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MapCreateTM 6

Custom Mapping Software for GPS

Installation and Operation

Instructions

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WARNING!

A CAREFUL NAVIGATOR NEVER RELIES ON ONLY ONE METHOD TO OBTAIN POSITION INFORMATION.

CAUTION

When showing navigation data to a position (waypoint), a GPS unit will show the shortest, most direct path to the waypoint. It provides navigation data to the waypoint regardless of obstructions. Therefore, the prudent navigator will not only take advantage of all available navigation tools when traveling to a waypoint, but will also visually check to make certain a clear, safe path to the waypoint is always available.

WARNING!

When a GPS unit is used in a vehicle, the vehicle operator is solely responsible for operating the vehicle in a safe manner. Vehicle operators must maintain full surveillance of all pertinent driving, boating or flying conditions at all times. An accident or collision resulting in damage to property, personal injury or death could occur if the operator of a GPS-equipped vehicle fails to pay full attention to travel conditions and vehicle operation while the vehicle is in motion.

Section 1: Read Me First!

How this manual can get you into the field, fast!

Thanks for buying MapCreate™ 6! We know you're anxious to install the program and make some maps, but we have one more favor to ask. Before you grab that CD, please give us a moment to explain how our manual can help you get the best performance from our software.

Our goal is to get you on the road or out to the woods and water fast, with a minimum of fuss. We won't try to turn you into a computer expert. Like you, we'd rather spend more time on the water or in the woods, and less time reading a manual!

So, we designed this book so that you *don't* have to read the *whole thing* from front to back for the information you want. We've also made it easy to look up any tips you may need from time to time. Here's how:

The manual has three main sections. This first section tells you the basics you need to know to make MapCreate wake up and get to work.

Section two (on page 11) will help you get the program correctly installed on your computer.

Section three (on page 17) is the heart of our book, the Quick Start Reference. It contains easy-to-skim lessons on the program's main operations. These segments show you how to make maps and GPS information and get them into your GPS unit. It's all you need to get on the road quickly.

After you've learned the basics, you may want to try some advanced features. That brings us to the Command Reference, which is available only in the MapCreate 6 Help file on the CD-ROM. It contains — in alphabetical order — *every* command function in MapCreate 6.

Each entry includes a "quick reference" box briefly telling what the command does and how to run it from the menu, toolbar or keyboard. Then, we've included more tips and tricks so you can take advantage of all the extra power and performance MapCreate offers.

You can see an example of the online Command Reference format in Appendix 1 at the back of this manual, on page 51. Appendix 1 contains the entry on the Help Command, which explains how to use Help.

In addition to the Command Reference, the online Help includes all the material from the manual's Quick Start Reference section. Just press the F1 key to launch Help. You can find facts fast by electronically searching the Help File for the word or phrase you want.

In our printed manual, we've included other general supplemental material as appendices in the back of the book. Check out the Table of Contents to see the topics contained in each appendix.

Once you have the software installed, browse through the quick start lessons in Section 3 to get you going. Later, when you want to try something new or you have a question about a particular function, skim through the manual's table of contents or search the online Command Reference to read what you need.

How MapCreate Works

You'll be making maps faster if you understand the hoops MapCreate must jump through to cram a high detail map into your GPS unit.

First of all, those CDs you just purchased contain a whole bunch of *raw* computerized cartography data. There are several hundred files of digital mapping information containing lake shorelines, navigation aids, roads, rivers and all the other information that goes into our high-detail maps.

It takes some fancy formatting to fit the whole world onto a couple of compact discs. Your GPS unit can't read those raw files (called atlas files). Even if it could, no GPS unit or MultiMedia Card (MMC) has enough memory to hold *that* much information.

This is where MapCreate comes in. The program looks at all those raw atlas files, shuffles the different types of information together, and then places them onto your computer screen. That's what we call the **Master Map**, the main window in the MapCreate interface. By changing various options in MapCreate, you can control how much geographic detail is displayed on-screen in the Master Map.

It's a pretty cool electronic map, but your GPS can't read it in this form, either. This is where *you* come in. You move around the Master Map and locate the area or areas you want to make a detailed map of. Then, you grab the computer mouse and draw a **map border** around the region you want. (There are two or three fun ways to do this...we'll describe 'em in a few minutes.)

Now, this map border isn't really a map yet — it just defines or outlines the area you want to include in the final GPS-friendly map. You can save the boundary you have drawn as a **Map Border File**. MapCreate uses the Map Border File like an electronic shopping list. The program looks at your Map Border File, grabs the appropriate raw atlas information, and then glues it all together as a **custom map**. Now you

can save *this* data as a **Custom Map File**, which you can copy onto an MMC (or SDC) and load into your GPS unit.

GPS information — such as waypoints, routes or trails — is handled differently. You can click the mouse to set a waypoint or plan a route, then save that information as a **GPS Data File**. This file is ready to load into your GPS unit. When your unit makes trails or waypoints in the field, that information is also saved as a GPS Data File, which you can then load back into your computer, open and save in MapCreate.

File Formats & Functions

Well, now you know what makes MapCreate tick. You may be ready to skip forward to where we explain how our text formatting makes the manual easy to skim. If that's the case, move on to "How to Use This Manual" on page 9. But, if you want to pick up an extra tip or two, look over this segment describing the file formats MapCreate works with.

Map Border File

This file defines the boundary of the raw cartography data that is extracted and converted to a GPS custom map. The file information is displayed on the computer's Master Map screen as either a green rectangle (rectangle map border) or a magenta polygon shape (corridor map border.) The file extension is *.lmp, and the file is saved on your computer hard drive. A Map Border File can contain one or more different map border sets, and these border sets don't need to be next to each other on the map.

For example, you can draw a rectangle border around one lake and then draw a second corridor border around another lake several miles away, and include both of those border sets into one Map Border File. There is no limit (other than space on your hard disk, MMC or SDC) on how many different border sets you can include in a Map Border File. You can open and edit a Map Border File and then save the file with the changes you made.

Custom Map File

This is the actual custom map format used by your GPS unit. MapCreate takes the borders you drew and saved as a Map Border File, extracts that area's information from the raw atlas data on the CD, then converts it to a Custom Map File. We call this conversion process "building the map." The file extension is *.lcm, and the file is saved either to your hard drive or directly to your MMC or SDC. (Remember, MMC or SDC cards are what your GPS uses to store information.) If you save to your hard drive, you can drag and drop the file to your MMC or SDC at your convenience, just as you handle other Windows®-

based computer files. (This assumes you are using a USB-compatible MMC card reader, which acts like an external removable disk drive. If you are using a parallel port MMC card reader, refer to its manual for file transfer instructions.)

You cannot open and make changes to a Custom Map File once it has been created. If you want to make changes to a custom map, return to its original companion Map Border File, make changes there, then create a fresh Custom Map File. You can delete the old one, or just save the new custom map over the old one.

GPS Data File

This file format contains all the GPS navigation information (waypoints, icons, routes and trails) used by your GPS unit and MapCreate. The file extension is *.usr (for User file) and the file is saved either to your hard drive or directly to your MMC or SDC. As with other Windows-based files, you can drag and drop these files from the hard drive onto an MMC or SDC, which is then loaded into your GPS unit. You can open and make changes in a GPS Data File once it has been created. The contents can include any combination of waypoints, routes, trails and event marker icons. The information shows up graphically on the Master Map as symbols with names. The same information is also available as text in a list window, such as the Waypoint List window. Your GPS unit saves field-collected GPS information in the same format so MapCreate can be used to save valuable travel or adventure data for a later trip. This also makes it easy to exchange GPS data with friends using Lowrance GPS equipment.

ASCII Text File

This is a universal text file format compatible with word processors and other software programs. MapCreate can exchange routes and waypoint lists with other mapping programs by importing and exporting GPS information as comma-delimited ASCII text files. ASCII (pronounced "ask-ee") uses the *.txt file extension. You don't need to work with these files, unless you plan to exchange routes and waypoints between MapCreate and other mapping programs. For more information on how to use this file type, see the online Command Reference topics "Export GPS Data" and "Import GPS Data."

GPS Data Manger (GDM) File

This is an older file format used by MapCreate 5 and MapCreate 4 to hold navigation data (waypoints and such.) MapCreate 6 can open

these files, making the program backward compatible with versions 5 and 4. The GDM file extension is *.low (for Lowrance) and these files can be saved to a hard drive. We recommend that you do not routinely use this format unless you want to open waypoints, routes, trails or icons saved by MapCreate 5 or 4. These older *.low files should be opened and converted to the *.usr format, because your MapCreate 6-compatible GPS unit can only read *.usr files.

NOTE: MMC Card Formats

If you have an older MMC that has been formatted by a parallel port Lowrance MMC Interface card reader, the card format may not be compatible with your newer USB port MMC card reader. If that's the case, you can preserve your historic GPS data by copying it to your hard drive with your older parallel port reader. The older MMC can then be reformatted so it will work with the newer USB card reader. To reformat an MMC, refer to the instructions that came with your USB MMC card reader or your sonar/GPS unit.

Atlas File

This is the "raw" file format for layer after layer of cartographic and hydrographic data on our CDs. You never have to work with these files directly. MapCreate pulls data from these files to display the Master Map you see in the main window on your computer. The program combines the information from a Map Border File with the Atlas Files to make Custom Map Files for your GPS unit.

GPS Unit Compatibility

MapCreate 6 is compatible with these products: Lowrance iFINDER™, LCX-15 series, LCX-16 series, GlobalMap® 3000, GlobalMap® 2400, LMS 240. If you purchased an LCX-15, LCX-16 or GlobalMap® 3000 prior to March 2002, your unit will need a software upgrade to work with MapCreate 6. The upgrade is available for free download from our web site, www.lowrance.com. If you have questions, call customer service at 1-800-324-1356, toll free in the USA.

Important Notes About File Size

The size of a Custom Map File is important. It must be small enough to fit on the MMC (MultiMedia Card) that your GPS uses for data storage. This solid-state, flash memory device is about the size of a postage stamp. (SDC [Secure Digital] cards are also compatible with any Lowrance product that uses MMCs.)

The MMCs shipped with Lowrance GPS units are either 8 MB (megabytes) or 16 MB size. If you're using an 8 MB MMC, your Custom Map File must be *less than* 8 MB in order to fit on the card. (This space issue is the same as floppy disks; you can't really fit a 1.44 MB file onto

a 1.44 MB diskette because some space is required for the disk's file allocation table. In the case of an 8 MB MMC, actual maximum useable space is about 7.58 MB.)

MMCs and SDCs are used in a variety of other digital devices. Most electronics stores sell MMCs and SDCs, and at press time they are available in 8 MB, 16 MB, 32 MB, 64 MB and 128 MB sizes. Cards with larger capacities will likely be available in the future. MapCreate is a powerful tool for your GPS, because it allows you to match your map's file size and detail level to your unit's memory capacity and your travel needs.

Four factors control Custom Map File size: **1.** map detail level option settings, **2.** the number of map feature categories turned on, **3.** the amount of developed or naturally occurring features in the area and **4.** the amount of territory, that is, the number of square miles or acres in the area.

Detail Level Options can be set high or medium. The higher the detail, the bigger the file size.

There are dozens of **Map Category Options** that you can turn off and on. They include natural features — such as rivers — and man-made items such as roads, businesses or other Points of Interest. The more categories and subcategories turned on, the bigger the file size.

The **amount of development** in an area is something you can't control. For example, one square mile of city streets will make a larger file than one square mile of wilderness with a few hiking trails.

The **amount of territory** you include in a map is a major factor. The more square miles or acres you include, the bigger the file size.

So, what does this all mean in real estate terms? The table on the next page shows a few examples of high- and medium-detail Custom Map File sizes, and how long it took the computer to build them. These examples were prepared on a Pentium® III with 512 MB of memory, using simple rectangle map borders:

Custom Map File Size and Build Time Examples

| Mapped area | High Detail File Size | High Detail Build Time | Medium Detail File Size | Medium Detail Build Time |
|-------------------------------|-----------------------|------------------------|-------------------------|--------------------------|
| Oklahoma plus Texas Panhandle | 25.88 MB | 4 min., 15 sec. | 0.61 MB | 4 seconds |
| Colorado | 18.42 MB | 3 min., 12 sec. | 0.31 MB | 4 seconds |
| Lake Eufaula, Okla. | 1.49 MB | 16 sec. | 0.23 MB | 3 seconds |
| Lake Michigan | 26.43 MB | 4 min., 2 sec. | 0.37 MB | 3 seconds |
| Lake Okeechobee, Fla. | 14.12 MB | 2 min., 2 sec. | 0.54 MB | 5 seconds |
| Lake Mead, Nev. | 0.90 MB | 14 sec. | 0.12 MB | 2 seconds |
| Atlanta, Ga. area | 7.77 MB | 1 min., 5 sec. | 0.27 MB | 3 seconds |
| San Francisco, Ca., area | 8.63 MB | 1 min., 4 sec. | 0.21 MB | 3 seconds |

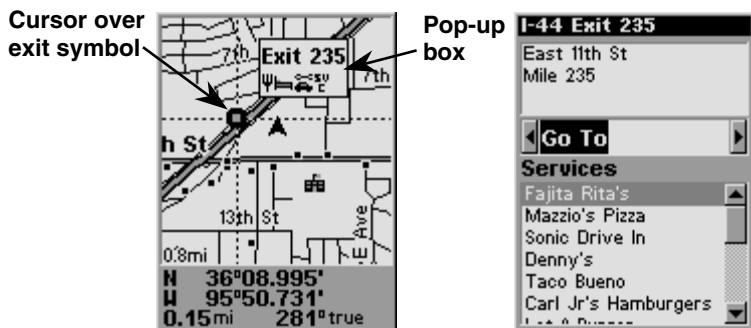
The lessons in the Quick Reference section were written using MapCreate's default settings, with *high* detail and *all* categories turned on. If your first maps don't fit your MMC or SDC, refer to the online Command Reference section for more detailed instructions on controlling file size.

Mapping Detail: *There's more here than meets the eye.*

The Custom Map Files you make with MapCreate contain more mapping detail than what is visible on your computer screen. Your MapCreate 6-compatible GPS unit takes full advantage of this extra information.

Find Highway Exit Services

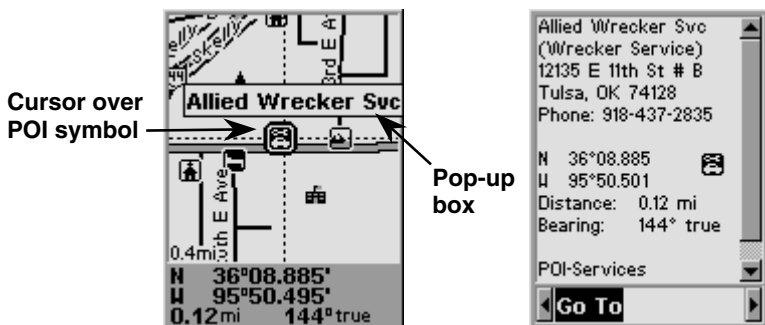
For example, move your mouse pointer over a highway exit symbol on the computer map, and all you'll see is a pop-up tool-tip box listing the name of the exit. However, in a Lowrance iFINDER™ hand-held GPS unit, the same exit symbol will show a pop-up box with the exit name *and* symbols of all the services available near that exit. The GPS unit can also provide you a list of those services.



At left, an iFINDER GPS screen showing an exit services pop-up icon box. The iFINDER can then display a text list of those services near the selected exit, right.

Find Points of Interest

On the computer master map, moving your pointer over a Point of Interest (POI) symbol triggers a pop-up box with the POI's name. In a Lowrance GPS, you'll be shown the POI's address and phone number as well.



At left, an iFINDER GPS screen showing a POI pop-up name box. At right, you can call up a page of information on the POI, and the GPS unit can lead you to the POI's location.

Find an Address

You won't see addresses on your computer map, either. But when the MapCreate information is loaded into your GPS, you can search for a street address or a street intersection. In fact, your GPS unit can search by name for virtually every category of mapping detail contained in MapCreate.

All of this information is built into MapCreate's atlas database. As long as that information category is turned on and included in your Custom Map File, the data will be downloaded to your GPS unit.

With these and other elements, MapCreate gives you a phenomenal amount of mapping detail and information. No other consumer GPS mapping product on the market offers this much information in one package. For a more detailed list of the map categories available in MapCreate, see Appendix 2, *Map Category List*, on page 55.

How to use this manual: typographical conventions

Most Windows-based computer programs offer several ways to perform a task, and MapCreate 6 is no exception. With mouse and keyboard, you can access some commands four different ways! We'll show you all of them, but we save the most detailed information for our online Command Reference section. There, the entry on each command includes a summary box showing all the menus and keyboard shortcuts (sometimes that's the only hint you need to get on with your mapping project.)

In our Quick Start Reference, we will usually focus on one simple way to get the job done, usually by clicking the mouse pointer on a menu or toolbar button. In Quick Start, many of the instructions are listed as numbered steps. This makes it a little easier to follow a series of instructions when you're skimming the material.

In the printed Quick Reference and the online Command Reference, the actual command clicks and keystrokes appear as sans serif, boldface type. So, if you're in a real hurry (or just need a reminder), you can usually skim the instructions and pick out where to click by finding the boldface commands. The paragraphs below explain how to interpret the text formatting for those commands and other instructions. (If you're already familiar with Windows or many other software manuals you can probably skip forward to Section 2: *Installation*, on page 11.)

Mouse

The mouse controls the movement of a graphic symbol on your screen called the mouse pointer, sometimes also referred to as a mouse cursor. The mouse performs an action by moving the pointer over a menu, a button or the map and then clicking the appropriate mouse button.

When the word "click" is used alone, it means "left-click," or to press and release the left mouse button. When you need to use the right mouse button, we will say so explicitly, such as "Right-click on the waypoint."

Sometimes a command requires more than one click. When we say "double-click," it means to rapidly click the mouse button two times.

Keyboard

The keys on your keyboard may not be labeled exactly as they are in this manual. All key names are shown in bold, sans serif type. For example, the "Control" key is shown as **Ctrl** and the "Enter" key is shown as **Enter**.

Keys are sometimes used in combinations. For example, **Ctrl+T** means to hold down the **Ctrl** key while pressing the **T** key. The hot key sequence **Alt+TIW** indicates a two-step combination: hold down the **Alt** key while pressing the **T** key, release, then press the **W** key.

"Arrow keys" is the collective name for the up arrow, down arrow, left arrow and right arrow keys.

To choose a command from a menu, you can use the mouse or press a key combination.

Instructions

Words in small capital letters, in a bold sans serif type, indicate that you are to take an action of some kind with a command, menu, box or other item. For example, "You can use the Create Route command to plan a path to navigate with your GPS. To begin the route, choose **CREATE ROUTE**."

When the phrase "choose command" is used in the online Command Reference section, it means to run or execute the specified command. For example, if the manual says "choose **CREATE WAYPOINT**," it means to run the Create Waypoint command. You can choose commands by clicking the mouse pointer on the menus or toolbar buttons, or by pressing the appropriate hot key or shortcut key on the keyboard.

Commands are sometimes described as menu sequences, to help you find the command faster. For example, "to open the Trail List window, click **VIEW/TRAIL LIST**," means to mouse click on the main menu's View command and then click the Trail List command on the submenu.

Specific text or numbers you must type are shown in bold, sans serif type. For example, if the manual says "Enter a Zoom range of **650** miles," you would click in the Zoom Range Window, type the numbers 650, then press the **Enter** key.

Place holders for other items you must supply yourself, such as file names, are italicized. For example, when the manual says "Enter a *name* in the File Name text box," you would click in the text box, type the name you want to use for the file, then press the **Enter** key.

This manual is written specifically for MapCreate™ 6, but for simplicity, the program is often referred to as "MapCreate."

Section 2: Installing MapCreate 6

System Requirements

MapCreate 6 requires the following *minimum* system resources:

- IBM® compatible PC.
- Pentium® 133 MHz or faster processor.
- 32 MB RAM
- 50 MB hard disc space.
- 256 color display.
- Microsoft® Windows® 98 or later.
- CD-ROM drive.

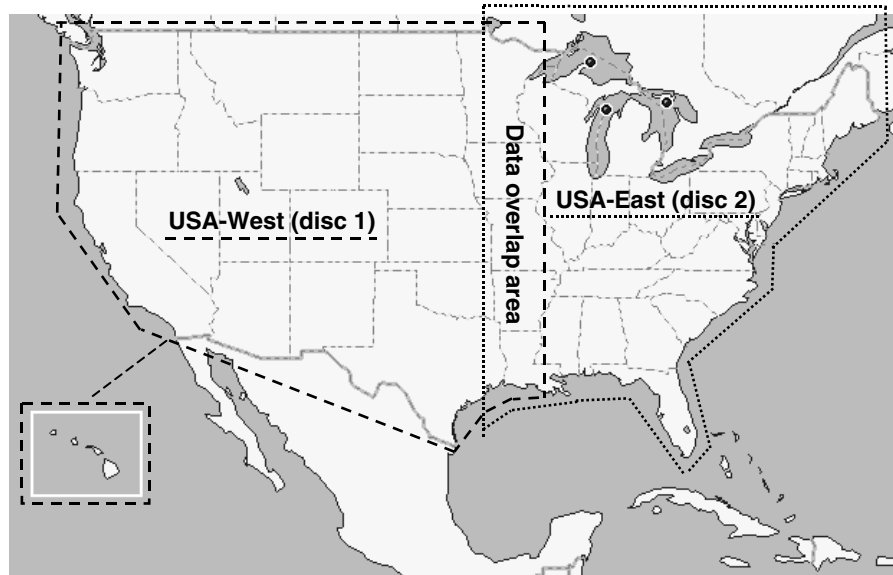
MapCreate will run on a system with the above specifications, but the program will work slowly. A faster processor and more RAM will significantly improve program operation. You can also optimize performance by installing as much of the program as possible to run from your hard drive instead of the CD-ROM drive. (Do this by using the Custom install mode, described below.)

Installation Types

There are three types of installations:

- Typical - Installs nav aid data, the low detail background map (Master Map) data and world-wide medium detail map data. Takes approximately 70 MB of hard drive space. Requires you to have the CD in the drive only when working in high detail map mode for the continental United States and Hawaii.
- Compact - Installs the MapCreate program with Help only. Requires you to have the CD in the drive whenever you use the program. The compact install allows you to conserve hard drive space.
- Custom - Allows installation of the program and all map data files on the hard drive. This takes approximately 1 gigabyte of hard disk space. You may run the program without the CD in the drive. **Caution:** *Be patient if you choose custom install. It may take several minutes for all the files to install to the hard drive. You will also be prompted to remove disc 1 and insert disc 2 to complete the installation.*

For Typical or Compact installations of version 6: The high detail map data is organized into two overlapping regions. The western continental United States and Hawaii are on the USA-West (disc 1) CD; the eastern continental U.S. is on the USA-East (disc 2) CD. If you are using a Compact installation and you want to see medium detail world maps, use the USA-West (disc 1) CD in your drive. To view the high detail data boundaries, see the figure below.

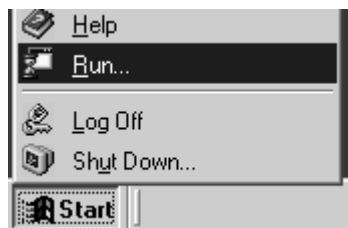


Continental United States and Hawaii showing approximately where data is divided on the two CDs. Mapping data overlaps in the middle.

Installing MapCreate

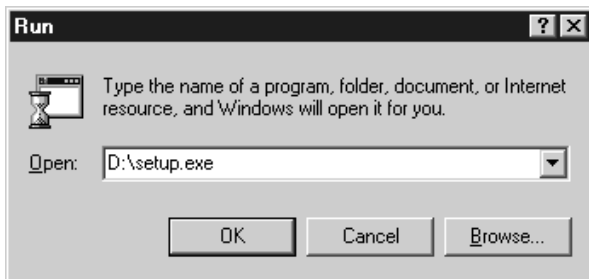
To install MapCreate, follow these steps:

1. Insert the USA-West CD-ROM (disc 1) into the computer's drive.
2. Click **START|RUN**.



Click the **START** button on the Windows taskbar.

3. Type **D:\setup.exe** (where D: is the drive letter for your CD-ROM)



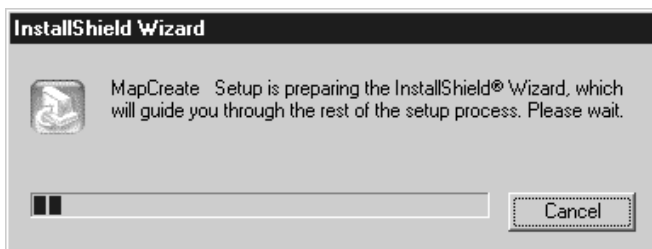
Type the setup command directory path and file name.

4. Click **OK** to begin installation.

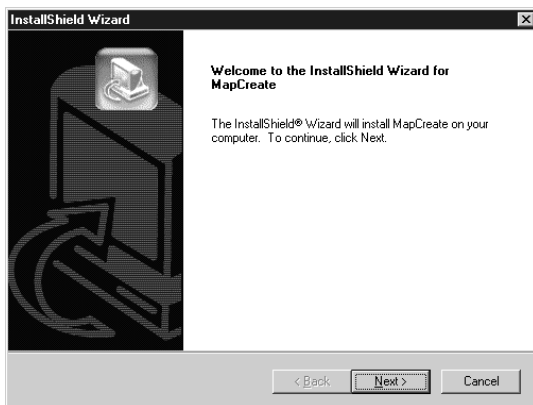
NOTE:

If you are using Windows 2000 or Windows XP Professional, you may receive an error message if you are not logged on with administrator privileges. If this occurs, you can complete the MapCreate installation by first logging on as an administrator, then proceeding with step 1 on page 12.

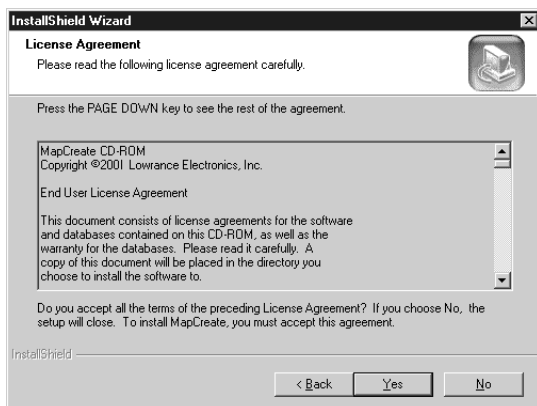
5. Follow the on-screen instructions:



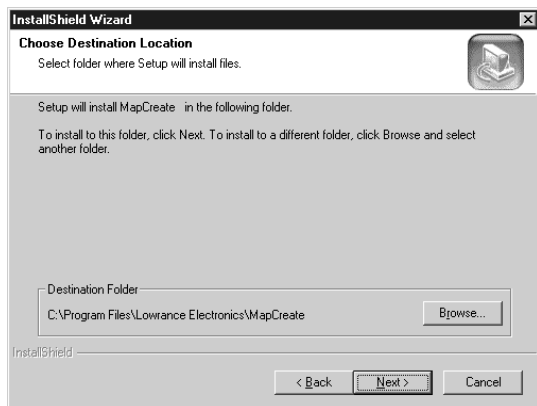
A. InstallShield® will load.



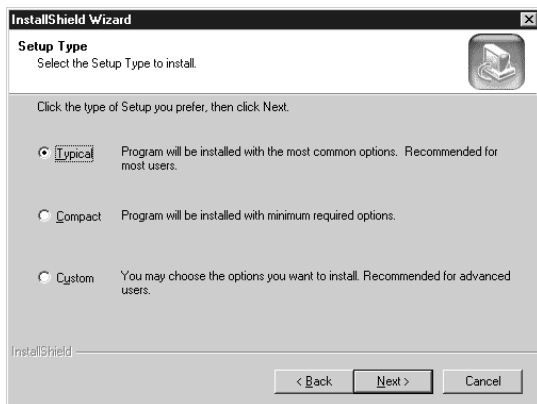
B. InstallShield is ready to prepare for installation.



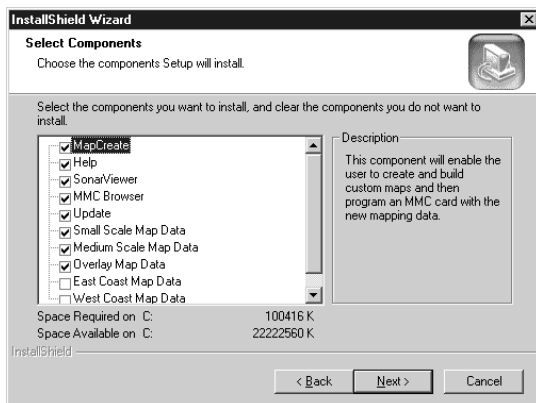
C. Read the License Agreement.



D. Choose a destination folder for the program. You can accept the default or you can choose another location.



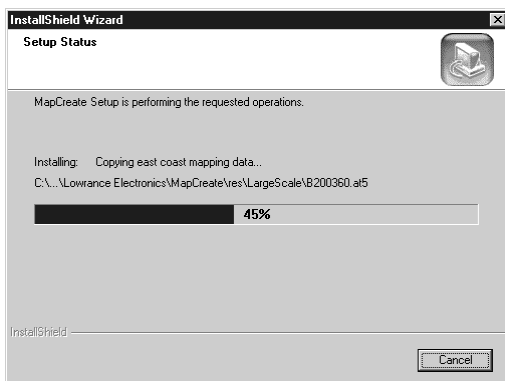
E. Select the type of setup.



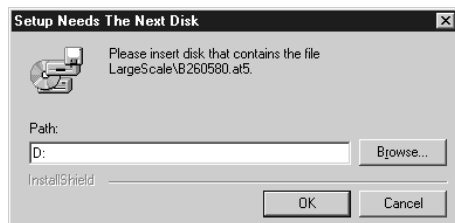
F. If you picked Custom install, select the components to install.



G. Select a program folder. You may accept the default or choose another folder.



H. With all your preferences determined, InstallShield will begin copying files. A progress window is shown.



- I. If you choose custom setup to install all files to your hard drive, you will be prompted to insert the second CD. On some computers the message may ask for "Disk 3." Just ignore the statement, insert the USA-East CD (disc 2) and click OK to continue the setup.**
6. When the installation program is finished, the progress windows disappear. You can then start MapCreate by double-clicking the program icon in the MapCreate 6 program group.

NOTES:

- Use the Typical or Compact installation if you are not making maps of the United States.
- The more map data that you install on the hard drive, the faster the program will run. It takes less time to read map data from the hard drive than from the CD-ROM.
- Graphics programs such as MapCreate can run slow on some computers with older processors or small amounts of memory. Running multiple applications at the same time can also consume computer resources and slow down response time. If computer processing speed is a problem, consider temporarily switching to the Medium Map Detail setting. (To do this, see View Map Display Options in the online Command Reference section.) Go ahead and create a map border, then remember to switch back to the High Map Detail Setting before creating your custom map file.
- It takes a lot of RAM (Random Access Memory) to create custom map files. If your system is low on RAM, then make several small custom map files and copy them one by one to the MMC card. (Note that MMC cards can hold a maximum of 30 different files. The total amount of information cannot exceed the MMC size capacity, no matter what the number of files is. For example, an 8 MB MMC could hold approximately one 7.66 MB file, or 30 files, so long as the 30 files totaled 7.66 MB or less.)

Care of your MapCreate CDs

Protect the shiny recorded surface of the compact discs from scratches, fingerprints and dirt. Hold a disc along the outer edge or by the center hole. Clean a dirty disc with a soft, dry cloth. You can also use a commercial CD cleaner or ethyl alcohol to remove fingerprints and dirt. Do not leave your discs in direct sunlight or in a hot, humid location.

Section 3:

Working With MapCreate

A Quick Start Reference

If you're *really* in a hurry, and you have some computer experience, the following 10-step command summary may be all you need to get started. For more detailed explanations, read through the lessons in this section.

How to make and save a rectangle map

1. Start MapCreate by clicking the Windows **START** button and choosing **MAPCREATE** from the menu.



2. Maneuver the Master Map so you can see the area you want to include in your map. Use the **PAN ARROW** buttons to move north, south, east or west. Use the Zoom-In and Zoom-Out (**Z-IN** or **Z-OUT**) buttons as needed to close in on or back away from the area you're viewing.

3. Click the **CREATE MAP BORDERS** button in the toolbar. Move the mouse pointer above and to the left of the desired area.

4. Click, hold down the mouse button and drag diagonally down and to the right until the desired area is enclosed with the green border box.

5. Release the mouse button.

6. Click the **SAVE MAP BORDERS** button. In the Save As dialog box, type a *name* for your Map Border File, then click **SAVE**.

7. With the Map Border File still open, click the **CREATE CUSTOM MAP** button. When the map is built, click **OK** to save the file. In the Save As dialog box, type a *name* for your Custom Map File, then click **SAVE**. (The same name used for the Map Border File is automatically entered. If you want to use the same name, just click **SAVE**.)

8. After the program has saved the map, close MapCreate.

9. Drag and drop the Custom Map File (*.lcm format) from your hard drive to an MMC in your MMC card reader (the file would be saved in the default directory, C:\Lowrance Electronics\MapCreate\Data>).

10. Follow the instructions in your GPS manual for loading the MMC.

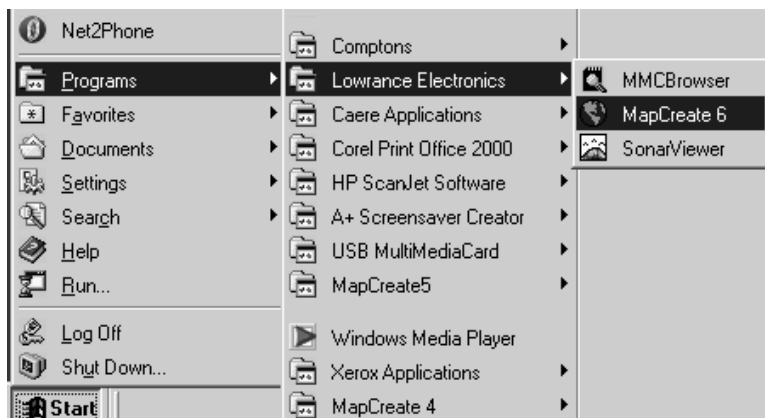
Starting MapCreate

If you installed the Typical or Compact version of MapCreate, make sure the CD-ROM for the area you intend to use is in the CD-ROM drive.

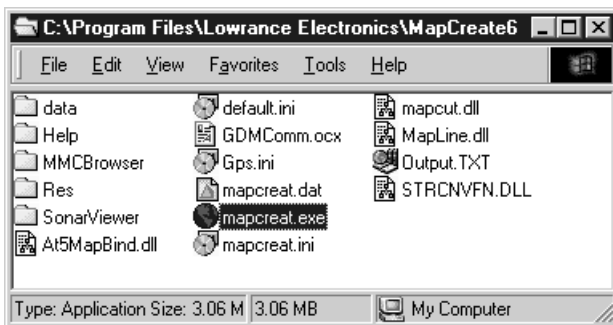
NOTES:

- For MapCreate 5 owners: If you have both MapCreate 5 and MapCreate 6 installed on your computer and run the programs from the CD, be sure you have the correct version of the CD in your drive when working with the two programs. Running MapCreate 5 with the version 6 CD or running MapCreate 6 with the version 5 CD will generate an error message when you try to build a map. The data discs are not compatible with each version of the program. If you made full custom installations of both programs to your hard drive, this error message will not appear because each version has its own unique directory on your hard drive.
- For Typical or Compact installations of version 6: The high detail map data is organized in two overlapping regions. The western continental United States and Hawaii are on the USA-WEST CD (disc 1); the eastern continental U.S. is on the USA-EAST CD (disc 2). If you are using a Compact installation and you want to see medium detail world maps, use the USA-West (disc 1) CD in your computer's CD drive.

You can start MapCreate by clicking the **START** button and choosing **MAPCREATE** from the menu, or you can double-click the MapCreate icon in the MapCreate program group.



Start MapCreate by clicking the Windows START button and then choosing MapCreate from the Start menu.



Or, you can start the program by clicking the MapCreate icon in the MapCreate program group window.

The opening splash screen appears while the program is loading. It will take a moment or two for the program to load the map detail.

NOTE:

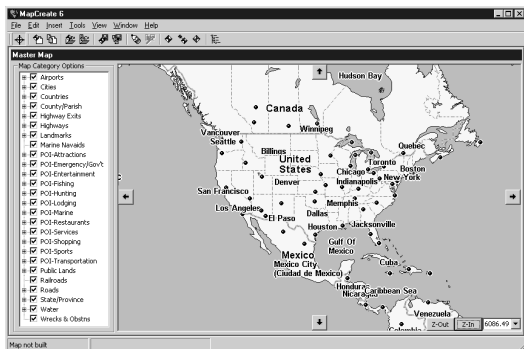
Load time depends heavily on your computer's processing speed and the amount of RAM (Random Access Memory) available. Windows requires approximately 20 seconds to recognize the CD-ROM before starting the MapCreate program.



MapCreate 6 splash screen appears while program is loading.

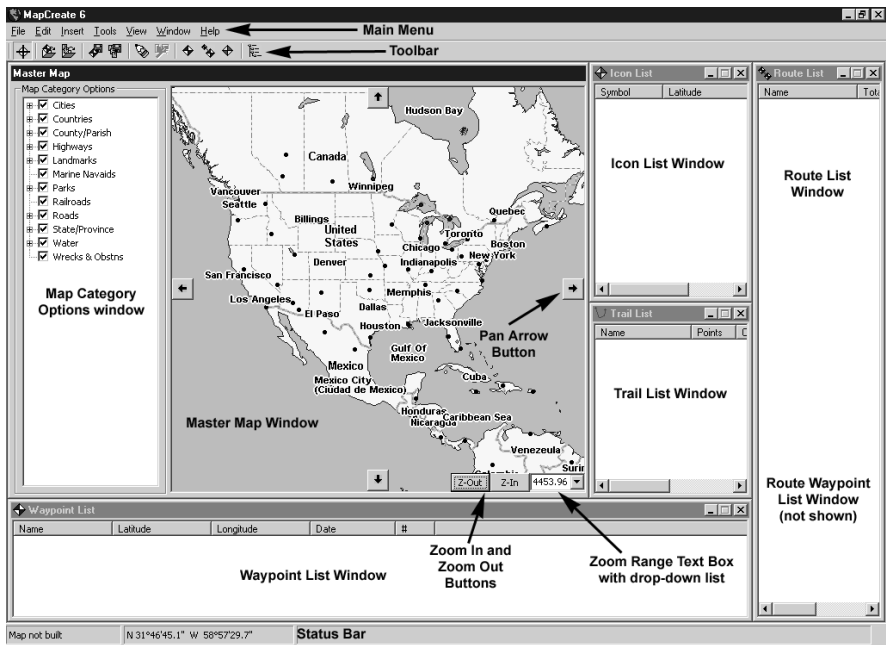
The MapCreate Screen

Once it's finished loading, you'll see a screen that looks like this, with a map of the world and the Map Categories window open:



MapCreate 6 opening screen.


MapCreate has several other windows that are used to control mapping data. If they were all opened or turned on, the program interface would look like this (labels have been added for illustration):



MapCreate 6 GPS text list windows.

You can drag the borders of these windows to resize them to suit your viewing preferences. The windows can also be manually arranged around the screen, or you can just use the default Auto Arrange setting, under the Window menu. When you close the program, MapCreate remembers the windows and map you were using. The next time you start MapCreate, the program opens the previous map and windows, just as you left them.

Closing MapCreate

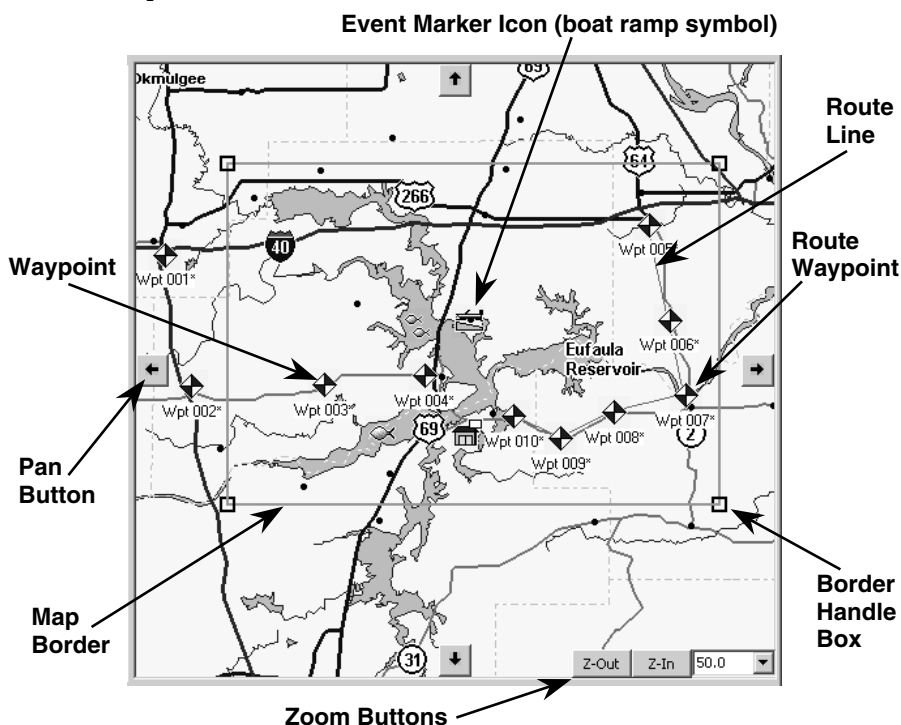
To close or exit MapCreate click **FILE|EXIT** or click the X **CLOSE**  button at the top right corner of the screen.

MapCreate Screen Components

If you're pretty familiar with how Windows programs work, you may want to skip ahead to the segment on Creating Map Borders on page 29. But, before we actually start mapping, we'd like to describe the different elements of the MapCreate screen. The next few segments explain what they are and what they do. You'll also learn how to move around the map.

Master Map Window

The largest window is the Master Map window. It displays the basic world background map you'll use to prepare Map Border Files and Custom Maps Files for your GPS. You can close the other list windows if you're not using them. (You can always open them later when you need them. Click **VIEW** and then click the window name.) This allows you to see as much of the Master Map as possible on your computer screen. To close the other windows, click the X **CLOSE WINDOW** button in the top right corner of each window frame. You cannot close the Master Map window.



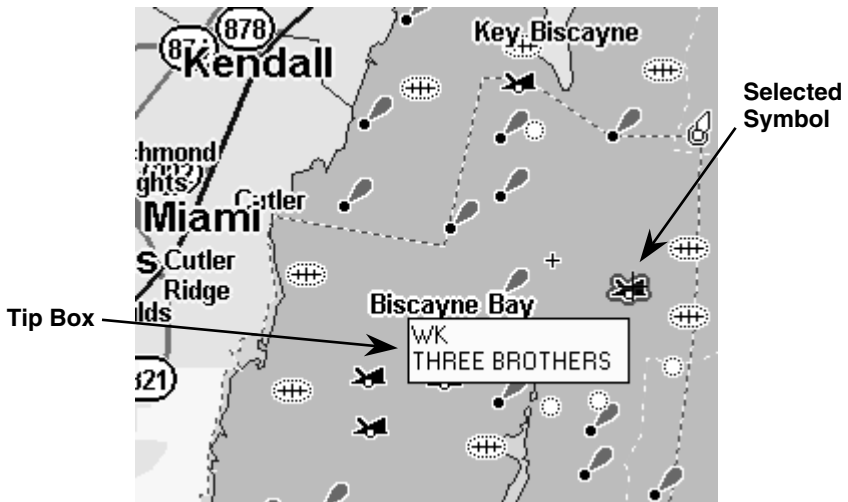
Master Map window shows a rectangle map border around Lake Eufaula, along with a route, waypoints and event marker icons.

Tips:

- You can use the Print Master Map command to print what's displayed in the window. This lets you make a quick, customized, paper backup map for your travels. (A prudent navigator never relies on only one source of navigation information.) Due to variances in monitor size, screen resolution, paper size and printer drivers, what you see in the Master Map window may not fit your

paper page exactly.

- When your mouse pointer moves over a map feature or landmark symbol, a Pop-up Tool Tip Box appears listing a name or description of what the symbol represents.



Pop-up Tool Tip box. When the cross-hair pointer hovers over the visible wreck symbol, a red border surrounds the symbol and the tip box appears. This wrecked vessel is the "Three Brothers."

Main Menu

MapCreate's main menu is similar to that of other Windows programs. It consists of the File, Edit, Insert, Tools, View, Window and Help menus. You can click with a mouse or use the hot keys to access the menus and their submenus. For example, to see all the commands on the File menu, use the mouse pointer to click **FILE** or use the keyboard and press the hot keys **Alt+F**. Some commands also have shortcut keys, such as **F1** for the Help command. All the commands — with their hot keys and shortcut keys — are listed alphabetically in the online Command Reference section.














Toolbar

The toolbar contains a row of buttons that you can click to execute various commands. You can move the mouse pointer over a button and a pop-up tool tip box shows the button name.



MapCreate 6 main menu and toolbar.

The numbering below corresponds to the numbers in the figure above, and describes the toolbar buttons:

-  1. Center Master Map: centers the map on the point you click
-  2. New GPS Data File: opens a new map with no GPS data
-  3. New Map Border File: opens a new map with no map borders
-  4. Open GPS Data File: opens an existing GPS Data File
-  5. Open Map Border File: opens an existing Map Border File
-  6. Save GPS Data File: saves a GPS Data File
-  7. Save Map Borders: saves a Map Border File
-  8. Create Map Borders: draws map borders as rectangles or corridors
-  9. Create Custom Map: makes a custom map for use in a GPS unit
-  10. Create Waypoints: sets a waypoint on the Master Map
-  11. Create Route: forms a path to follow made of waypoints in a sequence
-  12. Create Icons: sets an event marker icon on the Master Map
-  13. View Map Categories: opens or closes the Map Category Options window

Map Category Options Window

This window controls how much mapping detail is displayed in the Master Map. Open and close the window by clicking the **VIEW MAP CATEGORY OPTIONS** button on the toolbar. You can turn detail categories off and on by clicking in the check box beside them. A check mark shows that the category is turned on for display.

Each map category with a + sign to its left consists of a group of subcategories. Click on the + to display the subcategories. Each subcategory can be turned on or off individually by clicking the check mark in the box beside it.

NOTE:

For mapping information to be included in your final Custom Map File, it must be displayed (turned on) in the Master Map when the

Custom Map File is created. Turning off unneeded information categories can help reduce file size if you are trying to fit a very large map onto an MMC with small amounts of memory.

For example, if you're simply taking a cross-country highway trip across several states, you can turn off categories such as rural roads and/or minor city streets. This should give you the navigation information you need at a smaller file size. However, when file size is no problem, most users prefer to include as much detail as possible. All the examples in our Quick Reference section use the original factory default settings, which have all the categories turned on.

Even though a category is turned on, you may not see it on the Master Map because you have zoomed out too far. That's no problem. As long as the category is turned on, it will be included when you make your Custom Map File, no matter what your zoom range is.



Tip:

Another command that works with category options to determine detail is the Detail Level Used option, under the **VIEW/VIEW MAP DISPLAY OPTIONS** menus. (You don't need to make any changes there now, but after a little practice you'll want to see the entry *View Map Display Options* in the online Command Reference for how this works.)

Waypoint List Window





This window shows the waypoints on the Master Map in a text list format. The symbol, name, latitude, longitude, date created and number are listed. The symbol, name, latitude and longitude can all be edited either on the Master Map or in the list window. To edit, right-click the waypoint. To open this window click **VIEW/WAYPOINT LIST**.

| Waypoint List | | | | | |
|---------------|---------------|---------------|----------------|-----|--|
| Name | Latitude | Longitude | Date | # | |
| Wpt 001* | N 35°25'22.6" | W 95°57'53.4" | 8/14/2001 8:36 | 001 | |
| Wpt 002* | N 35°16'26.6" | W 95°55'42.0" | 8/14/2001 8:36 | 002 | |
| Wpt 003* | N 35°16'32.0" | W 95°44'38.6" | 8/14/2001 8:36 | 003 | |
| Wpt 004* | N 35°17'09.5" | W 95°36'12.8" | 8/14/2001 8:36 | 004 | |
| Wpt 005* | N 35°27'25.7" | W 95°17'29.6" | 8/14/2001 8:36 | 005 | |

Waypoint List Window

Icon List Window

This window shows the event marker icons on the Master Map in a text list format. The symbol, symbol label, latitude and longitude are listed. Except for the symbol label, these elements can be edited either on the Master Map or in the list window. To edit, right-click the icon. To open this window click **VIEW|ICON LIST**.

| Icon List | | | |
|---|---------------|---------------|--|
| Symbol | Latitude | Longitude | |
|  Boat Ramp | N 35°20'54.7" | W 95°32'36.1" | |
|  Fish | N 35°13'18.8" | W 95°39'49.6" | |
|  Store | N 35°13'18.8" | W 95°32'42.6" | |
|  Two Fish | N 35°20'38.7" | W 95°36'52.2" | |

Icon List Window

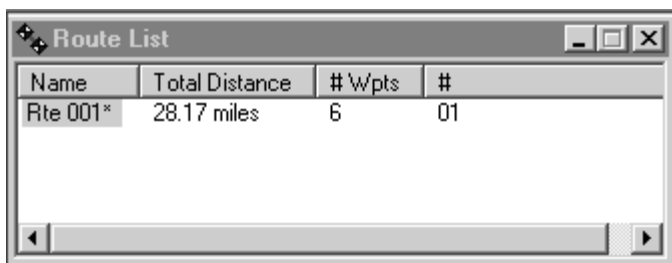
Route List Window

This window shows the routes on the Master Map in a text list format. The list contains the route name, number, total distance of the route and the number of waypoints that make up the route. To open this window click **VIEW|ROUTE LIST**.

The route name can be edited in the window. To change the name:

1. Click on the name to highlight it.
2. Pause a moment, then click the name again. (This is *not* a regular double-click.)
3. Type a new *name* and press **Enter**.

The waypoints in a route can be edited. Double-click the route name and you'll open the Route Waypoint List Window, which we describe next.



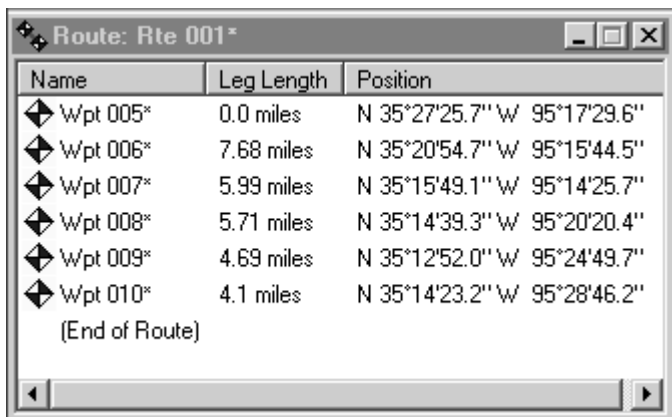
Route List Window

Route Waypoint List Window

(This is not shown when the program starts for the first time; a route must be created first. With the Route List window open, double-click on the route name to open the Route Waypoint List window.) This window shows the waypoints that make up a route on the Master Map, in a text list format. The symbol, name, leg length and position (in latitude and longitude) are listed. The symbol, name, latitude and longitude can all be edited either on the Master Map or in the list window. You can also insert and delete waypoints in a route. To edit, right-click the waypoint. To relocate a route waypoint on the Master Map by dragging:

1. Click the waypoint to grab it with your mouse pointer.
2. Move the mouse pointer with the waypoint to the new location.
3. Click again to drop the waypoint in the new spot.

For more information on this function, see *Edit Route Waypoint* in the online Command Reference.

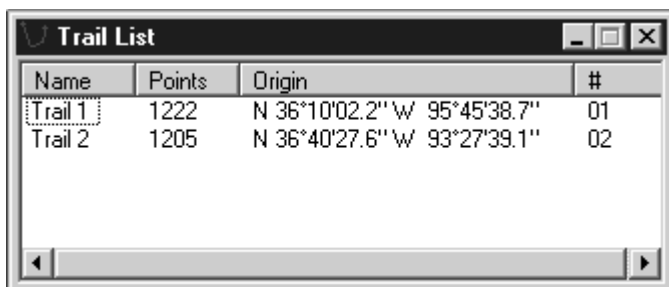


Route Waypoint List Window

Trail List Window

This window uses a text list format to show trails (imported from your GPS) that are displayed on the Master Map. The name, number of points in the trail, origin (starting point's latitude and longitude) and trail number are listed. To open this window click **VIEW/TRAIL LIST**. The trail name can be edited in the window. To change the name:

1. Click on the name to highlight it.
2. Pause a moment, then click the name again. (This is *not* a regular double-click.)
3. Type a new *name* and press **Enter**.



| Name | Points | Origin | # |
|---------|--------|------------------------------|----|
| Trail 1 | 1222 | N 36°10'02.2\"W 95°45'38.7\" | 01 |
| Trail 2 | 1205 | N 36°40'27.6\"W 93°27'39.1\" | 02 |


Trail List Window

Tip:

You can automatically create a route from a trail, and you can edit the resulting route, if you wish. For more information, see *Create Route From Trail* in the online Command Reference. To convert a trail, right-click the trail name. Then, in the pop-up menu, click **CREATE ROUTE FROM TRAIL**.

Moving Around the Master Map

Pan Arrows

You can move around the Master Map display by clicking the Pan Arrow buttons, which appear at the north, south, east and west sides of the Master Map. For example, click the **RIGHT PAN ARROW** on the east side of the window to pan or move the Master Map to the left. Clicking on the Right Arrow reveals a portion of the map previously out of sight to the right of the screen. The other three arrows work in the same way. 

NOTE:

You can always use the Pan Arrow buttons to move around the Master Map, no matter what other commands may be activated.

Center Master Map



You can instantly move any location on the map to the window's center with the Center Master Map command. To center the map, click the **CENTER MASTER MAP** cross-hair button at the left end of the toolbar. The mouse pointer turns into a cross-hair. **+** Now click on the part of the Master Map you want centered in the map window. This command's cross-hair pointer is sometimes used with other functions. It's used to finish some commands, and it's another way to zoom (described below.)

Tip:

The mouse pointer's location in latitude and longitude is always shown in the status bar at the bottom of the MapCreate screen.

Zoom

There are many ways to zoom in and zoom out the Master Map display. All are described in the online Command Reference, but for now we'll just describe three. One fast and precise method uses the cross-hair mouse pointer, activated by the Center Master Map button.

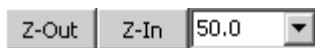


1. Click the **CENTER MASTER MAP** button, then place the cross-hair pointer on the map near the location you want to zoom in on. **+**
2. Now click and drag the pointer. A box appears on the map. Drag the box until it covers the desired zoom area. Release the mouse button. MapCreate will zoom in so that the selected area fills the Master Map window.



The Zoom Selection Box helps you zoom in quickly. At left, the cross-hair pointer was used to drag a box around the word "Chicago," at a 3000-mile zoom range. When the mouse button was released, the map jumped to the 197-mile range, at right. These figures show only the center portion of the Master Map.

The other most common method uses the Zoom-In and Zoom-Out buttons, which are located at the bottom right corner of the Master Map. Zooming in lets you see less territory, but more detail. Zooming out lets you see more territory, but less detail.



Zoom Out, Zoom In buttons, with Zoom Range Window.

1. Click the **Z-IN** button (zoom in) to enlarge the centered area of the map.
2. Click the **Z-OUT** button (zoom out) to shrink the map toward the center.

The current zoom range shows in the Zoom Range Window next to the Zoom-In button. The Zoom Range Window is the third common zoom tool. You can use this window in at least two ways:


1. Click the down arrow at the right of the box, then click a preset range.
2. Click inside the box, type the desired range number and press **Enter**.

NOTE:

You can always use the Zoom-In or Zoom-Out buttons, no matter what other commands may be activated.

Creating Rectangle Map Borders

Making a Map Border File is the first step in creating a custom map for your Lowrance GPS unit. Here's how: (Refer as needed to the Toolbar figure on page 23.)

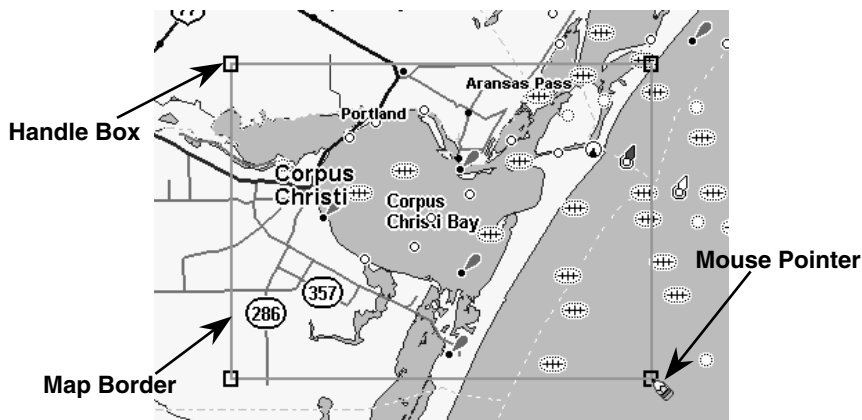
 1. Center the Master Map display on the area you want to include in your custom map. Click the **CENTER MASTER MAP** button, then click the cross-hair mouse pointer on the area you want centered.

2. If needed, click the Zoom In or Zoom Out buttons so you can see the entire area that you want to draw a map border around.


 3. Click the **CREATE MAP BORDERS** button, and your mouse pointer becomes a pencil.

4. Move the mouse pointer above and to the left of the desired area.

5. Click and hold down the mouse button. While holding down the button, drag the pointer diagonally, down and to the right. A green border box appears. The size of the border box changes as you move your mouse.



Click and drag to draw a **Map Border** around Corpus Christi Bay area.

4. When the green border surrounds the desired area, release the mouse button.
5. To stop the command, click the **CENTER MASTER MAP**  button.

If you are satisfied with this map and want to finish processing it for use in your GPS unit, skip forward to the lesson on "Saving a Map Border File" on page 32.



MapCreate can also draw a polygon-shaped border useful for following an irregularly shaped route, lake or other geographic feature. These corridor maps are also drawn with the Create Map Borders command, and we tell you how in the next lesson.

Tip:

If you need to start over, you can erase a map border box. Click the **CREATE MAP BORDERS** button, then move the pencil point over one of the small handle boxes that appear at each corner of the green box. Right-click on a handle box to erase the border. Or, you can click the **NEW MAP BORDER FILE** button to clear all map borders.

Creating Corridor Map Borders

A corridor map lets you twist and turn your borders to enclose irregularly shaped geographic features. Here's how: (Refer as needed to the Toolbar figure on page 23.)

1. Center the Master Map display on the area you want to include in your custom map. Click the **CENTER MASTER MAP**  cross-hair button, then click the cross-hair mouse pointer  on the area you

want centered.

2. If needed, click the **Zoom In** or **Zoom Out** buttons so you can see the entire area that you want to draw a map border around.

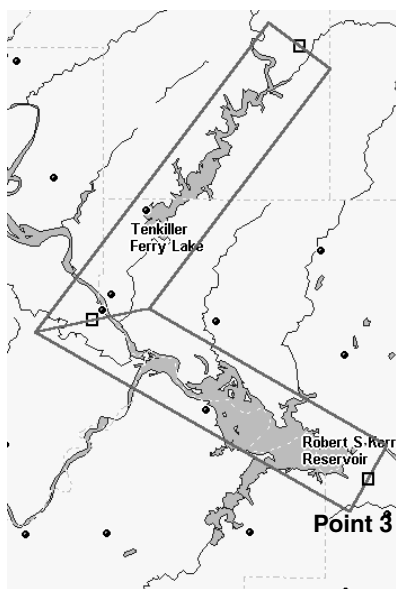
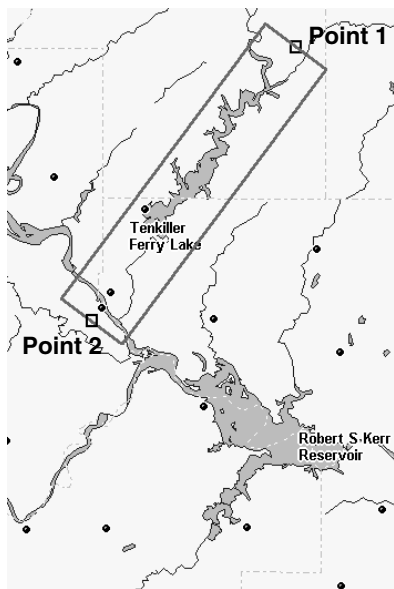


3. Click the **CREATE MAP BORDERS** button, and your mouse pointer becomes a pencil.

4. Move the mouse pointer to where you want your corridor map to begin.

5. Click and *release* the left mouse button to set the first anchor point. (The anchor point is represented by a handle box, which can also be grabbed later to relocate the border if you wish.)

6. As you move your mouse, you'll see a magenta border box appear. Move the mouse pointer in a straight line along your corridor's path until you need to change direction to follow the terrain. Click to set a second anchor point.

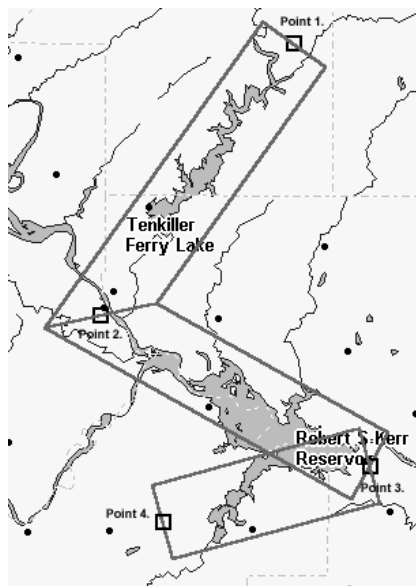


Corridor with first and second anchor points set, left.
Add a second segment to the corridor with a third point, right.

7. Now move the mouse pointer off at an angle, in the new direction needed to follow the irregular terrain. You'll see that the active corridor border box now rotates around the last anchor point you set. This lets you move off in any direction, with the new segment of the corridor attached to the previous segments. Click to set your third anchor point.

8. Continue to click and add additional segments to your corridor until you reach your destination or have enclosed the desired area.

9. Click the right mouse button to stop drawing the corridor map. To close the map borders command, click the **CENTER MASTER MAP** button.



Finished corridor map.

Tip:

- If you need to start over, you can erase a corridor border box. Click the **CREATE MAP BORDERS** button, then move the pencil point over one of the small handle boxes that appear along the centerline of the corridor. Right-click on a handle box to erase that segment's border. To erase an entire corridor map, click the handle boxes until the map is gone, or click the **NEW MAP BORDER FILE** button.

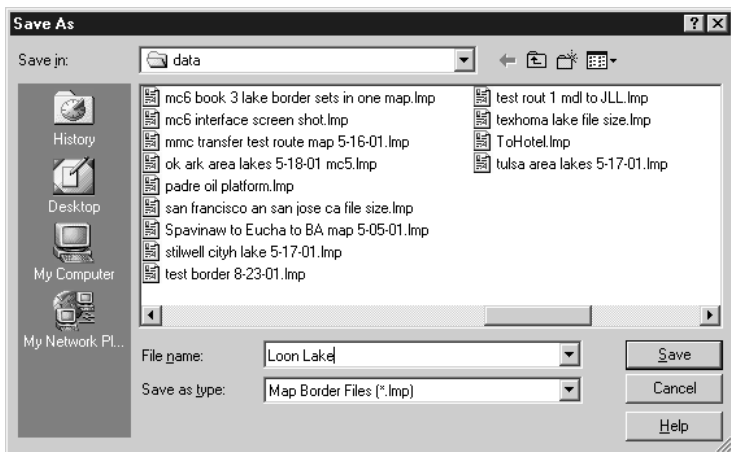
If you're satisfied with this map and want to finish processing it for use in your GPS unit, go on to the next lesson on "Saving a Map Border File."

Saving a Map Border File

Before you make your custom map, you must name and save your Map Border File. Here's how: (Refer as needed to the Toolbar figure on page 23.)



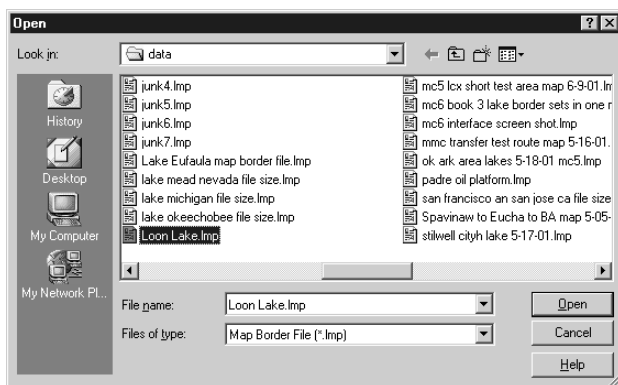
1. Click the **SAVE MAP BORDERS** button. The Save As dialog box appears.



Save Map Border File dialog box.

2. Type a *name* in the File Name text box and click **SAVE**.

That's all there is to it. The file was placed in the "data" sub-folder located within the MapCreate folder on your hard drive. You can start another map border (click **NEW MAP BORDER FILE** button) or you can close MapCreate and return another day. To open this border file later on, just click the **OPEN MAP BORDER FILE** button and select the file name from the list.



Open Map Border File dialog box.

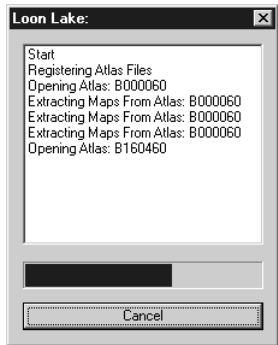
Now you're ready to process that border file into a map your GPS unit can use.

Creating a Custom Map File

Once you have created and saved a Map Border File, you can use the border file to tell MapCreate to make a Custom Map File for your

Lowrance GPS unit. Here's how: (Refer as needed to the Toolbar figure on page 23.)

- 1. Open a Map Border File by clicking the **OPEN MAP BORDER FILE** button.
- 2. Click the **CREATE CUSTOM MAP** button. A progress dialog box will appear while MapCreate extracts the necessary information and builds the Custom Map File.



Building Map Progress dialog box.

- 3. When the custom map has been built, a file information box appears showing the file size. Click **OK** to save the Custom Map File.



Custom Map File information box, showing file size.

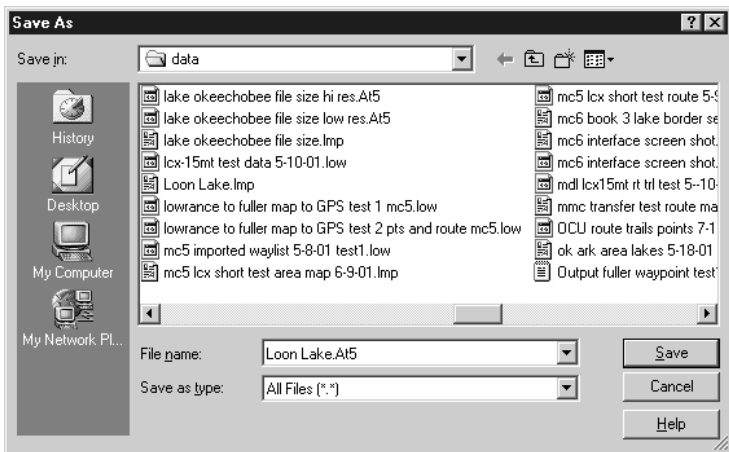
NOTE:

Custom Map File size also appears in the status bar at the lower left corner of the MapCreate screen. The status bar also tells you whether or not a custom map file has been built and saved.



Map not built message, left, and map file size message, right.

- 4. The Save As dialog box appears.



Save Custom Map File dialog box.

5. Type a *name* in the **FILE NAME** text box and click **SAVE**.

Congratulations, you've made your first Custom Map File! Your map was placed in the "data" sub-folder located within the MapCreate folder on your hard drive. You can now close MapCreate and use Windows Explorer and your MMC card reader to copy the Custom Map File to an MMC.

Tips:

- You can save your Custom Map File directly to your MMC by selecting the MMC drive letter in the Save As dialog box.
- If you are having trouble displaying your Custom Map File in your GPS unit, your MMC may need to be reformatted. For more information on this, refer to the MMC format note on page 5.

Refer to your GPS unit's manual for instructions on inserting the MMC and loading your Custom Map File into its memory. Now you're ready to hit the road, but if you'd like to add a little GPS navigation information to your unit, read the following lessons.


Creating a Waypoint

Waypoints are the building blocks of GPS navigation. A waypoint is simply an electronic "address," based on the latitude and longitude of a position on the earth. MapCreate lets you set a waypoint and mark it with a symbol, name or number. This appears on the Master Map and eventually on the custom map displayed on your GPS unit's screen.



With your GPS, you can navigate to a waypoint. Waypoints can be used to mark a favored spot or to mark something to avoid such as a dead-

end road or a boating hazard on a lake. Waypoints linked together in a sequence allow you to navigate along a pre-planned route. In the field, your GPS unit can also be used to set waypoints. You can bring these field-generated waypoints into MapCreate for storage and use on later trips.

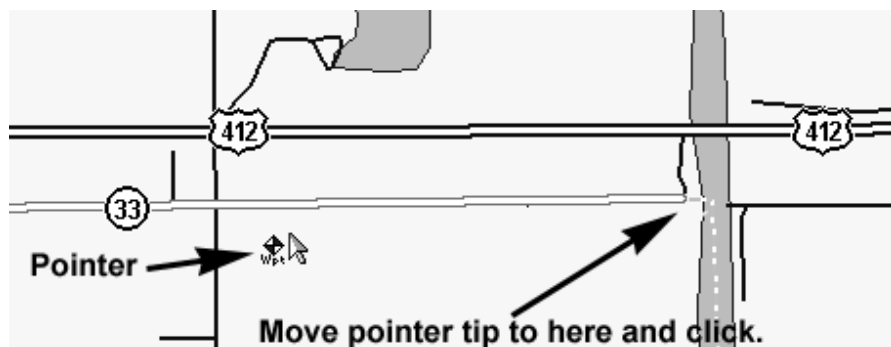
Creating a waypoint on the Master Map is easy. Here's how: (Refer as needed to the Toolbar figure on page 23.)

 1. Center the Master Map display on the area where you want to set the waypoint. Click the **CENTER MASTER MAP** cross-hair button, then click the cross-hair mouse pointer on the area you want centered.

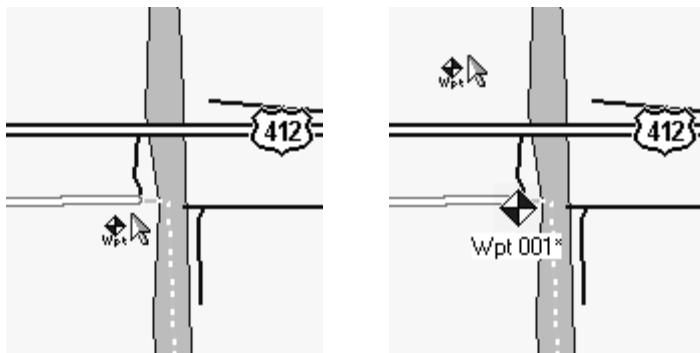
2. If needed, click the Zoom In or Zoom Out buttons so you can see enough detail to accurately place the waypoint.

 3. Click the **CREATE WAYPOINTS** button, and your mouse pointer becomes an arrow with a waypoint symbol and the abbreviation "Wpt." 

4. Move the mouse pointer so that the arrow point is where you want the waypoint. Click to set the waypoint. Move your mouse away, and you can see the waypoint, with the default name of "Wpt 001."



Create a waypoint: First, find the location on the Master Map. The longer arrow shows the location of a public hunting area parking lot.



Move the pointer arrow tip over the location (left) and click to create the waypoint. The waypoint appears (right) with the default waypoint symbol and name, both of which can be changed. These figures were taken from a zoom range of 4.05 miles. It looks as if the waypoint is on the road, but zooming in closer would show the waypoint is actually south of the road, just where the pointer tip placed it.

5. Relocate your mouse pointer and click to create additional waypoints as needed.
6. To close the Create Waypoints command, press **Esc** (the Escape key) or click the **CENTER MASTER MAP** button.

Tips:

- If you need to erase or delete a waypoint, move the cross-hair pointer over a waypoint and right-click. In the pop-up menu, click **DELETE WAYPOINT**.
- There are other ways to delete waypoints, and you can also change the symbol, name and location. For instructions on these functions, along with other tips, see *Create Waypoint*, *Delete Waypoint*, *Insert Waypoint* and *Edit Waypoint* in the online Command Reference section.

If this is all the GPS information you need for now, skip ahead to the lesson "Saving a GPS Data File" on page 43. But, if you want to add icons or a route, check out the next two lessons.

Creating an Icon

Icons are graphic symbols used to mark some location, point of interest or event. These features are also called event markers, or event marker icons. Event marker icons don't store as much information as waypoints. You can't use a menu to navigate to them as you can with waypoints, and you can't change their names. But you can change their symbols. In fact, waypoints and event marker icons share the same set

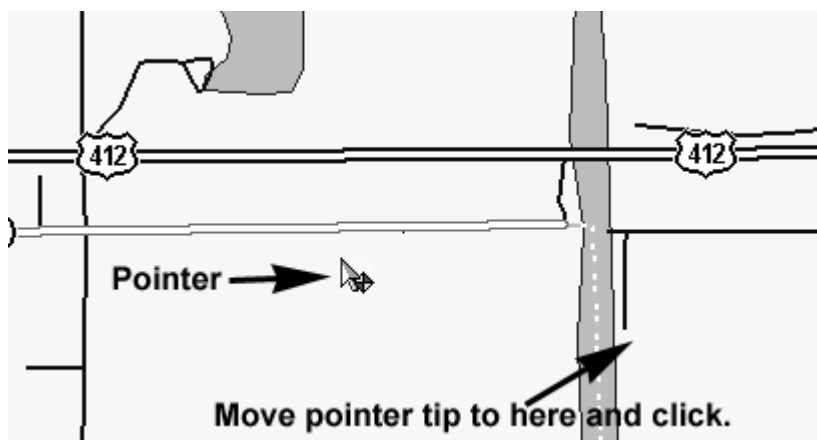
of symbols, but they are two different types of GPS data with different capabilities.

NOTE:

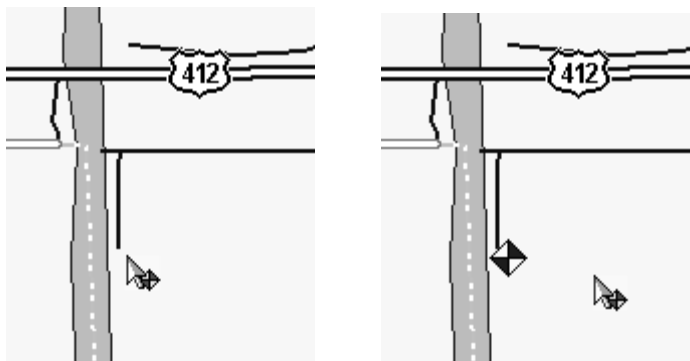
Until you change the default symbol, any icon you create will look like a blue and white waypoint, but without a name. For this lesson, we will stick with the default, but if you want to change the symbol, refer to *Edit Icon* in the online Command Reference.

Event marker icons are a handy way to mark a spot when you don't need to save or edit much information about the location or event. Creating an icon on your map is as easy as setting waypoints. Here's how: (Refer as needed to the Toolbar figure on page 23.)

1. Center the Master Map display on the area where you want to set the icon. Click the **CENTER MASTER MAP** cross-hair button, then click the cross-hair mouse pointer on the area you want centered. +
2. If needed, click the Zoom In or Zoom Out buttons so you can see enough detail to accurately place the icon.
3. Click the **CREATE ICONS** button, and your mouse pointer becomes an arrow with a red and yellow icon symbol.
4. Move the mouse pointer so that the arrow point is where you want the icon. Click to set the icon. Move your mouse away, and you can see the icon.



Create an icon: First, find the location on the Master Map. The bottom arrow shows the location of a public boat ramp on this river.



Move the pointer arrow tip over the location (left) and click to create the icon. The icon appears (right) with the default waypoint symbol but no name. To change this symbol to the boat ramp symbol, see *Edit Icon* in the online Command Reference.

5. Relocate your mouse pointer and click to create additional icons as needed.
6. To close the Create Icons command, press **Esc** (the Escape key) or click the **CENTER MASTER MAP** button.

Tip:

If you need to erase or delete an icon, move the cross-hair pointer over the icon and right-click. In the pop-up menu, click **DELETE ICON**. There are other ways to delete icons, and you can also change the symbol and location. For instructions on these functions, along with other tips, see *Create Icon*, *Delete Icon*, *Insert Icon* and *Edit Icon* in the online Command Reference section.

If you don't want to plan a route this trip, skip ahead to the lesson "Saving a GPS Data File" on page 43. But don't forget, planning a route is one of MapCreate's coolest capabilities. If you're ready for some real navigating with routes, read on.

Creating a Route

A route is a series of waypoints, linked together in an ordered sequence, that's used to mark a course of travel. You can visualize a route as beads on a string, or, think of it as the mile marker signs posted at intervals along U.S. interstate highways.


Routes are powerful tools for planning and then navigating your journeys. With your GPS receiver, you can automatically navigate from one waypoint to the next along your intended course. You can start at either end of a route, or even begin navigation in the middle of a route.

You can informally group routes into two broad categories, based on the terrain and type of travel. On water, in the air or just hiking cross-country, you can generally travel in a simple, straight line from waypoint to waypoint (barring obstacles, of course.) The Global Positioning System was originally developed by the U.S. military for this type of routing. It's suitable for airplanes, ships and soldiers in the field. MapCreate and your GPS unit connect all route waypoints with straight lines.

The other route style involves navigating along a road, highway or other winding pathway. When your vehicle has to follow the twists and turns of the pavement, you can't really travel in a straight line from waypoint to waypoint.

Since the legs of all GPS routes are based on straight lines between waypoints, setting up a curvy highway route takes a little more time and practice than our Quick Start format allows. We'll save those details for the *Create Route* entry in the online Command Reference section.



For this lesson, we'll use an example based on a simple off-shore fishing route. Just remember: the techniques for making a route are the same, no matter what sort of travel pattern you're planning. Here's how it works: (Refer as needed to the Toolbar figure on page 23.)

 1. Center the Master Map display on the area where you want to begin your route. Click the **CENTER MASTER MAP** cross-hair button, then click the cross-hair mouse pointer on the area you want centered.

2. If needed, click the Zoom In or Zoom Out buttons so you can see enough detail to accurately place the route waypoints.

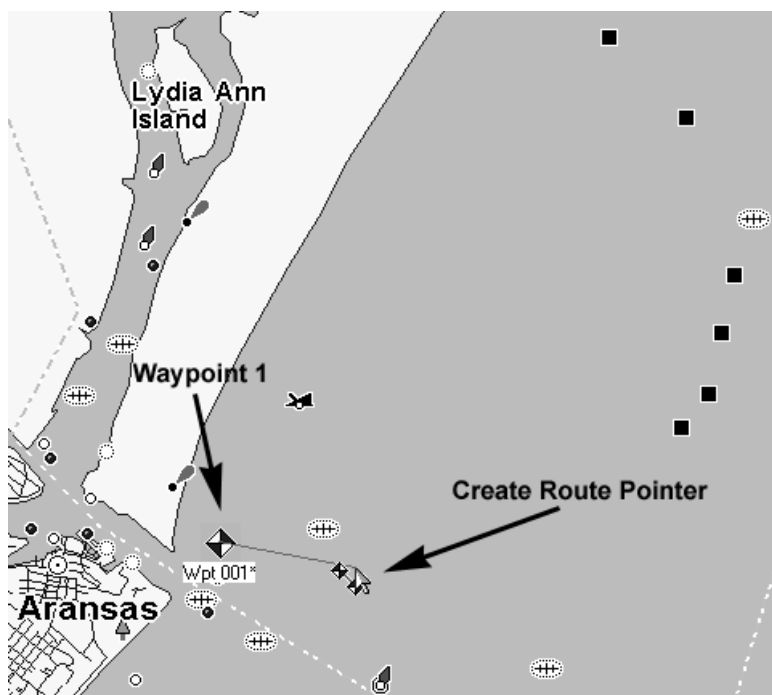
Tip:

As you move along your intended course, you may need to pan the Master Map and periodically zoom in and out to see where to place route waypoints, and where you are going next. The pan and zoom buttons will always work, even when the Create Route command is active. This way, you don't have to turn off Create Route just to move the map.

 3. Click the **CREATE ROUTE** button, and your mouse pointer  becomes an arrow with a route symbol, two waypoints connected by a magenta route line.

4. Move the mouse pointer so that the arrow point is where you want to start your route. Click to set the first waypoint. Move your mouse away

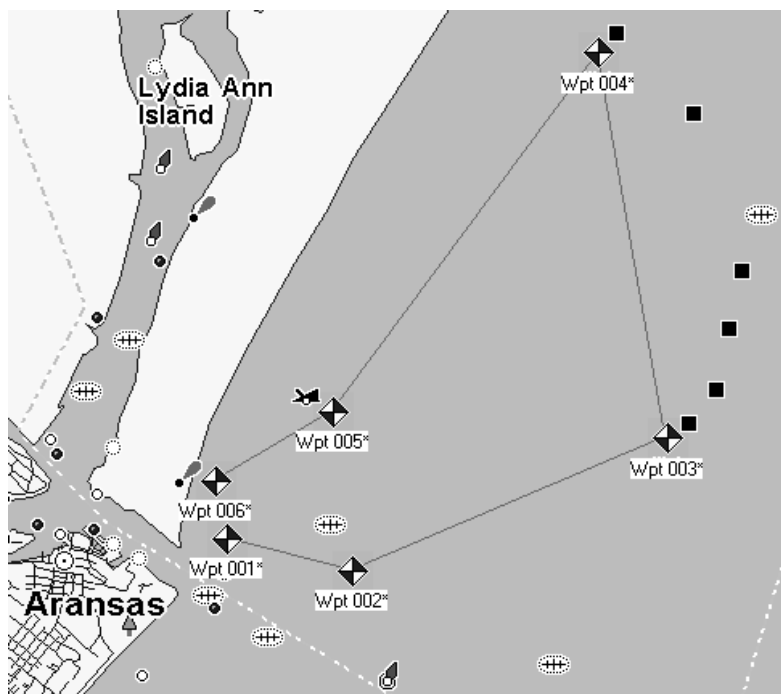
and you can see the waypoint. A straight magenta route line now runs from Waypoint 001 to your mouse pointer, showing you a route is under construction.



Click to set the first waypoint in a route. This example will show the route of a fishing boat from Port Aransas, Texas, to some oil drilling platforms and a wreck in the Gulf of Mexico, then back to port.

5. You can move off in any direction and the next waypoint will be linked in a straight line to waypoint 1. Relocate your mouse pointer along your intended route and click to create additional route waypoints as needed. Basically, you will set a new waypoint every time you need to change direction.

6. To close the Create Route command, right-click or press **Esc**.



Finished route with six waypoints. Notice the straight line-of-sight line connecting the waypoints that make up the route. The route segment from one waypoint to another is called a leg; this route has five legs.

Waypoints 3 and 4 are near oil drilling platforms and waypoint 5 is near a visible wreck.

Tips:

- Routes can be edited in many ways, but those steps involve several other commands that we will discuss only in the online Command Reference section. You can delete an entire route, delete a waypoint from a route, insert a waypoint into a route or relocate a waypoint in a route. To read more about it, see these entries in the online Command Reference: *View Route List*, *View Route Waypoint List*, *Edit Route*, *Edit Route Waypoint*, *Delete Route*, *Delete Route Waypoint*, *Insert Route* and *Insert Route Waypoints*.
- In a hurry? You can erase a route by deleting each waypoint, one after the other. Click the **CENTER MASTER MAP** button, then move the cross-hair pointer over a route waypoint and right-click. In the pop-up menu, click the **DELETE WAYPOINT** command. MapCreate erases the waypoint and the magenta line linking the waypoint to the route.

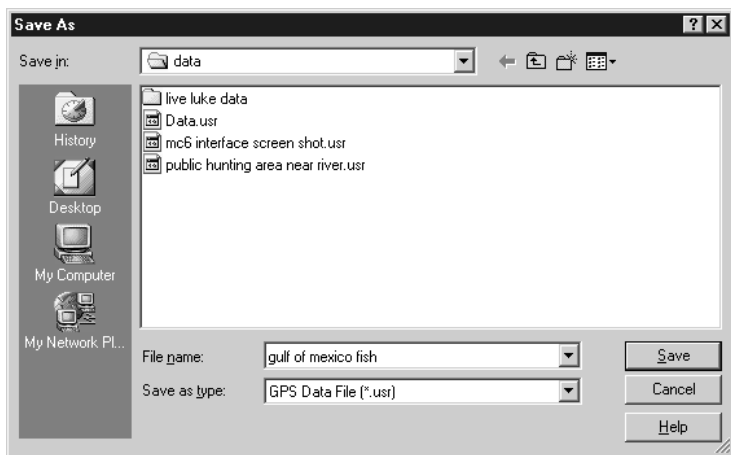
Now that you've created all the GPS information you want, you need to prepare it for use in your GPS unit. We'll do that in the next lesson, "Saving a GPS Data File."

Saving a GPS Data File

GPS Data Files can contain any combination of GPS information, including waypoints, event marker icons, routes and trails. MapCreate and your GPS unit store all their GPS data in the same file format, so it's easy move this information back and forth. Here's how: (Refer as needed to the Toolbar figure on page 23.)



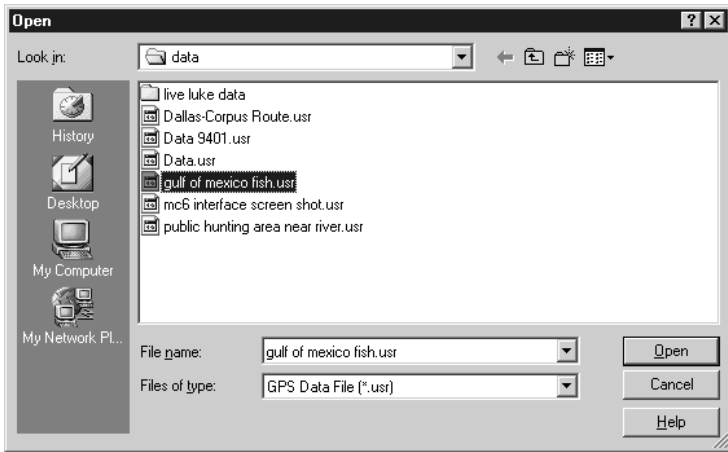
1. Click the **SAVE GPS DATA FILE** button. The Save As dialog box appears.



Save GPS Data File dialog box.

2. Type a *name* in the File Name text box and click **SAVE**.

Congratulations, you've made your first GPS Data File! The file was placed in the "data" sub-folder located within the MapCreate folder on your hard drive. You can start another GPS Data File (click **NEW GPS DATA FILE** button) or you can close MapCreate and return another day. To open this GPS Data File later on, just click the **OPEN GPS DATA FILE** button and select the file name from the list.



Open GPS Data File dialog box.

Now you're ready to load that GPS Data File into your GPS unit. You can close MapCreate and use Windows Explorer and your MMC card reader to copy the GPS Data File to an MMC.

Tip:

If you're in a hurry or don't need to store your GPS information on your computer, you can save your GPS Data File directly to your MMC. First, make sure an MMC is in your MMC card reader. Then, when the Save As dialog is displayed, switch directories to the drive letter of your MMC reader. Type a *name* and click **SAVE**.

Refer to your GPS unit's manual for instructions on inserting the MMC and loading your GPS Data File into its memory.

Now you know all the basics for getting custom maps *and* GPS data into your GPS unit — you're ready to travel!

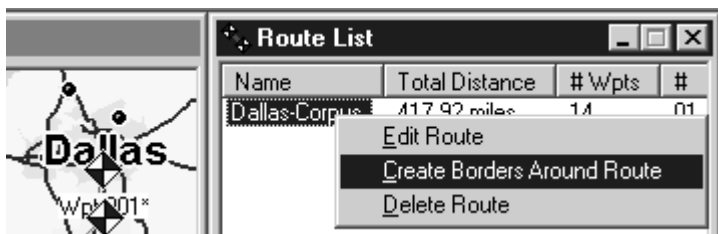
You don't need them at this moment, but there are two more optional operations you ought to hear about. One is making a corridor map from a route. You can use that method instead of drawing corridor border boxes manually with the mouse.

The other operation is creating a route from a trail. You can't even practice that one yet; you need to get out there with your GPS and bring back a trail to play with. Just follow the instructions in your GPS manual to save a trail from your travels, then refer to the lesson "Creating a Route From a Trail" on page 47.

Creating a Corridor Map From A Route

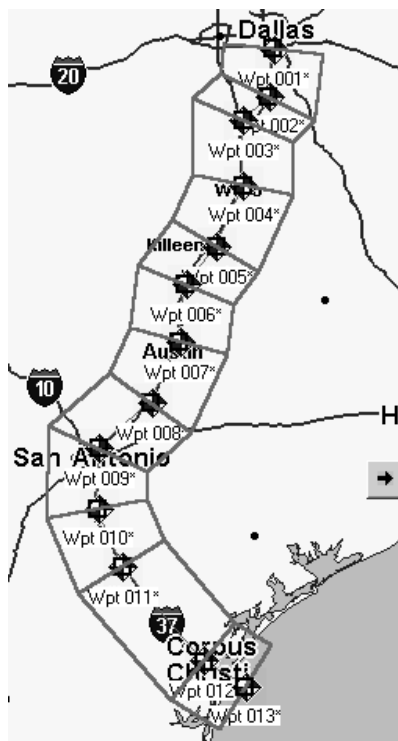
MapCreate can use a route you've made to automatically create a corridor map border. Using the Create Borders Around Route command is fast, and it helps control the size of your Custom Map. Here's how it works:

1. Create a route or open a GPS Data file containing a route. (To open a GPS Data File, click **FILE|OPEN GPS DATA FILE.**)
2. Open the Route List Window: click **VIEW|ROUTE LIST.**
3. Right-click on the route name. In the pop-up menu, click the **CREATE BORDERS AROUND ROUTE** command.



The Create Borders Around Route pop-up menu appears when you right-click a route name in the Route List Window. In this example, we are creating a corridor map border for a route from Dallas to Corpus Christi, Texas. Route name is "Dallas-Corpus."

MapCreate draws a corridor map border following the route. See the illustrations on the next page, showing the route before and after the command is performed.

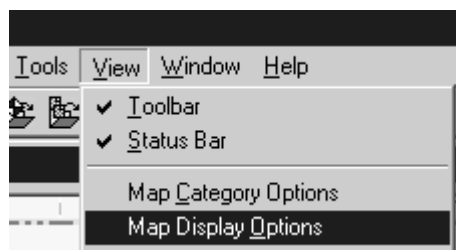


Route from Dallas to Corpus Christi, Texas (left) and the corridor map created automatically from the route (right).

You can save this as a Map Border File and then create a Custom Map File. (Click the **SAVE MAP BORDERS** button...then click the **CREATE CUSTOM MAP** button.)

Tip:

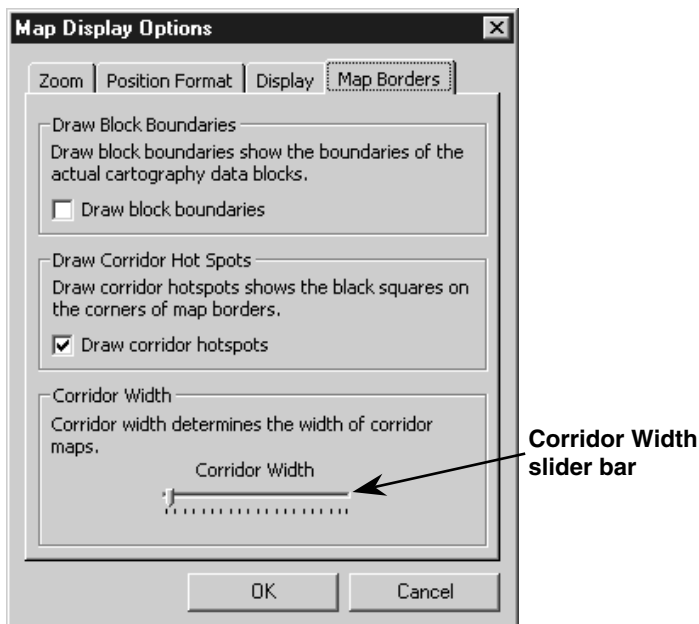
You can control the width of any corridor map. Click **VIEW/Map DISPLAY OPTIONS**, and the Map Display Options dialog box appears.



Map Display Options menu.

Click on the **MAP BORDERS** tab. Near the bottom of the box, drag the

Corridor Width slider bar back and forth along the scale to increase or decrease the width of your corridor. This allows you to make very narrow corridors, which in turn results in conveniently small Custom Map file sizes.



Map Borders tab in the Map Display Options dialog box. Drag the Corridor Width slider bar to the left to narrow corridor width. Drag the slider bar to the right to widen corridor width.

Creating a Route From a Trail

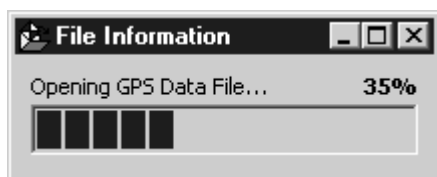
A trail is a line drawn on the map by your GPS unit as you travel. It's a record of the path you've taken, showing where you've been. This feature is also called a plot trail. In the field, the trail will extend from your present position back to where you began recording the trail. Your GPS unit records thousands of position points to show every twist and turn you've taken on your journey.

MapCreate can use a GPS plot trail to create a route for use on a repeat trip. Your GPS unit can automatically navigate the new route, making it easy to retrace the path you took. You can even share the information with friends. Using the Create Route From Trail command is a snap. Here's how you do it:

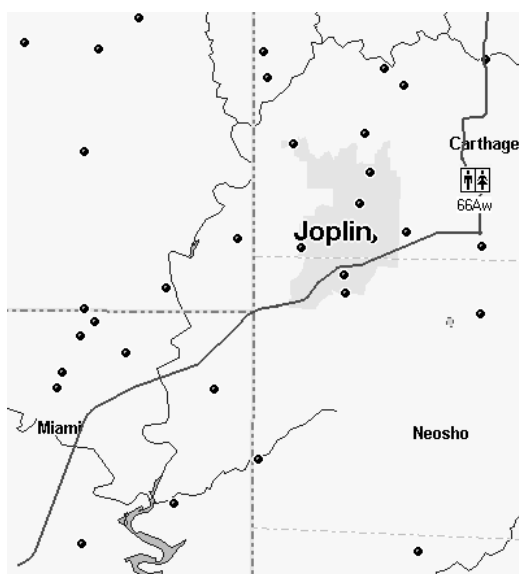
1. Open a GPS Data file containing a trail.

NOTE:

GPS Data Files with relatively long trails take a few moments to open. Please be patient when you open a data file containing a long trail. Once the trail information has been processed, the remainder of the data file will open very quickly.

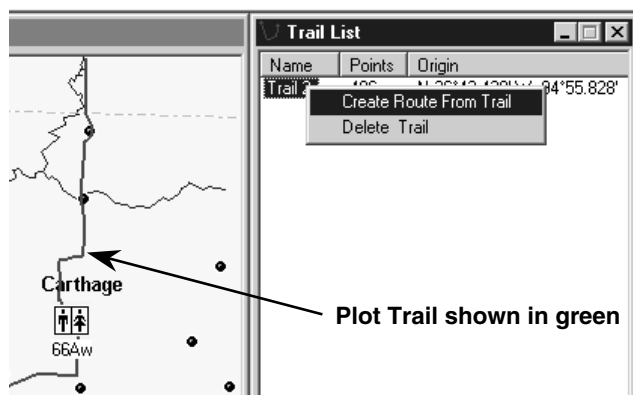


GPS Data File open progress box.



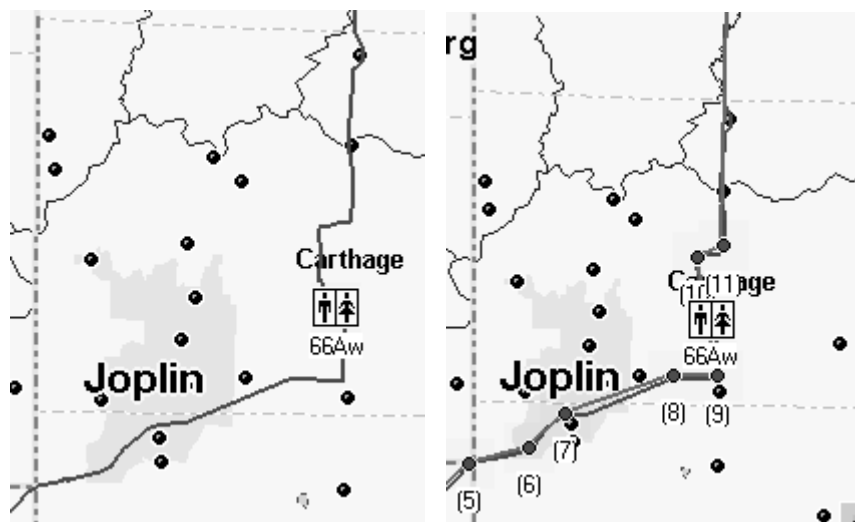
This example shows a portion of Trail 2, recorded during a business trip from Afton, Oklahoma to Kansas City, Missouri. The trail appears as a green line on the Master Map. It follows Interstate 44 to Carthage, Missouri, then Highway 71 north toward Kansas City. For easier viewing, roads, highways and other features have been turned off.

2. Open the Trail List Window: click **VIEW|TRAIL LIST**.
3. Open the Route List Window: click **VIEW|ROUTE LIST**.
4. Right-click on the trail name. In the pop-up menu, click the **CREATE ROUTE FROM TRAIL** command.



The Create Route From Trail pop-up menu appears when you right-click a trail name in the Trail List Window. Notice the absence of waypoints along the trail.

MapCreate converts the green trail line into a magenta route line with red waypoints. It does this by transforming thousands of position points in the trail to 25 route waypoints. See the illustration below, showing the trail and route before and after the command is performed.



Trail segment through Joplin before conversion to a route (left) and the route created automatically from the trail (right). In the right image, the green trail and the magenta route are both visible. Note the numbered waypoints appearing along the route.

You can save this as a GPS Data File. (Click the **SAVE GPS DATA FILE** button.)

Notes

Appendix 1: MapCreate Command List

Complete documentation on all MapCreate commands is available in the program's online Help File. To access Help and its Command Reference section, press F1. An example entry from the Command Reference (for the Help Command) appears at the end of this command list.

| | |
|------------------------------|---------------------------|
| About MapCreate | New GPS Data File |
| Arrange Icons | New Map Border File |
| Arrange Windows | Open GPS Data File |
| Auto Arrange Windows | Open Map Border File |
| Cascade Windows | Paste |
| Center Master Map | Print GPS Data |
| Close All Windows | Print Master Map |
| Copy | Print Setup |
| Create Borders Around Route | Redo / Can't Redo |
| Create Custom Map File | Restore Original Settings |
| Create Icons | Save All |
| Create Map Borders | Save GPS Data File |
| Create Route | Save GPS Data File As |
| Create Route From Trail | Save Map Border File |
| Create Waypoints | Save Map Border File As |
| Cut | Select All GPS Data |
| Delete | Tile Windows Horizontally |
| Delete Icon | Tile Windows Vertically |
| Delete Route | Undo / Can't Undo |
| Delete Route Waypoint | View Icon List |
| Delete Trail | View Map Category Options |
| Delete Waypoint | View Map Display Options |
| Edit Icon | Data Display Options |
| Edit Route | Default Symbol |
| Edit Route Waypoint | Detail Level Used |
| Edit Waypoint | Map Borders |
| Exit | Map Zoom Change |
| Export GPS Data | Position Format |
| Help Topics | Zoom Range Units |
| Import GPS Data | View Route List |
| Import Map Borders From File | View Route Waypoint List |
| Import Route | View Status bar |
| Import Waypoint List | View Toolbar |
| Insert Icon | View Trail List |
| Insert Route | View Waypoint List |
| Insert Route Waypoints | Zoom In / Zoom Out |
| Insert Waypoint | |

Help Topics Command

Menu: **HELP**

Submenu: n/a

Menu Command: **HELP TOPICS**

Menu Command Sequence: **HELP|HELP TOPICS**

Hot Key Sequence: **Alt+H|H**

Shortcut Key(s): **F1**

Toolbar button: n/a

The Help Topics command opens the on-line Help system in your default web browser. Our help information is in HTML format, but it runs from the CD or your hard drive, not from the Internet.

Using the Command

The Help system contains the Quick Reference tutorial material (from the instruction manual) and a Command Reference, which documents every command in MapCreate.

To open the Help system, choose the **HELP TOPICS** command.

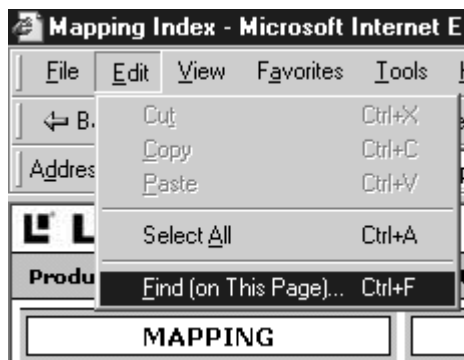
You navigate through the help information just as you would any other web site, using the clickable hyperlinks to move around.

Searching Help

Once you have opened a help document, you can search it for the information you need.

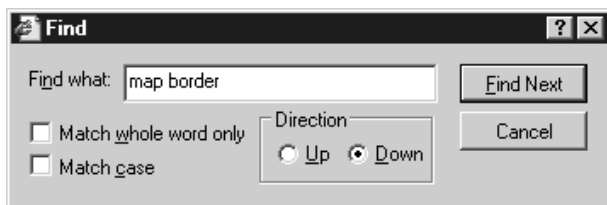
Internet Explorer browser:

1. Click somewhere on the help page you intend to search. This makes sure your browser will search the correct page.
2. Click **EDIT|FIND (ON THIS PAGE)** or use the shortcut keys **Ctrl+F** to begin your search.



Use Internet Explorer's Find command to search Help documents.

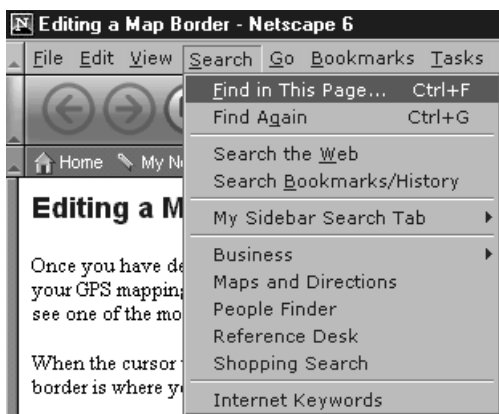
3. In the **FIND WHAT:** box, type the *term*, *phrase* or *command* you are looking for, adjust any options such as up or down, then click **FIND NEXT**.



Search a Help document for the term "map border."

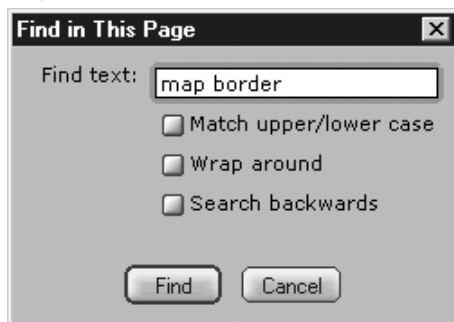
Netscape 6 browser:

1. Click somewhere on the help page you intend to search. This makes sure your browser will search the correct page.
2. Click **SEARCH|FIND IN THIS PAGE** or use the shortcut keys **Ctrl+F** to begin your search.



Use Netscape's Find command to search Help documents.

3. In the **FIND TEXT:** box, type the *term*, *phrase* or *command* you are looking for, adjust any options such as search backwards, then click **FIND**.



Search a Help document for the term "map border."

Notes

Appendix 2: Map Category List

This list contains the different categories of mapping information available in MapCreate 6. These categories and their subcategories can be turned off or on. Only those categories turned on (displayed in the Master Map) will be included in Custom Map Files for your GPS unit. See Appendix 3 for symbols used to represent these items. POI stands for Point of Interest.

Airports

- Runways

Cities

- City Names
- Community Names
- Names
- Subdivision Names
- Urban Areas

Countries

- Boundaries
- Names

County/Parish

- Boundaries

Highway Exits

- Exits
- Information Centers
- Parking Areas
- Picnic Areas
- Rest Areas
- Scenic Areas
- Service Areas
- Toll Plazas
- Weigh Stations
- Welcome Centers

Highways

- Interstate
- Interstate Symbols
- International Major
- International Minor
- State
- State Symbols
- US
- US Symbols

Landmarks

- Airports

- Cemeteries

- Schools

- Shopping Centers

- Summits

- Towers

- Trail Names

Marine Nav aids

- Major

- Minor

POI-Attractions

- Auditoriums

- Churches

- Colleges

- Historical

- Museums/Zoos

- Other

- Park Offices

- Tourist

POI-Emergency/Government

- Hospitals

- Medical Service

- Police/Sheriff

- Post Offices

POI-Entertainment

- Bars/Nightclubs

- Live Theaters

- Movie Theaters

- Other

POI-Fishing

- Bait/Tackle

- Hatcheries/Lakes

- Parties

POI-Hunting

- Clubs/Preserves

- Services

Supplies
POI-Lodging
Bed & Breakfast
Cabins
Camps/Campgrounds
Hotels/Motels
RV Parks
Resorts

POI-Marine
Boat Dealers
Equipment
Marinas
Other Services
Rental/Charter
Repair

POI-Restaurants
Banquet Rooms
Barbecue
Carry Out
Chinese
Coffee Shops
Delis
Ice Cream
Italian
Japanese
Mexican
Miscellaneous
Pizza
Sandwiches
Seafood
Steak Houses

POI-Services
Auto Fuel
Auto Repair
Auto Wash
Financial
RV Services
Road Service/Wrecker
Truck Stops

POI-Shopping
Auto Parts
Convenience
General Merchandise
Groceries

Hardware
Pharmacies/Chemists
Shopping Centers
Sporting Goods/Wear

POI-Sports
Bowling
Golf
Other
Recreation Centers
Stadiums/Arenas
Swimming

POI-Transportation
Airports
Auto Rental
Bus Lines
Other
Railroads
Taxi Cabs

Public Lands
National Forests
National Park Service
Park Symbols

Railroads

Roads
Major City
Major City Names
Minor City
Minor City Names
Rural
Rural Names

State/Province
Boundaries
Names

Water
Canal/Stream Names
Canals/Streams
Lake/River Names
Lake/Rivers
Ocean/Sea Names
Ocean/Seas
Other/Names

Wrecks & Obstructions

Appendix 3:

MapCreate 6 Symbol Key

MapCreate 6 contains hundreds of mapping symbols used to represent items ranging from geographic features to commercial Points of Interest (POI). The following list displays these symbols and the name of the item the symbol represents.



Interstate Highway



U.S. Highway



State Highway



Trans-Canada Highway



Quebec Autoroute Highway



Mexican Federal Highway



Highway Exit



Highway Exit with Info Center



Highway Exit with Parking Area



Highway Exit with Picnic Area



Highway Exit with Rest Area



Highway Exit with Scenic Area



Highway Exit with Service Area



Highway Exit with Toll Plaza



Highway Exit with Weigh Station



Airport



Building



Cemetery



Fire Station



Library



Mine



Park



School



Shopping Center



Summit



Tower



Trail Name



City, Community, or Subdivision
Name



Land Feature Name



Water Feature Name



Miscellaneous Landmark Name



Square Green Daybeacon
(Navaid)



Square White or Unidentified
Daybeacon (Navaid)



Red Triangle Daybeacon (Navaid)



White Triangle Daybeacon
(Navaid)



Green Lighted Buoy (Navaid)



Red Lighted Buoy (Navaid)



White or Unidentified Lighted
Buoy (Navaid)



Green Unlighted Buoy (Navaid)



Red Unlighted Buoy (Navaid)



White or Unidentified Unlighted
Buoy (Navaid)



Light (Navaid)



Nautical Chart Note



Platform (Navaid)



Radiobeacon (Navaid)



Awash or Visible Obstruction



Awash Rock



Covered Rock



Dangerous Submerged Wreck



Non-Dangerous Submerged
Wreck



Visible Wreck



Airport (POI)



Amusement Place, Billiards or
Casino (POI)



Church (POI)



College or University (POI)



Hall or Auditorium (POI)



Hospital (POI)



Medical Service (POI)



Miscellaneous Attraction (POI)



Museum or Historical Place (POI)



Park Office (POI)



Police or Sheriff (POI)



Post Office



Tourist Attraction or Tour (POI)



Zoo (POI)



Bar, Cocktail Lounge, or
Nightclub (POI)



Live Theater (POI)



Movie Theater (POI)



Restaurant (POI)



Coffee Shop (POI)



Ice Cream Parlor (POI)



Pizza (POI)



Fishing-Related (POI)



Hunting-Related (POI)



Lodging (POI)



Camp or Campground (POI)



RV Park or RV Service (POI)



Marina (POI)



Boating Dealer or Service (POI)



Boat Equipment & Supplies (POI)



Gas Station (POI)



Auto Repair or Parts (POI)



Car Wash and Polish (POI)



Bank or Financial Service (POI)



Truck Stop, Trailer Rental, or
Other Transportation (POI)



Grocery, Retail Store, or Shopping
Center (POI)



Pharmacy or Chemist (POI)



Hardware Store (POI)



Sporting Goods or Sportswear
(POI)



Golf Course, Equipment, or
Practice Range (POI)



Rec Center, Stadium, or Other
Recreation (POI)



Bowling Center (POI)



Swimming Pool (POI)



Railroad (POI)



Taxi Cabs & Transportation
Service (POI)



Bus Line (POI)



Airport (POI)



Auto Rental & Lease (POI)

Appendix 4: Considerations When Planning Highway Routes

Tips on Making Better Routes for Highway Navigation

How you make a *highway* route depends on your type of travel and whether you prefer to use the GPS unit's compass rose screen, the map screen or both for navigation. These factors determine how many route waypoints to use, and where you place them.

A simple, straight-legged route by water or by air is easy to make, as is a route following a square grid of city streets. Obstructions are usually few in number, and you're traveling in a more or less straight line from waypoint to waypoint.

Following a highway's twists and turns is different because all GPS units link route waypoints in straight lines.

Some navigators prefer to follow a route visually on the map. They glance at the route and the position indication arrow as the Custom Map moves across their GPS screen. With one look, they can see the route symbols and the highway they are following together, at the same time.

Other travelers prefer the simpler display provided by the compass rose screen. The compass rose can literally point the direction to steer toward the next waypoint in a route.

You may fall in yet another group of navigators who use both navigation techniques, switching back and forth between the map and compass rose screens during a journey.

"High Resolution" vs. "Low Resolution" Routes

MapCreate and your Lowrance GPS unit are capable of remarkably precise "high resolution" routes that can follow every S-curve of a mountain highway. This type of route — with a relatively *large* number of waypoints per mile — is well-suited to compass rose navigation. With it, you can virtually ignore the map screen and arrive at your destination using only the compass rose.

Your GPS has a course deviation (or off course) alarm which will alert you when you drift too far to the right or left of your route's center line. There is also an arrival alarm, which alerts you when you get within a certain distance of a route waypoint. With a "high resolution" route, you can set the off course alarm and the arrival alarm to small distances somewhere between 0.1 and 0.5 miles. (You can turn the alarms off or

on, and you have the option of turning the alarms' sound feature on or off as well.)

The amazing capabilities of GPS navigation can tempt first-time users to build highly detailed highway routes. These "high res" routes are fun to use, but they have some drawbacks. They require placing a route waypoint at practically every curve in the road. This takes a relatively large number of waypoints for the distance traveled. A large set of waypoints close together can give your Custom Map a cluttered look. If the route is very long, it takes more time for you to make it in MapCreate. And, finally, GPS units compatible with MapCreate versions 5 and 6 can hold 100 routes, but each route can contain only 100 waypoints.

So, take a long cross-country trip on winding roads and you can use up 100 waypoints before you reach your journey's end. This means you will need to break up the trip into multiple routes. That's usually not a problem, since most travelers don't prefer to run all day and night without stopping for food, fuel or rest.

On the other hand, "low res" routes take less time to prepare and are plenty accurate to get you there. This type of route — with a relatively *small* number of waypoints per mile — is well-suited to map screen navigation. You can cover a longer distance for the amount of waypoints you use. "Low res" routes also tend to reduce the clutter on your Custom Map.

A good technique for "low res" routes is to set most of your waypoints where you make major direction changes, or where the destination is important for one reason or another. Here are two examples:

Let's say you are heading straight north on a state highway, but need to turn right onto a county road to reach a recreation area. Set a route waypoint at or just a little before the highway intersection. Setting the waypoint a short distance before your turn is useful (especially at highway speeds) if you need some warning to change lanes or slow down for the turn. (You can even rename that route waypoint "turn" or "turn right.")

Now let's say you are traveling in a generally straight line. You don't need to set a waypoint for a turn, but you want to stop in a certain city along the way for food or fuel. Set a route waypoint at the city limits or downtown, and your Lowrance GPS can tell you how many miles to town and how long it will take to get there.

If you limit the number of waypoints you make, your compass rose will still work fine for those major changes in direction, but it won't match the twists and curves of the pavement as closely as a "high resolution" route would.

For example, you could be traveling toward a destination to the south, but following a highway curve around a mountain. As you take the curve to your right, your car will actually be pointing west as you follow the pavement. However, the compass rose is accurately pointing to that next southern waypoint, now 90 degrees off to your left. If you were depending only on the compass rose at that moment, it might look like you were off course. As you come around the mountain and the pavement turns back south, the compass rose, the route and the pavement will all line up together once again.

The off course alarm also requires some adjustment when using low resolution routes. In our mountain curve example, if the alarm was set at 0.1 mile, it would go off as we rounded the curve and "deviated" more than 0.1 mile from the route center line.

Some navigators avoid this by turning the course deviation alarm off. With the alarm off, however, you may take a wrong turn and it could be some time before you catch the error. You can leave the alarm on if you simply expand the distance setting that triggers the alarm. In our mountain highway example, setting the course alarm to 1.5 miles would keep the alarm from going off as we rounded the mountain.

Highway route "resolution" is ultimately a matter of personal taste. Experiment with these techniques to see which one suits you best. Most users strike some sort of balance between them. Just remember: the more precise you are in following the turns of the pavement, the more waypoints you will use. That, in turn, affects how your GPS features work with your route.

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LOWRANCE ELECTRONICS, INC. 12000 E SKELLY DR TULSA, OK 74128

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800-324-1356

8 a.m. to 5 p.m. Central Standard Time, M-F

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800-661-3983

905-629-1614 (not toll-free)

8 a.m. to 5 p.m. Eastern Standard Time, M-F

...outside Canada and the USA:

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To locate a Lowrance dealer near you, visit our web site, www.lowrance.com and click on **Support** and then click **Dealer Locator**. Or, you can consult your telephone directory for listings.

2) U.S. customers: LEI Extras Inc., PO Box 129, Catoosa, OK 74015-0129
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3) Canadian customers can write:

Lowrance/Eagle Canada, 919 Matheson Blvd. E. Mississauga, Ontario L4W2R7 or fax 905-629-3118.

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2. Always insure the parcel against damage or loss during shipment. Lowrance does not assume responsibility for goods lost or damaged in transit.

3. For proper testing, include a brief note with the product describing the problem. Be sure to include your name, return shipping address and a daytime telephone number.

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