

ORDER FORM: SOLAR AND SUNSHINE DATA

AUGUST 2011

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Attn: USER ENGAGEMENT AND SERVICES BRANCH
c/o National Climatic Data Center
151 Patton Ave
Asheville, NC 28801

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This form or photocopies may be used to order offline items listed. To order, enter price in blank provided, listing cities or months where appropriate. Call to confirm availability of city desired.

SUNRISE/SUNSET TIMES

The National Climatic Data Center does not provide official sunrise/sunset times. Solar and lunar tables and sunrise/sunset times may be acquired by accessing the U.S. Naval Observatory's web site at: http://aa.usno.navy.mil/data/docs/RS_OneDay.php
For legal purposes, please refer to "Astronomical Data Used for Litigation" at: <http://aa.usno.navy.mil/faq/docs/lawyers.php>

SOLAR RADIATION AVERAGES

- 1. Mean Daily Solar Radiation, monthly and annual maps (p. 69 from Climate Atlas of the United States, 1931-60), 1 ea. (Prices are subject to paper copy price list.) \$23.00
 - 2. Annual Average Daily Global Solar Radiation on a South Facing Surface (1952-75) 1 map. Order Environmental Information Summary C-21, "Annual Average Climatic Maps of the U.S." Free
 - 3. Insolation Data Manual (1952-75) Contains temperature and degree day statistics, monthly mean solar radiation, and a global cloudiness index.
 - 4. Direct Normal Solar Radiation Data Manual (1952-75) long term, monthly mean, daily totals for 235 National Weather Service Stations.
- These two publications (Numbers 3 and 4 above) have been combined into one volume without modifications and are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia, 22161. Telephone number 1-800-553-6847. Order number DE90000353.

National Solar Radiation Data Base (NSRDB) and Update:

Solar and Meteorological Surface Observational Network (SAMSON) – The National Solar Radiation Data Base (NSRDB) was released on a set of 3 CD-ROMs including hourly observational and modeled solar radiation data and selected meteorological elements from 1961-90 for 237 U.S. stations. Also available for individual U.S. regions (Eastern, Central, or Western) at \$35.00 each. Cost for entire set: \$105.00. For more information see our CD-ROM Products price list.

1991-2005 Update – Updated data for the National Solar Radiation Data Base for 1991-2005 can be found on the following FTP site:

<ftp://ftp3.ncdc.noaa.gov/pub/data/nsrdb>
Documentation can be found at: <ftp://ftp3.ncdc.noaa.gov/pub/data/nsrdb/documentation>

SOLAR RADIATION MEASUREMENTS

1. Surface Radiation Budget Network (SURFRAD)

<http://www.srrb.noaa.gov/surfrad/index.html>

The Surface Radiation Budget Network (SURFRAD) was established in 1993 through the support of NOAA's Office of Global Programs. The SURFRAD's primary objective is to support climate research with accurate, continuous, long-term measurements of the surface radiation budget over the United States. Independent measures of upwelling and downwelling, solar and infrared are the primary measurements; ancillary observations include direct and diffuse solar, photosynthetically active radiation, UVB, spectral solar, and meteorological parameters made at 37 stations. Data can be downloaded at the web site.

2. Integrated Surface Irradiance Study (ISIS) Network

<http://www.srrb.noaa.gov/isis/index.html>

A collaborative network to SURFRAD is the Integrated Surface Irradiance Study (ISIS) network which consists of nine stations. Data can be downloaded from this web site.

3. U. S. Climate Reference Network

<http://www.ncdc.noaa.gov/crn/>

The U.S. Climate Reference Network (USCRN) consists of 114 stations developed, deployed, managed, and maintained by the National Oceanic and Atmospheric Administration (NOAA) in the continental United States for the purpose of detecting the national signal of climate change. These stations were designed with climate science in mind. In addition to temperature and precipitation, these stations also measure solar radiation, surface skin temperature, and surface winds, and are being expanded to include measurements of soil moisture, soil temperature, and atmospheric relative humidity.

4. Solar Radiation and Radiation Balance Data (The World Network)

Contains year-to-year monthly and annual means of global solar radiation, radiation balance and sunshine duration for the periods 1964-1968, 1969-1973, 1974-1979 and 1980-1984. Available for many worldwide locations. Call to confirm availability of specific cities.

- 1-10 cities (per period) (APPROXIMATE PRICE): \$ 15.00
- entire publication 1964-1968: \$125.00
- entire publication 1969-1973: \$ 40.00
- entire publication 1974-1979: \$ 45.00
- entire publication 1980-1984: \$ 40.00

TOTAL FROM FRONT PAGE:

\$ _____

5. a) "Solar Radiation Data, Monthly Summary" (1977-1980). Monthly publication is out of print, but is available as photocopies
List Months: _____

b) Hourly Solar Radiation (unedited) (January 1981 - October 1985) (This is a continuation of the above data but editing for quality control was suspended with the publication in December 1980). List months: _____

c) Hourly Solar Radiation Data (edited) (January 1988 - _____). Global and direct solar radiation data are collected for the 31 station NOAA Solar Radiation Network. List months: _____
Data from individual stations can be provided on paper copies. (2 pages per month per station.) Call or write to confirm availability of data from specific stations and for cost estimate.

SUNSHINE AVERAGES

1. Comparative Climatic Data (updated annually) Contains average percent of possible sunshine: monthly and annual tables for 275 large U.S. cities. (Average period from 1940s - 2000s: Sunshine averages no longer updated for most cities.) (\$6.00 paper copy ordered online) (Free access online)

2. Selected Maps from the Climate Atlas of the United States (1961-90) contains maps for 20 of the more frequently requested products from the Climate Atlas CD-ROM. Includes the following maps:

Mean total hours of sunshine (Annual)

Mean sunshine percentage (Annual)

Available from: <http://www.ncdc.noaa.gov/oa/mpp/freedata.html#Free> Select "Free Data D: Climate Maps of the United States"; "2. Selected Maps Publication"

3. Mean Sunshine Percentage (% of possible), and Mean Sunshine Total Hours (monthly and annual maps)

Available from: <http://cdo.ncdc.noaa.gov/cgi-bin/climaps/climaps.pl>

Choose "Quick Search", "Sky Cover/Visibility", and "Mean Sunshine Percentage" or "Mean Sunshine Total Hours"

REFERENCE MANUALS (Contain no actual or average data)

1. "Solar Radiation Data", Environmental Information Summary (EIS) C-18 (1980) 14 pages

(Free)

2. History of Sunshine Data in the US, 1891-1980

(Historical Climatology Series 2-2)

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*TDD = Telecommunications Device for the Hearing Impaired.