

E-DAS Ambient for Windows™
Web Toolkit
User's Guide and
Reference Manual
Version 5.34

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Chapter 1 Introduction

1.1 Overview

The **ESC Web Toolkit** allows viewing of real-time data (latest auxiliary and hourly data) on the Web. It includes preformatted web pages that automatically retrieve the most recent data averages from the **E-DAS Ambient for Windows** database whenever the web page is visited.

Prerequisites for using the **Web Toolkit** are:

- **E-DAS Ambient for Windows**, version 5.34 or later, must be running and polling data.
- ESC's **Access Database Module** must be running on the same PC as **E-DAS Ambient** for Windows.
- Microsoft's **Internet Information Services (IIS)** must be properly installed on a web server. IIS is available with Microsoft NT Server 4.0 Option Pack (no charge) and Windows 2000 Server (integrated with your operating system).
- The web server must have the ability to read the data that the E-DAS module collects (preferably over a network).
- Some knowledge of HTML is required.

The **Web Toolkit** is not a web report application, but rather uses Active Server Pages (ASPs) in conjunction with **E-DAS Ambient** data that is stored in a Microsoft Access compatible database format. Standard ASP pages are included with the toolkit that allow the user to report E-DAS data on the web by setting up hyperlinks to these pages from the user's home page and passing the pages the needed information. Users can utilize the included ASP pages to retrieve standard formatted data (Chapter 3 "Using Standard Pages"), or they can use built-in functions to retrieve selected data and create their own custom-formatted web pages (Chapter 4 "Data Retrieval Function"). The users are responsible for design of their own web page. If you need assistance, contact the Sales Department for ESC's Products and Systems Division to request a cost quotation.

The user must set up a connection (Microsoft Data Link) to their Access database using the Microsoft Data Link file provided (see section 2.3 “Microsoft Data Link Setup”). This file (ESCData.udl) is included in the installation.

Chapter 2 Installation and Setup

2.1 Installation Overview

The **ESC Web Toolkit** software is provided on CD-ROM for convenience and ease of installation. The installation and setup is a two step process including installation of the software and setting up the **Microsoft Data Link File**.

Important! Be sure that your situation meets the prerequisites specified in section 1.1 “Overview” before continuing.

2.2 Software Installation

To install the software, complete the following instructions:

Step 1. Place the **ESC Web Toolkit** CD in the CD-ROM drive on the web server. From the Windows **Start** menu, select **Run**. In the **Open** field, type in:

X:\Toolkit\Setup.exe

where X: is the drive letter of the CD-ROM drive. Press **Ok** to continue.

Note: In the beginning of the installation process, you may be asked to reboot the computer in order to update some of the system files. Go ahead and reboot, then restart the installation again at the beginning.

Step 2. When the introduction screen appears, click **Ok** to continue with the installation, or click **Cancel** to exit.

Step 3. To install the necessary files to the default directory (C:\EDASWeb\), simply click the large button with a computer on it in the initial installation screen (Figure 2-1).

Step 4. To install to a different folder, click on the **Change Directory** button on the right side of the window. A screen will appear allowing you to select the desired folder for installing the files (Figure 2-2).

Select the desired drive in the **Drives** field at the bottom of the window, double-click on the drive letter in the **Directories** field to display the folders within the drive, then click to highlight the desired directory folder. Click **Ok** to continue. Please make note of the installation location for use with the **Air Quality Index Active Server Page** (.ASP file). See section 5.2 “Displaying AQI Data.”

You will be returned to the initial installation screen. Click **Ok** to continue.

Step 5. After all files have been installed, a “Successfully Completed” message will appear. Click **Ok** to finish the installation process.

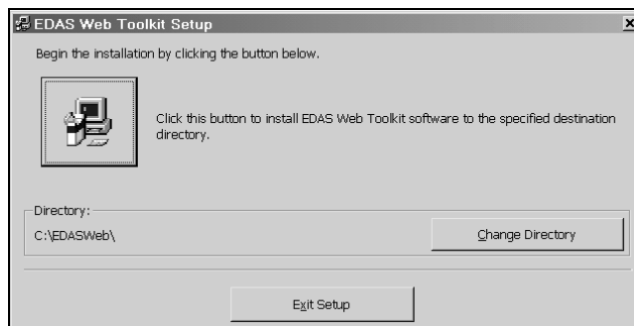


Figure 2-1 Web Toolkit Setup screen

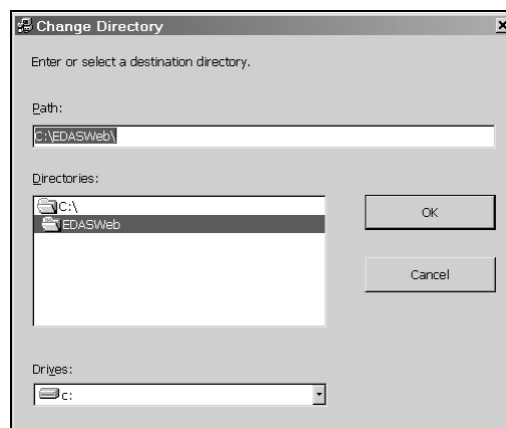


Figure 2-2 Change Directory screen

The **Active Server Pages** (files with the .ASP extension) are all copied to the directory indicated during the installation. You may copy these files to the appropriate directory so that your web site can find them.

The **Web Toolkit** also requires Microsoft **Data Access Components (MDAC)** version 2.5. If your web server is running Windows NT 4.0, and MDAC version 2.5 has not been installed previously, you will need to install it to your system. The correct version of MDAC is included with Windows 2000. The MDAC install is included with the **Web Toolkit**, and can be found in the directory where the Web Toolkit was installed, or can be downloaded from Microsoft’s website (www.microsoft.com). To install MDAC, run **mdac_typ_25.exe** and follow the on-screen prompts.

2.3 Microsoft Data Link Setup

In order to utilize the **Web Toolkit**, you must first set up a Microsoft Data Link connection on the web server PC (i.e. where the **Web Toolkit** software was installed), to the Access database for the **E-DAS** software. To do this, perform the following steps:

Step 1. From the Windows **Start** menu, select **Run**. Type in the path for the file **ESC-Data.udl**. This file should be the folder where the Web Toolkit was installed. This can also be accomplished by locating the **ESC-Data.udl** file in Windows Explorer, and double-clicking the file to run it. The Data Link Properties screen will be displayed.

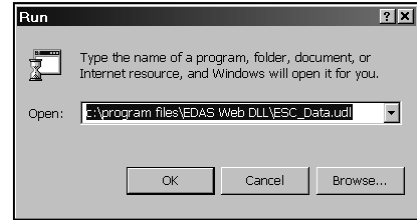


Figure 2-3 Windows Start | Run screen

Step 2. Click on the **Provider** tab (Figure 2-4). Select **Microsoft Jet 4.0 OLE DB Provider**, then click the **Next** button in the lower right portion of the screen.

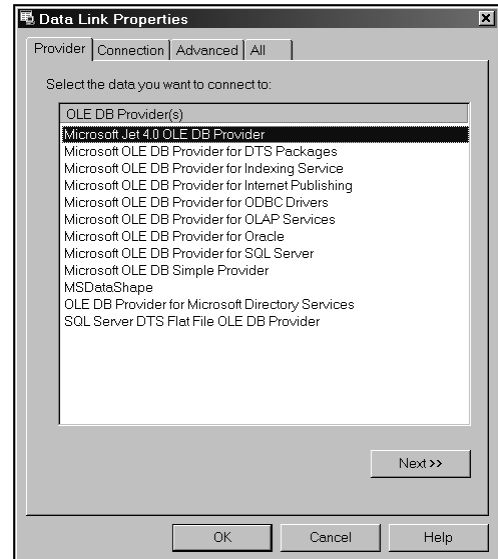


Figure 2-4 Data Link Properties screen

Step 3. Next, select the **Connection** tab (Figure 2-5). Enter the location of the Access database containing the E-DAS data into the field **1. Select or enter a database name**. Either type in the full path and name of the database, or click the button to the right of the field to browse for the file. Next, click the **Test Connection** button to verify the connection to the database. You should receive a “Test Connection Succeeded” message. Click **OK** when finished.

You shouldn't need to do anything with the **User Name** and **Password** fields.

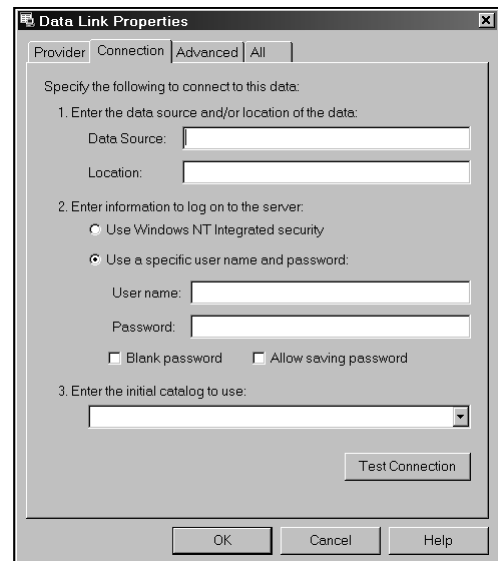


Figure 2-5 Data Link Properties screen

Chapter 3 Using Standard Pages

3.1 Standard Pages Overview

ESC's **Web Toolkit** includes pre-formatted report pages for reporting hourly data averages. The report pages currently included with the Web Toolkit include:

ESCParm.asp - For presenting one day's hourly data for one parameter at one site. See 3.2 "Displaying One Parameter for One Site" for details.

ESCSite.asp - For presenting one day's hourly data for all parameters at one site. See section 3.3 "Displaying All Parameters for One Site" for details.

ESCParmSummary.asp - For presenting one day's hourly data for all sites for one parameter. See section 3.4 "Displaying One Parameter for All Sites" for details.

ESCAQI.asp -For presenting AQI data. See Chapter 5 "AQI" for details.

The first step in using any of these pages is to create a hyperlink on your home page that points to the desired page. The file **EDAS.dll** is unique to the **Web Toolkit** and must also reside on the web server.

The following sections describe how to use these standard pages to retrieve and report the most recent hourly averages.

Important! The web server must have read/write access to the folder on the E-DAS Ambient polling computer that contains the Access database (.mdb file) containing ambient data.

3.2 Displaying One Parameter for One Site

ESCParm.asp is a page which shows one day of hourly averages for one site and one parameter. In order for this ASP page to work, it must be called from another web page by placing an HTML tag into the web page, as follows:

```
<A href="ESCParm.asp?parm=0103&date=07/05/2000">Test Parm</A>
```

In the above example, **parm=0103** is the logger ID (01) and the channel number is 03.

Note: All four characters of the logger ID and channel number ID must be included.

The **&date=mm/dd/yyyy** portion of the URL is the optional date reference, which is used to choose a specific date to be reported.

Note: If this optional date reference is omitted, today's date will be assumed.

If the date reference is used, all characters for the date must be included (e.g. 07/27/2000).

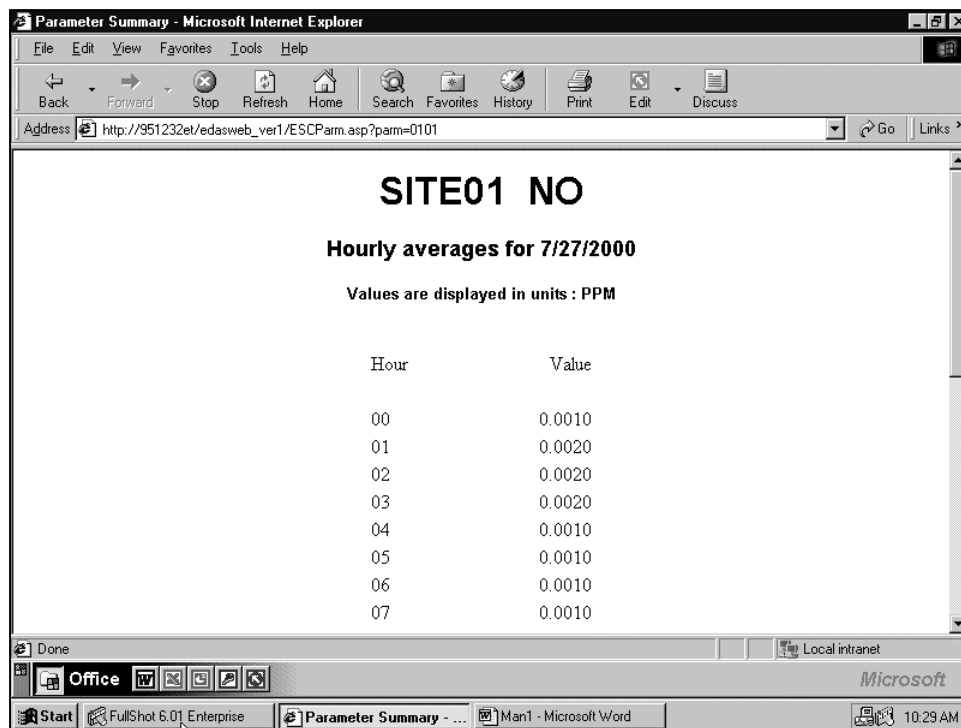


Figure 3-1 On Site/One Parameter

3.3 Displaying All Parameters for One Site

ESCSite.asp is a page which shows the hourly averages for **all** parameters at the selected site, for one day, in a table format. The user calls this page by placing an HTML tag into their own web site, as follows:

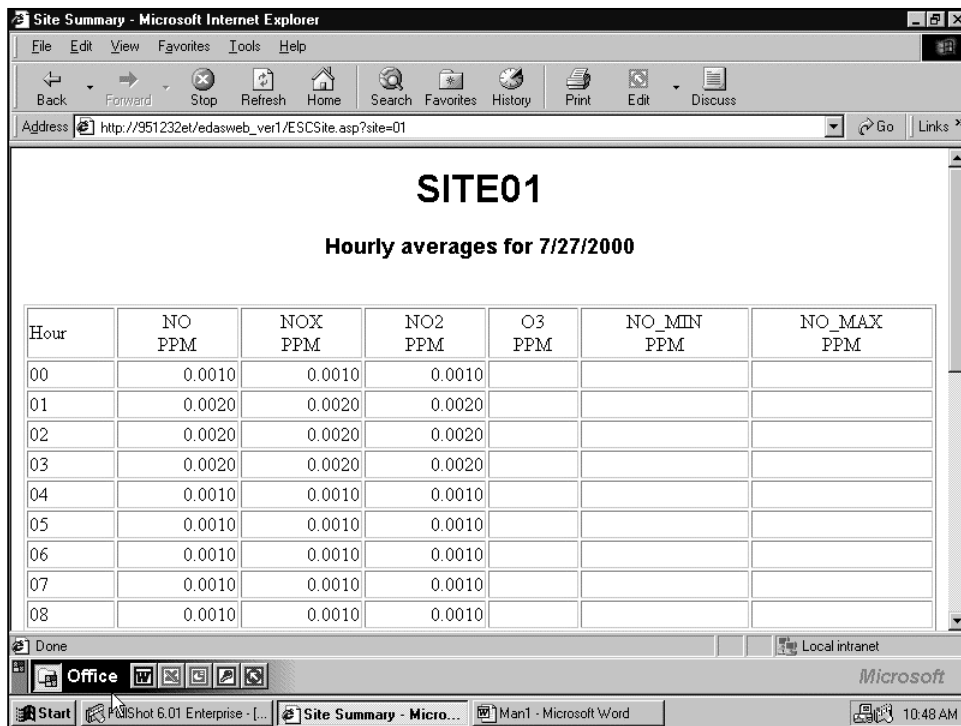
```
<A HREF="ESCsite.asp?site=01&date=07/05/2000">Text</A>
```

The segment **site=01** is the reference used to determine the desired site. The two numeric characters (e.g. 01) represent the logger ID.

The **&date=mm/dd/yyyy** portion of the URL is the optional date reference, which is used to choose a specific date to be reported.

Note: If this optional date reference is omitted, today's date will be assumed.

If the date reference is used, all characters for the date must be included (e.g. 07/27/2000).



The screenshot shows a web browser window titled "Site Summary - Microsoft Internet Explorer". The address bar contains the URL "http://951232et/edasweb_ver1/ESCsite.asp?site=01". The main content area displays the following information:

SITE01
Hourly averages for 7/27/2000

Hour	NO PPM	NOX PPM	NO2 PPM	O3 PPM	NO_MIN PPM	NO_MAX PPM
00	0.0010	0.0010	0.0010			
01	0.0020	0.0020	0.0020			
02	0.0020	0.0020	0.0020			
03	0.0020	0.0020	0.0020			
04	0.0010	0.0010	0.0010			
05	0.0010	0.0010	0.0010			
06	0.0010	0.0010	0.0010			
07	0.0010	0.0010	0.0010			
08	0.0010	0.0010	0.0010			

The browser's taskbar shows several open applications: Office, Shot 6.01 Enterprise, Site Summary - Micro..., and Man1 - Microsoft Word. The system clock shows 10:48 AM.

Figure 3-2 Site Summary

3.4 Displaying One Parameter for All Sites

ESCParmSummary.asp is a page which shows the hourly averages for **all** sites for the selected parameter, for one day, in a table format. The user calls this page by placing an HTML tag into their own web site, as follows:

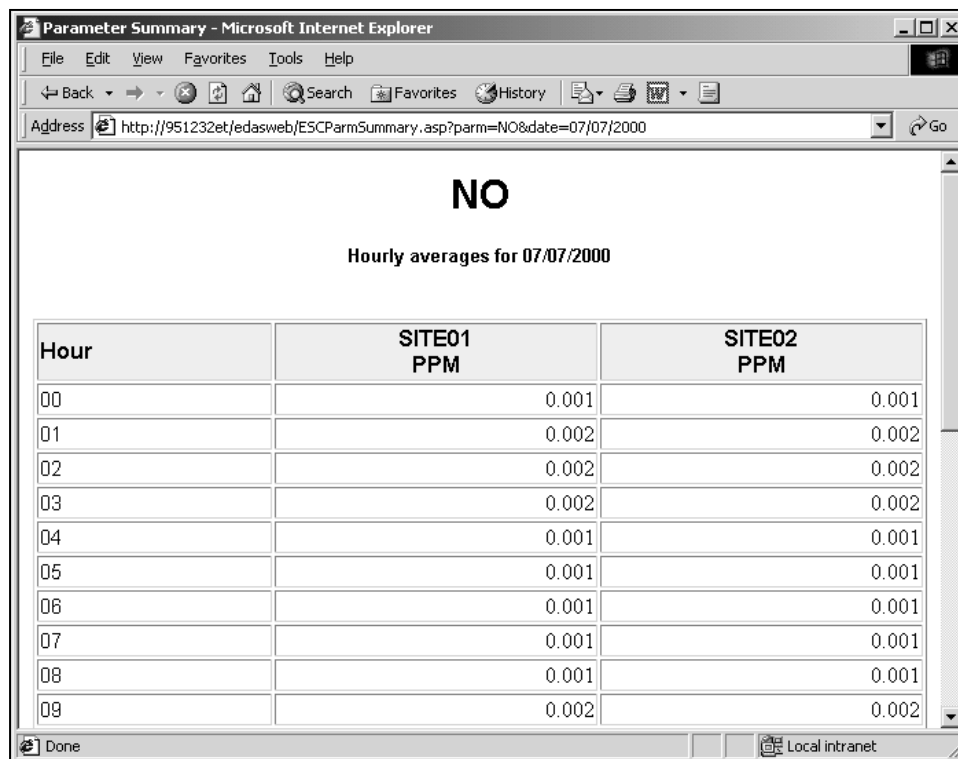
```
<A HREF="ESCParmSummary.asp?parm=CO&date=07/05/2000">Text</A>
```

The segment **parm=CO** is the reference used to determine the desired parameter.

The **&date=mm/dd/yyyy** portion of the URL is the optional date reference, which is used to choose a specific date to be reported.

Note: If this optional date reference is omitted, today's date will be assumed.

If the date reference is used, all characters for the date must be included (e.g. 07/27/2000).



Parameter Summary - Microsoft Internet Explorer

Address <http://951232et/jedasweb/ESCParmSummary.asp?parm=NO&date=07/07/2000>

NO

Hourly averages for 07/07/2000

Hour	SITE01 PPM	SITE02 PPM
00	0.001	0.001
01	0.002	0.002
02	0.002	0.002
03	0.002	0.002
04	0.001	0.001
05	0.001	0.001
06	0.001	0.001
07	0.001	0.001
08	0.001	0.001
09	0.002	0.002

Done Local intranet

Figure 3-3 Parameter Summary

Chapter 4 Data Retrieval Function

4.1 GetDataPoint() Function

GetDataPoint is a function that is placed in a web page design in order to retrieve specific data averages (Figure 4-1). It provides a high degree of flexibility to the user in deciding which data to present and how to format the data. For example, one way to apply the function would be in conjunction with a web page showing a map with various monitoring locations on it. When a button or a location is clicked, the latest data averages for the selected site and parameters, based on the function calls, would then show up in the table. The user may also create a table with this function in each cell, or can place the function in a block of text.

The function retrieves a data point for the given parameter. To call this function, the user places an .asp script into their own web page.

The user **must** have the following in their page, and it **must** be placed before the actual function is called the first time:

```
<%  
dim oData  
set oData = Server.CreateObject("EDAS.clsData")  
%>
```

Note: "oData" is the variable, and <%, %> are .asp (Active Server Page) delimiters.

The following code **must** also be included in the page, and it **must** be placed at the end of the page:

```
<%  
set oData=nothing  
%>
```

This is how to reference the function (all values must be enclosed in quotations):

Variable Site/Parameter, Interval, Date, Time

```
<%=oData.GetDataPoint("0101","001H","07/27/2000","08:00") %>
```

- **Site/Parameter:** a four digit number (0101 in the example above) where the first two characters are the logger ID, and the second two characters are the channel number.
- **Interval:** a four character designator for the interval to be shown (001H in the example above).

Optional date and time references may be used if you wish to choose a specific date or time.

- **Date:** "mm/dd/yyyy" is the full date to be shown ("07/27/2000" for example)
- **Time:** "hh:mm" is the two digit hour and two digit minute of time to be shown (such as "08:00" or "16:00"). Note that time uses a 24 hour format.

If the date is left out, the current date will be assumed. Also, note that if the date is left blank or invalid, the hour and minute values are ignored. The date and time used will be the previous hour and minute according to the interval passed into the function. If the time is left out, then the latest interval is used according to the current time of the web server.

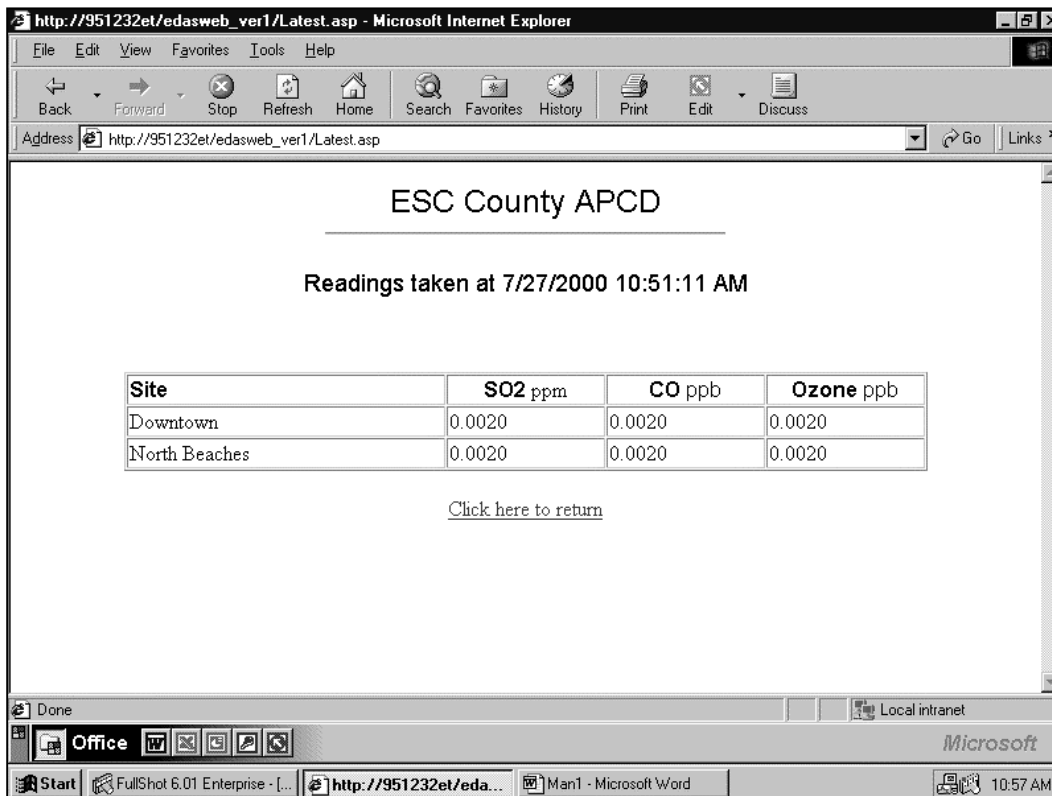


Figure 4-1 Sample data averages display

4.2 ASP Source Code for Sample Page

```

<%@ Language=VBScript %>
<% Option Explicit %>

<HTML>
<LINK rel="stylesheet" type="text/css" href="EDASWeb.css">
<HEAD>
<TITLE>ESC County APCD</TITLE>
</HEAD>

<BODY>

<%
  \*** Previous Page info
  Dim previous_page
  previous_page = Request.ServerVariables("HTTP_REFERER")

  \*** Create & Instantiate tool to call function to get data
  Dim oData
  Set oData = Server.CreateObject("EDAS.clsData")
  %>

<!-- Page Header information -->
<H1 align=center class='PageHeader'>
  ESC County APCD
</H1>
<HR style="HEIGHT: 2px; WIDTH: 303px"></HR>

<!-- Date and Time -->
<BR>
<DIV align=center class='Statements'>
Latest readings as of <%=Now() %>
</DIV>
<BR>

<!-- Data Table -->
<TABLE align=center border=1 cellPadding=1 cellSpacing=1 width="80%">
  <!-- Column headers -->
  <TR bgcolor=antiquewhite>
    <TD align=left class='DataColumnHeaderBG'>
      Site
    </TD>
    <TD width="20%" align=center>
      <A class='DataColumnHeaderBG'>NO</A>
      <A class='Data'>ppm</A>
    </TD>
    <TD width="20%" align=center>
      <A class='DataColumnHeaderBG'>NOX</A>
      <A class='Data'>ppm</A>
    </TD>
  </TR>

```

```

<TD width="20%" align=center>
  <A class=' DataColumnHeaderBG'>NO2</A>
  <A class=' Data'>ppm</A>
</TD>
<TD width="20%" align=center>
  <A class=' DataColumnHeaderBG'>Ozone</A>
  <A class=' Data'>ppm</A>
</TD>
</TR>
<!-- Row definitions for Downtown Site -->
<TR class=' Data'>
  <TD>Downtown</TD>
  <TD><%=oData.GetDataPoint("0101", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0102", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0103", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0104", "001H")%></TD>
</TR>
<!-- Row definitions for North Beaches Site -->
<TR class=' Data'>
  <TD>North Beaches</TD>
  <TD><%=oData.GetDataPoint("0201", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0202", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0203", "001H")%></TD>
  <TD><%=oData.GetDataPoint("0204", "001H")%></TD>
</TR>
</TABLE>
<%'*** Clean up
set oData = nothing
%>

<!-- Link to return to previous page -->
<P>&nbsp;</P>
<DIV align=center class='ReturnPage'>
<A href=<%=previous_page%>>Click here to return</A>
</DIV>

</BODY>
</HTML>

```

Chapter 5 AQI

5.1 AQI Overview

The Air Quality Index (AQI), developed by the EPA, is a number which indicates the air quality for a particular location at a particular time. This is a standard index which uses a range of numbers and specific colors to identify air quality, as indicated below.

Air Quality Index Range	Air Quality Descriptor	Color
0-50	Good	Green
51-100	Moderate	Yellow
101-150	Unhealthy for Sensitive Groups	Orange
151-200	Unhealthy	Red
201-300	Very Unhealthy	Purple
301-500	Hazardous	Maroon

Figure 5-1 AQI Ranges and Colors

The **Web Toolkit** allows the agency to provide access to AQI data by making it simple to display on the web the most recent AQI report that was generated automatically by the E-DAS Ambient software. The AQI data is stored in a text file, not a database.

5.2 Displaying AQI Data

To use the AQI reporting features of the **Web Toolkit** effectively, use the following steps:

- Step 1.** During installation of the **Web Toolkit** software, note the directory where the **edas.dll** file is stored. This is generally located in the folder where the Web Toolkit was installed.

Step 2. Schedule the AQI automatic report on the Ambient Polling PC to generate a text file output.

Step 3. In the INI configuration file, under the [AUTO REPS FILE NAME] section, enter a path and file name for the AQIREPFILENAME. The file name must be "AQI.txt", without the quotes. The path needs to be the same directory where the **edas.dll** file is stored. Remember that the polling PC must be mapped to the web server when running the report (i.e. x:\edasweb\AQI.txt).

Step 4. Place a link to the AQI page as follows:

```
<A href="ESCAQI.asp">Click Here</A>
```

This link can now be customized to appear as follows:

```
<A href="ESCAQI.asp?site=xx&parm=yy&interval=z">
```

where **xx** represents a logger ID, **yy** represents a channel id, and **z** represents an hourly interval.

The portion of the url `?site=xx&parm=yy&interval=z` is optional and is used to specify a particular site and/or parameter and/or interval (hourly only). Any section can be used on its own or in combination with another section. For example, if you want to show the AQI for all 1 hour intervals at Site 01, you can use:

```
<A href="ESCAQI.asp?site=01&interval=1">
```

Another example would be showing the AQI for all parameters of type NO. In this case you would use:

```
<A href="ESCAQI.asp?parm=NO">
```

5.3 Customizing the AQI File

The AQI page included with the **Web Toolkit** can be customized in a number of ways. The standard page includes the text shown in Figure 5-2 and Figure 5-3.

Items in the AQI Summary that may be modified are:

Note: Text enclosed within < > are called tags. Tags may **not** be edited. Only the text which appears between the tags may be edited.

1. **Title** ("AQI Summary" in Figure 5-2). This codes appears as:

```
<H1 class ='PageHeader'>  
AQI Summary  
</H1>
```

2. **Page Description** ("The EPA...", see Figure 5-2). This code appears as:

```
<TD class='Statements'>
</TD>
```

The EPA (Environmental Protection Agency) developed the AQI (Air Quality Index) to make reading ambient air data more understandable to the general public. When ambient air data is collected, the numbers are converted from their concentration levels into numbers on a scale. That scale is the pollutant's AQI value. Below is a list of all of the latest AQI values collected.

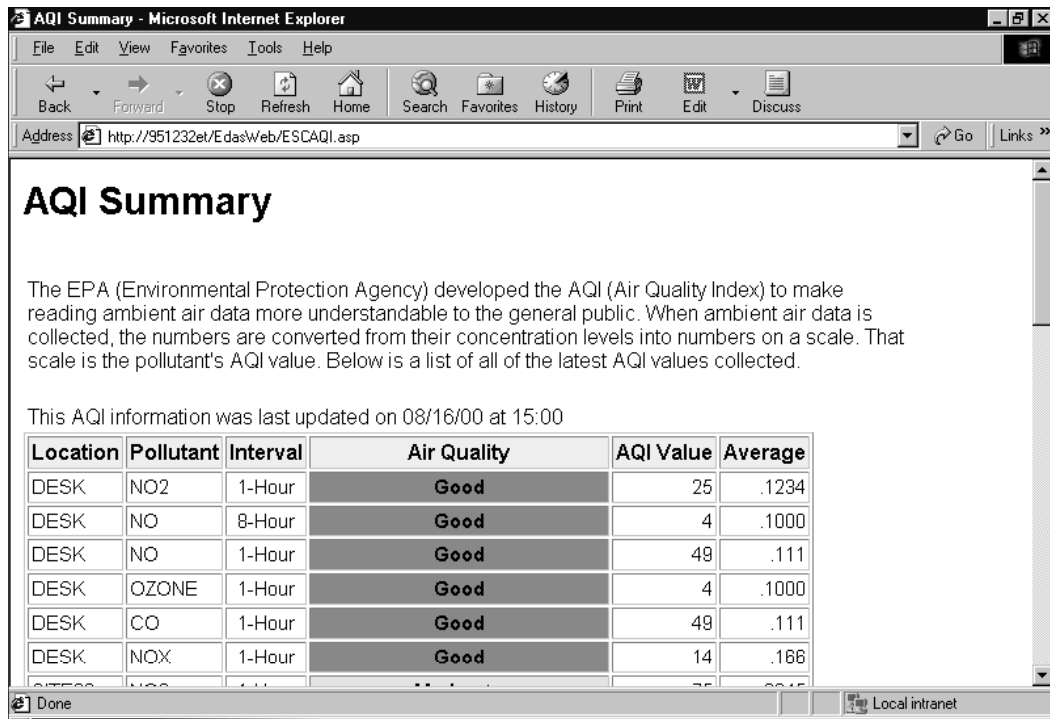


Figure 5-2 Standard AQI Summary Page

3. **Statement** (“This AQI information was...”, see Figure 5-2). This code appears as:

```
<TD class='Statements'>
This AQI information was last updated on 08/16/00 at 15:00
</TD>
```

4. **User-Defined Footnote** (“* This data has...”, see Figure 5-3). This code appears as:

```
<!-- User-defined data footnote -->
<TABLE border=0 width='90%'>
<TR>
<TD class='DataFootnote'>
* This data has not been validated and may
contain errors.
</TD>
```

5. **Page Footer** (“Thank you for visiting our web site.”, see Figure 5-3). This code appears as:

```
<TR><TD class='Statements'>
Thank you for visiting our web site.
</TD></TR>
```

Note: An optional **NoData Statement** may be added: “No AQI data is currently available.”

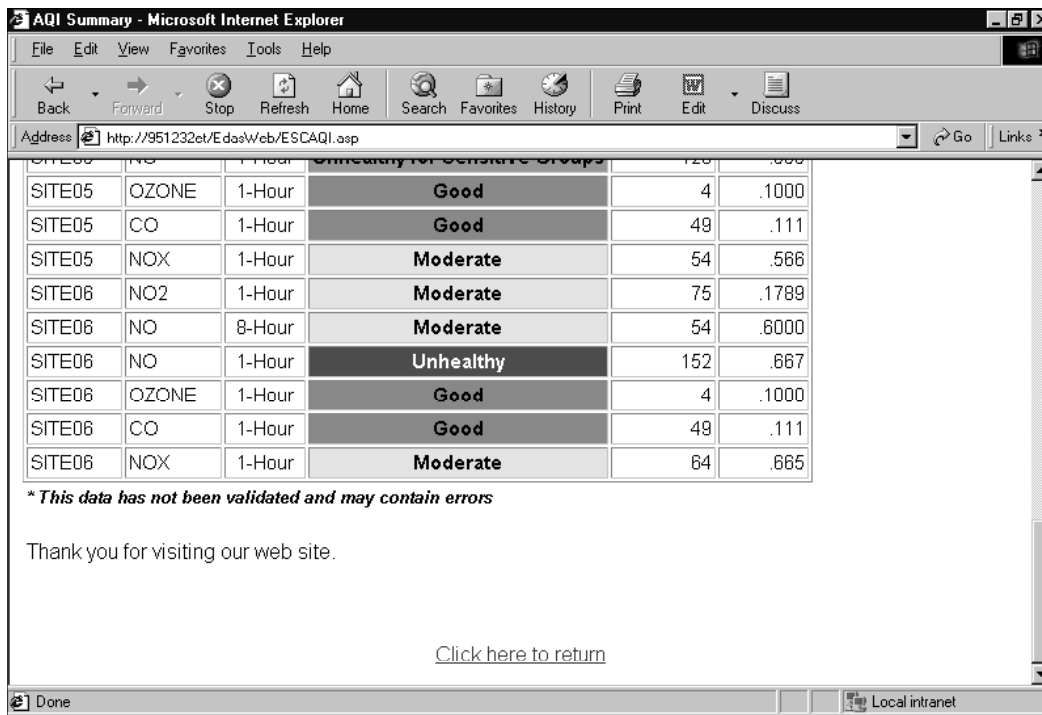


Figure 5-3 Standard AQI Summary Page – lower portion

Note: If the AQI descriptor is ‘**’, this means that not enough information is available to describe the AQI level for this pollutant.

Example: A number of “-3” is returned. This is not within the index range, and is therefore invalid.

Chapter 6 Troubleshooting

6.1 Opening the Database Across a Network

When viewing the **Web Toolkit's** active server pages, you may receive this error:

```
"HTTP 500.100 - Internal Server Error - ASP Error - Error type :
Microsoft JET Database Engine. The Microsoft Jet database engine
cannot open the file. It is already opened exclusively by another
user, or you need permission to view its data."
```

This is probably occurring due to **IIS** (Internet Information Services) not having privileges on the computer where the Access database is located. One way to correct this is to change the user name and password that IIS uses to open the Access database.

1.1.1 Changing access privileges in Windows 2000

To change access privileges on Windows 2000 computers, complete the following steps:

- Step 1.** Open the **Internet Services Manager**. To do this, from the **Start** menu, select **Settings | Control Panel**. Double-click the **Administrative Tools** icon, then double-click the **Internet Services Manager** icon.
- Step 2.** Click the + to the left of the web server name (usually the name given to the computer). Click the + to the left of the **Default Website** item. Locate the name of the web site under **Default Web Site** and right-click on it. Select **Properties** from the menu of options. This will display a new screen with several tabs at the top (Figure 6-1).
- Step 3.** Select the **Directory Security** tab at the top of the screen (Figure 6-1), then click on the **Edit** button in the **Anonymous access and authentication control** area at the top of the screen. This will display the **Authentication Methods** screen (Figure 6-2).

Step 4. In the **Authentication Methods** screen (Figure 6-2), make sure the **Anonymous access** option is checked, then click the **Edit** button in the same section to modify the **Account used for anonymous access**. This will display the **Anonymous User Account** screen.

Step 5. In the **Anonymous User Account** screen (Figure 6-3), uncheck the **Allow IIS to control password** box. Type in the **Username** and **Password** for a user account that has privilege to read and write to the computer where the Access database is located.

Step 6. Click **OK** on all the previous screens to save the changes and return to the **Administrative Tools** window. Close this window and the **Control Panel** window to return to the Windows desktop.

You must now restart Windows.

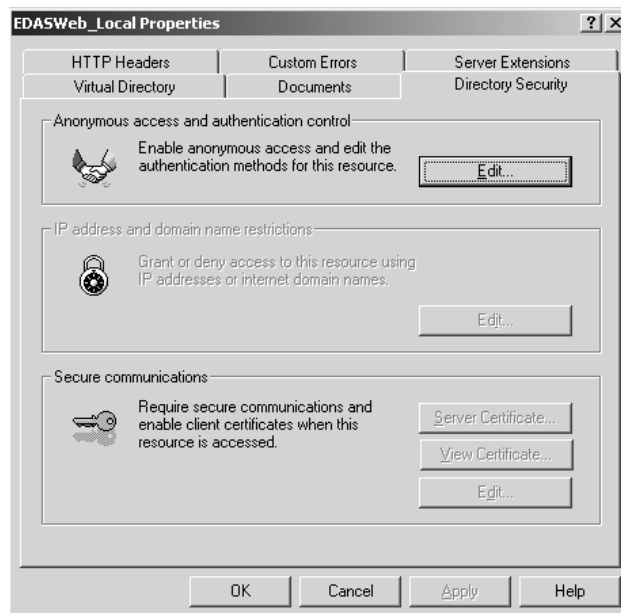


Figure 6-1

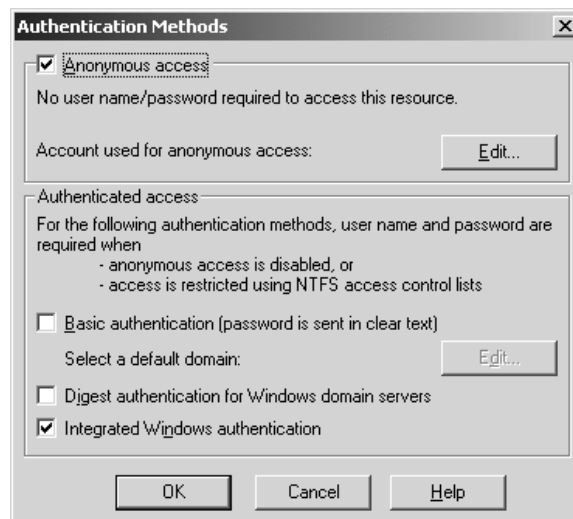


Figure 6-2



Figure 6-3

1.1.2 Changing access privileges in Windows NT

To change access privileges on Windows NT computers, complete the following steps:

Step 1. Open the **Internet Service Manager**. This is installed as part of the **Microsoft Personal Web Server** in the **Windows NT 4.0 Option Pack**. From the **Start** menu, select **Programs | Windows NT 4.0 Option Pack | Microsoft Personal Web Server | Internet Service Manager**.

Step 2. Click the + to the left of the **Internet Information Server**. Click the + to the left of the **Default Web Site**. Now locate and click the name of the web site under **Default Web Site** and select the **Properties** option.

Step 3. Click on the **Directory Security** tab (Figure 6-4), and click the **Edit** button toward the top of the screen in the **Anonymous Access and Authentication Control** portion of the screen. This will display the **Authentication Methods** screen (Figure 6-5).

Step 4. Make sure the **Allow Anonymous Access** option is checked, then click the **Edit** button to the right of **Account used for Anonymous Access** (Figure 6-5).

Step 5. In the **Anonymous User Account** window, uncheck the **Enable Automatic Password**

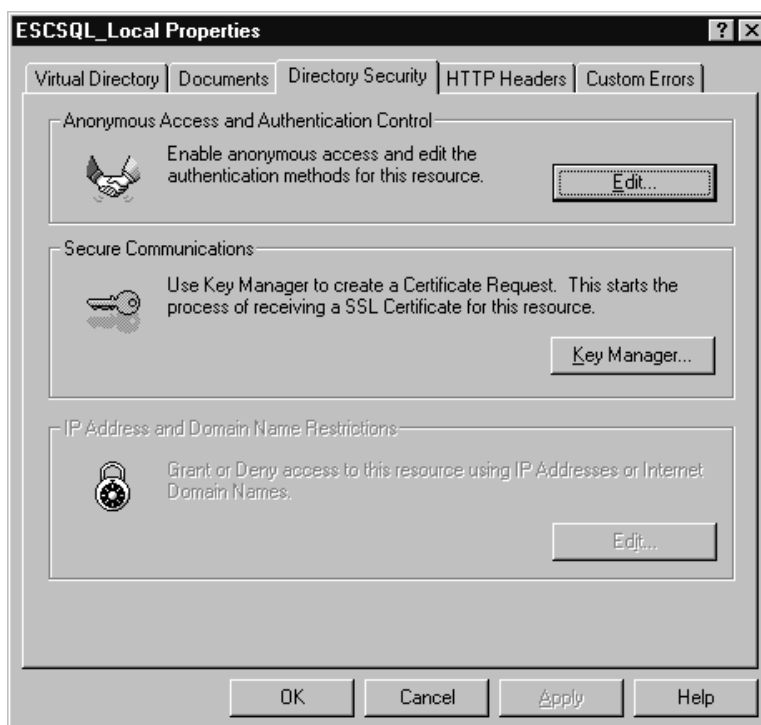


Figure 6-4 Directory Security tab

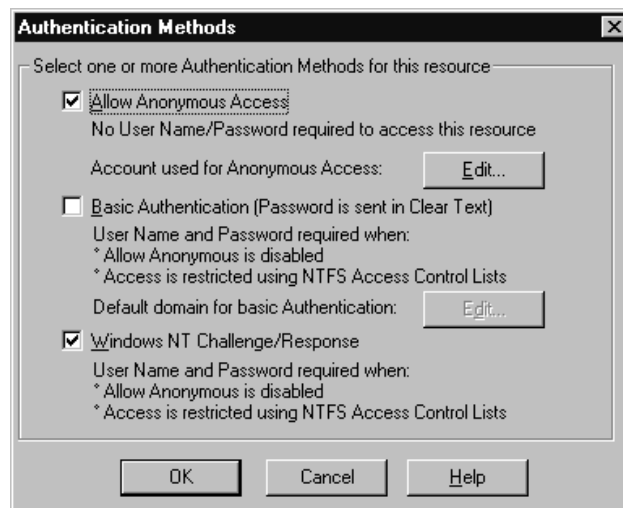


Figure 6-5 Authentication Methods screen

Synchronization box. Now enter the user name and password of a user account that has read/write privileges to the computer where the Access database is located (Figure 6-6).

Click **OK** in all the preceding windows to save the changes and return to the **Internet Service Manager** window. Close this window and the **Control Panel** window to return to the Windows desktop.

You must now restart Windows.

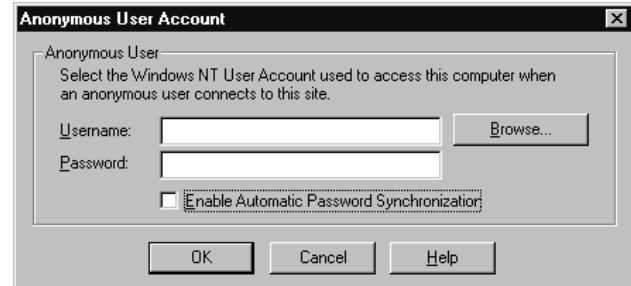


Figure 6-6 Anonymous User Account screen