

Aurora Borealis (Northern Lights)

Excerpts from: Asahi Aurora Classroom, Alaska Geographic



Years ago I spent the summer working at Denali National Park where I met an old 'Sourdough' (An Alaskan who has had many years of experience in the 'Last Frontier'). This Sourdough started to tell me about his experiences with the 'Northern Lights'. He had spent the winter alone at his cabin up by Denali that year and he swore that the northern lights spoke to him and danced for him. This was my first introduction to the phenomenon called the aurora borealis, or the northern lights. Since that time I have had the awe-inspiring experience of watching the northern lights dance on many occasions. Did they ever speak to me? No, but I can almost believe that they could have; and that maybe they spoke to him that winter in Denali.

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MushHusky!

Aurora Borealis: Named after the Roman goddess of the dawn, Aurora, and the Greek name for north wind, Boreas, since in Europe especially, it often appears as a reddish glow on the northern horizon as if the sun were rising from an unusual direction.

Aurora Borealis _____ Aurora in the Northern Hemisphere
Aurora Australis _____ Aurora in the Southern Hemisphere
Anders Jonas Angstrom _____ Discovered the auroral spectrum is different from the solar spectrum.
The Auroral Oval _____ Occupies a belt bounded by the 60⁰ - 70⁰ latitude circles, on average.
Colors _____ The colors of the aurora come from oxygen and nitrogen gas.
Oxygen _____ Produces both green light and a brownish red.
Ionized Nitrogen _____ Produces bluish light.
Excited Nitrogen _____ Produces red light.
Colors and Altitude _____ Highest part of the auroral is red, middle is greenish, lower is pink.
Homogeneous _____ At its least active.
Rayed Arc _____ Slightly more active.
Active Aurora _____ May form folds from 10-100 miles wide as they swirl and move.
Rising Vapor Column _____ Appears to rise like smoke.
Corona _____ Appears as rays shooting in all directions from a single point in the sky.
Aurora _____ When the solar wind blows past the magnetosphere it generates as much as a million megawatts of electricity. A small part of this electricity causes discharge in the polar upper atmosphere and creates light much in the same way a neon sign creates light. This is the aurora.

Awesome web sites to help you in your study of the Aurora Borealis:

www.exploratorium.edu/learningstudio/auroras/

www.oso.noaa.gov/poes/

www.sec.noaa.gov

www.thursdaysclassroom.com/index_18may00.htm

www.eagle.ca/~matink/themes/Physphen/aurora.html

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