JANUARY 1-14, 2016 NATURAL HISTORY NOTES FOR EASTVIEW
By Dick Harlow
SUNRISES/SUNSETS

Have you ever wondered about sunrises and sunsets and why the sky turns different shades of red or why you basically only see orange, yellow and pinks?

October Sunrise at EastView Photo © Dick Harlow

Portage Inc. has a good explanation for this phenomenon. Here is their explanation:

"During sunrise and sunset, when the sun lies low on the horizon, the rays of sunlight must pass through almost 30 percent more area of atmosphere than they do during the day, and a higher number of atmospheric particles, dust or water vapor, before the rays reach us."

November Sunset at EastView Photo © Dick Harlow

"The shorter violet and blue wavelengths of light scatter away from our field of vision. However, the longer wavelengths of light do not scatter as much and the sky becomes filled with yellow, orange, pinks and reds. Red has the longest wavelength in the visible spectrum, so when the sun lies on the horizon, it appears red. During a rainstorm, the water vapor in the air acts like a prism, separating light by the various wavelengths. This is why we see rainbows. The angle is important to seeing the separate colors, which is why when we move, the rainbow appears to move."

Our eyes see colors specifically, green, blue, yellow, rather then realizing that the color we see is dependent on the path that the light has gone to get to our eyes. Also, we need to understand that what we see or view is reflected light. Therefore, what we experience along with the science, is unique to us, what we see is unique to our eyes, our brain and our perceptions.

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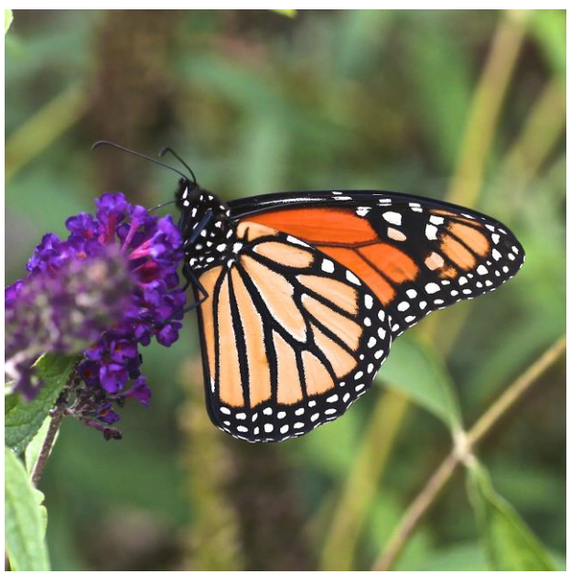
December Sunset after a storm at EastView.
Photo © Dick Harlow

Tuesday, December 22 was the Winter Solstice for 2015 and after December 29th daylight began to lengthen a tad longer each week!

GOOD NEWS, IN PART, FOR MONARCHS

The Monarch Butterfly life cycle depends on being able to find food for the adult, the opposite sex for mating, and to attach eggs on a piece of vegetation that will provide food for the young hatching caterpillars. What we call weeds are to some insects their life-blood, their path to survival!

All of this was put at risk with the advent of a weed-killing cocktail called "Enlist Duo" a product of Dow AgroSciences, which is similar to Monsanto's Roundup. This herbicide cocktail was designed to combat weeds that have developed a resistance to Roundup.



Monarch, *Danaus plexippus*, necturing from Buddleja
Photo © Dick Harlow

If you are concerned about the decline of Monarch Butterflies and their survival and want to know more of why they are at risk, please read this short article.

http://www.takepart.com/article/2015/11/25/epa-bans-weed-killer-gmo-crops

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CONIFERS

White Spruce, *Picea glauca* Photo © Dick Harlow

What is a conifer? Simply, a conifer is a tree or shrub that produces cones. Examples would be Red Spruce, Balsam Fir, Bald Cypress, White Pine, Redwoods out west or Cedars. Technically a conifer is a cone-bearing woody seed plant. Most conifers are trees, but there are some shrubs that are also conifers such as dwarf firs, spruce and low growing junipers. Most conifers are evergreen, although there are some such as the Larch that loses its needles each Fall.

The biome, a large biological or ecological zone, where the dominant plants are conifers, is called Taiga and found throughout the world in both the northern and southern hemispheres. Conifers are found in all ecotypes, but are the dominant tree in these northern and southern cold belts around the globe. In this zone conifers are the most common, even though there may be a mix of different deciduous trees and shrubs. Conifers are considered softwood, which is used for timber and to make paper; however there are obviously some conifers whose wood is more dense, e.g. hemlock and yew.

Red Pine Cone, *Pinus resinosa*
Photo © Dick Harlow

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Red Cedar, *Juniperus virginiana*
Photo © Dick Harlow

Looking back into the evolution of our planet, conifers were one of the first seed plants and they were considered the primary food source for herbivorous dinosaurs. However, as flowering plants evolved they overtook conifers and pushed conifers to dominate the colder northern and southern reaches of each continent; near the Arctic and Antarctic regions.

Weather Tidbits

JANUARY 1-14, 2016

All Measurements taken at solar noon (1130 EST).

PRECIPITATION

Precipitation was: 7.4 mm or 0.29 inches.

Overcast Days: 7

WIND

Highest wind: 38 MPH, 10 JAN. Direction: South

Average Wind speed: 4.2 mph,

Dominate Wind Direction: South

Days w/wind gusts 20-29 MPH: 7

Days w/wind gusts 30 MPH or greater: 2

TEMPERATURE

Mean Temp: -4.7 C^0 23.5 ^0F

High Temp: 15.3 C^0 59.5 ^0F

Low Temp: -17.9 C^0 -0.22 ^0F

0.0 C^0 - Temperature Days: (32^0F)

MIN <0.0. = 6

MAX <0.0 = 12