoyed after spending time outdoors. Many children do not spend enough time each day in natural settings. They go from one organized activity to another. There is little time to relax, daydream, or pursue their interests. Some preschoolers spend their days in child care, working in much the same way their older brothers and sisters do in elementary school. This is not a developmentally appropriate way for young children to learn. It often leads to mental and emotional fatigue.

Research suggests that when children and adults spend more time outside doing hands on activities, they can think better. It is especially true for children with ADHD (attention deficit hyperactivity disorder).



When children with ADHD have to work to pay attention they become mentally tired more quickly than children who do not have ADHD. They need a chance to rest their "thinking muscles" and recharge their batteries. It is easier for children to do this outside than indoors. They do not have to work to pay attention. Events in nature "capture" their attention. A butterfly alighting gently on a flower, or running like the wind to escape from "dragons", are valuable experiences that require very little mental effort. Studies have found that daily experiences with nature reduce the symptoms of ADHD. They have a restorative effect on everyone. Children become less impulsive and aggressive. There are fewer conflicts. Children are better able to remain calm and attentive.

The cycles and rhythms of nature give children a framework for seeing the larger world and their place within it. Children grow and flourish through experiences with nature - they learn to respect and care for it. When children grow up, they are likely to become good stewards of the outdoor environment. This benefits all humanity for generations to come.

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- Taylor, A., Kuo, F., and Sullivan, W. *Coping With ADD, The Surprising Connection to Green Play Settings*, Environment and Behavior, Vol. 33 No. 1, Jan. 2001
- Wike, J. *Why Outdoor Spaces for Children Matter so Much*, Exchange Sep/Oct 2006

The Marvels and Magic of Nature



In July 1956, the *Woman's Home Companion* published "Help Your Child to Wonder" by Rachel Carson. It led to her

book *A Sense of Wonder* which continues to influence the way people think about nature. At that stage in her life the role she may have cherished most was her relationship with her grandnephew. She delighted in his responses to their simple wanderings in the Maine woods. It also brought back childhood memories of sharing nature with her mother. Fifty years later, the challenge of giving children experiences with nature, and of capturing that unique sense of wonder only it can offer, is still a reality.

"A child's world is fresh and new and beautiful, full of wonder and excitement. If a child is to keep alive his inborn sense of wonder ... he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in ... it is not half so important to know as to feel. If facts are the seeds that later produce knowledge and wisdom, then emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil. Once the emotions have been aroused ... we wish for knowledge about the object of our emotional response. ... It is more important to pave the way for the child to want to know than to put him on a diet of facts he is not ready to assimilate." Rachel Carson, *A Sense of Wonder*

A child care provider may be the "one adult" who can share nature's mystery and excitement with children. In a survey of hands at a NC Association for the Education of Young Children conference two years ago, only 12 out of more than 120 providers felt their young charges were given opportunities to be outdoors in the evenings or on weekends. Children were not coming in with tales of backyard antics with ants and ladybugs. It is time for providers to roll up their sleeves, put on their walking shoes and indulge in the world of nature!

Everything changes outside; senses are sharpened and experiences enriched. Children can feel the breeze move across their skin. They can smell the freshness in the air after a rain - see the dappling of sunlight beneath a tree. They can taste the fresh garden lettuce on a summer morning and hear the soothing chirps of crickets. Each day, providers can share with children these small yet powerful outdoor experiences.

What can be done outdoors?

- 1 Almost anything that can be done inside can be done outside. From snack time, to story time, to nap time, even the smallest infant will profit from time outside.
- 2 During the morning safety walk around the grounds, providers can look for natural items to share with their children. A single feather can start an exciting story. "What was on the playground? How big was it? Why did it lose a feather? Will it come back?" The scientific process begins with wonder, questions and observations.
- 3 The curricula can be built on the children's experiences. As children watch a Black Swallowtail caterpillar eating the parsley in their garden, they begin to wonder. "Why does the caterpillar eat parsley? What does a caterpillar look like when it grows up? Where do they go when it gets cold?" Learning this way is direct and powerful.
- 4 Providers in urban areas can take heart. Children do not need a vast wilderness to experience wildlife. Even a treeless lot in the middle of a city has sky with ever-changing clouds and birds overhead.
- 5 Providers can take workshops at local state parks, museums or nature centers. The knowledge gained will help providers' feel more comfortable in the natural environment.
- 6 Naturalists, county extension specialists, and family members are local resources. They can assist with activities and help identify plants, birds, and insects. They can recommend activity guides and offer advice for improving the facility's grounds.
- 7 Embrace the many arthropods found in the outdoors! Arthropods are those joint-leg invertebrates, such as insects, spiders, crayfish, millipedes and roly-polies. These small creatures can be observed closely and watched over time, cementing a child's relationship with the natural world. Discovering a roly-poly or an ant lion near the sandbox can be just as exciting as seeing a hawk circling overhead or a deer grazing at the wood's edge. And hawks and deer do not gently tickle when held in the palm of the hand!
- 8 Add illustrated field guides of local birds, insects and other wildlife to the science center or book corner. They provide useful information and encourage browsing.
- 9 An outdoor exploration kit might include paper tubes for spotting scopes, cameras and





binoculars, scarves for wind gauges, and magnifying glasses for taking a closer look. Clear storage containers can be used for temporary observation of small animals. Bags can be filled with leaves, seeds and flowers, then brought back to show parents or display on the science table. Notebooks and colored pencils should be available for drawings. Providers can record children's observations.

- 10 Saying "WOW! A slug!" instead of "Yikes!" transforms the "slimy slug" into a fascinating creature. By watching an animal from a comfortable distance, children and adults discover wildlife in a safe and respectful way.
- 11 When pick-up and drop-off times are outside, children can more easily share their daily nature finds with their families. Parents can share in their children's excitement and extend the exploration at home.
- 12 Providers who do not know anything about earthworms or beetles need not worry. Being outdoors is a golden opportunity for adults to rekindle their own "sense of wonder." Children and adults can learn together as they explore the natural world.

Jan Weems
Coordinator of the Discovery Room
North Carolina Museum of Natural Sciences
www.naturalsciences.org

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- Wilson, R. Editor *Environmental Education at the Early Childhood Level* Troy, Ohio: North American Association for Environmental Education, 1994

Checking the Quality of the Outdoor Environment

- The morning safety walk alerts providers to hazards. Ice, fallen tree limbs, wasp nests, or other hazards sometimes turn up in the environment over night or during the weekend. As they check for safety, providers can look for natural items to share with the children.
- Providers can improve the quality of a child's experience outdoors. They can offer the time and tools for exploration. The more they learn about the outdoor environment, the better able they are to encourage their young scientists.
- The Preschool Outdoor Environment Scale (POEMS) is an assessment tool. Directors and providers can use POEMS to evaluate their outdoor space. They can then use it to plan a high-quality outdoor program. POEMS is available through Kaplan. www.kaplanco.com/index.asp.

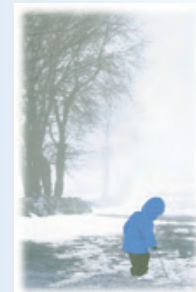
Be Prepared for the Weather

The Nordic saying "there is no such thing as bad weather, only bad clothing" applies to adults as well as children.

SUMMER Who wants to be hot outside? A three-inch wide-brim hat cools one's head. Lightweight tight-weave cottons cool the body. Both provide protection from the sun. Sunglasses with UV protection shield the eyes from damaging ultra-violet rays. Sunscreen with 15 SPH or higher protects the skin. Drinking water keeps the body hydrated. Shaded areas are a must!



WINTER Who wants to be cold outside? Dressing in layers provides warmth and encourages providers to go outdoors. Lightweight long-underwear cuts the cold. A pair of old rain pants can be slipped quickly over pants to stop the wind and add warmth. Since 80 percent of body heat loss is from the head and neck, a warm scarf and hat are a must. Jackets, gloves, and boots keep the rest of the body comfortable. Being active also adds warmth. Because non-mobile children are less active, their hands and feet should be checked for coldness every 15 minutes.





Digging in the Dirt



What is it about working together in the garden that makes this time with the family so special? Gardening engages all the senses. This turns on children's imaginations. Their minds become focused. Children watch the changes that take place with each season. They experience the sights, textures, and scents of the garden. As they wait for their gardens to grow, they observe and ask questions. The whole family learns

together as they try out new ideas in their garden. Children bond with nature as they interact with the wonders of their environment. Adults provide the permission, time, tools, space and companionship to encourage exploration.

Gardening helps celebrate relationships between humans and nature. Children learn about the vital role plants play in the world. They discover that when seeds are planted in rich soil, and get enough sunlight and water, they can grow into food for their supper. Others become beautiful flowers to put on the table. Children can delight in comparing the tiny seed with the plant that has become so big!

Children learn to respect the world around them when they garden. They discover that the sunshine, rain, and bugs make a garden grow, and keep the world green. A garden is a natural laboratory, where children and their families can learn about the science of plants as they watch nature at work. They can see the interactions that occur between plants and animals, which is an important aspect of nature.

Gardening is relaxing and energizing at the same time. It can be a quiet place to sit and enjoy the greenery. It can also be a lot of hard work. Digging, bending, shoveling, hoeing, pulling up weeds, reaching and stretching, and watering sprouts, is a real workout! All the exercise is worth it when the hard work results in pretty flowers and delicious vegetables. Caring for their own garden can give children a feeling of accomplishment as they watch their plants grow. Also - growing their own food may encourage children to try eating things they otherwise would not touch.

Working together from planting to harvest is a fulfilling project for the whole family.

A Word of Caution:

Lead dust is a toxin which is sometimes found in the soil. Homes built before the 1970s often have lead paint,

which can chip off and fall into soil around the foundations. Even new homes might have lead-contamination. Homes near industrial areas or busy roads are at risk. If it is in the garden area where children are digging, they might inhale small particles of lead dust. Families can have a child screened for lead at local health departments, clinics or by a private physician.

Reduce the risk of exposure to lead.

- Have the soil tested for lead.
- Eat a healthy snack before going outdoors.
- Wear gardening gloves and wash hands often.
- Build raised beds for gardening and fill them with clean soil.

Gardening Tips

- Have lots of options available so children can get started immediately and stay busy.
- Provide small or child-sized tools for better grip.
- Distribute similar supplies if more than one child is gardening.
- Use larger seeds for easy handling. Place smaller seeds into a spice jar and sprinkle to plant the seeds.
- Encourage imagination rather than impose direction. "Where should we plant the carrots?"
- Demonstrate rather than talk; a picture is worth a thousand words.
- Plant seeds that grow quickly and easily, for instant gratification.
- Remember, getting dirty is part of growing up!



We encourage you to copy page 5 and distribute it to families.

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- Avoid Pesticides, Accidents, Lead Poisoning, Allergic Reactions, Illnesses, and Poisonous Plants. *Parents' Primer*. Retrieved on 03/01/07 from www.kidsgardening.com/primer/primer1047.asp
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What's in it for me?

What Caregivers can expect to gain from "taking on" the OUTDOORS

Get Outdoors! It's good for you, too!

This issue of the Bulletin is filled with information about outdoor learning environments. Natural settings foster children's learning, and support their healthy growth and development. Well guess what? Being outdoors is healthy for adults too! Spending time in the fresh air, in full spectrum sunlight, in an environment that has lots of green grass, plants, and trees, has benefits that last throughout life. There is even evidence that exposure to green spaces has a restorative, or calming and healing effect. The health value of spending time outdoors is just beginning to be fully understood.

Pleasure and relief from stress

Many of the providers who develop rich outdoor environments, report that they cannot wait to get to work to see what is happening outside. They report that being outside makes them feel calm, happy and peaceful. And the pleasure is guilt-free. When adults share this interest and pleasure with children, it contributes to the children's learning and well being.



Sense of freedom

When the door opens to let children go outside, babies will kick with joy, toddlers attempt to run, and older children charge across the play yard with delight and enthusiasm,

expressing their joy in the freedom found outside the classroom. Many caregivers feel the same way.

Providers who have had little chance to explore outside may think they do not know enough about nature to guide children's learning. Fortunately, adults do not have to have all the answers. As providers know so well, children will notice and ask about the most incredible things. It is fun, freeing and very appropriate for providers to respond to questions by saying, "Let's find out together! This is how we learn."

Being outdoors is a chance for providers to enjoy the details in nature, notice the shape of a leaf, the color of a flower, or the sound of the wind. Adults can discuss with children what they see, hear, and feel. This fosters language development as new words are learned and familiar words are used in new ways. It also encourages children to explore and to think. The leaves of a plant curl up when there is not enough water in the soil. When water is provided, the drooping plant will straighten up in gratitude. Even young children will begin to see they have a role in caring for the environment.

The environment as teacher

Many providers say a well-equipped outdoor environment is like having an additional provider helping out. Children are naturally curious and attracted to the many treasures found in outdoor environments. They want to explore hills, trees, plants, butterflies, worms, grass, sand, water, sunshine and shadows. A rich outdoor environment invites children to play and stimulates the imagination. Children are active as they figure out how to climb a hill, crawl like an ant, or chase after their shadows. And nature offers plenty of free educational materials. There are pine cones for counting, leaves to sort, branches to build with, shrubs to play house in, birds to imitate, and flowers for comparing shapes, sizes and smells. Providers will find that children talk more and ask more questions in the outdoor environment. As adults share in the exploration, they too find they have questions they want answered.

So . . . have fun . . . play outside . . . see what it does for you know you are doing the right thing for children . . . and for yourself!



A rose is a rose is a rose . . . but so much more! Did you know that floral scents contribute to cognitive functioning – making providers as well as children smarter, more alert and ready to learn?



Virginia Sullivan (Left)
Principal, Learning by the Yard
Consultants to School Grounds

Janet McGinnis (Right)

Program Consultant
NC Office of School Readiness

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Chawla, L. Learning to Love the Natural World Enough to Protect It. Barn nr. 2 2006:57-78, 2006
Louv, R. Last Child in the Woods. Chapel Hill, NC: Algonquin Books, 2005

Marcus, C. and Barnes, M. Healing Gardens. New York, NY: John Wiley and Sons, 1999
Malaguzzi, L. et al. The Hundred Languages of Children. Reggio Emilia, Italy: Department of Education, 1987

The North Carolina Outdoor Learning Environments Alliance

In North Carolina, many educators, health professionals, and early childhood specialists are concerned that children do not get outside as often as they should for optimal health. Children do not spend enough time exploring the natural world. When children are inside they are often engaged in sedentary play. This group of early childhood professionals recognizes the need for children to have hands-on experience outdoors, and many opportunities for physical activity throughout the day. In February 2006 the NC Office of School Readiness and the NC Partnership for Children brought together state leaders to form the North Carolina Outdoor Learning Environments Alliance. The Alliance is committed to improving the quality of outdoor environments and experiences for children in North Carolina.


For information about the Alliance and their work contact Janet McGinnis at the NC Office of School Readiness, janet.mcginis@ncmail.net or Jani Kozlowski at the North Carolina Partnership for Children, jkozlowski@ncmartstart.org.

Resources for Providers

Last Child in the Woods
by Richard Louv, 2005

The Great Outdoors: Restoring Children's Right to Play Outdoors
by Mary Rivkin, 1995

"Making the Most of Outdoor Time with Preschool Children"
NC Cooperative Extension
<http://ces.ncsu.edu/depts/fcs/human/pubs/FCS507.pdf>

April is National Humor Month 

Share a joke. Laugh out loud. Tickle a funny bone.

"Why do dragons sleep during the day?" "So they can fight knights!"

May is National Egg Month 

Eggs are protein-rich, contain over 13 vitamins and minerals, and have an antioxidant called lecithin.



April is

National Child Abuse Prevention Month
April 8 World Health Day
April 2-8 National Public Health Week
April 15-21 National Library Week
April 21-28 National Infant Immunization Week
April 21-29 National Wildlife Week
April 23-29 Turn-Off the TV Week
April 28-May 6 National SAFE Kids Week

May is

National Asthma & Allergy Awareness Month
Mental Health Month
Clean Air Month
National Physical Fitness and Sports Month
May 1 World Asthma Day
May 7 Worthy Wage Day
May 11 National Child Care Provider Appreciation Day
May 15 International Day of Families
May 13-19 National Women's Health Week

Bulletin Board

April 22-28 - The Week of the Young Child Building Better Futures For All Children

During the Week of the Young Child (WOYC) plan exciting events that celebrate children! Take a moment to honor and thank fellow caregivers. Consider hosting a "Great Start To Your Day Breakfast". Invite parents to eat breakfast with the children. Take photos and ask each child and adult what is special about their breakfast partner. Ask each child what he or she likes about the family member and caregiver. Compile an album with the photos and quotes. Place the album in the book corner so it can be read again and again.

Let legislators and others who work to build better futures for children know they are appreciated. Go to www.naeyc.org/about/woyc/activities.asp for ideas on community wide activities. The WOYC is sponsored by the National Association for the Education of Young Children (NAEYC).

April 23-29 is Cover the Uninsured Week


New eligibility income guidelines for North Carolina's free or low-cost child health insurance programs become effective on April 1, 2007. Even children with one or two working parents earning about \$41,300 a year may qualify for Health Check or NC Health Choice. A wide range of benefits include dental care, vision and hearing care, and counseling.

For more information and an application, call the NC Family Health Resource Line at 1800-367-2229 or go to www.NCHealthyStart.org. To order free outreach materials and applications in English or Spanish, check the North Carolina Healthy Start Foundation's catalog at www.NCHealthyStart.org or call 919-828-1819.

Beautiful Bugs and Butterflies

Children are naturally curious about the insects they find in nature. This can be a challenge for adults if they are fearful of bugs. It is important not to pass along these fears; young children are just beginning to explore and learn about the world. Children will learn to care for the environment and the creatures that live in it if provided with numerous positive outdoor experiences.




- Explore outside for signs of wildlife. With a stick, gently overturn a rock, a log, or even a pile of leaves, and look for bugs. If a cocoon or chrysalis is found, keep it in a place where there will be plenty of room for the moth or butterfly to open wide its wings when it emerges.
- At group time discuss fears of insects. Help children understand that each insect has its place in the world. Generally insects are not trying to attack; most are frightened of people. Each insect plays an important role in the food chain for birds, reptiles, amphibians, fish, and other insects.
- Have an ant snack. Fill a piece of celery with peanut butter (soft cheese for those with peanut allergies). Have children arrange raisins to look like ants on a log. It is a fun and nutritious way to extend the outdoor learning experience. Yum! Ants on a Log! 
- Create an outdoor garden. If space is limited, consider making a dishpan or bucket garden. Punch holes for drainage in the bottom of your container. Fill it with soil, for an instant and mobile garden. Plant fast growing seeds that germinate quickly, such as: radishes, beans, sunflowers, and lettuce. Remember, gardens create homes for birds, bees, butterflies, earthworms and other creatures that help the garden grow.
- Establish habitats (natural homes for plants or animals) for insects in the outdoor learning environment. Children will gain firsthand knowledge of the natural world. To get started on a butterfly or ladybug garden visit www.kidsgardening.org.
- Get outdoors ...and bring the outdoors inside! Open a screened window, just a crack so the sounds of grasshoppers and crickets can be heard inside. Place models and photos of insects within easy eyesight of young children. Encourage them to go on a Bug Hunt!

What To Do If Insects And Spiders Scare You!

- Control your reactions - resist the urge to gasp, scream, or run!
- Open your mind – learn about insects and spiders. They are fascinating!
- Are you still afraid? Explore butterflies!
- Team up with a coworker who loves bugs!
- Learn to identify poisonous insects and spiders.
- Learn first aid for insect stings and bites.



Fun Facts about Bugs and Butterflies

- A ladybug beats its wings 85 times a second when it flies.
- The butterfly does not spin a cocoon. Caterpillars shed their final skin to reveal a pupa. The outer skin of this pupa hardens to form a chrysalis. Inside an amazing transformation is getting ready to occur ... a butterfly will emerge!
- Insects and butterflies have their skeletons on the outside of their bodies. It is called the exoskeleton. It protects the insect and keeps water inside their bodies so they do not dry out.
- Butterflies cannot fly if their body temperature is less than 86° F.
- Many butterflies taste food by standing on it. They can tell if the leaf they are standing on can be food for their caterpillars. If it is, they will lay their eggs on it.
- The honeybee is the official state insect of NC. 
Bzzzzzzzz
- Butterflies and moths have transparent wings. The iridescent scales, which overlap like shingles on a roof, give the wings the colors that we see. Their wings are fragile and easily damaged if not handled very gently.

Children's Books on Bugs and Butterflies

Are You a Butterfly?

by Judy Allen 2003 () 

Beetles and Bugs

by Maurice Pledger 2003 ()

Busy Bugs

by Mandy Stanley 2003 ()

Insect - Lo - Pedia by Matthew Reinhart

2003 ()

Ten Little Ladybugs

by Melanie Gerth 2001 ()

 = Infant-Toddler  = Preschool-School Age

Reference:

Teaching Young Children about Wildlife. Retrieved from www.iowadnr.com/education/backinfo/teach.pdf on February 12, 2007.

Ask the Resource Center

Q: My licensing consultant told me about a new sanitation regulation. She said it limits outside activity on days when the air quality is poor. Since there are 4 children with asthma in my program, I want to understand this rule and how it will protect the children with asthma.

A: The rule your licensing consultant is referring to is Sanitation for Child Care Centers NCAC 18 A .2832, Outdoor Learning Environment and Premises. Air quality codes and outside physical activity is covered in part (d). The rule restricts children's outdoor physical activity on days when the air is unhealthy. The rule will help you protect all the children in your program from the damaging effects of air pollution, especially those with asthma.



On those hazy days in summer when it is hot and humid, the chemicals produced by cars and power plants, combine with sunlight to form ozone. Tiny particles of acids, dust, smoke, soot, and other chemicals mix with the ozone. This toxic brew is unhealthy to breathe. For children with asthma it can trigger respiratory symptoms, lead to decreased lung function, and cause an increase in their visits to emergency rooms.

Comply with rule .2832 (d) to protect the children in your care. You will need to find out the daily air quality forecast for your area. Forecasts are color coded based on the level of air pollution. Green means the air is healthy to breathe.

Yellow indicates some air pollution, but not enough to harm most people. Orange, red, or purple color codes indications that the air is getting progressively unhealthier. On these days you need to provide children who have asthma or symptoms of coughing or wheezing, opportunities for indoor physical activity. You will need to limit outdoor physical activity, between noon and 8:00 PM, for the other children in your program: no more than one hour on orange days; no more than 15 minutes on red days; and no outdoor physical activity on purple days.

Beginning April 30th, air quality forecasts will be issued daily in the Triangle, Charlotte, the Triad, Asheville, Hickory and Fayetteville. For the local air quality forecast listen to the radio, the television news, or visit <http://daq.state.nc.us/airaware/ozone/>.

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