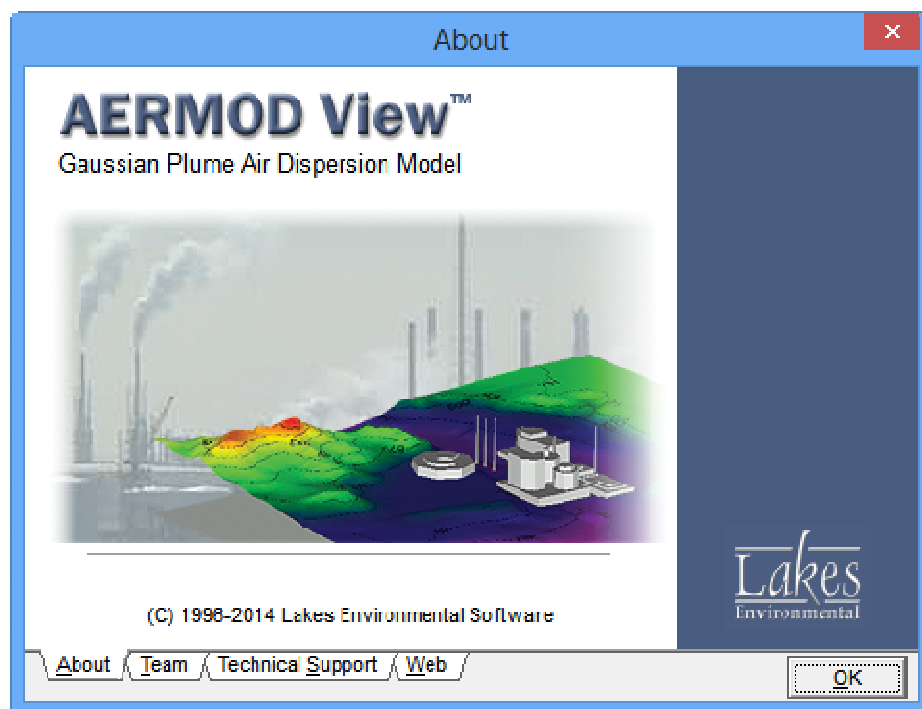


AERMOD View™

Gaussian Plume Air Dispersion Model - AERMOD

Release Notes

Versions 8.5, 8.6, 8.7, 8.8, and 8.8.9



Lakes Environmental Software
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Web Site: www.webLakes.com



AERMOD View™ Version 8.8.9

Release Notes

November 20, 2014

New Features

Topic	Feature Description
Terrain Processor	Change to NED Terrain Download A format change implemented by USGS caused NED data downloads in prior versions of AERMOD View to fail. The WebGIS feature has been updated to restore this functionality. Note: The NED Terrain Download feature is only available for users with a current maintenance agreement. Please contact our sales team if you need to renew your maintenance (sales@weblakes.com).

Fixed Issues

Topic	Issue Description
AERMOD View	Regional Settings & Non-Unicode Characters The program was updated to better handle non-US regional settings and non-Unicode characters. Some places fixed include Import Buildings from DXF function, AERMET View's Land Use Viewer, and AERMET View's AERSURFACE utility.
AERMOD View	EVENT Model Run Fixed an issue which prevented the EVENT Model run from executing.
Multi-Chemical Run	Meteorological Data Folder Path Fixed an issue that pointed Batchter to the wrong folder path to find the meteorological data files when performing Multi-Chemical runs.
Source Pathway	Line Area Source Emissions Updated the emission calculation procedure for all line area sources. Users who created line area sources using earlier releases of Version 8.8 should select the Generate button on the Line Area sources to recalculate the unit emissions.

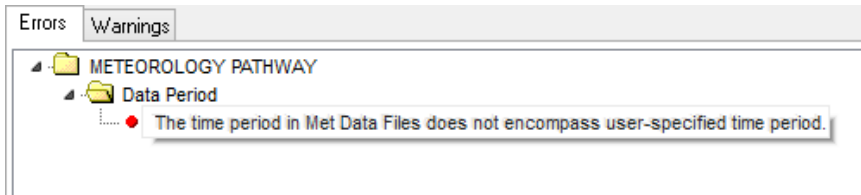

Topic	Issue Description
Reports	Printing Problems Corrected some issues which caused specific projects to be unable to view certain reports or print to certain printers.
Export	Plotfiles to Surfer Fixed an issue where exported Surfer GRID files did not have the user-assigned file name and extension.
AERMET View	Sectors Tab Resolved two issues on the Sectors tab: <ul style="list-style-type: none">• The surface characteristics table was locked from manually editing values. This has been fixed.• The sectors table was fixed so it would expand properly when the number of sectors was increased.
AERMET View	Import Surface Data from Excel The utility was updated to properly read columns containing date and time information.
AERMET View	Range Check Error After executing an AERMET model run in Version 8.8.5, some users reported receiving a message that read "Range check error". This issue has been resolved.

AERMOD View™ Version 8.8


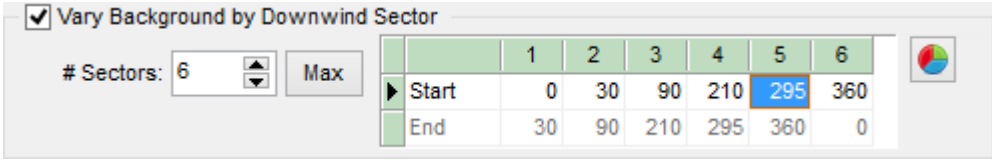
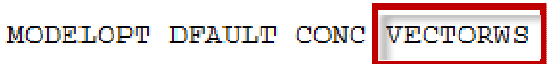
Release Notes

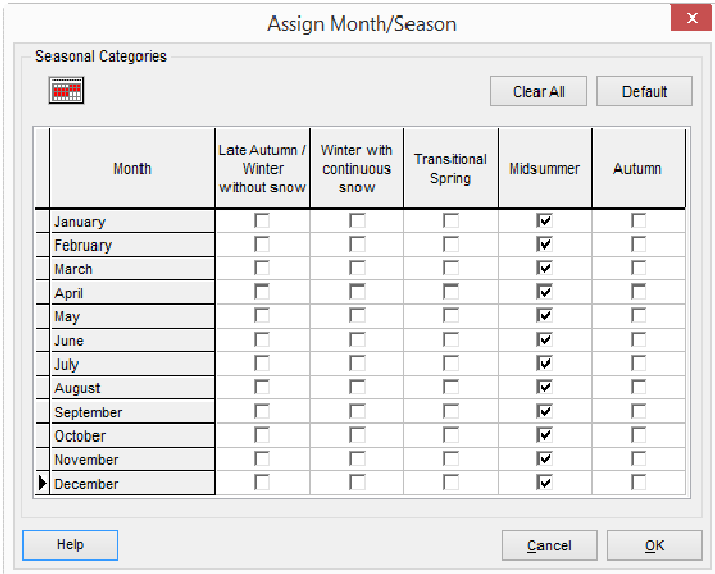
October 17, 2014

New Features

Topic	Feature Description
Models	New AERMINUTE Executable A new version of the US EPA AERMINUTE utility, dated 14237, was released on August 28, 2014. The new executable has been incorporated into AERMET View.
Met Pathway	Added Data Period Validation Additional quality assurance checks were added to ensure the Data Period to Process is encompassed by both the Surface (.SFC) and Profile (.PFL) meteorological data files. 
Reports	Data Period Updated the Meteorology Pathway report to include the "Data Period to Process" input for the model run. Data Period 
Graphical Display	Updated Area Source Vertices Calculation The display of angled area sources was updated to account for fractional Angle of Rotation values.

Fixed Issues

Topic	Issue Description
Export	Exporting Colored Contour Lines to Google Earth Fixed an issue where un-filled, colored contour lines would sometimes have incorrect settings on one of the levels when exported to Google Earth.
Control Pathway	Background Ozone Sectors Limited to 6 The number of sectors allowed for the "Vary by Downwind Sector" option with Background Ozone is now limited to 6 in accordance with the model code. 
Source Pathway	Background Concentration Sectors Limited to 6 The number of sectors allowed for the "Vary by Downwind Sector" option with Background Ozone is now limited to 6 in accordance with the model code. 
Met Pathway	Vector Wind Speed Option with Regulatory Defaults Corrected an issue which prevented the "Wind Speeds are Vector Mean" option from being enabled concurrently with regulatory default options on the Control Pathway. 
Receptor Pathway	Lost Hill Height When Converting Plant Boundary Receptors When a set of plant boundary receptors were converted to discrete receptors via the Actions menu, the hill height scale was not carried over to the new discrete receptors forcing the user to re-run AERMAP. The hill height scale is now retained during the conversion process.
AERMET View	Default Executable The previous release of AERMET View defaulted to AERMET_13350.EXE instead of AERMET.EXE (the 14134 model version).

Topic	Issue Description
AERMET View	<p>Reassign Months to Seasons in AERSURFACE</p> <p>A bug in the AERSURFACE Utility would cause the program to ignore user selections in the Assign Month/Season window if all seasons were not represented. This has been resolved.</p> 

Known Issues

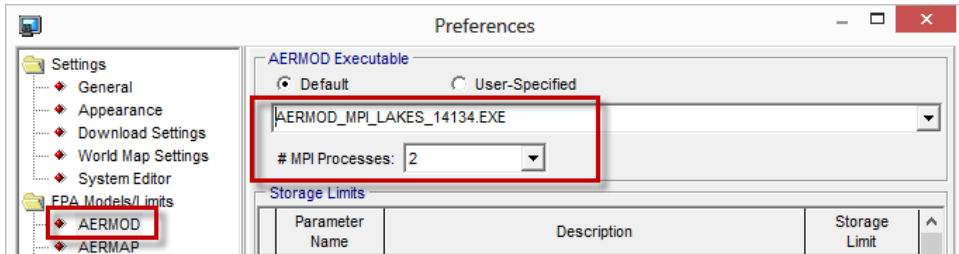
Topic	Issue Description
New Project Wizard	<p>No Spaces in Project Name with ISC</p> <p>The ISCST3 and ISC-PRIME models are included in AERMOD for backwards compatibility purposes. Due to limitations in their code, these models will issue a fatal error if the project name contains spaces or special characters.</p>
AERMOD MPI	<p>Incompatible Results with FASTAREA in 14134</p> <p>A bug in the USEPA's AERMOD code for the 14134 model version results in questionable results at receptors very near sources when the FASTAREA algorithm is used. The results produced by the AERMOD MPI executable exhibit similar behavior but some values are not identical in these very limited scenarios.</p>

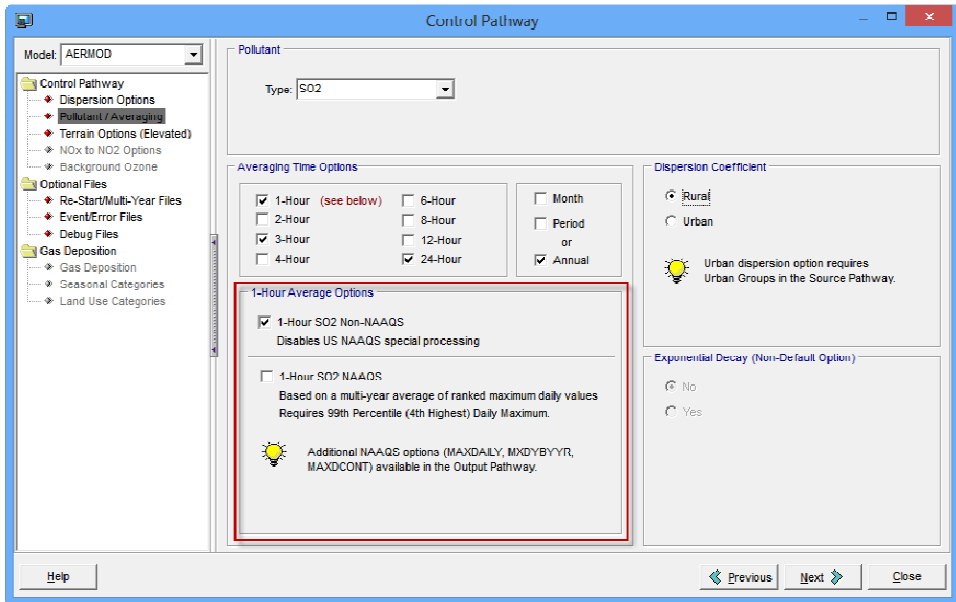
AERMOD View™ Version 8.7

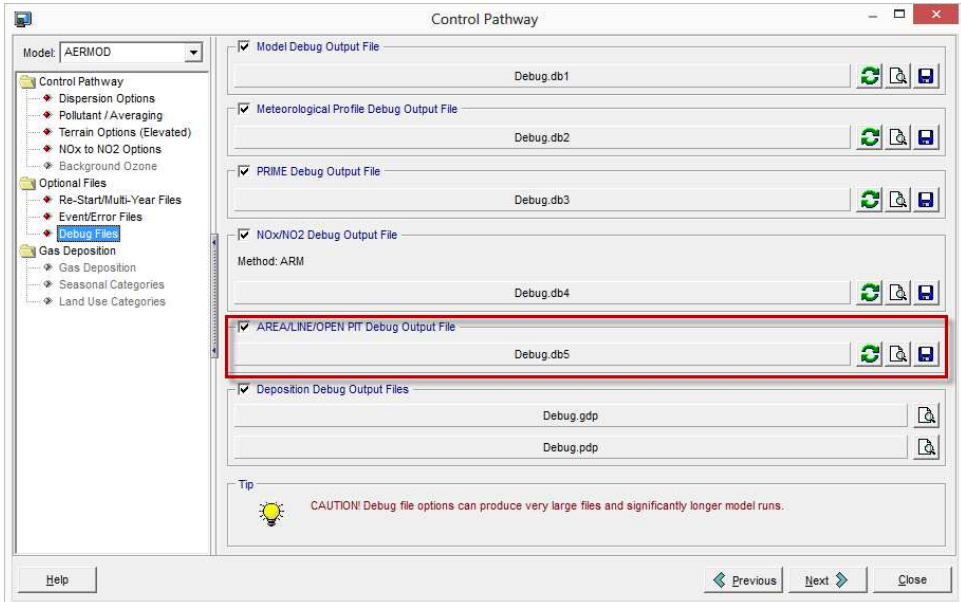
Release Notes

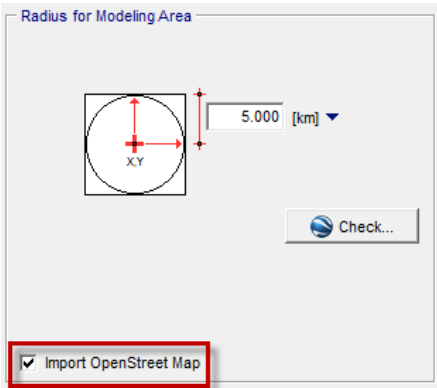
June 4, 2014


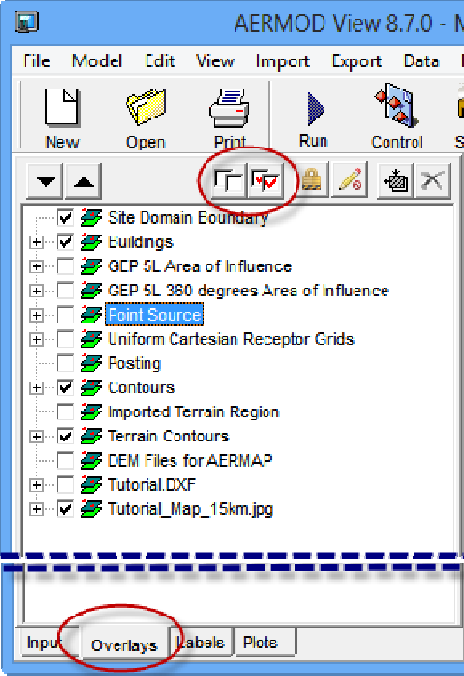
New Features

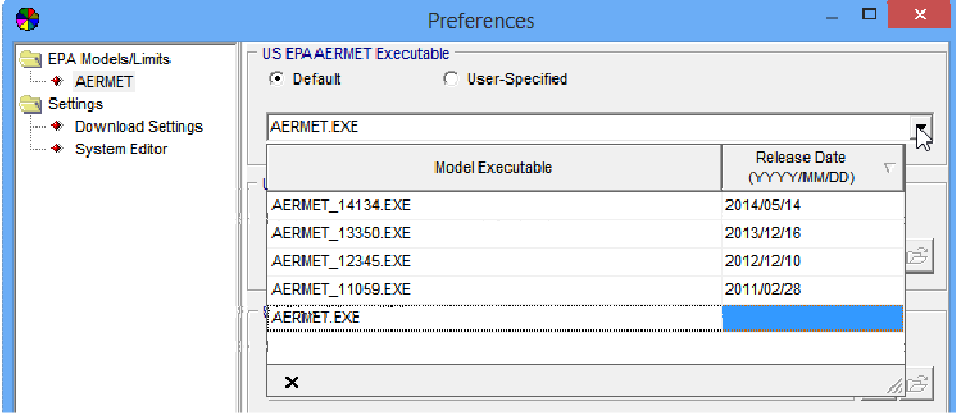
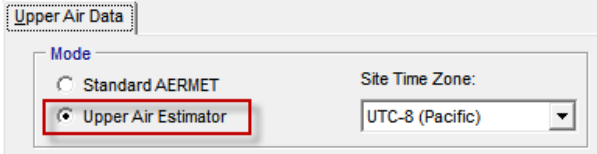
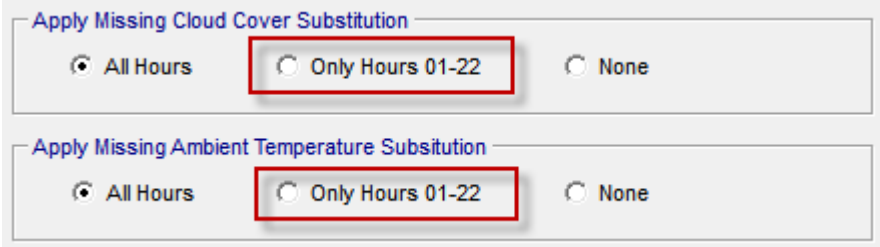
Topic	Feature Description
Models	<p>Latest Releases of US EPA Models Available</p> <p>The following US EPA Models were released since May 2014 and are incorporated into AERMOD View Version 8.7:</p> <ol style="list-style-type: none"> 1. AERMOD Model 14134 (Released May 2014) 2. AERMET Model 14134 (Released May 2014) <p>Note: AERMOD 14134 will not run using met data created using AERMET 11059 or earlier. Old met data must be re-processed using a more recent version of AERMET (preferably 14134) or the modeler must use an older version of the AERMOD model.</p>
AERMOD MPI	<p>New Version of Lakes AERMOD MPI 14134 (Parallel Version)</p> <p>A new version of the Lakes AERMOD MPI for the US EPA Model Version 14134 is now available (AERMOD_MPI_Lakes_14134.exe). You can specify to use this model under the Preferences dialog.</p> <p>Note: AERMOD_MPI_LAKES_14134.EXE or AERMOD_MPI_LAKES.EXE will run the latest version of the AERMOD model (14134) in parallel mode using <u>up to a maximum of 8 cores</u>.</p> 

Topic	Feature Description
Control Pathway	<p>New Pollutant/Averaging Options</p> <p>The Pollutant/Averaging options window has been redesigned to incorporate new options for 1-hour NO₂, 1-hour SO₂, and 24-hour PM_{2.5} analyses. The new display features new 1-Hour Average Options:</p> <ul style="list-style-type: none"> 1-Hour NO₂/1-Hour SO₂/24-Hour PM_{2.5} US NAAQS: This option corresponds to special processing which calculates multi-year averages of daily maximum 1-hour (for NO₂ & SO₂) or maximum 24-hour (for PM_{2.5}) for specific percentiles. 1-Hour NO₂/1-Hour SO₂/24-Hour PM_{2.5} Non-NAAQS: This option adds an additional option to the POLLUTID model keyword – H1H, H2H, or INC. Use of the new option disables the US EPA NAAQS processing routines associated with these pollutants/averaging combinations. 

Topic	Feature Description																								
Control Pathway	<div><h3>New Debug Files</h3><p>Introduced in AERMOD 14134, users can now create separate debug files containing information on Area, Line, and Open Pit source types.</p></div>																								
Reports	<div><h3>Units Column Added to Results Summary</h3><p>The Results Summary report now contains a column for output units. This option allows users to create a single report for results from both $\mu\text{g}/\text{m}^3$ and ppm output.</p><div><h4>Results Summary</h4><p>Example</p><table><tr><th colspan="4">OTHER - Concentration - Source Group: ALL</th></tr><tr><th>Averaging Period</th><th>Rank</th><th>Peak</th><th>Units</th></tr><tr><td>24-HR</td><td>1ST</td><td>20.65334</td><td>$\mu\text{g}/\text{m}^3$</td></tr><tr><td>24-HR</td><td>2ND</td><td>18.69259</td><td>$\mu\text{g}/\text{m}^3$</td></tr><tr><td>ANNUAL</td><td></td><td>3.18519</td><td>$\mu\text{g}/\text{m}^3$</td></tr><tr><td>24-HR</td><td>1ST</td><td>0.00789</td><td>PPM</td></tr></table></div></div>	OTHER - Concentration - Source Group: ALL				Averaging Period	Rank	Peak	Units	24-HR	1ST	20.65334	$\mu\text{g}/\text{m}^3$	24-HR	2ND	18.69259	$\mu\text{g}/\text{m}^3$	ANNUAL		3.18519	$\mu\text{g}/\text{m}^3$	24-HR	1ST	0.00789	PPM
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24-HR	1ST	0.00789	PPM																						

Topic	Feature Description
New Project Wizard	<p data-bbox="444 289 1149 321">Automatically Import OpenStreet Map Imagery</p> <p data-bbox="444 352 1393 447">When starting a new project through the New Project Wizard, users can select an option to automatically import tile map imagery from the OpenStreet Map tile server.</p> <div data-bbox="444 478 878 863"><p data-bbox="461 489 634 506">Radius for Modeling Area</p></div> <p data-bbox="444 894 1268 926">Note: This feature is only available for in-maintenance users.</p>

Topic	Feature Description
General	<p>Hide All/Show All Layers Buttons in Overlays Tab</p> <p>Two new buttons are now available under the Overlay tab allowing for easy manipulation of the visibility status of layers:</p> <ol style="list-style-type: none"> 1. Hide All Layers 2. Show All Layers  
Preferences	<p>Single-Click to Select a Model from the Drop-Down List</p> <p>Users can now choose an executable from the models drop-down list box, available under the Preferences dialog, with a single click instead of a double click.</p>

Topic	Feature Description												
AERMET View	<p>New US EPA AERMET Model Version 14134</p> <p>On May 14, 2014, the US EPA released a new version of the AERMET model (14134). For a complete description of the changes, please see the US EPA Model Change Bulletin #5 (MCB#5).</p> <p>This new AERMET model version was incorporated into the software as the default model version. Older model versions are also available.</p>  <table border="1"> <thead> <tr> <th>Model Executable</th> <th>Release Date (YYYYMMDD)</th> </tr> </thead> <tbody> <tr> <td>AERMET_14134.EXE</td> <td>2014/05/14</td> </tr> <tr> <td>AERMET_13350.EXE</td> <td>2013/12/18</td> </tr> <tr> <td>AERMET_12345.EXE</td> <td>2012/12/10</td> </tr> <tr> <td>AERMET_11059.EXE</td> <td>2011/02/28</td> </tr> <tr> <td>AERMET.EXE</td> <td></td> </tr> </tbody> </table>	Model Executable	Release Date (YYYYMMDD)	AERMET_14134.EXE	2014/05/14	AERMET_13350.EXE	2013/12/18	AERMET_12345.EXE	2012/12/10	AERMET_11059.EXE	2011/02/28	AERMET.EXE	
Model Executable	Release Date (YYYYMMDD)												
AERMET_14134.EXE	2014/05/14												
AERMET_13350.EXE	2013/12/18												
AERMET_12345.EXE	2012/12/10												
AERMET_11059.EXE	2011/02/28												
AERMET.EXE													
AERMET View	<p>Upper Air Estimator Updated for AERMET 14134</p> <p>Lakes Environmental Upper Air Estimator tool was updated for compatibility with the latest release of the US EPA AERMET 14134.</p> 												
AERMET View	<p>New Substitution Options Added</p> <p>A new substitution option "Only Hours 01-22" is now available under AERMET View – Processing Options tab. This option disables substitutions for missing cloud cover and ambient temperature during hours 23 and 24 which are based on persistence instead of interpolation.</p> 												

Fixed Issues

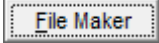
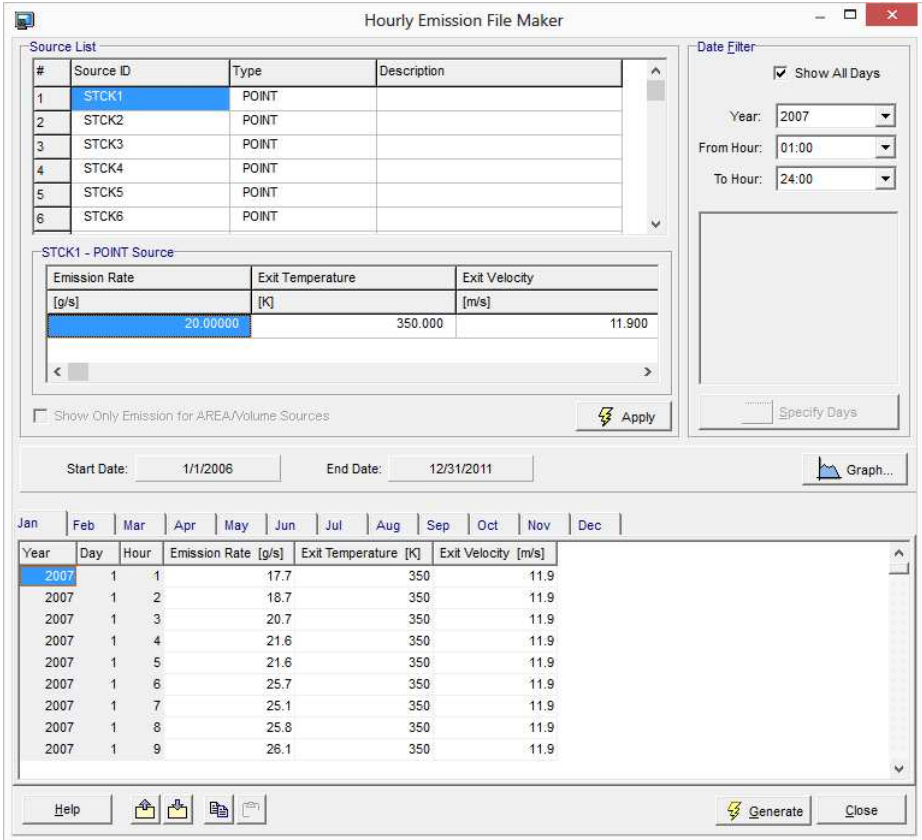
Topic	Issue Description
Reports	Building Downwash Included Fixed a bug which omitted Building Downwash information from the "Source Pathway (Other)" report.
MAXTABLE Viewer	Support for Extra Characters in Source Group IDs Resolved an issue which prevented the MAXTABLE Viewer from reading Source Group IDs which began with a hashtag (#) character.
Batcher	Fixed Deletion of AERMOD.INP File Prevents deletion of input files named "aermod.inp" if that is the user-assigned name for the input file added to the Batcher list. Note: If multiple input files from the same working directory are added to Batcher, unique-named input files will still be renamed AERMOD.INP to initialize the call to the AERMOD executable and will be subsequently deleted.

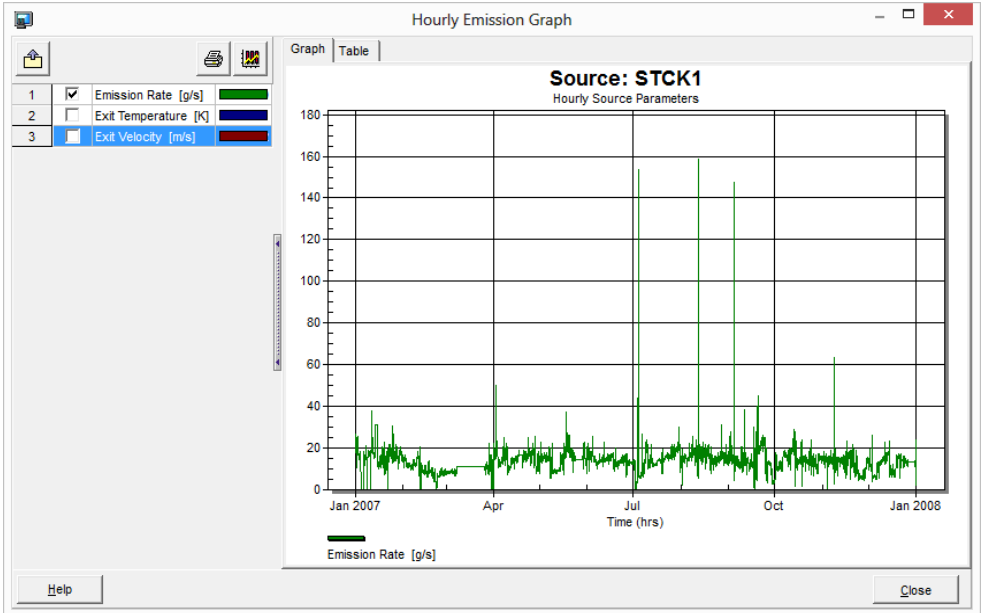
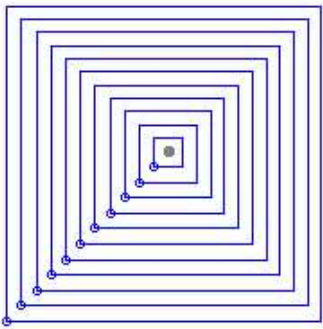
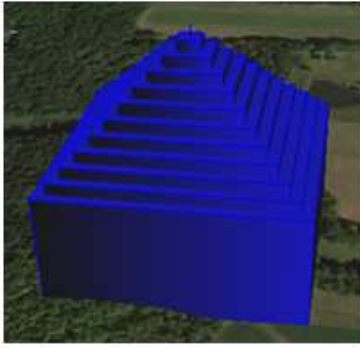
AERMOD View™ Version 8.6

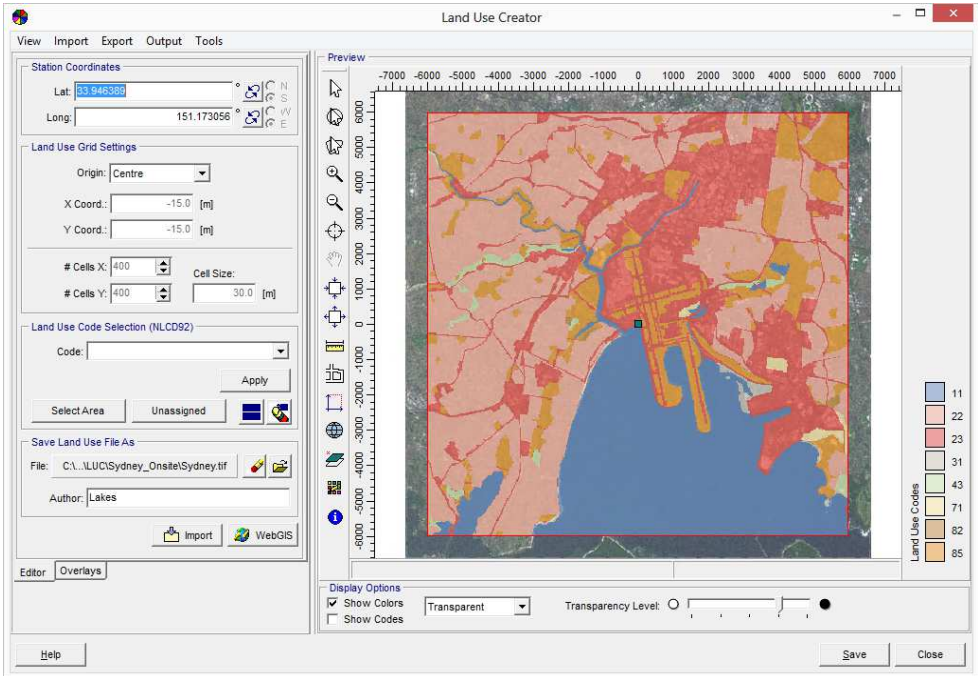
Release Notes

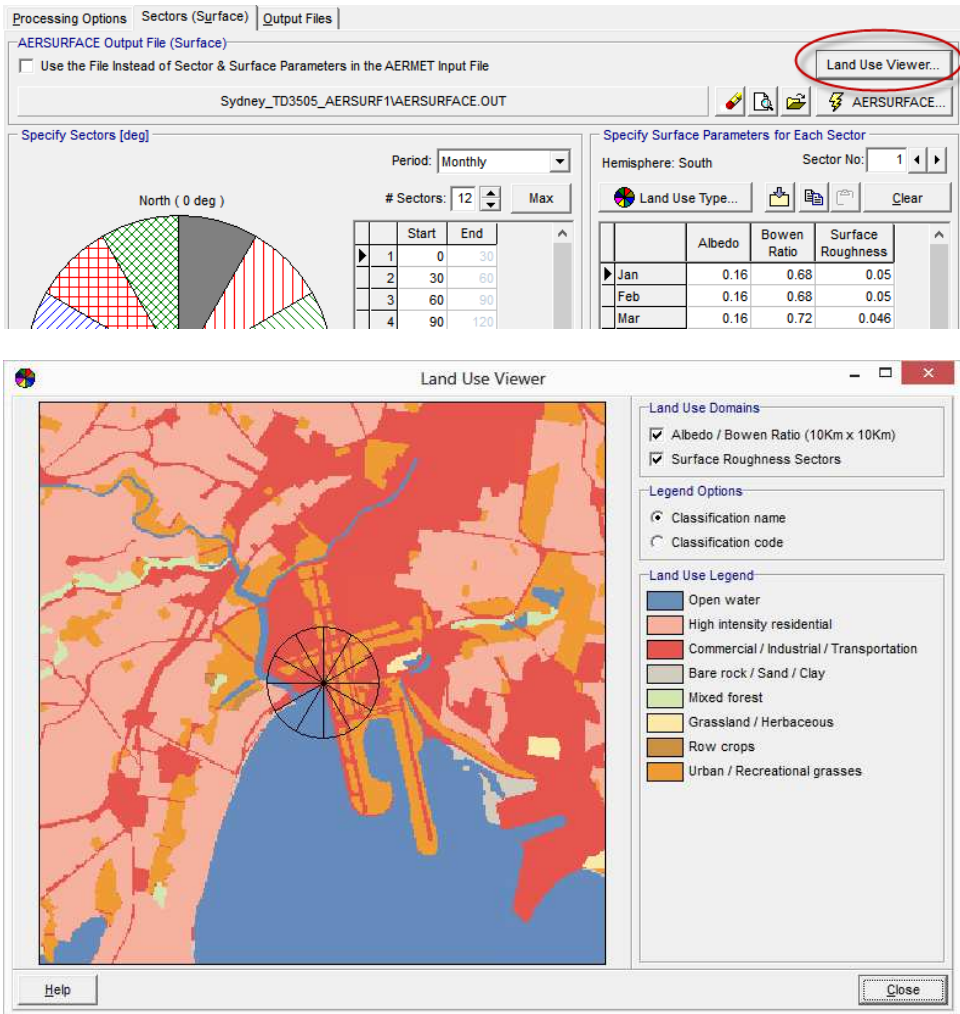
May 7, 2014



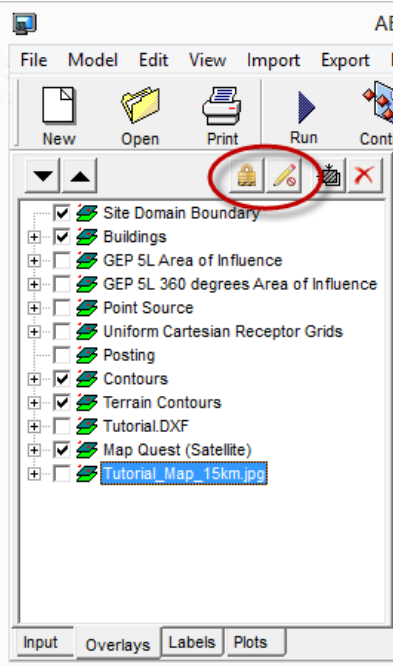
New Features

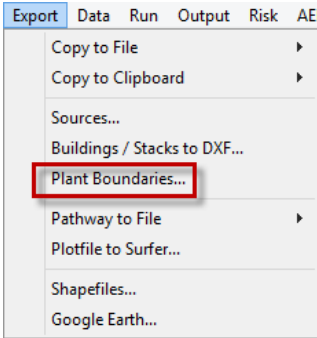
Topic	Feature Description
Source Pathway	<p>New Hourly Emission File Maker Utility</p> <p>The Hourly Emission File Maker utility helps users create a file which contains hourly emissions data for every selected source. Access to the utility is found in the Source Pathway Hourly Emission File options by selecting the File Maker button . Existing hourly emission files can be read and edited using the File Maker.</p> <p>Features include a date filter, ability to apply source inputs to a range of dates, and export/import capability to Excel spreadsheet.</p>  <p>NOTE: The Hourly Emission File Maker does not support Flare, Line Volume, or Line Area sources at this time.</p>

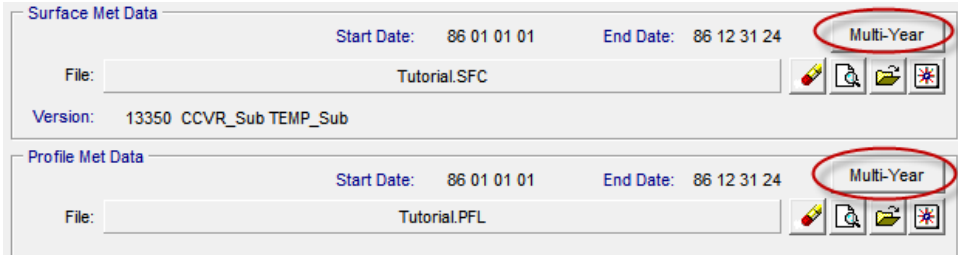
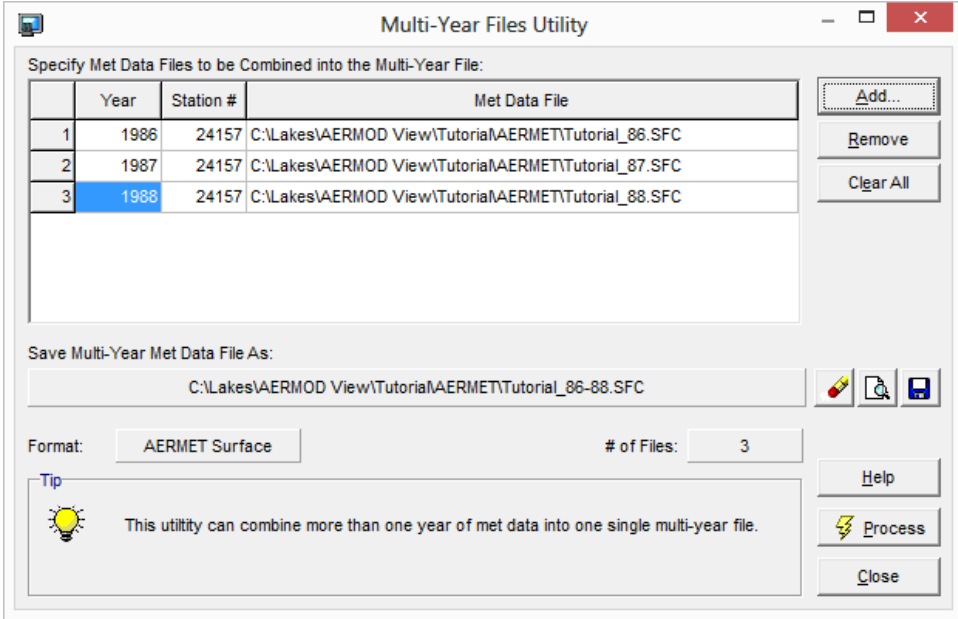
Topic	Feature Description
Source Pathway	<p>Hourly Emission Graph</p> <p>The Hourly Emission File Maker utility includes an Hourly Emission Graph feature. Varying input parameters can be displayed as a line graph or in tabular format.</p> 
Building Inputs	<p>New Sloped Roof Utility</p> <p>New utility which allows users to automatically create multiple building tiers based on the defined top and bottom tier to create the appearance of a sloped roof. See this feature under the Building Inputs dialog, Sloped Roof button.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <p><i>Generated Tiers</i></p> <p><i>3D View</i></p> </div>

Topic	Feature Description
AERMET View	<p>New Land Use Creator Utility</p> <p>The Land Use Creator allows you to easily create land use files in NLCD92 format which can be used to calculate surface roughness, albedo, and Bowen ratio for any location world-wide using the U.S. EPA AERSURFACE utility.</p> <p>The utility can import data from existing NLCD92 GeoTIFF (.TIF), NLCD92 Binary (.BIN), and GLCC (.IMG) land use files. Base maps and Tile maps can also be imported to further refine land use selections. Define areas by individual cells or by selecting multiple cells with the selection tools.</p> <p>You can access this utility by selecting the menu option Tools Land Use Creator.</p> 

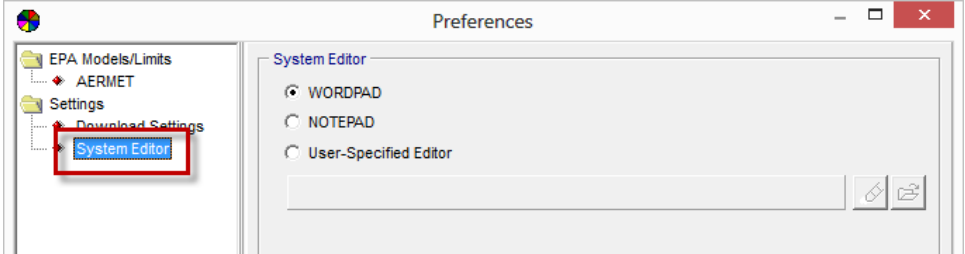
Topic	Feature Description
AERMET View	<p>Land Use Viewer</p> <p>A Land Use Viewer option is now available for AERSURFACE. The contents of two output files generated by AERSURFACE, albedo_bowen_domain.txt and roughness_domain.txt, can now be visualized by pressing the Land Use Viewer button after you run AERSURFACE.</p>  <p>The screenshot shows the AERSURFACE software interface. The 'Processing Options' tab is selected, and the 'Output Files' section is visible. The 'Land Use Viewer...' button is circled in red. Below this, the 'Specify Sectors [deg]' section shows a circular diagram with sectors and a table of sector parameters. The 'Specify Surface Parameters for Each Sector' section shows a table of surface parameters for each sector.</p> <p>The 'Land Use Viewer' window displays a map of land use domains. The legend on the right lists the following categories:</p> <ul style="list-style-type: none"> Open water High intensity residential Commercial / Industrial / Transportation Bare rock / Sand / Clay Mixed forest Grassland / Herbaceous Row crops Urban / Recreational grasses

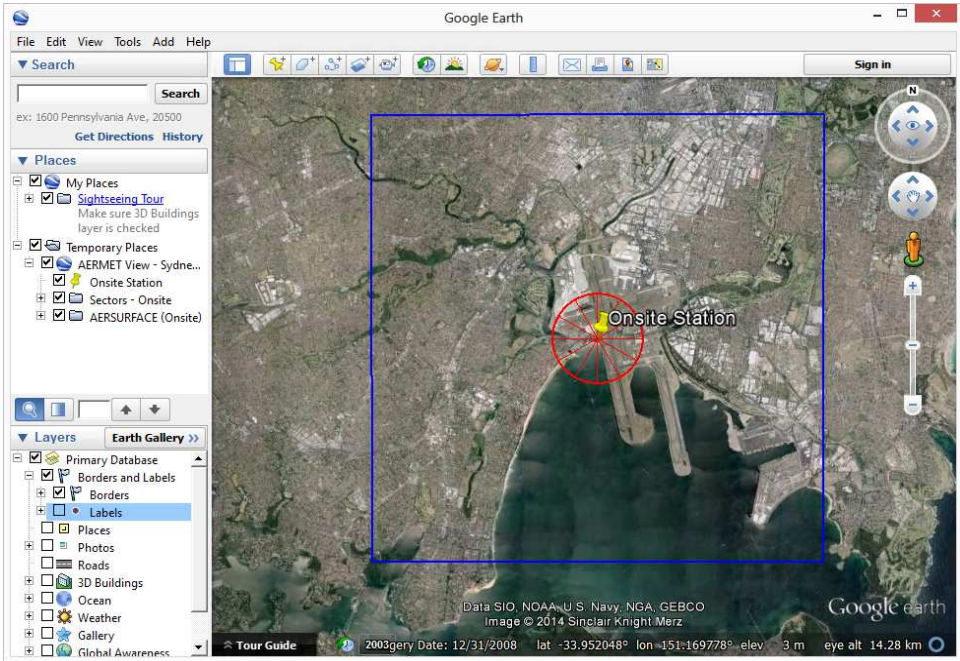
Topic	Feature Description
Overlays	<p>Additional Overlay Tools</p> <p>Two additional overlay tools are now available:</p> <ol style="list-style-type: none"> 1.  Disable selection 2.  Disable graphical editing <p>These tools will help you disable certain overlays when using the select tool to edit or move objects in the graphical area.</p> 
Source Pathway	<p>Vertices Range Check for Circular Area Sources</p> <p>Added a range check for the Number of Vertices field with circular area sources. There must be at least 3 vertices to create the source.</p>

Topic	Feature Description
Receptor Pathway	<p>Import / Export Plant Boundaries to Excel</p> <p>Plant boundaries can now be exported to an Excel spreadsheet (.XLS) in addition to the existing Comma-Separated File (CSV) and Blanking File (.RPB) options. Use the Export Plant Boundaries... menu option or select the Export button in the Receptor Pathway window.</p> <p>Plant boundaries can also be imported from an existing Excel spreadsheet. A template is included in C:\Lakes\AERMOD View\Templates\Plant-Boundaries.xls.</p>  <p>The screenshot shows the 'Export' menu in the AERMOD View software. The menu is open, displaying several options: 'Copy to File', 'Copy to Clipboard', 'Sources...', 'Buildings / Stacks to DXF...', 'Plant Boundaries...', 'Pathway to File', 'Plotfile to Surfer...', 'Shapefiles...', and 'Google Earth...'. The 'Plant Boundaries...' option is highlighted with a red rectangular box.</p>

Topic	Feature Description
Met Pathway	<p>Multi-Year Files Utility Added to AERMOD View</p> <p>The Multi-Year Files Utility, from AERMET View, has been added as a tool to the Met Pathway options of AERMOD View. The utility can be used to combine data from multiple SFC or PFL met files into a single file. This utility can be accessed by pressing the Multi-Year button.</p>  
Output Pathway	<p>Updated Percentile Algorithm</p> <p>The statistical method used to calculate percentile output was revised to more accurately reflect regulatory interpretation of the statistical method. In some cases, this change could results in differences in output percentiles.</p>

Topic	Feature Description																					
Reports	<p>Results Summary Displays Averaging Period</p> <p>Results created using the Concentration Converter utility will have their new averaging periods displayed in the Results Summary report.</p> <div><p>Results Summary</p><p>XYZ Company - Concentration Calculation</p><p>SO2 - Concentration - Source Group: ALL</p><table><thead><tr><th>Averaging Period</th><th>Rank</th><th>Peak</th></tr></thead><tbody><tr><td>3-HR</td><td>1ST</td><td>32.37619</td></tr><tr><td>24-HR</td><td>1ST</td><td>19.36537</td></tr><tr><td>3-HR</td><td>2ND</td><td>29.23302</td></tr><tr><td>24-HR</td><td>2ND</td><td>19.75017</td></tr><tr><td>ANNUAL</td><td></td><td>4.86354</td></tr><tr><td>15-MN</td><td>1ST</td><td>53.71150</td></tr></tbody></table></div>	Averaging Period	Rank	Peak	3-HR	1ST	32.37619	24-HR	1ST	19.36537	3-HR	2ND	29.23302	24-HR	2ND	19.75017	ANNUAL		4.86354	15-MN	1ST	53.71150
Averaging Period	Rank	Peak																				
3-HR	1ST	32.37619																				
24-HR	1ST	19.36537																				
3-HR	2ND	29.23302																				
24-HR	2ND	19.75017																				
ANNUAL		4.86354																				
15-MN	1ST	53.71150																				
Map Projection	<p>New Datum Option for Australia – GDA94</p> <p>The Geocentric Datum of Australia 1994 (GDA94) datum was added to list of available datum.</p>																					
LEAD Post-Processor	<p>Incorporated latest LEADPOST Executable</p> <p>Updated the LEADPOST executable to Version 13262.</p>																					
Batcher	<p>User-Defined Units Added to Plot Files Created with Batcher</p> <p>When performing runs through Batcher as a stand-alone application, changes to the default Emission Output Label selection are now reflected in the comment lines at the end of the contour plot files.</p>																					
Batcher	<p>Expanded Path Length for External Files</p> <p>Path lengths for HOUREMIS and background data files were expanded to allow up to 200 characters.</p>																					

Topic	Feature Description
AERMET View	<p>Select Text Editor</p> <p>AERMET View now includes the option to choose which text editor is used to open project files. The selection is made under Preferences Settings System Editor.</p> <p>You may choose between the two pre-defined text editors, WordPad and Notepad, or use the User-Specified Editor option to select any text editor installed on your machine.</p> 
AERMET View	<p>No Seasonal Option in AERSURFACE for Southern Hemisphere</p> <p>When running AERSURFACE for projects located in the Southern Hemisphere (in conjunction with the new Land Use Creator utility), the Seasonal period option has been removed. This was done to reduce confusion as AERSURFACE defines seasons using Northern Hemisphere conventions (e.g., winter = Dec, Jan, Feb). Users with Southern Hemisphere projects can still use the Annual or Monthly options for defining surface characteristics.</p>

Topic	Feature Description
AERMET View	<p>New Layers in Google Earth Export</p> <p>When exporting data to Google Earth from AERMET View, the program now exports layers based on whether AERSURFACE was used or not.</p> <p>For projects using AERSURFACE, the surface roughness radius (default 1-km) will be used and the user-defined sectors drawn. The 10-km x 10-km domain used to calculate Bowen ratio and albedo are also displayed.</p> <p>Projects not using AERSURFACE will have a 3-km radius around the met station displayed.</p>  <p>The screenshot shows the Google Earth interface. On the left, the 'Places' pane lists 'AERMET View - Sydne...' with sub-items 'Onsite Station', 'Sectors - Onsite', and 'AERSURFACE (Onsite)'. The 'Layers' pane shows 'Primary Database' expanded, with 'Borders and Labels' checked. The main map displays a coastal area with a blue rectangular domain and a red circular sector centered on a yellow pin labeled 'Onsite Station'. The status bar at the bottom shows coordinates: lat -33.952048° lon -151.169778° elev 3 m eye alt 14.28 km.</p>

Fixed Issues

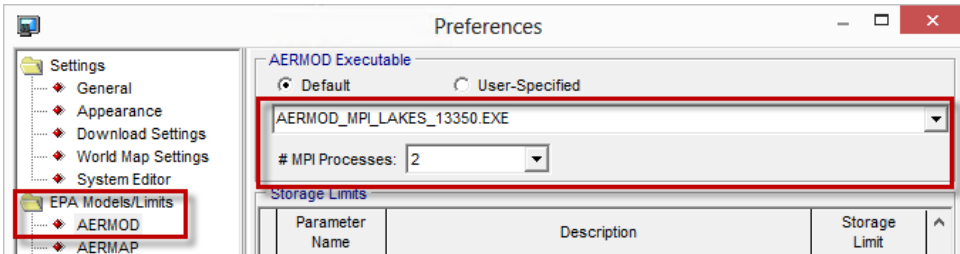
Topic	Issue Description
Control Pathway	Incorrect NO2 Conversion Option Selected The NOx to NO2 conversion option defaulted to 'None (Full Conversion)' instead of OLM or PVMRM when opening existing projects. The fix now identifies the proper conversion option.
Tile Maps	Open Street Map Failed to Load A change in the Open Street Map configuration caused the maps to fail to load from the Tile Maps server. This has been resolved in AERMOD View Version 8.5.1 and up.
Tile Maps	MapQuest Satellite Map Failed to Load A change in the MapQuest Satellite Map configuration caused the maps to fail to load from the Tile Maps server. This has been resolved.
Plots	MAXDCONT Plot File Missing Fixed an issue which prevented plot files associated with the MAXDCONT keyword from being displayed in the Plots tree menu.
BPIP	Source ID Warning Message Updated the Details dialog to warn users when source IDs contain 9 characters (BPIP-PRIME only allows 8-character source IDs). Previous versions only warned users when the source ID was 10 or more characters.
AERMET View	Temporary File Error (TmpScript.sql) Some users creating new projects in AERMET View Version 8.5 received an error which prevented the project from being created. A fix was implemented which removed a temporary file requirement (TmpScript.sql).

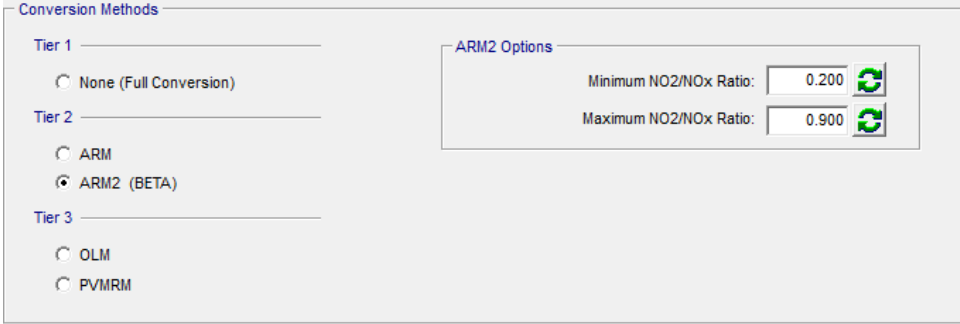
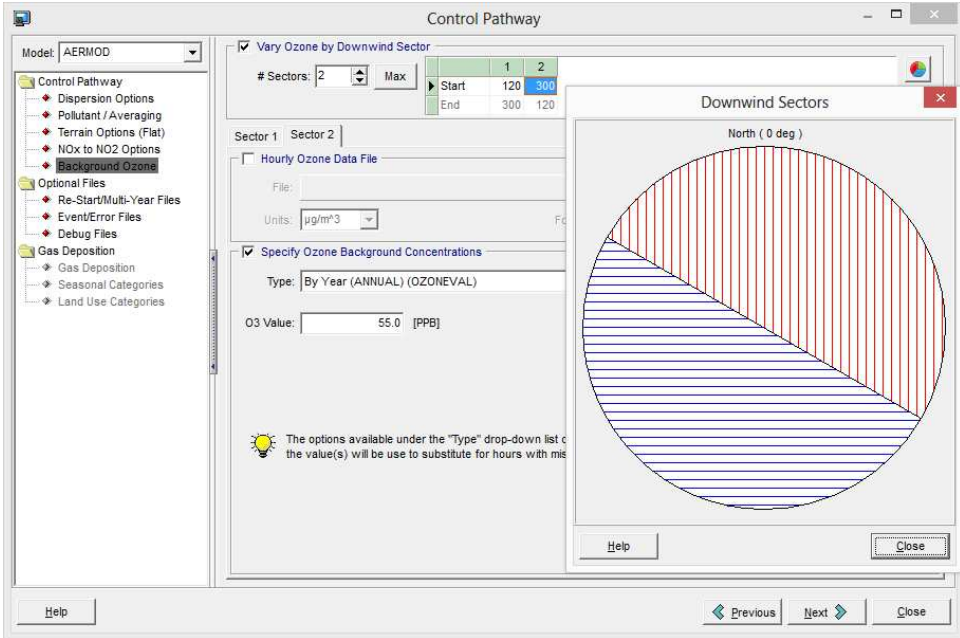
AERMOD View™ Version 8.5

Release Notes

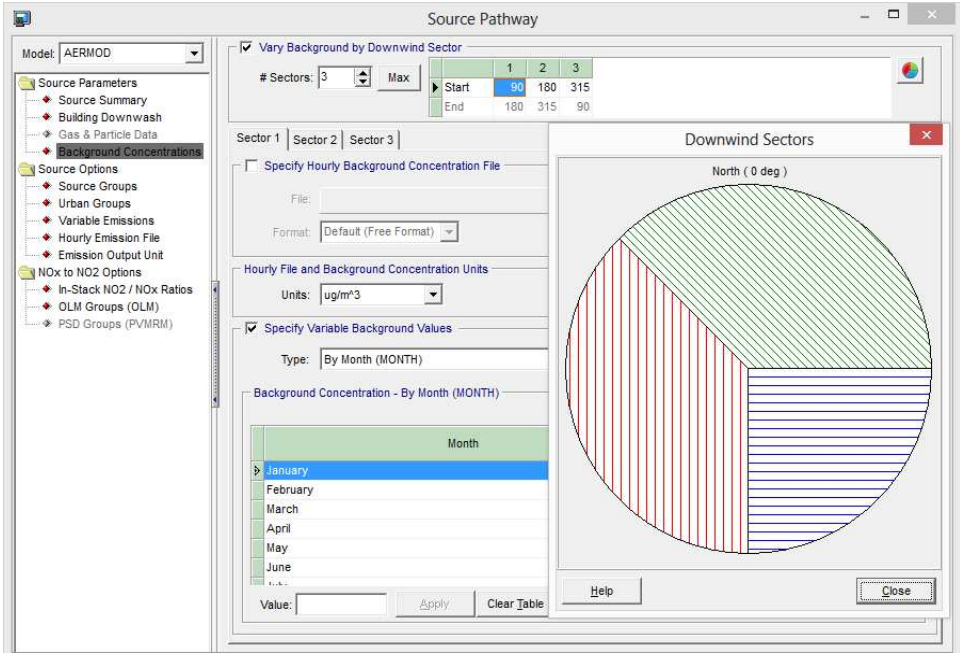
January 21, 2014


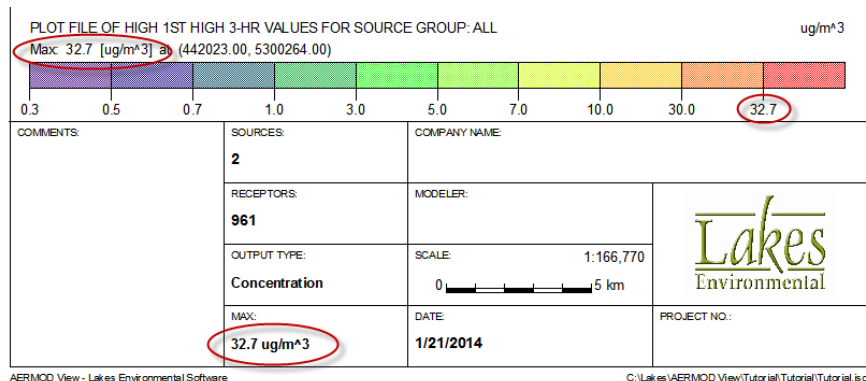


New Features


Topic	Feature Description
Models	<p>Latest Releases of US EPA Models Available</p> <p>The following US EPA Models were released since December 2013 and are incorporated into AERMOD View Version 8.5:</p> <ol style="list-style-type: none"> 3. AERMOD Model 13350 (Released Dec 2013) 4. AERMET Model 13350 (Released Dec 2013) <p>Note: AERMOD 13350 will not run using met data created using AERMET 11059 or earlier. Old met data must be re-processed using a more recent version of AERMET (preferably 13350), or the modeler must use an older version of the AERMOD model.</p>
AERMOD MPI	<p>New Version of Lakes AERMOD MPI 13350 (Parallel Version)</p> <p>A new version of the Lakes AERMOD MPI for the US EPA Model Version 13350 is now available (AERMOD_MPI_Lakes_13350.exe). You can specify to use this model under the Preferences dialog.</p> <p>Note: AERMOD_MPI_LAKES_13350.EXE or AERMOD_MPI_LAKES.EXE will run the latest version of the AERMOD model (13350) in parallel mode using <u>up to a maximum of 8 cores</u>.</p> 

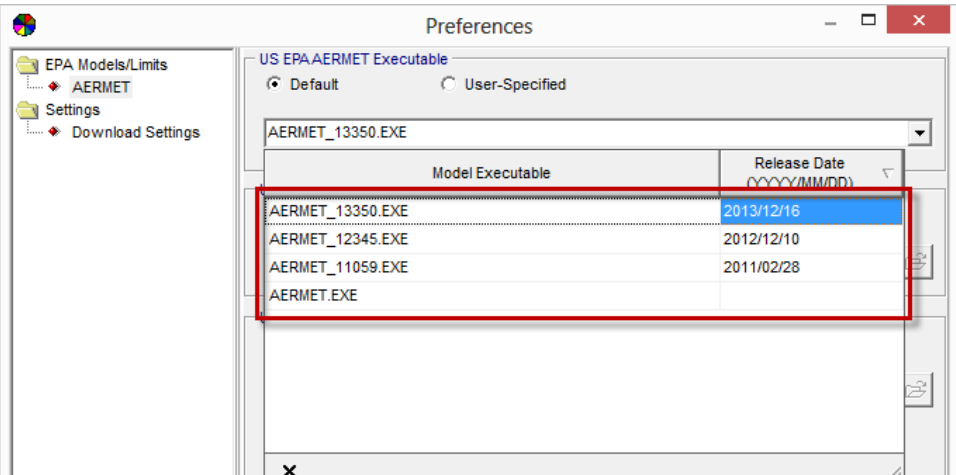
Topic	Feature Description
Control Pathway	<p>New NO2 Modeling Methods</p> <p>The U.S. EPA incorporated two new options for modeling NO2: the Ambient Ratio Method (ARM) and the Ambient Ratio Method – 2 (ARM2). ARM can be modeled as a Regulatory Default option while ARM2 is a non-default BETA option.</p> 
Control Pathway	<p>Vary Background Ozone by Downwind Sector</p> <p>Introduced with AERMOD 13350, background ozone concentrations can now vary by downwind sector. Sectors are defined by the flow vector (direction the wind blows towards). The original background ozone variance options (including hourly emission files) are applied to each individual sector.</p> 

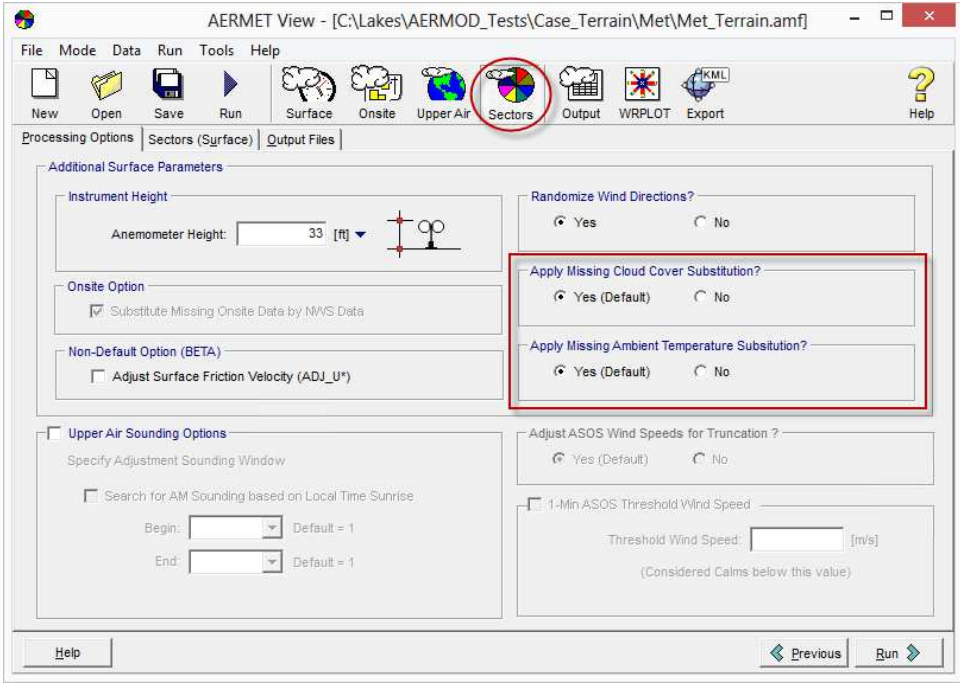
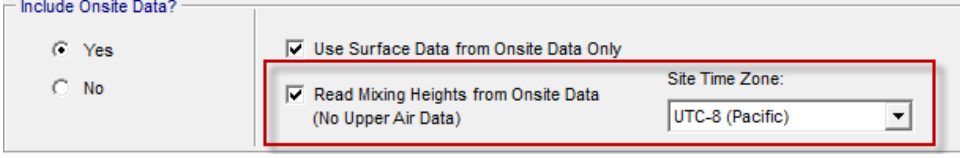
Topic	Feature Description																																													
Control Pathway	<h3>Background Ozone Options Moved</h3> <p>The Background Ozone options used with the OLM and PVMRM model options have been relocated to their own window (CO Pathway – Background Ozone).</p>																																													
Control Pathway	<h3>New Debug Files</h3> <p>Introduced in AERMOD 13350, users can now create separate debug files containing:</p> <ul style="list-style-type: none">PRIME downwash parameters,Gas and particle deposition output, andNO2 model options (OLM, PVMRM, ARM, or ARM2). <div></div>																																													
Source Pathway	<h3>Import/Export of Line Volume and Line Area Sources</h3> <p>Line Volume and Line Area sources can now be exported to and imported from AERMOD View projects using the Lakes Format Template source parameters spreadsheet. Details are included in the Help file.</p> <table><tr><th>Type</th><th>ID</th><th>Num_Coords</th><th>X1</th><th>Y1</th><th>X2</th><th>Y2</th><th>X3</th><th>Y3</th></tr><tr><td></td><td></td><td></td><td>[m]</td><td>[m]</td><td>[m]</td><td>[m]</td><td>[m]</td><td>[m]</td></tr><tr><td>LINE_VOLUME</td><td>SLINE1</td><td>5</td><td>X - start node</td><td>Y - start node</td><td>X - node 2</td><td>Y - node 2</td><td>X - node 3</td><td>Y - node 3</td></tr><tr><td>LINE_VOLUME</td><td>SLINE1</td><td></td><td>Rel_Height_m</td><td>rel_height - start node</td><td>rel_height - node 2</td><td>rel_height - node 3</td><td>rel_height - node 4</td><td>rel_height - node 5</td></tr><tr><td>LINE_VOLUME</td><td>SLINE1</td><td></td><td>Base_Elev_m</td><td>base_elev - start node</td><td>base_elev - node 2</td><td>base_elev - node 3</td><td>base_elev - node 4</td><td>base_elev - node 5</td></tr></table>	Type	ID	Num_Coords	X1	Y1	X2	Y2	X3	Y3				[m]	[m]	[m]	[m]	[m]	[m]	LINE_VOLUME	SLINE1	5	X - start node	Y - start node	X - node 2	Y - node 2	X - node 3	Y - node 3	LINE_VOLUME	SLINE1		Rel_Height_m	rel_height - start node	rel_height - node 2	rel_height - node 3	rel_height - node 4	rel_height - node 5	LINE_VOLUME	SLINE1		Base_Elev_m	base_elev - start node	base_elev - node 2	base_elev - node 3	base_elev - node 4	base_elev - node 5
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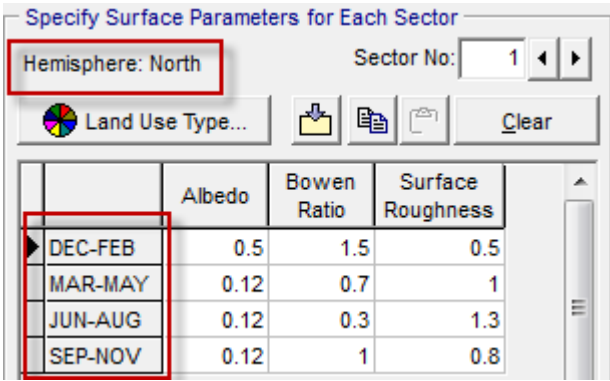

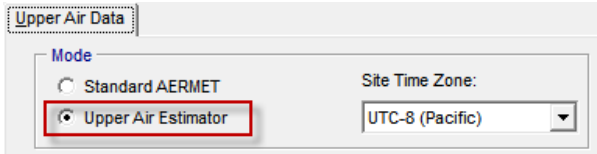
Topic	Feature Description
Source Pathway	<p>Vary Background Concentrations by Downwind Sector</p> <p>Introduced with AERMOD 13350, background concentrations can now vary by downwind sector. Sectors are defined by the flow vector (direction the wind blows towards). The original background variance options are applied to each individual sector.</p> 
Source Pathway	<p>New Line Volume Source Configuration</p> <p>Adds a third configuration to line volume sources: Separated 2W. This option follows the original ISCST3 model guidance for placement of separated volume sources (center-to-center distance = 2 * length of side).</p> <p>The existing Separated method is still available. This method places sources at the start and end nodes then calculates an even center-to-center distance for all other sources along the line.</p>

Topic	Feature Description
Source Pathway	<p>Modified Seasonal Labels for Southern Hemisphere</p> <p>When the Map Projection is set to the Southern Hemisphere, all seasonal labels (e.g., Background Concentrations, Variable Emission Rates) are reversed and display what months apply to each value.</p> 
Printouts	<p>Maximum Value Decimal Places</p> <p>The maximum value field shown in the Printout is now controlled by the "No. Decimal Places" field in the Graphical Options Contours Color Ramp settings. The full maximum value to 5 decimal places is still displayed in the Contours Panel.</p> 
AERMOD 3D	<p>Visualization and Control Enhancements</p> <p>The AERMOD 3D View has been updated to include several new features:</p> <ul style="list-style-type: none"> Quick-zoom to sources and buildings using new toolbar button  Introduces vertical exaggeration scale  New mouse controls: left-click and pan to change viewing angle, right-click and pan to change center point.

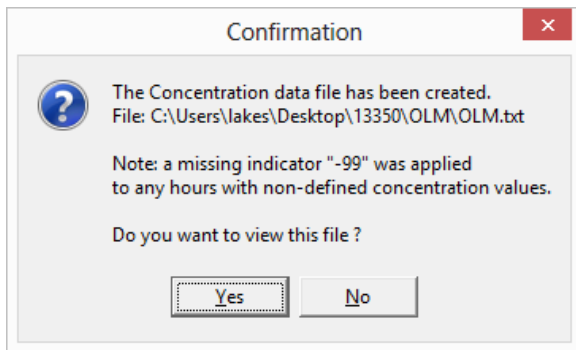
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Met View	Export SFC & PFL Files to CSV and Excel																																																																																																																																																																																						
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AERMET View	New US EPA AERMET Model Version 13350 On December 16, 2013, the US EPA released a new version of the AERMET model (13350). For a complete description of the changes, please see the US EPA Model Change Bulletin #4 (MCB#4).																																																																																																																																																																																						

Topic	Feature Description										
AERMET View	<p>Preferences Option for AERMET Model Version</p> <p>AERMET 13350 was added as the default model version. The Preferences menu was modified to include a drop-down menu for model executable selection. You can select from AERMET 13350 (the default and recommended), AERMET 12345, or AERMET 11059.</p> <p>The AERMET View Project Status dialog will display the model version being used when you run AERMET.</p> <p>Note: The option to select AERMET 11059 is still available in the AERMET View interface for backward compatibility; however modelers should always use the latest versions of the US EPA models.</p>  <table border="1"> <thead> <tr> <th>Model Executable</th><th>Release Date (YYYY/MM/DD)</th></tr> </thead> <tbody> <tr> <td>AERMET_13350.EXE</td><td>2013/12/16</td></tr> <tr> <td>AERMET_12345.EXE</td><td>2012/12/10</td></tr> <tr> <td>AERMET_11059.EXE</td><td>2011/02/28</td></tr> <tr> <td>AERMET.EXE</td><td></td></tr> </tbody> </table>	Model Executable	Release Date (YYYY/MM/DD)	AERMET_13350.EXE	2013/12/16	AERMET_12345.EXE	2012/12/10	AERMET_11059.EXE	2011/02/28	AERMET.EXE	
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AERMET_12345.EXE	2012/12/10										
AERMET_11059.EXE	2011/02/28										
AERMET.EXE											

Topic	Feature Description
AERMET View	<p>Cloud Cover and Temperature Substitution Options</p> <p>Introduced with AERMET 13350, the model will substitute ambient temperature and cloud cover across 1- and 2-hour gaps. Both options are enabled by default when only one of the Surface and Onsite pathways is used.</p> <p>When both Surface and Onsite pathways are used, the options are disabled by default.</p> 
AERMET View	<p>Use Onsite Pathway Only</p> <p>AERMET 13350 allows users to bypass the Upper Air pathway entirely when mixing heights are read from Onsite data. Users must specify the local time zone for the modeling site when using this option.</p> 

Topic	Feature Description
AERMET View	<p>Sectors Modifications</p> <p>The Sectors options have been modified to make inputs more transparent for projects located in the Southern Hemisphere where seasons are reversed from AERMET defaults.</p> <ul style="list-style-type: none"> • The Hemisphere (North or South) is noted • Season definitions are now listed as the month range instead of the season name. 
AERMET View	<p>Added Version and Date Period Details</p> <p>The Output Files tab now includes version number and options, selected model options, start date, and end date for the Surface and Profile files.</p> 
AERMET View	<p>Upper Air Estimator Updated for AERMET 13350</p> <p>Lakes Environmental Upper Air Estimator tool was updated for compatibility with the latest release of the US EPA AERMET 13350.</p> 

Fixed Issues

Topic	Issue Description
Save Project As	Renamed Met Data Files When meteorological data files had an identical name to a project, the file names were changed when running the Save Project As menu option. The option now maintains the original path to the met data files.
Control Pathway	Ozone File Maker Update The "Auto Populate for Missing Hours" option in the Hourly Ozone Concentration File Maker utility was removed. When building the file, the utility automatically adds a missing indicator (-99) to all blank cells. <div data-bbox="415 730 987 1077">  <p>A confirmation dialog box titled "Confirmation" with a red close button. It contains a question mark icon, the text "The Concentration data file has been created. File: C:\Users\lakes\Desktop\13350\OLM\OLM.txt", a note "Note: a missing indicator '-99' was applied to any hours with non-defined concentration values.", and the question "Do you want to view this file?". At the bottom are "Yes" and "No" buttons.</p> </div>
Source Pathway	Gas & Particle Data Fixes Fixed a bug which did not write deposition parameters to sources with IDs longer than 10 characters. Also fixed an issue with the Copy and Paste functions.
Source Pathway	Line Volume Source Coordinates Expanded the number of source node coordinates written to the model input file so coordinates of individual sources along the line can be recreated.
Reports	Missing Fields Fields like Pollutant Type in the Control Pathway report went missing for certain values. This has been fixed.
Contours Panel	Shortened Plotfile List Removed the full project folder path from the Plotfile List menu to make file names shorter. Previous versions occasionally had issues with paths that extended beyond the available space.

Topic	Issue Description
Color Ramp	Duplicate Title Fixed an issue with the original Color Ramp title remaining after renaming.
WRPLOT View	Miscellaneous Updates Updates include: <ul style="list-style-type: none">• New default "Files of type" set to All Files when adding files• Setting Wind Classes display to show 2 decimal places and refined conversions between m/s and knots.• Bug fixes to the Data File Info panel when multiple files or years of data are analyzed. Fixes include displaying the proper number of missing records and total number of hours when the Date Range is modified.• Inclusion of February 29 in the Specify Days option when a leap year is present.• All percentages normalized to the total number of hours. Previous versions would correct calm frequencies to remove missing records.• Modification to reading TD-3505/ISHD files to match code from AERMET. The program now reads observations found between :30 of the previous hour and :01 of the current hour.• Added XLSX support to the Import Surface Data from Excel utility.• Modifications to the Years and Time Range fields to allow subsets of multiple years and overnight hours to be analyzed.