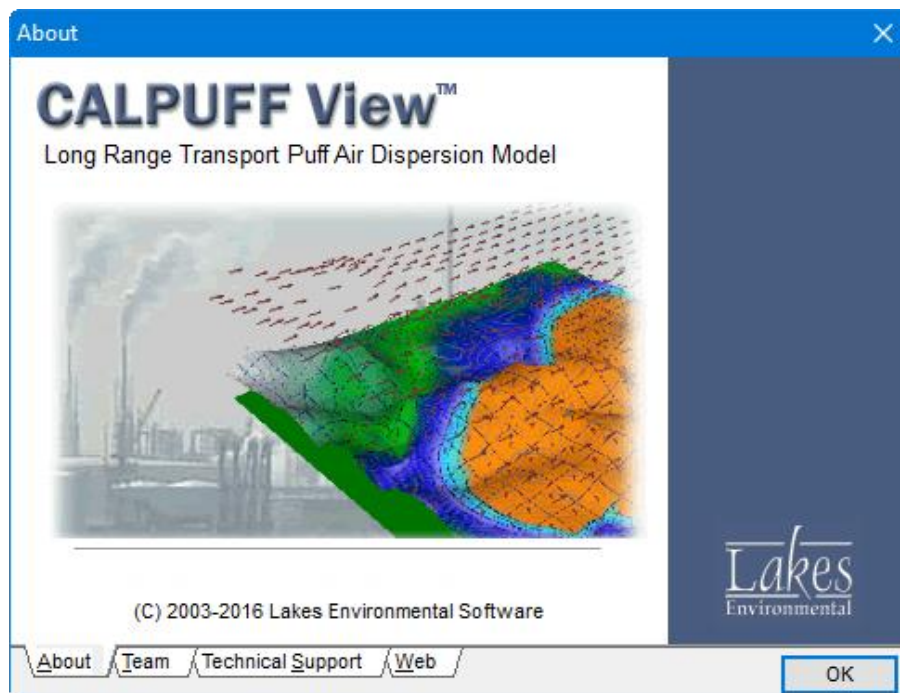


CALPUFF View™

Graphical Interface for the US EPA Approved Long Range Transport Model - CALPUFF

Release Notes

Version 8.0, 8.1, and 8.2



Lakes Environmental Software
Tel: (519) 746-5995 - Fax: (519) 746-0793
E-mail: support@webLakes.com
Web Site: www.webLakes.com



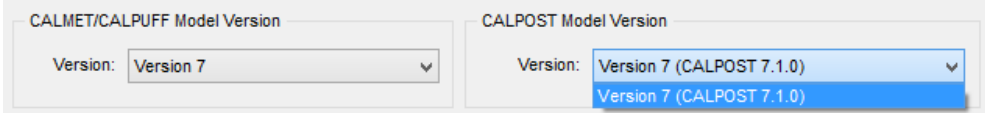
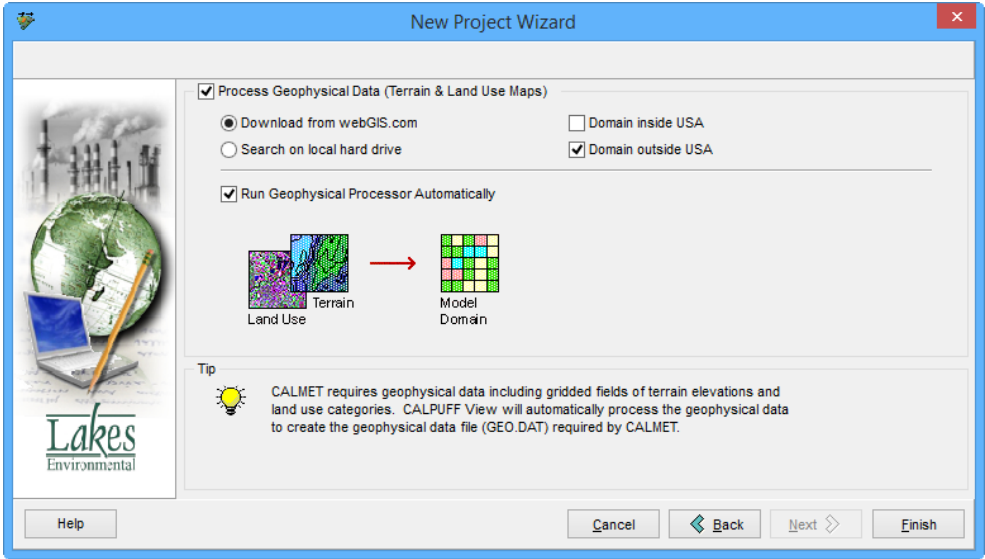
Copyright 2003-2016 Lakes Environmental Software

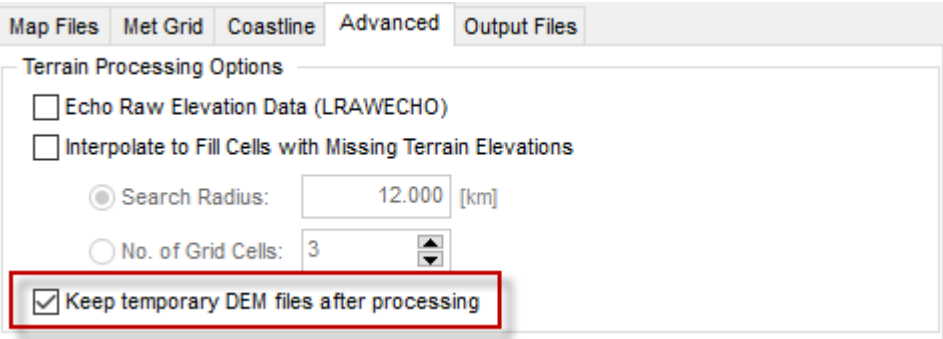
CALPUFF View™ Version 8.2.0

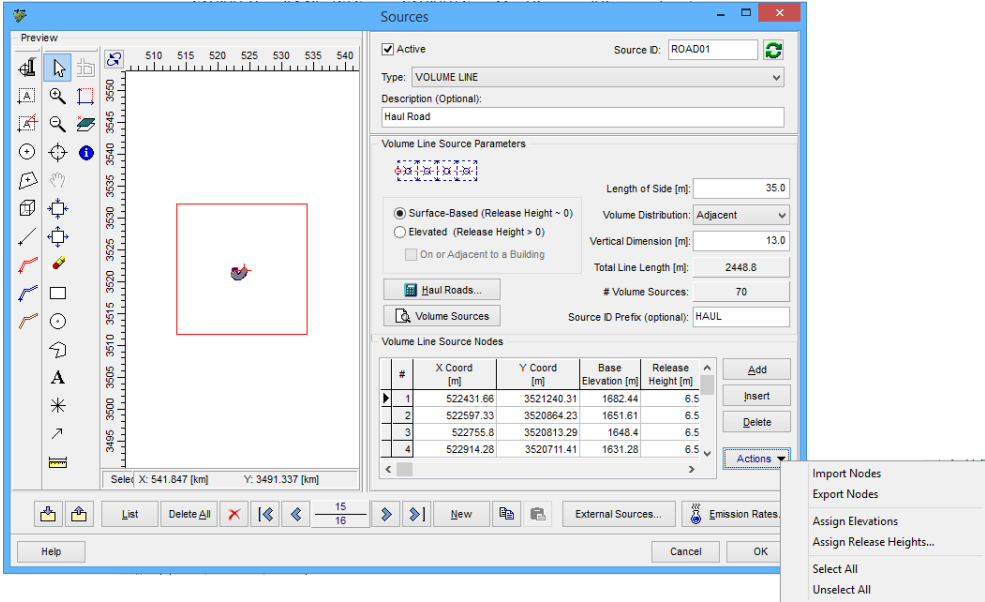
Release Notes

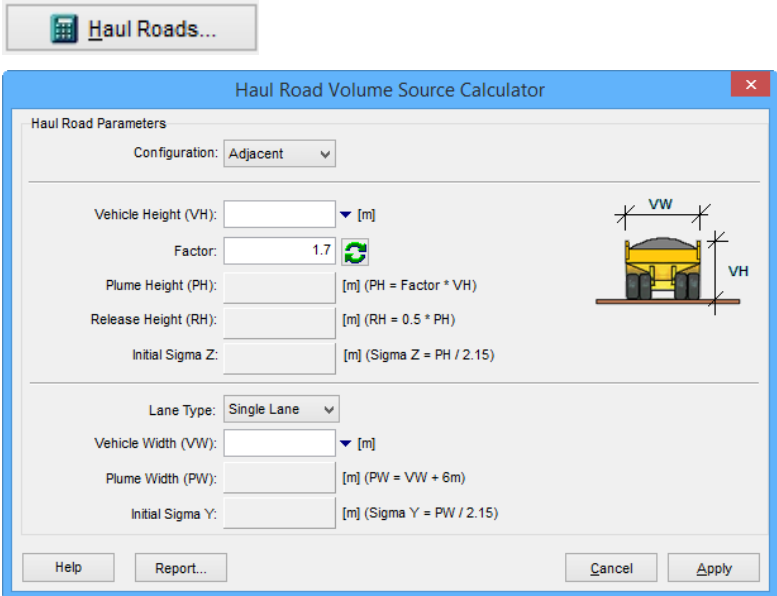
March 16, 2016

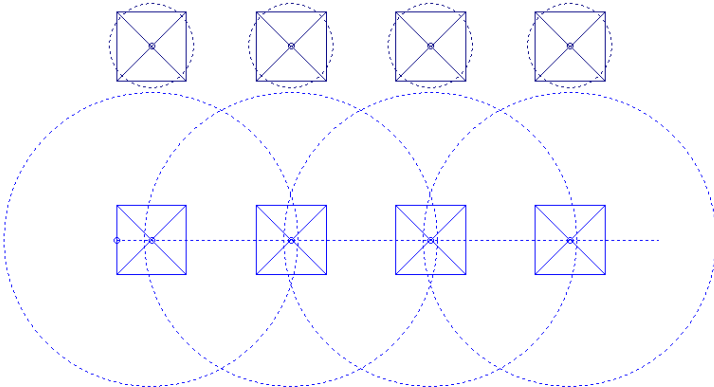
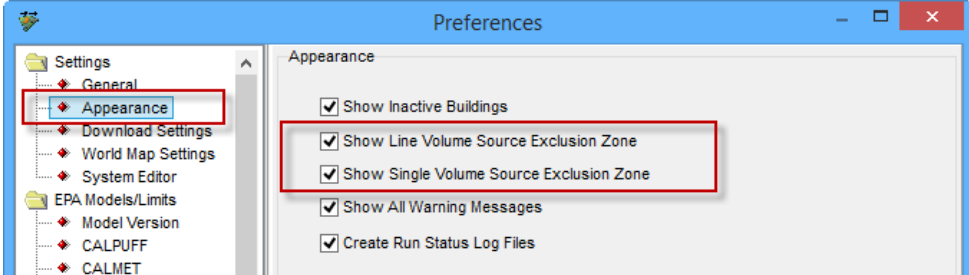
New Features

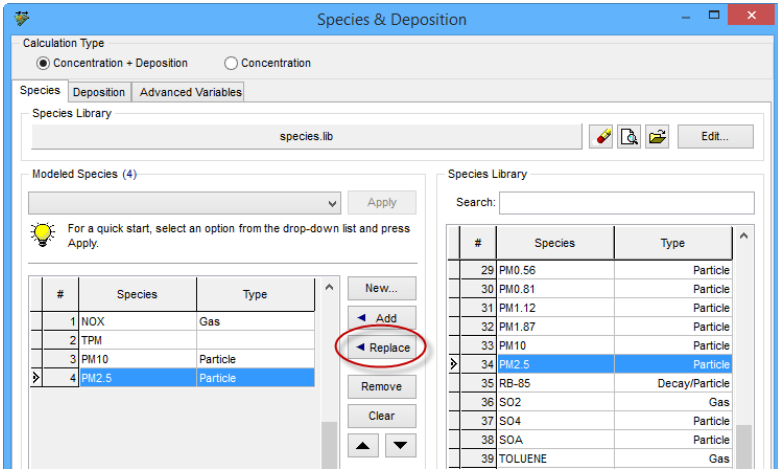
Topic	Feature Description
New Project Wizard	<p>Selection of CALPOST Model Versions</p> <p>New checks were implemented to prevent the modeler from selecting a CALPOST model version not compatible with the selected CALPUFF model version.</p> <p>For example, CALPUFF model version 7 can only be used with CALPOST model version 7.</p> 
New Project Wizard	<p>Auto-Download of Terrain Data Modified</p> <p>With the availability of worldwide 30-m resolution terrain data in SRTM1 format, the New Project Wizard option to auto-download terrain data from WebGIS for locations outside the USA and Canada was modified to use SRTM1 data instead of SRTM3 data which has a resolution of ~90-m. For licenses out-of-maintenance, the SRTM3 terrain data will be downloaded instead.</p> 

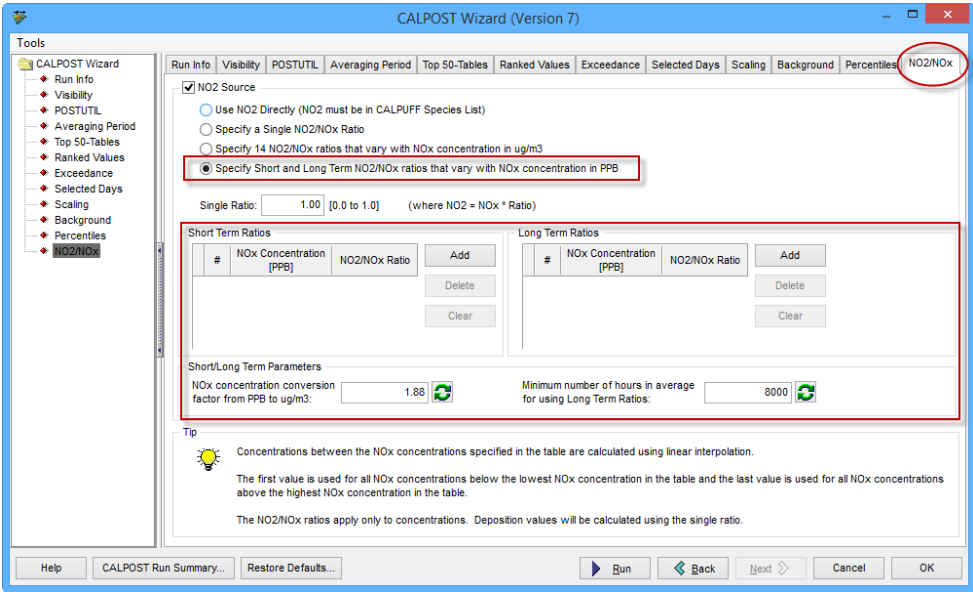
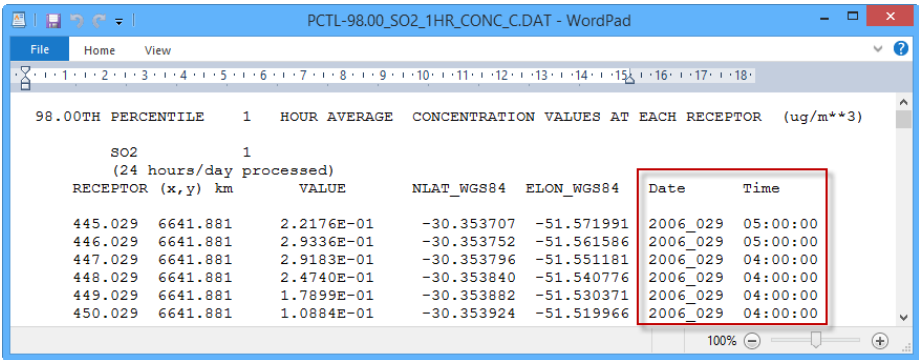
Topic	Feature Description
Geophysical Processor	<p>Keep Temporary DEM Files</p> <p>When processing 15-minute CDED terrain data, CALPUFF View creates a series of temporary files in USGS DEM file format. An option has been added to the Advanced tab which allows the user to keep the temporary DEM files after processing.</p>  <p>The screenshot shows the 'Advanced' tab selected in the 'Terrain Processing Options' dialog. The 'Keep temporary DEM files after processing' checkbox is checked and highlighted with a red rectangle. Other options include 'Echo Raw Elevation Data (LRAW ECHO)', 'Interpolate to Fill Cells with Missing Terrain Elevations', 'Search Radius' (12.000 km), and 'No. of Grid Cells' (3).</p>
Projection	<p>WGS-G Datum Added</p> <p>The WGS-G datum was restored to the datum drop-down menu for backwards compatibility with old datasets created using model versions that recognized WGS-G and not WGS-84.</p>
Sources	<p>Renaming of Source Types</p> <p>A few of the sources were renamed to better represent the source type. This renaming is only a label change and does not have any effect on the model results. See list of changes below:</p> <ul style="list-style-type: none"> • VOLUME LINE changed to LINE-VOLUME • VOLUME AREA changed to LINE-AREA • POLYGONAL AREA changed to AREA-POLYGONAL • RECTANGULAR AREA changed to AREA-RECTANGULAR • CIRCULAR AREA changed to AREA-CIRCULAR

Topic	Feature Description
Sources	<p>Line-Volume, Line-Area, and Road Source Options</p> <p>The following options are now available when specifying Line-Volume, Line-Area, and Road Sources:</p> <ul style="list-style-type: none"> • Import/Export nodes from/to a CSV file • Assign ground elevations 

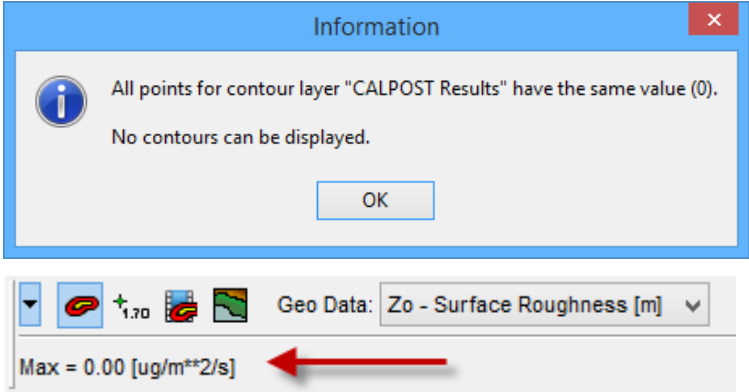
Topic	Feature Description
Sources	<p>Haul Roads Calculator</p> <p>The Haul Roads Calculator is now available under the Line-Volume and Line-Area source dialogs. This calculator is based on the US EPA-OAQPS Haul Road Workgroup Final Report (March 2012).</p> 
Sources	<p>Road Source Included in Excel Template</p> <p>The Road source type has been added to the Lakes Format Excel template for importing or exporting source parameters.</p>

Topic	Feature Description
Sources	<p>Updated Volume Source Display</p> <p>The appearance of single volume source and line-volume source types have been updated to more accurately depict the exclusion zone in which model calculations are not performed.</p> <p>The exclusion zones for each source type can be controlled separately via the Preferences Settings Appearance menu.</p>  

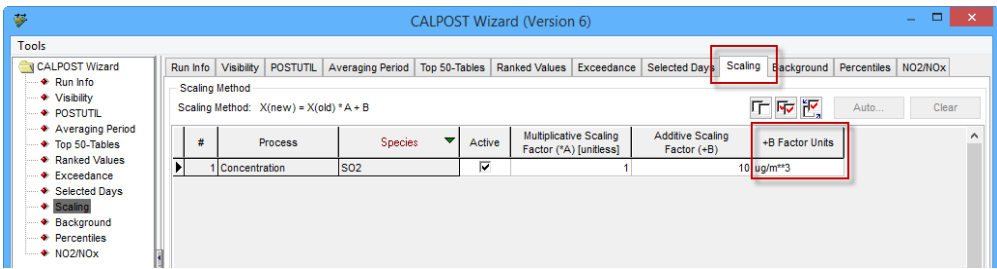
Topic	Feature Description
Species	<p>Option to Replace Species</p> <p>A new option is now available under the Species & Deposition dialog box that allows you to replace an existing species. When using this option, emission rates specified for each source for the old species will not be deleted and it will be available for the new species. You can also change the name of an existing species by typing the new name (e.g., changing species name from PM25 to PM2.5).</p> 


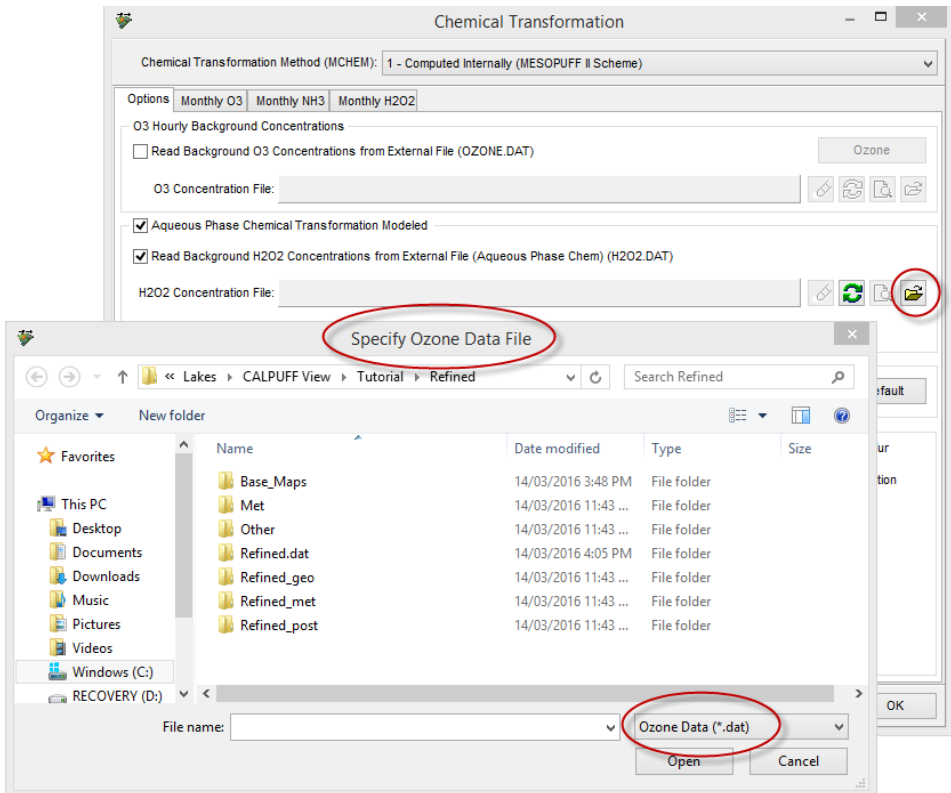
Topic	Feature Description
CALPOST	<p>New NO₂/NO_x CALPOST Options</p> <p>As part of the Version 7 modeling system, the NO₂/NO_x CALPOST Options have been expanded to include ratios that vary with NO_x concentration (PPB). Options include:</p> <ul style="list-style-type: none"> • NO_x Concentration Conversion Factor from PPB to µg/m³, • Short-Term Ratios, and • Long-Term Ratios (with user-defined hour threshold) 
Percentile	<p>Date and Time Columns added to Percentile Plotfiles</p> <p>The Date and Time columns are now available for Percentile plotfiles.</p> 

Topic	Feature Description																																										
Reports	<div><div>New Report – Percentile Results Summary</div><div><p>A new report is now available, Percentile Results Summary Report, which summarizes the maximum concentration results for Percentile plots.</p><div><div>Percentile Results Summary</div><div><div>SO2 - Concentration: [ug/m**3]</div><table><thead><tr><th>Average Period</th><th>Percentile</th><th>Peak</th><th>Year, Julian Day, Start Hour</th><th>X [km]</th><th>Y [km]</th></tr></thead><tbody><tr><td>1-HOUR</td><td>98.00TH</td><td>9.1741E+000</td><td>2006, 027, 1400</td><td>469.029</td><td>6666.881</td></tr><tr><td>1-HOUR</td><td>99.00TH</td><td>9.6190E+000</td><td>2006, 027, 1000</td><td>469.029</td><td>6666.881</td></tr><tr><td>3-HOUR</td><td>98.00TH</td><td>8.7941E+000</td><td>2006, 027, 1200</td><td>469.029</td><td>6666.881</td></tr><tr><td>3-HOUR</td><td>99.00TH</td><td>8.7941E+000</td><td>2006, 027, 1200</td><td>469.029</td><td>6666.881</td></tr><tr><td>24-HOUR</td><td>98.00TH</td><td>2.3962E+000</td><td>2006, 027, 0000</td><td>469.029</td><td>6666.881</td></tr><tr><td>24-HOUR</td><td>99.00TH</td><td>2.3962E+000</td><td>2006, 027, 0000</td><td>469.029</td><td>6666.881</td></tr></tbody></table></div></div></div></div>	Average Period	Percentile	Peak	Year, Julian Day, Start Hour	X [km]	Y [km]	1-HOUR	98.00TH	9.1741E+000	2006, 027, 1400	469.029	6666.881	1-HOUR	99.00TH	9.6190E+000	2006, 027, 1000	469.029	6666.881	3-HOUR	98.00TH	8.7941E+000	2006, 027, 1200	469.029	6666.881	3-HOUR	99.00TH	8.7941E+000	2006, 027, 1200	469.029	6666.881	24-HOUR	98.00TH	2.3962E+000	2006, 027, 0000	469.029	6666.881	24-HOUR	99.00TH	2.3962E+000	2006, 027, 0000	469.029	6666.881
Average Period	Percentile	Peak	Year, Julian Day, Start Hour	X [km]	Y [km]																																						
1-HOUR	98.00TH	9.1741E+000	2006, 027, 1400	469.029	6666.881																																						
1-HOUR	99.00TH	9.6190E+000	2006, 027, 1000	469.029	6666.881																																						
3-HOUR	98.00TH	8.7941E+000	2006, 027, 1200	469.029	6666.881																																						
3-HOUR	99.00TH	8.7941E+000	2006, 027, 1200	469.029	6666.881																																						
24-HOUR	98.00TH	2.3962E+000	2006, 027, 0000	469.029	6666.881																																						
24-HOUR	99.00TH	2.3962E+000	2006, 027, 0000	469.029	6666.881																																						
Export	<div><div>Export of Puff Tracking To Google Earth for Model Version 7</div><div><p>You can now export puff tracking to Google Earth for projects using the CALPUFF Model Version 7. In addition, the following items were implemented:</p><ul style="list-style-type: none">Puff tracking for Area and Volume sources is now supported in model version 7 only.Optimizations done for faster generation of the KML file.A progress meter is now available.<div><div>Creating Puff KML File</div><div>Processing. Elapsed Time: 00:00:20 Remaining Time: 00:00:15...</div><div></div></div></div></div>																																										

Topic	Feature Description
CALPOST	<p>Plot Files with the Same Results Value for all Receptors</p> <p>Contours cannot be generated for plot files containing the same concentration/deposition values for all receptor locations. In this case, a message is displayed and the Max value is also displayed in the status bar.</p> 
Import	<p>Improved Routines to Import Sources from an AERMOD View Generated Excel File</p> <p>Improvements were made on the routines to import sources from the Excel file exported from an AERMOD View project. CALPUFF View is now fully compatible with the "Source-Parameters" Excel file generated by AERMOD View. The only AERMOD source that currently does not have a corresponding source in CALPUFF View is the LINE source.</p>

Fixed Issues

Topic	Issue Description
CALPOST	<p>CALPOST Scaling Factor</p> <p>In the CALPOST Scaling option, the calculations performed when the Additive Scaling Factor (B) was provided were not being used the CALPOST model for version 6 and 7. This issue is now resolved.</p> <p>Also, the B Factor units can now be provided in the same units selected for the CALPOST output (e.g., ug/m³).</p> 
Coastline	<p>Coastline File Support for Non-UTM Projections</p> <p>The routine for writing a coastline file has been updated to write the CALPUFF-expected value of -999 for the UTM Zone when the project's projection is not UTM.</p>
Percentile	<p>Percentile Plotfiles for Sampling Grid Receptors</p> <p>If a project used Sampling Grid receptors with a factor > 1, then the generated Percentile plotfiles presented a shift in the coordinates of the sampling grid receptor points. This issue has been resolved.</p>
Percentile	<p>Percentile Plotfiles Values set to -9.9900E+37</p> <p>When a percentile value could not be calculated (e.g., not enough values in the sample), a null value of -9.9900E+37 was being written to the percentile plotfile. The process was updated to write a value of 0.0000E+00 instead.</p>


Topic	Issue Description																								
CALPUFF Wizard	<p>Wrong Caption for H2O2 Data File</p> <p>The wrong caption (Specify Ozone Data File) was being displayed when user pressed the  button to specify the H2O2 background concentration data file. These captions have been fixed. This issue was only related to the caption and the file was being properly specified in the CALPUFF input file.</p> 																								
Reports	<p>Correction for Averaging Period Label Less than 1-Hour</p> <p>The Results Summary report was showing the wrong label (HOUR) for averaging periods less than 1 hour (e.g., 10-Min). This issue has been resolved.</p> <div><div>Results Summary</div><div>Odor Modeling Example</div><table><tr><th colspan="8">ODOR - Concentration: [Odour Units]</th></tr><tr><th>Average Period</th><th>Rank</th><th>Peak</th><th>Year, Julian Day, Start Hour</th><th>X [km]</th><th>Y [km]</th><th>Receptor</th><th>Receptor Type</th></tr><tr><td>10 HOUR</td><td>1</td><td>3.3817E+001</td><td>2007, 152, 1900</td><td>540.073</td><td>4815.085</td><td>62, 59</td><td>GRIDDED</td></tr></table></div>	ODOR - Concentration: [Odour Units]								Average Period	Rank	Peak	Year, Julian Day, Start Hour	X [km]	Y [km]	Receptor	Receptor Type	10 HOUR	1	3.3817E+001	2007, 152, 1900	540.073	4815.085	62, 59	GRIDDED
ODOR - Concentration: [Odour Units]																									
Average Period	Rank	Peak	Year, Julian Day, Start Hour	X [km]	Y [km]	Receptor	Receptor Type																		
10 HOUR	1	3.3817E+001	2007, 152, 1900	540.073	4815.085	62, 59	GRIDDED																		

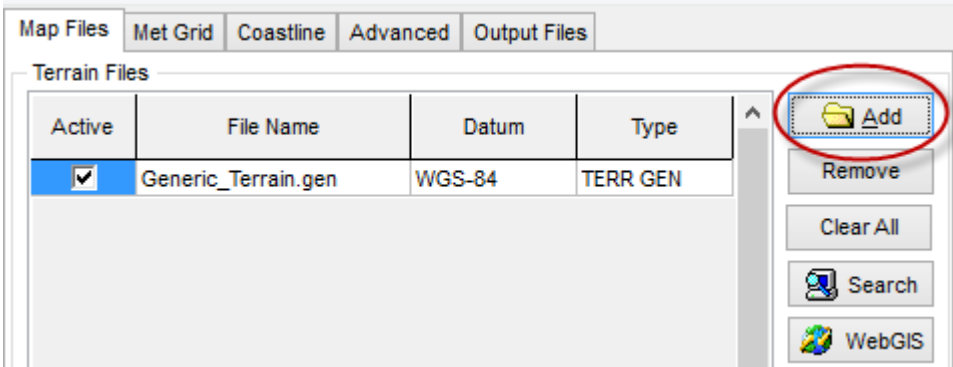
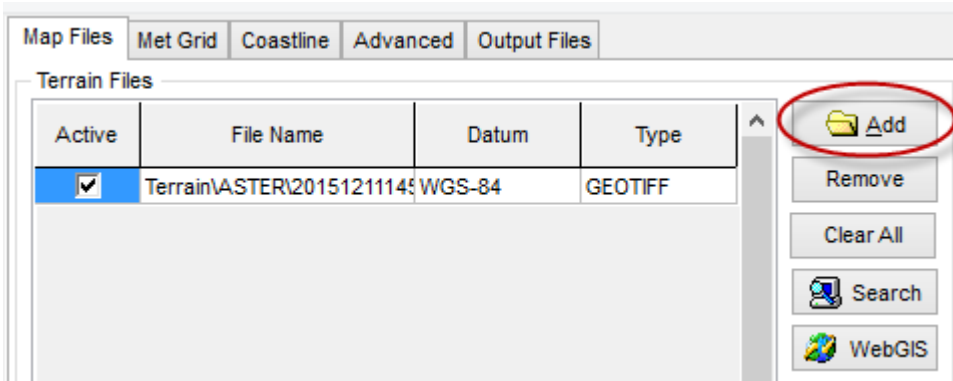
CALPUFF View™ Version 8.1.0

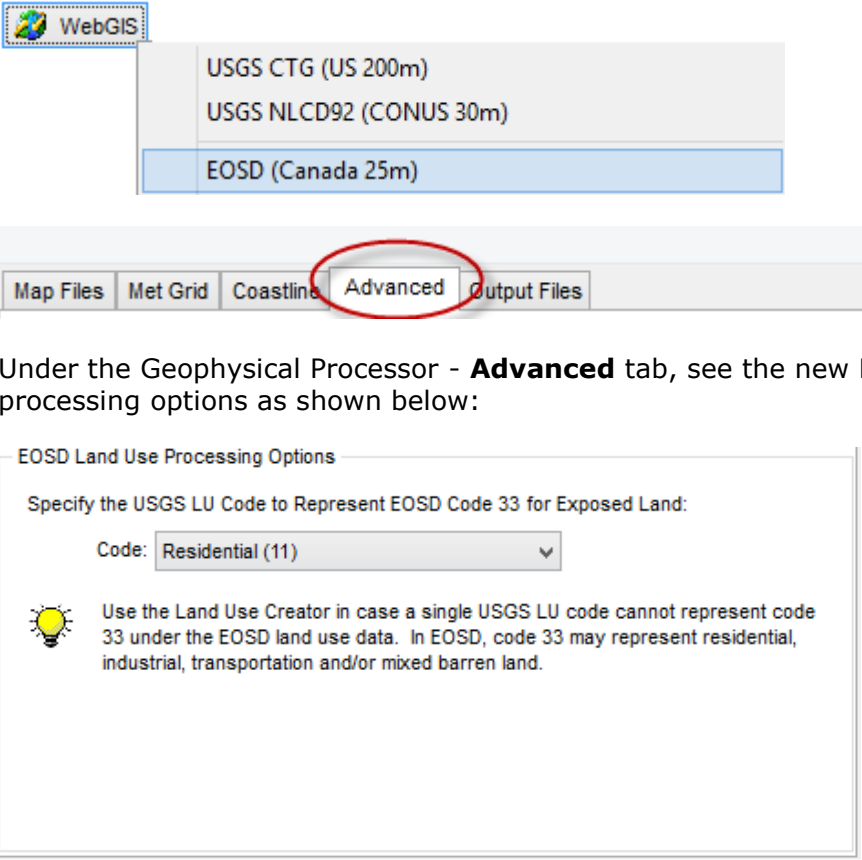

Release Notes

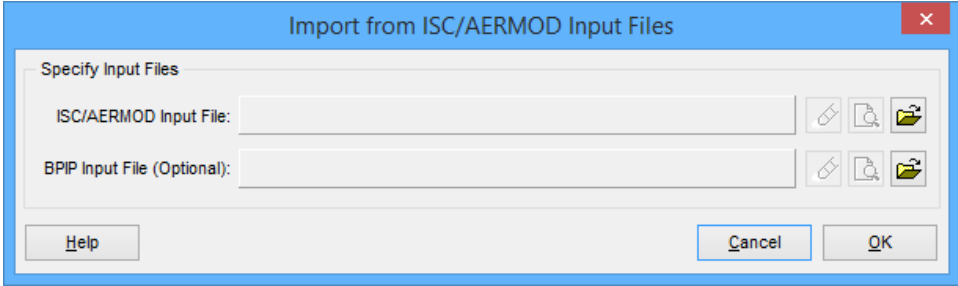
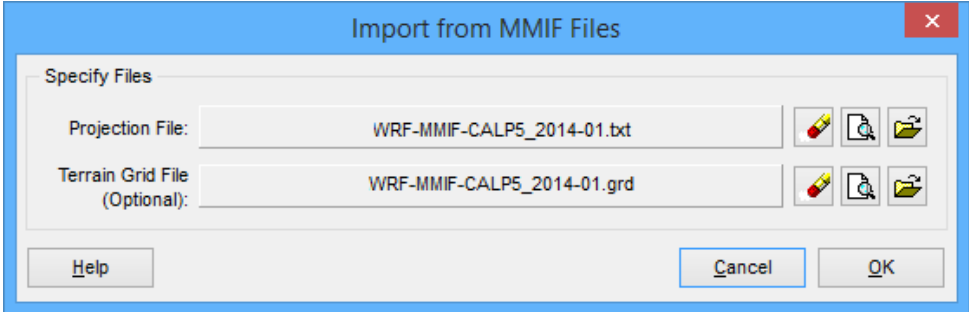
December 16, 2015

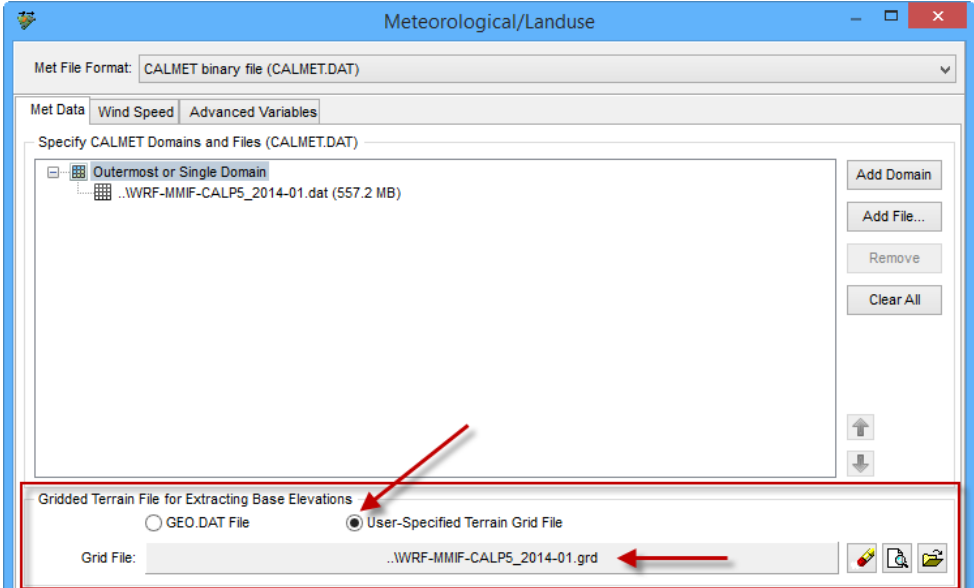
New Features

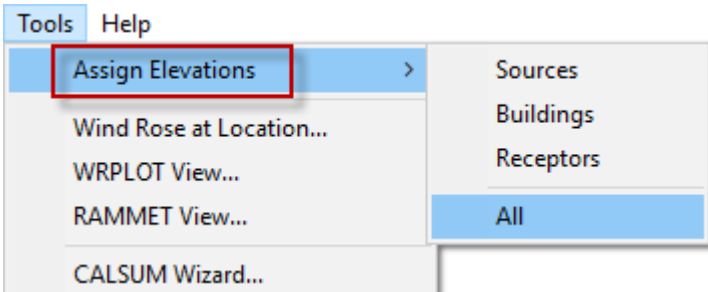
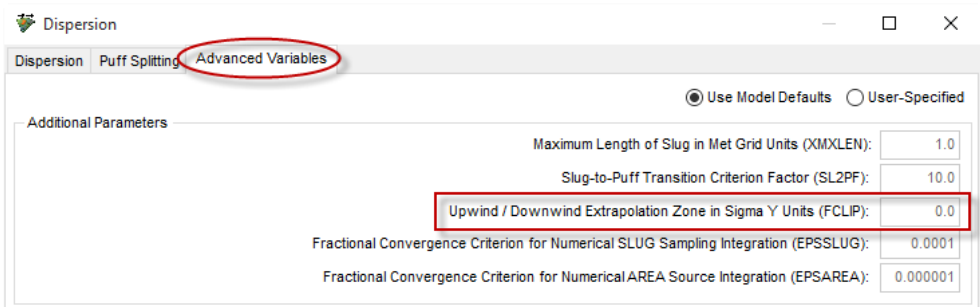
Topic	Feature Description
Geophysical Processor	<p>Support for New Terrain File Format – SRTM1 Global Version 3</p> <p>Data offerings from WebGIS in the Terrain Files section now includes the SRTM1 (Global ~30m) – Version 3 data.</p> <p>This terrain data, from NASA, had voids filled using other data sources such as the ASTER GDEM2, GMTED2010, and NED. SRTM1 Version 3 is the highest quality SRTM data available to date. It covers regions between 60° north and 56° south latitude with exception of a few regions in west Asia and northeast Africa which may be available in the near future.</p>  <p>Note 1: The download of “SRTM1 Global – Version 3” terrain data is only available to users with current maintenance.</p> <p>Note 2: The automated download of SRTM1 Version 2, which covered only the USA, was discontinued. You can still upload these files (*.hgt) using the Add button.</p>

Topic	Feature Description
Geophysical Processor	<p>Support for Generic Terrain File Format (GEN)</p> <p>The Geophysical Processor can now support the Generic Terrain (GEN) format (All Model Versions).</p> <p>The Generic format is described in the Help file. Once you prepare your data in the Generic format (*.gen), you can specify it by using the Add button.</p>  <p>The screenshot shows the 'Geophysical Processor' window with tabs for 'Map Files', 'Met Grid', 'Coastline', 'Advanced', and 'Output Files'. The 'Advanced' tab is selected, showing the 'Terrain Files' section. It contains a table with columns 'Active', 'File Name', 'Datum', and 'Type'. One row is listed: 'Generic_Terrain.gen' with datum 'WGS-84' and type 'TERR GEN'. To the right of the table are buttons for 'Add' (circled in red), 'Remove', 'Clear All', 'Search', and 'WebGIS'.</p>
Geophysical Processor	<p>Support for ASTER Global DEM Terrain File Format (GeoTIFF)</p> <p>The Geophysical Processor can now support the ASTER Global Terrain data in GeoTIFF format and Lat/Long projection (Model Versions 6 & 7).</p> <p>ASTER DEM terrain data (~30m resolution) be downloaded from the USGS site below:</p> <p>http://gdex.cr.usgs.gov</p> <p>You can specify ASTER terrain files (*.tif) by using the Add button.</p>  <p>The screenshot shows the 'Geophysical Processor' window with the same tabs as above. The 'Advanced' tab is selected, showing the 'Terrain Files' section. The table now has two columns: 'Active', 'File Name', 'Datum', and 'Type'. One row is listed: 'Terrain\ASTER\20151211145' with datum 'WGS-84' and type 'GEOTIFF'. To the right of the table are buttons for 'Add' (circled in red), 'Remove', 'Clear All', 'Search', and 'WebGIS'.</p>

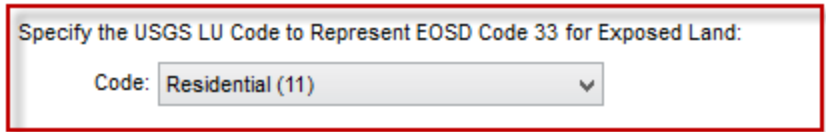
Topic	Feature Description
Geophysical Processor	<p>Additional Options for Processing EOSD Land Use Data</p> <p>After downloading EOSD Land Use Data (Canada 25m), a warning message is displayed asking the user to specify which USGS LU code should be used to convert EOSD "Exposed Land" category. The Exposed Land type in the EOSD dataset is used to represent several USGS land use types: Residential, Industrial, Commercial, Transportation, and/or Mixed Barren Land.</p>  <p>Under the Geophysical Processor - Advanced tab, see the new EOSD processing options as shown below:</p> <p>EOSD Land Use Processing Options</p> <p>Specify the USGS LU Code to Represent EOSD Code 33 for Exposed Land:</p> <p>Code: <input type="text" value="Residential (11)"/></p> <p> Use the Land Use Creator in case a single USGS LU code cannot represent code 33 under the EOSD land use data. In EOSD, code 33 may represent residential, industrial, transportation and/or mixed barren land.</p> <p>Note: The modeler should always check the final processed land use data to see if it is representing the modeling area appropriately. Changes can be made to land use categories assigned to cells using the Land Use Creator.</p>

Topic	Feature Description
New Project	<p>Create Project from ISC/AERMOD Input File</p> <p>The option to create a new CALPUFF View project from an ISC or AERMOD input file using the File Create from ISC/AERMOD Input File menu option, now includes option to specify the BPIP input file containing information on the buildings.</p> 
New Project	<p>Create Project from MMIF Projection File</p> <p>The option to create a new CALPUFF View project from a MMIF projection file using the File Create from MMIF Projection File menu option, now includes option to specify the terrain grid file (*.grd) generated by the US EPA MMIF program.</p> 

Topic	Feature Description
CALPUFF Wizard	<p>Option to Specify Gridded Terrain File to Extract Base Elevations</p> <p>A new interface option was introduced under the CALPUFF Wizard – Meteorological/Landuse window to support projects that use CALPUFF-Ready WRF/MM5 generated by MMIF which bypasses the use of the CALMET model.</p> <p>When using this type of data, the modeler should extract base elevations for sources, receptors, and buildings from the same terrain data set used to process the WRF/MM5 data and not from a GEO.DAT. Newer versions of the MMIF program will generate a gridded terrain file (*.GRD) that can be used in this case. See the Help file for further description how to obtain the GRD file.</p> 

Topic	Feature Description
Tools Menu	<p>New Option added to Tools Menu – Assign Elevations</p> <p>The new “Assign Elevations” option was introduced under the Tools menu which allows users to assign terrain elevations to all sources, receptors, and/or buildings. The same feature was already available under the Geophysical Processor window. This feature is of great use in case the GEO.DAT file was generated after sources, receptors, and buildings were specified.</p> 
CALPUFF Wizard	<p>FCLIP Parameter was Introduced in CALPUFF Wizard</p> <p>The advanced variable “FCLIP” which is available in CALPUFF model version 7 is now available in the interface. FCLIP is the upwind/downwind extrapolation zone in sigma-y units. The CALPUFF model uses the default 0.0 which means “No Extrapolation” in case this variable is omitted.</p> 

Fixed Issues

Topic	Issue Description
CALSUM	<p>CALSUM Executable for Version 7 Not Properly Identified</p> <p>When running CALSUM under the Version 7 modeling system, the CALSUM executable associated with the Version 6 system was being used. This issue has been corrected.</p>
Geophysical Processor & Land Use Creator	<p>Conversion of EOSD Land Use Categories Updated</p> <p>The EOSD "Exposed Land" category (code 33) was always being mapped to the USGS Residential Land Use (code 11).</p> <p>The Exposed Land type, in the EOSD dataset, is used to represent several USGS land use types: Residential, Industrial, Commercial, Transportation, and/or Mixed Barren Land.</p> <p>A new EOSD processing option was implemented to allow the user to make the decision of which land use category to apply in each case.</p> 
Land Use Creator	<p>Conversion Issue of EOSD into NLCD92 in Land Use Creator</p> <p>When using the option "Tools Land Use Creator NLCD92" and downloading the EOSD land use data from the WebGIS button, the EOSD land use categories were not properly recognized.</p>
Sources	<p>Incorrect Number of Area Sources Identified</p> <p>In cases where the user specified a polygonal area source that had one of the vertices repeated, the CALPUFF model would fail due to CALPUFF View's improperly separating these polygons into area sources with a maximum of 4 vertices (CALPUFF model limitation). This issue has been fixed.</p>
Overlays	<p>Wind Field Overlay Visibility Status</p> <p>Fixed an issue where the status of the Wind Field layer when set to invisible was not maintained.</p>

CALPUFF View™ Version 8.0.0

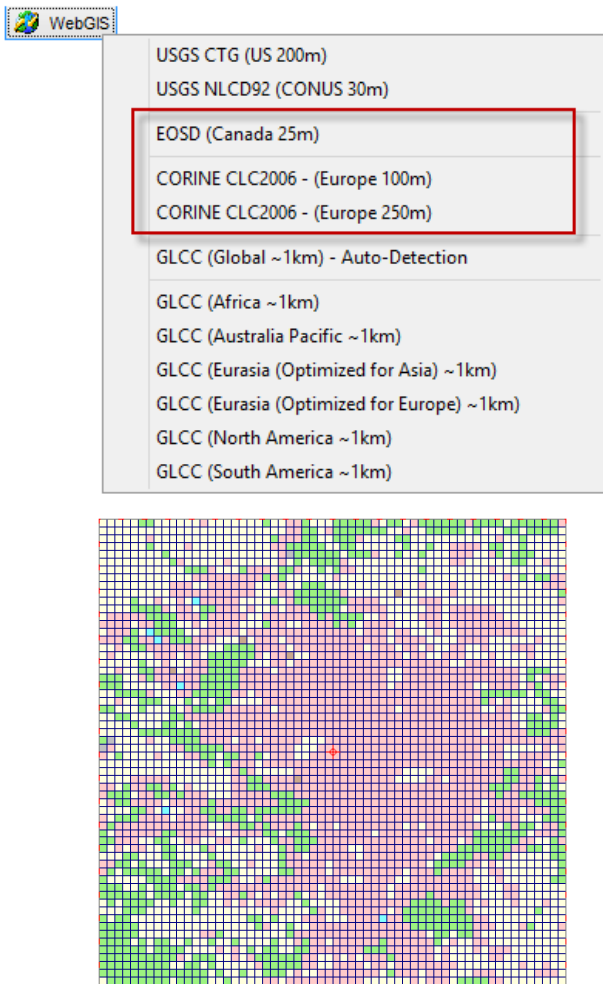
Release Notes




November 30, 2015


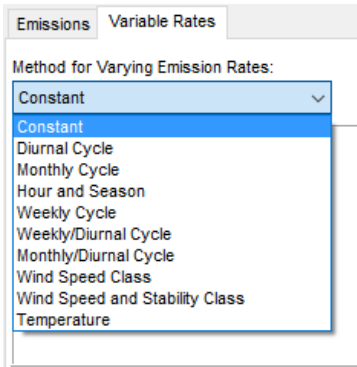
New Features

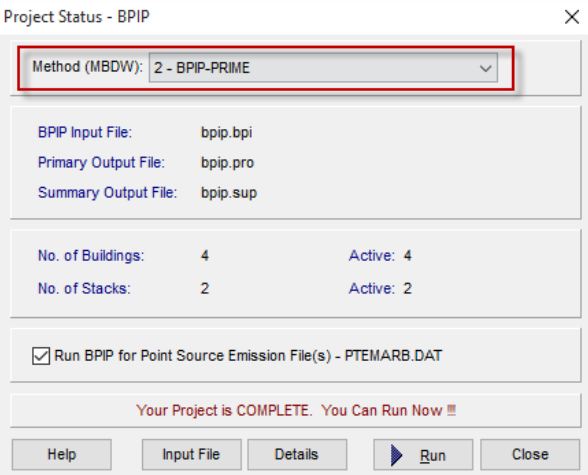
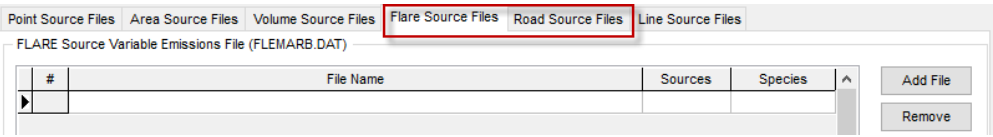
Topic	Feature Description																																																
Models	<p>Support for CALPUFF System Version 7 Models</p> <p>CALPUFF View Version 8.0 supports the latest Exponent CALPUFF Version 7 model and the related models as per the table below:</p> <table><tr><th>Model</th><th>Version</th><th>Level</th></tr><tr><td>CALMET</td><td>6.5.0</td><td>150223</td></tr><tr><td>CALPUFF</td><td>7.2.1</td><td>150618</td></tr><tr><td>CALPOST</td><td>7.1.0</td><td>141010</td></tr><tr><td>CALSUM</td><td>7.0.0</td><td>150330</td></tr><tr><td>POSTUTIL</td><td>7.0.0</td><td>150207</td></tr><tr><td>TERREL</td><td>7.0.0</td><td>141010</td></tr><tr><td>CTGCOMP</td><td>2.253</td><td>110225</td></tr><tr><td>CTGPROC</td><td>7.0.0</td><td>150211</td></tr><tr><td>MAKEGEO</td><td>3.2</td><td>110401</td></tr><tr><td>SMERGE</td><td>5.7.0</td><td>121203</td></tr><tr><td>PXTRACT</td><td>4.253</td><td>110225</td></tr><tr><td>PMERGE</td><td>5.633</td><td>110225</td></tr><tr><td>READ62</td><td>5.661</td><td>110225</td></tr><tr><td>BUOY</td><td>7.0.0</td><td>141010</td></tr><tr><td>METSCAN</td><td>4.0</td><td>010315</td></tr></table> <p>To install the models, follow the CALPUFF Model Download Instructions document found on the CALPUFF View update webpage. You can select Version 7 from the Model menu.</p> <div><div>Model</div><div>EditViewImportExport</div><div><div>EPA Approved Version</div><div>Version 6</div><div><div>✓</div>Version 7</div></div></div> <p>Note: The Version 6 Model option is still available for backward compatibility only. Model executables supported under Version 6 were released by TRC in 2011.</p>	Model	Version	Level	CALMET	6.5.0	150223	CALPUFF	7.2.1	150618	CALPOST	7.1.0	141010	CALSUM	7.0.0	150330	POSTUTIL	7.0.0	150207	TERREL	7.0.0	141010	CTGCOMP	2.253	110225	CTGPROC	7.0.0	150211	MAKEGEO	3.2	110401	SMERGE	5.7.0	121203	PXTRACT	4.253	110225	PMERGE	5.633	110225	READ62	5.661	110225	BUOY	7.0.0	141010	METSCAN	4.0	010315
Model	Version	Level																																															
CALMET	6.5.0	150223																																															
CALPUFF	7.2.1	150618																																															
CALPOST	7.1.0	141010																																															
CALSUM	7.0.0	150330																																															
POSTUTIL	7.0.0	150207																																															
TERREL	7.0.0	141010																																															
CTGCOMP	2.253	110225																																															
CTGPROC	7.0.0	150211																																															
MAKEGEO	3.2	110401																																															
SMERGE	5.7.0	121203																																															
PXTRACT	4.253	110225																																															
PMERGE	5.633	110225																																															
READ62	5.661	110225																																															
BUOY	7.0.0	141010																																															
METSCAN	4.0	010315																																															


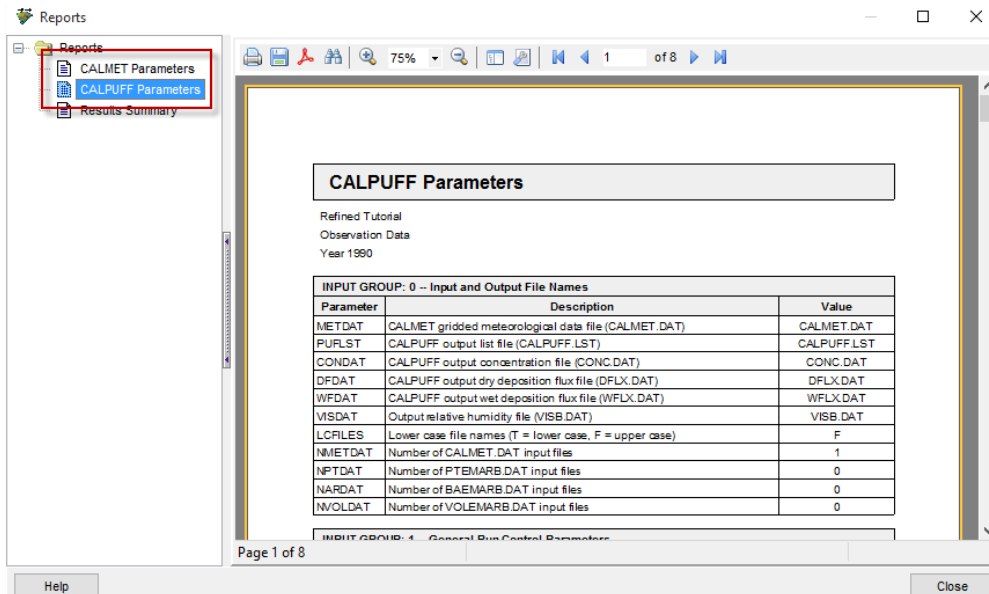
Topic	Feature Description
Geophysical Processor	<p>Support for New Terrain File Formats (Model Versions 6 & 7)</p> <p>Data offerings from WebGIS in the Terrain Files section of the Geophysical Processor have been expanded to include new formats:</p> <ul style="list-style-type: none"> • CDED 15-Min - 1:50K scale (Canada ~23-meter) • CDED 1-Deg - 1:250K scale (Canada ~93-meter) • NED 1/3 arc-second (USA ~10-meter) • NED 1 arc-second (USA, Canada, Mexico ~30-meter) <p>These formats can only be used with the Version 6 & 7 modeling systems.</p> <p>NED: National Elevation Dataset CDED: Canadian Digital Elevation Data</p> <p>Note: The download of NED terrain data is only available to users with current maintenance.</p>

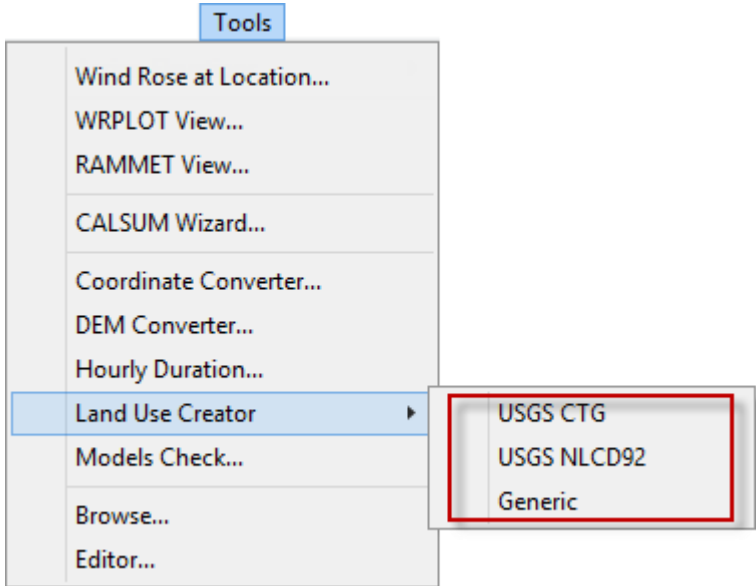
Topic	Feature Description
Geophysical Processor	<p>Support for New Land Use File Formats (Model Versions 6 & 7)</p> <p>Data offerings from WebGIS in the Land Use Files section of the Geophysical Processor have been expanded to include new formats:</p> <ul style="list-style-type: none"> • EOSD (25-meter) Land Cover (Canada) • CORINE (100-meter, 250-meter) 2006 Land Cover (Europe) <p>These formats can only be used with the Version 6 & Version 7 modeling systems.</p> <div data-bbox="594 640 1193 1617">  </div> <p>Note: The EOSD Land Cover data does not cover portions of northern Quebec, southern Ontario, southern Saskatchewan, southeastern Alberta, or Nunavut.</p>

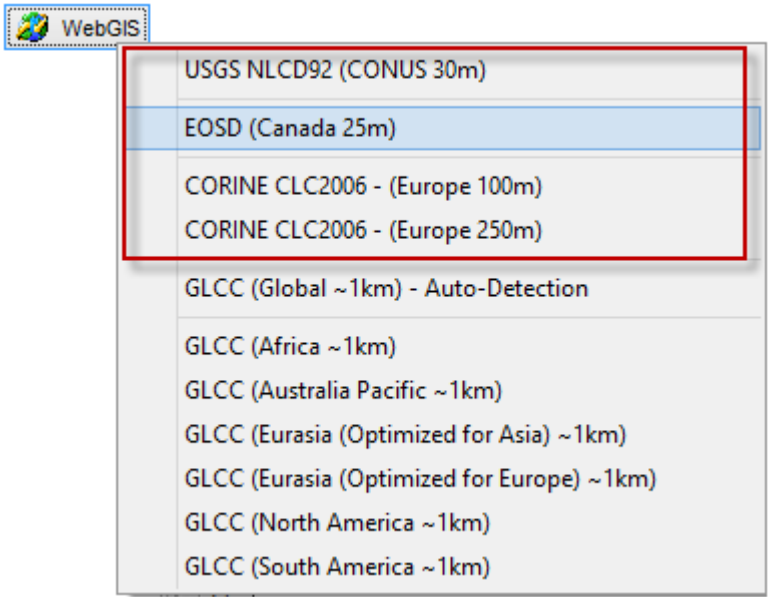
Topic	Feature Description																																																																																								
Geophysical Processor	<h3>Support for the Generic Land Use File Format (GEN)</h3> <p>The Geophysical Processor can now support the Generic Land Use (GEN) format (Model Versions 6 & 7).</p> <p>The Generic format is described in the Help file. Once you prepare your data in the Generic format, you can specify it by using the  button.</p>																																																																																								
Geophysical Processor	<h3>Create Custom Land Use Properties</h3> <p>The Land Use Properties feature of the Geophysical Processor (found under the Advanced tab) has been enhanced to allow users to import their own custom categories and land use properties.</p> <p>Select the Browse icon to open the full Land Use Properties table and open the User Defined (GEO_UD.DAT) options table. Users can add or remove categories and edit all properties for each category.</p> <p>Data can also be imported from or exported to Excel spreadsheet.</p> <div><p>Land Use Properties</p><div><p>Land Use: Default </p><p> Click here to select seasonal defaults or user-defined values. Here, you can also add land use classes if your data does not use the USGS 38 class system.</p></div><div><p>Land Use Properties</p><p>Seasonal Parameters Land Use Parameters</p><p>Land Use Properties</p><p>Options: User Defined (GEO_UD.DAT) Description: Add Remove Actions Default</p><table><thead><tr><th>#</th><th>Input Category</th><th>Zo [m]</th><th>Albedo (0 to 1)</th><th>Bowen Ratio</th><th>Soil Heat Flux Parameter</th><th>Anthropogenic Heat Flux [W/m²]</th><th>Leaf Area Index</th><th>Output Category ID</th><th>Description</th><th>Color</th></tr></thead><tbody><tr><td>1</td><td>11</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Residential</td><td></td></tr><tr><td>2</td><td>12</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Commercial Services</td><td></td></tr><tr><td>3</td><td>13</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Industrial</td><td></td></tr><tr><td>4</td><td>14</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Transportation, Communications</td><td></td></tr><tr><td>5</td><td>15</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Industrial and Commercial</td><td></td></tr><tr><td>6</td><td>16</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Mixed Urban or Built-Up Land</td><td></td></tr><tr><td>7</td><td>17</td><td>1.00</td><td>0.18</td><td>1.5</td><td>0.25</td><td>0.0</td><td>0.20</td><td>10</td><td>Other Urban or Built-Up Land</td><td></td></tr></tbody></table></div></div>	#	Input Category	Zo [m]	Albedo (0 to 1)	Bowen Ratio	Soil Heat Flux Parameter	Anthropogenic Heat Flux [W/m ²]	Leaf Area Index	Output Category ID	Description	Color	1	11	1.00	0.18	1.5	0.25	0.0	0.20	10	Residential		2	12	1.00	0.18	1.5	0.25	0.0	0.20	10	Commercial Services		3	13	1.00	0.18	1.5	0.25	0.0	0.20	10	Industrial		4	14	1.00	0.18	1.5	0.25	0.0	0.20	10	Transportation, Communications		5	15	1.00	0.18	1.5	0.25	0.0	0.20	10	Industrial and Commercial		6	16	1.00	0.18	1.5	0.25	0.0	0.20	10	Mixed Urban or Built-Up Land		7	17	1.00	0.18	1.5	0.25	0.0	0.20	10	Other Urban or Built-Up Land	
#	Input Category	Zo [m]	Albedo (0 to 1)	Bowen Ratio	Soil Heat Flux Parameter	Anthropogenic Heat Flux [W/m ²]	Leaf Area Index	Output Category ID	Description	Color																																																																															
1	11	1.00	0.18	1.5	0.25	0.0	0.20	10	Residential																																																																																
2	12	1.00	0.18	1.5	0.25	0.0	0.20	10	Commercial Services																																																																																
3	13	1.00	0.18	1.5	0.25	0.0	0.20	10	Industrial																																																																																
4	14	1.00	0.18	1.5	0.25	0.0	0.20	10	Transportation, Communications																																																																																
5	15	1.00	0.18	1.5	0.25	0.0	0.20	10	Industrial and Commercial																																																																																
6	16	1.00	0.18	1.5	0.25	0.0	0.20	10	Mixed Urban or Built-Up Land																																																																																
7	17	1.00	0.18	1.5	0.25	0.0	0.20	10	Other Urban or Built-Up Land																																																																																

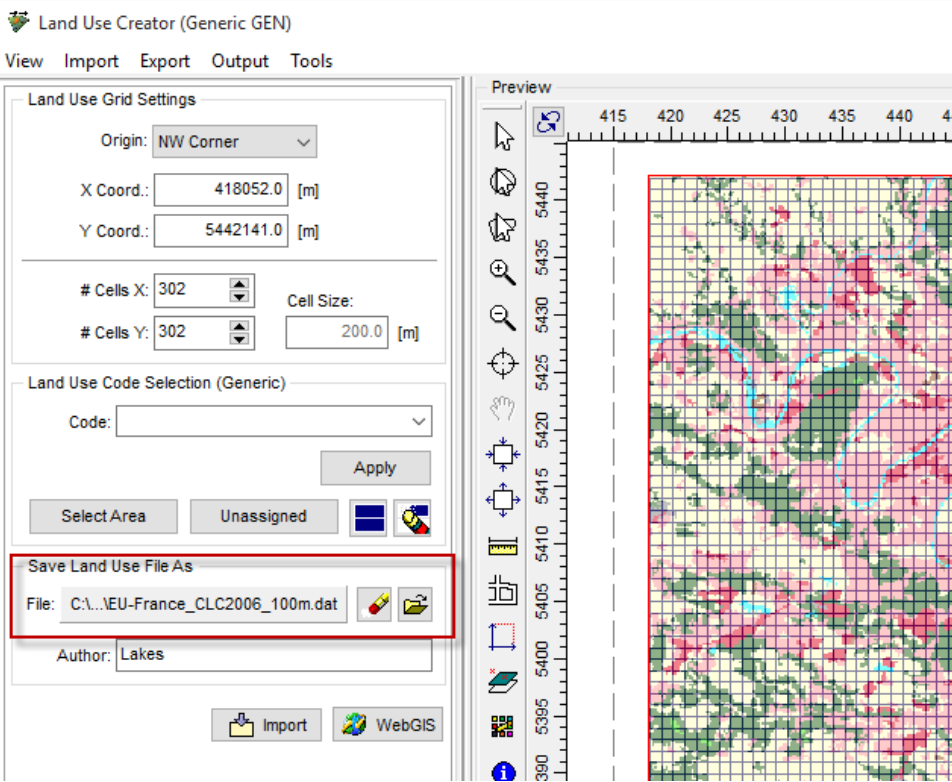
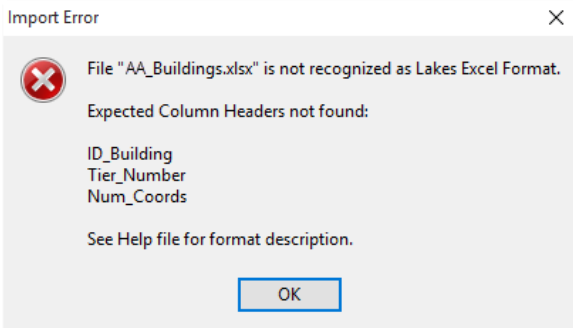
Topic	Feature Description
Sources	<p>New Road Source Type</p> <p>The Version 7 modeling system has added a new source type – Road sources. Each road-link is defined as a single link segment with uniform emissions along the segment. Each road source must include the following input parameters:</p> <ul style="list-style-type: none"> • Initial Sigma Y (m) • Initial Sigma Z (m) • Effective Release Height (m above ground level), and • Emission Rate (g/s/m) <p>CALPUFF View includes the total length of each road segment for quick reference.</p> 
Sources	<p>New Varying Emission Rates Factors</p> <p>The Version 7 modeling system allows for the application of four additional varying emission factor types:</p> <ol style="list-style-type: none"> 1. Weekly Cycle 2. Weekly / Diurnal Cycle 3. Monthly / Diurnal Cycle 4. Wind Speed Class 

Topic	Feature Description
External Sources	<p>Select Downwash Method for External Point Source Files</p> <p>When using external point source files (PTEMARB.DAT), selecting the BPIP option now presents the user with the option to choose between BPIP or BPIP-PRIME methods.</p> 
External Sources	<p>New Variable Emissions File Options</p> <p>The Version 7 modeling system supports new variable emission files for Flare and Road source types. These files can be input via the CALPUFF External Source Files menu option.</p> 

Topic	Feature Description																																				
Reports	<h3>New Reports Summarizing CALMET & CALPUFF Parameters</h3> <p>New reports are new available via the Output Reports menu. The new CALMET Parameters and CALPUFF Parameters reports contain descriptions of all model input parameters along with the project's value for each parameter.</p> <p>Reports can be sent to a printer; saved in PDF, Excel XML, and Excel OLE table format; or exported directly to PDF.</p> <div><div><div>Output</div><div>Multimedia</div><div>Tools</div><div>Hel</div></div><div><div>Contour Clipping...</div><div>Graphical Options...</div><div>Reports...</div></div><div><div></div><div>Reports</div></div></div>  <p>The screenshot shows the Reports window with the Reports menu open, highlighting the Reports... option. The Reports window displays a tree view with CALMET Parameters and CALPUFF Parameters highlighted. The main window shows the CALPUFF Parameters report, which includes a table of input and output file names.</p> <table><thead><tr><th>Parameter</th><th>Description</th><th>Value</th></tr></thead><tbody><tr><td>METDAT</td><td>CALMET gridded meteorological data file (CALMET.DAT)</td><td>CALMET.DAT</td></tr><tr><td>PURLST</td><td>CALPUFF output list file (CALPUFF.LST)</td><td>CALPUFF.LST</td></tr><tr><td>CONDAT</td><td>CALPUFF output concentration file (CONC.DAT)</td><td>CONC.DAT</td></tr><tr><td>DFDAT</td><td>CALPUFF output dry deposition flux file (DFLX.DAT)</td><td>DFLX.DAT</td></tr><tr><td>WFLDAT</td><td>CALPUFF output wet deposition flux file (WFLX.DAT)</td><td>WFLX.DAT</td></tr><tr><td>VISDAT</td><td>Output relative humidity file (VISB.DAT)</td><td>VISB.DAT</td></tr><tr><td>LCRILES</td><td>Lower case file names (T = lower case, F = upper case)</td><td>F</td></tr><tr><td>NMETDAT</td><td>Number of CALMET.DAT input files</td><td>1</td></tr><tr><td>NPTDAT</td><td>Number of PTBEMAR.BAT input files</td><td>0</td></tr><tr><td>NARDAT</td><td>Number of BAEMAR.BAT input files</td><td>0</td></tr><tr><td>NVOLDAT</td><td>Number of VOLEMAR.BAT input files</td><td>0</td></tr></tbody></table>	Parameter	Description	Value	METDAT	CALMET gridded meteorological data file (CALMET.DAT)	CALMET.DAT	PURLST	CALPUFF output list file (CALPUFF.LST)	CALPUFF.LST	CONDAT	CALPUFF output concentration file (CONC.DAT)	CONC.DAT	DFDAT	CALPUFF output dry deposition flux file (DFLX.DAT)	DFLX.DAT	WFLDAT	CALPUFF output wet deposition flux file (WFLX.DAT)	WFLX.DAT	VISDAT	Output relative humidity file (VISB.DAT)	VISB.DAT	LCRILES	Lower case file names (T = lower case, F = upper case)	F	NMETDAT	Number of CALMET.DAT input files	1	NPTDAT	Number of PTBEMAR.BAT input files	0	NARDAT	Number of BAEMAR.BAT input files	0	NVOLDAT	Number of VOLEMAR.BAT input files	0
Parameter	Description	Value																																			
METDAT	CALMET gridded meteorological data file (CALMET.DAT)	CALMET.DAT																																			
PURLST	CALPUFF output list file (CALPUFF.LST)	CALPUFF.LST																																			
CONDAT	CALPUFF output concentration file (CONC.DAT)	CONC.DAT																																			
DFDAT	CALPUFF output dry deposition flux file (DFLX.DAT)	DFLX.DAT																																			
WFLDAT	CALPUFF output wet deposition flux file (WFLX.DAT)	WFLX.DAT																																			
VISDAT	Output relative humidity file (VISB.DAT)	VISB.DAT																																			
LCRILES	Lower case file names (T = lower case, F = upper case)	F																																			
NMETDAT	Number of CALMET.DAT input files	1																																			
NPTDAT	Number of PTBEMAR.BAT input files	0																																			
NARDAT	Number of BAEMAR.BAT input files	0																																			
NVOLDAT	Number of VOLEMAR.BAT input files	0																																			

Topic	Feature Description
Land Use Creator	<p data-bbox="431 275 959 306">Select Land Use Output File Format</p> <p data-bbox="431 338 1354 401">The Land Use Creator now allows the user to define which output file format they want to build:</p> <ul data-bbox="480 432 967 558" style="list-style-type: none">• USGS CTG (200m resolution)• USGS NLCD92 (30m resolution)• Generic (adaptive resolution)  <p>The screenshot shows a software window titled 'Tools' with a list of options. The 'Land Use Creator' option is highlighted in blue. To its right, a sub-menu is open, displaying three options: 'USGS CTG', 'USGS NLCD92', and 'Generic'. These three options are enclosed in a red rectangular box.</p>

Topic	Feature Description
Land Use Creator	<p>WebGIS Support for Importing New Land Use Data Sources</p> <p>The WebGIS feature in the Land Use Creator now allows users to import land use data from USGS NLCD92, EOSD, and CORINE GeoTIFF image files. These file formats can also be imported via the Import Land Use Files... menu option.</p>  <p>Note: The download of EOSD and CORINE land use data is only available to users with current maintenance.</p>

Topic	Feature Description
Land Use Creator	<p>Direct Open and Edit Support for Generic Format Files</p> <p>Generic format land use data files can be opened directly in the Land Use Creator. Use the Open File command in the Save Land Use File As group and select the Generic land use file you want to edit.</p> 
Buildings	<p>Improved Import Error Message</p> <p>The error message presented when an improperly-formatted Excel spreadsheet is used for importing buildings has been updated to reflect why the error occurred.</p> 

Fixed Issues

Topic	Issue Description
Export Sources	Export Failure for Specific Source IDs Source IDs which followed the format E# , where # represents a numeric value, were improperly exported to Excel format due to Excel's default format assignment of such values. This has been corrected.
Map Projection	UTM Zone Disappeared Fixed an issue where the UTM Zone number would disappear after a fatal crash to the application.

Known Issues

Topic	Issue Description
Coastlines	Coastline Appears Shifted The GSHHS coastline data available via WebGIS can appear shifted from the actual coast in rare occasions. This is the result of projection and datum information applied during the archival process.