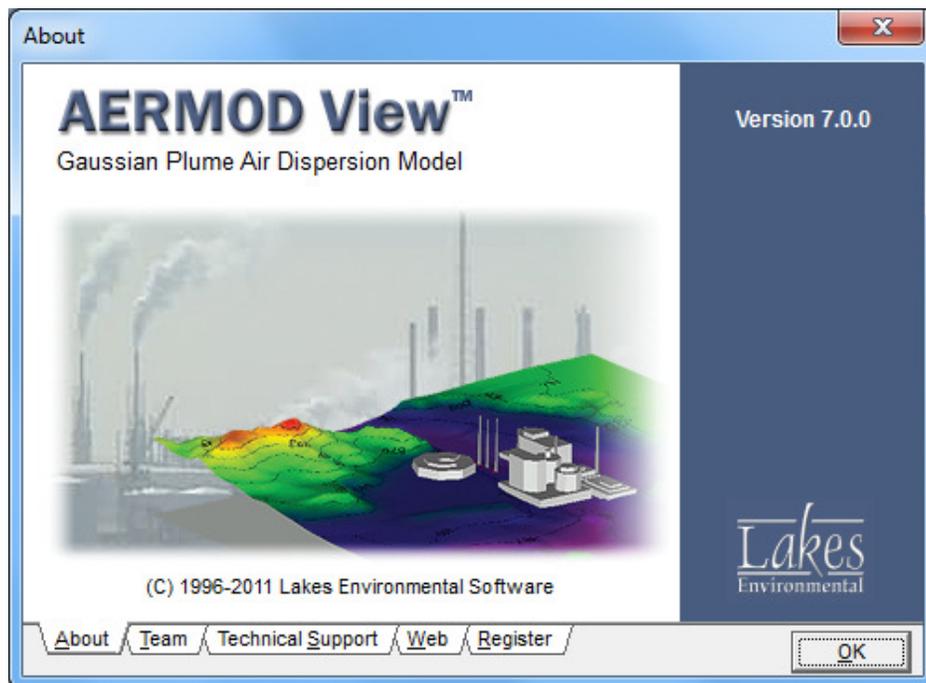


AERMOD View™

Gaussian Plume Air Dispersion Model - AERMOD

Release Notes Version 7.0



Lakes Environmental Software
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Web Site: www.webLakes.com



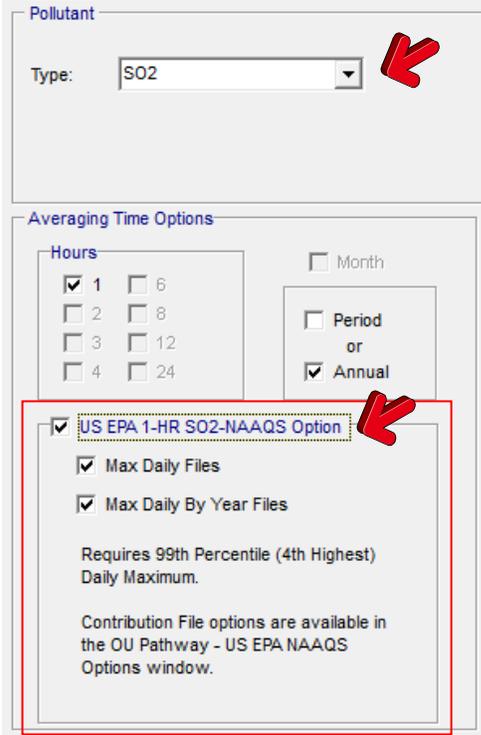
AERMOD View™ Version 7.0.0

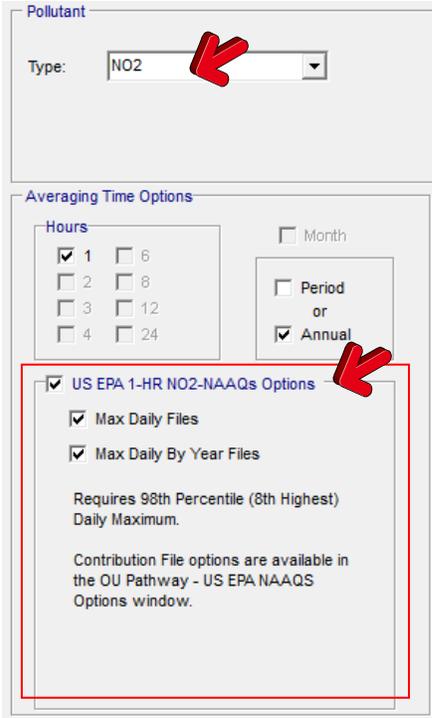
Release Notes

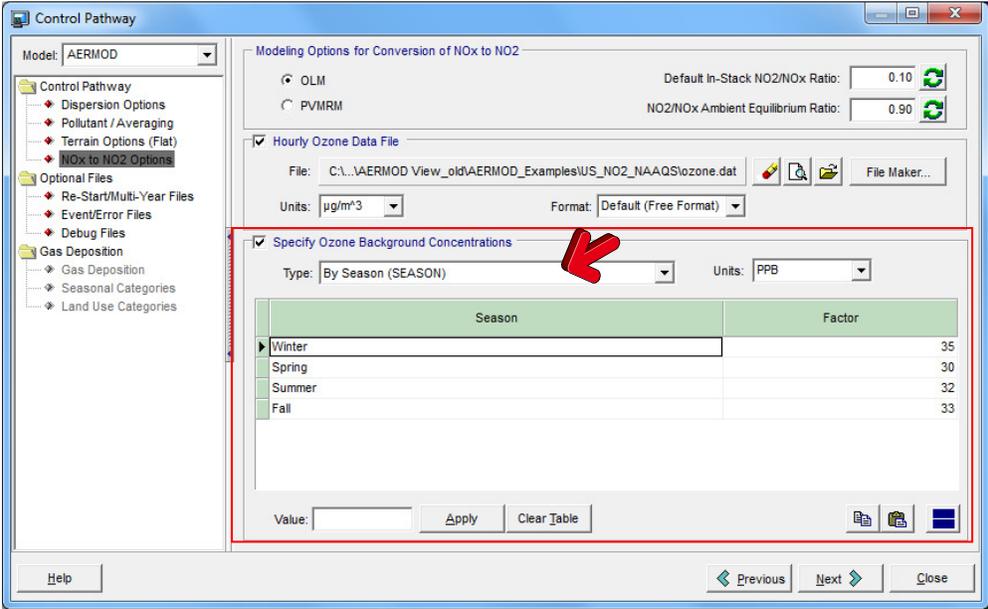
May 10, 2011

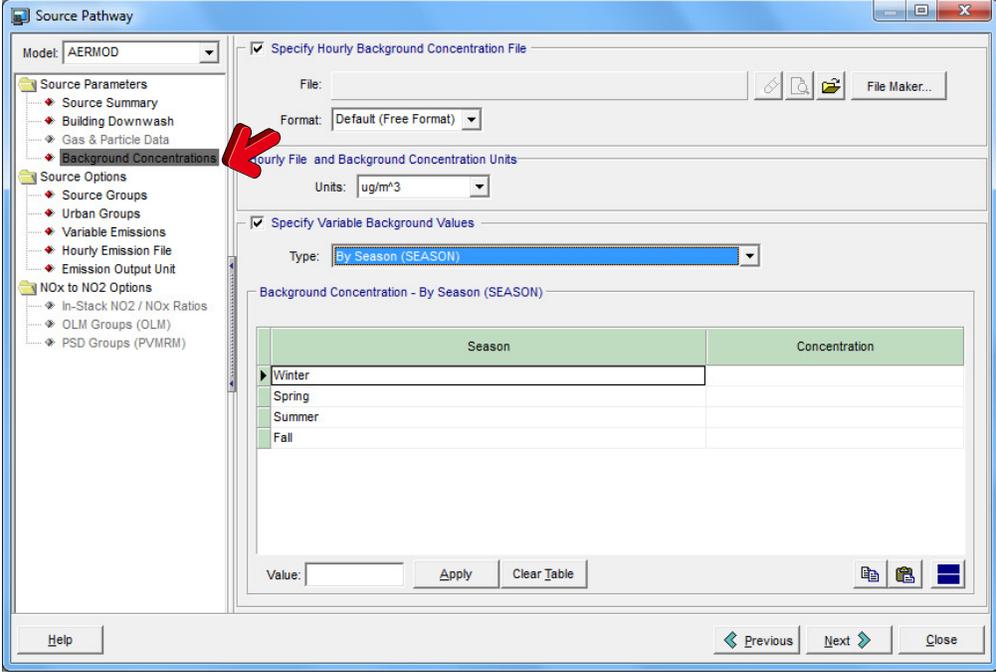
New Features & Fixed Issues

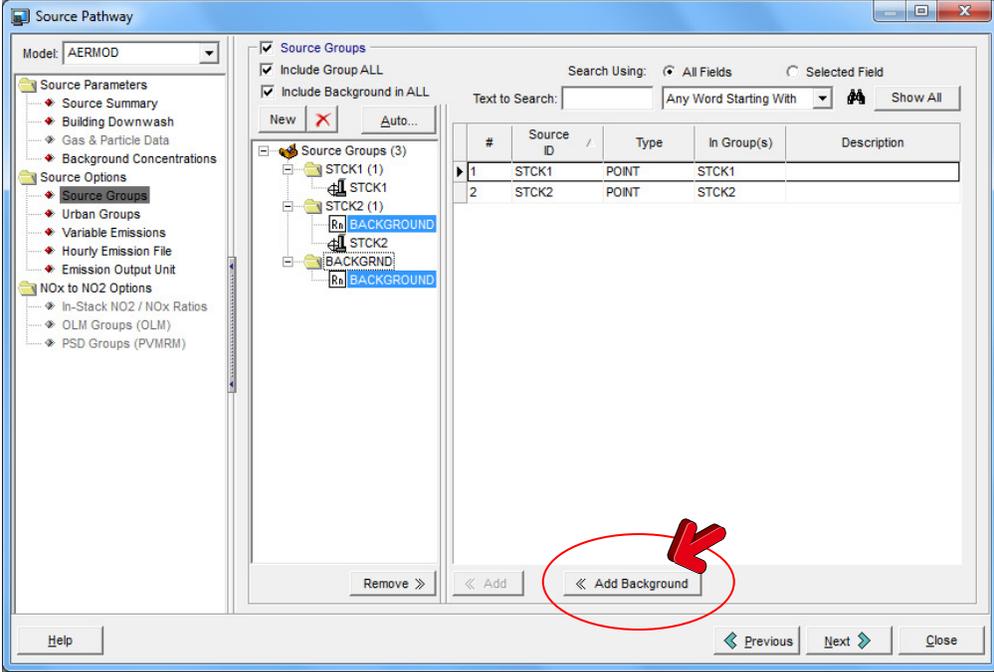
Topic	Feature Description
Models	<p>Latest US EPA Models</p> <p>AERMOD View Version 7 includes the latest updates and new models made available from the U.S. EPA TTN SCRAM web site:</p> <ul style="list-style-type: none"> ▪ AERMOD Version 11103 ▪ AERMAP Version 11103 ▪ AERMET Version 11059 ▪ AERMINUTE Version 11059 ▪ LEADPOST Version 11096
Control Pathway	<p>New US EPA 1-Hour SO₂ NAAQS Option</p> <p>Under the Control Pathway - Pollutant / Averaging screen a new option was introduced to guide modelers complying with the latest US EPA NAAQS standards for SO₂.</p> <p>The new 1-hour SO₂ NAAQS standard should be calculated based on the average of the 99th percentile (4th highest) of the annual distribution of daily maximum 1-hour concentrations averaged across the modeled years.</p> <p>After the selection of the pollutant type SO₂, the user should check the US EPA 1-HR SO₂ NAAQS Option box. This will automatically select a few additional options:</p> <ol style="list-style-type: none"> 1) 1-hour average (CO Pathway) 2) 4th highest for 1-hour average (OU Pathway) 3) Max Daily file(s) (OU Pathway) 4) Max Daily by Year file(s) (OU Pathway)

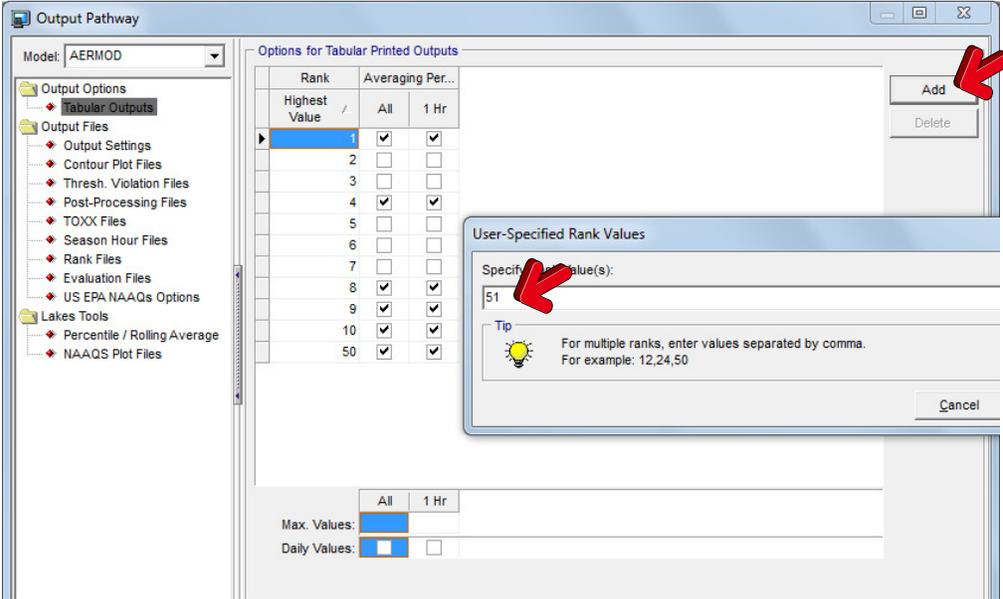
Topic	Feature Description
	 <p>The screenshot displays the 'Pollutant' and 'Averaging Time Options' sections of the AERMOD software interface. The 'Pollutant' section has a dropdown menu set to 'SO2', with a red arrow pointing to it. The 'Averaging Time Options' section includes a 'Hours' group with checkboxes for 1, 2, 3, 4, 6, 8, 12, and 24. The '1' option is selected. There are also checkboxes for 'Month', 'Period or', and 'Annual', with 'Annual' selected. A red arrow points to the 'US EPA 1-HR SO2-NAAQS Option' checkbox, which is also selected. Below this option are three sub-options: 'Max Daily Files', 'Max Daily By Year Files', and 'Requires 99th Percentile (4th Highest) Daily Maximum.' A note at the bottom states: 'Contribution File options are available in the OU Pathway - US EPA NAAQS Options window.'</p>

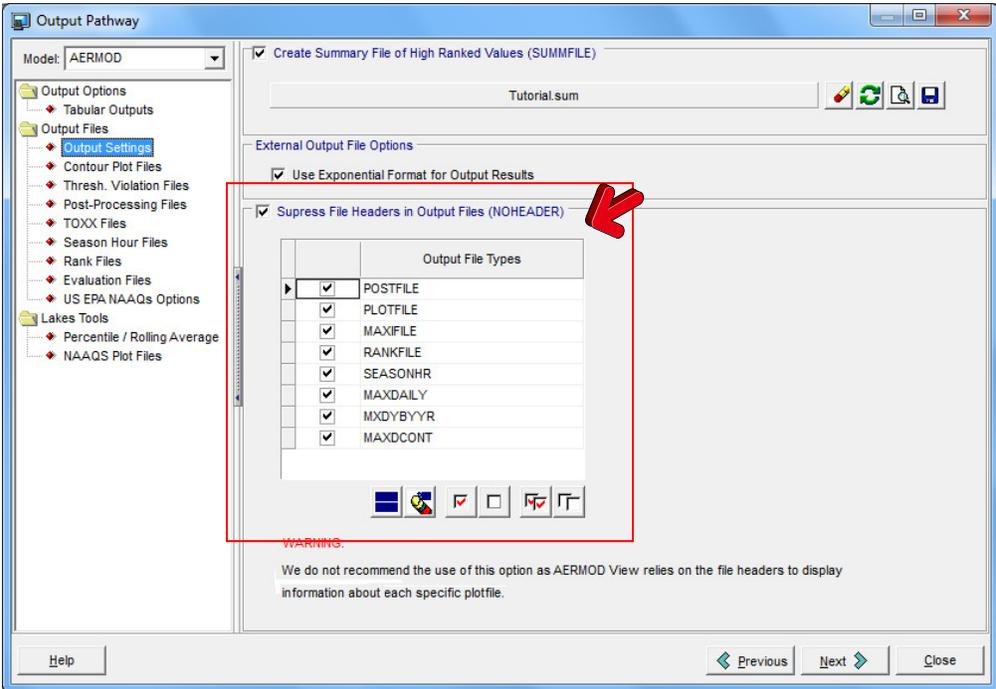
Topic	Feature Description
<p>Control Pathway</p>	<p>New US EPA 1-Hour NO2 NAAQS Option</p> <p>Under the Control Pathway - Pollutant / Averaging window a new option was introduced to guide modelers complying with the latest US EPA NAAQS standards for NO2.</p> <p>The new 1-hour NO2 NAAQS standard should be calculated based on the average of the 98th percentile (8th highest) of the annual distribution of daily maximum 1-hour concentrations averaged across the modeled years.</p> <p>After the selection of the pollutant type NO2, the user should check the US EPA 1-HR NO2 NAAQS Option box. This will automatically select a few additional options:</p> <ul style="list-style-type: none"> 5) 1-hour average (CO Pathway) 6) 8th highest for 1-hour average (OU Pathway) 7) Max Daily file(s) (OU Pathway) 8) Max Daily by Year file(s) (OU Pathway) 

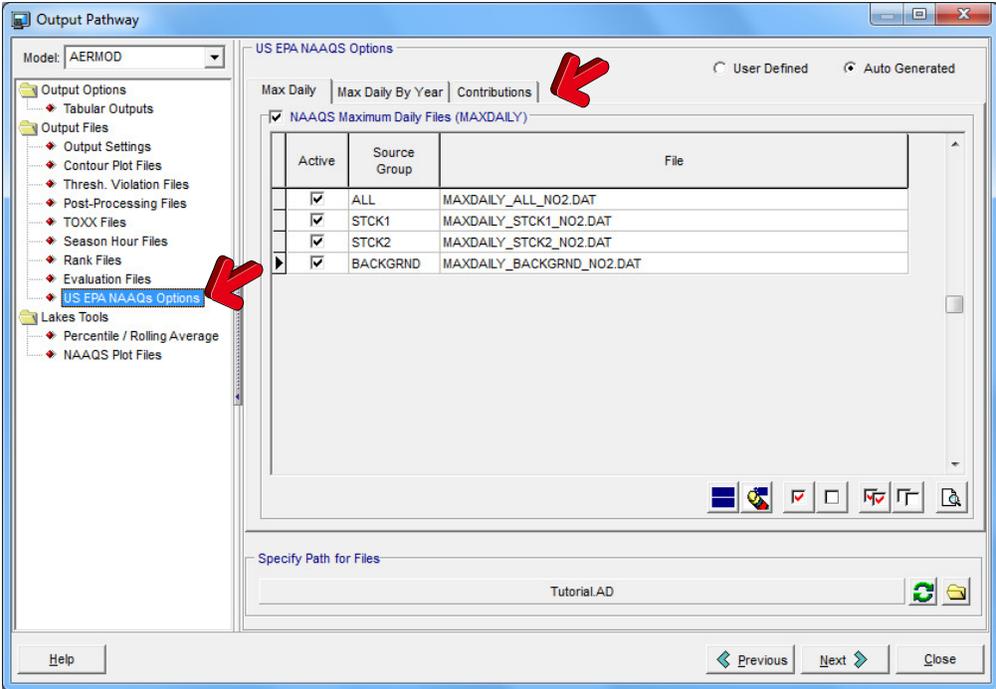
Topic	Feature Description										
Control Pathway	<p>New Ozone Background Concentration Options</p> <p>A new option to specify temporally-varying background ozone concentrations was introduced with the US EPA AERMOD Version 11059 and 11103.</p>  <p>The screenshot shows the 'Control Pathway' window with the 'Specify Ozone Background Concentrations' section highlighted by a red box. A red arrow points to the 'By Season (SEASON)' dropdown menu. Below this menu is a table with two columns: 'Season' and 'Factor'. The table contains the following data:</p> <table border="1"><thead><tr><th>Season</th><th>Factor</th></tr></thead><tbody><tr><td>Winter</td><td>35</td></tr><tr><td>Spring</td><td>30</td></tr><tr><td>Summer</td><td>32</td></tr><tr><td>Fall</td><td>33</td></tr></tbody></table>	Season	Factor	Winter	35	Spring	30	Summer	32	Fall	33
Season	Factor										
Winter	35										
Spring	30										
Summer	32										
Fall	33										

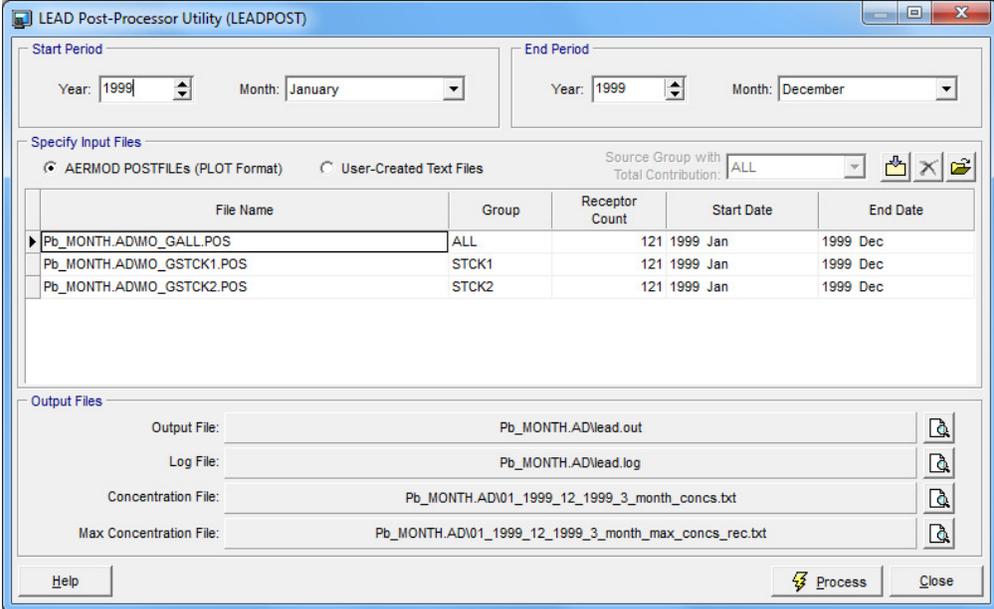
Topic	Feature Description
<p>Source Pathway</p>	<p>Background Concentrations</p> <p>Beginning with the US EPA AERMOD model version 11059, users can specify uniform or temporally varying background concentrations using the BACKGRND keyword on the SO Pathway. Background concentrations can be included with any source group to estimate cumulative ambient impacts. Background concentrations can be specified using a range of options similar to those available with the Variable Emissions, and/or on an hourly basis from a separate data file.</p>  <p>The screenshot shows the 'Source Pathway' application window. On the left is a tree view under 'Source Parameters' with 'Background Concentrations' selected. The main panel has the following sections:</p> <ul style="list-style-type: none"> Specify Hourly Background Concentration File: Includes a 'File' field, a 'Format' dropdown set to 'Default (Free Format)', and a 'File Maker...' button. Hourly File and Background Concentration Units: Includes a 'Units' dropdown set to 'ug/m³'. Specify Variable Background Values: Includes a 'Type' dropdown set to 'By Season (SEASON)'. Background Concentration - By Season (SEASON): A table with two columns: 'Season' and 'Concentration'. The 'Season' column lists Winter, Spring, Summer, and Fall. <p>At the bottom of the window are 'Apply', 'Clear Table', and 'Value:' fields, along with 'Previous', 'Next', and 'Close' navigation buttons.</p>

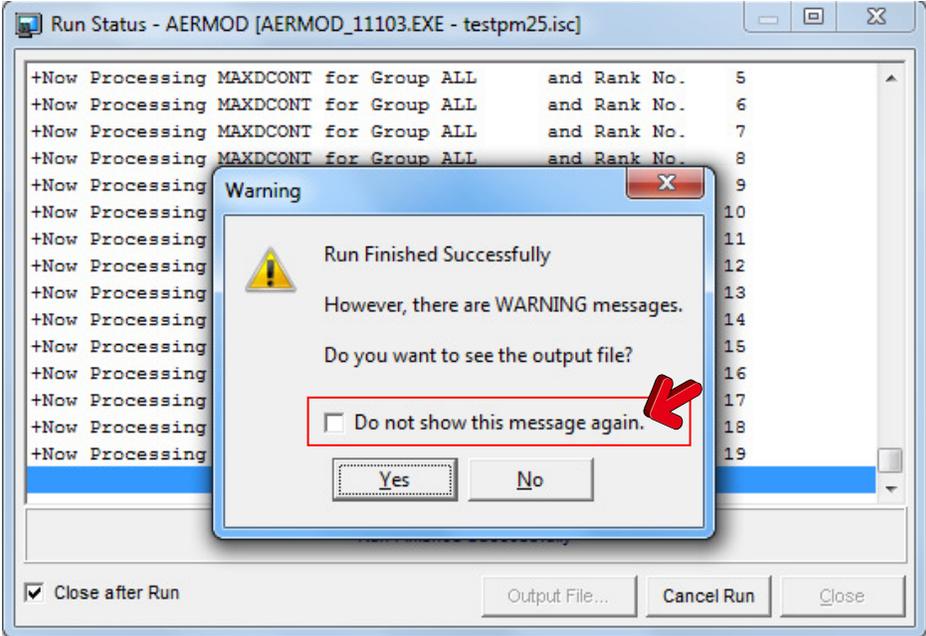
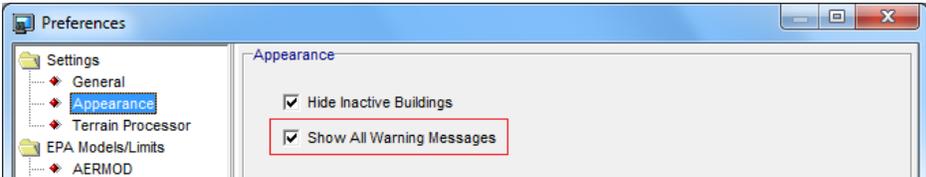
Topic	Feature Description
<p>Source Pathway</p>	<p>Additional Options for Source Groups</p> <p>With the introduction of the Background Concentrations option, you can request that the special background concentration source (BACKGROUND) be included in any Source Group and/or be also included as an individual Source Group (BACKGRND).</p> 

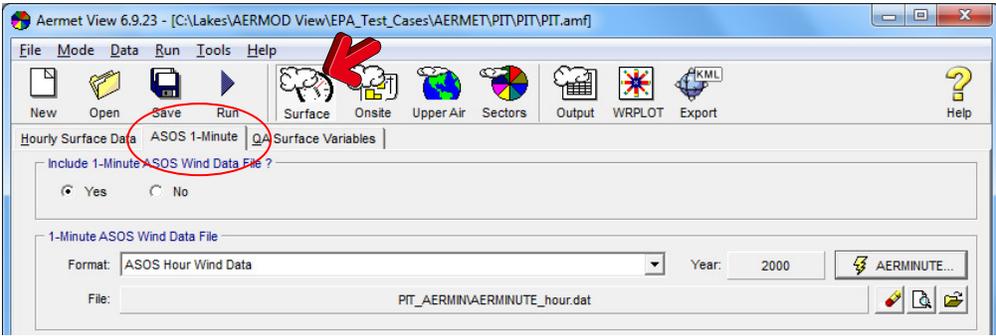
Topic	Feature Description
<p>Output Pathway</p>	<p>Highest Values Table</p> <p>Introduced with AERMOD Version 11059 and 11103, you can now specify more than the 10th-highest values up to a maximum of 999th.</p> <p>In AERMOD View, the Highest Values table was re-designed to accommodate this new option. By default, only the 10 highest values will be automatically displayed in the table. Additional highest values can be specified by pressing the Add button.</p> 

Topic	Feature Description
<p>Output Pathway</p>	<p>Additional Output Settings</p> <p>The Output Settings window under the Output Pathway was redesigned to accommodate the new option introduced with AERMOD Version 11059 and 11103 which allows the user to suppress output file headers from several output files such as PLOTFILES, POSTFILES, etc. We do not recommend the use of this option unless you need to post-process these files outside the AERMOD View interface.</p> <p>The exiting Summary File option is now selected as default for all new projects and has a new extension (*.sum instead of *.osf).</p>  <p>The screenshot shows the 'Output Pathway' dialog box. On the left is a tree view with 'Output Settings' selected. The main area has 'Create Summary File of High Ranked Values (SUMMFILE)' checked with a filename of 'Tutorial.sum'. Under 'External Output File Options', 'Use Exponential Format for Output Results' is checked. The 'Supress File Headers in Output Files (NOHEADER)' checkbox is checked and highlighted with a red box and a red arrow. Below it is a table of 'Output File Types' with the following items checked: POSTFILE, PLOTFILE, MAXIFILE, RANKFILE, SEASONHR, MAXDAILY, MXDYBYR, and MAXDCONT. A warning message at the bottom states: 'We do not recommend the use of this option as AERMOD View relies on the file headers to display information about each specific plotfile.'</p>

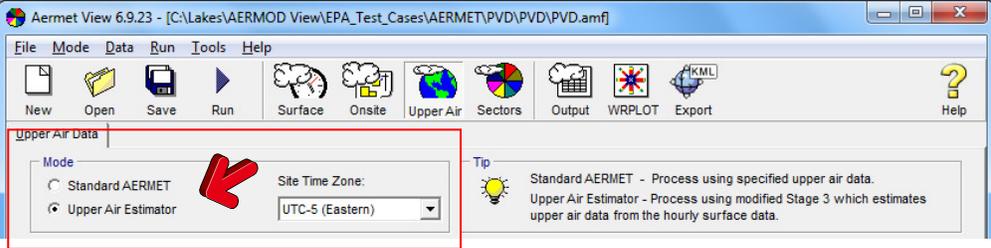
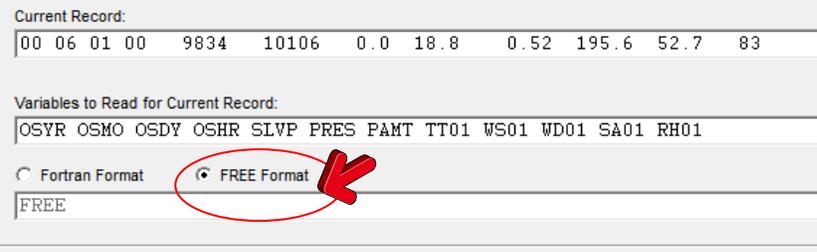
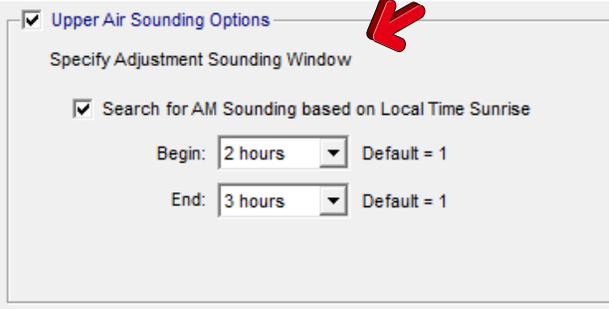
Topic	Feature Description															
<p>Output Pathway</p>	<p>US EPA NAAQS Options</p> <p>Introduced with AERMOD Version 11059 and 11103, three new special output file options are available that can only be used for the special processing of 1-HR SO₂, 1-HR NO₂, and 24-HR PM_{2.5} NAAQS options:</p> <ol style="list-style-type: none"> 1) MAXDAILY: Output file of daily maximum 1-hour concentrations for a specified source group, for each day in the data period processed. 2) MXDYBYYR: Output file with a summary of daily maximum 1-hour concentrations by year for each rank specified on the RECTABLE keyword. 3) MAXDCONT: Contribution files  <table border="1" data-bbox="678 835 1325 1226"> <thead> <tr> <th>Active</th> <th>Source Group</th> <th>File</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>ALL</td> <td>MAXDAILY_ALL_NO2.DAT</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>STCK1</td> <td>MAXDAILY_STCK1_NO2.DAT</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>STCK2</td> <td>MAXDAILY_STCK2_NO2.DAT</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>BACKGRND</td> <td>MAXDAILY_BACKGRND_NO2.DAT</td> </tr> </tbody> </table>	Active	Source Group	File	<input checked="" type="checkbox"/>	ALL	MAXDAILY_ALL_NO2.DAT	<input checked="" type="checkbox"/>	STCK1	MAXDAILY_STCK1_NO2.DAT	<input checked="" type="checkbox"/>	STCK2	MAXDAILY_STCK2_NO2.DAT	<input checked="" type="checkbox"/>	BACKGRND	MAXDAILY_BACKGRND_NO2.DAT
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<input checked="" type="checkbox"/>	ALL	MAXDAILY_ALL_NO2.DAT														
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<input checked="" type="checkbox"/>	STCK2	MAXDAILY_STCK2_NO2.DAT														
<input checked="" type="checkbox"/>	BACKGRND	MAXDAILY_BACKGRND_NO2.DAT														

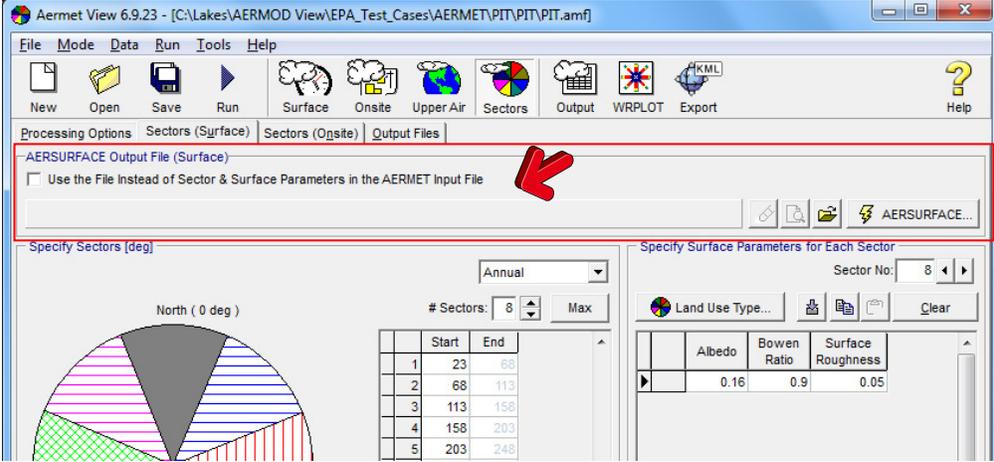
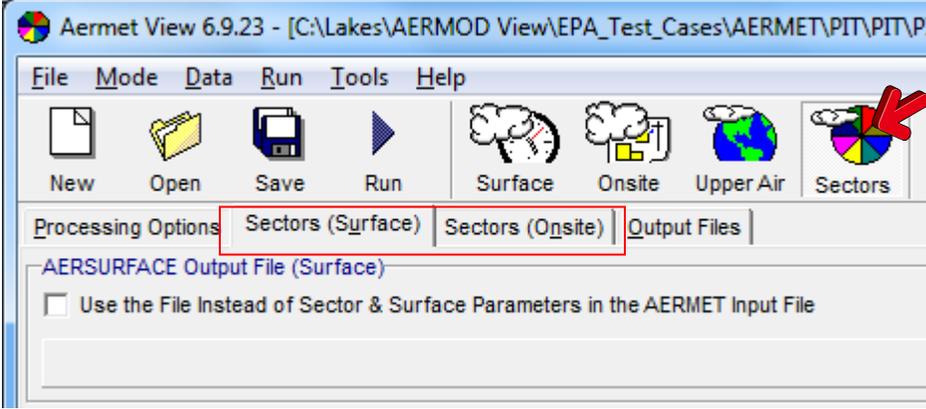
Topic	Feature Description
<p>Tools</p>	<p>LEAD Post-Processor Utility (LEADPOST)</p> <p>On April 13, 2011, the US EPA released the latest version of the LEAD post-processor (LEADPOST Version 09096). LEADPOST was incorporated into AERMOD View as an external utility available under the Tools menu. The Pollutant "LEAD" was also incorporated in the Pollutant list in the Control Pathway. The simple steps on how to use the Lead Post-Processor Utility are outlined below:</p>  <ol style="list-style-type: none"> 1) Select Pollutant "LEAD" in Control Pathway 2) Select Averaging Time "Month" 3) Specify Source Groups you want to analyze 4) Specify the POSTFILE option for each Source Group. Make sure the format type is PLOT (ASCII), not the UNIFORM (Binary). LEADPOST will only work with ASCII type POSTFILES. 5) Run the AERMOD model 6) Select Tools LEAD Post-Processor 7) Review the input data. You will notice that all input data for your project was automatically recognized and loaded. 8) Press the Process button. After processing finished, close the utility. 9) The 3-month rolling average maximum concentration file is automatically loaded into AERMOD View Plots list and is displayed as contours.

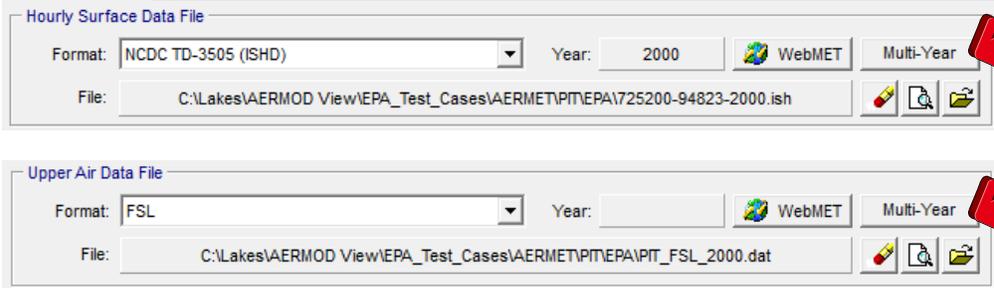
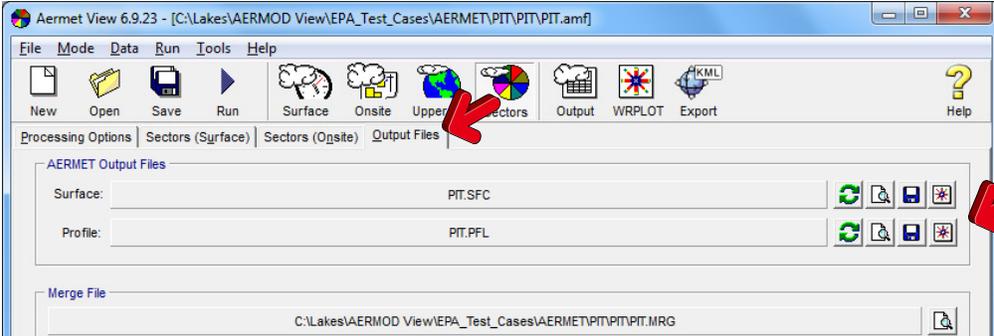
Topic	Feature Description
<p>Run</p>	<p>Option Not to Display Messages</p> <p>A warning message was introduced with AERMOD View Version 6.8.0 which is displayed after the model finished running. In case Warnings and/or Error messages are found in the main output file, this message was always displayed. Starting in AERMOD View Version 7.0, you are able now turn on/off the display of this message after the run.</p>  <p>The option for displaying the run messages can be turned on/off under the Preferences.</p> 

Topic	Feature Description
<p>AERMET View</p>	<p>1-Minute ASOS Data Option</p> <p>Introduced with AERMET Version 11059, you can specify the hourly averaged winds derived from 1-minute ASOS wind data pre-processed by the US EPA AERMINUTE program.</p> <p>The hourly averaged wind speed and direction generated by the AERMINUTE program can be merged with data from standard surface files (such as TD-3505/ISHD), along with upper air and onsite data (if available) in Stage 2 of AERMET processing.</p> <p>In AERMET View, this option is available under the Surface section – ASOS-1 Minute tab.</p> 
<p>AERMET View</p>	<p>AERMINUTE Utility</p> <p>The US EPA released AERMINUTE (Version 11059) on April 8, 2011. AERMINUTE is a program that processes 1-minute Automated Surface Observing Stations (ASOS) wind data available from the National Climatic Data Center (NCDC) in the TD-6405 format.</p> <p>AERMINUTE generates hourly averaged wind speed and wind direction to supplement the standard hourly ASOS observations used in AERMET to improve the number of calms and missing winds.</p> <p>In AERMET View, you have access to the AERMINUTE Utility under the Surface section – ASOS-1 Minute tab and by pressing the AERMINUTE button.</p> 

Topic	Feature Description																																																												
	<p>AERMINUTE Utility</p> <p>View Tools</p> <p>Processing Period</p> <p>Start Year: 2000 Start Month: January Station is Part of the Ice Free Group (FW) <input type="checkbox"/> Commission Date: <input type="text"/></p> <p>End Year: 2000 End Month: December</p> <p>Specify 1-Minute ASOS Wind Data (TD-6405 / DSI-6405)</p> <p># of Files: 12</p> <table border="1"> <thead> <tr> <th>Station ID</th> <th>Start Year</th> <th>Start Month</th> <th>End Year</th> <th>End Month</th> <th>Data File (DSI-6405)</th> </tr> </thead> <tbody> <tr> <td>94823</td> <td>2000</td> <td>January</td> <td>2000</td> <td>January</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>February</td> <td>2000</td> <td>February</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>March</td> <td>2000</td> <td>March</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>April</td> <td>2000</td> <td>April</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>May</td> <td>2000</td> <td>May</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>June</td> <td>2000</td> <td>June</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> <tr> <td>94823</td> <td>2000</td> <td>July</td> <td>2000</td> <td>July</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI</td> </tr> </tbody> </table> <p>Specify Hourly Surface Data - ISHD (TD-3505 / DSI-3505)</p> <p># of Files: 1</p> <table border="1"> <thead> <tr> <th>Station ID</th> <th>Start Year</th> <th>Start Month</th> <th>End Year</th> <th>End Month</th> <th>Surface File (DS-3505)</th> </tr> </thead> <tbody> <tr> <td>94823</td> <td>2000</td> <td>January</td> <td>2000</td> <td>December</td> <td>C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\725200-94</td> </tr> </tbody> </table>	Station ID	Start Year	Start Month	End Year	End Month	Data File (DSI-6405)	94823	2000	January	2000	January	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	February	2000	February	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	March	2000	March	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	April	2000	April	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	May	2000	May	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	June	2000	June	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	94823	2000	July	2000	July	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\64050KPI	Station ID	Start Year	Start Month	End Year	End Month	Surface File (DS-3505)	94823	2000	January	2000	December	C:\Lakes\AERMOD View\EPA_Test_Cases\AERMET\PT\EPA\725200-94
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Topic	Feature Description
<p>AERMET View</p>	<p>Upper Air Estimator Updated</p> <p>Lakes Environmental Upper Air Estimator was updated according to latest US EPA AERMET Version 11059.</p> <p>The Upper Air Estimator is a Lakes Environmental tool and it is not part of the official US EPA AERMET code.</p> 
<p>AERMET View</p>	<p>FREE Format Option for Onsite Data Records</p> <p>You can now specify your onsite data records as free-formatted, using keyword FREE. The AERMET model reads date fields as integers (Fortran "I" format) and all other variable as REAL format (Fortran "F" or "E" format)</p> 
<p>AERMET View</p>	<p>New Upper Air Sounding Options</p> <p>Introduced with AERMET Version 11059, you can now select the most appropriate sounding based on local sunrise. This is an important feature for modelers doing projects beyond North America.</p> 

Topic	Feature Description
<p>AERMET View</p>	<p>Option to Specify AERSURFACE Output File</p> <p>The option to specify the AERSURFACE output file directly into the AERMET input file for Stage 3 is now available.</p> 
<p>AERMET View</p>	<p>Surface Parameters for Secondary Station</p> <p>Introduced with the US EPA AERMET Version 11059, you are required to specify a secondary set of surface characteristics when winds from NWS surface station are substituted for missing onsite winds.</p> 

Topic	Feature Description
<p>AERMET View</p>	<p>Ability to Specify Multiple Year Files</p> <p>The Multi-Year button for surface and upper Air files launches the Multi-Year Data utility from where you can select multiple files to be combined into one multi-year file. After files are combined, the multi-year file is automatically loaded into your AERMET View project.</p>  <p>The screenshot shows two dialog boxes. The top one is titled 'Hourly Surface Data File' and has a 'Format' dropdown set to 'NCDC TD-3505 (ISHD)', a 'Year' field set to '2000', and a 'Multi-Year' button highlighted with a red arrow. The bottom one is titled 'Upper Air Data File' and has a 'Format' dropdown set to 'FSL' and a 'Multi-Year' button also highlighted with a red arrow.</p>
<p>AERMET View</p>	<p>New Output File tab Available</p> <p>A new tab is now available under the Sectors section. From the Output Files tab you have easy access to the output files created by the AERMET model. You can change the output name, view the results in grid format, and visualize the wind rose.</p>  <p>The screenshot shows the AERMET View 6.9.23 interface. The 'Sectors' section is active, and the 'Output Files' tab is selected. A red arrow points to the 'Output Files' tab in the menu bar. Below, the 'AERMET Output Files' section shows a list of files: 'Surface: PIT.SFC' and 'Profile: PIT.PFL'. A red arrow points to the file list area.</p>