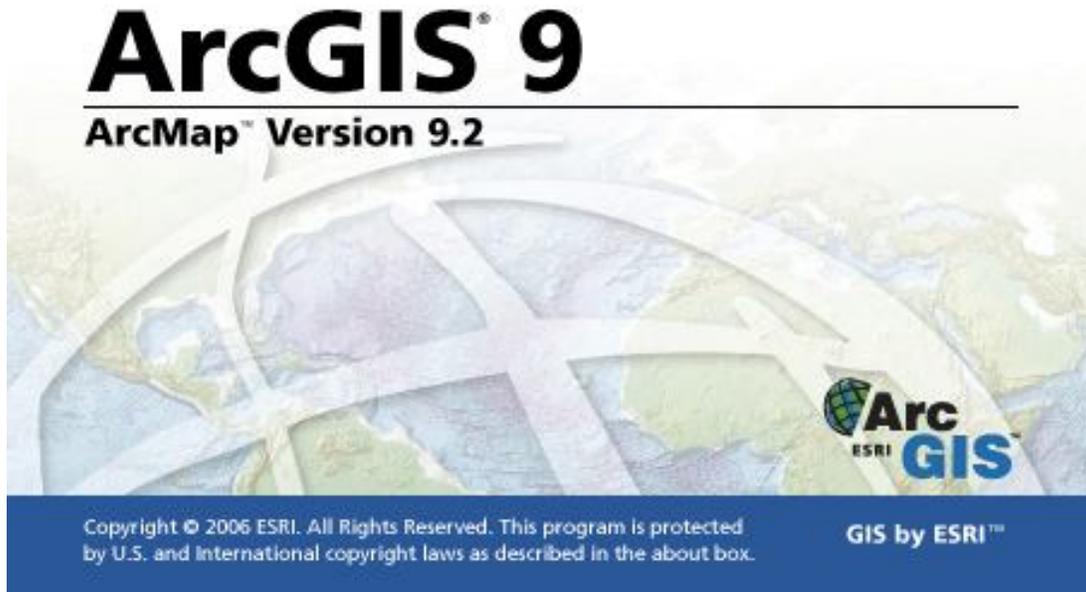


Installing ArcGIS 9x

By Scott Ralston

<http://skralston.com/Scott/>



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Nomenclature and Licensing Options

1. The Naming of the ESRI Software can be a little confusing at times so here is a breakdown of the naming and a relation to a product you may be more familiar with such as Microsoft Office
 - a. ESRI (Environmental Systems Research Institute) is the name of the company that makes the software (Like Microsoft)
 - b. ArcGIS is the name of the software package (Like Microsoft Office)
 - c. ArcInfo is the name of the version of the software package (Like Office Professional Addition). Other lower versions include ArcEditor and ArcView
 - d. ArcMap is the name of a program in the software package (Like Microsoft Word). ArcMap is the program you will use the most and is comparable to the old ArcView program.
2. Licensing – ESRI is very careful about licensing for the program. One license means 1 copy of the program can be open at a time. In order to have the license work and to ensure the software isn't pirated a physical USB key (called a sentinel key)



is needed to be inserted into the computer with the license for the program to work. Be aware that each license cost a lot of money so don't order more licenses than you need!. There are different options for installing the license and program. Choose the one that suites your licensing need the best. Order ONLY the number of licenses that will be used at the same time. Example: If your office has 10 people and you want the program on 10 computers but most likely only 3 people will be using the program at any one time then ONLY order 3 licenses.

- a. Dedicated license – ArcGIS program, license file, license manager and sentinel key are all installed on one computer and only that computer is used for GIS
- b. Shared License – ArcGIS program, license manager and license file are installed on many computers but in order to use the program on the computer users must insert the sentinel key so one sentinel key is shared among multiple computers.
- c. Network License – ArcGIS program is installed on many machines. The sentinel key, license manager and the license (possible to have multiple licenses) are installed on one “Server” machine on the network. Anytime a computer opens the ArcGIS program, a license is “checked out” from the network server. If more computers try to open the ArcGIS program than there are licenses available, users will get an error and not be able to use the program until a license is freed up by another user.

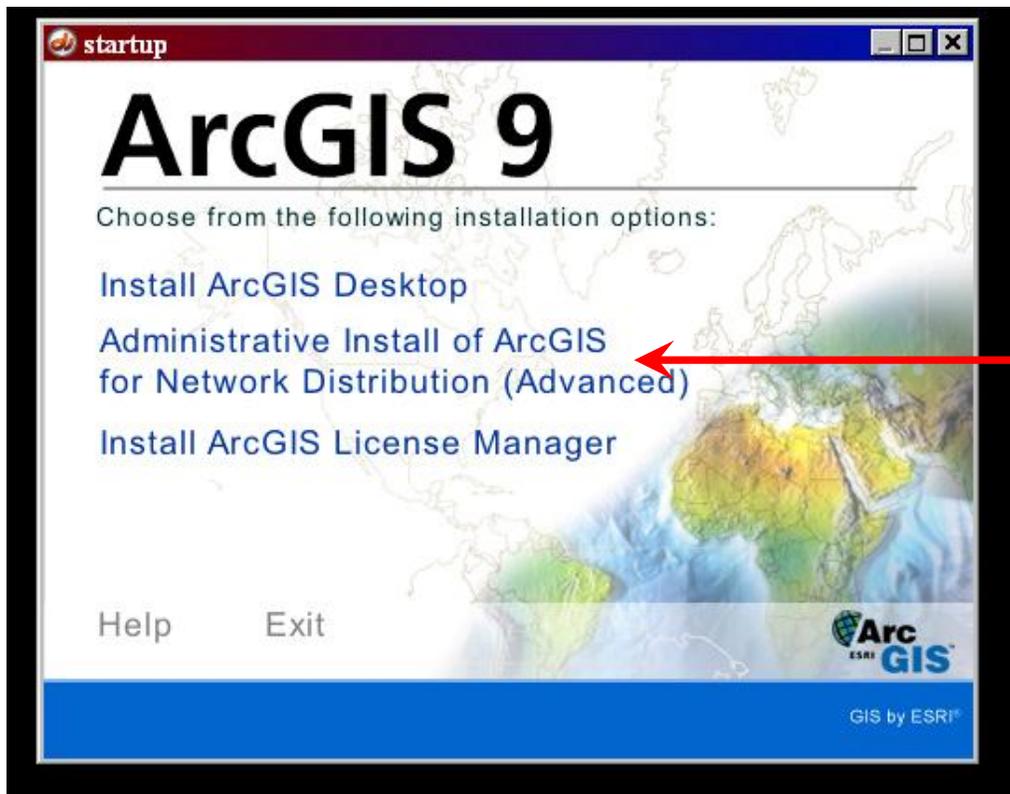
- d. With each license a free laptop (concurrent) license can be requested. This laptop license works the same as option A or B but according to the license agreement, should only be used on a laptop computer.
3. Program Components
- a. ArcGIS License Manager – This is a program that must be installed in order to run ArcGIS. On a Dedicated, shared or Laptop installation you must install the license manager on the same machine as the ArcGIS software. For the Network install you must install the license manager only on the computer that will serve as you license server. ArcGIS License Manager can be found in the startup menu of both the ArcGIS Desktop CD and the ArcInfo Workstation CD.
 - b. ArcGIS Desktop – ArcGIS Desktop is the main program component you will be using. This includes ArcMap, ArcCatalog, ArcToolbox, ArcGlobe and ArcScene. This is the only CD that needs to be installed for most basic users
 - c. ArcInfo Workstation – This is another part of the ESRI GIS package that has many powerfully tools. However this part of the program is much less user friendly and uses many command line inputs. For most basic GIS use you will not need to install the Workstation CD.
 - d. Crystal Reports – This is a reporting feature for spatial data. It is not required to install but may be used in reporting or summary information.
 - e. Support CD's – Other CD's are included with the installation including Sample Data, Street Maps, Tutorials etc. For beginners you may want to install the Tutorial CD.

Before Installing Anything

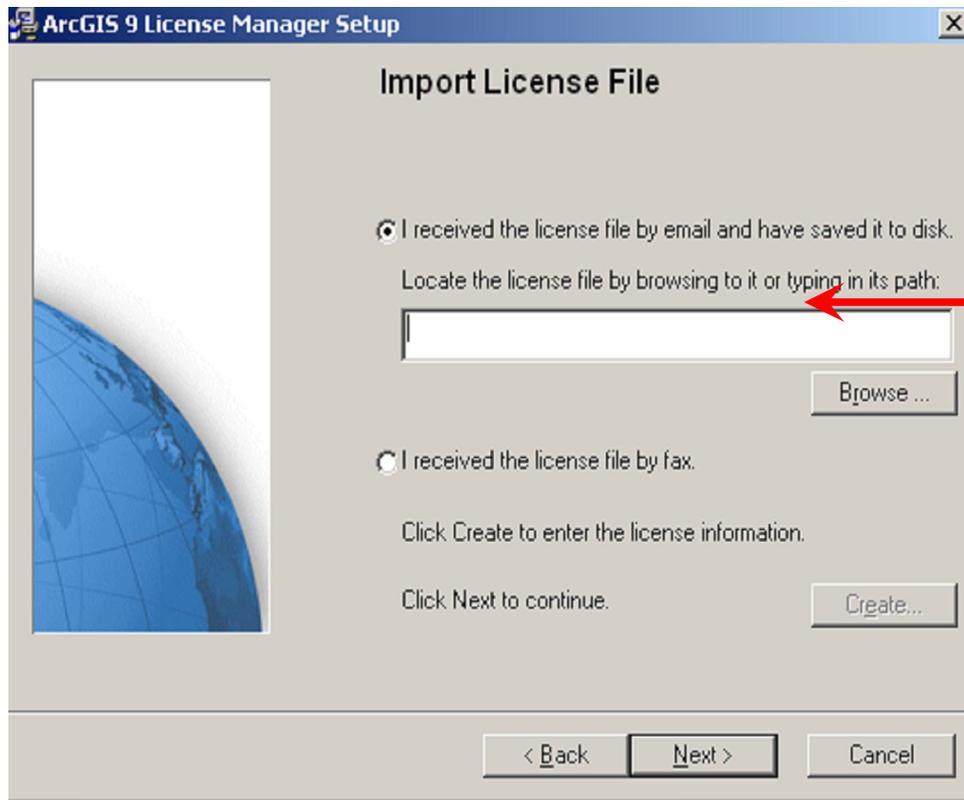
1. Check to see that you have everything
 - a. ArcGIS Desktop 9.2 setup disks (2 disks)
 - b. Sentinel key
 - c. License File (*.efl9) file with number that matched the number on the sentinel key
 - d. Associated CD's if needed such as ArcGIS workstation, tutorials Crystal reports etc.
2. Decide on the best licensing option for your office environment
 - a. If your office is on a network and will have many people using GIS the Network license option would be the best.
 - b. If your computer isn't always connected to a network or you office will only have a few specific machines running GIS a dedicated license may be better.
 - c. If the program is installed on a laptop for use out of the office a dedicated Laptop "concurrent" license would be appropriate.
3. System Requirements
 - a. Make sure your computer has a minimum of a 1.5GHz processor and at least 512MB of RAM.
 - b. For more detailed system requirements follow this link:
<http://support.esri.com/index.cfm?fa=knowledgebase.systemRequirements.list&PN=ArcInfo+Desktop&pName=ArcInfo+Desktop&PVName=&PID=43&count=1&pvid=352&VID=945>
4. Make sure Microsoft .NET version 2.0 is installed.
 - a. You can check if this is installed by going to the Start menu > Control Panel > Add and Remove Programs, and see if it is in the list.
 - b. If it is not installed you can install it from Microsoft Update website and choose custom install options then select it from the list:
<http://update.microsoft.com/microsoftupdate/>
 - c. You can also download and install it directly from the Microsoft web site:
<http://msdn2.microsoft.com/en-us/netframework/aa731542.aspx>
5. Uninstall old versions of ArcGIS
 - a. From the Start menu > Control Panel > Add and Remove Programs, uninstall any old versions of ArcGIS Desktop or Workstation
 - b. You can keep ArcView 3x installed if you wish as it will not conflict with ArcGIS.
 - c. If you have a license manager installed from a previous version of ArcGIS 9x you do NOT need to uninstall it. The License Manager will work with all versions of ArcGIS 9x. You may need to uninstall then upgrade your license manager if you are upgrading from ArcGIS8x

Installing the License Manager

1. Install License Manager – If using a dedicated, shared or laptop license then install the license manage on each computer you will be using the program on. If using the network option then only install the license manage or one computer that will serve as your License Server.
 - a. Install the sentinel key (either USB or parallel port)
 - b. Insert the ArcGIS Desktop installation CD.
 - c. From the startup screen choose Install ArcGIS License Manager



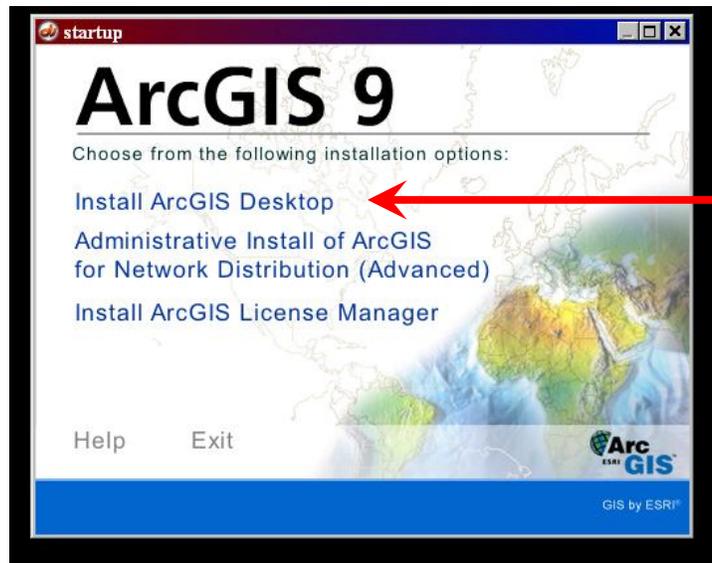
- f. You should have received a license file by e-mail. The file name will contain the same number as what is printed on the Sentinel Key (the numbers must match). The extension for the file should be something like *.efl9.
- g. When prompted, browse to the location you saved your file on the computer.



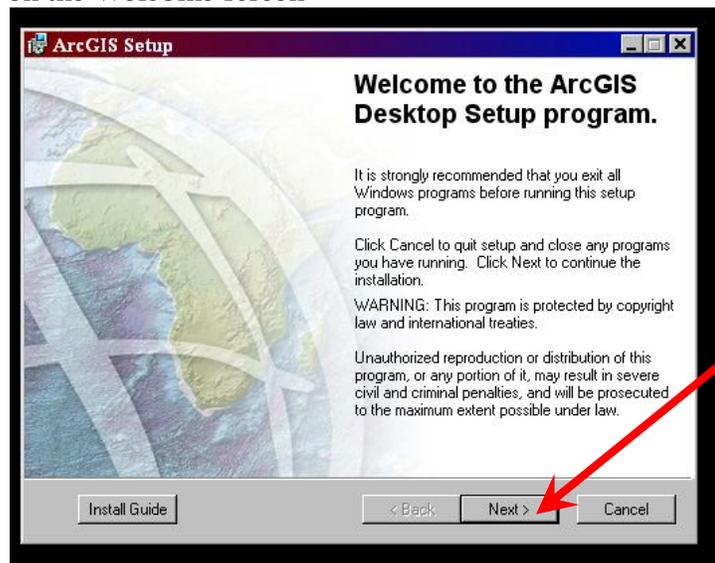
- h. Click next and install the license manager
- i. You may be asked to restart your computer when finished

Installing ArcGIS from a CD on a Local Machine with a Local License

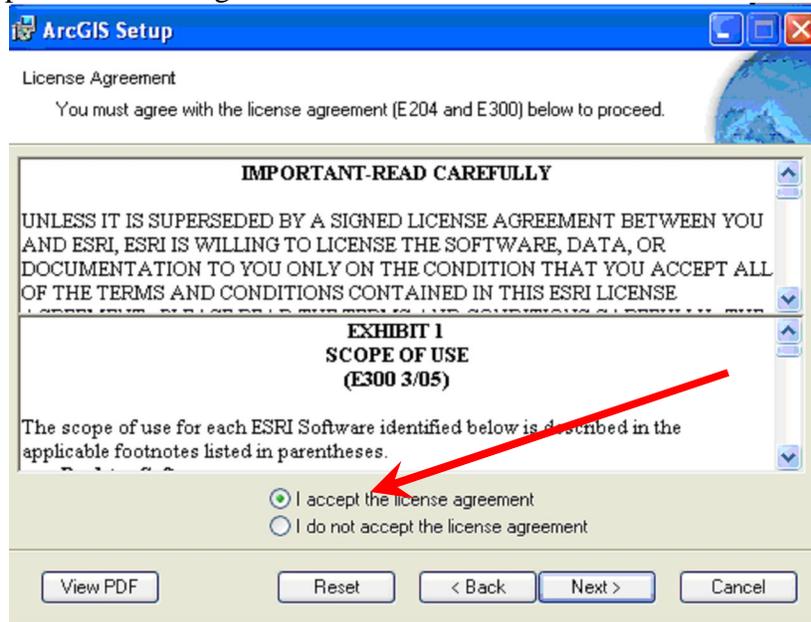
1. Licensing
 - a. Determine what type of license you will be using as described above
 - b. If you prefer to use the network option skip this part of the tutorial and go to the Network installation section for further instruction.
 - c. Install the sentinel key and license manager on your local machine as described above
4. Insert the CD called ArcGIS Desktop Disk 1
5. From the startup window choose Install ArcGIS Desktop
6. Do NOT choose Administrative Network Install. See below for the use of this option.



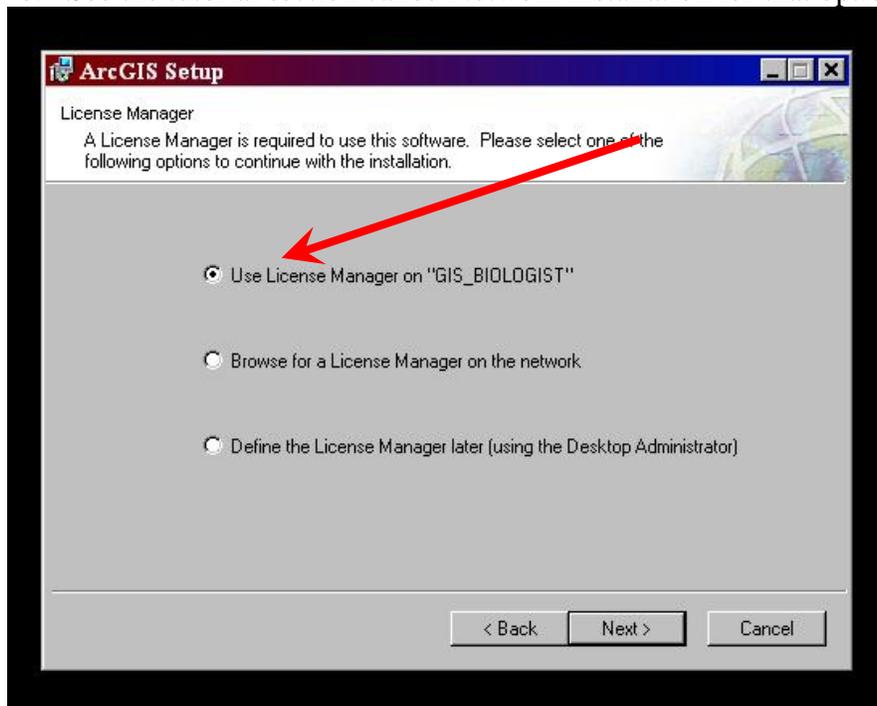
7. Click next on the Welcome screen



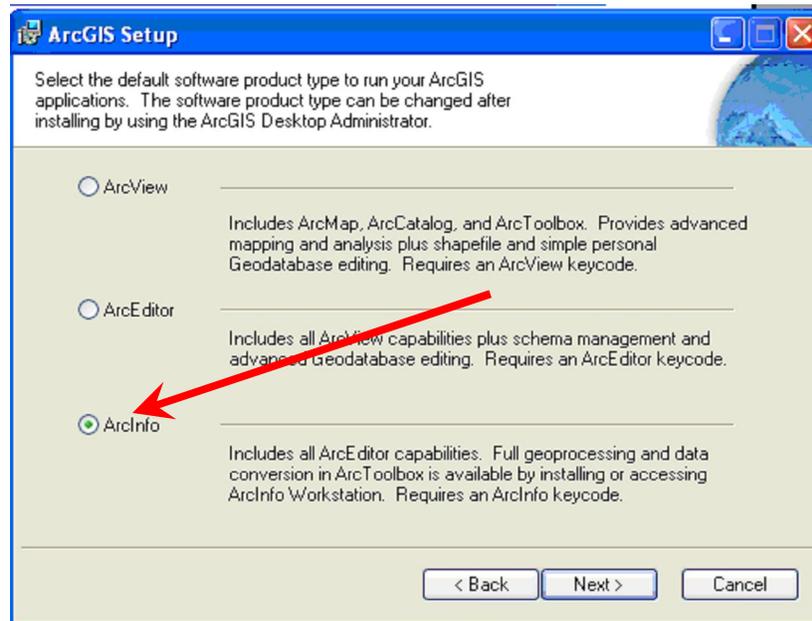
8. Accept the License Agreement and Click Next



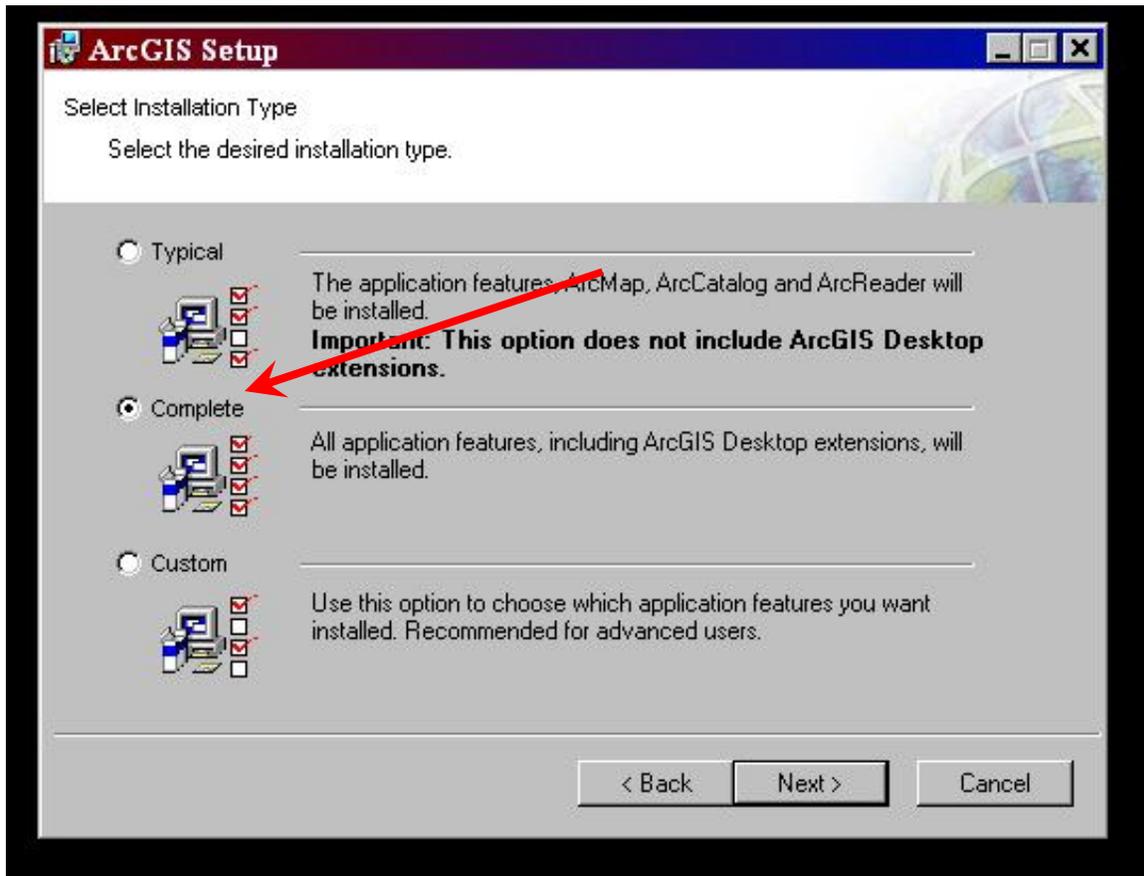
9. If you installed the License Manager correctly you will be give the option, “Use License manager on “YourComputerName””.
- a. If you do not have this option and are not doing a network installation then your license manager did not install correctly. Reinstall the license manager making sure you have the correct sentinel key and license file for your computer.
 - b. See the tutorial section called Network installation for that option.



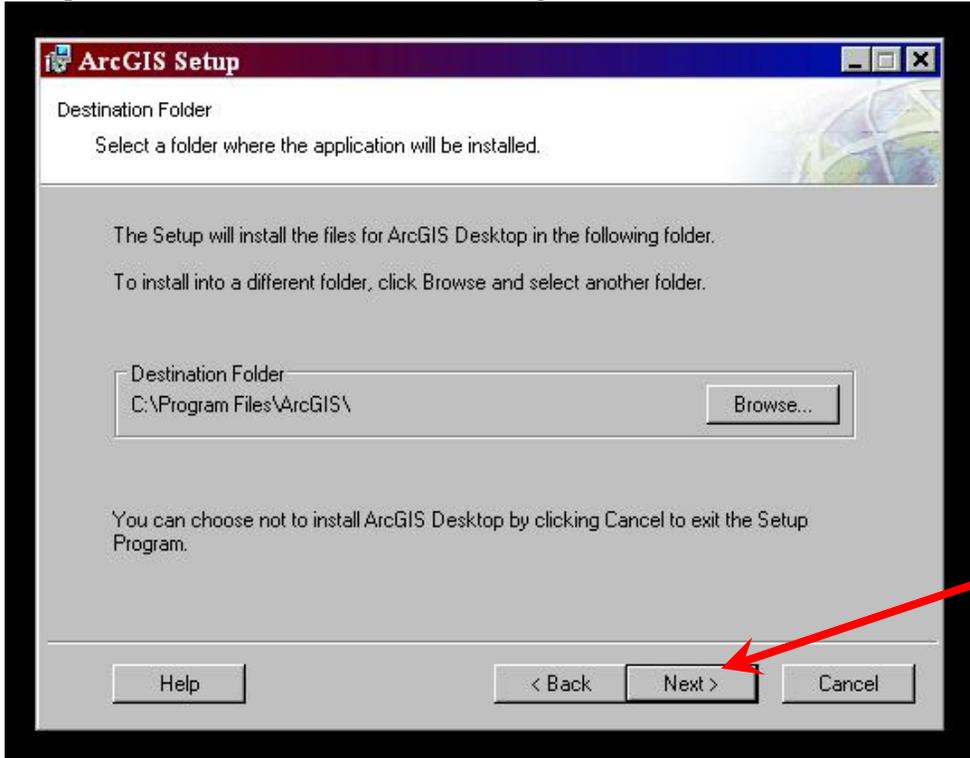
10. Choose the ArcInfo option long as your licensing allows. This is the most complete version of the installation and will give you the most tools.



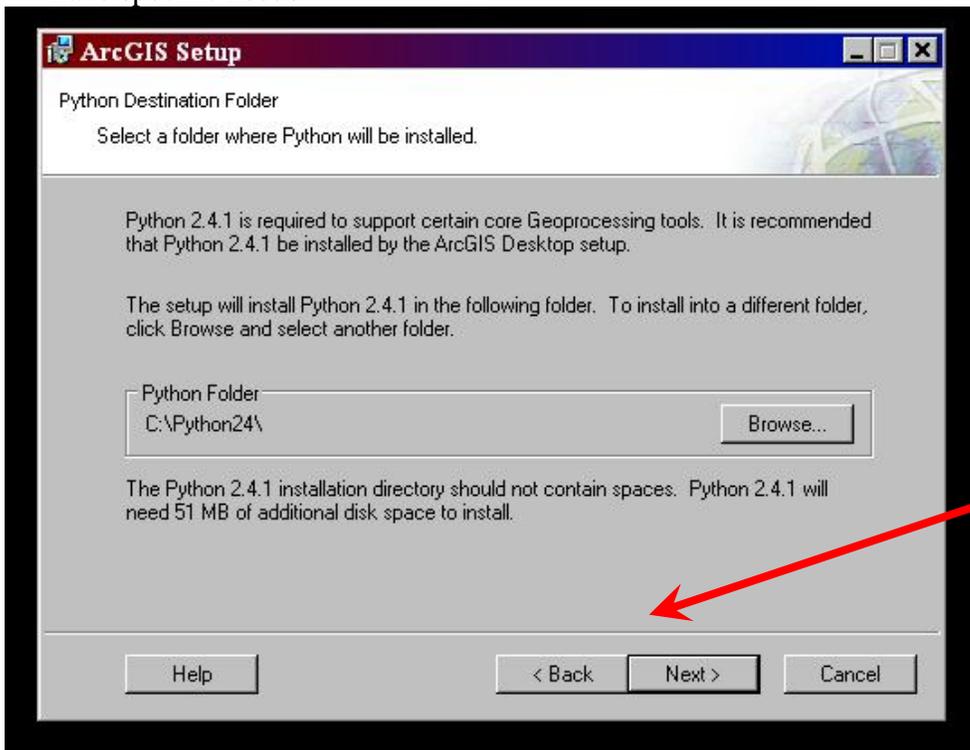
11. Unless constrained by limited disk space, choose complete installation type to include all extensions.



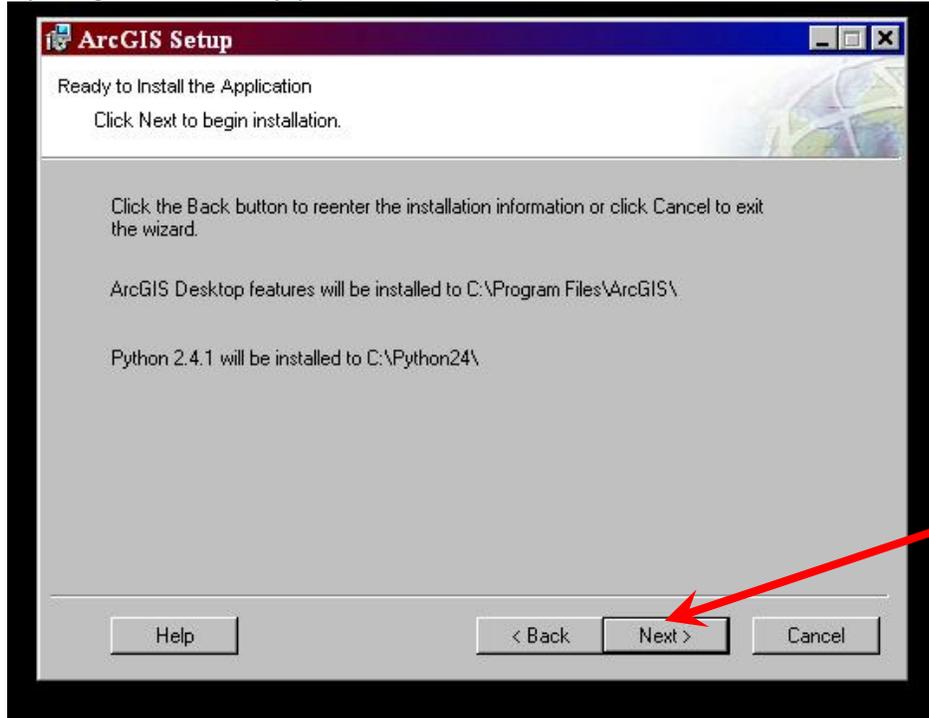
12. You will be prompted for the location to install software. Unless you have specific needs, leave the default settings.



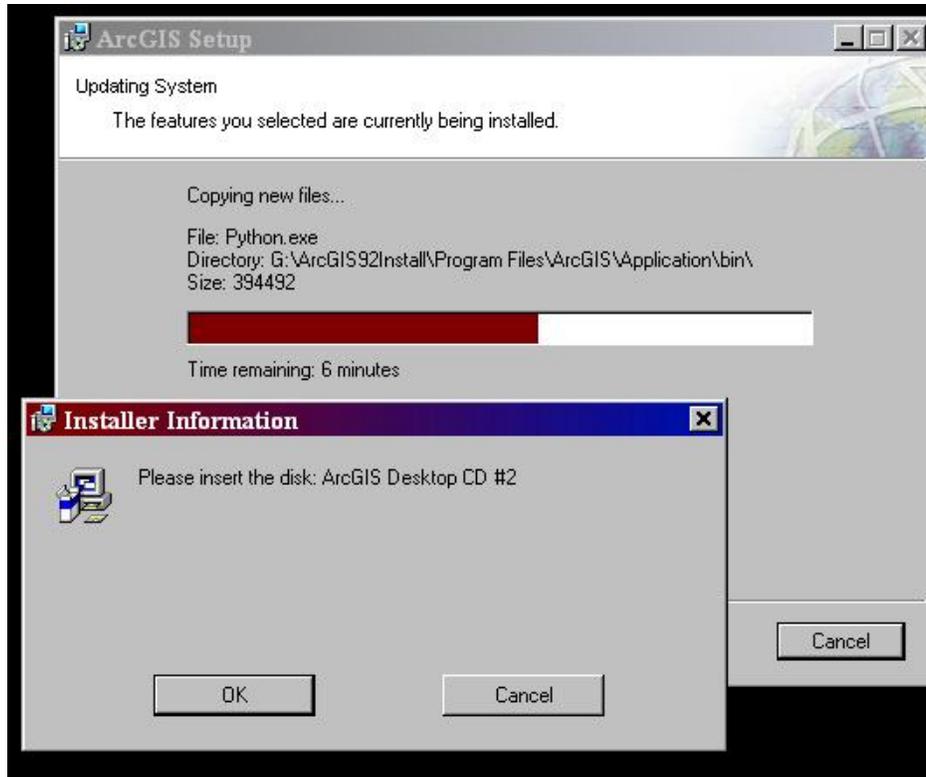
13. You will also be prompted for the location to install Python software. This is a programming tool provided with ArcGIS. Leave the default settings unless you have specific needs.



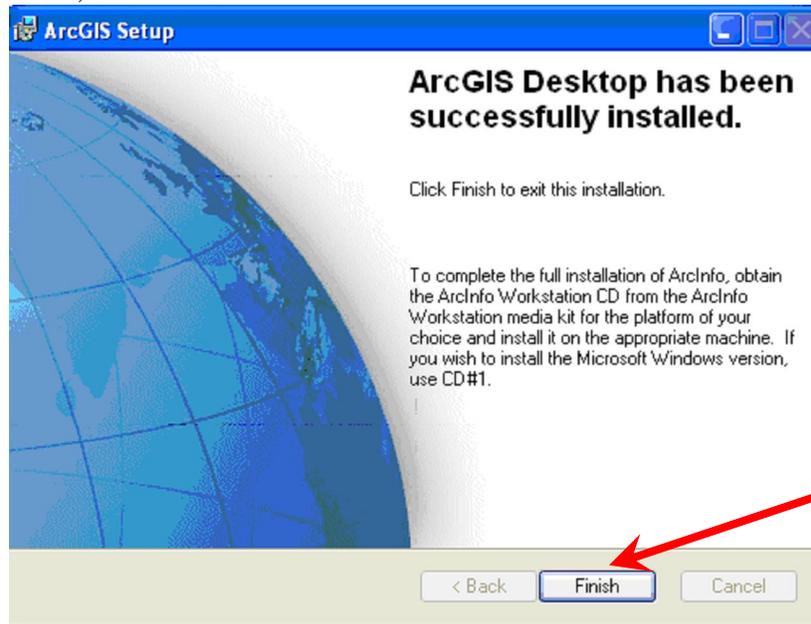
14. You may have a final confirmation page before the installation begins. As long as everything is set the way you want, click next to install.



15. Depending on the speed of your computer, the installation may take several minutes.

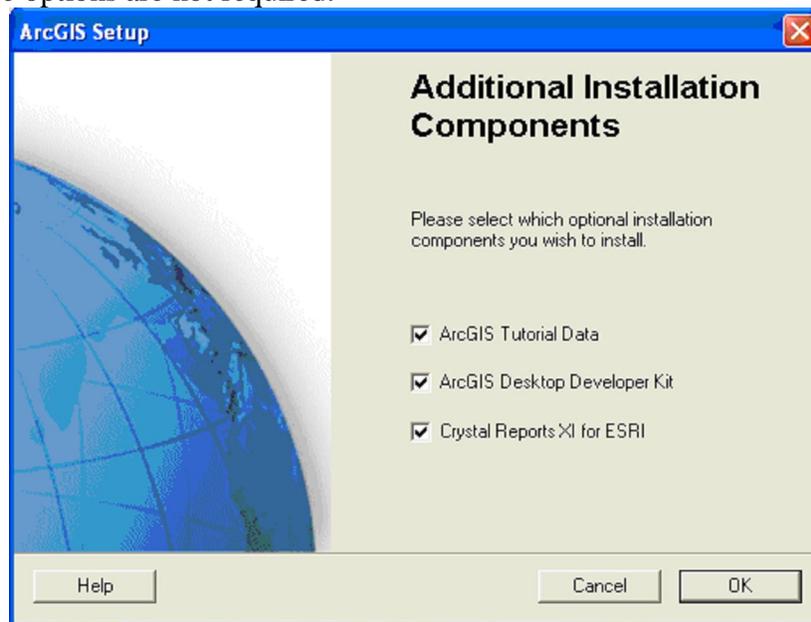


16. Once done, click Finish



17. You might be prompted for additional Components or if not prompted you can install them from the appropriate CD's now or at a later date.

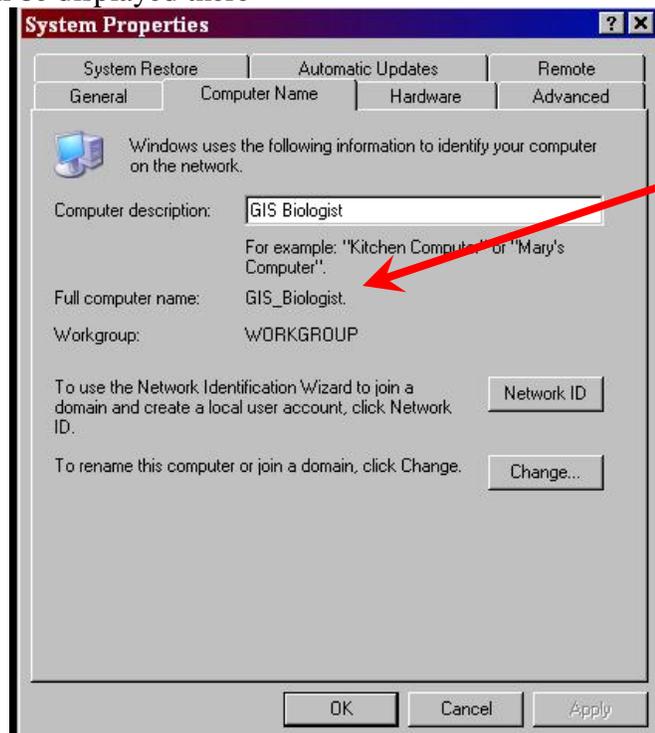
18. These options are not required.



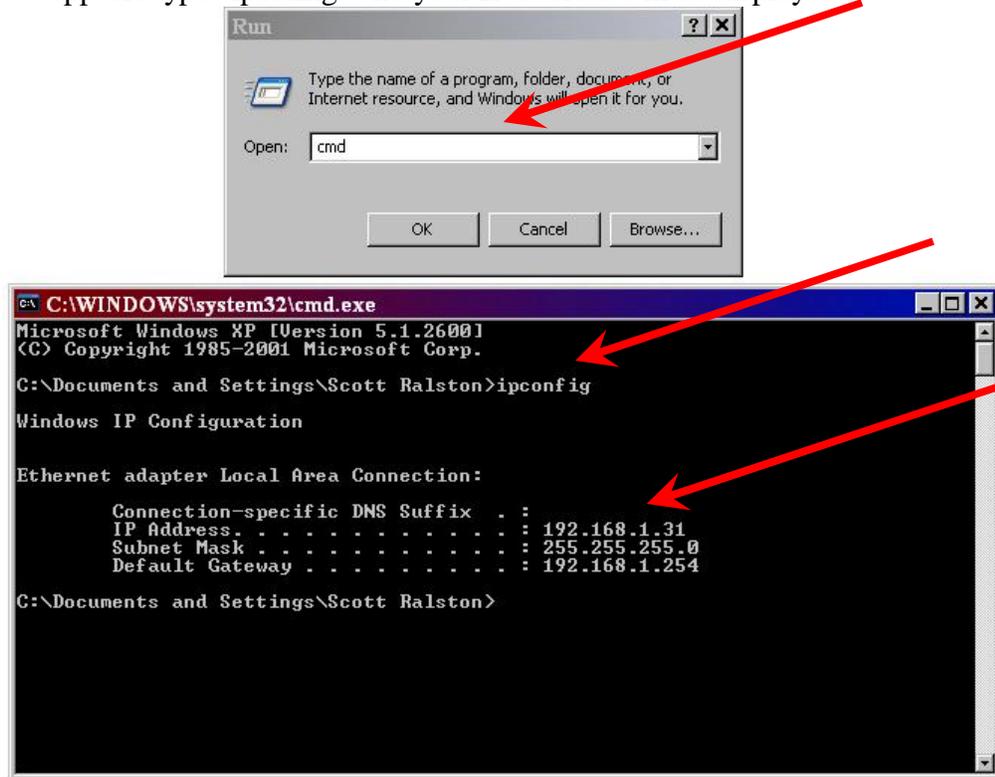
19. See the section called "Things to do After the Installation"

Setting up a Network Installation

1. Licensing
 - a. Using the tutorial above called “Installing the License Manager” install the license manager on a network computer
 - b. Any computer on the network can be used as your “License Server”, however it should be a computer that is always on and available. If the Server machine is turned off or unplugged from the network, no other computer will be able to open and use their ArcGIS programs.
 - c. Other License Server computer does not necessarily need to have ArcGIS installed or even be a very fast computer. It just needs the License manager, sentinel key and license file installed and needs a network connection.
 - d. To run many concurrent uses of the ArcGIS program throughout the network you will want to order 1 license file that contains as many license seats as you need. 5 license seats = up to 5 computers on the network using the ArcGIS program at the same time. Contact your regional ESRI licensing coordinator for more details and to order licenses.
2. Find the address or name of your Server Computer and write it down
 - a. You will need to know the IP address or the network name of the computer that contains the network license manager. During the installation you will need to enter this name or address to point the ArcGIS program to where it will find its license.
 - b. To find the Computer name, right Click on the “My Computer” icon on your desktop and click on Properties or choose “System Properties” from the Start Menu > Control Panel. Select the “Computer Name” tab. The name will be displayed there

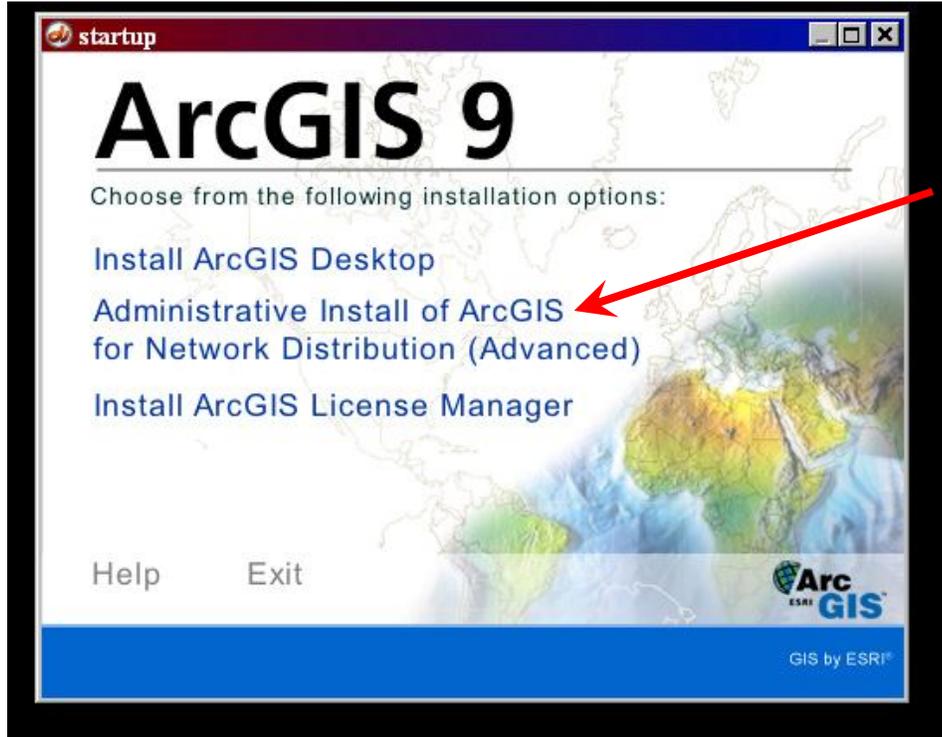


- c. Depending on your network and security settings there are some cases where some computers on the network can not recognize other computers on the network by their network name. In this case you will have to use the IP address. To find the IP address of a computer, choose “Run” from the start menu and type “cmd”. When the command prompt window appears type “ipconfig” and your IP address will be displayed.

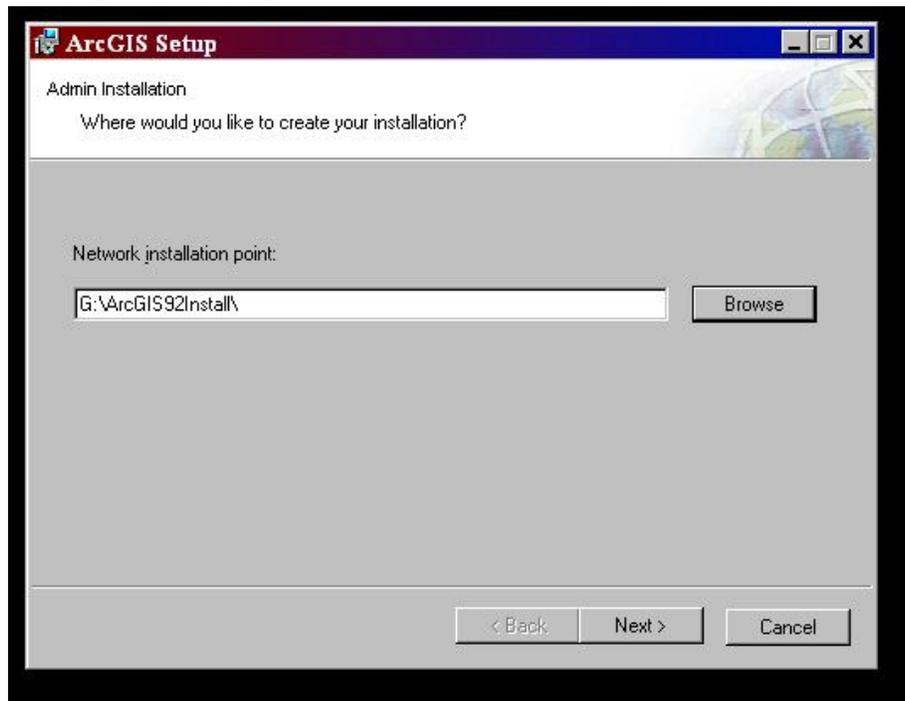


- d. If you use the IP address notice that if the computer is restarted the IP address could potentially change, thus the link to your network license manager may not work. To solve this either use the computer name instead of address when possible or set your computer to maintain the same “Static” IP address. For help on this choose Help and Support from your start menu and type “Configure TCP/IP for static addressing” in the search area.
3. Next you will setup installation files on the network so users from any computer can install the ArcGIS program from a network location without needing the installation CD’s. This method will also configure the ArcGIS to use the right network license without the individual users having to configure any of those settings, making installation easier for users in your office.
 4. This setup can be done from any network computer and does not necessarily need to be done from the computer that contains the license manager or even will not eventually run the GIS software. This step does not install ArcGIS on an individual computer it just puts the setup files on a network location that you specify.
 5. Insert the ArcGIS Desktop CD

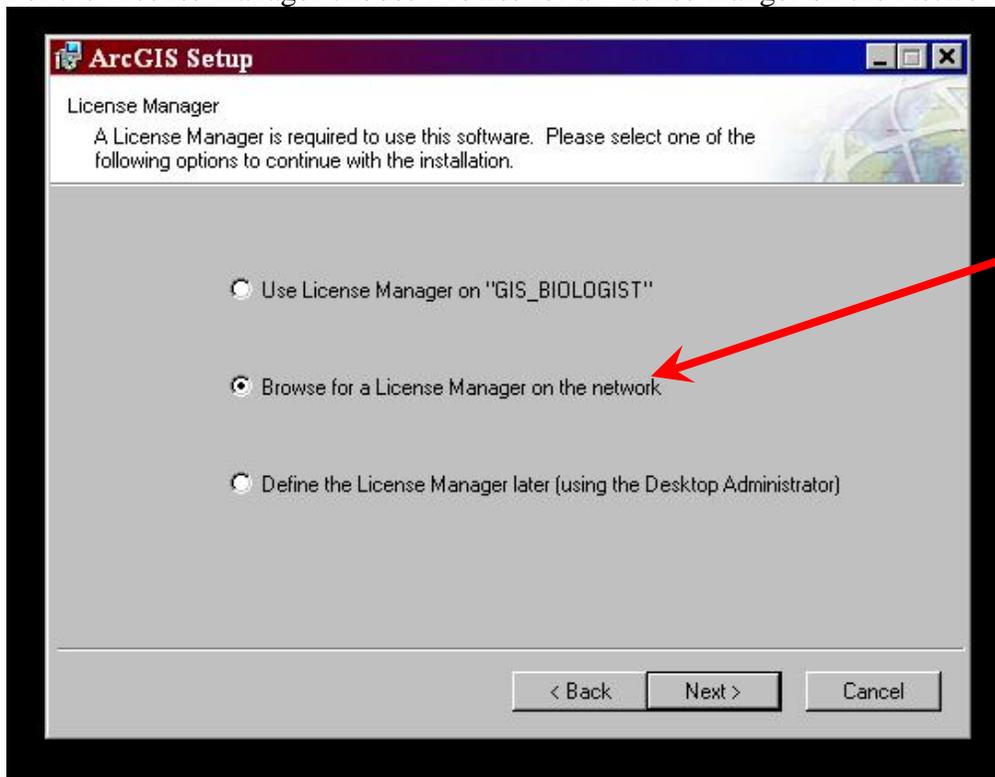
6. From the Startup screen choose Administrative Install of ArcGIS for Network Distribution



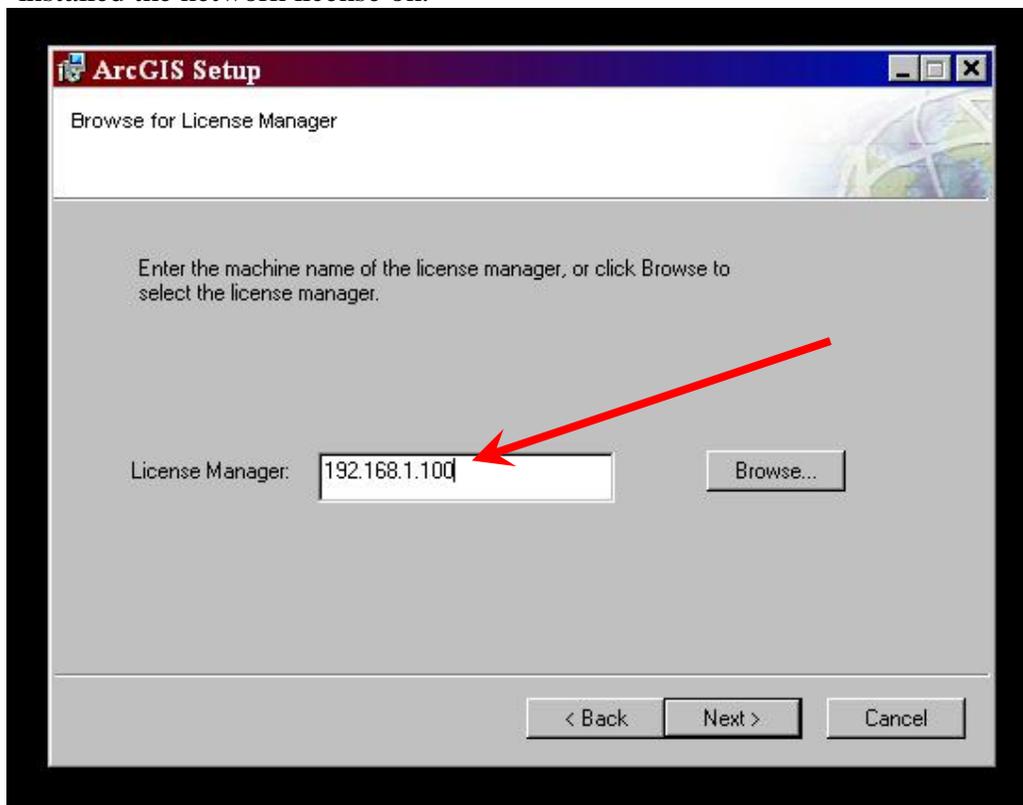
7. You will be prompted for a location to store the setup files. Choose a location on a network drive that is accessible by all computers on that network that will be installing ArcGIS. For example if you have a network storage drive called the "G:" drive make a folder on that drive called G:\ArcGIS92Install\ and point the installation to that folder.



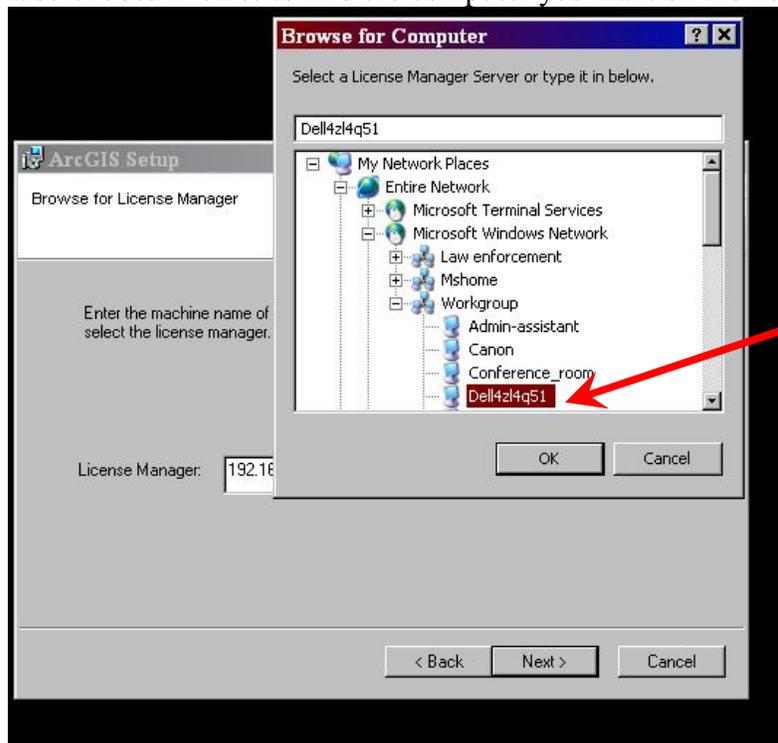
8. For the License manager choose Browse for a License manger on the Network



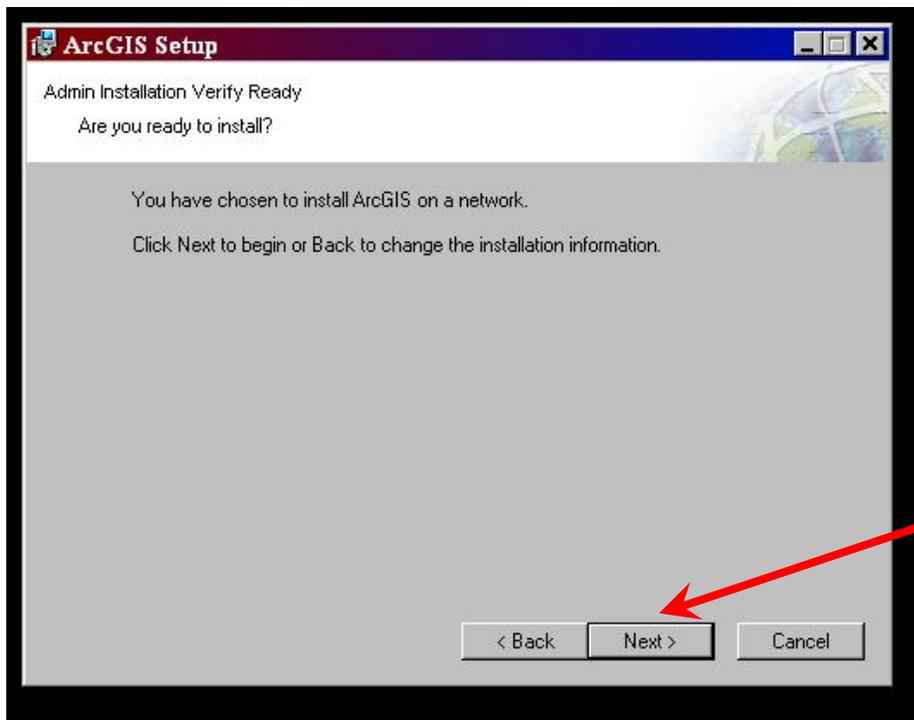
9. Type in either the computer name or the IP address for the computer that you installed the network license on.



10. You can also choose Browse to find the computer you want on the network.



11. Confirm your installation and hit Next.

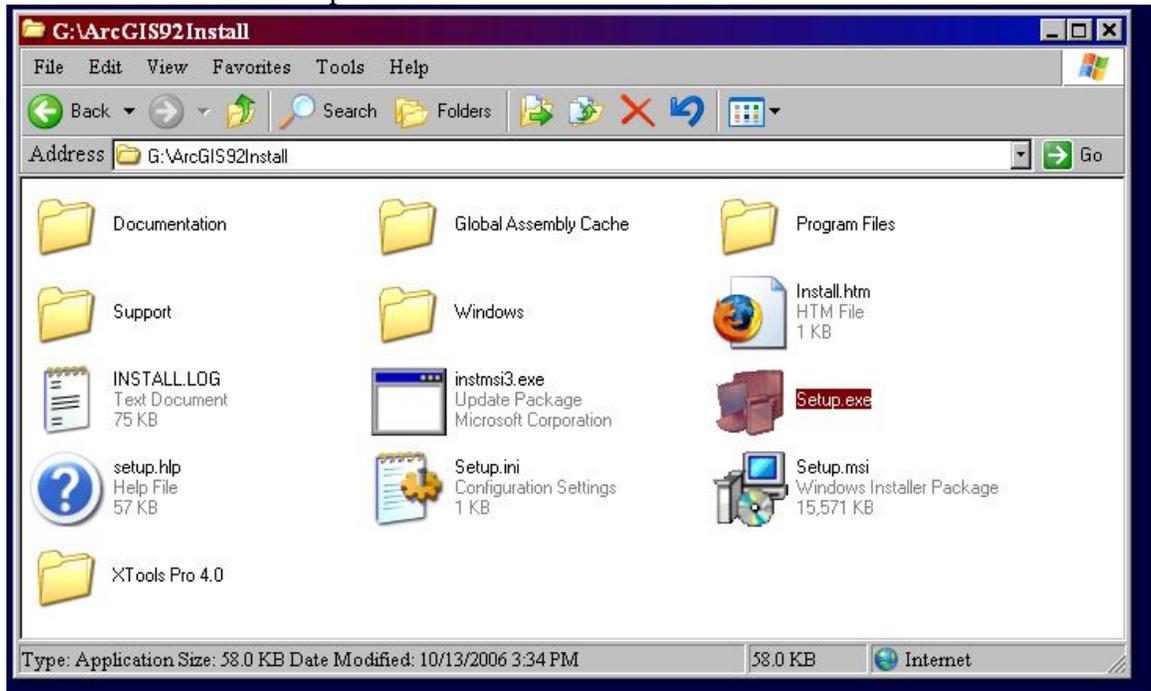


12. It will take awhile to copy all the necessary files. You will be prompted at some point to insert ArcGIS Disk 2

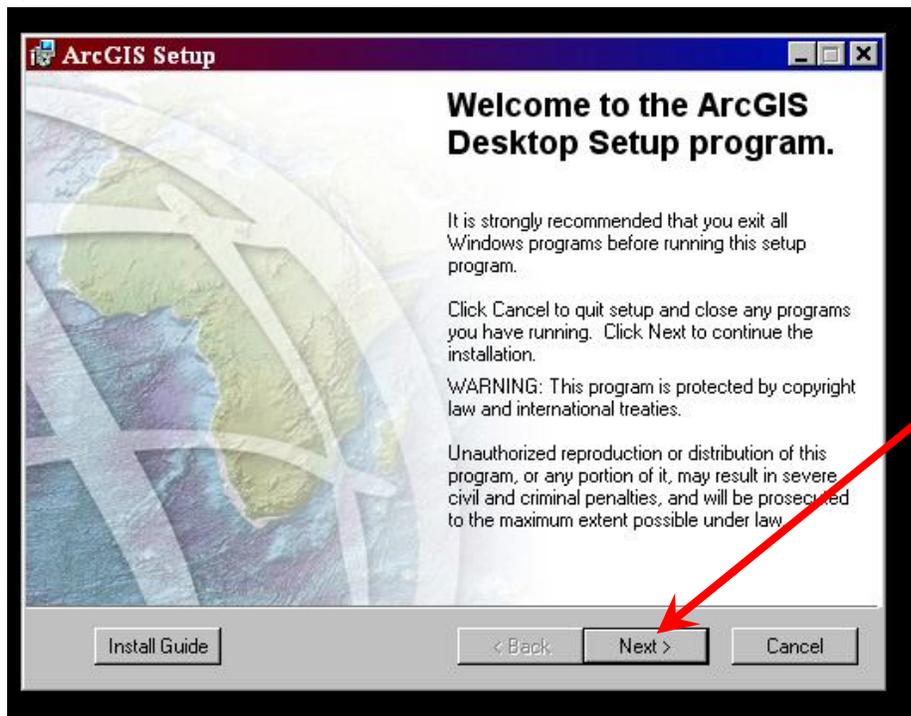
13. To install ArcGIS using this network install on individual computers see below.

Installing ArcGIS from the Network with a Network Licence

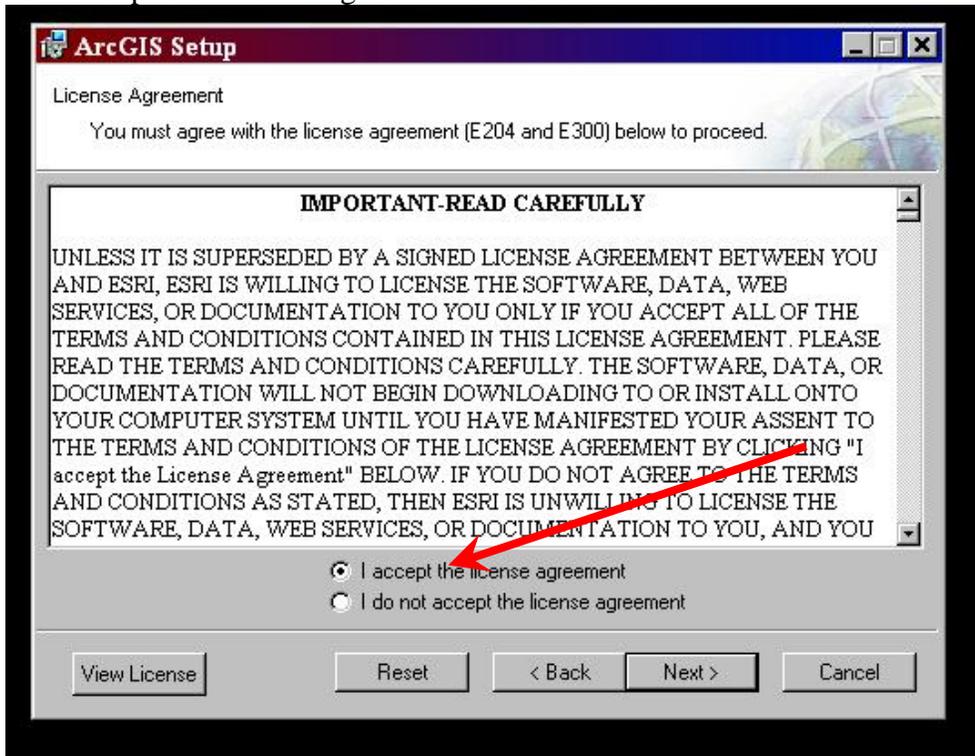
1. Make sure the network setup files were installed as described above
2. Review the section of the tutorial called “Before Installing Anything”
3. Navigate to the location on your network where the installation files are stored and double click Setup.exe



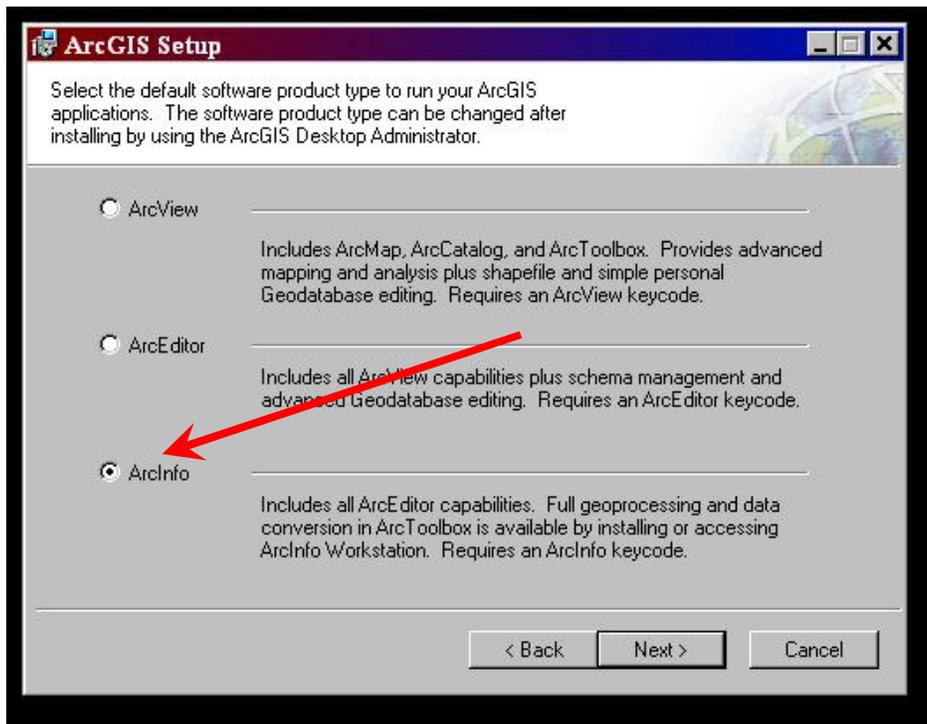
4. If you get a security warning just choose Run
5. Click next on the Welcome screen



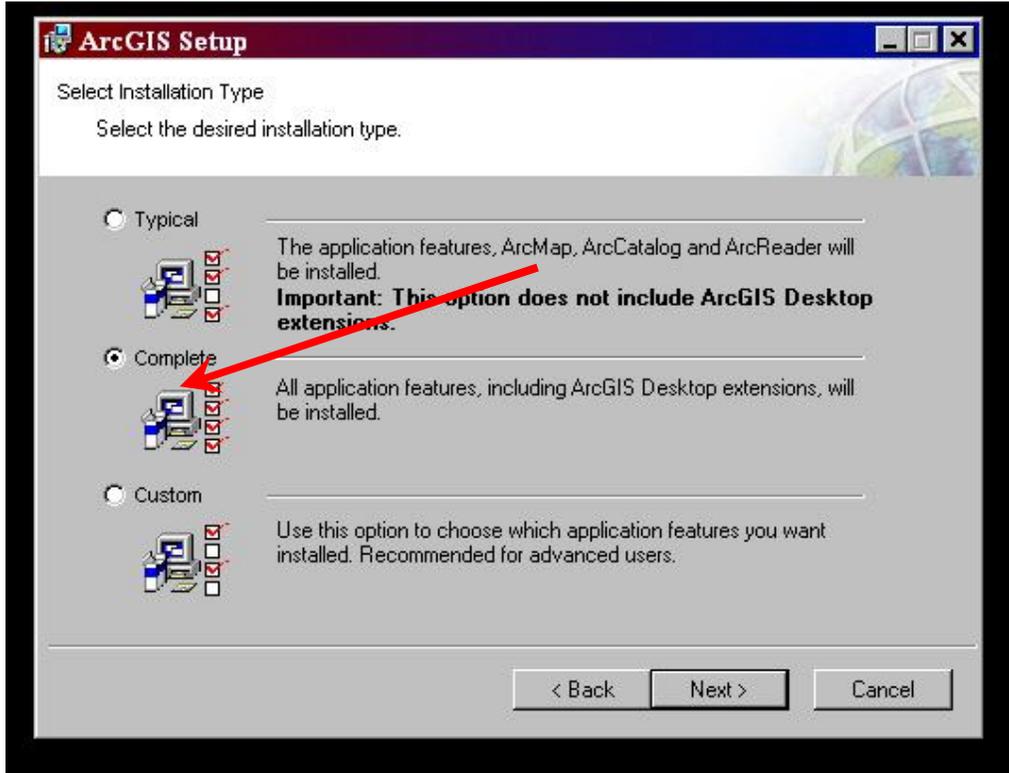
6. Accept the License Agreement and Click Next



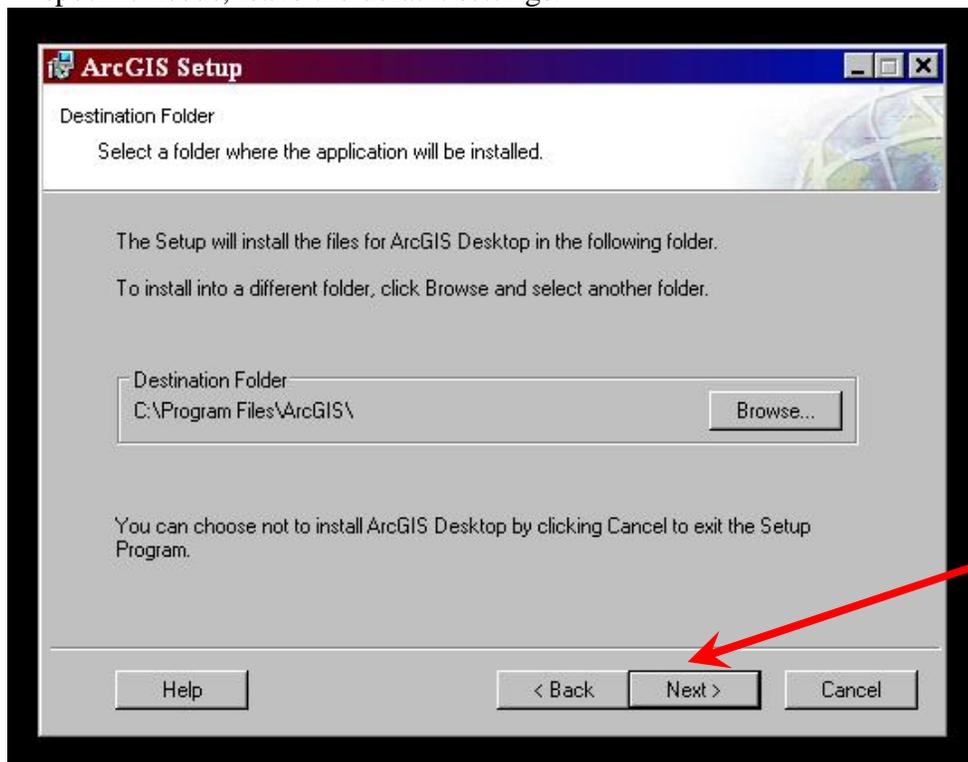
7. Choose the ArcInfo option long as your licensing allows. This is the most complete version of the installation and will give you the most tools.



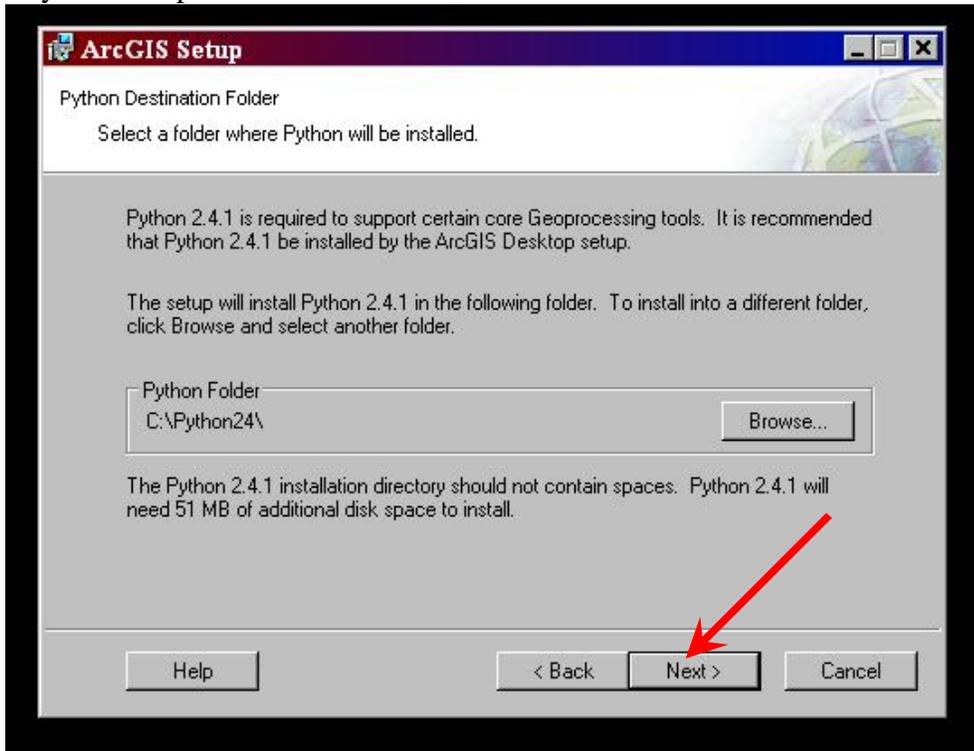
8. Unless constrained by limited disk space, choose complete installation type to include all extensions.



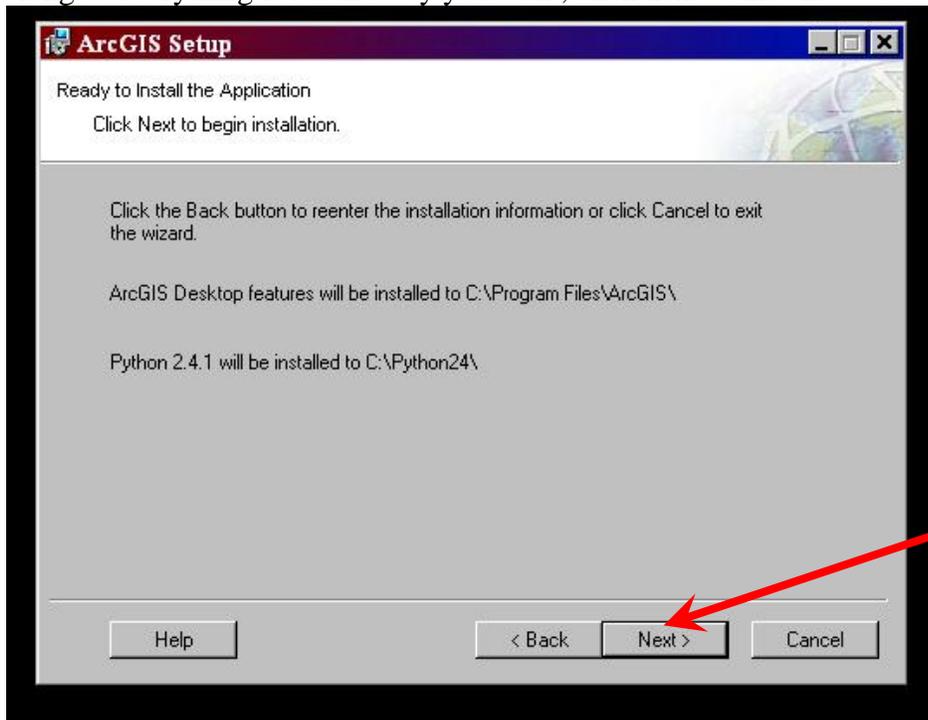
9. You will be prompted for the location to install software. Unless you have specific needs, leave the default settings.



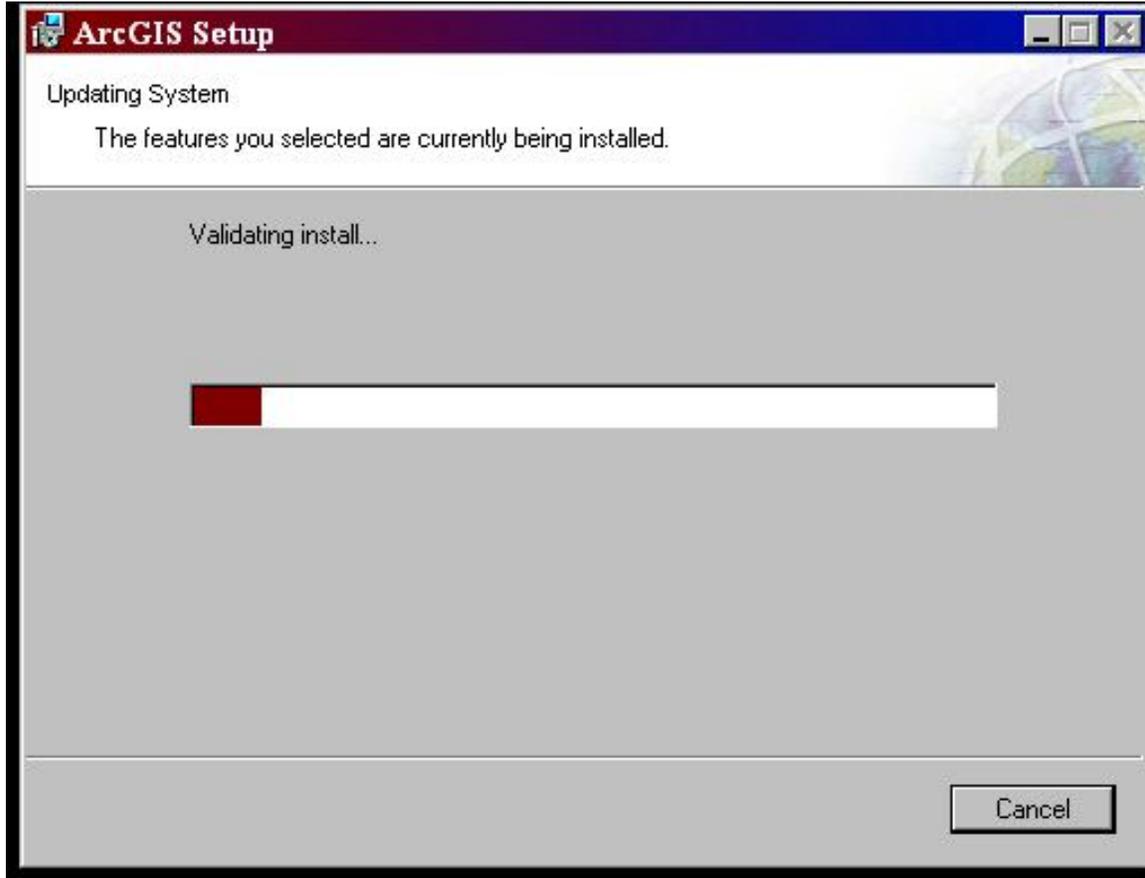
10. You will also be prompted for the location to install Python software. This is a programming tool provided with ArcGIS. Leave the default settings unless you have specific needs.



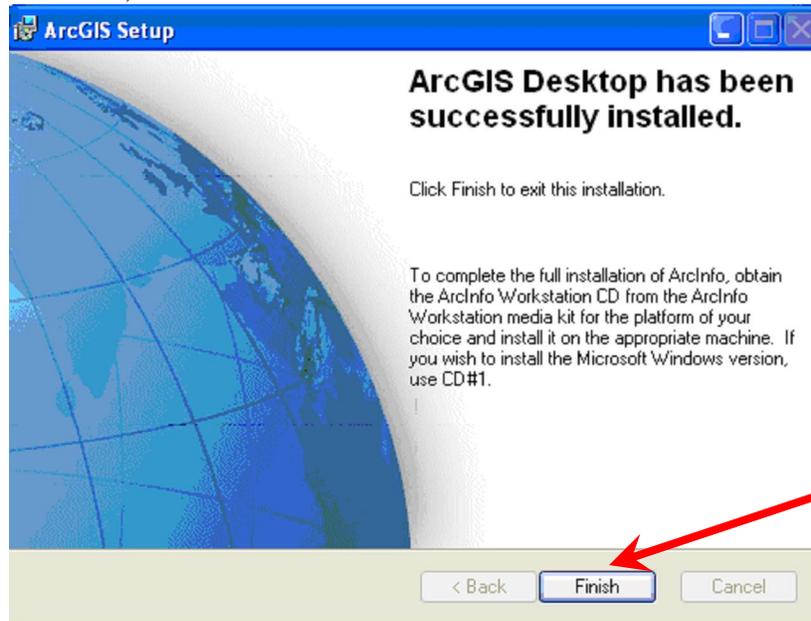
11. You may have a final confirmation page before the installation begins. As long as everything is set the way you want, click next to install.



12. Depending on the speed of your computer, the installation may take several minutes.

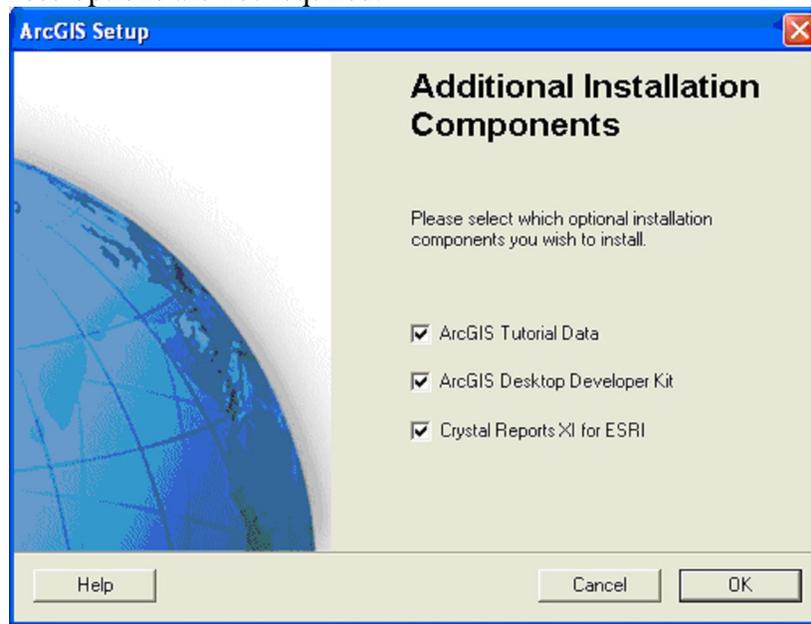


13. Once done, click Finish



14. You might be prompted for additional Components or if not prompted you can install them from the appropriate CD's now or at a later date.

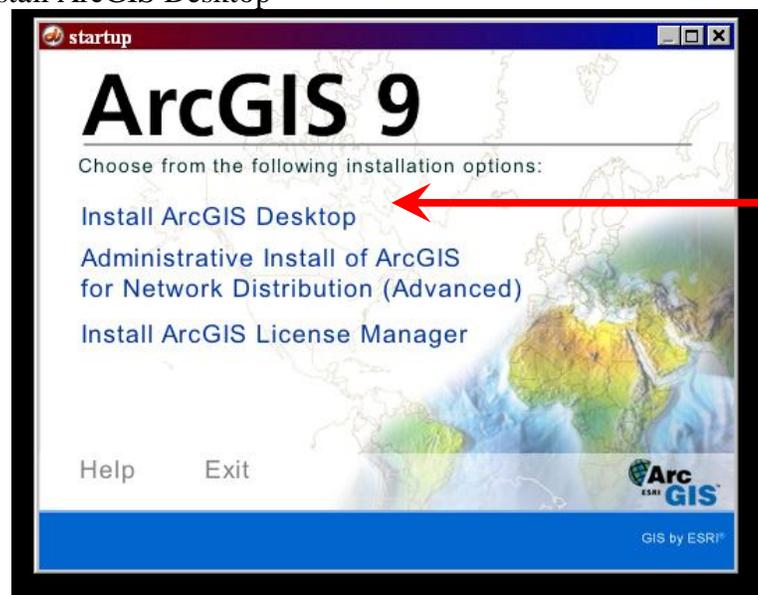
15. These options are not required.



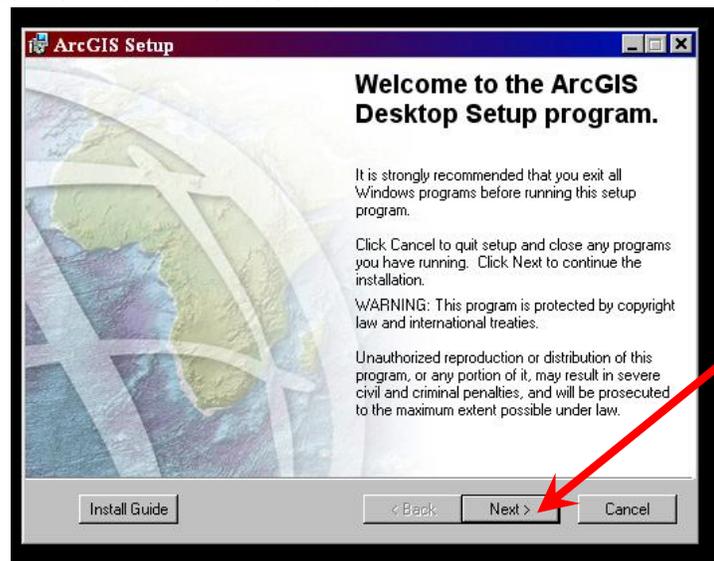
16. See the section called “Things to do After the Installation”

Installing ArcGIS from CD but using a Network License

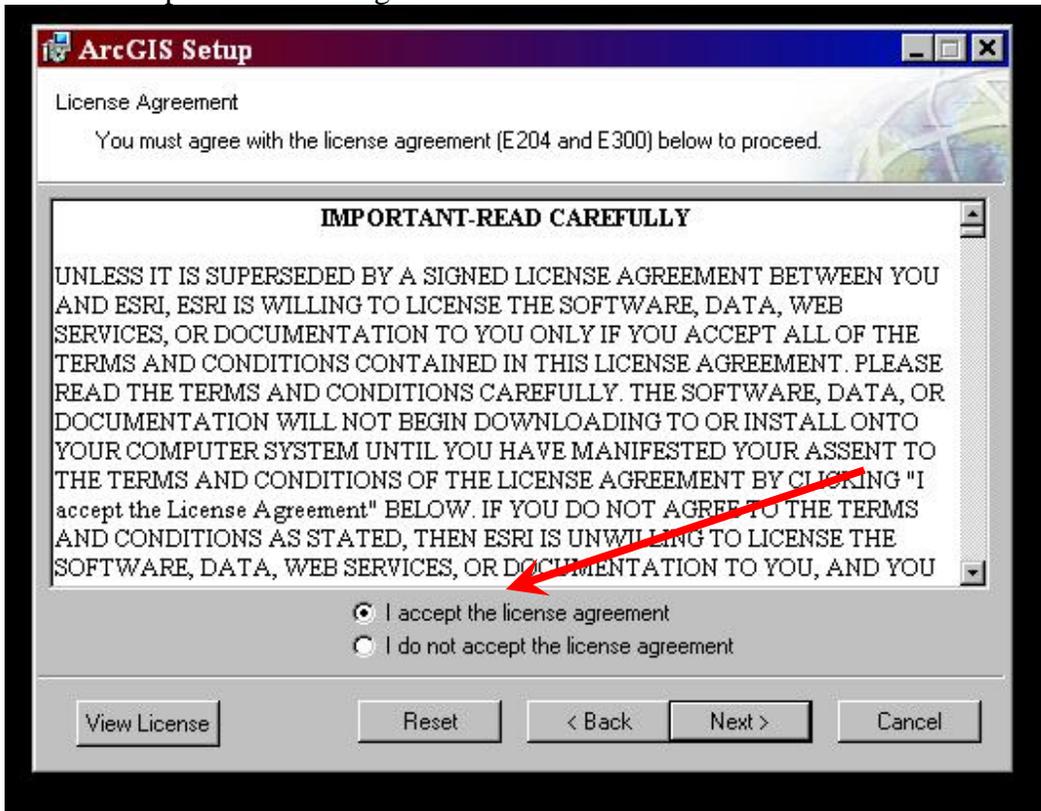
1. If you did not setup a network installation as described above you can still install ArcGIS from a CD and use the License Manager on a network server.
2. First make sure the license manager, sentinel key and license file are installed on a network computer.
3. Make sure you know the computer name or IP Address of the computer that contains the license manager. For more information on how to find the name or address see part 2 of the tutorial above called "Setting up a Network Installation".
4. Review the Section above called "Things to do Before Installing"
5. Insert the CD called ArcGIS Desktop Disk 1
6. Choose Install ArcGIS Desktop



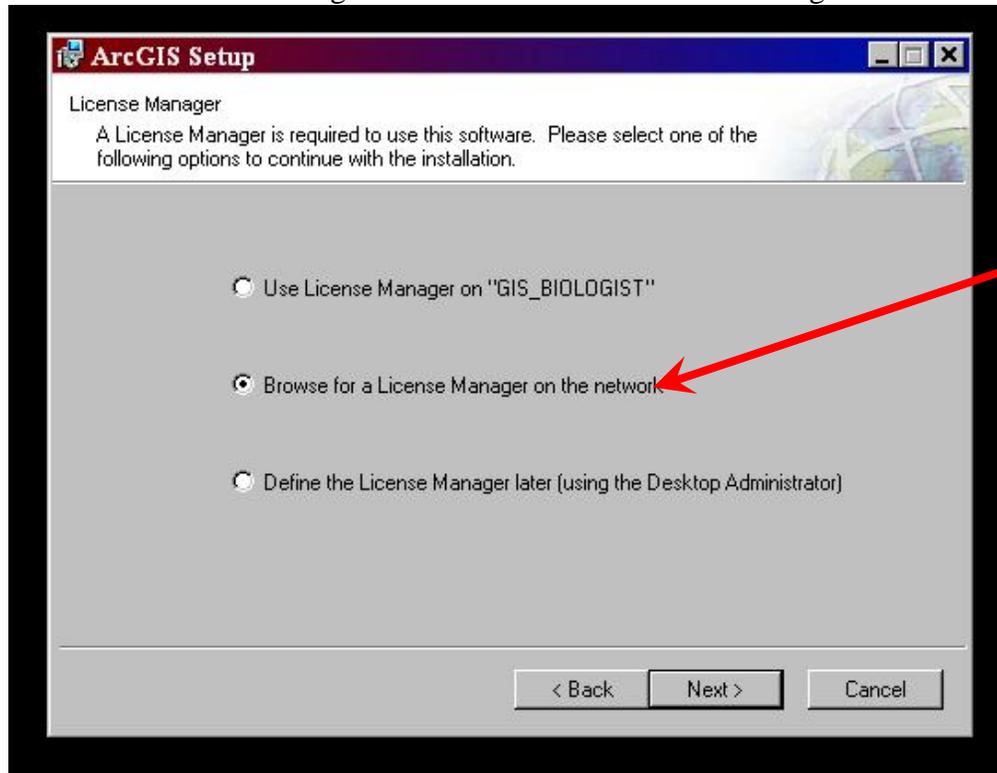
7. Click next on the Welcome screen



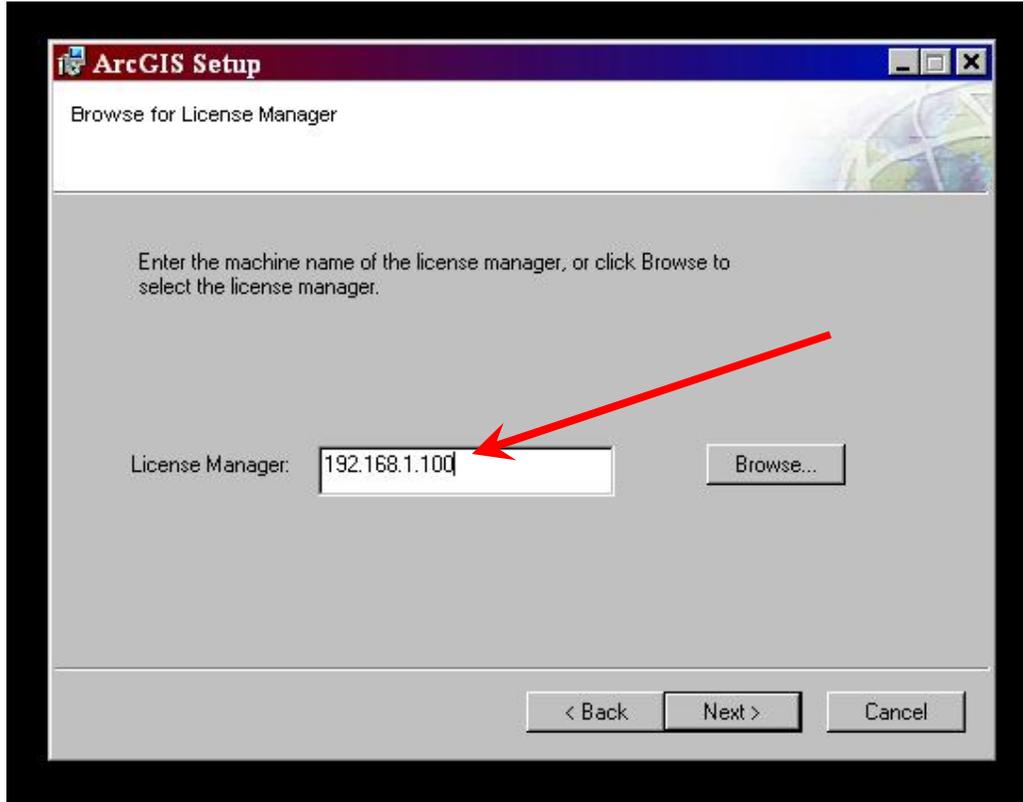
8. Accept the License Agreement and Click Next



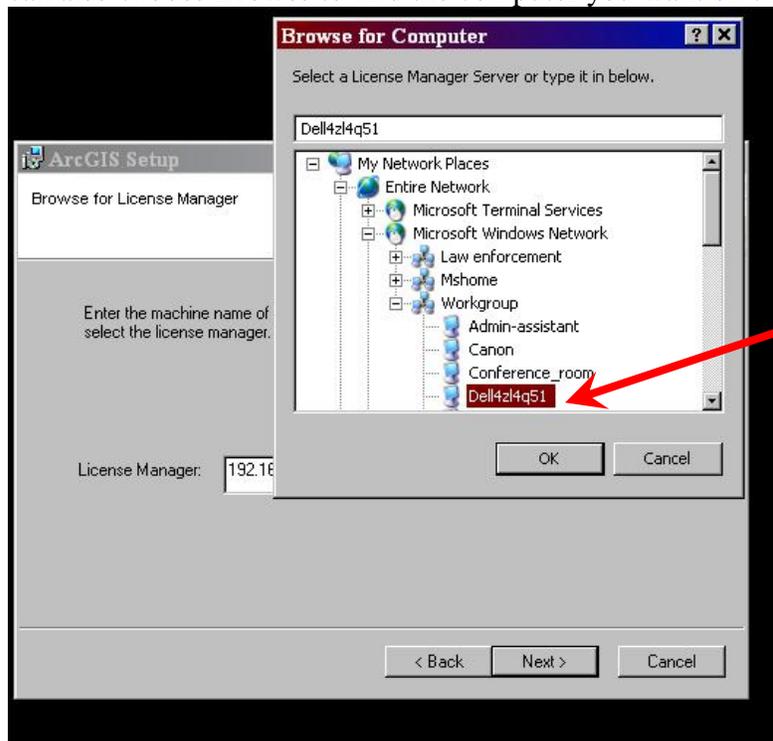
9. For the License manager choose Browse for a License manger on the Network



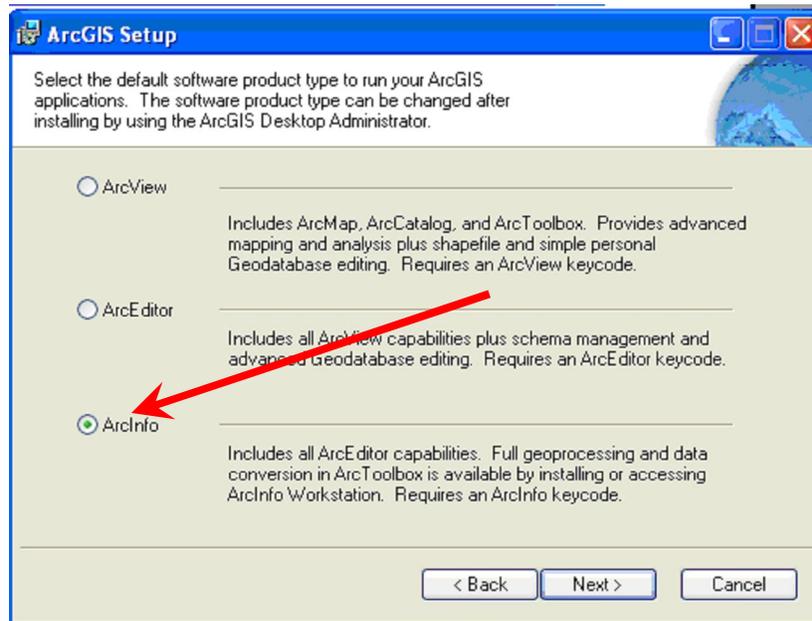
10. Type in either the computer name or the IP address for the computer that you installed the network license on.



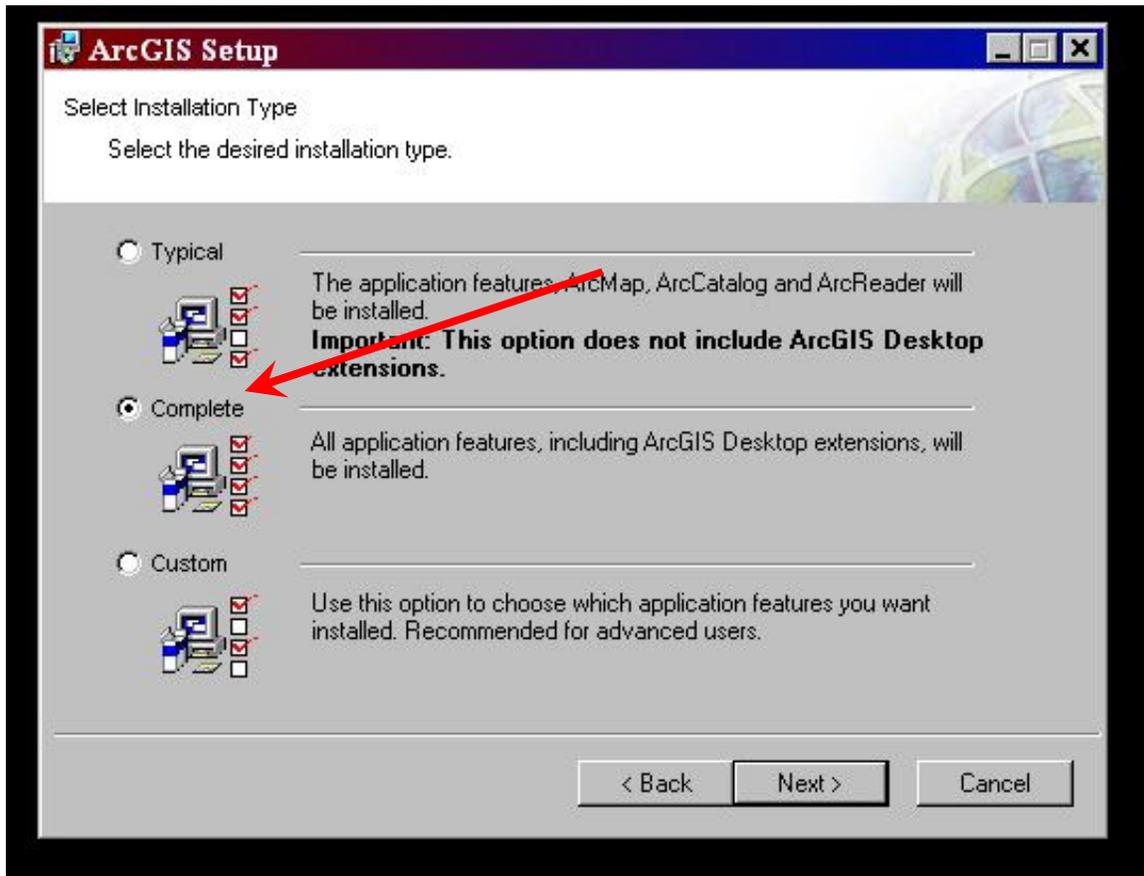
11. You can also choose Browse to find the computer you want on the network.



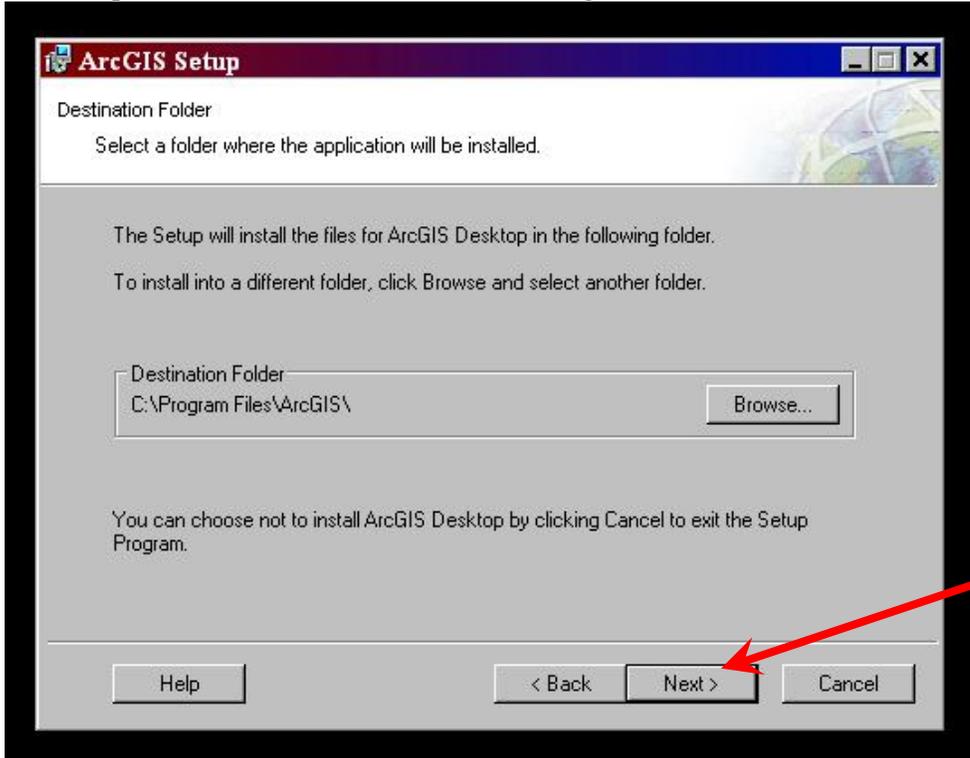
12. Choose the ArcInfo option long as your licensing allows. This is the most complete version of the installation and will give you the most tools.



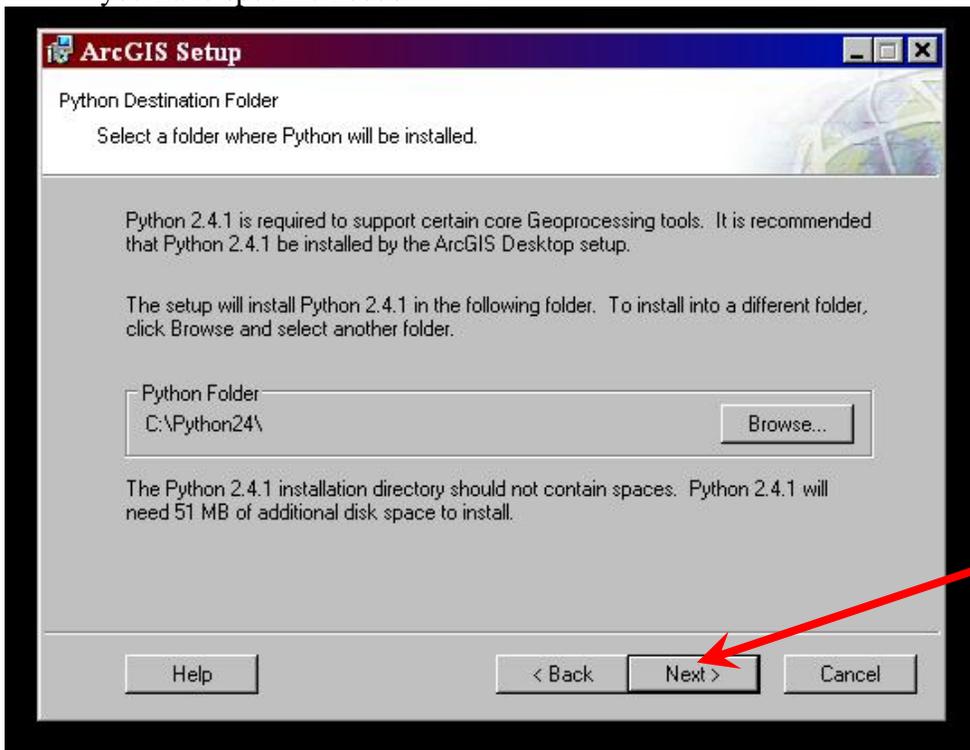
13. Unless constrained by limited disk space, choose complete installation type to include all extensions.



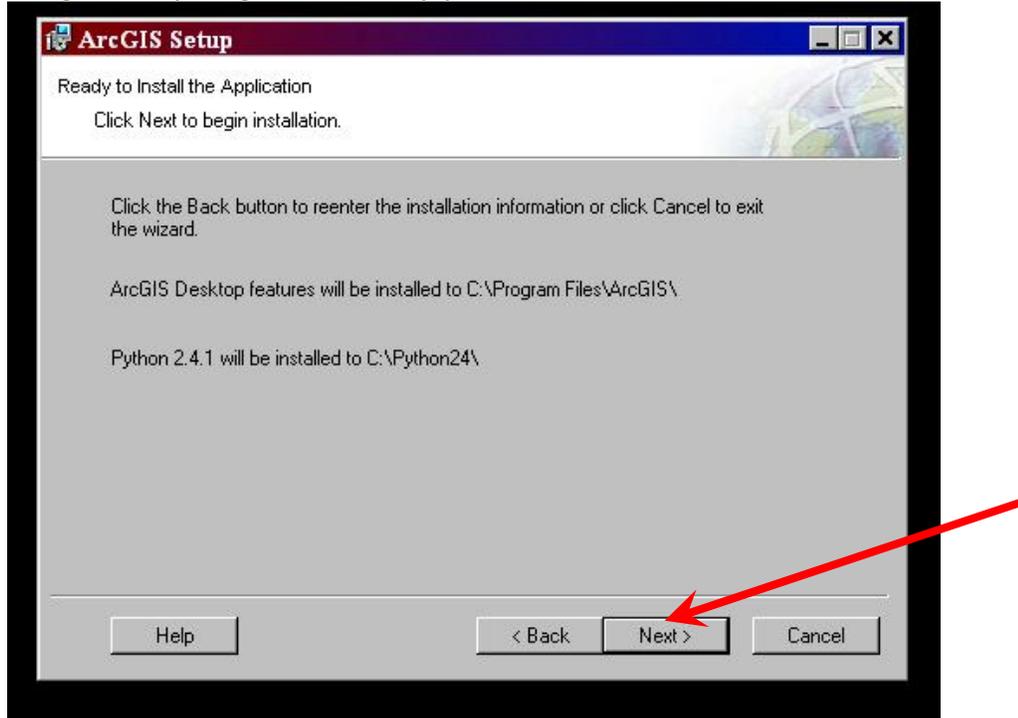
14. You will be prompted for the location to install software. Unless you have specific needs, leave the default settings.



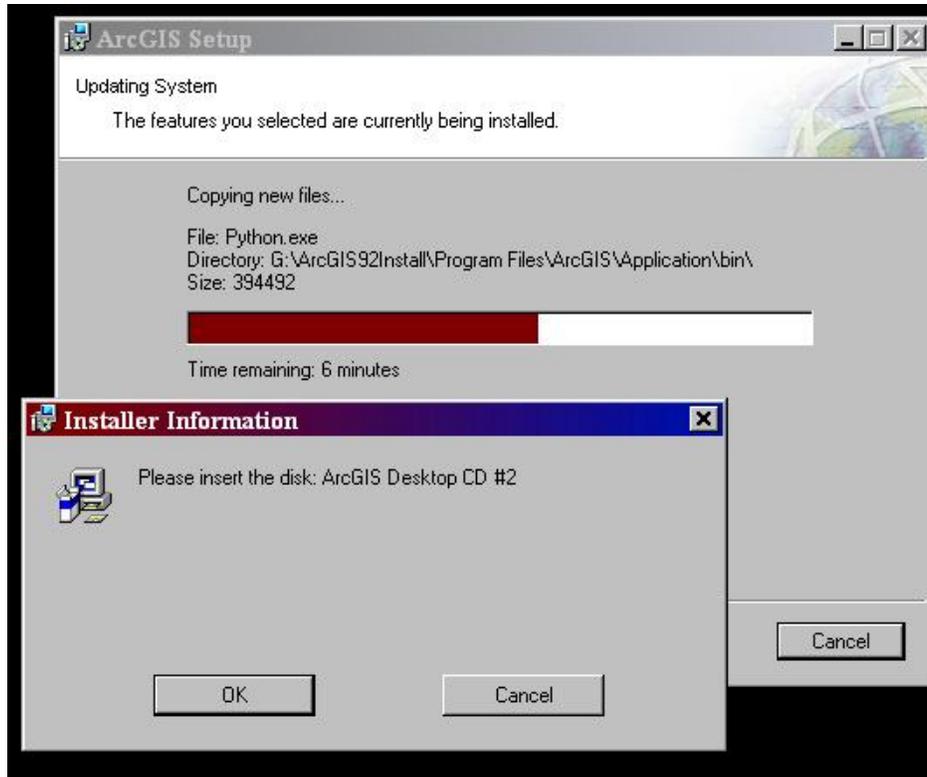
15. You will also be prompted for the location to install Python software. This is a programming tool provided with ArcGIS. Leave the default settings unless you have specific needs.



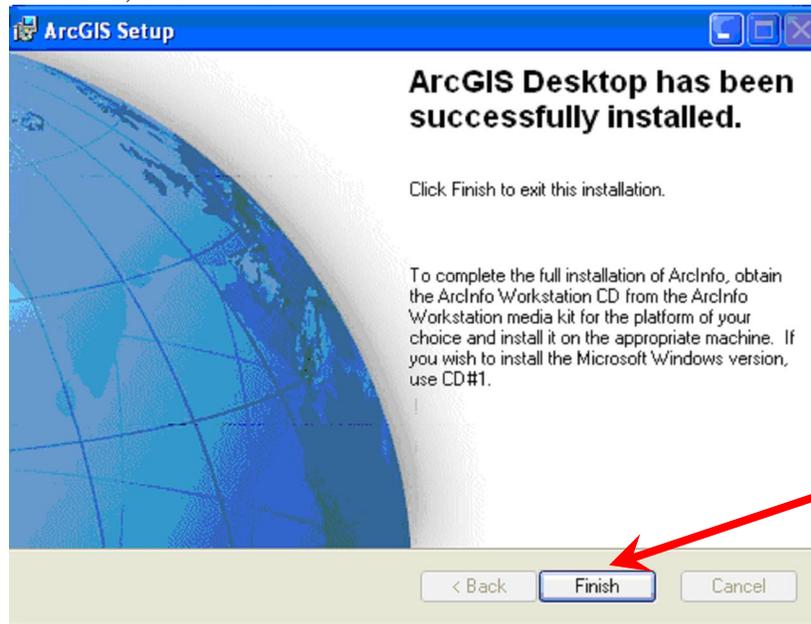
16. You may have a final confirmation page before the installation begins. As long as everything is set the way you want, click next to install.



17. Depending on the speed of your computer, the installation may take several minutes.

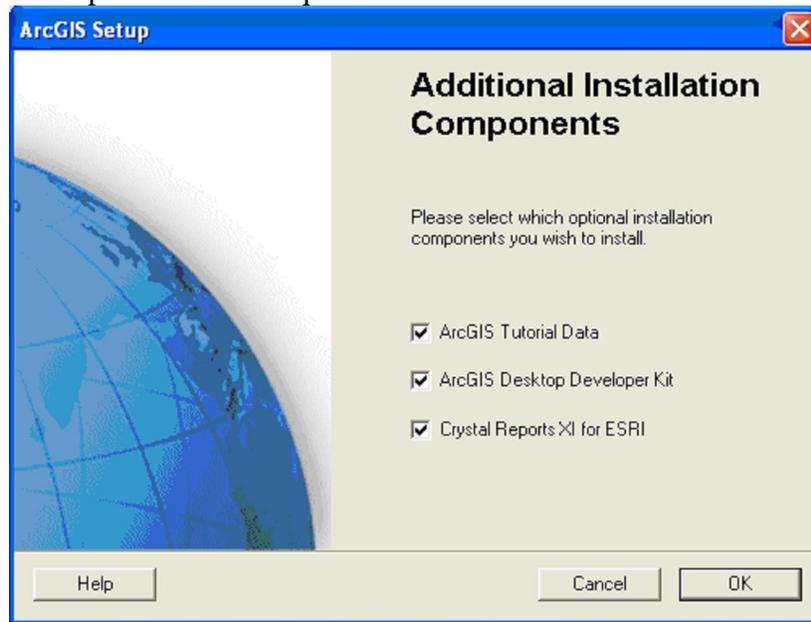


18. Once done, click Finish



19. You might be prompted for additional Components or if not prompted you can install them from the appropriate CD's now or at a later date.

20. These options are not required.



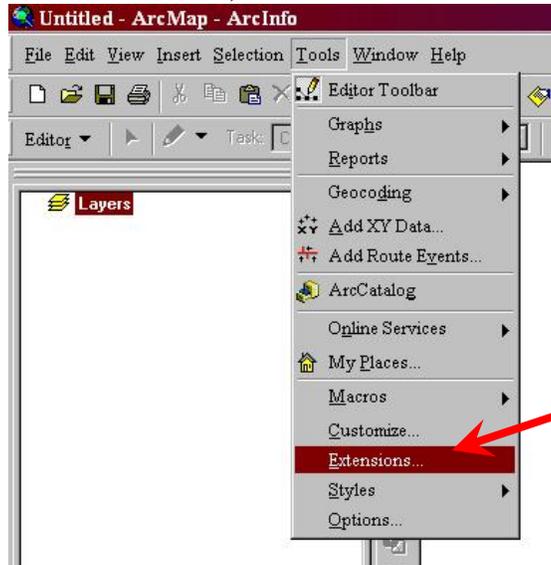
21. See the section called "Things to do After the Installation"

Things to do After the Installation

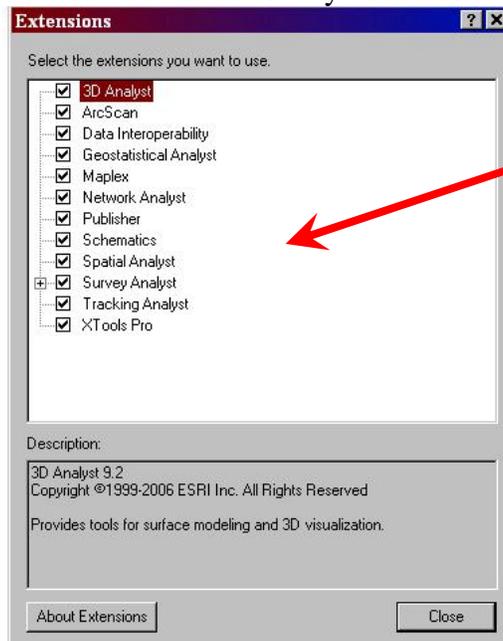
1. Once installation is finished you are not quite done. There are a few configuration options you should complete



2. Open ArcMap
3. Enable all extensions that you have available. If you do not enable extensions, many tools and options may not be available for you to use.
 - a. Under the tools Menu, choose extensions

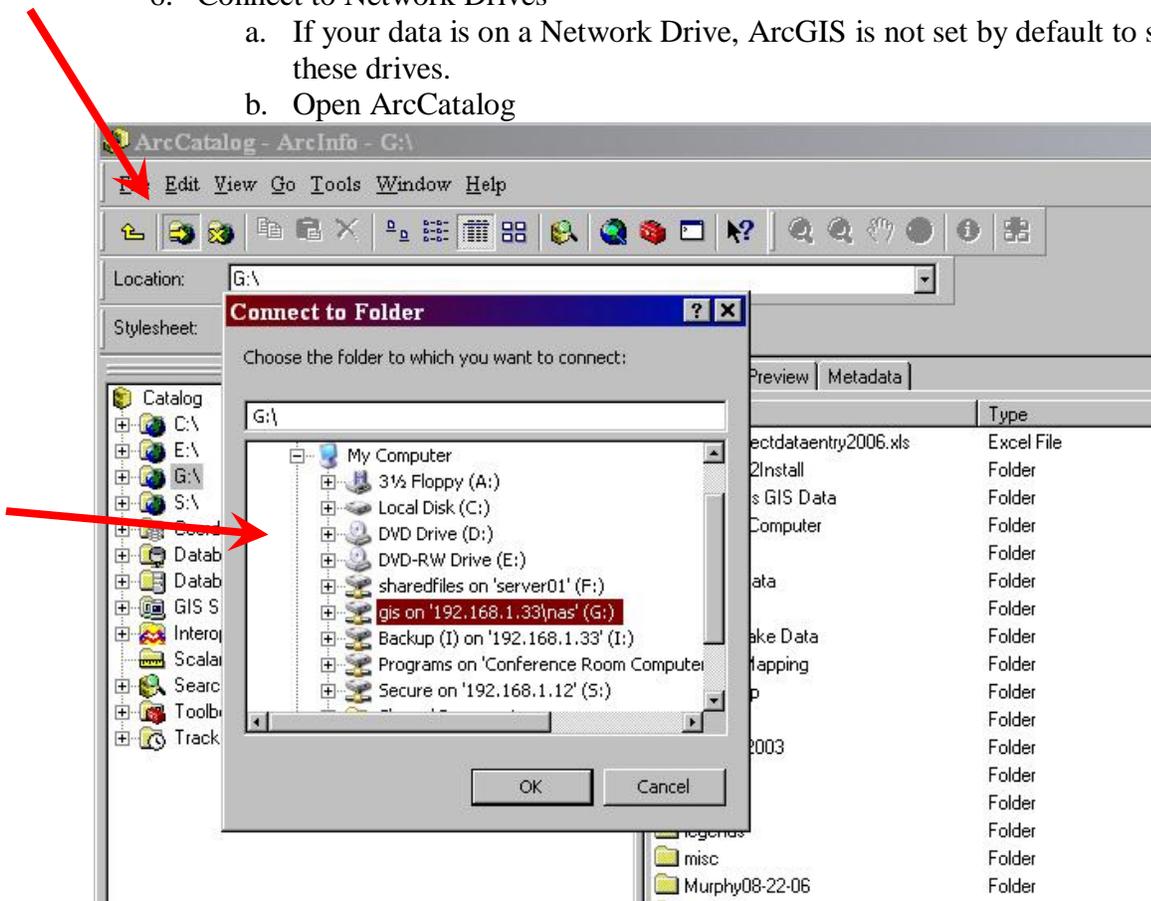


- b. Check all the boxes next to the extensions. Depending on your license agreement some extensions may not be able to be enabled.



- c. Repeat the extension enabling in ArcCatalog.

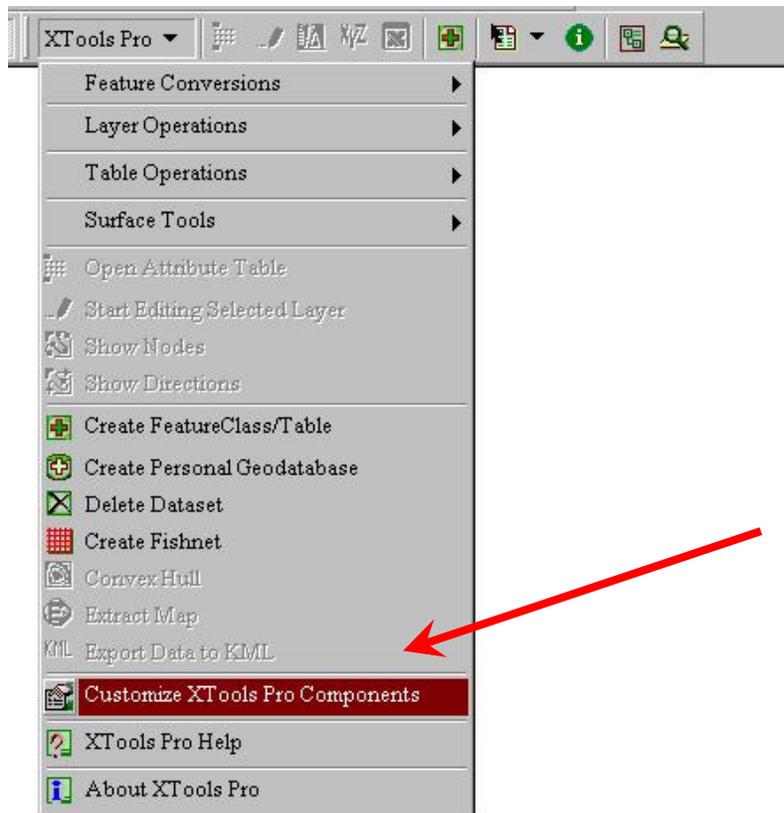
4. Customize your toolbars
 - a. Customizing your toolbars will provide you with better access to the tools you use most often and in locations that suites your working style.
 - b. Right click on a toolbar to display a list of toolbars available to you.
 - c. Move toolbars around your screen by clicking on the handle bar on the right or left ends of the toolbar and drag it to a new location.
 - d. Choose “Customize” at the bottom of the toolbar list to load custom toolbars or switch to the commands tab where you can add or remove individual buttons on any toolbar.
5. Updates
 - d. ESRI constantly provides updates and patches to bugs they find in the program. After installing the program you should visit the ESRI support web site and download the latest Service pack.
 - e. Web Site:
http://support.esri.com/index.cfm?fa=downloads_patchesServicePacks.listPatches&PID=43
 - f. Download and install the Service Pack
6. Connect to Network Drives
 - a. If your data is on a Network Drive, ArcGIS is not set by default to see these drives.
 - b. Open ArcCatalog



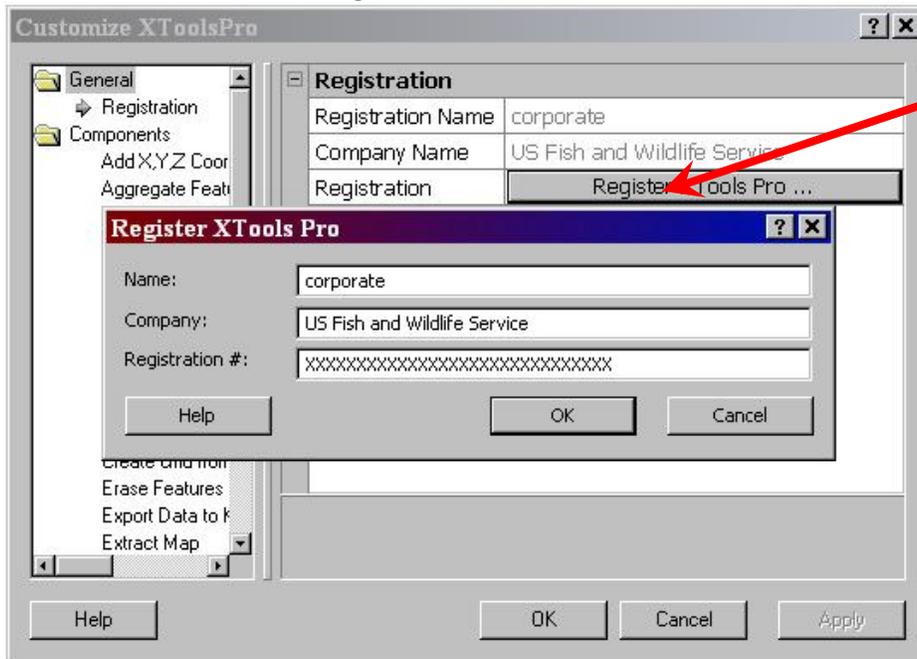
- c. Click on the “Connect to Folder” Icon, click on the network drive you want to map and choose OK. You only have to map your drive once and they will remain visible from there on.

7. Third Party Extensions

- g. Extensions are sub-parts of the program that provide additional tools. Many extensions are included with the program.
- h. Many 3rd Party extensions are available for ArcGIS from various resources.
 - i. Hawth's Tools – This is a free extension developed by an ecologist. It has many environmental research based tools. It can be found at <http://www.spatial ecology.com/htools/index.php>
 - ii. DNR Garmin – This software runs outside of ArcGIS but has options to import or export data to ArcGIS. It has many handy tools for dealing with GPS data. The tool is free from their web site:
<http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html>
 - iii. X-Tools Pro – It is a very useful extension with many shortcut tools. This extension can be downloaded from their web site at <http://www.xtoolspro.com/>. The extension has a free 30 day trial but the Service has bought a license. Contact your HAPET office or the Regional Office for license registration information.
 - 1. After Installing X-tools, Open ArcGIS, enable the X-tools Extension, and turn on the toolbar if it is not already visible.
 - 2. From the x-tools menu choose Customize



3. Enter the registration information for x-tools provided by the regional GIS coordinator.



4. Also in the Customizing menu choose the Create feature Class option and set the Default projection. When you use x-tools to create a new layer it will automatically assign that default projection unless you specify a different one. Defining a projection or coordinate system is very important when creating data!

