

KENTUCKY ASSOCIATION FOR ENVIRONMENTAL EDUCATION



Spring 2008

Call to action from the Kentucky Conservation Committee

By: David Wicks

We are always cautious of advocating for certain viewpoints. We are trained to present balanced information and materials about the topics we teach. However, often times as environmental educators, we wear multiple hats including the advocate's hat. Becoming involved with the Kentucky Conservation Committee is one way to wear your advocate hat and participate in the environmental policy making process.

The Kentucky Conservation Committee (KCC) works for sustainable use of renewable natural resources, prudent use of non-renewable resources, conservation and preservation of critical and unique areas, and a healthful environment for all

Baust Recognized for His Environmental Education Achievements

Joe Baust of Murray State University has received the 2008 Earth Day award from the Environmental Quality Commission. The Commission awards stewards of the earth every year in honor of Earth Day.



Joe received the award because of his tireless efforts in the field of environmental education. He is a professor of math education and environmental education at Murray State University where he instructs candidates for a teaching certificate how to use the environment to teach across the curriculum. Each year he takes teachers-to-be to the Land Between the Lakes for a workshop that immerses them in environmental education.

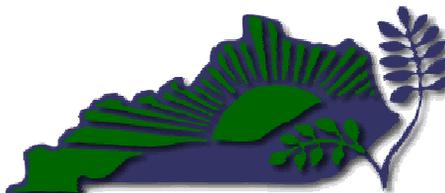
His impact is felt far beyond western Kentucky. Environmental educators across the state, the country and even the globe have benefited from his work. Joe is the chairman of the Kentucky

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Kentuckians. The KCC accomplishes this mission by working with a coalition of environmental organizations and individuals to influence public environmental policy and legislation.

The Committee will hold its annual meeting at Blackacre State Nature Preserve in Louisville. The theme of the meeting will be "Conserve Kentucky". The Conserve Kentucky initiative began two years ago with a Legislative Research Commission-sponsored task force, charged with studying:

"The Commonwealth's strategy for the protection of natural areas, farmlands, habitats and forests and produce recommendations for a comprehensive land stewardship and conservation program." <http://tinyurl.com/3m4bp7>



The annual meeting will provide participants with an update of the Task Force's progress and involve them in discussions of where to go from here regarding proposed legislation for the 2009 session. Five panels, comprised of legislators, state agency representatives, environmental organizations, educators and research scientists will participate. The meeting will close with a discussion of KCC's environmental legislative priorities for the upcoming session.

Blackacre State Nature Preserve is an ideal location to hold such discussions because it is the Commonwealth's first nature preserve in the Kentucky State Nature Preserve system. Since 1982, The Blackacre Conservancy, (www.blackacreconservancy.org) has been actively protecting and interpreting the 180 acre Nature Preserve. Recently, the Conservancy has

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Another Spring issue?

We have re-aligned our issues to fit with the seasons in which they are released!

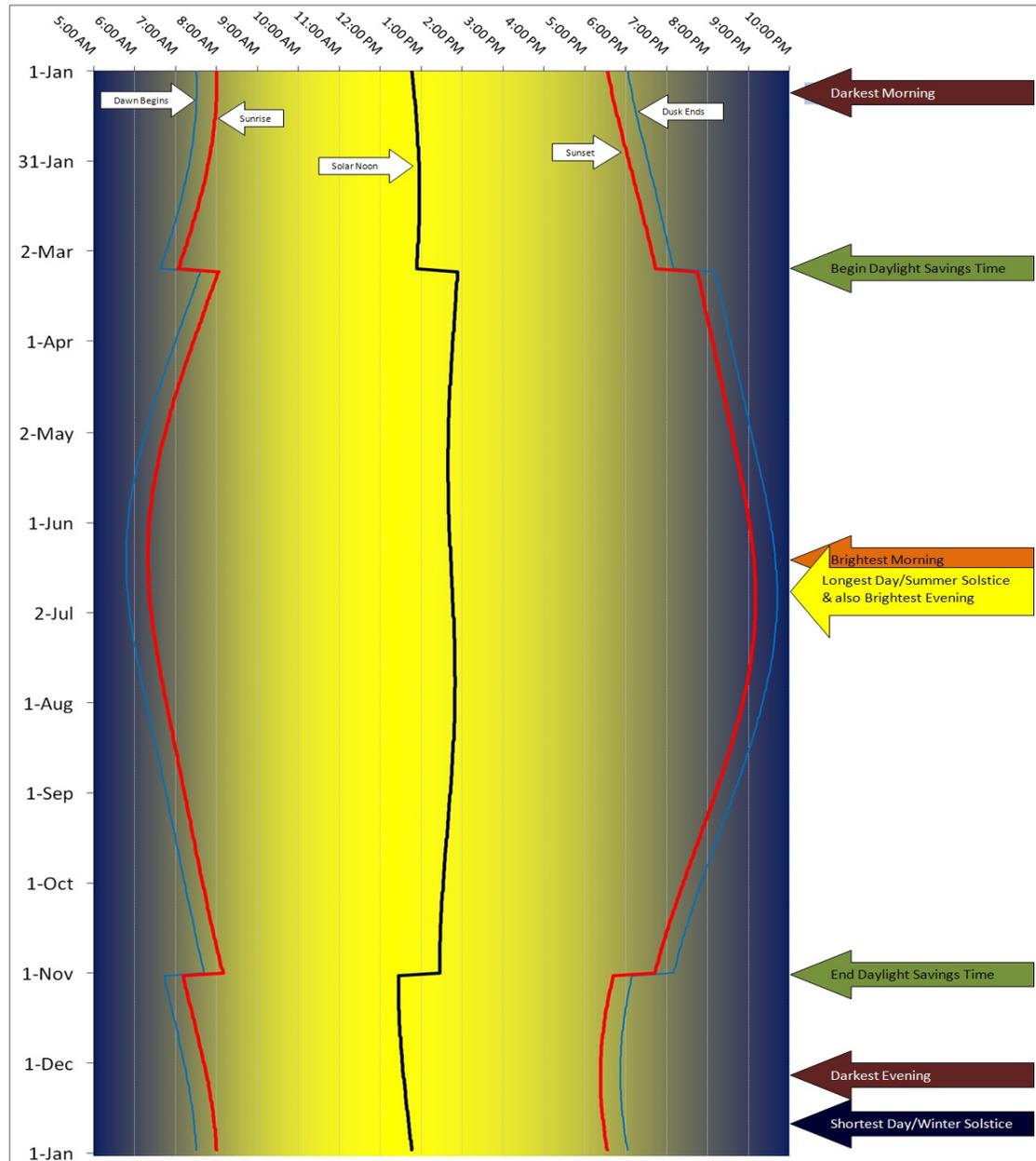
About Daylight

By: Chris M. Graney, Otter Creek Observatory

Do you know when the darkest day of the year is – when the days are shortest? If you said “around Christmas” you are correct – the days are shortest near the “Winter Solstice” (around December 22). At the Solstice the Sun is as far south in the sky as it gets, passing directly overhead for people living in countries like Paraguay, Botswana and Australia. People in those countries see the most daylight of the year around December 22, while we here in Kentucky see the least.

Now, do you know when the darkest evening of the year is? How about the darkest morning? Would you be surprised to find out that those do not occur on the darkest day? In fact, the darkest evening (when the Sun sets earliest) occurs in early December, while the darkest morning (when the Sun rises latest) occurs in early January. Why is this?

Thanks to a combination of factors such as the Earth’s axis of rotation being tilted relative to the plane of its orbit and the Earth’s orbit being slightly elliptical, over the course of a year the entire period of daylight is shifted forwards and backwards against our standard time. The effect is not huge – less than forty-five minutes over the course of an entire year.



But it does cause the times of sunrise and sunset to be later or earlier regardless of the length of daylight.

This first chart shows the times[+] of Sunrise and Sunset for Louisville, Kentucky for the year 2008. It also shows the time of “solar noon” – or “mid-day” – the time at which daylight is half over. The solar noon line shows how the period of daylight is shifted. For example, the solar noon line is furthest to the right in late July/early August, indicating that the daylight period is shifted toward later hours during that period of the year. Also visible on the chart are jumps in the lines indicating the beginning and ending of Daylight Saving Time. The Dawn line indicates when the sky first begins to brighten with morning twilight. The Dusk line indicates when the sky finally becomes dark.

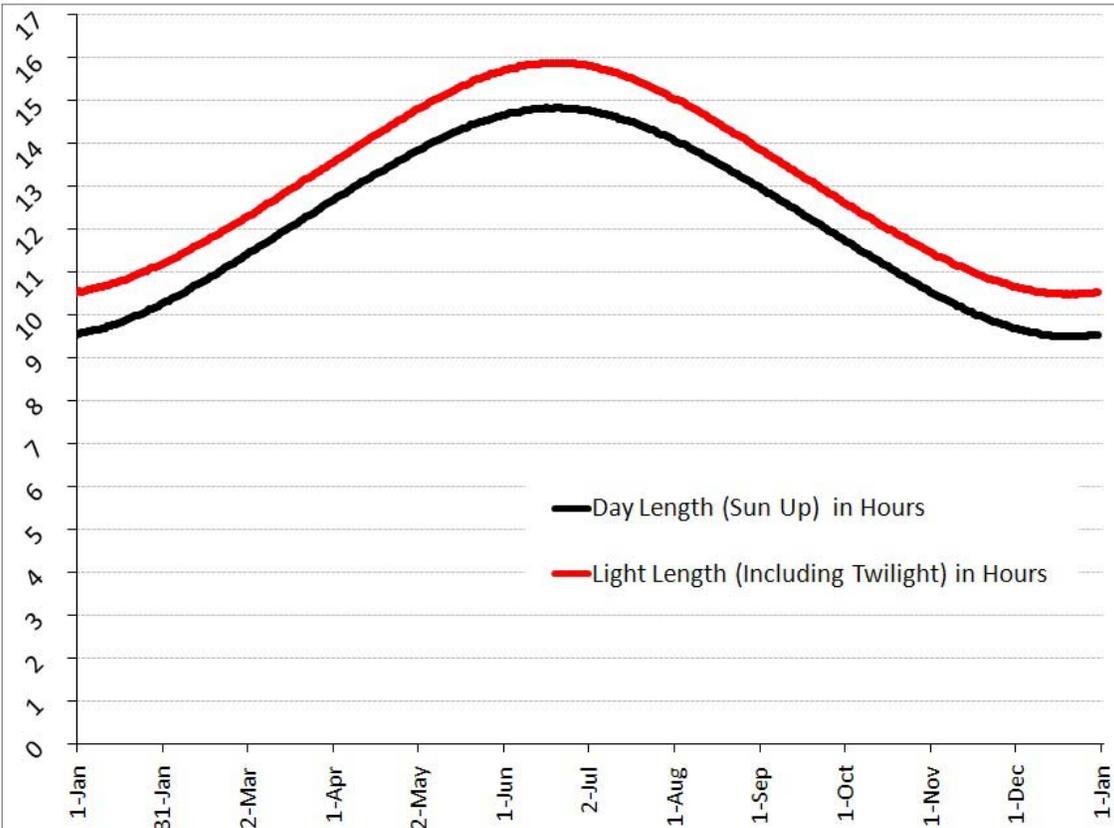
Notice that the winter extremes of Darkest Evening, Shortest Day, and Darkest Morning are spread

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over the period from early December through early January. Throughout November and up until early December the days are getting shorter and the morning and evenings darker. But in early December the evenings stop getting darker. In the Louisville area the earliest sunset is around 5:23 PM, and it hovers around this value throughout the first week and a half of December. But then the evenings brighten. By Christmas there are roughly six more minutes of daylight in the evening than there were in early December. However, while the evenings start to brighten as December passes, the length of day continues to shorten because the morning is darkening faster than the evening is brightening. While we gain six minutes of light in the evening by Christmas, we lose over ten minutes of light in the morning, meaning the day is shorter. After Christmas we gain evening brightness faster than we lose morning brightness (so the days are getting longer), but we don't reach the darkest morning until early January. Between Christmas and New Year's Day we gain four minutes of light in the evening while losing two in the morning. Only after January is almost a third over does the sun start rising earlier, and we start to see both brighter evenings and brighter mornings.

By contrast, the summer extremes of Brightest Evening, Longest Day, and Brightest morning all occur within a week of each other. Up through the middle of June the days are getting longer and morning and evening are both getting brighter.



The Summer Solstice (Sun as far north as it gets) occurs around June 22, and after the end of June the days are getting shorter and both morning and evening are getting darker.

The second chart shows how the length of the day changes over the course of the year. In the winter the days are shortest, at about nine and a half hours. In the summer the days are longest, at almost fifteen hours. That's a difference of over five hours!

There is a lot of science and math in just simple daylight! To learn more about the sun,

the seasons, daylight and time, come to Otter Creek Observatory. The observatory is located near Fort Knox, Kentucky. Visit www.ottercreekpark.org or www.jefferson.kctcs.edu/observatory for more information, including a schedule of public hours.

This article is adapted from a version published in the December 2007 Otter Creek Observatory Observer newsletter (www.ottercreekpark.org).

[+] Data used in this article come from the US Naval Observatory (<http://aa.usno.navy.mil/data/>).