



NEWS RELEASE

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Autumn Gold a Treasure to Behold

MORGANTOWN, WVa—The crisp morning air of September heralds the beginning of autumn when forests will exchange their vibrant green summer foliage for radiant reds, yellows, and oranges. The fall spectacle of color will start in New England and gradually weave its way across the American landscape south and west.

People can enjoy the fall colors by visiting their local city park, taking a longer excursion down a back country road, or visiting parks and forests managed by State or Federal agencies.

The U.S. Forest Service Fall Color Hotline (1-800-354-4595) provides detailed information about autumn color displays within the National Forest System. The agency also has a dedicated Web page at <http://www.fs.fed.us/news/fallcolors/>. The forestry departments in many States may also provide hotlines or Web pages with information about fall color viewing opportunities.

The New England States are famous for their spectacular autumn colors that create Americana scenes on the mountains and countryside, but the Adirondack, Appalachian, and Smoky Mountains also have an array of colorful displays. In the East, people can enjoy the splendor of reds, oranges, golds, and bronzes of the mixed deciduous forest.

In New England, the autumn colors should be as beautiful as ever. “The forests have pretty much been devoid of major forest health issues this summer. Damage by insects and diseases has been limited, resulting in fewer trees with premature browning in leaves, and the area has received an ample amount of rain during the summer,” said Margaret Miller-Weeks of the U.S. Forest Service Northeastern Area State and Private Forestry unit in Durham, N.H.

New England is a popular destination for many during autumn. Tree leaves in New England States begin to change color in mid-September. Red maples are among the first trees that exhibit a change in color. In a few areas, the red maples have started changing colors slightly, indicating that the autumn explosion is about to begin.

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“Regionally, weather conditions throughout the summer were on target. The seasonal change appears to be basically on schedule and in good shape with variations at the local level. Of course, there is always the timing of a cold snap, and small local factors that we can’t predict.” said Plant Physiologist Kevin Smith of the U.S. Forest Service Northern Research Station in Durham, N.H.

In the Appalachian mountains of West Virginia, autumn arrives a little later. Late September is typically when noticeable changes commence with the peak season occurring in October. “We will begin posting fall foliage information on our Web site starting September 25,” said West Virginia Division of Forestry Regional Forester Rudy Williams. West Virginia received a significant amount of precipitation in May, June, and July. The autumn colors are anticipated to be above average in the Mountain State.

Many factors affect the quality of the autumn display. One dominant factor is the decrease in day length. Trees respond to the shortening days by starting a process that leads to leaf shedding. During this process, the veins that carry fluids into and out of the leaf gradually close off as a layer of cells forms at the leaf base. The green chlorophyll pigment is no longer produced and begins to degrade, revealing carotenoid (yellowish) and anthocyanin (reddish) pigments.

Carotenoids produce yellow, gold, and orange colors. Like chlorophyll, carotenoid pigments are present in leaf cells throughout the summer, but the chlorophyll masks their appearance. Because carotenoids are always present in leaves, leaf color in trees such as beech, hickory, birch, and black walnut remain fairly constant from year to year because carotenoid levels do not change in response to weather.

Anthocyanins produce shades of red, purple, and crimson. “Trees produce anthocyanin in the fall. These compounds are strong antioxidants that extend the service life of leaves. They allow trees to recapture nutrients in leaves before they are lost when the leaf drops off,” said Smith.

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Trees produce anthocyanin in response to the cooler nighttime temperatures as well as changes in day length, and the levels of the chemical present can vary every year. The most vivid reds are produced when a number of warm, sunny days and cool, but not freezing, nights continue uninterrupted. Some trees that exhibit red coloring during autumn include red oak, black cherry, and dogwood.

Other trees can exhibit a mixed array of yellows and reds depending on the combination of carotenoids and anthocyanins they have. Trees with mixed colors include sugar maple, sassafras, and sweetgum.

Other weather conditions also affect the vibrancy of a forest's autumn display. The amount of moisture in the soil will affect a tree's autumn colors. Like the weather, soil moisture varies greatly from year to year.

The countless combinations of these two highly variable factors assure that no two autumns can be exactly alike. A late spring, or a severe summer drought, can delay the onset of fall color by a few weeks. A warm period during fall will also lower the intensity of autumn colors. A warm and wet spring, favorable summer weather, and warm, sunny autumn days with cool nights should produce the most brilliant autumn colors. The slightest change—too hot, too cold, too wet, or too dry—can slow the process or cause trees to lose their leaves before they change color.

Internet fall leaf color resources include:

[Http://www.yankeefoliage.com](http://www.yankeefoliage.com)

[Http://www.foliagenetwork.com/default.php](http://www.foliagenetwork.com/default.php)

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