

9 September, 2009

Global Monitoring Division Hot Items

Solar Position and Timing for the World

Global Monitoring Division - ESRL-GMD

This story entered on 9th Sep, 2009 09:40:11 AM PST

Popular NOAA Solar Calculator Web Site Updated: The widely accessed NOAA public Sunrise/Sunset and Solar Position Calculator web pages (6,000 users in August 2009 alone) are sporting a new look with added functionality making them easier to use. The new calculator benefits from NOAA's licensing of Google Earth and Google Maps API, and allows users to pinpoint their desired location on the familiar Google map interface. Accurate latitude and longitude coordinates are then combined with the user's desired date and time values to generate estimates for sunrise, sunset, solar noon and the position of the sun in the sky. Additional improvements allow users to save favorite locations and to plot the directions of sunrise, sunset and current solar position directly on the map.

Background: The NOAA Sunrise/Sunset Calculator web page debuted 10 years ago as an internal tool for NOAA solar radiation researchers to know the time of solar noon to align sensitive instrumentation. When the web pages were made available to the public, people from around the world started using the calculations for a wide variety of work and hobby applications. Over the years, the solar calculators have been used for planning deep sea fishing trips, timing religious celebrations, designing natural lighting and passive solar heating in buildings, and even science fair projects.

Significance: The Solar Calculator is the fourth most accessed NOAA web page. Unsolicited comments from users (from 100s received) tell their own stories:

An ecologist studying how albacore tuna behavior changes by time of day and night;

The fire department manager of a town in Ohio, who was scheduling training for the year;

A movie maker on the West Coast, who needed to line up and time a sunset shot;

A green architect who wanted to know the angles of the Sun, by season, to help decide how to best construct a passive solar building;

A small business owner who ran deep-sea fishing trips and wanted to know when to expect sunrise and sunset.

More information: <http://www.esrl.noaa.gov/gmd/grad/solcalc/>

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