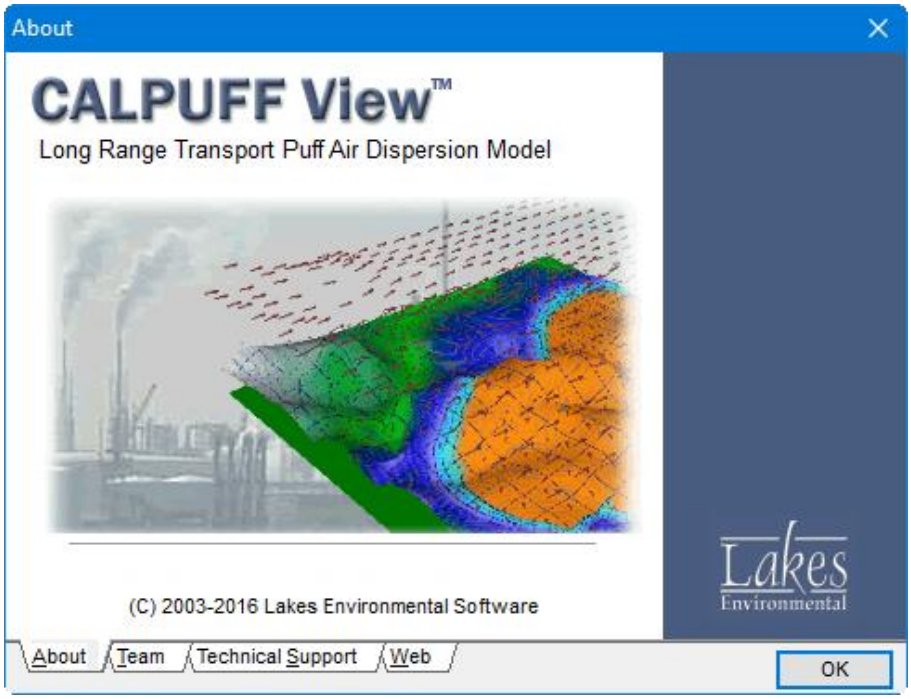
CALPUFF View™

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

Release Notes

Version 8.0, 8.1, 8.2, 8.3, 8.4, and 8.5



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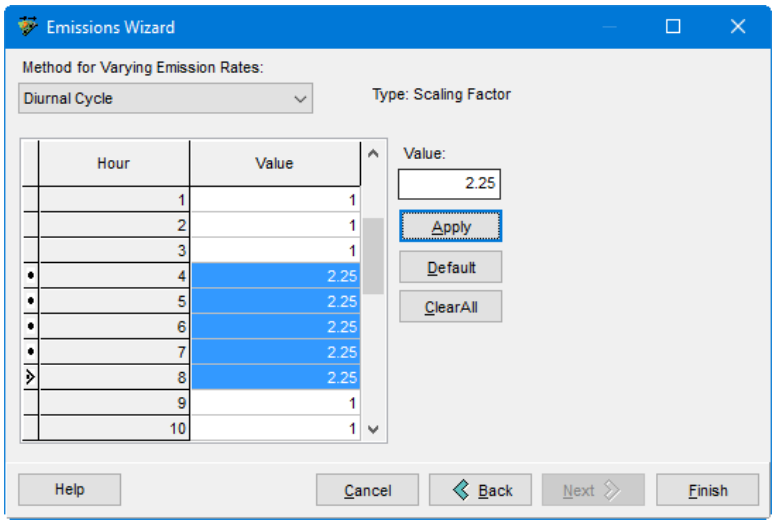
CALPUFF View™ Version 8.5.0

Release Notes

March 17, 2017

New Features

Topic	Feature Description
CALPUFF	**Multi-Row Select and Apply Values** The **Apply** button now works on user-specified selections of multiple rows instead of applying values to all cells in a table. Updated sections include **Emissions Wizard** and **Chemical Transformation** monthly ozone and ammonia tabs. 

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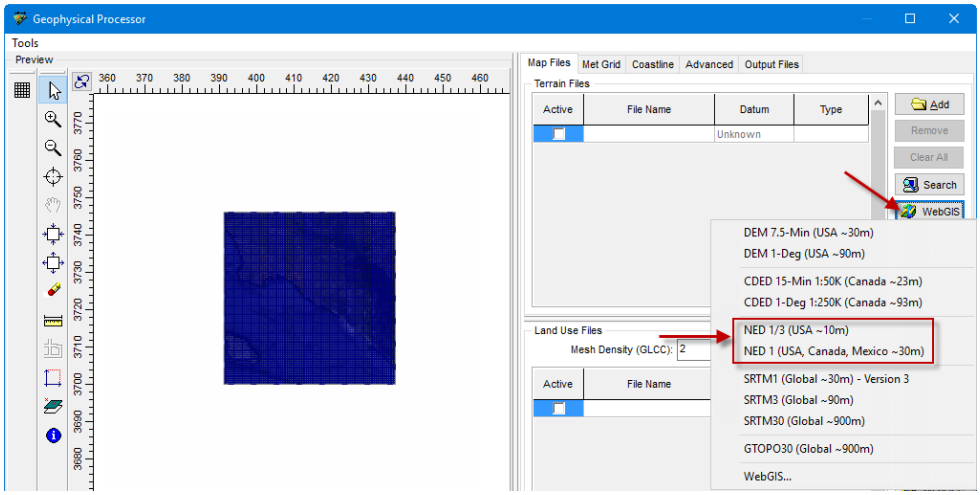
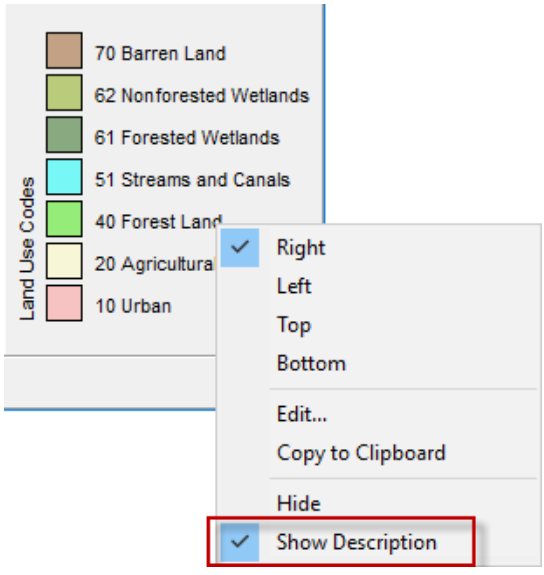
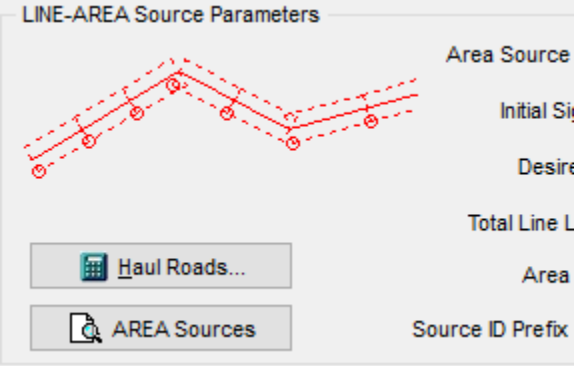
Topic	Feature Description
Geo Processor	**Updated NED Terrain Download Routines** The process for downloading USGS National Elevation Dataset 1/3 arc-second (NED 1/3) and 1 arc-second (NED 1) data formats has been updated to reflect a name change implemented by USGS in their storage servers. The updated download includes updated tiles in some locations. 
Land Use Color Ramp	**Show / Hide Description Option** The Land Use Color Ramp can now be directly modified from the context menu to show or hide the code description. Right-click the Color Ramp and select or de-select the **Show Description** option to show or hide the description. 

Topic	Feature Description
Sources	**Updated Captions for Line-Area and Line-Volume Sources** The group box captions for the Line-Area and Line-Volume source types were updated for consistency. All functionality remains the same as in prior versions. 
Sources	**Checks Against Model Version** Additional warnings were implemented to avoid errors caused by using source types with improper model versions. For example, the ROAD source type is only allowed in the Version 7 model.
Site Domain	**Updated Projection Support** Support for listed projections was updated to match settings in publicly-available model executables. The Equatorial Mercator (EM), Polar Stereographic (PS), and Lambert Azimuthal Equal Area (LAZA) projections remain supported in the interface for projects utilizing user-specified model executables. The default model executables made available by the model developer will not support these, however. Appropriate warning messages have been added.

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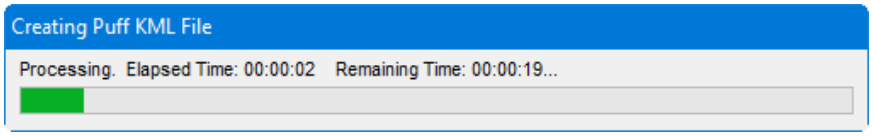
Fixed Issues

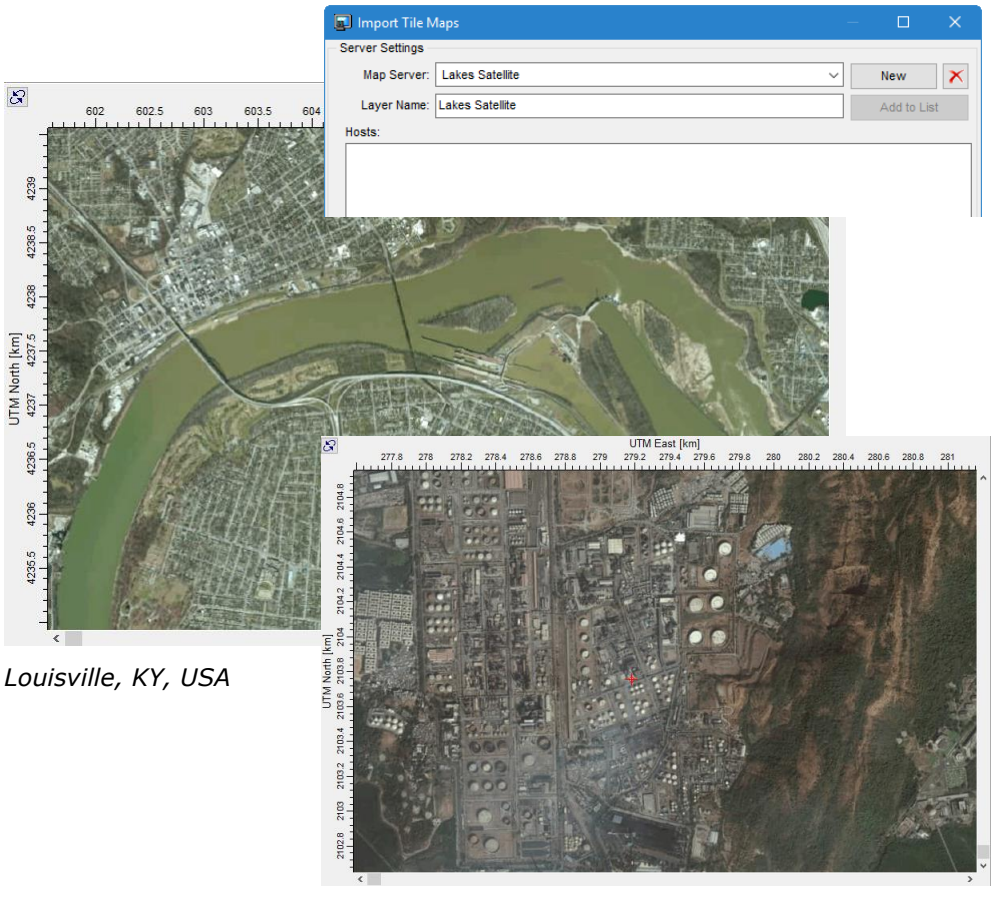
Topic	Issue Description
Export Puffs to Google Earth	**Updated Puffs to Google Earth Tool** The process for exporting puffs to Google Earth was updated to restore the Puffs Representation layer when the Puff Tracking modeled period was different from the CALPUFF start time. The updated puff generator also corrects an issue with Windows 8 and Windows 10 where old versions of Microsoft .NET were not installed by default. 
Met Preprocessor	**Overwater Template File Added** A missing overwater template file led to run failures when the Version 7 modeling system was used. The file has been added.
Sources	**Deleting Polygon Area Source Vertices** An issue was addressed which caused an error when deleting individual vertices from an individual polygon area source.
Receptors	**Nested Grid Receptor Updates** The **Generate Receptors** button in the **Nested Grid** window has been restored. In addition, the center receptor of the grid was not generated. This has been resolved.
CALSUM Utility	**Import Existing CALSUM Input Files** The utility was updated to import information more accurately from existing CALSUM input files.

CALPUFF View™ Version 8.4.0

Release Notes

September 21, 2016

New Features

Topic	Feature Description
Tile Maps	**New Map Server – Lakes Satellite** CALPUFF View now provides a new tile map server featuring aerial photography from satellite. This new **Lakes Satellite** map server has more spatial coverage and higher resolution than the previous MapQuest Satellite and MapQuest Aerial options that were previously available in CALPUFF View. Select **Import | Tile Maps** menu option to access this new option.  *Louisville, KY, USA* *Mumbai, India*

Topic	Feature Description
Tile Maps	**New Map Server – Lakes Satellite – Cont.** Below you will see a comparison of the previous satellite map and the new higher resolution **Lakes Satellite** map.  *Previous maps on those few areas with coverage at maximum resolution.*  *Maximum resolution of new map system is 4 times higher.* **Note:** Due to the high acquisition and maintenance cost of the new satellite maps, **Lakes Satellite Tile Maps** service is only available to users with a current paid maintenance agreement. If your maintenance has expired, or you are not eligible for this map service, please contact our sales department at sales@webLakes.com to upgrade your license.
Tile Maps	**Open Street Map Optimization** The Open Street Map tile maps server was optimizing to allow for faster downloads. This option is only available for users in current maintenance.

Fixed Issues

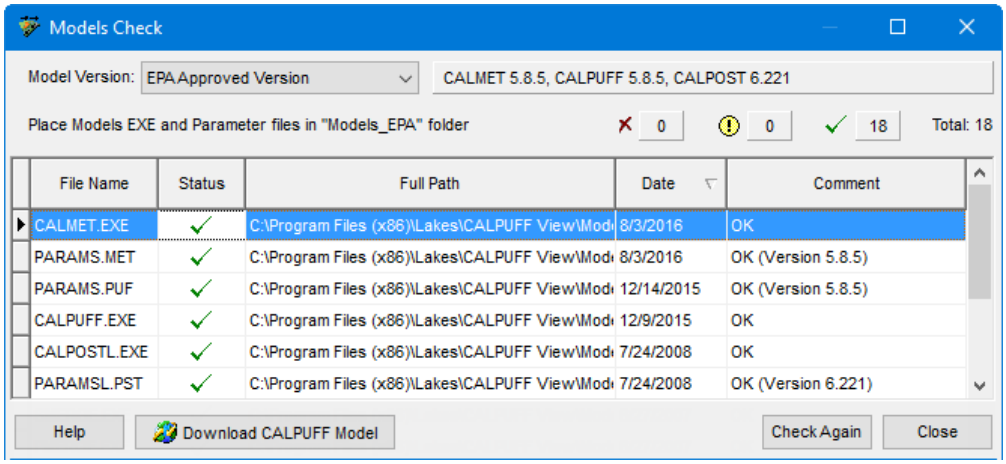
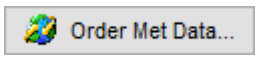
Topic	Issue Description
Species & Deposition	**Clarifications Applied to User-Specified Options** The **Species & Deposition** options were updated to make it clearer when user-specified options could and could not be used. Species from the Species Library cannot be modified but user-defined species can.

CALPUFF View™ Version 8.3.0

Release Notes

August 16, 2016

New Features

Topic	Feature Description
Models	**Support for New EPA-Approved Models** **CALPUFF View Version 8.3** now supports the new versions of CALPUFF and CALMET (Version 5.8.5, Level 151214) which were approved by the U.S. EPA. The **Models Check** utility searches for the updated **calpuff.exe**, **calmet.exe**, **params.puf**, and **params.met** when verifying the EPA-Approved executables.  **Note:** You must download the latest CALPUFF and CALMET model version 5.8.5 from the Exponent web site as the model executables are not included in the CALPUFF View installation.
CALMET & CALPUFF	**Order Met Data Button Added**  A new button was added to the **CALMET | Modules & Stations** and **CALPUFF | Met/Landuse** menus which takes users directly to the Lakes Environmental website to order prognostic meteorological data (https://www.weblakes.com/services/met_order.html). Order data from the WRF or MM5 prognostic models in either CALMET-ready or CALPUFF-ready formats.

Fixed Issues

<table>
<tr><th>Topic</th><th>Issue Description</th></tr>
<tr><td>Tile Maps</td><td>Updated Map Server List

On July 11, 2016, MapQuest announced they were discontinuing access to their map servers. This policy change means that the MapQuest Streets, MapQuest Satellite, and MapQuest Aerial tile maps are no longer available for display in our software and they have been removed from the list.

The remaining tile map servers (OpenStreetMap, OpenCycleMap, and CloudMade Maps) all continue to operate normally.

Lakes Environmental will continue to review and implement new mapping servers as they become available.</td></tr>
<tr><td>Sources</td><td>Emissions Scaling by Temperature with Version 7 Model

The default categories for the temperature varying emissions method changed in the Version 7 modeling system. The table below details the new categories.
<table>
<tr><th>Category</th><th>Previous</th><th>Version 7</th></tr>
<tr><td>1</td><td>0 C</td><td>265 K</td></tr>
<tr><td>2</td><td>5 C</td><td>270 K</td></tr>
<tr><td>3</td><td>10 C</td><td>275 K</td></tr>
<tr><td>4</td><td>15 C</td><td>280 K</td></tr>
<tr><td>5</td><td>20 C</td><td>285 K</td></tr>
<tr><td>6</td><td>25 C</td><td>290 K</td></tr>
<tr><td>7</td><td>30 C</td><td>295 K</td></tr>
<tr><td>8</td><td>35 C</td><td>300 K</td></tr>
<tr><td>9</td><td>45 C</td><td>305 K</td></tr>
<tr><td>10</td><td>50 C</td><td>310 K</td></tr>
<tr><td>11</td><td>55 C</td><td>315 K</td></tr>
<tr><td>12</td><td>55+ C</td><td>315+ K</td></tr>
</table></td></tr>
<tr><td>Geophysical Processor</td><td>Updated Land Use Properties

The default land use properties applied in MAKEGEO have been updated for several categories to more accurately match those specified in template MAKEGEO input files.</td></tr>
</table>

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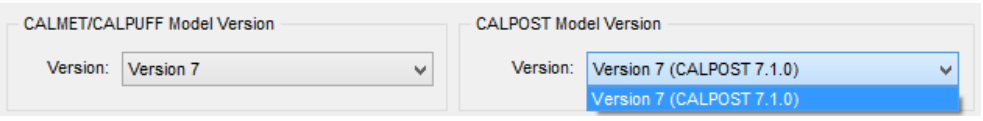
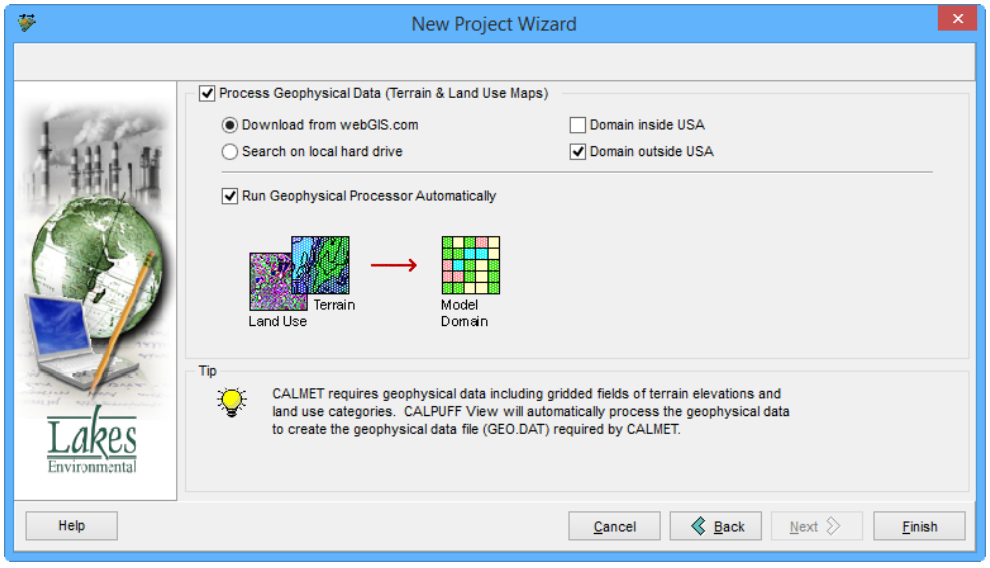
CALPUFF View™ Version 8.2.0

Release Notes

March 16, 2016

New Features

Topic	Feature Description
New Project Wizard	**Selection of CALPOST Model Versions** New checks were implemented to prevent the modeler from selecting a CALPOST model version not compatible with the selected CALPUFF model version. For example, CALPUFF model version 7 can only be used with CALPOST model version 7. 
New Project Wizard	**Auto-Download of Terrain Data Modified** 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. 

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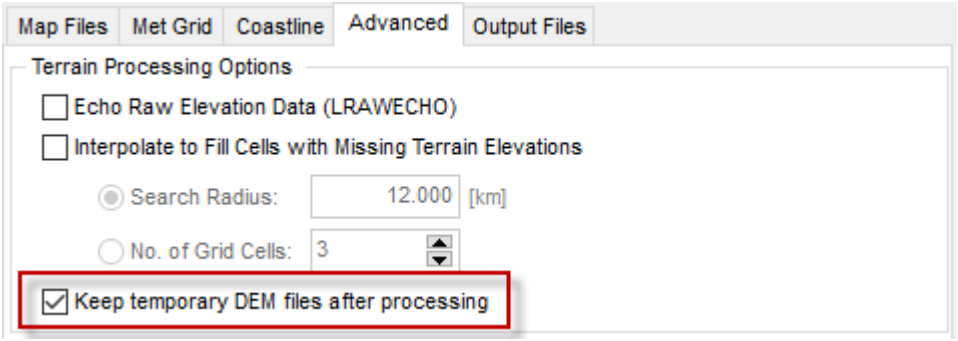
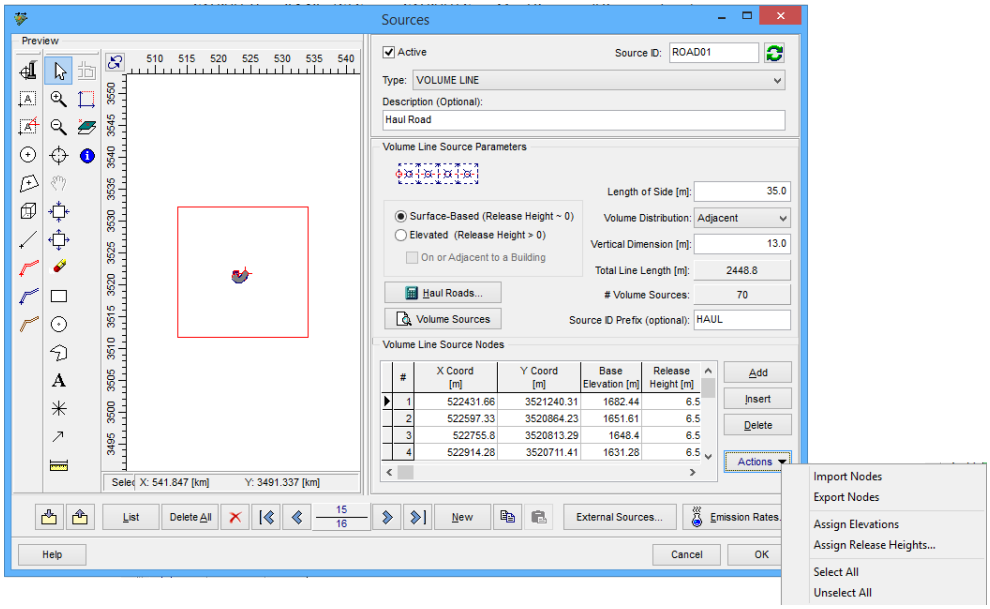
Topic	Feature Description
Geophysical Processor	**Keep Temporary DEM Files** When processing 15-minute CDED terrain data, CALPUFF View creates a series of temporary files in USGS DEM file format. An option has been added to the **Advanced** tab which allows the user to keep the temporary DEM files after processing. 
Projection	**WGS-G Datum Added** 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.
Sources	**Renaming of Source Types** 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: • 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	**Line-Volume, Line-Area, and Road Source Options** The following options are now available when specifying Line-Volume, Line-Area, and Road Sources: • Import/Export nodes from/to a CSV file • Assign ground elevations 

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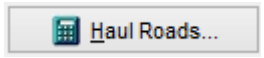
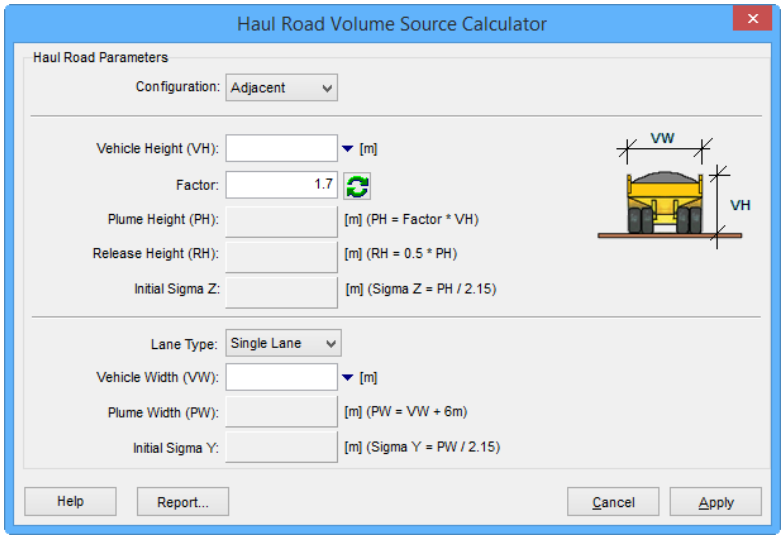
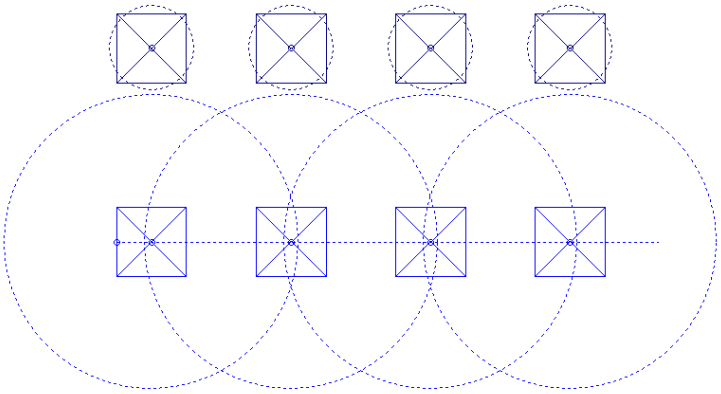
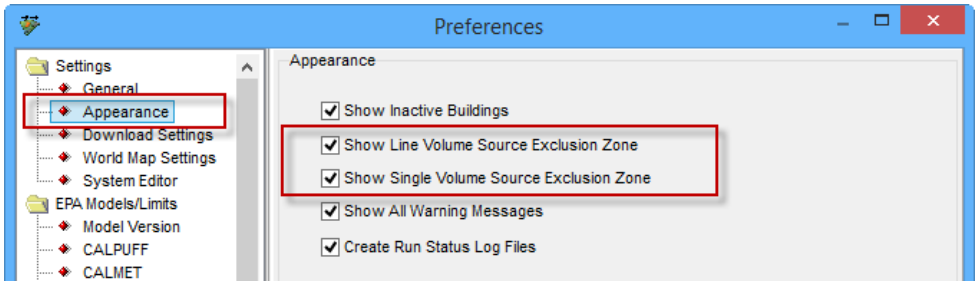
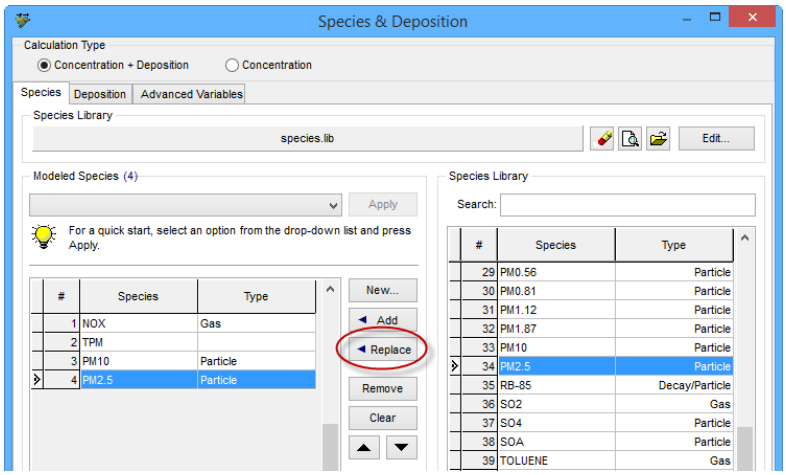
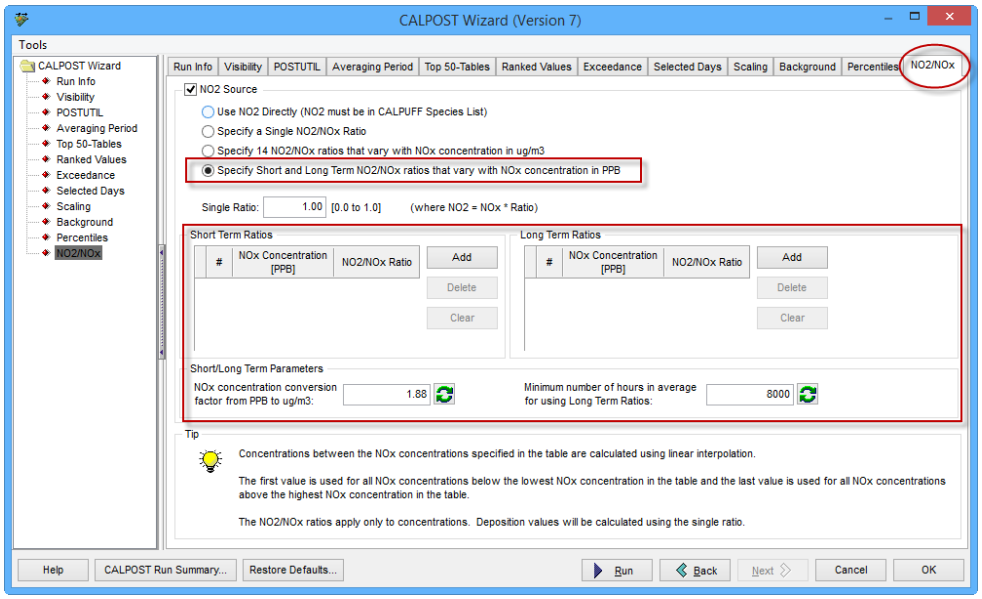
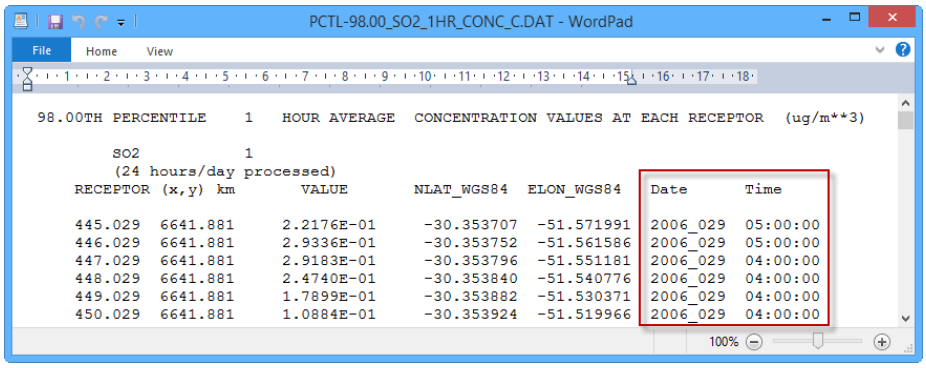
Topic	Feature Description
Sources	**Haul Roads Calculator** The **Haul Roads Calculator** is now available under the **Line-Volume** and **Line-Area** source dialogs. This calculator is based on the US EPA-OAQPS Haul Road Workgroup Final Report (March 2012).  
Sources	**Road Source Included in Excel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

Topic	Feature Description
Sources	**Updated Volume Source Display** 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. The exclusion zones for each source type can be controlled separately via the **Preferences | Settings | Appearance** menu.  

Topic	Feature Description
Species	**Option to Replace Species** 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). 

Topic	Feature Description
CALPOST	**New NO2/NOx CALPOST Options** As part of the Version 7 modeling system, the NO2/NOx CALPOST Options have been expanded to include ratios that vary with NOx concentration (PPB). Options include: • NOx Concentration Conversion Factor from PPB to µg/m^3, • Short-Term Ratios, and • Long-Term Ratios (with user-defined hour threshold) 
Percentile	**Date and Time Columns added to Percentile Plotfiles** The **Date** and **Time** columns are now available for Percentile plotfiles. 

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Topic	Feature Description
Reports	**New Report – Percentile Results Summary** A new report is now available, **Percentile Results Summary** Report, which summarizes the maximum concentration results for Percentile plots. **Percentile Results Summary** SO2 - Concentration: [ug/m**3] 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	**Export of Puff Tracking To Google Earth for Model Version 7** You can now export puff tracking to Google Earth for projects using the CALPUFF Model Version 7. In addition, the following items were implemented: • 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. Creating Puff KML File Processing. Elapsed Time: 00:00:20 Remaining Time: 00:00:15...

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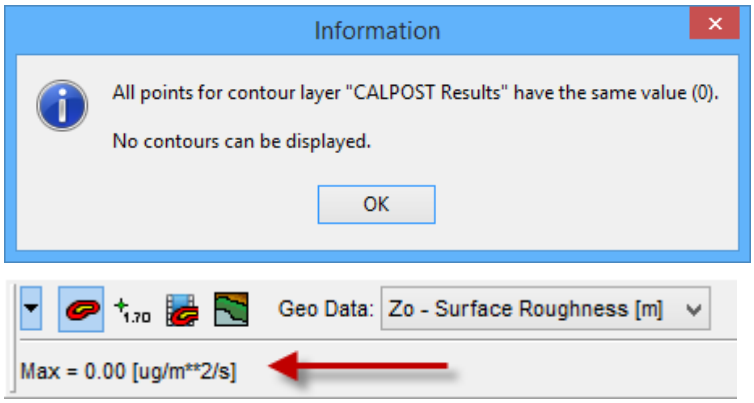
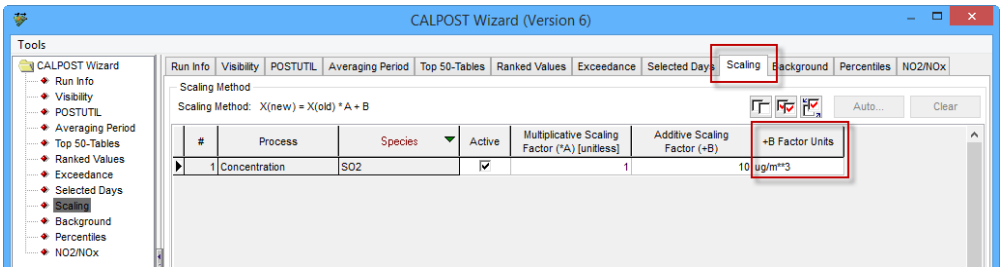
Topic	Feature Description
CALPOST	**Plot Files with the Same Results Value for all Receptors** Contours cannot be generated for plot files containing the same concentration/deposition values for all receptor locations. In this case, a message is displayed and the Max value is also displayed in the status bar. 
Import	**Improved Routines to Import Sources from an AERMOD View Generated Excel File** 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.

Fixed Issues

Topic	Issue Description
CALPOST	**CALPOST Scaling Factor** In the CALPOST Scaling option, the calculations performed when the Addictive Scaling Factor (B) was provided were not being used the CALPOST model for version 6 and 7. This issue is now resolved. Also, the B Factor units can now be provided in the same units selected for the CALPOST output (e.g., ug/m3). 
Coastline	**Coastline File Support for Non-UTM Projections** 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.
Percentile	**Percentile Plotfiles for Sampling Grid Receptors** 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.
Percentile	**Percentile Plotfiles Values set to -9.9900E+37** 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.

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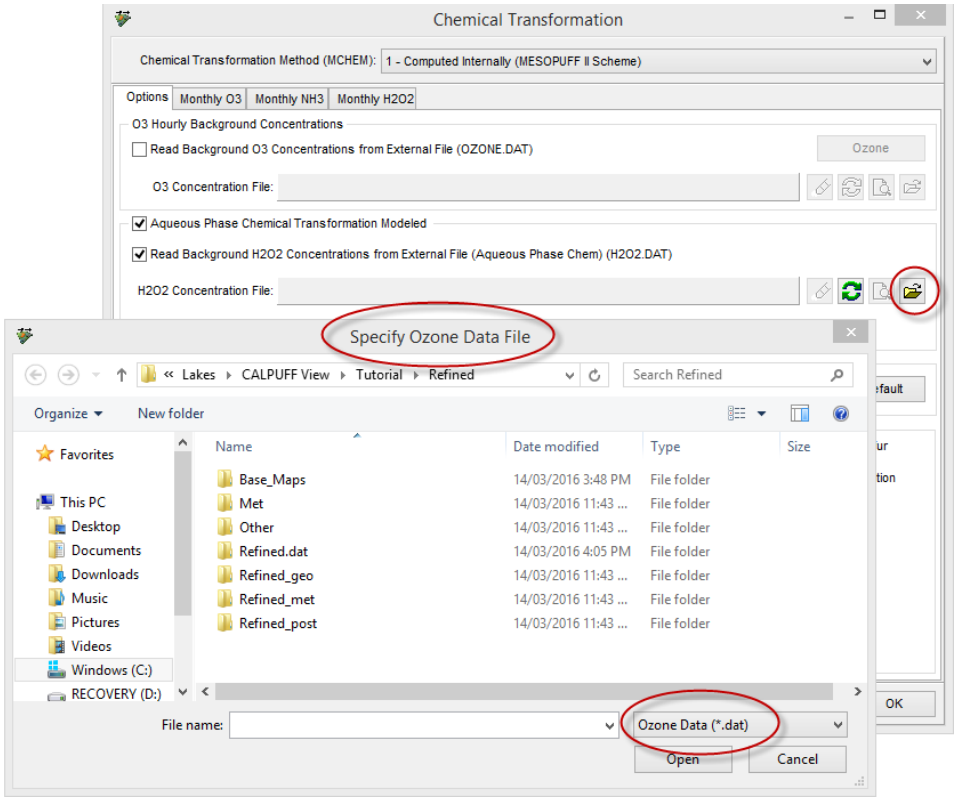
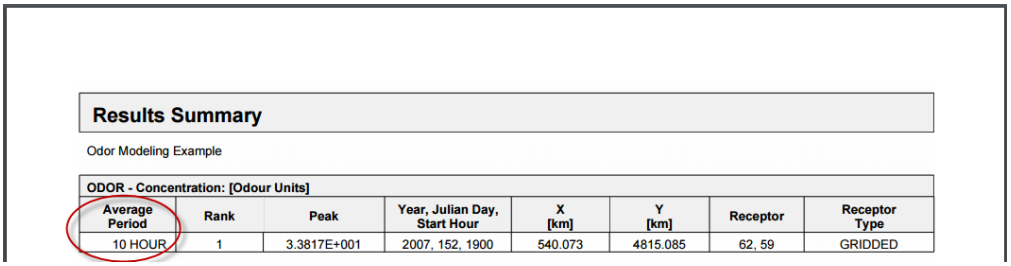
Topic	Issue Description
CALPUFF Wizard	**Wrong Caption for H2O2 Data File** The wrong caption (Specify Ozone Data File) was being displayed when user pressed the  button to specify the H2O2 background concentration data file. These captions have been fixed. This issue was only related to the caption and the file was being properly specified in the CALPUFF input file. 
Reports	**Correction for Averaging Period Label Less than 1-Hour** 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. 

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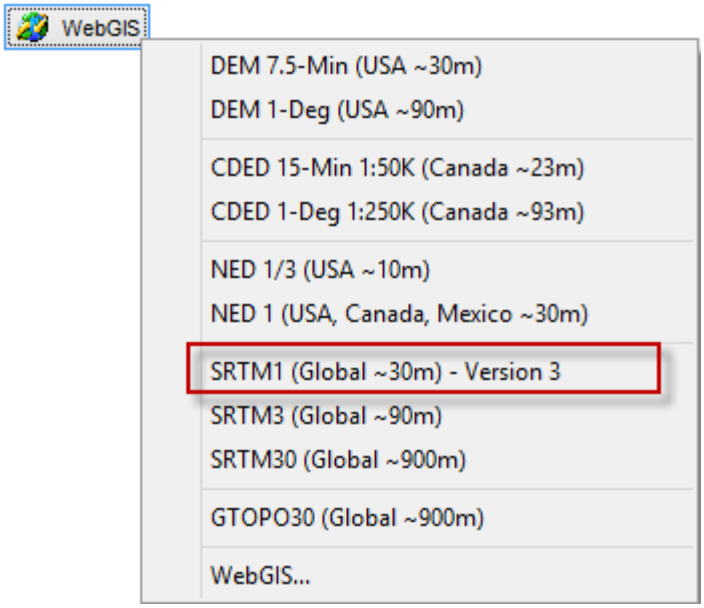
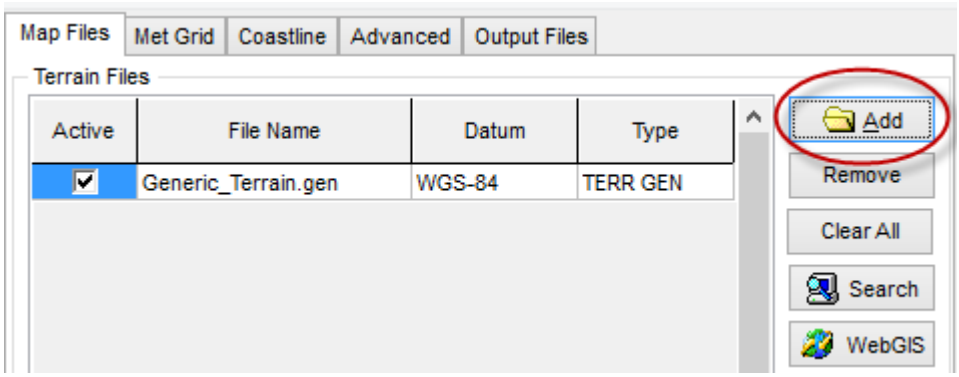
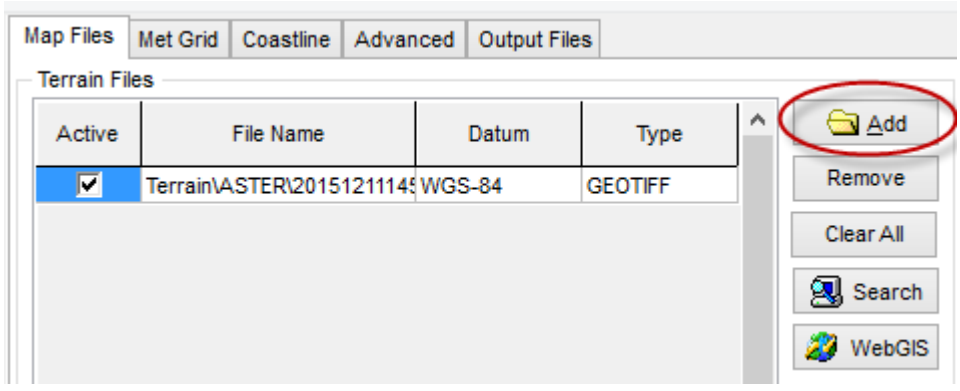
CALPUFF View™ Version 8.1.0

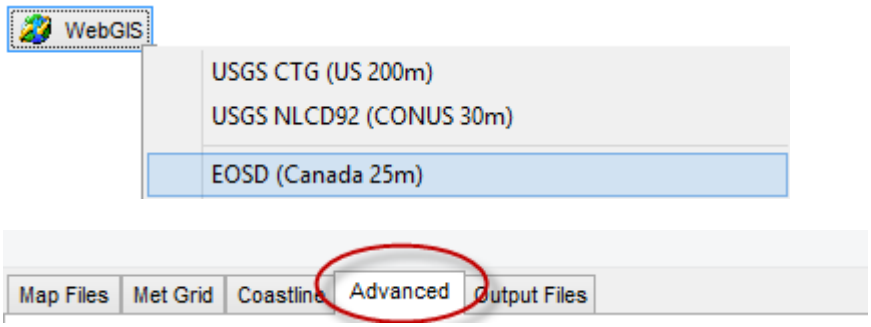
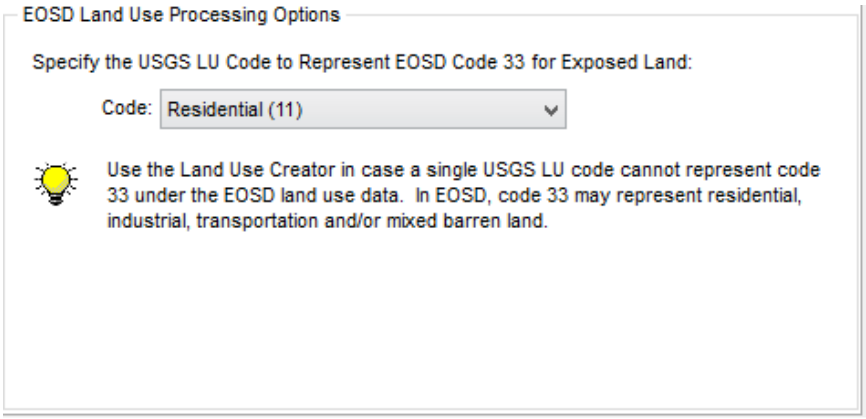
Release Notes

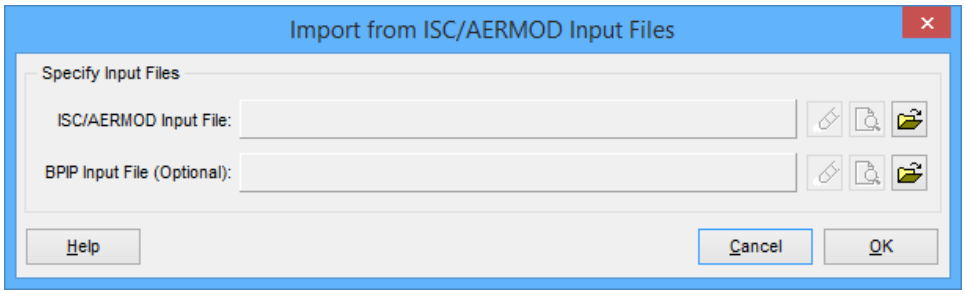
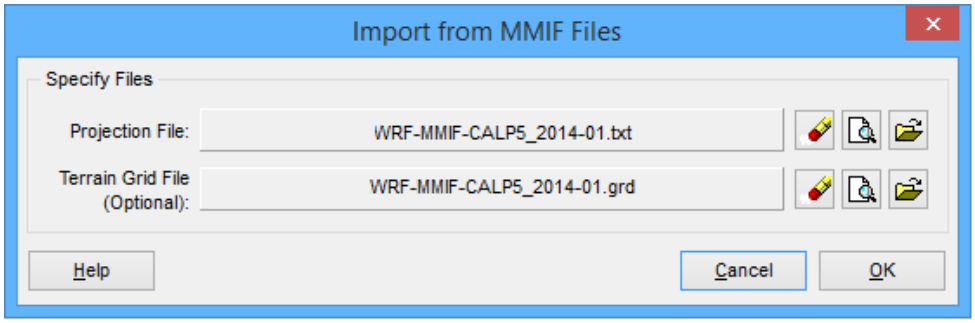
December 16, 2015

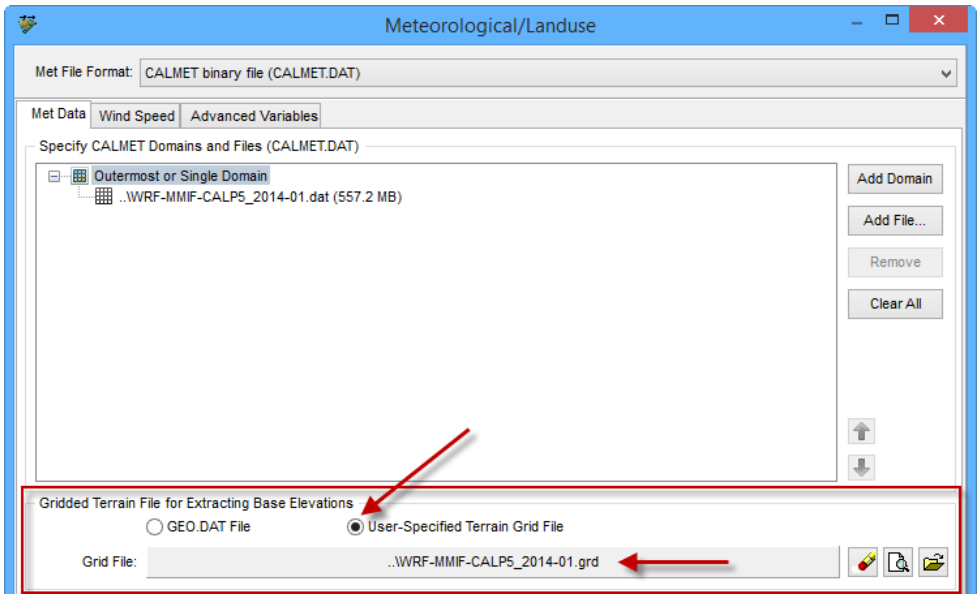
New Features

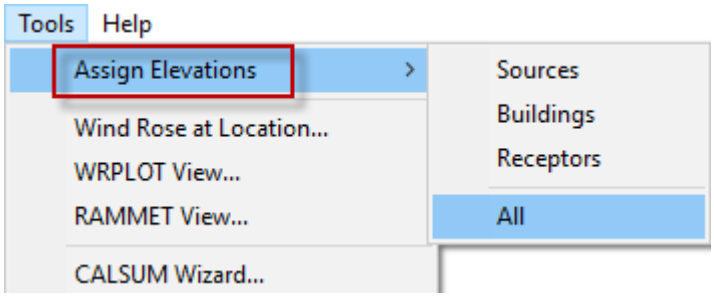
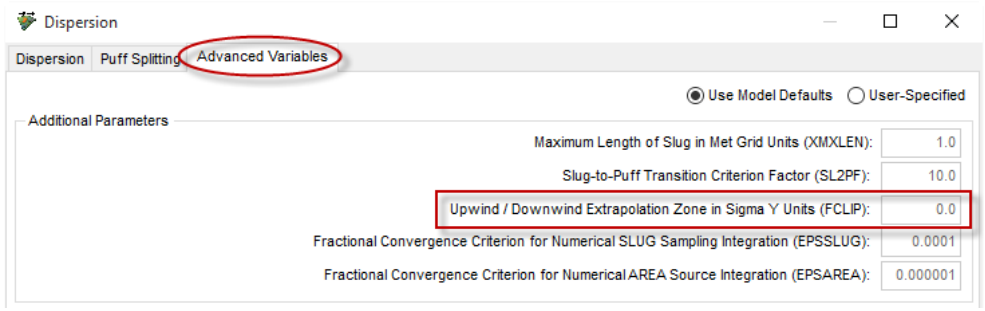
Topic	Feature Description
Geophysical Processor	**Support for New Terrain File Format – SRTM1 Global Version 3** Data offerings from WebGIS in the Terrain Files section now includes the SRTM1 (Global ~30m) – Version 3 data. This terrain data, from NASA, had voids filled using other data sources such 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.  **Note 1:** The download of "SRTM1 Global – Version 3" terrain data is only available to users with current maintenance. **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.

Topic	Feature Description
Geophysical Processor	**Support for Generic Terrain File Format (GEN)** The **Geophysical Processor** can now support the Generic Terrain (GEN) format (All Model Versions). 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. 
Geophysical Processor	**Support for ASTER Global DEM Terrain File Format (GeoTIFF)** The **Geophysical Processor** can now support the ASTER Global Terrain data in GeoTIFF format and Lat/Long projection (Model Versions 6 & 7). ASTER DEM terrain data (~30m resolution) be downloaded from the USGS site below: http://gdex.cr.usgs.gov You can specify ASTER terrain files (*.tif) by using the **Add** button. 

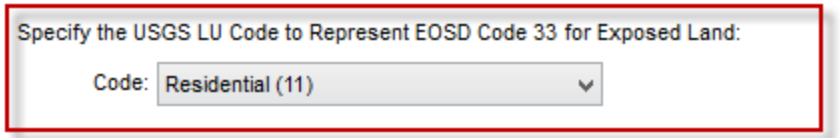
Topic	Feature Description
Geophysical Processor	**Additional Options for Processing EOSD Land Use Data** After downloading EOSD Land Use Data (Canada 25m), a warning message is displayed asking the user to specify which USGS LU code should be used to convert EOSD "Exposed Land" category. The Exposed Land type in the EOSD dataset is used to represent several USGS land use types: Residential, Industrial, Commercial, Transportation, and/or Mixed Barren Land.  Under the Geophysical Processor - **Advanced** tab, see the new EOSD processing options as shown below:  **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.

Topic	Feature Description
New Project	**Create Project from ISC/AERMOD Input File** 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. 
New Project	**Create Project from MMIF Projection File** 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. 

Topic	Feature Description
CALPUFF Wizard	**Option to Specify Gridded Terrain File to Extract Base Elevations** 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. 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. 

Topic	Feature Description
Tools Menu	**New Option added to Tools Menu – Assign Elevations** 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. 
CALPUFF Wizard	**FCLIP Parameter was Introduced in CALPUFF Wizard** 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. 

Fixed Issues

Topic	Issue Description
CALSUM	**CALSUM Executable for Version 7 Not Properly Identified** 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.
Geophysical Processor & Land Use Creator	**Conversion of EOSD Land Use Categories Updated** The EOSD "Exposed Land" category (code 33) was always being mapped to the USGS Residential Land Use (code 11). 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. 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. 
Land Use Creator	**Conversion Issue of EOSD into NLCD92 in Land Use Creator** 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.
Sources	**Incorrect Number of Area Sources Identified** 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.
Overlays	**Wind Field Overlay Visibility Status** Fixed an issue where the status of the Wind Field layer when set to invisible was not maintained.

CALPUFF View™ Version 8.0.0

Release Notes

November 30, 2015

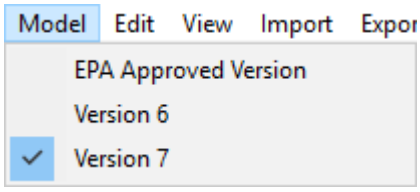
New Features

<table>
<tr><th>Topic</th><th>Feature Description</th></tr>
<tr><td>Models</td><td>
Support for CALPUFF System Version 7 Models

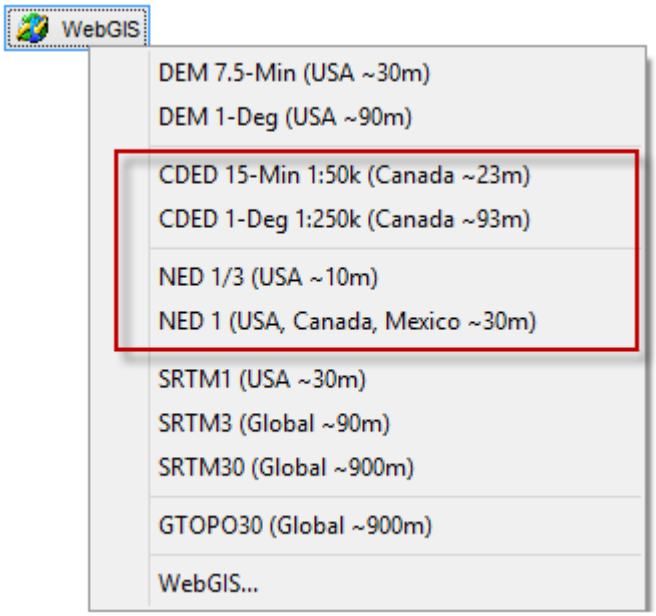
CALPUFF View Version 8.0 supports the latest Exponent CALPUFF Version 7 model and the related models as per the table below:

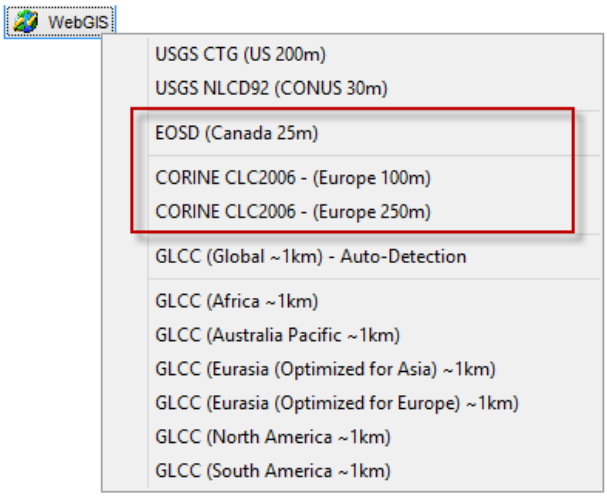
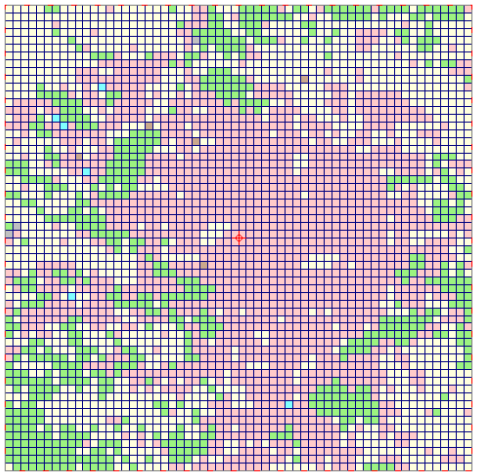
<table>
<tr><th>Model</th><th>Version</th><th>Level</th></tr>
<tr><td>CALMET</td><td>6.5.0</td><td>150223</td></tr>
<tr><td>CALPUFF</td><td>7.2.1</td><td>150618</td></tr>
<tr><td>CALPOST</td><td>7.1.0</td><td>141010</td></tr>
<tr><td>CALSUM</td><td>7.0.0</td><td>150330</td></tr>
<tr><td>POSTUTIL</td><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>

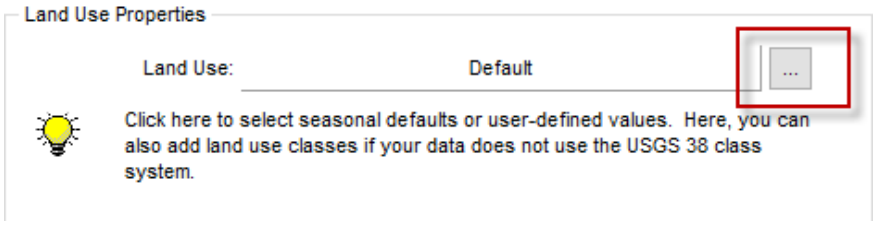
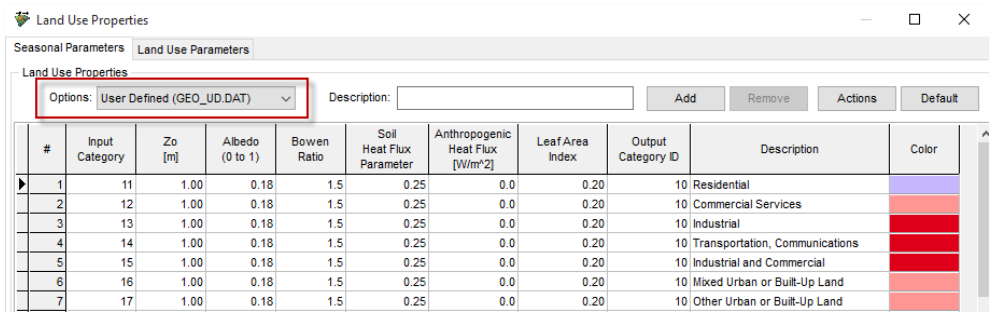
To install the models, follow the CALPUFF Model Download Instructions document found on the CALPUFF View update webpage. You can select Version 7 from the Model menu.



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.
</td></tr>
</table>

Topic	Feature Description
Geophysical Processor	**Support for New Terrain File Formats (Model Versions 6 & 7)** Data offerings from WebGIS in the Terrain Files section of the **Geophysical Processor** have been expanded to include new formats: • 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) These formats can only be used with the **Version 6 & 7 modeling systems**.  **NED:** National Elevation Dataset **CDED:** Canadian Digital Elevation Data **Note:** The download of NED terrain data is only available to users with current maintenance.

Topic	Feature Description
Geophysical Processor	**Support for New Land Use File Formats (Model Versions 6 & 7)** Data offerings from WebGIS in the Land Use Files section of the **Geophysical Processor** have been expanded to include new formats: • EOSD (25-meter) Land Cover (Canada) • CORINE (100-meter, 250-meter) 2006 Land Cover (Europe) These formats can only be used with the **Version 6 & Version 7 modeling systems**.   **Note:** The EOSD Land Cover data does not cover portions of northern Quebec, southern Ontario, southern Saskatchewan, southeastern Alberta, or Nunavut.

Topic	Feature Description
Geophysical Processor	**Support for the Generic Land Use File Format (GEN)** The **Geophysical Processor** can now support the Generic Land Use (GEN) format (Model Versions 6 & 7). 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.
Geophysical Processor	**Create Custom Land Use Properties** 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. 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. Data can also be imported from or exported to Excel spreadsheet.  

#	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	

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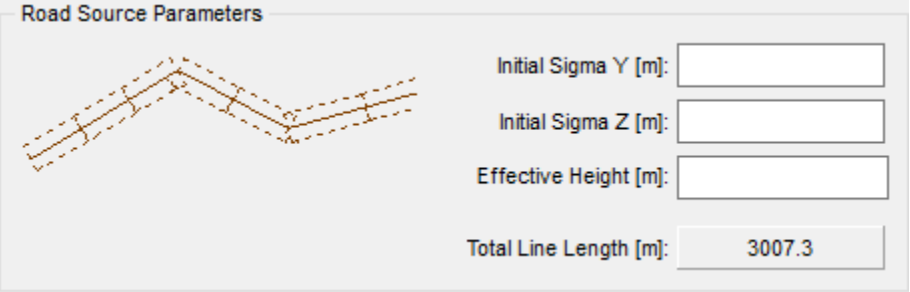
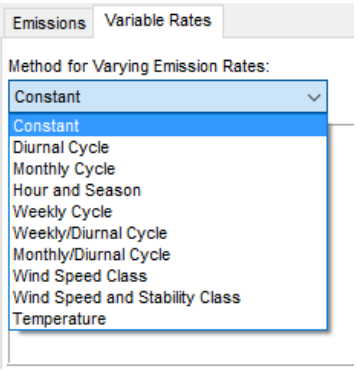
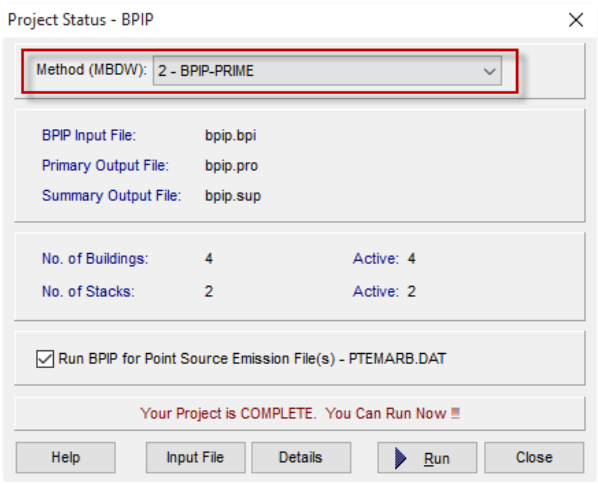
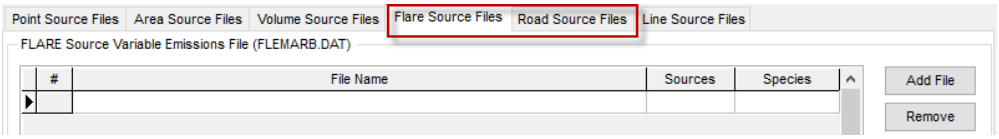
Topic	Feature Description
Sources	**New Road Source Type** The **Version 7 modeling system** has added a new source type – **Road** sources. Each road-link is defined as a single link segment with uniform emissions along the segment. Each road source must include the following input parameters: • Initial Sigma Y (m) • Initial Sigma Z (m) • Effective Release Height (m above ground level), and • Emission Rate (g/s/m) CALPUFF View includes the total length of each road segment for quick reference. 
Sources	**New Varying Emission Rates Factors** The **Version 7 modeling system** allows for the application of four additional varying emission factor types: 1. Weekly Cycle 2. Weekly / Diurnal Cycle 3. Monthly / Diurnal Cycle 4. Wind Speed Class 

Topic	Feature Description
External Sources	**Select Downwash Method for External Point Source Files** 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. 
External Sources	**New Variable Emissions File Options** 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. 

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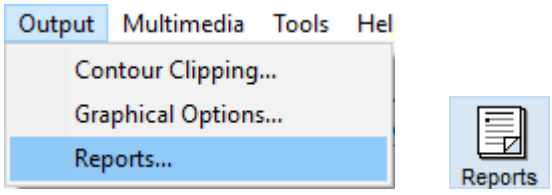
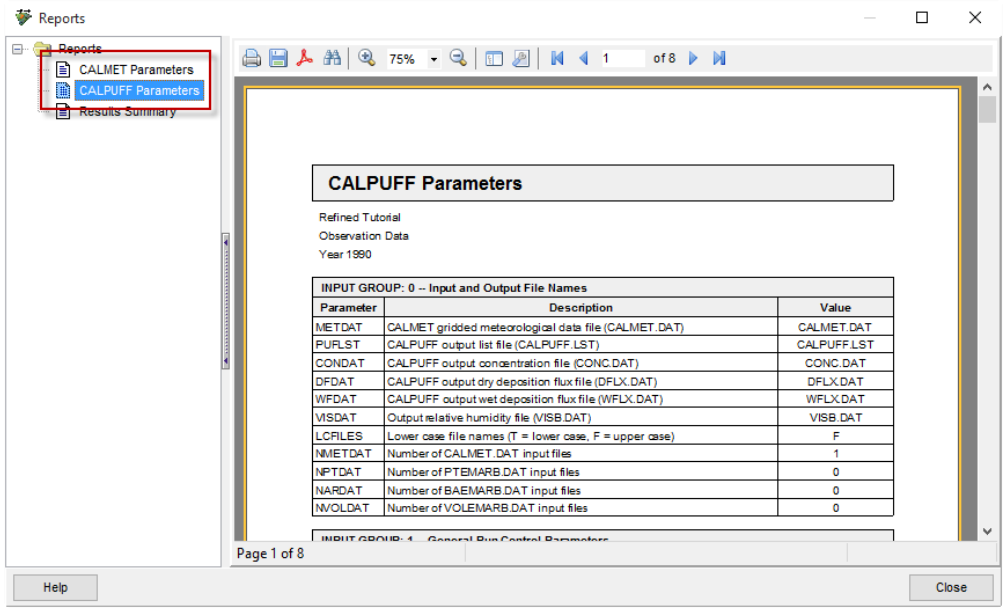
Topic	Feature Description
Reports	**New Reports Summarizing CALMET & CALPUFF Parameters** New reports are new available via the **Output | Reports** menu. The new **CALMET Parameters** and **CALPUFF Parameters** reports contain descriptions of all model input parameters along with the project's value for each parameter. Reports can be sent to a printer; saved in PDF, Excel XML, and Excel OLE table format; or exported directly to PDF.  

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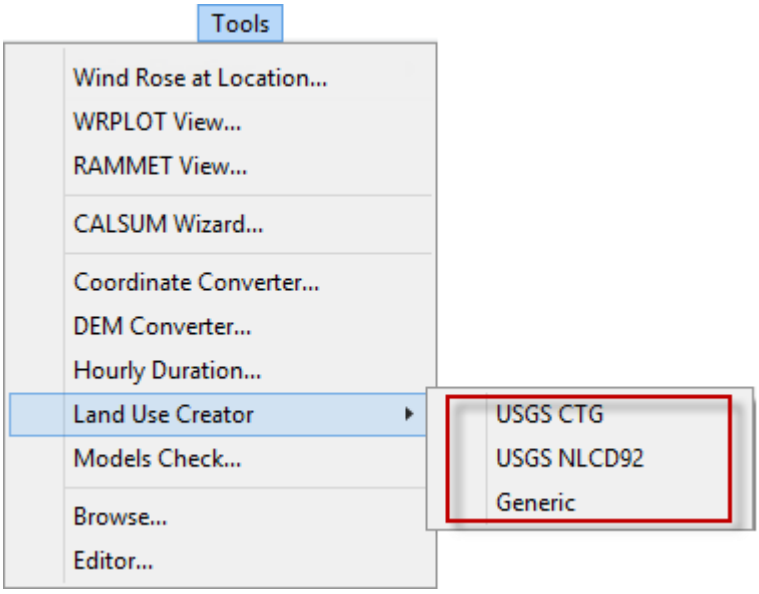
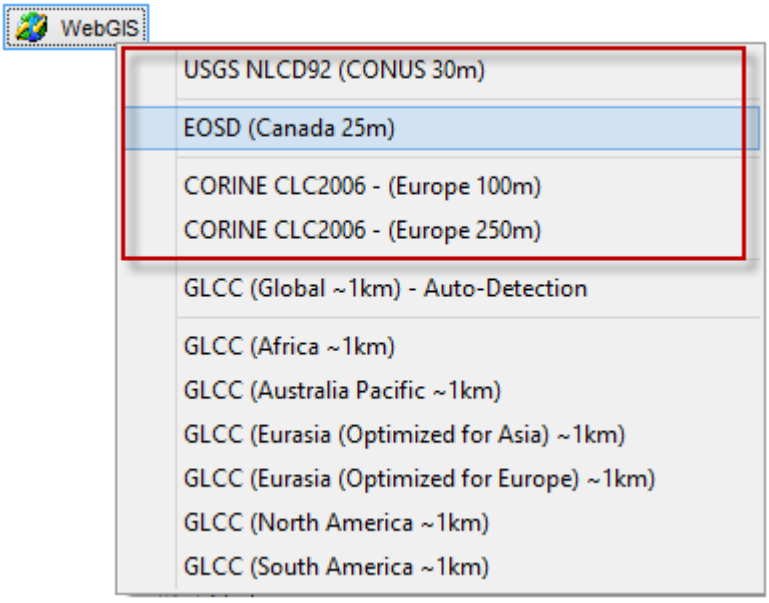
Topic	Feature Description
Land Use Creator	**Select Land Use Output File Format** The Land Use Creator now allows the user to define which output file format they want to build: • **USGS CTG** (200m resolution) • **USGS NLCD92** (30m resolution) • **Generic** (adaptive resolution) 

Topic	Feature Description
Land Use Creator	**WebGIS Support for Importing New Land Use Data Sources** 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.  **Note:** The download of EOSD and CORINE land use data is only available to users with current maintenance.

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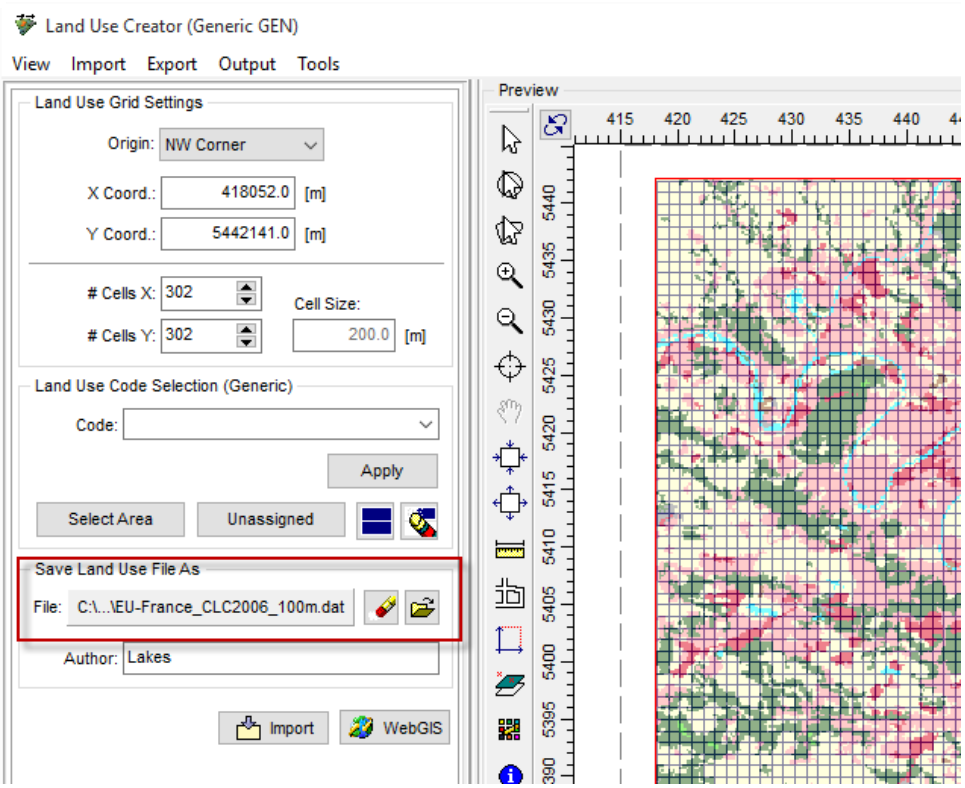
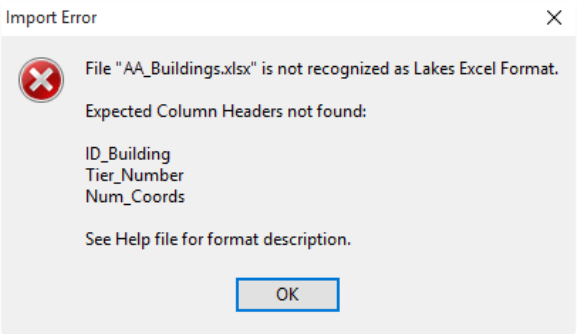
Topic	Feature Description
Land Use Creator	**Direct Open and Edit Support for Generic Format Files** Generic format land use data files can be opened directly in the **Land Use Creator**. Use the **Open File** command in the **Save Land Use File As** group and select the Generic land use file you want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

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.

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