EarthSun 4.3 - November 1st, 1994

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What is EarthSun?

EarthSun is a <u>shareware</u> 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 <u>shadow</u> traverse the globe.

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

EarthSun can display an analog <u>clock</u>, 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 <u>alarm</u> feature where you can set up to three different alarms.   Double-clicking on the icon displays the very-informative <u>Sun and Moon info</u> 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 <u>talking clock/calendar</u> 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 <u>languages</u>.

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 <u>Sun and Moon info</u> 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:

<u>USA - Alabama to Montana</u>
<u>USA - Nebraska to Wyoming</u>
<u>European Cities</u>
<u>Australian Cities</u>
<u>Other World Cities</u>

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** 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 <u>Sun and Moon info</u> 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 <u>tricks</u> 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 <u>contact me</u> 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:	Displays as:
~2 ~W ~m ~d~o	21:05 Saturday Feb 5th
~1~A	9:05PM
~w ~M ~d ~Y	Sat February 5 1994
~y.~h.~d	94.02.05
~W ~M ~d~o (~l)	Saturday February 5th (Eng)
~z - ~V	Full Moon - Evening to Dawn
Earth	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 <u>Sun and Moon info</u> 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 WindowsTM allow you to have **mulitple 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 <u>Your Location</u> 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.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**, **GREDSP37.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 renumeration 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**.

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                    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 <u>send them to me</u>.   Any ideas for new features or capabilities are always welcome.   If you would like to see other <u>languages</u> 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 <u>Acknowledgements</u> 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 <u>daylight savings time</u> issues in the UK and Europe.   Thanks to **Eric Rickin** (erickin@umich.edu) for his relentless beta-testing, the <u>weather server</u> site name, **many** new world <u>languages</u>, and also for leading me to **Don LeClair** (71534.3255@compuserve.com) for help on doing <u>transparent backgrounds</u> and having icons stay <u>"always on top"</u>.   Thanks also to **Mike Andersson** (anderss@u.washington.edu) for the idea of <u>preserving</u> 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 <u>help</u> 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 <u>multi-language</u> support he provided.   Also, his ideas led to the implementation of the darkness <u>viewing perspective</u> and <u>multiple instances</u>.

Many thanks to **William B. Phelps** (wbp@vnet.ibm.com) in California for his <u>Sun and Moon</u> 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 <u>languages</u> 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.

GRedSpot Make sure you try out the <u>sounds and talking clock</u> 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 <u>alarm</u> feature can also "speak" your alarms.

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

EarthSun - Revision History

11/01/94 Version 4.3 - Added 4 <u>languages</u>.

08/01/94 Version 4.2 - Added 21 <u>languages</u>.   <u>Sun and Moon info</u> screen
         timezone bug fix.

07/14/94 Version 4.1 - Added Australian DST, seven languages.   Minor
         bug fixes (midnight date change, better <u>screen-saver</u>
         support). More cities in <u>longitude/latitude tables</u>.
         Added <u>twilight</u> calculations.

06/23/94 Version 4.0 - Added <u>clock</u> and <u>alarm</u> features.   Added
         <u>Sun and Moon info</u>.   Added <u>hatching styles</u>.   Added
         six new languages.

04/19/94 Version 3.0 - "International Edition".   Added <u>talking clock/calendar</u>
         via DDE messaging.   Added support for many different
         <u>languages</u>.   Added new <u>"perspective"</u> to show
         the darkness covering the Earth.   <u>Multiple instances</u>
         are now supported.   Added <u>preserve icon position</u>
         feature.

02/05/94 Version 2.6 - Added support for <u>transparent backgrounds</u>.   Added the
         <u>"always on top"</u> check box.   Added printable <u>order forms</u>
         directly from the help system.

01/20/94 Version 2.5 - Added the <u>on-line help system</u>.   Improved dialog
         box background.

12/03/93 Version 2.1 - Added automatic <u>daylight savings/summer time</u> support
         for US, UK, and European users.   Added forward/reverse
         <u>rotation direction</u>.   Added <u>background color</u> 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 <u>formats</u>.
         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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41 Lee Road
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Internet E-Mail Address:

thoman@law.mail.cornell.edu

                    Thank you for using **EarthSun**!

What is ShareWare?

GRedSpot 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*TM 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 (**D**ynamic **D**ata **E**xchange) 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 <u>contact me</u> 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 <u>language</u> 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*TM 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*TM, 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 <u>background colors</u>, 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 occuring 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 Latitude Deg Min	West Longitude Deg Min	Alt m
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	–

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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      -
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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	–

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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

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
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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
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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
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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
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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

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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
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USA - Nebraska to Wyoming

Location/ City Name	North Latitude Deg Min	West Longitude Deg Min	Alt m
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	–

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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
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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           42 26.4   76 29.4    814 feet
Cayuga Lake              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
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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
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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	-

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

Location Name	Latitude		Longitude		Alt
	Deg	Min	Deg	Min	m
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

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
                      Deg  Min  Deg  Min    m

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
Saturday    S`abbato    Savato                  from Jewish
```

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        Maeeos
June        Io`unios      Eeouneeos
July        Io`ulios      Eeouleeos
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 pronounciation 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 pronounciation.

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
```

From 'Encylopedia 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 (viyAzhan = 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.

C. R. Selvakumar <selvakum@sun14.vlsi.uwaterloo.ca>

Hebrew

Days of the week:

```
Eng.Name        Heb.Name        Meaning     Common Abbreviation

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

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  Detsember
```

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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    detsember
```

Seymour Axelrod <PTYAXEL@ubvms.cc.buffalo.edu>

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 arbritarily 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.

Samart Srijumnong <ssg9328@uxa.cso.uiuc.edu>

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
```

Widya B. Wahono <wbwg2524@uxa.cso.uiuc.edu>

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
Independece Day       Araw ng Kalayaan
Thanksgiving Day      Araw ng Pasasalamat
```

Michael Hopkins <ajax@netcom.com>

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 calender) 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 tranformed:

```
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 religous and traditional
ocassions 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
                        pronounciation.  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 writen
                        in red, as it is the Islamic holiday.
```

Abdullaahi Ali <a70971@uwasa.fi>

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
```

Makobili (makobili@netcom.com)

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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             mansour@cs.uow.edu.au
```

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 :))

Mihaela Bazalakova <MBAZALAKOVA@WELLESLEY.EDU>

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 - spalis
Nov - lapkritis
Dec - gruodis
```

[Verified from "Hippocrene Concise Dictionary: Lithuanian-English/English Lithuanian" by Victoria Martsinkyavitshute (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 colloqual/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

--
Michael McNeil memcneil@netcom.com

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. Pausha
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 <u>helpful user</u>.   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.