

# EarthSun 4.3 - November 1st, 1994



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# What is EarthSun?

**EarthSun** is a shareware MicroSoft Windows 3.x program that displays the current sunlit-side of the Earth in an icon. You also have the option of showing the Earth as seen from a point in space directly over where you live, so you can watch the advancing and retreating shadow traverse the globe.

You can specify the icon's title to display the current time and/or date in **many** different formats, as well as changing the icon's background color and rotation direction. **EarthSun** even adjusts **automatically** for daylight savings/summer time for users in the United States, the UK, and Europe.

**EarthSun** can display an analog clock, complete with options such as hand and face color, and hand size and shape. If you need to be reminded of important times and appointments, there is also an alarm feature where you can set up to three different alarms. Double-clicking on the icon displays the very-informative Sun and Moon info screen that shows today's Sun and Moon rise and set times, along with the current position of each body in the sky. The current *lunation cycle* is also displayed here, showing the dates and times of each lunar phase from one New Moon to the next.

**EarthSun** can also be a talking clock/calendar if you have a sound card installed in your computer. This feature will "speak" the time and/or date whenever you ask for it, "read" your alarm descriptions to you, and can also play .WAV files at specified intervals if your computer supports sounds. Finally, for international and non-English speaking users, the icon title can be displayed in any one of **many** supported languages.

## Installing EarthSun

- Simply use the Program Manager to create a New Program Icon in the group of your choice and set the ***Working Directory*** to the subdirectory where you installed the rest of the program files. You may place the files in the subdirectory of your choice, but the software **must** be able to find it's EARTHSUN.INI file there.
- If it cannot find the .INI file, then the *About* box will be displayed *each and every time* you start **EarthSun**. See the Troubleshooting section for more information.
- I also recommend placing the Program Icon in the **Startup** group so it loads every time you start Windows.
- If you don't already have the file **BWCC.DLL**, make sure you copy it to your Windows system subdirectory and erase any other older copies of it. This file **must** be available for **EarthSun** to run. See the file BWCC.TXT for more information.

# Configuring EarthSun

● Before you can use **EarthSun**, you need to tell it where you live and how to adjust for daylight savings time. You can also select **many** different options as well. Select the following links for more information:

[Selecting the Language](#)

[Viewing Perspective](#)

[Setting your Time Zone](#)

[Adjusting for Daylight Savings/Summer Time](#)

[Animating the EarthSun icon](#)

[Background/Text Colors/Hatch Styles](#)

["Always on top" feature](#)

["Preserve icon's screen position" feature](#)

Once you have set all the above options, you'll need to use the [Your Location](#) dialog box to set your latitude, longitude and altitude so the [Sun and Moon info](#) screen works correctly.

You will also want to have a look at how you can [change the icon's title](#). If you're interested in seeing other parts of the world while viewing your location, the [multiple instances](#) section explains how to set up more than one **EarthSun** icon at a time.

## *Your Location* dialog box

The **Your Location** dialog box allows you to enter your location's longitude, latitude, and altitude. This is necessary for the Sun and Moon info screen to work correctly. Type in your city's name in the *City* field, and enter your location in the *Longitude*, *Latitude*, and *Altitude* fields. Use the following links to see a table of these values, and find your city or use one that's nearby:

[USA - Alabama to Montana](#)

[USA - Nebraska to Wyoming](#)

[European Cities](#)

[Australian Cities](#)

[Other World Cities](#)

Note that all United States cities are located in the Northern and Western hemispheres, and that the tables list the altitudes in meters instead of feet.

● If you are on the Internet and have TelNet access, there is a weather server available that lists the latitude and longitude of most of the world's cities. It also displays a great deal of other information as well, and is an interesting and recommended site for "Net surfers". The server is called **[martini.eecs.umich.edu](http://martini.eecs.umich.edu)** and the port number is **3000**. It's IP address is **141.212.196.79**.

Next, you may want to use the *Horizon Obstruction Adjustment* fields if you have objects such as buildings or hills near your location. These prevent a clear view of the horizon and affect the exact time of Sun and Moon rise and set times. Normally you enter a positive number, say 30 or 45 seconds, in these fields, but if you are near the top of a very large hill and look down at either horizon, a negative number may be used.

The *Adjust for atmospheric refraction* check box is mainly for amateur astronomers who need precise sky locations for the Sun and Moon. Un-check this box if you require more accurate altitude determinations, but most people should just leave it checked **on**.

The *Twilight Times* box of radio buttons determines how you wish to calculate the beginning of morning and the end of evening twilight. Since "dark" is a rather arbitrary term, twilight is officially determined as the time at which the center of the Sun is 18° below the horizon. The difference between this time and sunrise/sunset is then divided into 3 equal periods, with one period for each of three different purposes.

For most people, the default value of *Civil* should be used, since this is the time at which it's too dark for most ordinary outdoor activities to continue without artificial lighting. Civil twilight is the time at which the center of the Sun is

6° below the horizon.

Ocean-going vessels use the *Nautical* twilight time calculation to define darkness. When the Sun is 12° below the sea horizon, ship captains can no longer distinguish the night sky from the surface of the water.

It is still too light outside for taking photographs of the stars and planets at this point, so *Astronomical* twilight is used for astro-photographers. The Sun must be 18° degrees below the horizon for the night sky to be totally dark and ready for capturing the wonders of space on film.

Finally, the *24-hour format* check box in the *Sun/Moon times* area lets you change the display of the time values on the Sun and Moon info screen. Click this **on** to show them in 24-hour (military) format, or leave it unchecked for 12-hour format.

## Viewing Perspective

● **EarthSun** can display the icon in either of two ways: show the current half of the Earth that is illuminated by the Sun, or show the Earth as seen from a point in space directly above where you live.

Normally, the icon "rotates" slowly throughout the day, always showing a full view of the half of our planet that is currently facing the Sun. Only one half of the Earth is ever illuminated at any one time. In the morning, you can watch your location appear on the far left, or western, side of the icon. At noon, your location will be shown near the center. Finally, at nightfall, the spot on Earth where you live will rotate out of view of the Sun and will appear on the far right, or eastern, side of the icon as the Sun sets in the West.

Clicking the *View from Darkness Perspective* button, however, will show the same icon of the Earth all day long. Note how the other buttons in the box are only active when this check box is on. The icon now represents the view as seen from space looking down on your location. As the hours pass, you will see a "shadow" advance over the icon. This shadow represents the advancing and retreating darkness that seems to move as the Earth spins. In the morning, the edge of the shadow will be on the left, or western, side of the globe. At noon, the shadow will be gone since the Sun is high in the midday sky. During the afternoon, the shadow will once again appear, but this time from the right, or eastern, side. At sunset, the Earth will be half covered in sunlight and half covered in shadow, with the *terminator* running down the center of the icon and directly over your location. The shadow deepens during the night until midnight when the entire icon is in total darkness. As dawn approaches, however, sunlight reappears on the eastern side, heralding the start of a new day.

● For more interesting and educational information, see the [tricks](#) section for suggested configurations of **EarthSun**.

## Setting your Time Zone

● **EarthSun** must know the **time zone** in which you live to display the icon properly. The default is the Eastern Standard Time time zone, which is valid for cities in the United States such as New York City, Boston and Miami. If you live in another time zone, you must select it yourself.

● When you first run **EarthSun**, the program's *About* box appears. Here you'll find the list box *Your Time Zone* containing all of the world's time zones. Simply select the one in which you live. For more adventurous users, see the tricks section for information on how to use the *Other View* fields.

If you live in an area that has a difference of 30 minutes from the surrounding time zone, click the *30 min* check box **on** and your time will be adjusted appropriately.



## Adjusting for Daylight Savings/Summer Time

● There is a list box if you want the **Daylight Savings Time** (Summer Time) adjustment applied or not. Simply select the region in which you live. If you select *Manual*, the daylight savings time adjustment will be applied **regardless** of today's date. This means you must change this list box selection twice a year when the time changes. You also need to select this option if your region is not listed below. Tables that list the daylight savings time start/stop dates for the other regions follow below. If you select one of these, the daylight savings time adjustment will be applied or not-applied **automatically** based on today's date. All daylight savings time adjustments subtract 1 hour from the current time. Note that for some Australian cities, especially those in the Central Time Zone, the start and end dates of Daylight Savings Time are subject to change from year to year.

### United States:

1994 - Start: April 3rd	End: October 30th
1995 - Start: April 2nd	End: October 29th
1996 - Start: April 7th	End: October 27th
1997 - Start: April 6th	End: October 26th

### UK:

1994 - Start: March 27th	End: October 23rd
1995 - Start: March 26th	End: October 22nd
1996 - Start: March 24th	End: October 27th
1997 - Start: March 23rd	End: October 26th

### Europe:

1994 - Start: March 27th	End: September 25th
1995 - Start: March 26th	End: September 24th
1996 - Start: March 24th	End: September 22nd
1997 - Start: March 23rd	End: September 28th

### Australia:

1994 - Start: March 13th	End: October 30th
1995 - Start: March 12th	End: October 29th
1996 - Start: March 10th	End: October 27th
1997 - Start: March 9th	End: October 26th
1998 - Start: March 8th	End: October 25th

● If you live in one of these regions and the above dates are incorrect, OR if you live in another region not listed above, please contact me with the correct dates so I can update my software.

## Animating the EarthSun icon

● You can also select an **update interval** for the **EarthSun** icon. The default is *Real-Time*, which shows the current sunlit side of the Earth. Other values are available to **animate** the icon, displaying a new icon once every update interval. The values you may choose from are once every second, once every five seconds or once every ten seconds.

You can also have the icon **rotate** in the normal forward direction, or in reverse. Just click on the appropriate radio button.

## Changing the icon's title

● You can change the **title** beneath the icon to whatever you like. More importantly, you can have the time and/or date displayed here as well.

The *About* box has the default icon title set to `~1~a~w~m~d~o`, which is a special "code" to display the current time in 12-hour format, have either "am" or "pm" displayed after the time, show the day-of-the-week in 3 letters, show the month in 3 letters, and show the day-of-the-month followed by "st", "rd", etc. For example, "9:05pm Sat Feb 5th". Note how you can add spaces between the various options to cause them to "wrap" down to the next icon title line, if desired.

● If you prefer, you can change the title to be just a simple word or two, like "Earth" or "Earth's Sunlit Side". This may be necessary to work with some screen savers.

All the available options are listed below:

- ~1 = 12-hour format
- ~2 = 24-hour format
- ~a = "am" or "pm"
- ~A = "AM" or "PM"
- ~p = "a" or "p"
- ~P = "A" or "P"
- ~w = Weekday name as "Mon", "Tue", etc.
- ~W = Weekday name as "Monday", "Tuesday", etc.
- ~m = Month name as "Jan", "Feb", etc.
- ~M = Month name as "January", "February", etc.
- ~h = Month number (1-12)
- ~d = Day of the month number (1-31)
- ~y = Year as "94", etc. (Year without the century)
- ~Y = Year as "1994", etc. (Year with the century)
- ~o = Ordinal suffix of "Day of the month" as "st", "nd", "rd", "th",  
etc. (as in 1st, 2nd, 3rd, 4th, etc.)
- ~L = Language name (useful with *Random language* check box)
- ~l = Language name abbreviated to first 3 letters
- ~i = Available Daylight ("15 hours, 38 minutes, 2 seconds")
- ~I = Available Daylight difference from yesterday
- ~r = Sunrise time in hh:mm:ss format
- ~s = Sunset time in hh:mm:ss format
- ~V = Moon Visibility ("Evening to Dawn")
- ~z = Moon Phase ("Full Moon")

NOTE: See the Sun and Moon info screen for more detailed solar and lunar information.

*Example icon titles:*

**Title:**

~2 ~W ~m ~d~o

~1~A

~w ~M ~d ~Y

~y.~h.~d

~W ~M ~d~o (~l)

~z - ~V

Earth

**Displays as:**

21:05 Saturday Feb 5th

9:05PM

Sat February 5 1994

94.02.05

Saturday February 5th (Eng)

Full Moon - Evening to Dawn

Earth

- Feel free to experiment with different combinations!

## Background/Text Colors and Hatching

● You can select one of 16 different **background colors**. The default is black, but you can select another color if you prefer. Also, the "transparent" color allows you to display the Earth with no background, appearing on top of whatever is beneath it.

You can also select the color of the text that the Sun and Moon info screen uses. By selecting the proper background and text colors, you can make this screen very easy to read. Note that "transparent" selections default the background to black and the text to light gray.

The *Hatch Style* list box allows you to specify different "cross-hatch" styles for the background. Normally, the background is one solid color, but you may choose one of six hatch patterns if you like.

## "Always On Top" feature

● You can click the *Icon is always on top of windows* button **on** to have the **EarthSun** icon stay visible when other windows are covering it. When on, the icon will always appear "on top of" the other windows instead of being "hidden" beneath them.

## "Preserve icon's screen position" feature

● You can click the *Preserve icon's screen position* button **on** to have the **EarthSun** icon remain in the same position on the screen the next time you start Windows. Usually, icons appear beside each other on the bottom of the screen in the order that they are listed in the Startup group. This option, however, lets you move the icon to any place on the screen and it will appear there instead of with the other icons.

## Multiple Instances

Microsoft Windows™ allow you to have **multiple instances** of a program running at the same time. [EarthSun](#) supports this as well and is an interesting feature for viewing more than one location at a time.

For instance, say you live on the East Coast of the United States and you want to see your location as well as the view from England. You can set [EarthSun](#) to have two icons on your screen at the same time, one that represents the view from the East Coast and one that represents the view from England. The first step you need to do is to install [EarthSun](#) in two separate locations on your computer's hard drive. Next, create two separate Program Icons using the Windows Program Manager. In the first one, enter the full pathname to the first place you installed [EarthSun](#), set the *Working Directory* to that subdirectory, and name the icon something like "EarthSun - East Coast". In the second icon, enter the full pathname to the second place where it's installed and name it "EarthSun - England". This way, there are two separate EARTHSUN.INI files on your system, so each one can now be configured in it's own way. See the [Troubleshooting](#) section if you need more help installing [EarthSun](#).

You should now have two Program Icons, one for the East Coast and one for England. You now go into the [About](#) box for the East Coast icon and set it up appropriately, namely set the *Your Time Zone* field for Eastern Standard Time. Next, do the same for the England, setting the field for Greenwich Mean Time. If you did everything correctly, you will now have two views of the Earth, each seen from a different point on the planet. This feature is most noticeable if the [View from Darkness Perspective](#) is **on** for each icon, since it will show the same shadow from two different points.

● Experiment with different combinations of [settings](#), [languages](#) and [time zones](#). [EarthSun](#) is not only informative by showing you the current time and date, but it's main purpose is to be entertaining and educational. See the [tricks](#) section for more ideas on how to get the most out of [EarthSun](#).



## *Sun and Moon info* window

● When you double-click the **EarthSun** icon, or select the **Sun and Moon info** window, the current date, time and icon are displayed in a full-screen window and updated once a second. More importantly, however, a great deal of information about the Sun and Moon rise, transit, and set times for your location are displayed. Make sure you have used the Your Location dialog box before examining this screen.

Among the values displayed are the twilight start, end and length times, and the amount of available daylight and the difference in daylight from yesterday. The *azimuth* (location on the horizon) and *altitude* (height above the horizon) for the rise, *transit* (time of highest altitude), and set times for both the Sun and the Moon are shown as well. If the Sun or Moon is above the horizon (in the sky), it's current location is displayed.

Detailed information about the Moon is provided, showing the current phase and when to look for the Moon in the sky. The *moon fraction*, or percentage of the Moon that is lit by the Sun as seen from Earth, is displayed, as is the Moon's age (amount of time since the last New Moon) and the orbit position in degrees (zero degrees represents a New Moon). Finally, the current *lunation cycle* is shown, displaying the dates and times of each lunar phase from the previous New Moon to the next.

When you are finished reading, press the Minimize button in the upper right corner to shrink the window back to the **EarthSun** icon.



## EarthSun and Screen Savers

● In the default configuration, **EarthSun** displays a clock beneath the icon. Since this will automatically update the icon's title once per minute, this may cause some **screen savers**, which can sense such activity, to never activate. I've had reports that the *After Dark*TM screen savers work fine with **EarthSun**'s defaults, but the Windows built-in screen savers are known to be a problem. *After Dark*TM v3.0 screen savers also preclude **EarthSun** from staying "on top of" that program. Try loading *After Dark* **before** loading **EarthSun**.

● A simple solution is to change the *Icon Title* field in the *About* box to a simple word or group of words, such as "Earth" or "Earth's Sunlit Side". You will not be able to show the time in **EarthSun**'s title (although you could still display the date), but your screen savers should work again. Consider using the clock feature if you want to show the time in the icon.

## Other related programs

● If you enjoy [EarthSun](#), look for these other icon-programs:



[MoonIcon](#): Filename MOONICxx.ZIP; a Windows icon that shows the current phase of the Moon.



[MarsIcon](#): Filename MARSICxx.ZIP; a Windows icon that shows the current view of the planet Mars.

● [GRedSpot](#): Filename GREDSpxx.ZIP; a Windows icon that shows the current view of the planet Jupiter, it's Great Red Spot, and the 4 Galilean moons Io, Europa, Ganymede and Callisto.



[SolSys](#): Filename SOLSYSxx.ZIP; a Windows icon that shows the current relative position of the nine planets in our Solar System.

All four have been released and are available at the Internet FTP sites [oak.oakland.edu](ftp://oak.oakland.edu), [ftp.cica.indiana.edu](ftp://ftp.cica.indiana.edu), and their mirrors around the world, the Software Creations BBS, (508) 365-2359 (2400,N,8,1), and in the Ziff Davis Interactive (GO ZDI) area of CompuServe. All users receive the shareware versions of these programs when they register [EarthSun](#). The current versions are **MOONIC10.ZIP**, **MARSIC27.ZIP**, **GREDSpxx.ZIP**, and **SOLSYS11.ZIP**.

# Registering EarthSun

Print out the file ORDER.FRM to get a quick order form for registering **EarthSun**. Remember, you can use **File|Print Topic** directly from that window's menu, or send the file ORDER.FRM, included with the rest of the program files, to your printer from the DOS prompt. This shareware version is not cripple-ware, nag-ware or free-ware, although it will remind you every 5 times to register until the evaluation period expires. When you do register, you will receive the latest executable version that allows **UNLIMITED** use of the program with no reminder box and no expiration.

● All future versions/upgrades of this program are **FREE** to registered users. When a new shareware version becomes available, just download it and copy the new **EarthSun** files to the registered version's subdirectory. It's that simple!

The cost of the diskette and the mailing charges are all included in the **US \$10** registration fee. Personal checks, money orders and AmEx, Visa, etc. traveler's checks are all accepted (sorry, I do not yet accept credit card orders). You will also receive the shareware versions of **4** similar icon-programs for the Moon, the planets Mars and Jupiter, and the Solar System. In addition, you'll also receive an impressive Windows wallpaper .BMP file.

If you are a Windows/C programmer, you may also purchase the full Borland C++ 3.1 source code and Windows resource files used to make **EarthSun** for **US \$25**. The source code for each future version will also be available at a discount, and, needless to say, many programming tips and tricks can be learned by studying this program.

● If you find **EarthSun** useful, please upload it to other bulletin boards and Internet FTP sites so other people can see the sunny side of our planet!

# License Agreement

## DISCLAIMER - LICENSE AGREEMENT

Users of **EarthSun** must accept this disclaimer of warranty:

"**EarthSun** is supplied "as is". W. Scott Thoman disclaims all warranties, either expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. W. Scott Thoman assumes no liability for damages, direct or consequential, which may result from the use of **EarthSun**."

**EarthSun** is a shareware program and is provided at no charge to the user for evaluation. Feel free to share it with your friends, but please do not give it away altered or as part of another system. The essence of "user-supported" software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products. If you find this program useful and find that you enjoy **EarthSun**, you must register it. The registration fee will license one copy for use on any one computer at any one time. You must treat this software just like a book. An example is that this software may be used by any number of people and may be freely moved from one computer location to another, so long as there is **no** possibility of it being used at one location while it's being used at another. It is just like a book which cannot be read by two different people at the same time.

Anyone distributing **EarthSun** for any kind of remuneration must first contact W. Scott Thoman for authorization. W. Scott Thoman should be advised so that the distributor can be kept up-to-date with the latest version.

Disk Vendors, Shareware Distributors and BBS(s) may charge a nominal fee for distribution of the program. The recipient of **EarthSun** must be informed, in advance, that the fee paid to acquire **EarthSun** does not relieve the recipient from paying the Registration Fee if the recipient uses **EarthSun**.

● You are encouraged to pass a copy of **EarthSun** along to your friends for evaluation. Please encourage them to register their copy if they find that they can use it, too. Of course, all registered users will receive a copy of the latest version of **EarthSun**.

EarthSun 4.3 - Order Form

Return this registration form along with US \$10 to:

W. Scott Thoman  
41 Lee Road  
Dryden, New York 13053 -USA-

or send US \$25 to receive the Registered version PLUS the  
Borland C++ 3.1 source code and Windows resource files.

Registered users are entitled to ALL upgrades AT NO EXTRA COST!  
When a new shareware version becomes available, just download  
it and copy the new EarthSun files to your registered version's  
subdirectory. It's that simple!

Personal checks, money orders and AmEx, Visa, etc. traveler's  
checks are all accepted. (Sorry, I don't yet accept credit  
card orders). You'll also receive the shareware versions of  
4 other related icon-programs, one for the Moon (MoonIcon),  
the planets Mars (MarsIcon) and Jupiter (GRedSpot), and the  
Solar System (SolSys).

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Internet/CompuServe Address: \_\_\_\_\_

Can I e-mail it to you? \_\_\_\_ .ZIP file \_\_\_\_ UUENCODEd \_\_\_\_ No

Where did you hear about EarthSun? \_\_\_\_\_  
\_\_\_\_\_

Disk size: \_\_\_\_ 5.25" \_\_\_\_ 3.5"

Comments: \_\_\_\_\_

THANK YOU!



## New Ideas

If you have improved the existing icons, or have created any new icons to improve the animation, please send them to me. Any ideas for new features or capabilities are always welcome. If you would like to see other languages supported, just send me the names and abbreviations of the months and days-of-the-week and I'll be sure to include them in the next version.

● If I use your contributions, you will receive my thanks in the Acknowledgements section and the latest registered version of **EarthSun free**.

## Troubleshooting

- If you get the *About* box each and every time you start the program, make **sure** you have the program icon's *Working Directory* set to the directory where you have the EARTHSUN.EXE file. This allows the program to properly find it's .INI file. Make sure your EARTHSUN.INI file is in the same subdirectory as the EARTHSUN.EXE file; if it isn't, move it to that subdirectory. This is the recommended way to keep all of *EarthSun*'s files together.
- If you prefer, you may also set the *Working Directory* to your Windows subdirectory explicitly, or just leave it blank to have it default to your Windows subdirectory. Again, just make **sure** that EARTHSUN.INI is, indeed, located there.
- Finally, make sure the .INI file is marked as read/write (this is the default); do **NOT** mark this file as read-only.

## Acknowledgements

- Many thanks go to **Peter Hayes** (peter.hayes@uk.cray.com) in England for the information he supplied to me on the daylight savings time issues in the UK and Europe. Thanks to **Eric Rickin** (erickin@umich.edu) for his relentless beta-testing, the weather server site name, **many** new world languages, and also for leading me to **Don LeClair** (71534.3255@compuserve.com) for help on doing transparent backgrounds and having icons stay "always on top". Thanks also to **Mike Andersson** (anderss@u.washington.edu) for the idea of preserving the icon position. Thanks also to **Tony Beresford** (phacb@cc.flinders.edu.au) of the Astronomical Society of Southern Australia for the information about his country's daylight savings time issues.
- Thanks to my long-time friend **Brian Knapp** in Jamesville, NY for proof-reading this help file, beta-testing many pre-release versions, offering various Windows tips, and generally struggling with me over the last 12+ years to learn how to make computers do what we want them to do.
- Thanks also to **Reinhold H. Uebbing** (100337.1404@compuserve.com) in Germany for the multi-language support he provided. Also, his ideas led to the implementation of the darkness viewing perspective and multiple instances.
- Many thanks to **William B. Phelps** (wbp@vnet.ibm.com) in California for his Sun and Moon rise/transit/set time algorithms. He sent me the source code, initially in Pascal, and tirelessly worked with me for over two months to improve the accuracy and make it work within **EarthSun**.
- Finally, thanks to all the people who sent me languages to include in **EarthSun**; certainly it would not be the software product it is without their help.

## Dedication

● Hi Mom and Dad, Linda, Grandma and Grandpa Cruver, Grandma and Grandpa Thoman, Brian Knapp, Joe Harmon, and especially my wife, Robin.

## EarthSun Tricks!

- One of the entertaining and educational **tricks** you can do with **EarthSun** is to animate the icon without the darkness perspective feature on. This shows how the Earth actually spins in space during the course of a day by showing the side of the Earth that is currently facing, or being illuminated by, the Sun. Each "frame" in the animation shows a time difference of one and a half hours from the previous frame.

- Another interesting configuration is to animate the icon with the darkness perspective on, and switching between *Your View* and *Other View* in the *About* box. *Your View* shows the current view of the Earth as seen from a point in space directly over where you live. If you set the *Other Time Zone* field to another part of the world and select *Other View*, you can see the current position of the shadow as seen from that part of the world.

For instance, say you live on the eastern coast of the United States, and you want to view the shadow as seen from England. You would set *Your Time Zone* for Eastern Standard Time and the *Other Time Zone* for Greenwich Mean Time. Now, when you click on the button *Your View*, you see the Earth as it looks from space over the East Coast. When you use the *About* box again and click on the *Other View* button, you are now seeing the Earth as currently seen from space looking down on England. Note how the shadow is different between the two views and remember that only one half of the planet is ever illuminated at a time.

- If you have trouble visualizing this effect, go to a globe of the Earth and shine a flashlight at it in a darkened room. As you slowly spin the globe, watch how different parts of the world enter the lit portion and how others exit into the shadow. With a little practice, you can learn how the rotation of the Earth causes the Sun to seemingly rise and set at different times in different parts of the world.

- **EarthSun** now supports multiple instances of itself on-screen at the same time. This allows you to set up two or more icons that each show the Earth from a different point on the planet.

- To see an analog clock either by itself or on top of the **EarthSun** icon, select the Clock options choice from the system menu.

- Make sure you try out the sounds and talking clock feature, too.

If your computer can play .WAV files or has a sound card in it, **EarthSun** can play sounds at specified intervals and can "speak" the time and date to you! The alarm feature can also "speak" your alarms.

● Finally, try changing the *Language* field from the one with which you're most comfortable to a different language. By changing the  $\sim w$  and  $\sim m$  parts of the icon's title to capital letters (i.e.  $\sim W$  and  $\sim M$ ), you can learn how the months and days-of-the-week are spelled in other languages. Also, look at the word origin section for some history on the words we all use everyday.

# EarthSun - Revision History

- 11/01/94 Version 4.3 - Added 4 languages.
- 08/01/94 Version 4.2 - Added 21 languages. Sun and Moon info screen  
timezone bug fix.
- 07/14/94 Version 4.1 - Added Australian DST, seven languages. Minor  
bug fixes (midnight date change, better screen-saver  
support). More cities in longitude/latitude tables.  
Added twilight calculations.
- 06/23/94 Version 4.0 - Added clock and alarm features. Added  
Sun and Moon info. Added hatching styles. Added  
six new languages.
- 04/19/94 Version 3.0 - "International Edition". Added talking clock/calendar  
via DDE messaging. Added support for many different  
languages. Added new "perspective" to show  
the darkness covering the Earth. Multiple instances  
are now supported. Added preserve icon position  
feature.
- 02/05/94 Version 2.6 - Added support for transparent backgrounds. Added the  
"always on top" check box. Added printable order forms  
directly from the help system.
- 01/20/94 Version 2.5 - Added the on-line help system. Improved dialog  
box background.
- 12/03/93 Version 2.1 - Added automatic daylight savings/summer time support  
for US, UK, and European users. Added forward/reverse  
rotation direction. Added background color selection.  
Increased evaluation period for un-registered users.  
Improved the overall look of the About box. Granted  
free upgrades to registered users. Added support for  
display of the month number (1-12).
- 11/09/93 Version 2.0 - Removed TZ environment variable; all options are now  
fully user-configurable on the About screen and saved  
in EARTHSUN.INI. Added support for all timezones,  
daylight savings time, and update intervals.  
Support for displaying date/time in many formats.  
Improved all of the icons, added Antarctica.
- 10/28/93 Version 1.1 - Initial release. Changed from OWL to straight Windows

API calls. Added TZ environment variable support.

07/12/93 Version 1.0 - First version. Used BC++/OWL as a framework.



## Author Information

● Any suggestions, bugs, ideas, complaints? Let me know what you think of this program so I can improve it! Please include the version number you are using in all correspondence; this is version 4.3. If you want to be on [EarthSun](#)'s e-mail list so you can be notified of new versions, indicate this as well.

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Thank you for using [EarthSun](#)!

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# What is ShareWare?

● If you're familiar with the idea behind Shareware, then you know that Shareware is the ultimate in **money-back guarantees**.

Most money-back guarantees work like this: You pay for the product and then have some period of time to try it out and see whether or not you like it. If you don't like it or find that it doesn't do what you need, you return it (undamaged) and at some point - which might take months - you get your money back. Some software companies won't even let you try their product! In order to qualify for a refund, the diskette envelope must have an unbroken seal. With these "licensing" agreements, you only qualify for your money back if you haven't tried the product. How absurd!

Shareware is very different. With Shareware, you get to **try it** for a limited time, **without spending a penny**. If you decide not to continue using it, you throw it away and forget all about it. No paperwork, phone calls, or correspondence to waste your valuable time.

Software authors who use the Shareware method of distribution feel that Shareware is the **best** way to try a product. You are able to try it on your own system(s), in your own special work environment, with no sales people looking over your shoulder. Have you ever purchased a car and realized that if you could have test driven it for 30 days your purchase decision might have been different? With Shareware, these problems can be avoided - you **do** have a 30 day test-drive!

After trying a Shareware product and deciding to continue to use it, then - and only then - do you pay for it. Not only that, but Shareware is traditionally **much less expensive** simply because you are paying for the software, not the advertising and marketing that comprises the majority of the cost of most software (a one-page ad in PC Magazine, one time, can cost upwards of \$20,000). If the try-before-you-buy concept sounds like an ideal way to make your purchase decisions, you're right!

Some companies burden their products with annoying copy protection schemes because they don't trust their users. Shareware developers not only don't use copy protection, they **freely distribute** their products because they trust their users.

Someone once said that you should never trust software which doesn't trust you. This makes a lot of sense - no wonder Shareware

is becoming so popular among users and developers.

Shareware is a distribution method, **not** a type of software. Shareware is produced by accomplished programmers, just like retail software. There is good and bad Shareware, just as there is good and bad retail software. The primary difference between Shareware and retail software is that with Shareware you know if it's good or bad **before** you pay for it. Registration of Shareware products, in addition to being required, is also an incentive for programmers to continue to produce quality software for the Shareware market.

There is another significant advantage to Shareware - it allows small companies to make software available without the hundreds of thousands of dollars in expenses that it takes to launch a traditional retail software product. There are many programs on the market today which would never have become available without the Shareware marketing method. Please show your support for Shareware by registering those programs you actually use and by passing them on to others.

Thank you for your support!

## Sounds and Talking Clock/Calendar

● A fun and entertaining feature is the ability of **EarthSun** to be a **talking clock and calendar**. If you have a *SoundBlaster*™ or compatible sound card and the program *Monologue for Windows*, you can have it "speak" the current time and/or date to you. If your computer can play .WAV files, you can have **EarthSun** play any sound file you wish at the intervals you specify.

First, you need to tell **EarthSun** how it should handle sounds. From the program's System Menu, select the *Sounds/Speech* option. Next, in the *Sound Selection* box, click the *No Sounds* button if your computer cannot play sounds. Most Windows installations can at least play sounds through the PC's internal speaker, so only use this if you are sure you don't want sounds. Next, the *Windows .WAV files* button lets you play any .WAV file as an hourly, half, or quarterly chime. Finally, if you have a sound card and the appropriate software, click the *Enable DDE Speech capability* button to have it speak the time and date. Notice how different parts of the dialog box are enabled and disabled as you select different sound options. This makes it easier for you to tell which options are available based on the sound selection you choose.

Once this is done, you can set many options to have **EarthSun** speak at certain times and say various phrases. The *Sound/Speech Interval* box lets you select when **EarthSun** will speak or play sounds. If you select *Only right-click*, it only speaks when you click the right mouse button when the mouse cursor is over the icon. Other options cause **EarthSun** to play sounds or speak **automatically** once every hour, every half-hour, or every 15 minutes. Note that when you select *Enable DDE Speech capability* and *Only right-click*, the corresponding .WAV file will play at the specified interval instead of the speech for that time. Also, when *Windows .WAV files* and *Only right-click* are selected, the last-played .WAV file will be the one that is played when right-clicked.

To have it play sounds, enter the full filename of a .WAV file that you want **EarthSun** to play at the corresponding interval. For instance, **EarthSun** defaults to playing the file CHIMES.WAV that comes with Windows on the hour. If you have another file that you prefer, simply type it in here. The other filename fields work in the same manner. If you enter an incorrect filename, the standard "beep" is sounded instead of your intended file.

To hear it talk, select *Sounds/Speech* for the system menu. Next, click the *Enable DDE Speech capability* button. If you are using *Monologue for Windows*, set the *Service* field in the *DDE Names* box to **MONOLOG** and the *Topic* field to **TALK**. Other DDE (Dynamic Data Exchange) speech server software may require other Service and Topic names; if so, simply type them in. Also, you must make **sure** that your speech server is running before **EarthSun** tries to speak; it can't talk without help from this other software package. If you are using *Monologue for Windows*, I've included the file EARTHSUN.DIC, which is a small

dictionary of words that **EarthSun** can use to better pronounce the time and date. See your sound card and speech server software documentation for further details. If you have a specific speech program that doesn't seem to work with **EarthSun**, please [contact me](#) and I'll see if I can help you and/or support it in future versions.

The *Speech Selection* box lets you determine the order in which **EarthSun** speaks the time and/or date. You can have it say only the time, say only the date, say the time then the date, or say the date then the time. Simply click on the radio button that matches your preference.

Finally, the *Time Options* and *Date Options* let you select different word and phrase combinations when the time and date are spoken. Again, click the appropriate buttons to suit your taste.

In this version, **EarthSun** only speaks in English. See the [language](#) section for information on how you can have the icon title display in other languages.

- By the way, yes, that is my voice you hear when you click the *Clear Skies* button and the other dialog box *OK* buttons. I created the CLEARSKY.WAV, OK.WAV and a few others with my *SoundBlaster*™ card and a microphone and had **EarthSun** play them. If you don't want to hear them, simply delete all the .WAV files.

- When using *Monologue for Windows*™, I've noticed it can produce a "WaveOutOpen" error when my .WAV files start playing after leaving a dialog box and it then tries to speak the time on one of the 15-minute intervals. You can simply press the *OK* button to continue, or delete the .WAV files if this is a problem.

## Clock features

● A new feature for version 4.0 is the ability of **EarthSun** to be an analog **clock**, or a clock with hour and minute "hands". You can control the size, shape, and color of the hands as well as the clock face. Markers for the hour positions can also be set any way you prefer.

Use the *Clock options* selection from **EarthSun**'s system menu to bring up the *Clock Options* dialog box. Note how the various settings are disabled (grayed-out) and enabled based on the selections you choose.

● **EarthSun** defaults to not showing the clock at all. To use it, you first need to check either the *Only show the clock* or the *Show clock on top of icon* radio button. I recommend showing only the clock until you are familiar with the different clock features, since most of the clock face is covered by the Earth icon when using the other selection.

You can change the color of the hands by using the *Hand Colors*|*Minute* and *Hour* list boxes. Next, the *Hand Style* check box lets you select whether you wish to have the hands partially "filled" with the hand color. NOTE: This is only used when the hand "width" is more than zero; see below for more details. The check box beneath called *Face Size* controls the size of the clock face. When checked, the clock face will be drawn to encompass the hour markers and is slightly larger than the size of the Earth icon. Un-check this box to have the face hidden when the icon is displayed.

● The size and shape of the hands can be changed by using the *Hand Size* box. This box is organized into two rows of fields; the first row is for the hour hand and the second is for the minute hand. The *Width* fields in each row control the width of the hand on either side of the clock's center point. For the smallest hand possible, enter **0** in this field. This will create a hand that is only 1 pixel wide. For more stylish hands, however, try values such as **1**, **2** or **4**. These give the hands "width" and create a triangular shape. Try different values until you find a width that looks good to you.

Next, the *Length* fields control the length, in pixels, of the hour and minute hands starting from the clock's center point and moving outward to the tip. Normally, the default values are appropriate, but feel free to change them. Finally, the *Back* fields specify the length of the part of the hand that extends behind the clock's center point. A value of **0** means to have no back portion of the hand, but a much more interesting value is, say, **4**.

● In addition, you can also tell **EarthSun** to draw **markers** at the 12 "hour points" along the clock face's edge. Click the *None* button to hide

the markers, select the *3-hour* button to show only the 12-, 3-, 6-, and 9-hour markers, or choose *All* to show all twelve. Also, don't forget to try the two marker color list boxes to change the color of each type of marker!

● Finally, the *Face Color* list box allows you to change the color of the clock's face. Be sure to try many different combinations of background colors, face colors, hand colors, and hand sizes and shapes. There is no "correct" combination of **EarthSun** options; use your imagination and keep trying new ones! One of my personal favorites is setting transparent background and face colors, so the only part of the clock that is visible are the hands and (maybe) the markers...

## Alarm features

● **EarthSun** can also be used as an **alarm clock**. You can set up to **three** different alarms and have .WAV files played when the alarm "goes off". **EarthSun** can also be set to speak the alarm description to you!

Use the *Alarm options* selection from **EarthSun**'s system menu to bring up the *Alarm Options* dialog box. Note how the various settings are disabled (grayed-out) and enabled based on the selections you choose.

● **EarthSun** has no alarms set as the default. To use them, you first need to click one of the check boxes under the word *On*. Notice how the other controls in the line are now enabled for use. By clicking an alarm's *On* button on and off, you can choose to set or not to set an alarm without having to re-type the alarm's other values. Remember that an alarm will not go off if it's *On* button is not clicked on.

The next control to the right is the *Month* list box, and it displays the 12 months of the year in the language you selected in the *About* dialog box. If you wish, you may set an alarm for a certain month in the future and **EarthSun** will signal you when that month arrives. Select *-None-* if you do not wish to keep track of the month. This control is normally used only with the following *Day* field, so that a certain day in the future can be specified. If neither the *Month* or *Day* field is used, then **EarthSun** will sound the alarm each day at the specified time.

The next three fields, *Hour*, *Min* and *pm*, let you specify the time that the alarm is to go off. Type in the number of the hour (from 1 to 12) and the minute (from 0 to 59), and be sure to click the *pm* button if necessary.

The *Description* field is the name for the alarm and it will be shown in the small message box that appears when the alarm goes off. Simply type in any description you like for this alarm. Read on for an entertaining use for this field...

● Finally, the *.WAV file or "SPEAK"* field is the last control on each alarm. If you do not want **EarthSun** to make a sound when the alarm goes off, simply leave this field blank. If want a .WAV file played, type in it's filename here. For the most fun, however, type in the word **SPEAK** and **EarthSun** will speak the alarm description to you!

You can also have **EarthSun** turn an alarm off after it notifies you by clicking the *Turn Alarm Off* check box in the *After Alarm occurs* box. This will stop an alarm from occurring again unless you click the *On* button back on. Also, you can have the alarm's fields set to all blank values afterward by checking the



*Clear Alarm's fields* button. Note that clearing the fields also turns that alarm off.



## USA - Alabama to Montana

Location/ City Name	North		West		Alt m
	Latitude Deg	Min	Longitude Deg	Min	
ALABAMA					
Anniston	33	39.0	85	47.0	-
Birmingham	33	31.8	86	48.6	203
Gadsden	34	00.6	86	00.6	182
Huntsville	34	43.9	86	35.2	210
Mobile	30	40.8	88	06.6	2
Montgomery	32	21.6	86	18.0	52
Tuscaloosa	33	12.0	87	32.4	-
ALASKA					
Anchorage	61	12.0	149	48.0	28
Fairbanks	64	50.0	147	48.0	143
Juneau	58	18.2	134	24.5	4
ARIZONA					
Flagstaff	35	12.6	111	37.2	2264
Glendale	33	30.0	112	15.0	-
Mesa	33	25.0	111	50.0	-
Phoenix	33	30.0	112	04.8	366
Scottsdale	33	30.0	111	53.0	-
Tempe	33	24.0	111	54.0	-
Tucson	32	13.2	110	55.2	784
Yuma	32	42.0	114	37.8	52
ARKANSAS					
Fort Smith	35	22.8	94	24.0	144
Little Rock	34	44.4	92	19.2	94
N Little Rock	34	46.0	92	13.0	-
Pine Bluff	34	13.2	92	01.2	-
CALIFORNIA					
Alameda	37	46.0	122	15.0	-
Alhambra	34	05.0	118	08.0	-
Anaheim	33	50.0	117	55.0	-
Bakersfield	35	23.0	119	00.0	131
Baldwin Park	34	05.0	117	58.0	-
Bellflower	33	53.0	118	08.0	-
Berkeley	37	52.0	122	17.0	13
Buena Park	33	52.0	118	00.0	-
Burbank	34	11.0	118	19.0	-
Carson	33	49.0	118	16.0	-

Cerritos	33	52.0	118	05.0	-
Chula Vista	32	38.0	117	05.0	-
Compton	33	54.0	118	14.0	-
Concord	37	58.0	122	02.0	-
Cosa Mesa	33	39.0	118	54.0	-
Daly City	37	43.0	122	31.0	-
Downey	33	56.0	118	08.0	-
El Cajon	32	48.0	116	58.0	-
El Monte	34	04.0	118	02.0	-
Escondido	33	07.0	117	00.0	-
Eureka	40	45.0	124	10.0	-
Fairfield	38	14.0	122	02.0	-
Fountain Valley	33	42.0	117	57.0	-
Fremont	37	33.0	122	00.0	-
Fresno	36	46.2	119	46.8	94
Fullerton	33	53.0	117	56.0	-
Garden Grove	33	47.0	117	56.0	-
Glendale	34	09.0	118	15.0	-
Hawthorne	33	55.0	118	22.0	-
Hayward	37	40.0	122	06.0	-
Huntington Beach	33	39.0	118	00.0	-
Inglewood	33	57.0	118	22.0	-
Irvine	33	40.0	117	45.0	-
Lakewood	33	50.0	118	09.0	-
La Mesa	32	46.0	117	01.0	-
Long Beach	33	46.0	118	12.0	-
Los Angeles	34	04.8	118	22.2	32
Modesto	37	39.0	121	00.0	-
Montebello	34	01.0	118	06.0	-
Monterey Park	34	04.0	118	08.0	-
Mountain View	37	25.0	122	07.0	-
Napa	38	20.0	122	17.0	-
Newport Beach	33	36.0	117	55.0	-
Norwalk	33	54.0	118	05.0	-
Oakland	37	48.0	122	16.0	8
Oceanside	33	11.0	117	22.0	-
Ontario	34	04.0	117	39.0	-
Orange	33	48.0	117	51.0	-
Oxnard	34	08.0	119	12.0	-
Palo Alto	37	27.0	122	09.0	-
Pasadena	34	09.0	118	09.0	272
Pico Rivera	34	01.0	118	05.0	-
Pomona	34	04.0	117	45.0	-
Rancho Cucamonga	34	05.0	117	35.0	-
Redondo Beach	33	50.0	118	23.0	-
Redwood City	37	29.0	122	13.0	-
Richmond	37	56.0	122	21.0	-

Riverside	33	59.0	117	21.0	-
Sacramento	38	35.0	121	30.0	10
Salinas	36	41.0	121	40.0	-
San Bernardino	34	07.0	117	19.0	354
San Buenaventura	34	18.0	119	18.0	-
San Diego	32	45.0	117	08.4	7
San Francisco	37	45.6	122	26.4	21
San Jose	37	20.0	121	54.0	30
San Leandro	37	43.0	122	10.0	-
San Mateo	37	34.0	122	20.0	-
Santa Ana	33	41.0	117	57.0	-
Santa Barbara	34	26.0	119	43.0	33
Santa Clara	37	21.0	121	56.0	-
Santa Monica	34	01.0	118	29.0	-
Santa Rosa	38	27.0	122	42.0	-
Simi Valley	34	16.0	118	47.0	-
South Gate	33	57.0	118	13.0	-
Stockton	37	57.5	121	17.3	7
Sunnyvale	37	23.0	122	02.0	-
Thousand Oaks	34	10.0	118	50.0	-
Torrance	33	50.0	118	20.0	-
Vallejo	38	06.0	122	15.0	-
Visalia	36	20.0	119	18.0	-
Walnut Creek	37	54.0	122	04.0	-
West Covina	34	04.0	117	55.0	-
Westminster	33	45.0	117	59.0	-
Whittier	33	58.0	118	02.0	-

#### COLORADO

Arvada	39	48.0	105	05.0	-
Aurora	39	43.0	104	49.0	-
Boulder	40	00.2	105	15.7	-
Colorado Springs	38	49.0	104	48.0	1932
Denver	39	43.2	104	58.8	1732
Durango	37	15.0	107	55.0	-
Fort Collins	40	36.0	105	04.0	-
Grand Junction	39	04.2	108	33.0	1506
Greeley	40	25.0	104	41.0	-
Lakewood	39	44.0	105	06.0	-
Pueblo	38	17.4	104	38.4	1539
Westminster	39	50.0	105	02.0	-

#### CONNECTICUT

Bridgeport	41	11.4	73	11.4	3
Bristol	41	40.0	72	55.0	-
Danbury	41	23.0	73	27.0	-
East Hartford	41	45.0	72	35.0	-

Fairfield	41	08.0	73	22.0	-
Greenwich	41	01.0	73	37.0	-
Hamden	41	20.0	72	55.0	-
Hartford	41	45.6	72	41.4	13
Manchester	41	45.0	72	30.0	-
Meriden	41	30.0	72	50.0	62
Milford	41	15.0	73	05.0	-
New Britain	41	40.0	72	45.0	66
New Haven	41	18.6	72	55.8	13
Norwalk	41	06.0	73	25.0	-
Stamford	41	03.0	73	32.0	11
Stratford	41	10.0	73	05.0	-
Waterbury	41	30.0	73	00.0	85
West Hartford	41	45.0	72	45.0	-
West Haven	41	16.0	72	57.0	-

DELAWARE

Dover	39	09.6	75	31.8	-
Wilmington	39	45.0	75	33.0	44

DISTRICT OF COLUMBIA

Washington	38	52.8	77	01.2	5
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FLORIDA

Boca Raton	26	21.0	80	05.0	-
Clearwater	27	43.0	82	45.0	-
Daytona Beach	29	11.0	81	02.0	2
Fort Lauderdale	26	07.0	80	09.0	-
Gainesville	29	39.6	82	19.8	57
Hialeah	25	49.0	80	18.0	-
Hollywood	26	00.0	80	11.0	-
Jacksonville	30	19.2	81	39.0	7
Largo	27	54.0	82	47.0	-
Melbourne	28	04.7	80	36.2	21
Miami	25	46.8	80	13.2	2
Orlando	28	32.4	81	22.8	23
Pensacola	30	25.0	87	13.0	5
Pompano Beach	26	12.0	80	07.0	-
St. Petersburg	27	47.0	82	38.0	7
Sarasota	27	20.0	82	32.0	7
Tallahassee	30	26.4	84	17.4	-
Tampa	27	57.6	82	28.2	-
West Palm Beach	26	43.0	80	03.2	-

GEORGIA

Albany	31	34.8	84	09.6	-
Atlanta	33	45.6	84	24.6	331

Augusta	33	28.2	81	59.4	47
Columbus	32	28.8	84	57.0	87
Macon	32	49.8	83	39.6	110
Savannah	32	03.0	81	05.4	7

#### HAWAII

Hilo	19	44.0	155	01.0	13
Honolulu	21	18.6	157	50.4	7

#### IDAHO

Boise	43	36.6	116	13.2	931
Coeur D'Alene	47	40.8	116	46.2	-
Lewiston	46	24.0	116	59.0	-
Pocatello	42	52.8	112	27.0	1463
Twin Falls	42	33.0	114	29.0	-

#### ILLINOIS

Arlington Heights	42	05.0	87	59.0	-
Aurora	41	45.0	88	18.0	-
Bloomington	40	29.0	89	00.0	262
Champaign	40	06.6	88	15.0	243
Chicago	41	51.0	87	40.8	199
Cicero	41	50.0	87	46.0	-
Decatur	39	50.0	88	59.0	224
Des Plaines	42	02.0	87	54.0	-
East St. Louis	38	38.0	90	10.0	-
Elgin	42	03.0	88	16.0	-
Evanston	42	02.0	87	41.0	-
Joliet	41	37.0	88	05.0	-
Mount Prospect	42	03.0	87	56.0	-
Oak Lawn	41	43.0	87	45.0	-
Oak Park	41	53.0	87	48.0	-
Peoria	40	42.6	89	36.6	154
Rockford	42	16.2	89	04.2	235
Schaumburg	42	02.0	88	05.0	-
Skokie	42	02.0	87	45.0	-
Springfield	39	48.0	89	39.0	200
Urbana	40	06.3	88	13.5	238

#### INDIANA

Anderson	40	05.0	85	50.0	-
Bloomington	39	12.6	86	34.8	-
Evansville	37	58.8	87	33.0	126
Fort Wayne	41	04.2	85	09.0	259
Gary	41	35.0	87	21.0	194
Hammond	41	37.0	87	31.0	-
Indianapolis	39	47.4	86	08.4	260

Muncie	40	11.5	85	23.3	312
South Bend	41	40.0	86	20.0	233
Terre Haute	39	28.1	87	24.4	163

#### IOWA

Ames	42	02.4	93	36.6	-
Cedar Rapids	41	58.0	91	39.9	240
Council Bluffs	41	16.0	95	53.0	-
Davenport	41	32.4	90	35.4	194
Des Moines	41	36.0	93	37.8	308
Dubuque	42	30.0	90	43.0	269
Iowa City	41	40.2	91	31.8	225
Sioux City	42	30.0	96	24.0	331
Waterloo	42	30.0	92	22.0	279

#### KANSAS

Dodge City	37	45.6	100	01.2	847
Independence	37	13.0	95	42.0	-
Kansas City	39	06.0	94	39.0	246
Lawrence	38	57.6	95	15.0	-
Overland Park	38	59.0	94	40.0	-
Parsons	37	20.0	95	16.0	-
Salina	38	50.1	97	36.5	403
Topeka	39	02.4	95	41.4	305
Wichita	37	40.8	97	19.8	423

#### KENTUCKY

Ashland	38	28.6	82	38.4	176
Bowling Green	36	59.0	86	27.0	167
Corbin	36	56.4	84	06.0	-
Frankfort	38	12.0	84	51.6	-
Lexington	38	03.6	84	29.4	313
Louisville	38	13.2	85	45.0	156
Owensboro	37	45.0	87	05.0	-
Paducah	37	05.0	88	36.0	113

#### LOUISIANA

Alexandria	31	18.0	92	28.0	-
Baton Rouge	30	27.0	91	08.4	19
Bossier City	32	31.0	93	42.0	-
Kenner	29	58.0	90	15.0	-
Lafayette	30	13.2	92	01.2	-
Lake Charles	30	12.6	93	12.0	-
Monroe	32	30.6	92	06.0	-
New Orleans	29	58.2	90	04.8	2
Shreveport	32	28.2	93	46.2	67



MAINE

Augusta	44	19.2	69	46.2	15
Bangor	44	47.0	68	47.0	7
Eastport	44	54.0	67	00.0	-
Portland	43	40.2	70	16.8	15

MARYLAND

Annapolis	38	58.2	76	30.0	-
Baltimore	39	18.6	76	37.2	7
Bethesda	39	00.0	77	10.0	-
College Park	39	00.1	76	57.3	-
Dundalk	39	16.0	76	31.0	-
Germantown	39	10.4	77	16.3	428
Greenbelt	39	01.2	76	49.6	-
Ocean City	38	23.4	75	04.8	-
Silver Spring	39	00.0	77	00.0	-
Wheaton	39	05.0	77	05.0	-

MASSACHUSETTS

Boston	42	19.2	71	05.4	7
Brockton	42	04.0	71	01.0	43
Brookline	42	20.0	71	08.0	-
Cambridge	42	22.8	71	07.8	7
Chicopee	42	10.0	72	35.0	-
Fall River	41	42.0	71	07.0	13
Framingham	42	16.0	71	25.0	-
Holyoke	42	10.0	72	40.0	38
Lawrence	42	42.0	71	09.0	21
Lowell	42	38.0	71	18.0	33
Lynn	42	28.0	70	57.0	-
Malden	42	26.0	71	04.0	-
Medford	42	25.0	71	07.0	-
New Bedford	41	38.2	70	55.7	5
Newton	42	21.0	71	13.0	-
Pittsfield	42	25.0	73	15.0	333
Quincy	42	15.0	71	00.0	-
Somerville	42	23.0	71	06.0	5
Springfield	42	06.6	72	33.0	28
Waltham	42	22.0	71	14.0	-
Weymouth	42	44.0	70	57.0	-
Worcester	42	16.2	71	48.6	156

MICHIGAN

Ann Arbor	42	17.00	83	44.75	289
Battle Creek	42	19.0	85	11.0	269
Clinton	42	04.0	83	58.0	-
Dearborn	42	18.0	83	15.0	-

Dearborn Heights	41	43.0	87	48.0	-
Detroit	42	22.8	83	05.4	192
Farmington Hills	42	28.0	83	23.0	-
Flint	43	01.8	83	41.4	246
Grand Rapids	42	57.6	85	39.6	200
Kalamazoo	42	35.0	86	00.0	248
Lansing	42	43.2	84	33.6	272
Livonia	42	25.0	83	23.0	-
Mount Pleasant	43	36.0	84	46.2	-
Pontiac	42	37.0	83	17.0	-
Redford	42	25.0	83	16.0	-
Roseville	42	30.0	82	55.0	-
Royal Oak	42	29.0	83	09.0	-
Saginaw	43	25.0	84	00.0	195
St. Clair Shores	42	30.0	82	54.0	-
Sault Ste. Marie	46	28.0	84	22.0	237
Southfield	42	28.0	83	13.0	-
Sterling Heights	42	34.0	83	01.0	-
Taylor	42	14.0	83	16.0	-
Troy	42	34.0	83	09.0	-
Warren	42	33.0	83	03.0	-
Westland	42	19.0	83	24.0	-
Wyoming	42	54.0	85	42.0	-

#### MINNESOTA

Bloomington	44	50.0	93	18.0	-
Duluth	46	47.4	92	06.6	200
Hibbing	47	25.2	92	55.2	-
Internat'l Falls	48	36.0	93	24.6	-
Mankato	44	09.6	94	00.0	-
Minneapolis	44	57.6	93	16.2	274
Northfield	44	27.6	93	09.6	-
Rochester	44	01.0	92	30.0	-
St. Cloud	45	34.0	94	10.4	341
St. Paul	44	57.0	93	05.0	256

#### MISSISSIPPI

Aberdeen	33	49.0	88	33.0	-
Biloxi	30	24.6	88	55.2	7
Greenville	33	25.0	91	00.0	-
Jackson	32	19.2	90	12.0	98
Meridian	32	21.0	88	41.0	-
Vicksburg	32	20.0	90	50.0	-

#### MISSOURI

Cape Girardeau	37	18.6	89	31.8	-
Columbia	38	55.0	92	19.0	240

Fayette	39	09.0	92	42.0	-
Florissant	38	47.0	90	20.0	-
Independence	39	06.0	94	26.0	-
Jefferson City	38	34.2	92	10.8	-
Kansas City	39	05.0	94	35.0	243
Mexico	39	10.0	91	53.0	-
Nevada	37	51.0	94	22.0	-
St. Joseph	39	44.0	94	49.0	279
St. Louis	38	37.8	90	15.0	149
Sedalia	38	42.0	93	14.0	-
Springfield	37	12.0	93	17.4	427

# MONTANA

Billings	45	46.8	108	32.4	1024
Bozeman	45	41.0	111	00.0	-
Butte	46	00.0	112	31.0	1891
Great Falls	47	30.0	111	15.0	1096
Helena	46	35.4	112	01.8	1363
Missoula	46	51.6	114	00.0	1047

## USA - Nebraska to Wyoming

Location/ City Name	North		West		Alt m
	Latitude Deg	Min	Longitude Deg	Min	
NEBRASKA					
Grand Island	40	55.8	98	21.0	-
Lincoln	40	48.6	96	40.2	377
North Platte	41	08.0	100	45.0	-
Omaha	41	18.0	95	57.0	341
Scottsbluff	41	51.6	103	39.6	-
NEVADA					
Carson City	39	09.0	119	46.8	1535
Las Vegas	36	10.2	115	10.2	709
Reno	39	31.5	119	48.7	1445
NEW HAMPSHIRE					
Concord	43	10.0	71	30.0	95
Hanover	43	42.3	72	17.0	-
Manchester	42	59.4	71	27.6	57
Nashua	42	47.0	71	23.0	-
NEW JERSEY					
Atlantic City	39	21.6	74	26.4	3
Bayonne	40	40.0	74	07.0	-
Camden	39	56.0	75	06.0	10
Cape May	38	56.4	74	54.6	-
Cherry Hill	39	56.0	75	01.0	-
Clifton	40	35.0	74	09.0	-
East Orange	40	46.0	74	12.0	-
Edison	40	27.0	74	18.0	-
Elizabeth	40	40.0	74	13.0	7
Irvington	40	43.0	74	15.0	-
Jersey City	40	43.0	74	05.0	7
Newark	40	44.4	74	11.4	-
Passaic	40	52.0	74	08.0	-
Paterson	40	55.0	74	10.0	33
Princeton	40	21.0	74	39.6	-
Trenton	40	13.2	74	45.6	11
Union	40	41.0	74	15.0	-
Union City	40	46.0	74	01.0	-
Vineland	39	30.0	75	00.0	-
NEW MEXICO					
Alamagordo	32	54.0	105	57.0	-

Albuquerque	35	05.0	106	40.0	1742
Clovis	34	24.0	103	12.0	-
Deming	32	16.0	107	45.0	-
Las Cruces	32	20.4	106	43.8	-
Portales	34	11.0	103	20.0	-
Roswell	33	23.0	104	32.0	-
Santa Fe	35	40.2	105	57.0	2280
Sunspot	32	47.2	105	49.2	-
NEW YORK					
Albany	42	39.6	73	46.8	7
Auburn					
(New York Central RR)	42	56.0	76	34.0	677 feet
Binghamton	42	05.0	75	55.0	284
Brooktondale	42	23.0	76	24.0	-
Buffalo	42	54.6	78	51.0	231
Cheektowaga	42	54.0	78	46.0	-
Corning (DL&WRR)	42	09.0	77	04.0	957 feet
Cortland					
LVRr Marker	42	36.0	76	10.0	1130 feet
D.L.&W. R.R. Marker	42	36.0	76	10.0	1113 feet
Dewitt					
	43	02.0	76	04.0	413 feet
Dryden					
LVRr S. Street Xing	42	29.45	76	17.85	1101 feet
Southworth Library	42	29.45	76	17.85	1098 feet
Fireplug S. & Main	42	29.45	76	17.85	1093 feet
Dryden Lake	42	29.45	76	17.85	1156 feet
Elmira (E.R.R.)					
	42	06.0	76	49.0	857 feet
Etna (LVRr)	42	29.0	76	23.0	1025 feet
Fayetteville	43	02.0	76	01.0	543 feet
Fredonia	42	27.0	79	20.0	-
Freeville					
LVRr Xing	42	32.0	76	20.0	1046 feet
Freeville Junction	42	32.0	76	20.0	1045 feet
Groton					
LVRr	42	35.0	76	22.0	995 feet
Fall Creek bridge	42	35.0	76	22.0	1273 feet
McLean Road	42	35.0	76	22.0	1288 feet
Homer					
DL&W R.R./James St.	42	38.0	76	11.0	1133 feet

East Homer, LVRR	42 38.0	76 11.0	1132 feet
Horseheads (DL&WRR)	42 10.0	76 50.0	915 feet
Irondequoit	43 12.0	77 36.0	-

Ithaca  
Cornell University  
Engineering Building  
Hollister Hall  
Cayuga Lake

42 26.4	76 29.4	814 feet
42 26.4	76 30.0	381 feet

Jamestown	42 06.6	79 14.4	-
Jamesville (DL&WRR)	42 59.0	76 04.0	597 feet
Killawog (DL&WRR)	42 24.0	76 01.0	1001 feet
Marathon (DL&WRR)	42 26.0	76 02.0	1043 feet
McGraw (E&CNYRR)	42 36.0	76 06.0	1150 feet
McLean (LVRR)	42 33.0	76 17.0	1116 feet
Moravia	42 43.0	76 25.0	-
Mount Vernon	40 55.0	73 51.0	-
Newark Valley	42 14.0	76 11.0	1076 feet
New Rochelle	40 55.0	73 47.0	-
New York	40 43.8	73 55.2	43
Niagara Falls	43 06.0	79 02.0	187
Poughkeepsie	41 42.0	73 55.2	-
Rochester	43 09.6	77 36.6	169
Schenectady	42 47.0	73 53.0	80
Sodus	43 14.0	77 04.0	428 feet
Sodus Point (NYCRR)	43 16.0	76 59.0	267 feet
Syracuse	43 05.0	76 10.0	131
Tonawanda	43 01.0	78 53.0	-
Troy	42 45.0	73 45.0	11
Utica	43 06.2	75 13.6	136
West Seneca	42 50.0	78 45.0	-
Whitney Point (DL&W)	42 20.0	75 58.0	958 feet
Yonkers	40 57.0	73 54.0	3

#### NORTH CAROLINA

Asheville	35 35.4	82 33.6	702
Charlotte	35 13.2	80 49.8	236
Durham	36 00.0	78 54.6	133
Fayetteville	35 02.0	78 54.0	-
Greensboro	36 04.2	79 48.6	275
High Point	35 55.0	80 00.0	-
Raleigh	35 47.4	78 39.0	120
Wilmington	34 13.2	77 55.8	9
Winston-Salem	36 06.0	80 15.6	282

## NORTH DAKOTA

Bismarck	46	48.6	100	46.8	540
Fargo	46	52.2	96	47.4	295
Grand Forks	47	55.0	97	05.0	-
Minot	48	14.4	101	18.0	509

## OHIO

Akron	41	05.0	81	30.7	287
Canton	40	50.0	81	25.0	338
Cincinnati	39	08.4	84	30.6	180
Cleveland	41	28.8	81	39.6	217
Cleveland Heights	41	30.0	81	35.0	-
Columbus	39	58.8	82	59.4	256
Dayton	39	45.0	84	15.0	188
Elyria	41	22.0	82	07.0	-
Euclid	41	34.0	81	32.0	-
Hamilton	39	22.0	84	33.0	197

## OHIO

Kettering	39	40.0	84	15.0	-
Lakewood	41	29.0	81	48.0	-
Lima	40	45.0	84	06.0	284
Lorain	41	28.0	82	10.0	200
Mansfield	40	45.0	82	30.0	-
Parma	41	23.0	81	44.0	-
Springfield	39	55.0	83	50.0	322
Steubenville	40	22.0	80	37.0	217
Toledo	41	40.2	83	34.2	192
Warren	41	15.0	80	50.0	-
Youngstown	41	05.4	80	39.0	276

## OKLAHOMA

Clinton	35	31.0	98	59.0	-
Enid	36	23.7	97	52.5	407
Lawton	34	36.0	98	25.0	-
Midwest City	35	26.0	97	23.0	-
Norman	35	13.0	97	25.0	-
Muskogee	35	44.0	95	21.0	-
Oklahoma City	35	28.8	97	31.8	422
Ponca City	36	42.0	97	05.0	-
Tulsa	36	08.4	95	56.4	264

## OREGON

Burns	43	35.0	119	05.0	-
Corvallis	44	34.0	123	16.0	-
Eugene	44	03.0	123	06.0	138
Medford	42	19.0	122	52.0	-

Pendleton	45	40.2	118	48.0	-
Portland	45	31.2	122	39.0	7
Salem	44	55.8	123	01.8	51

#### PENNSYLVANIA

Allentown	40	35.0	75	30.0	84
Altoona	40	25.0	78	25.0	387
Bethlehem	40	40.0	75	25.0	77
Erie	42	07.2	80	04.8	225
Harrisburg	40	16.2	76	52.8	120
Lancaster	40	05.0	76	20.0	116
Penn Hills	40	28.0	79	51.0	-
Philadelphia	40	00.0	75	09.0	33
Pittsburgh	40	26.4	79	58.2	245
Reading	40	20.0	75	55.0	87
Scranton	41	24.6	75	40.2	238
Upper Darby	39	58.0	75	16.0	-
Whitehall	40	22.0	79	59.0	-
Wilkes-Barre	41	14.5	75	53.3	210

#### RHODE ISLAND

Cranston	41	46.0	71	25.0	-
East Providence	41	49.0	71	22.0	-
Pawtucket	41	53.0	71	23.0	-
Providence	41	49.2	71	25.8	-
Warwick	41	42.0	71	27.0	26

#### SOUTH CAROLINA

Charleston	32	48.6	79	57.6	3
Columbia	34	00.6	81	00.0	62
Greenville	34	51.0	82	23.4	317
North Charleston	32	49.0	79	57.0	-
Spartanburg	34	56.4	81	55.8	287

#### SOUTH DAKOTA

Pierre	44	22.2	100	20.4	486
Rapid City	44	04.2	103	13.8	1060
Sioux Falls	43	32.4	96	42.6	364

#### TENNESSEE

Chattanooga	35	02.4	85	16.8	221
Clarksville	36	30.0	87	23.0	-
Knoxville	35	58.8	83	56.4	292
Memphis	35	07.2	89	59.4	90
Nashville	36	09.6	86	46.2	194

#### TEXAS



Abilene	32	25.0	99	45.0	561
Amarillo	35	12.0	101	51.0	1209
Arlington	32	44.0	97	07.0	-
Austin	30	17.4	97	43.8	196
Baytown	29	44.0	95	01.0	-
Beaumont	30	04.8	94	07.2	7
Brownsville	25	54.6	97	29.4	5
Corpus Christi	27	45.0	97	24.6	11
Dallas	32	47.4	96	47.4	143
El Paso	31	47.4	106	25.2	1285
Fort Worth	32	44.9	97	19.7	220
Galveston	29	18.0	94	48.6	2
Garland	32	55.0	96	39.0	-
Grand Prairie	32	45.0	97	00.0	-
Houston	29	45.0	95	23.4	13
Irving	32	49.0	96	57.0	-
Laredo	27	31.0	99	29.0	144
Longview	32	29.0	94	44.0	-
Lubbock	33	35.0	101	51.0	1048
McAllen	26	12.0	98	13.0	-
Mesquite	32	46.0	96	35.0	-
Midland	32	05.0	102	05.0	-
Odessa	31	51.0	102	22.0	-
Pasadena	29	43.0	95	13.0	-
Plano	33	01.0	96	42.0	-
Port Arthur	29	52.0	93	59.0	3
Plainsview	34	11.0	101	43.0	-
Richardson	32	56.0	96	44.0	-
San Angelo	31	28.0	100	22.0	605
San Antonio	29	25.8	98	30.0	213
Tyler	32	21.0	95	19.0	-
Victoria	28	48.0	97	00.0	-
Waco	31	33.2	97	08.0	133
Wichita Falls	33	54.0	98	30.0	310

#### UTAH

Logan	41	46.0	111	51.0	-
Ogden	41	13.5	111	58.4	1409
Orem	40	15.0	111	50.0	-
Provo	40	15.0	111	40.0	1493
Salt Lake City	40	45.6	111	52.2	1385
Sandy City	40	36.0	111	53.0	-

#### VERMONT

Brattleboro	42	51.1	72	33.8	98
Burlington	44	28.8	73	13.2	36
Montpelier	44	15.6	72	34.2	159

VIRGINIA					
Alexandria	38	49.2	77	04.8	-
Arlington	38	55.0	77	10.0	-
Bristol	36	36.6	82	10.8	-
Charlottesville	38	02.4	78	29.4	-
Chesapeake	38	48.0	76	16.0	-
Danville	36	35.4	79	24.0	-
Hampton	37	02.0	76	21.0	-
Lynchburg	37	24.6	79	09.6	-
Newport News	37	03.0	76	28.8	-
Norfolk	36	54.0	76	16.2	3
Petersburg	37	13.2	77	24.0	-
Portsmouth	36	50.0	76	19.0	3
Richmond	37	32.4	77	27.6	52
Roanoke	37	16.8	79	57.6	297
Virginia Beach	36	50.0	75	58.0	-

WASHINGTON					
Bellevue	47	37.0	122	12.0	-
Billingham	48	45.0	122	28.6	-
Everett	47	59.0	122	11.0	-
Mt. Rainier	46	50.0	121	45.0	-
Olympia	47	03.0	122	53.0	-
Pullman	46	46.0	117	09.0	-
Richland	46	17.0	119	17.0	-
Seattle	47	37.8	122	19.8	131
Spokane	47	40.2	117	24.6	773
Tacoma	47	16.0	122	30.0	36
Walla Walla	46	05.0	118	18.0	-
Yakima	46	35.7	120	30.8	348

WEST VIRGINIA					
Charleston	38	21.0	81	37.8	197
Greenbank	38	26.3	79	50.2	-
Huntington	38	24.6	82	25.8	185
Wheeling	40	04.2	80	42.0	213

WISCONSIN					
Appleton	44	14.0	88	27.0	-
Eau Claire	44	48.6	91	30.0	-
Green Bay	44	30.0	88	04.0	194
Janesville	42	41.0	89	03.0	-
Kenosha	42	34.0	87	50.0	-
La Crosse	43	48.6	91	13.8	-
Madison	43	05.4	89	23.4	282
Milwaukee	43	03.0	87	57.0	208

Oshkosh	44	01.0	88	35.0	-
Racine	42	43.0	87	49.0	207
Sheboygan	43	45.6	87	44.9	207
Waukesha	43	01.0	88	13.0	-
Wauwatosa	43	03.0	88	00.0	-
West Allis	43	01.0	88	01.0	-

WYOMING

Casper	42	50.4	106	19.2	-
Cheyenne	41	08.4	104	48.0	2010
Sheridan	44	47.8	106	57.7	1301

## European Cities

Location Name	Latitude		Longitude		Alt m
	Deg	Min	Deg	Min	
ANDORRA					
Andorra la Vella	42	30.0N	1	31.0E	1162
AUSTRIA					
Vienna	48	13.0N	16	20.0E	218
BELGIUM					
Antwerp	51	13.0N	4	25.0E	-
Brussels	50	50.0N	4	20.0E	-
Liege	50	38.0N	5	34.0E	-
BYELARUS					
Minsk	53	54.0N	27	35.0E	242
CZECHOSLOVAKIA					
Ostrava	49	50.0N	18	17.0E	-
Prague	50	05.0N	14	28.0E	217
DENMARK					
Copenhagen	55	40.0N	12	35.0E	14
ESTONIA					
Tallinn	59	26.0N	24	44.0E	-
FINLAND					
Helsinki	60	10.0N	24	58.0E	10
FRANCE					
Bordeaux	44	50.0N	0	34.0W	52
Lille	50	38.0N	3	04.0E	46
Lyon	45	43.0N	5	04.0E	308
Marseille	43	18.0N	5	24.0E	81
Paris	48	52.0N	2	20.0E	54
Toulouse	43	36.0N	1	26.0E	177
GERMANY					
Aachen	50	47.0N	6	05.0E	-
Berlin	52	31.0N	13	24.0E	61
Bielefeld	52	01.0N	8	31.0E	-
Bonn	50	44.0N	7	05.0E	-
Bremen	53	04.0N	8	49.0E	17
Dortmund	51	31.0N	7	28.0E	-
Dresden	51	03.0N	13	44.0E	-

Duisburg	51	25.0N	6	46.0E	-
Dusseldorf	51	12.0N	6	47.0E	-
Essen	52	43.0N	7	57.0E	-
Frankfurt	50	07.0N	8	40.0E	111
Hamburg	53	33.0N	9	59.0E	22
Hannover	52	24.0N	9	44.0E	-
Koln	50	56.0N	6	59.0E	-
Leipzig	51	19.0N	12	20.0E	-
Mannheim	49	29.0N	8	29.0E	-
Munich	48	08.0N	11	35.0E	571
Nurnberg	49	27.0N	11	04.0E	344
Stuttgart	48	46.0N	9	11.0E	-
Wiesbaden	50	05.0N	8	14.0E	-
Wuppertal	51	16.0N	7	11.0E	-
HUNGARY					
Budapest	47	30.0N	19	05.0E	129
IRELAND					
Dublin	53	20.0N	6	15.0W	51
ITALY					
Bologna	44	29.0N	11	20.0E	-
Catania	37	30.0N	15	06.0E	-
Florence	43	46.0N	11	15.0E	-
Genova	44	25.0N	8	57.0E	104
Milano	45	28.0N	9	12.0E	-
Napoli	40	51.0N	14	17.0E	27
Palermo	38	07.0N	13	21.0E	116
Rome	41	54.0N	12	29.0E	124
Torino	45	03.0N	7	40.0E	-
LATVIA					
Riga	56	57.0N	24	06.0E	-
LIECHTENSTEIN					
Vaduz	47	09.0N	9	31.0E	-
LITHUANIA					
Vilnius	54	40.0N	25	26.0E	-
LUXEMBOURG					
Luxembourg	49	36.0N	6	09.0E	360
MALTA					
Valletta	35	54.0N	14	31.0E	76

MONACO				
Monaco	43	44.0N	7 25.0E	59
NETHERLANDS				
Amsterdam	52	22.0N	4 54.0E	2
Rotterdam	51	55.0N	4 28.0E	-
S'Gravenhage	52	06.0N	4 18.0E	-
Utrecht	52	05.0N	5 08.0E	-
NORWAY				
Oslo	59	55.0N	10 45.0E	101
POLAND				
Gdansk	54	23.0N	18 40.0E	12
Krakow	50	03.0N	19 58.0E	237
Lodz	51	46.0N	19 30.0E	-
Lukanowice	50	00.0N	20 33.6E	-
Poznan	52	25.0N	16 55.0E	-
Warsaw	52	15.0N	21 00.0E	96
Wroclaw	51	06.0N	17 00.0E	158
PORTUGAL				
Lisbon	38	43.0N	9 08.0W	103
Porto	41	10.0N	8 36.0W	-
SAN MARINO				
San Marino	43	55.0N	12 28.0E	-
SPAIN				
Barcelona	41	23.0N	2 11.0E	102
Bilbao	43	15.0N	2 58.0W	-
Madrid	40	24.0N	3 41.0W	718
Malaga	36	34.0N	4 25.0W	-
Seville	37	23.0N	5 59.0W	32
Valencia	39	28.0N	0 22.0E	26
Zaragoza	41	38.0N	0 53.0E	-
SWEDEN				
Goteborg	57	43.0N	11 58.0E	18
Stockholm	59	20.0N	18 03.0E	48
SWITZERLAND				
Basel	47	33.0N	7 35.0E	-
Bern	46	57.0N	7 26.0E	616
Zurich	47	23.0N	8 32.0E	531
UKRAINE				

L'vov	49	50.0N	24	00.0E	321
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UNITED KINGDOM

Belfast	54	35.0N	5	55.0W	19
Birmingham	52	29.0N	1	55.0W	176
Bristol	51	27.0N	2	35.0W	-
Cardiff	51	29.0N	3	13.0W	67
Coventry	52	25.0N	1	30.0W	-
Edinburgh	55	57.0N	3	13.0W	145
Glasgow	55	53.0N	5	15.0W	-
Leeds	53	50.0N	1	35.0W	-
Liverpool	53	25.0N	2	55.0W	65
London	51	30.0N	0	10.0E	49
Manchester	53	28.0N	2	15.0W	-
Middlesbrough	54	35.0N	1	14.0W	-
Newcastle	52	26.0N	3	06.0W	-
Nottingham	52	58.0N	1	10.0W	-
Sheffield	53	23.0N	1	28.0W	-

YUGOSLAVIA

Belgrade	44	50.0N	20	30.0E	149
Zagreb	45	48.0N	15	58.0E	-

# Australian Cities

Location Name	Latitude		Longitude		Alt m
	Deg	Min	Deg	Min	
Adelaide	34	55.0S	138	35.0E	-
Brisbane	27	28.0S	153	02.0E	-
Broken Hill	31	57.0S	141	27.0E	-
Canberra	35	17.0S	149	08.0E	-
Darwin	12	28.0S	130	50.0E	-
Fremantle	32	03.0S	115	45.0E	-
Marathon	20	49.0S	143	34.0E	-
Melbourne	37	49.0S	144	58.0E	-
New Castle	32	56.0S	151	46.0E	-
Perth	31	56.0S	115	50.0E	-
Sydney	33	52.0S	151	13.0E	-
Townsville	19	16.0S	146	48.0E	-
Wollongong	34	25.0S	150	54.0E	-



## Other World Cities

Location Name	Latitude		Longitude		Alt
	Deg	Min	Deg	Min	m
AFRICA					
Cape of Good Hope	31	00.0S	23	00.0E	-
Cape Town	33	55.0S	18	22.0E	-
Johannesburg	26	15.0S	28	00.0E	-
EGYPT					
Cairo	30	08.0N	31	24.0E	-
HONG KONG					
Hong Kong	22	15.0N	114	11.0E	-
JAPAN					
Tokyo	35	45.0N	139	30.0E	-
NEW ZEALAND					
Auckland	36	53.0S	174	45.0E	-
Dunedin	45	53.0S	170	30.0E	-
Wellington	41	18.0S	174	46.0E	-
RUSSIA					
Moscow	55	45.0N	37	35.0E	-
SWEDEN					
Stockholm	59	20.0N	18	03.0E	-
TAZMANIA					
Hobart	43	00S	147	10.0E	-



## Selecting the Language

Earlier versions of **EarthSun** have spread around the world, finding homes in countries such as Australia, Germany, England, France and Israel. As a result of this widespread international use, a need arose for the ability to support people who speak in tongues other than my native English. Since then, I have received many new languages and have included them as well. I'm now pleased to announce that **EarthSun** can display the icon's title in any of **56** languages.

To select a language, use the *Language* list box to choose either English, French, Italian, Spanish, German, Dutch, Afrikaans, Portugese, Irish, Welsh, Breton, Cornish, Danish, Swedish, Norwegian, Finnish, Icelandic, Russian, Ukrainian, Polish, Czech, Slovene, Slovak, Croatian, Serbocroatian, Bulgarian, Romanian, Hungarian, Lithuanian, Estonian, Turkish, Albanian, Mongolian, Chinese, Japanese (Roman), Hawaiian, Arabic, Urdu, Farsi, Zulu, Kirundi, Oromo, Somali, Hindi, Telugu, Sanskrit, Tamil, Thai, Indonesian, Tagalog, Hebrew, Yiddish, Esperanto, Greek, Latin and the fictional language Klingon. The names and abbreviations of the months and days-of-the-week that display in the icon's title will now appear in your selected language.

● For something a little more interesting and to get a taste of other world languages, click the *Random* button **on** to have **EarthSun** randomly select a language for you each time the program starts. Note that a new random language is selected **before** entering the *About* box instead of after, allowing you to select a specific one until the next time you use the *About* box.

Note that due to limitations in the characters that can be displayed, I had to sometimes substitute accented characters with either similar accented characters or with just the unaccented character. This is especially true with the Polish and Czech languages. Also, some of the Hungarian months may not be correct; if you know what they should be, please send them to me. Finally, I am interested in supporting as many different languages as I have access to, so if you know of another language that is not currently supported, please send it to me so I can include it in future versions of **EarthSun**.

● If you are interested in learning about the origin of some of the month and day names, and how different languages have derived similar names, please read the word origin section for a brief overview.

Finally, to lay aside any question that I'm possibly an expert student of world languages, many thanks to the resources at Uris Hall and Olin Hall on the Cornell University campus for providing me with the many "English-to-xxx" dictionaries I used for this project, and to Eric Rickin.

# Modern Greek

## Days of the week in modern Greek:

Sunday	Kuriak`h	Keeriakee	(Day) of the Lord
Monday	Deut`era	Theftera or Dheftera	Second (day)
Tuesday	Tr`ith	Treetee	Third (day)
Wednesday	Tet`arth	Tetartee	Fourth (day)
Thursday	P`empth	Pemptee	Fifth (day)
Friday	Paraskeu`h	Paraskevee	(Day) of preparation/ production from Jewish
Saturday	S`abbato	Savato	

## Months of the year in modern Greek:

January	Ianou`arios	Eeanouareeos
February	Febrou`arios	Fevrouareeos
March	M`artios	Marteeos
April	Apr`ilios	Apreeleeos
May	M`aios	Maeelos
June	Io`unios	Eeouneeos
July	Io`ulios	Eeouleelos
August	A`ugoustos	Avyoustos
September	Sept`embrios	Septemvreeos
October	Okt`wbrios	Oktovreeos
November	No`embrios	Noemvreeos
December	Dek`embrios	Dekemvreeos

This note applies to both day names and month names:

The second column is one-to-one mapping of Greek letters to ascii (latin) characters assuming that the Greek alphabet is a b g d e z h q i k l m n j o p r s t u f x y w.

The third column is an attempt for an English-speaking person to pronounce the days. The ` means accent (i.e. louder voice)

The fourth column for day names is the meaning of the name (sort of etymological).

The meaning of the month names comes from Roman history (Roman emperors), and I suppose it is the same as in English.

About the month names in ancient Greek:

Here are the month names, with pronunciation for English speakers and information on which Greek tribes who used the names.

Artem`isios	Artemeeseeos	Dorians, Macedonians
Apella~ios	Apeleos	Dorians, Macedonians
P`an[ah]mos	Pan[a ee]mos	Ionians, Macedonians
(Omo)L~wos	(Omo)Lo-os	Thessalians, Macedonians
(Qeo)Da`isios	(Theo)Dheseeos	Macedonians, Dorians, Aiolians
D`ios	Dheeos	Myceneans, Macedonians
Auduna~ios	Avdeeneos	Macedonians, Thracians
Uperbereta~ios	Eepervereteos	Macedonians, Thracians
Gorpia~ios	Yorpee-eos	Macedonians
D`ustros	Dheestros	Macedonians

Note that I used two types of accents in ancient Greek, ` and ~.

Also, that an `i' is pronounced as a short ee, but an `h' is pronounced as a long ee, and an `u' is pronounced as a thin ee.

Christina C. Christara (ccc@cs.toronto.edu)

# Klingon

There is, no surprise here, a large interest in Klingon on the network. There is alt.startrek.klingon just to begin with. Their FAQ gives pointers to references (dictionaries, grammar books.. ) language tapes ("Conversational Klingon" and "Power Klingon") and the correspondence courses. There are also many linguists on the net who discuss klingonnesse (*tlhIngan Hol*) as an offshoot.

## DAYS OF WEEK, MONTHS & SEASONS IN KLINGON

by G.F. Proechel

One of the frustrations in speaking and writing Klingon is the absence of what for Earthlings are very elementary concepts. The days of the week, months and seasons fall in that category. Since these concepts of time are based on elementary facets of the reality of our solar system and the interaction of a number of heavenly bodies within our solar system, it is hardly surprising that beings who exist in a very different astronomical reality would not have words which correspond to these aspects of the solar system. We can talk about such things in Klingon, however, without having to resort to English.

The concept of the week and its seven days was invented in a time when astrologers were not really aware of the three outermost planets: Neptune, Uranus, and Pluto. (Even now, some people believe that we have not discovered all the planets.) Thus, the Earth shared the solar system with seven other heavenly bodies: the Sun, the Moon and five other planets. It was from these seven heavenly bodies that the concept of the week was developed and from which we derived the names for the days of the week. Many Terran cultures seem satisfied to refer to the days of the week by first day, second day, etc. This can be easily accomplished in Klingon. That would give us Sunday as *jaj wa'DIch* (It must be remembered that ordinals come AFTER the thing they modify, so the equivalents of first, second, third, etc. will always come AFTER *jaj*.)

Sun: jaj wa'DIch  
Mon: jaj cha'DIch  
Tue: jaj wejDIch  
Wed: jaj loSDIch  
Thu: jaj vaghDIch  
Fri: jaj javDIch  
Sat: jaj SochDIch

Since Sunday and Monday are named after the Sun and Moon respectively, it would also be possible to translate them literally. We don't know the name

of the Klingon Sun, at least it's not given in the Klingon Dictionary, but we know that we can refer to it as the Home Star. This would give us:

juH Hov jaj: 'Home Star Day' for Sunday  
and  
maS jaj: for Monday.

The Klingon Dictionary does give us a word for week, *Hogh*, although we have no information about what a week is in Klingon terms.

In the months as well we have no alternative but to number them from one to twelve. Here's the result:

jar wa'Dich - Jan.  
jar cha'Dich - Feb.  
jar wejDich - Mar.  
jar loSDich - Apr.  
jar vaghDich - May  
jar javDich - June  
jar SochDich - July  
jar chorghDich - Aug.  
jar HutDich - Sept.  
jar wa'maHDich - Oct.  
jar wa'maHwa'Dich - Nov.  
jar wa'maHcha'Dich - Dec.

This is, perhaps, a not-very-attractive solution, but it is a practical one.

It should be noted that the word for year is DIS. This seems to be a play on words: *jar* for month and *dish* for year.

The seasons too, present a problem, as we have no idea of the cycle of nature which occurs in the Klingon home world. It would be possible to describe our seasons in Klingon, however, and thus approximate the idea of Spring, Summer, Fall, and Winter. If we take the Klingon word *poH* meaning time and extend its meaning to accomodate season we could talk about the cold time (winter), the hot time (Summer), and the green time (Spring). When we get to fall, the problem gets trickier, as our concept of Fall comes from falling leaves and we do not have a word for leaf. Furthermore, it is questionable whether we can justify the verb *pum*: to fall as a stative verb. Our best bet seems to be to take our cue from 4.2.9 and assume that *pum* can be used as a noun as well as a verb. That would be give us the following names for the seasons:

Spring: poH Sud  
Summer: poH tuj

Fall : pum *or* pum poH  
Winter: poH bIr

I hope this little essay makes it easier for people who want to talk about time and seasons on planet Earth in Klingon. This is the best we can do without creating neologisms at the moment.

-- Stuart C. Spivack \* The Ohio State Univeristy \*  
``Any man more right than his neighbors constitutes a majority of one."  
Henry David Thoreau  
<sspivack@magnus.acs.ohio-state.edu>



# Zulu

## Zulu words for days:

Monday : uMsombuluko  
Tuesday : uLwesibili  
Wednesday: uLwesithathu  
Thursday : uLwesine  
Friday : uLwesihlanu  
Saturday : uMgqibelo  
Sunday : iSonto

## Zulu words for months:

January : uNhlolanja  
February : uNdasa  
March : uMbasa  
April : uNhlaba  
May : uNhlangulana  
June : uNtulikazi  
July : uNcwaba  
August : uMandulo  
September: uMfumfu  
October : uLwezi  
November : uZibandlela  
December : uMasingana

The Zulu months above are really lunar months. This is the best approximation to give you. In reality, the Zulu mostly use the English words for months now.

The Zulu words for the days of the week are often used, but English will be known and commonly used, too.

Dennis Eaton <DWE104@PSUVM.PSU.EDU>

# Breton

Monday	Lun
Tuesday	Meurzh
Wednesday	Merc'her
Thursday	Yaou
Friday	Gwener
Saturday	Sadorn
Sunday	Sul

Week	Sizhun
During the week	war ar sizhun
Weekend	dibenn-sizhun

January	Genver	
February	C'hwevrer	
March	Meurzh	
April	Ebrel	(April-Fool: pesk Ebrel)
May	Mae	
June	Even	
July	Gouere	
August	Eost	
September	Gwengolo	
October	Here	
November	Du	
December	Kerzu	

The dictionary I have is "Elementary English-Breton Dictionary" by R. Delaporte, #ISBN: 2 86863 044 8 (1990)

It is interesting looking at the words that they use for days and months, since English days & months are generally based from Roman times and the Celtic words are only adaptations of those Roman/Latin words.

Shelley Choquer \* Reaching out from my little Corner of the \*  
(shelley\_choquer@sunshine.net) \* World \*

# Cornish

## Days of the week:

Sunday	de-Sul
Monday	de-Lun
Tuesday	de-Merth
Wednesday	de-Mergher
Thursday	de-Yow
Friday	de-Gwener
Saturday	de-Sadorn

## Months:

January	mys-Genver
February	mys-Whevrer
March	mys-Merth
April	mys-Ebrel
May	mys-Me
June	mys-Metheven
July	mys-Gortheren
August	mys-Est
September	mys-Gwyngala
October	mys-Hedra
November	mys-Du
December	mys-Kevardhu

Source: "Gerlyver Noweth Kernewek" gans R. Morton Nance (1990)  
(note that the above book contains an error in the rendition of  
"de-Gwener"; the above rendition is correct)

There are interesting similarities (and differences) among  
Breton, Welsh and Cornish. I have not included the accents; there  
are quite a lot of them, but they are really not necessary.

-----  
Doc Evans NQ0I / G4AMJ : devans@orion.colorado.edu  
al019@freenet.hsc.colorado.edu  
-----

# Urdu

The months in Urdu are as follows:

Janwary  
Farwary  
March  
Aprail  
Ma'i  
June  
July  
Agast  
Satamber  
Actuber  
November  
December

They are similiar to the English months but the pronounciation is different.

Lunar calendar is also followed in Pakistan whose months are:

Muharram  
Safar  
Rabi I  
Rabi II  
Jamadi I  
Jamadi II  
Rajab  
Shaban  
Ramadhan  
Shawwal  
Dhu'l Qad  
Dhu'l Hajj

The days are as follows:

Sunday	Itwar
Monday	Pir
Tuesday	Mangal
Wednesday	Budh
Thursday	Jum'arat
Friday	Jum'a
Saturday	Hafta

The names of the months are the same with slight difference in

pronunciation.

Khurram <zaka\_ltd@uhura.cc.rochester.edu>

# Hindi

In India, two types of calendars are followed. The Lunar calendar is used to mark festivals in India, whereas the Solar calendar is used in all official matters. The Solar calendar follows:

January	Janvari
February	Farvari
March	March
April	Aprail
May	Mayee
June	June
July	July
August	August
September	Sitambar
October	Actoobar
November	Navambar
December	Desambar
Monday	Somvaar
Tuesday	Mangalvaar
Wednesday	Budhvaar
Thursday	Guruvaar (or Brahaspativaar)
Friday	Shukravaar
Saturday	Shanivaar
Sunday	Ravivaar (or Itvaar)

Rajat Moona <moona@au-bon-pain.lcs.mit.edu>

# Telugu

## TELUGU LANGUAGE:

### History:

Language of the Dravidian family, spoken in southeastern India. It is the official language of the state of Andhra Pradesh. There are several distinct regional dialects in Telugu; the formal, or literary, language is also distinct from the spoken dialects, a situation known as diglossia. Telugu, like other Dravidian languages, has a series of retroflex consonants (e.g., tAh, dAh, nNa; sounds pronounced with the tip of the tongue curled back against the roof of the mouth) and it indicates such grammatical categories as case, number, person, and tense with suffixes. Reduplication (repetition of words or syllables to create new forms) is common - e.g., *pakapaka* "suddenly bursting out laughing," *garagara* "clean, neat, nice." Written materials in Telugu date from 633 AD, and literature begins with a version of the Hindu epic, the Mahabharatham, by the Telugu writer Nannaya, dating from the 10th or 11th century. Telugu literature flowered in the early 16th century under the Vijayanagar Empire, of which Telugu was the court language. Telugu is now the second most-spoken language (next to Hindi) in India.

### Weekdays:

The word *varamu* literally means 'week' and it acts as a suffix; and each day refers to a planet.

English	Telugu	Planet
Monday	Somavaramu	Moon
Tuesday	Mangalavaramu	Mars
Wednesday	Budhavaramu	Mercury
Thursday	Guruvaramu	Jupiter
Friday	Sukravaramu	Venus
Saturday	Sanivaramu	Saturn
Sunday	Adhivaramu	Sun

### Months:

The month (*masam* in Telugu) names refer to the stars (*nakshatrams*). Though there are 27 stars, only 14 stars are being referred to the months, the closest star to Moon on the Full Moon Day (*Pournami*) of that month.

English	Actual	Telugu	Star
January	15Jan->14Feb	Margasheersha	Mrigasera
February	15Feb->14Mar	Pushyami	Pushyami
March	15Mar->14Apr	Maargha	Makha
April	15Apr->14May	Phalguna	Phalguna
May	15May->14Jun	Chaitra	Chitra
June	15Jun->14Jul	Vaishakha	Visakha
July	15Jul->14Aug	Jyeshta	Jyeshta
August	15Aug->14Sep	Aashadha	Uttara/Purva Ashada
September	15Sep->14Oct	Shravana	Shravana
October	15Oct->14Nov	Bhadrapadha	Uttara/Purva Bhadra
November	15Nov->14Dec	Ashveeyuja	Aswani
December	15Dec->14Jan	Kartikha	Krithika

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From 'Encyclopedia Britanica' and from my knowledge (as taught by my parents).

Jagadeesh Aluri (alurijb%phvax.dnet@sb.com)



# Tamil

Tamil is spoken in Northern India. The Tamil word 'kizhamai' means 'belonging to' and this is added at the end of every word just like 'day' is added in English.

thingaL kizhamai	= Monday (literally, thingaL = Moon)
cevvAyk kizhamai	= Tuesday (cevvAy = red planet = Mars)
puthan kizhamai	= Wednesday (puthan = Mercury)
viyAzhak kizhamai	= Thursday (viyAzhak = Jupiter)
veLLik kizhamai	= Friday (veLLi = Venus; means 'white' or 'silvery')
canik kizhamai	= Saturday (cani = Saturn; means 'cool')
NYAyiru kizhamai	= Sunday (NYAyiru = Sun)

Months:

The Tamil months begin when Sun enters each of the 12 constellations. Thus it does not coincide with English months but it coincides with Zodiac sign-based birth days.

The \*approximate\* dates:

ciththirai	: April 14- May 15 -- say, mid Apr to mid May
vaikAsi	: May 15 - mid May to mid June
Ani	: June 15- mid June to mid July
Adi	: July 15-
AvaNi	: Aug 15-
purattAsi	: Sept 15-
aippasi	: Oct 15-
kArththigai	: Nov 15-
mArkazhi	: Dec 15-
thai	: Jan 15-
mAsi	: Feb 15-
pankuni	: Mar 15-

The names of the months refer to either the constellation the Sun is entering, or one of the stars in the constellation in which the Sun is entering.

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# Hebrew

## Days of the week:

Eng.Name	Heb.Name	Meaning	Common Abbreviation
Sunday alphabet)	Yom Rishon	1st day	Aleph (1st letter of
Monday	Yom Sheni	2nd day	Bet (2nd letter of alphabet)
Tuesday alphabet)	Yom Shlishi	3rd day	Gimmel (3rd letter of
Wednesday alphabet)	Yom Revi`i	4th day	Dalet (4th letter of
Thursday	Yom Hamishi	5th day	hei (5th letter of alphabet)
Friday	Yom Shishi	6th day	Vav (6th letter of alphabet)
Saturday alphabet)	Yom Shabbat	Rest day	Shin (21st letter of

## Months of Hebrew year:

### Approximate common months are in parenthesis:

Tishrei	= (Sep-Oct)	
Heshvan	= (Oct-Nov)	
Kislev	= (Nov-Dec)	
Tevet	= (Dec-Jan)	
Shvat	= (Jan-Feb)	
Adar	= (Feb-Mar)	* Only in 12 months year
Adar Aleph'	= (Feb-Mar)	* Only in 13 months year
Adar Bet'	= (Mar-Apr)	* Only in 13 months year
Nissan	= (Mar-Apr)	
Iyar	= (Apr-May)	
Sivan	= (May-Jun)	
Tamuz	= (Jun-Jul)	
Av	= (Jul-Aug)	
Elul	= (Aug-Sep)	

## Common Month names:

Jan	Yanu'ar
Feb	Febru'ar
Mar	Merts
Apr	April
May	Mai
Jun	Yuni

Jul Yuli  
Aug Ogust  
Sep September  
Oct October  
Nov November  
Dec Detseember

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A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects.

-- Robert A. Heinlein

# Yiddish

Following are the standard Yiddish names, transcribed according to the YIVO convention. Consonants are pronounced as in English, vowels as in continental languages. The consonant cluster "kh", as in "mitvokh" is pronounced like the "ch" in German "lachen" or in Scottish "loch". The diphthong "ay", as in "fraytik" and "may", is pronounced like the "i" in "high".

## Days:

Sunday	zuntik
Monday	montik
Tuesday	dinstik
Wednesday	mitvokh
Thursday	donershtik
Friday	fraytik
Saturday	shabes

## Months:

January	yanuar
February	februar
March	marts
April	april
May	may
June	yuni
July	yuli
August	oygust
September	september
October	oktober
November	november
December	detseember

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# Thai

## Days of the week:

Sunday	Wan Arthit	(wan-?aa-thit^)
Monday	Wan Jan	(wan-jan-)
Tuesday	Wan Angkarn	(wan-?ang-khaan-)
Wednesday	Wan Phut	(wan-phut")
Thursday	Wan Pharuehas	(wan-pha"rU"hat')
Friday	Wan Sook	(wan-suk')
Saturday	Wan Sao	(wan-saw+)

## Months of the year:

January	Mokarakom	(mak"ka'raa-khom)
February	Gumphaphan	(kum-phaa-phan-)
March	Meenakom	(mii-naa-khom-)
April	Mesayon	(mee-saa+yon-)
May	Persapakom	(phU"sa'phaa-khom-)
June	Mithunayon	(mii"thu'naa-yon-)
July	Galakgadakom	(ka'lak^ka'daa-khom-)
August	Singhakom	(sing+haa+khom-)
September	Ganyayon	(kan'yaa-yon-)
October	Tulakom	(tu'laa-khom-)
November	Persajigayon	(phUt"sa'ji'kaa-yon-)
December	Thanwakom	(than-waa-khom-)

Thai calendar also marks the moon condition, e.g. full moon, darkmoon. Astrologers use 1st, 2nd, 3rd, 4th, and so on month, and waxing moon days, or waning moon days. These jargons are less used nowadays by the general public.

Please ask a Thai friend to pronounce the above names for you. The Thai words in the 2nd column is arbitrarily created by me. The soc.culture.thai (SCT) convention, in the 3rd column, is no better universal. Even in the SCT itself, the romanization (transliteration?) it not necessarily shared by most of its readers. Nonetheless, in case you want to see the complete text of the transciption (transliteration) system, please consult the language section of the SCT FAQ appeared early on the SCT list.

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# Indonesian

Days of the week:

Senin = Monday  
Selasa = Tuesday  
Rabu = Wednesday  
Kamis = Thursday  
Jum'at = Friday  
Sabtu = Saturday  
Minggu = Sunday

Below is the name of 12 months in one international year calendar:

Januari = January  
Februari = February  
Maret = March  
April = April  
Mei = May  
Juni = June  
Juli = July  
Agustus = August  
September = September  
Oktober = October  
Nopember = November  
Desember = December

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# Tagalog

Tagalog is the Fillipino language.

## Days:

Monday	Lunes
Tuesday	Martes
Wednesday	Miyerkoles
Thursday	Huwebes
Friday	Biyernes
Saturday	Sabado
Sunday	Linggo

## Months:

January	Enero
February	Pebrero
March	Marso
April	Abril
May	Mayo
June	Hunyo
July	Hulyo
August	Agosto
September	Setyembre
October	Oktubre
November	Nobyembre
December	Disyembre

## Other words:

month	buwan
day	araw
Christmas	Pasko
New Year	Bagong Taon
Holy Week	Mahal na Araw
Valentine's Day	Araw ng mga Puso
All Soul's Day	Araw ng mga Patay
Independence Day	Araw ng Kalayaan
Thanksgiving Day	Araw ng Pasasalamat

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# Ukranian

## Ukrainian Days of the Week:

Monday	=	ponedilok
Tuesday	=	vivtorok
Wednesday	=	sereda
Thursday	=	chetver
Friday	=	pyatnytsya
Saturday	=	subota
Sunday	=	nedilya

## Ukrainian Months of the Year:

January	=	sichen'
February	=	lyutay = lyutyy
March	=	berezen'
April	=	kviten'
May	=	traven'
June	=	cherven'
July	=	lypen'
August	=	serpen'
Septemeber	=	veresen'
October	=	zhoten'
November	=	lystopad
December	=	hruden'

Ukraine uses the Gregorian calendar just like the rest of the world, except for religious holidays, for which Ukraine uses the Julian calendar. Therefore, Christmas = Dec. 25th (Gregorian) = January 7 (Julian). Thus, Ukrainians celebrate Christmas on January 7th.

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# Somali

Somali is Somalia's native language.

Following are the names of the months first in Somali and their translations.

Let me say first that the Julian calendar is the official calendar in Somalia.

Although the Arabic (Islamic calendar) was used, it's still used in the

country-side. However, all the written materials use the Julian calendar.

The names of the months closely resemble the Julian months, as you'll notice.

They are little bit transformed:

Jannaayo	(January)	
Febraayo	(February)	
Maarso	(March)	
Abriil	(April)	* (B) is used, as the Somali language has no (P).
Maajo	(May)	
Juun	(June)	
Luulyo	(July)	
Ogosto	(August)	
Sibteembar	(September)	
Oktoobar	(October)	
Noofambar	(November)	
Diisambar	(Dicemeber)	

For the Arabic names of the months, please contact some Arabic source as I don't remember them correctly. We used to hear them in the mosques and from the old folk in the country-side. In the towns, they are remembered in the month of fasting (Ramadan), and some other religious and traditional occasions as well.

Below are the names of the days of the week, used in Somalia. They are Arabic names:

Sabti (Saturday)	* They start with Saturday, as Friday is a holiday.
Axad (Sunday)	* (X) is difficult to pronounce for non-Arabic speakers. They pronounce it like H. Axad goes something like AHAD.
Isniin (Monday)	
Talaado (Tuesday)	
Arbaca (Wednesday)	* (C) has also a strict Arabic pronunciation. Non-arabic speakers say it like A. Arbaca = Arba'a.

I wish you could hear me say it in the original form!

Khamiis (Thursday)

Jimce (Friday)

\* In the calendar, it is usually written in red, as it is the Islamic holiday.

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# Oromo

The following is the Oromo language known as AfaanOromo or Oromiffa. Spoken by over over thirty million people in Oromia/Ethiopia and in Kenya, this is one of the top three African languages.

## DAYS OF THE WEEK

Dilbata	-	Sunday
Wixata	-	Monday
Kibxata	-	Tuesday
Roobi	-	Wednesday
Kamisa	-	Thursday
Jimataata	-	Friday
Sambata	-	Saturday

## MONTHS OF THE YEAR

Amajjii	-	January
Guraandhala	-	February
Bitootessa	-	March
Caamsaa	-	April
Ebla	-	May
Waxabajjii	-	June
Adoolessa	-	July
Hagayya	-	August
Birraa	-	September
Onkoloolessa	-	October
Saddasa	-	November
Arfaasaa	-	December

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# Kirundi

Kirundi is spoken in Burundi, Africa.

Below are the days of the week, from Monday through Sunday:

kuwambwere  
kuwakabiri  
kuwagatatu  
kuwakane  
kuwagatanu  
kuwagatandatu  
kuwamungu

Below are the months of the year, from January through December:

ukwambwere  
ukwakabiri  
ukwagatatu  
ukwakane  
ukwagatanu  
ukwagatandatu  
ukwindwi  
ukwumunani  
ukwicenda  
ukwicumi  
ukwicuminarimwe  
ukwicuminakabiri

novat nintunze <f0878873@wsuaix.csc.wsu.edu>

# Farsi

Farsi is spoken in Iran.

Days of the week:

Saturday: Shanbeh  
Sunday: Yek-Shanbeh  
Monday: Do-Shanbeh  
Tuesday: Seh-Shanbeh  
Wednesday: Chahar-Shanbeh  
Thursday: Panj-Shanbeh  
Friday: Jome'eh

Months:

farvardin  
ordibehesht  
khordAd  
tir  
mordAd  
shahrivar  
mehr  
AbAn  
Azar  
dey  
bahman  
esfand

\*A is specially pronounced as in *jar* and *car*.

=====

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# Bulgarian

## Days of the week:

Monday	Ponedelnik
Tue	Vtornik
Wed	Sriada
Thu	Chetvartak
Fri	Petak
Sat	Sabota
Sun	Nedelia

## Months of the year:

Jan	Ianuari
Feb	Fevruari
Mar	Mart
Apr	April
May	May
Jun	Iuni
Jul	Iuli
Aug	Avgust
Sep	Septemvri
Oct	Oktomvri
Nov	Noemvri
Dec	Dekemvri

(I am not sure how correct the phonetic spellings are, but any Bulgarian would recognize them :))

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# Estonian

## Days of the week:

Sunday	pu"hapa"ev
Monday	esmaspa"ev
Tuesday	teisipa"ev
Wednesday	kolmapa"ev or keskna"dal
Thursday	neljapa"ev
Friday	reede
Saturday	laupa"ev

## Months of the year:

January	jaanuar
February	veebruar
March	ma"rts
April	aprill
May	mai
June	juuni
July	juuli
August	august
September	september
October	oktoober
November	november
December	detsember

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# Lithuanian

## Days of the week:

Sunday - sekmadienis  
Monday - pirmadienis  
Tuesday - antradienis  
Wednesday - trechiadienis  
Thursday - ketvirtadienis  
Friday - penktadienis  
Saturday - sestadienis

## Months of the year:

Jan - sausis  
Feb - vasaris  
Mar - kovas  
Apr - balandis  
May - geguzhe  
Jun - birzhelis  
Jul - liepa  
Aug - rugpjutis  
Sep - rugsejis  
Oct - spalio  
Nov - lapkritis  
Dec - gruodis

[Verified from "Hippocrene Concise Dictionary: Lithuanian-English/English Lithuanian" by Victoria Martsinkyavitchute (New York: Hippocrene, 1993) and "Trumpas Anglu-Lietuviu ir Lietuviu-Anglu Kalbu Zondynas (Short English-Lithuanian and English-Lithuanian Dictionary" by Sudare L. Zabuliene (Vilnius: Valstybinis Nacionaliniu Tyrimu Centras [National State Research Center], 1993).]

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# Mongolian

As we have three Mongolias (Inner Mongolia, Mongolian People's Republic and Buryat), the language varies from region to region. For example, in Inner Mongolia, it is largely influenced by Chinese, whereas in Buryat, by Russian. It is now generally conceded by the Mongols that Mongolian should be standardized on the Mongolian People's Republic's usage, as follows:

## Days of the week:

Monday:      Davaa garig (Neg deh udur)  
Tuesday:     Myagmar garig (Hoyor dahi udur)  
Wednesday:  Lhagva garig (Gurav dahi udur)  
Thursday:    Purev garig (Duruv dahi udur)  
Friday:      Baasan garig (Tav dahi udur)  
Saturday:    Byamba garig (Hagas sain udur)  
Sunday:      Nyam garig (Buten sain udur)

## Months of the year:

January:      Neg dugeer sar (First month)  
February:    Hoyor dugaar sar (Second month and so on...)  
March:        Gurav dugaar sar  
April:         Duruv dugeer sar  
May:          Tav dugaar sar  
June:         Zurgaa dugaar sar  
July:          Doloo dugaar sar  
August:       Naim dugaar sar  
September:   Yus dugeer sar  
October:      Arav dugaar sar  
November:    Arvan neg dugeer sar  
December:    Arvan hoyor dugeer sar

Words in parentheses represent colloquial/informal language.

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# Welsh

From the Welsh language, spoken in Wales (or "Cymru" in Cymraig):

## Days of the week:

Sunday	dydd Sul, Saboth
Monday	dydd Llun
Tuesday	dydd Mawrth
Wednesday	dydd Mercher
Thursday	dydd Iau, Difiau (coll.)
Friday	dydd Gwener
Saturday	dydd Sadwrn

## Months of the year:

January	Ionawr, Ionor
February	Chwefror, Mis Bach ("Small Month")
March	Mawrth ("Mawrth" means both March and Tuesday)
April	Ebrill
May	Mai
June	Mehefin
July	Gorffennaf
August	Awst
September	Medi
October	Hydref
November	Tachwedd, Y Mis Du ("The Gloomy [Dark?] Month")
December	Rhagfyr

Welsh characters do not use accents or diacritical marks.

Welsh is a member (the only surviving member) of the "Brythonic" family of Celtic languages, those languages originally spoken in Britain.

## Reference

H. Meurig Evans and W. O. Thomas, \_Y\_Geiriadur\_Mawr\_: the Complete Welsh-English/English-Welsh Dictionary, Gwasg Gomer, Llandysul, Dyfed, U.K., 1968

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# Chinese

There are two series of terms for days of the week. The *libai* series was introduced by Western missionaries, and is widely used in speech; *libai* means 'worship', so that libaitian 'Sunday' is literally 'worship day'. The other series is the *xingqi* series, which has a more secular and somewhat more formal sound. Except for Sunday, the other days are just called by their numbers *yi* for 'one', *er* for 'two', etc.:

Sunday	xingqiri
Monday	xingqiyi
Tuesday	xingqi'er
Wednesday	xingqisan
Thursday	xingqisi
Friday	xingqiwu
Saturday	xingqiliu

The months are also just numbered; first month, second month, etc:

January	yiyue
February	eryue
March	sanyue
April	siyue
May	wuyue
June	liuyue
July	qiyue
August	bayue
September	jiuyue
October	shiyue
November	shiyiyue
December	shi'eryue

By the way, in Chinese, time expressions always go from the larger unit to the smaller, in that order: year, month, day. So, August 9, 1994 is *1994 nian bayue 9 ri, xingqi'er*, i.e. '1994 year, August 9th day, Tuesday'.

Since the Chinese system is based on numbers anyway, dates in numerical form are usually fine, too.

--WHB (William.Baxter@um.cc.umich.edu)

# Sanskrit

Sanskrit names for months:

1. Chaitra
2. Vaishaakha
3. Jyeshtha
4. Aashaadha
5. Shraavana
6. Bhaadrapada
7. Aashvina
8. Kaartika
9. Maargashiirsha
10. Pausa
11. Maagha
12. Phaalguna

Remember that these are lunar months and do not correspond to the western months.

The names for the days of the week are as follows:

Sunday	Ravivaara
Monday	Somavaara
Tuesday	Mangalavaara
Wednesday	Budhavaara
Thursday	Guruvaara
Friday	Shukravaara
Saturday	Shanivaara

Madhav Deshpande (madhav.deshpande@um.cc.umich.edu)

# Word Origins

As an amateur astronomer and an English minor back in college, I developed a great interest in supporting as many world languages as I could in [EarthSun](#) after I received the German and Italian words from a [helpful user](#). I've known for some time how the names of the days and months were intimately tied to the Sun, Moon, and the planets of our Solar System, and thought I should share some of it here.

Latin is, of course, one of the world's oldest languages, and it has heavily influenced many languages that came after it. For instance, *Sunday* in English is equivalent to the Latin *Solis*, or "Sun-Day". Notice how *Sol* in *Solis* is in the word *Solar*. Other examples from Latin follow for the other days of the week. *Lunae* is the English *Monday*, or "Moon-Day"; *Lunar* no doubt derives from this word. *Tuesday* is *Martis* or "Mars-Day", *Wednesday* is *Mercurii* for "Mercury-Day."

The rest of the days of the week are also named after planets in Latin. *Thursday* is *Jovis* for "Jupiter-Day" or *Jovian* in English. *Friday* is named after Venus, as shown by the name *Veneris*, and *Saturday* is named for Saturn, as shown by *Saturni*. Other languages, particularly Italian, use similar names. Be sure to try all the available languages that [EarthSun](#) has to offer and compare one language with another, trying to see how they relate to one another.

Even the word *month* itself has an interesting origin tied to astronomy. In the past, lunar cycles were very important to fisherman so they could better predict high and low tides. Since the Moon completes one cycle of its phases once every 28 days or so, this period became known as one "moonth". Since that time long ago, the word was shortened to become the English *month* of today.

The month names, too, have an interesting history. March is named after the planet Mars in Latin (*Martius*), and July and August were named after Julius Caesar and Augustus, respectively (*Iulius* and *Augustus*). During Caesar's time, the current 12-month calendar was created amid much debate and confusion. New months were inserted in the existing 10-month calendar, and evidence of that can still be seen. Notice the months of September, October, November and December. These were originally the 7th, 8th, 9th and 10th months of the year. Notice from French the word for *seven* is *sept*, probably originally from Latin. The root *oct* stands for *eight* (remember the English word *octagon*, a shape with eight sides), *nov* is for nine and *dec* represents ten (recall the English word *decimal*).

As you can see from this very brief look at the origins of the names for the days-of-the-week and the months, it's interesting and educational to re-examine some of the words that we all take for granted in our everyday lives, and realize that most of them have existed for centuries and have been spoken throughout

modern history by literally billions of people.





