



What is WAIS?

Please select one of the following help topics, or read on for a WAIS overview.

[Setting up WAIS](#)

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Wide Area Information Servers (WAIS, pronounced "ways") is an information retrieval system. WAIS allows one or several sources of information to be easily searched using common English (or other languages). Unlike most other search systems, WAIS compares the words contained in the search request to determine which sections of the searched document(s) are most relevant, and displays the name given to each section (it's "title") in order based on its relevance to the question.

Another major feature of WAIS is its ability to find information regardless of its location. WAIS operates on local and wide area networks, including the world wide Internet network of networks. With WAIS, the location of information sources becomes transparent. They may reside on the same machine with the client software, or may be located in another part of the world.



How to use WAIS

WAIS needs to know two things to conduct a successful search. These are one or more words, phrases and/or "feedback" documents that describe the desired information (a question), and one or more sources to be searched for the information.

[How to enter a question](#)

[How to select information sources](#)

After you provide a questions and select sources, WAIS may be asked to conduct a search to determine what related information is available

[How to start a search and retrieve responses](#)

[How to view responses](#)

[Using relevance feedback](#)

Some special features are available in this version of WAIS. These include the ability to using a telephone line and modem to contact information sources, the ability to search for information by it's geographic location, and the ability to open terminal sessions with other computer systems without exiting from WAIS.

[Dial access to WAIS servers \(SLIP\)](#)

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How to enter a question

The first window displayed by WAIS is the Question Window. Search words are entered in the "Tell me about:" area of the WAIS question window:

The image shows a graphical user interface element for a search window. It consists of a rectangular box with a grey border. Inside the box, the text "Tell me about:" is written in a small, bold font at the top left. Below this text is a large, empty white rectangular area for entering text. On the right side of this white area, there is a vertical scroll bar with up and down arrow buttons.

By default, WAIS will use each word individually to find relevant information. A typical WAIS query using this form is:

elephants, kangaroos, or other animals

WAIS will accept complete sentences, partial sentences, or individual words.

This example will locate information that includes the words ELEPHANTS, KANGAROOS, OTHER, and ANIMALS. The titles for frequent references to these words, and/or uses of most or all of the words will be listed first in the WAIS response.

If the phrase OTHER ANIMALS is intended (rather than references to the word OTHER and the word ANIMALS), a phrase search may be indicated by enclosing the phrase in double quotes:

elephants, kangaroos or "other animals"

The word AND has special meaning in WAIS. If the preceding search is entered as:

elephants, kangaroos and "other animals"

then the following documents will be identified as relevant:

documents including the words ELEPHANTS and OTHER ANIMALS,
documents including the words KANGAROOS and OTHER ANIMALS,
documents including all the words entered in the query.

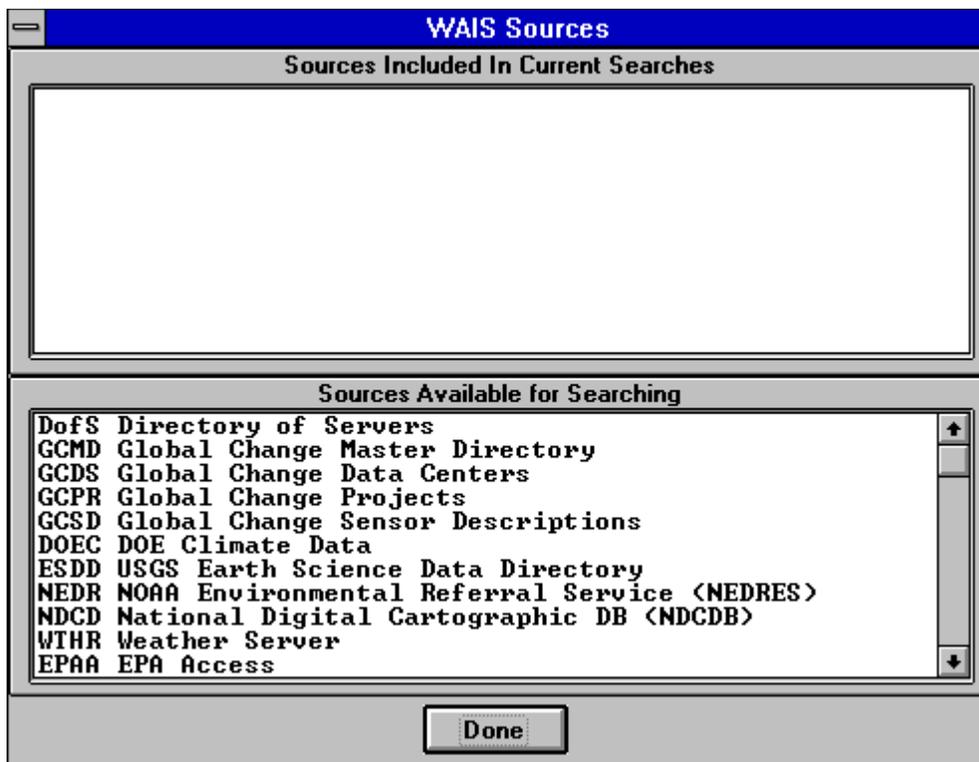


How to select information sources

WAIS must be informed of the information source or sources to search using an entered question. Three steps are required to identify information sources.

1. Select File and then select Sources from the menu bar located at the top of the WAIS Question Window. A ribbon bar button  may also be used to display the Sources Window.

A Sources Window will be displayed that identifies available sources and selected sources.



2. Double click on one of the available sources listed in the lower display area. The source title will be displayed in the upper (selected sources) area. As many sources as desired may be selected from the lower window for inclusion in a search. To remove a selected source from the upper window double click on the source in the upper window. Sources may also be "dragged" to the upper window by placing the mouse cursor over the desired source, pressing the left button, and dragging the reference to the upper window while holding the button. Release the mouse button to "drop" the source into the upper window. Entries may also

be removed from the upper window by either double clicking or dragging them from the upper window.

3. When the desired sources are listed in the upper window, click on the DONE button located at the bottom center of the Sources Window.



How to start a search

A WAIS information search is started by clicking the SEARCH button located at the right top of the Question Window.



On completion of a search, WAIS will display the titles of relevant documents in the Results Area of the Question Window.

Search responses

On completion of a query WAIS displays the results in the Results Panel:

Resulting Documents			
Score	Size	Src	Title
*****	4.6K	ESDD	GROUNDWATER BASIN RESOURCE AVAILABILITY INVENTORY
*****	2.2K	ESDD	DETAILED HYDROLOGIC BASIN DATA
*****	1.5K	ESDD	BASIN PLANS
*****	1.9K	ESDD	RESOURCE BIBLIOGRAPHY - SUSITNA RIVER BASIN
*****	2.1K	ESDD	SUSITNA RIVER BASIN, RESOURCE BIBLIOGRAPHY <SUPPLEMENT 1979
*****	1.5K	ESDD	SKUNK RIVER BASIN PROJECT
*****	1.6K	ESDD	NATURAL DRAINAGE BASIN MAPS
*****	1.1K	ESDD	AERIAL PHOTOGRAPHY<ELKHORN AND BLUE RIVER BASIN>
*****	1.2K	ESDD	BASIN MAPS
*****	1.0K	ESDD	STREAMFLOW/BASIN CHARACTERISTICS FILE
*****	1.7K	ESDD	AERIAL PHOTO INDEX MAP OF TANANA VALLEY RIVER BASIN
*****	2.2K	ESDD	RIVER BASIN SIMULATION MODEL
*****	.9K	ESDD	SALINA BASIN
*****	1.4K	ESDD	SALINA BASIN <WELL TOP DATA BASE> STUDY
*****	.9K	ESDD	SEDGWICK BASIN

Four information items are displayed for each title. The left most entry is the score for the document. Documents that WAIS deems to be most relevant to the query are given higher scores and located near the top of the titles list. Less relevant entries are placed towards the bottom of the list.

The second item displayed is the size of the document in characters. The letter "K" means one thousand. For example, an entry with a size of 1.5K means the document contains about 1,500 characters.

The third entry is a short title for the source from which the document originates. For example, an entry of FACT may indicate that the document comes from the World Fact book.

The fourth entry is the actual description of the document.

An additional area titled "Similar to:" is also a part of the Question Window. This area and the two buttons labeled "Add Doc" and "Delete Doc" are described in the section on Relevance Feedback.



Viewing search responses

A document is selected for viewing by double clicking on the pertinent title line. In response, WAIS will retrieve the document and open a View Window to display the retrieved information. Each word within the document that matches a word from the query will be highlighted.

A document displayed in the viewing window may be manipulated using the menu bar located at the top of the window. Two primary entries are contained in the menu bar. These are "File" and "Edit".

File Menu Bar Entries

Selecting the File menu bar entry will reveal three functions that are subordinate to the file entry. These are "Save as", "Print" and "Done".

Save as...  causes the document currently displayed in the View Window to be saved to a disk file. A Windows standard dialog is invoked that prompts for particulars such as a file name to be used for the saved document.

Print  causes the document currently displayed in the View Window to be printed. A Windows standard dialog is invoked that prompts for particulars to be used for printing the document.

Done provides a return to the Question Window. Function key 3 may be used as a short cut to return to the Question Window.

Edit Menu Bar Entries

Selecting the Edit menu bar entry reveals functions for manipulating the position and content of the window.

Find Key  positions to the first or next screen within the document that includes words entered in the "Tell me about:" area of the Question Window. Short cut key F5 may also be used for this function.

Get Previous Document and Get Next Document displays additional sub menu entries that support navigation from the currently displayed document to other related documents:

In Order displays the next or previous document from the selected source material, i.e., if Chapter 20 is currently displayed, Get Previous In Order will fetch and display Chapter 19.

Listed displays the next or previous document based on the list order in the Results Area of the Question Window.

The following ribbon bar selections and short cut keys are available for these functions:

F7 or  Get Previous In Order

F8 or  Get Next In Order

Shift F7 or  Get Previous Listed

Shift F8 or  Get Next Listed

Copy  provides a copy of a block of text on the Windows clip board. This text may be transferred using the Paste function of other Windows applications. Short cut key Shift F6 may be used with this function. The block of text to be copied is selected by pressing and holding the left mouse bottom and "dragging" the mouse until the desired text is displayed in reverse video.

Add Section  is used with Relevance Feedback



Using relevance feedback

WAIS provides a tool for using all or selected portions or one or several documents to locate similar documents. This feature is exercised by placing entries into the "Similar to:" area of the Question Window.

The image shows a graphical user interface element titled "Similar to:". It consists of a large, empty rectangular text input area. To the right of this area are two buttons: "Add Doc" (top) and "Delete Doc" (bottom). The entire interface is enclosed in a light gray border.

The following steps are taken to use an entire document for relevance feedback:

1. Highlight the document in the results area by clicking on the document title one time.
2. Click on the Add Doc button located to the right of the "Similar to:" area. Relevance documents may also be added to or removed from the "Similar to" area by dragging and dropping.
3. Steps 1 and 2 may be repeated for as many separate document as desired.
4. Press the Search button in the Question Window to initiate the information request.

Selected portions of documents are included in the "Similar to:" area from the Viewing Window.

1. Select a block of text for inclusion in relevance feedback by highlighting the text. Text is highlighted by pressing the left mouse button and "dragging" the mouse until the desired area is shown in reverse video.
2. Select "Edit/Add Section" from the menu bar, or press short cut key F6, or press the Add Section ribbon bar button .
3. Steps 1 and 2 may be repeated for as many sections, and for as many separate documents as desired.
4. Press the Search button in the Question Window to initiate the information request.



How to set up WAIS

WAIS provides a number of capabilities for customizing the way searches are conducted and results are displayed. These are all accessed by selecting the Setup menu option from the Query Window.

Hide Buttons - causes the Add Doc and Delete Doc buttons to be hidden, and document titles presented in the Similar to: panel to be viewed at their maximum length.

Maximize Displays  - causes all windows that are opened during a WAIS session to be expanded to fill the entire display area.

Sources - Presents a window where WAIS sources technical information may be manually added, changed, or deleted.

TCP/IP Parameters - Presents a window where technical information regarding your connection the Internet is entered.

If you are uncertain about what information must be entered here contact your Internet Systems Administrator.

Max Documents - Presents a window where you set the maximum number of documents that will be retrieved from each information source. This number is also used to limit the total number of documents that will be displayed for all information sources.

Link Names - Presents a window where the names of computer systems that may be contacted via the Internet are associated with their Internet addresses. This feature only works in conjunction with information that is retrieved in the Directory Interchange Format (DIF).

Filters - Presents a window where WAIS processing filters are defined. A filter is a program that is passed a retrieved file when WAIS does recognize the file's format. File type is the type code assigned to the file by WAIS. File ext. is the file extension to be appended to a file created by WAIS and passed to the filter program. Path and program name is the name of a windows program that will be started by WAIS and passed the file as a command line argument.



Setting up WAIS sources

WAIS sources may be manually defined, changed, or removed using the Source Editor.

Available Sources	
DofS	Directory of Servers
GCMD	Global Change Master Directory
GCDS	Global Change Data Centers
GCPR	Global Change Projects
GCSD	Global Change Sensor Descriptions
DOEC	DOE Climate Data
ESDD	USGS Earth Science Data Directory
NEDR	NOAA Environmental Referral Service (NEDRES)
NDCD	National Digital Cartographic DB (NDCDB)
WTHR	Weather Server
EPAA	EPA Access

Source Selected for Editing	
Source Name	WTHR Weather Server
Port	210 [The first four characters of Source Name will be shown in the Src field in titles displayed in query responses.]
Server	quake.think.com
Database Name	weather

Add Change Delete Done

1. Click on an existing entry to display connection information.
2. Overtyping any entry or combination of entries and clicking on Add to create a new entry. The title must be unique to add a new entry.
3. Overtyping any entry or combination of entries and clicking on Change to modify an existing entry. The title may not be changed for an existing entry.
4. Click on an existing entry and then click on Delete to remove an entry.



Entering TCP/IP communications parameters

To be able to converse with other WAIS servers, WAIS requires the definition of Internet connection parameters. These parameters define the identity of your machine, the identity of other machines that will translate and route message to and from your machine, and the identity of the communications hardware your machine will use to communicate:

Personal Computer Information, Name Server Definition, and Gateway Definition are values that must be provided by your Internet Network Systems Administrator.

Communications Options should be entered as explained here:

The screenshot shows a dialog box titled "Communications Options". It is divided into two main sections: "LAN Settings Only" and "Com Settings Only".

LAN Settings Only:

- Int/Board: 5
- SW Int: 60
- IO Addr: 300
- DIX Connector

Com Settings Only:

- Speed: 9600
- Parity: EVEN

Driver:

NE2000 Novell <Eagle> NE2000

1. Select the mode you will use to connect with the Internet. Press LAN if you will communicate via a Local Area Network. Press COM1 through COM4 if you will use a modem.
2. If LAN is selected:
 - a. Enter the hardware interrupt number and I/O address for your communication adapter. If you are using the Novell Networkware LAN operating system [click here](#) for special information. Contact your LAN Systems Administrator if you do not know these values.
 - b. Select an unused user interrupt number in the range 60 through 6f to be used by the packet driver interface. Use 60 unless you know this interrupt is being used elsewhere.
 - c. Select your brand and model of LAN communications adapter from the provided list of supported drivers.

If COM1-4 is selected:

- a. You **MUST** preload the module named X00.EXE or X00.SYS prior to starting Windows to use SLIP with WAIS. This module provides an interface for higher speed communications that is otherwise unavailable. X00 is included in the WAIS installation directory. Also, please read the file named X00LIC.TXT for licensing information.
- b. Select the speed and parity you will use to contact your Serial Link Internet Protocol (SLIP) server. This information must be provided by your Internet Systems Administrator.
- c. Develop a SLIP dialing script to contact your SLIP server. SLIP dialing scripts are placed in the file named WAIS.SLP. [Click here](#) for additional information of the WAIS SLIP dial scripting language.



Novell Netware configuration

WAIS provides a special capability to interact with Novell Netware using Novell's Open Data Interchange (ODI). To use ODI complete the following steps:

1. In your NET.CFG file, add the following statement if it does not already exist: **Envelope Type Ethernet_II**
2. Change any **Frame** statements (e.g., Frame Ethernet_802.3) to **Envelope Type** statements (e.g., Envelope Type Ethernet_802.3).
3. Count the number of **Envelope Type** statements that precede the **Envelope Type Ethernet_II** statement (this number may be zero).
4. Use the number from 3 above as the Int/Board number in your TCP/IP configuration.
5. You may ignore the setting for IO Addr.
6. Select **ODIPKT** as the driver type.



Dial access to WAIS servers (SLIP)

WAIS supports an automated scripting language for access via a modem to Serial Link Internet Protocol (SLIP) services. To use the scripting language your TCP/IP configuration must be set up for modem access via COM1 through COM4.

The SLIP dialer script is contained in the file named WAIS.SLP

Automated logon is started by selecting Aids/SLIP Dial from the Question Window, or by pressing the  button.

The following entries may be used in any combination in the WAIS.SLP file:

WAIT n

Causes a delay of n seconds, after which the following statement will be processed

WAIT n "literal value"

Waits up to n seconds for literal value to be received from the SLIP server. A time-out error is generated if n seconds elapse without receiving the literal value.

SEND "literal value"

Sends literal value to the SLIP server.

PROMPT "literal value"

Opens a prompt window for input by the WAIS user. Literal value is displayed in the prompt window. The user provided response is sent to the SLIP server when either ENTER is pressed or the OK button is clicked. If ENTER is pressed a carriage return character will terminate the response.

Any literal value may include control characters. Control characters are indicated by the carat sign followed by a single character. Only the low five bits of the character following a carat are sent.



Spatial searching

WAIS includes the ability to display locations on Earth related to information presented in the View Window, and to include locations as search criteria when querying WAIS servers that support the spatial search feature. Servers that do not support spatial searching will ignore location information, if it is provided.

[Click here](#) for information on special controls for manipulating the map.

To display a spatial reference:

1. In the View Window, WAIS will add a menu item titled Show Map...
2. Clicking on Show Map or the  will display the Spatial Locator Window.

To enter a desired spatial location:

1. From the Question or Viewing Windows, select the Aids / Map menu entry or click on the  button.
2. Use the left mouse button to enter the desired search area as an irregular polygon.
3. Use the right mouse button to erase entries defined using the left mouse button.

Polygons outlined in red may be saved for inclusion in later searches:

1. Press the  button or select File / Load/save from the Map menu.
2. Enter a unique name in the list box.
3. Press the Add button.
4. Press the Done button.

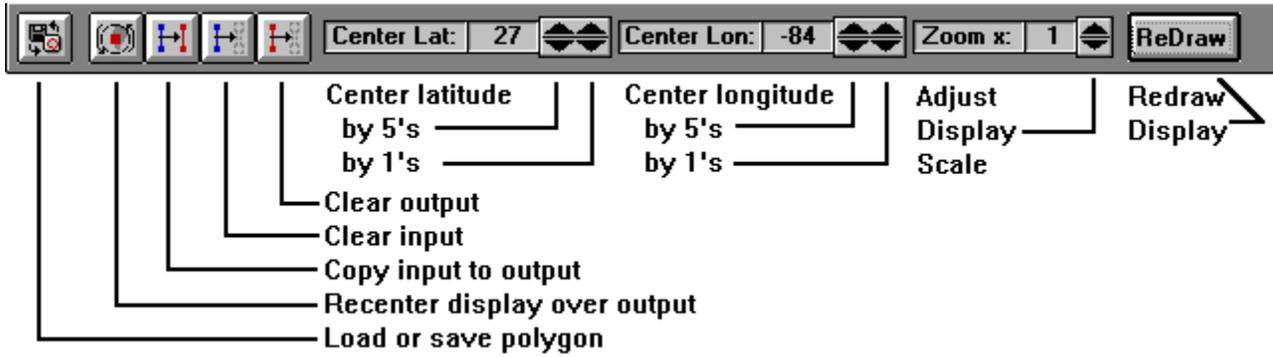
To retrieve a previously saved search polygon:

1. Press the  button or select File / Load/save from the Map menu.
2. Select a previously named entry from the list box.

3. Press the Load button.
4. Press the Done button.



Spatial searching map controls





Terminal emulation

WAIS includes the ability to open a window for a connection to another Internet host computer system. This feature allows connection to specialized computer applications that are described in WAIS information sources that employ the Directory Interchange Format (DIF). When WAIS encounters a document containing the phrase "Catalog Link:" the name following the phrase will be used to establish a telnet connection.

Telnet connections may also be established directly from the Question Window. To initiate a connection select Aids / Telnet. A list of known connections is displayed in response. One of these entries may be selected, or the Internet connection information may be overtyped with the name or address of a desired remote host.



Button Bar help

WAIS displays "button bars" for short cut access to common menu commands in three windows. These are the Question Window, Viewing Window, and Map Window. The menu selections for each button are described below

Question Window buttons

-  File / Select Sources
-  Setup / Maximize Displays
-  Aids / Clear
-  Aids / Telnet
-  Aids / Map
-  Aids / SLIP Dial

Viewing Window buttons

-  File / Save as...
-  File / Print
-  Edit / Find key
-  Edit / View next document / In order
-  Edit / View next document / Listed in questions
-  Edit / View previous document / In order
-  Edit / View previous document / Listed in questions
-  Edit / Copy
-  Edit / Add section

Map Window buttons

-  File / Load/save location
-  Edit / Recenter
-  Edit / Copy in to out
-  Edit / Clear input
-  Edit / Clear output

