Release Notes
Tecplot 360 2025 Release 1

Tecplot, Inc.

Additional Resources

In addition to these Release Notes and HTML Help, Tecplot 360 includes access to these manuals to help you explore all of Tecplot 360's functionality.

Getting Started Manual

Your introduction to Tecplot 360 includes a tutorial that will help you learn your way around the product.

User's Manual

This manual provides a complete description of working with Tecplot 360 features.

Scripting Guide

This guide provides macro command syntax and information on working with macro files and commands.

Quick Reference Guide

This guide provides syntax for zone header files, macro variables, keyboard shortcuts, and more.

Data Format Guide

This guide provides information on outputting simulator data to Tecplot file format.

Installation Guide

These instructions give a detailed description of how to install Tecplot 360 on your machine.

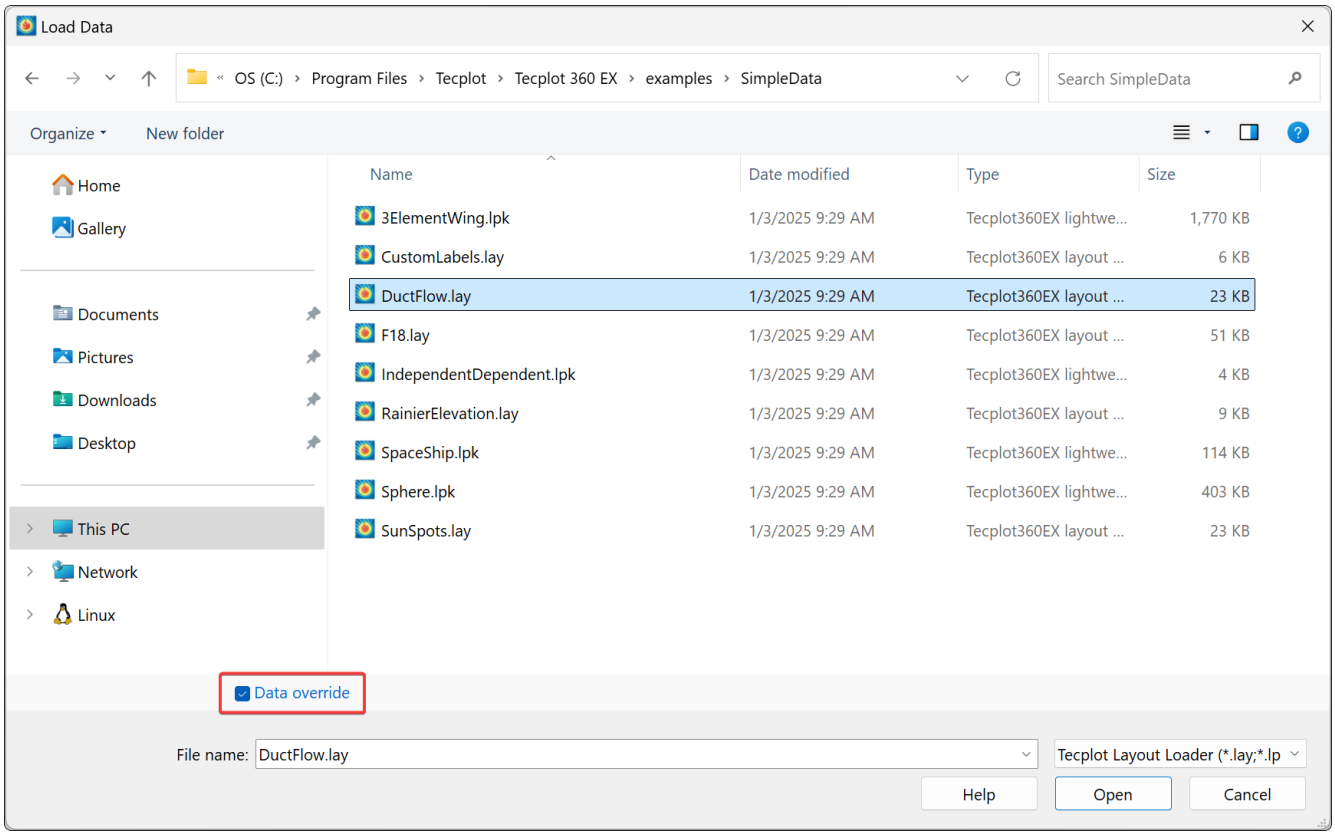
My Tecplot

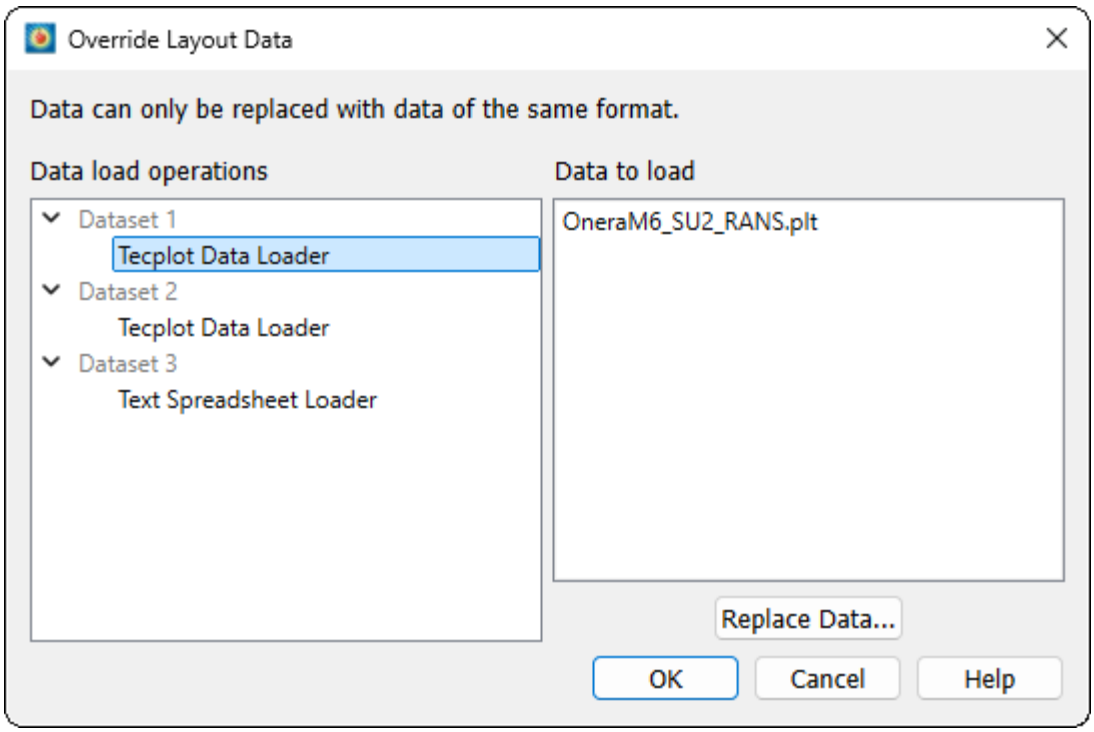
My Tecplot is Tecplot's one-stop portal that allows you to download software, manage your license keys, and more. Visit it at My Tecplot.

Welcome to Tecplot 360 2025 R1

Updates & Features

- Open Layout with Data Override - Added the ability to override data source instructions for a layout file. This allows applying a given layout to different data. For more information see Layout File Opening.

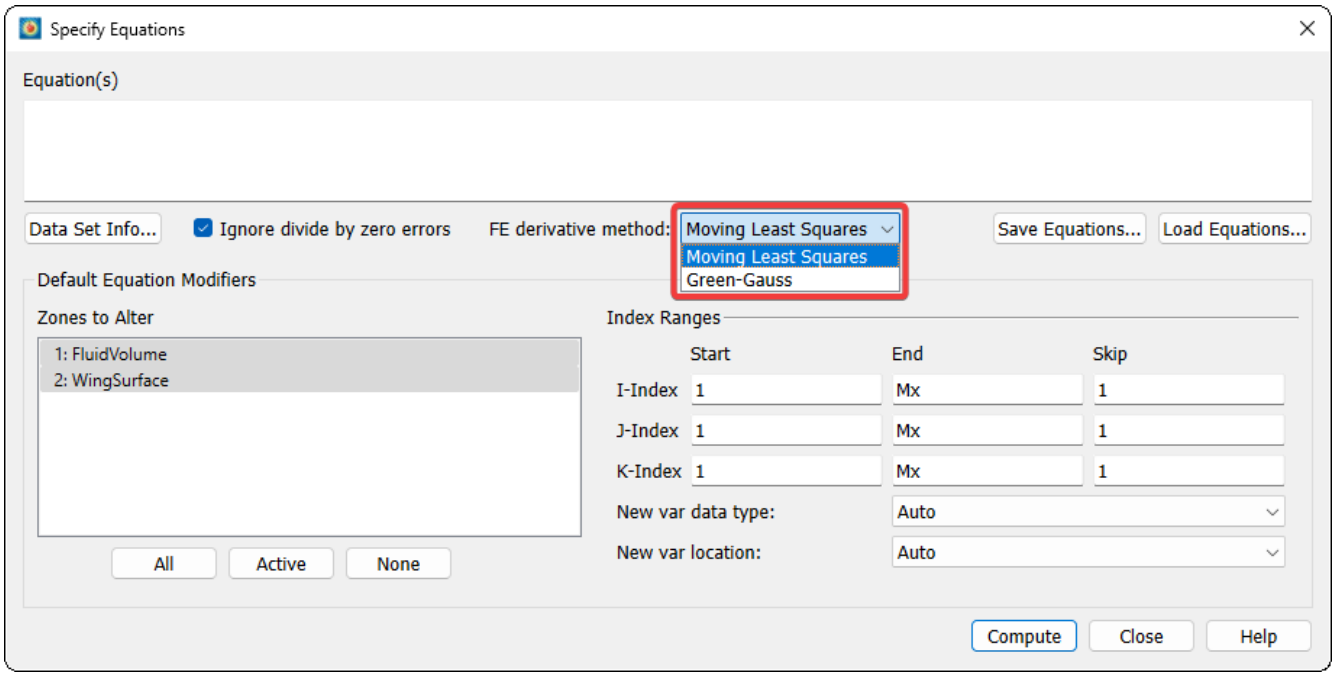




    - Added support for overriding data files for layouts containing Tecplot Subzone Loader data via the command line:

      ```
      tec360 mylayout.lay myfile.szplt
      ```

- Apple Silicon Native Builds
    - Tecplot 360 is now built and tested on Apple Silicon (i.e., M-series chips). As such, Apple Intel-based versions of Tecplot products will no longer be produced.
    - Mac users will no longer be required to use `python3-intel64` when running PyTecplot scripts.
    - Future versions of Tecplot 360 will see improved rendering performance on Apple Silicon machines.
    - HDF Loader is no longer supported on MacOS because HDF4 is not supported on the MacOS ARM architecture.
- Reprise License Manager has been updated to RLM 16.1. While not required, we recommend you that you update your Reprise License Manager servers to version 16.1 available for download at my.tecplot.com/portal/product-releases/rlm.
- Added the ability to read FEMixed zones to the new TecIO API.
- The Green Gauss derivative method may now be selected in the Data Alter Specify Equations dialog. Previously this was only available via the macro language.

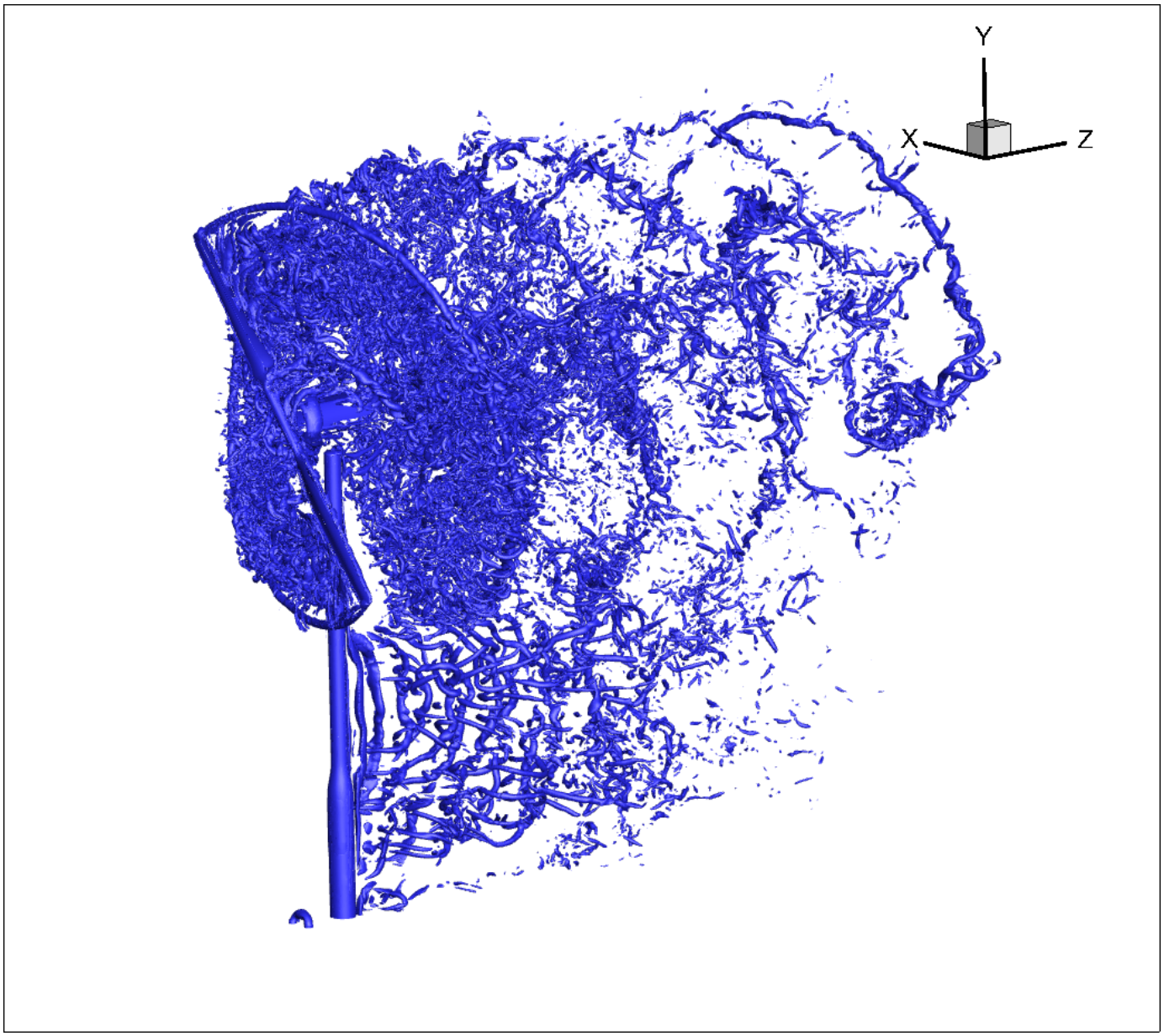


  - See Green-Gauss Derivatives for Finite-Elements in Tecplot 360 for more information.

- Ansys Fluent Common Fluids Format (*.h5) Loader
  - Updated Ansys Fluent Common Fluids Format (.cas.h5/.dat.h5) to support Ansys Fluent 2025 R1 files.
  - Improved performance of Fluent Common Fluids loader when loading datasets with many cas.h5/dat.h5 pairs. In one test case with 175 cas.h5/dat.h5 pairs, load time performance improved from 2:29 to 1:21, a speed up of 45%.
  - Fixed unresponsive behavior when using transient Fluent CFF data when load-on-demand is set to minimize memory use.
- VTK Data Loader
  - VTS (Structured Grid) and VTR (Rectilinear Grid) files are now supported.
  - Fixed error when loading VTK data files containing variables of type VTK_ID_TYPE.
  - Support for VTK cell and point variables with duplicate names was added. Previously, only one variable would be loaded, and its values were not correct.
- Abaqus loader now imports Solution Dependent Variables if present in the data file. You may avoid loading Solution Dependent Variables via the Abaqus loader macro command only.

```
$!ReadDataSet
    '"StandardSyntax" "1.0"
    "FILENAME_File" "myfile.inp"
    "AutoAssignStrandIDs" "Yes"
    "IncludeSolutionDependentVariables" "Yes"'
    DataSetReader = 'ABAQUS Input (FEA)'
```

- CONVERGE CGNS loader can now load CONVERGE particle data that contain `ParticleZone_t` nodes.
- Variable calculations involving gradients, such as Q Criterion—available in the Calculate dialog, are now processed faster due to multi-threading the calculation of boundary conditions and node connections. These variable calculations are 12% faster with a Plot3D dataset consisting of 5863 zones and 281 million total points.



- CGNS Loader can now load multiple files that have differing numbers of zones per file (provided each defines the same number of variables).
- Improved performance and reduced RAM usage for SZPLT files containing Higher Order Elements. In such cases, Tecplot 360 2025 R1 is 22% faster and uses 23% less RAM than Tecplot 360 2024 R1.

Bug Fixes

- Corrected certain plots, including primary-value contours, made with partitioned, FEMixed zones.
- Resolved a crash when loading CONVERGE data containing invalid cell connectivity.
- Corrected loading boundary face results of partitioned OpenFOAM data.
- Corrected precision loss for solution time values when loading CONVERGE HDF5 files. Previously, values were limited to 6 digits. Zone names will also contain full precision of solution time values.
- Fixed use of -convert flag when working with data containing FEMixed zones.
- Updated SZL Server to work with partitioned, FEMixed zones, including high-order-element zones.
- Changed codec used for AVI export to improve compatibility with default players across Windows 10 and Windows 11. AVI export options can be customized in the tecplot.cfg file. See `$!ExportSetup AVIFormatOptions` in the Scripting Guide for more information.
- The Plot sidebar, Time Animation Details, and Zone/Var Info under Data Set Information dialogs will display full precision of solution time values. Previously, values were limited to 6 digits.
- Fixed issue with automatically assigning strand IDs to zones. Incorrect strand ID assignments could occur with transient data with older loaders that didn't assign Strand IDs where the zones were delivered in non-increasing solution times.
- Fixed issue of Zone and Mapping Style dialog freezing when dismissing context menus while editing certain values, such as Group Number, Map Name, X-Axis Variable, etc.

Platform Support

2025 R1 is now compiled and tested on Apple Silicon (i.e., M-series chips) and is no longer compatible with Apple Intel-based machines.

The 2025 R1 release no longer supports the following platforms (See the Platform Support section of the Installation Guide for the full list of supported platforms)

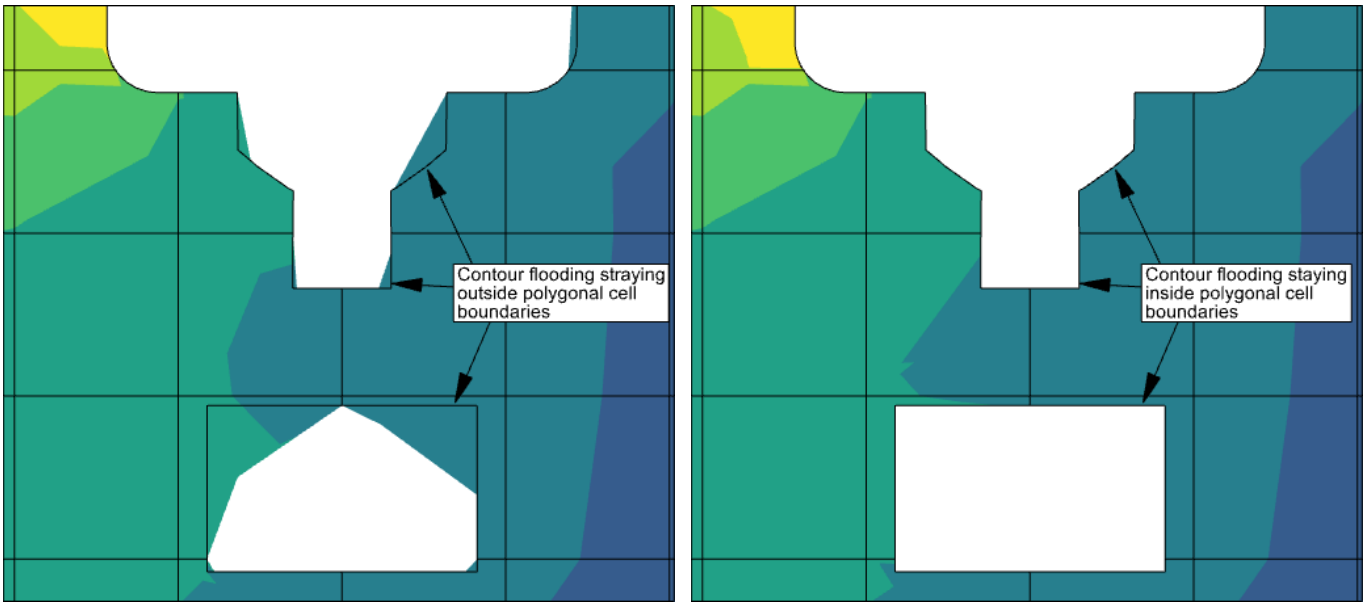
- Linux:
  - RedHat 7
  - CentOS 7
- macOS:
  - Intel-based macOS machines
- Windows:
  - Windows 10 support ends October 14th, 2025. Tecplot software released after this date will not

be supported on Windows 10.

What Was New in Tecplot 360 2024 R1 Maintenance Release 1

Updates & Improvements

- Fixed crash when using TecUtilLineSegProbe() with polyhedral data.
- Fixed crash when appending SZPLT file to dataset which already contained Ordered data.
- Updated VTU loader to silently ignore files which have zero points or cells. Improves compatibility with output from SHIPFLOW (www.flowtech.se/).
- Updated VTU loader to allow loading of files which contain Vertex cells along with other cell shapes. Improves compatibility with output from SHIPFLOW (www.flowtech.se/).
- Updated VTM reader to allow loading files which do not contain various optional file attributes. Improves compatibility with output from SU2 (su2code.github.io/).
- Better shading and contour flooding of concave polygonal cells. For zones of type FE-Polygon as well as slices and iso-surfaces where the surface generation method is set to All Polygons, shading and contour flooding of concave polygonal cells are better constrained to stay inside cell boundaries.



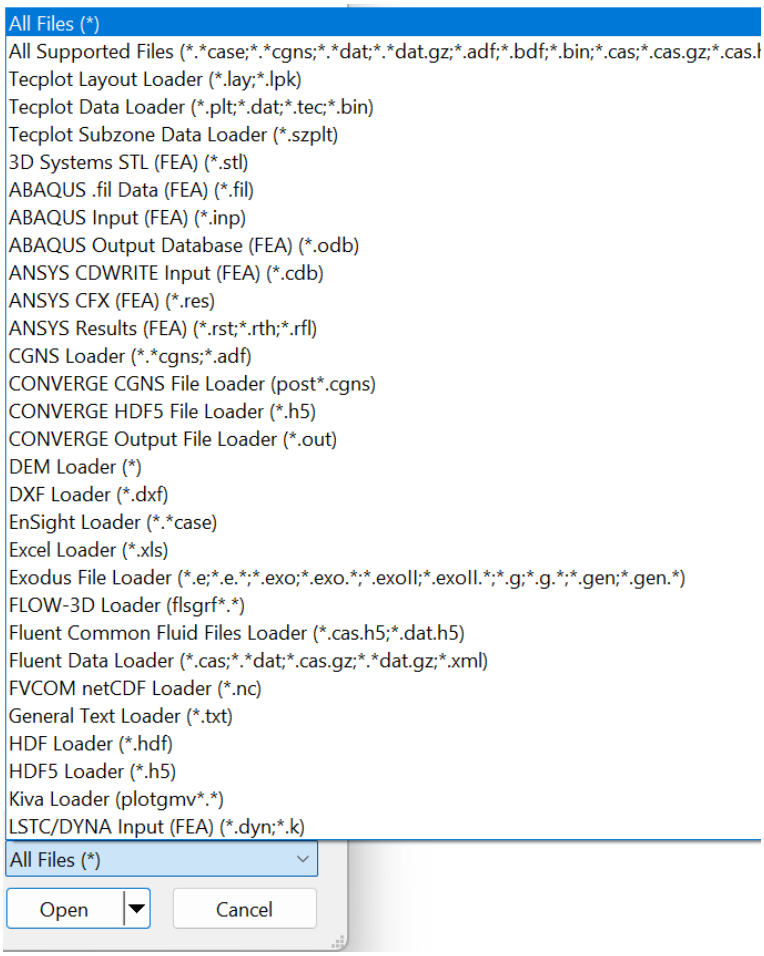
- Eliminated a benign command line warning: "libpng warning: iCCP: known incorrect sRGB profile", which was displayed on Linux operating systems when running Tecplot Chorus.
- Updated EnSight loader to recognize `*.encas` extension, and improved handling of quoted strings within case files. These provide improved support for EnSight files exported from Ansys Fluent.
- Updated PVD loader to assign solution time as defined by the timestep attribute in the PVD file. Previously the PVD loader would assign a solution time derived from file names of the files referenced in the PVD file.

- Green-Gauss Derivatives (Beta Feature). The Green-Gauss method for computing derivatives has been updated to support cell-centered data. The previous release would fall back to Moving Least Squares when cell-centered data was encountered. This feature is currently available only via the `FEDerivativeMethod = GreenGauss` on the `$!AlterData` Macro Command.
- Fixed issue with Extend Time MCR add-on in which 'QUERY.NUMTIMESTEPS' could return the wrong number of timesteps.
- Fixed crash when `$!Limits MaxPtsInALine` was set to values greater than 32,768.
- Improved near-boundary accuracy for cell-centered derivatives. Specifically for highly-stretched IJ- or IJK-ordered zones with cell-centered data.
- Resolved various benign warnings displayed on the Linux command line on startup.
- Ansys RST variable names have been changed from Flow to Flux for transient data. Example: Total Heat Flow is now Total Heat Flux.
- Fixed OpenFOAM loader to properly assign zero velocity to no-slip boundary zones.

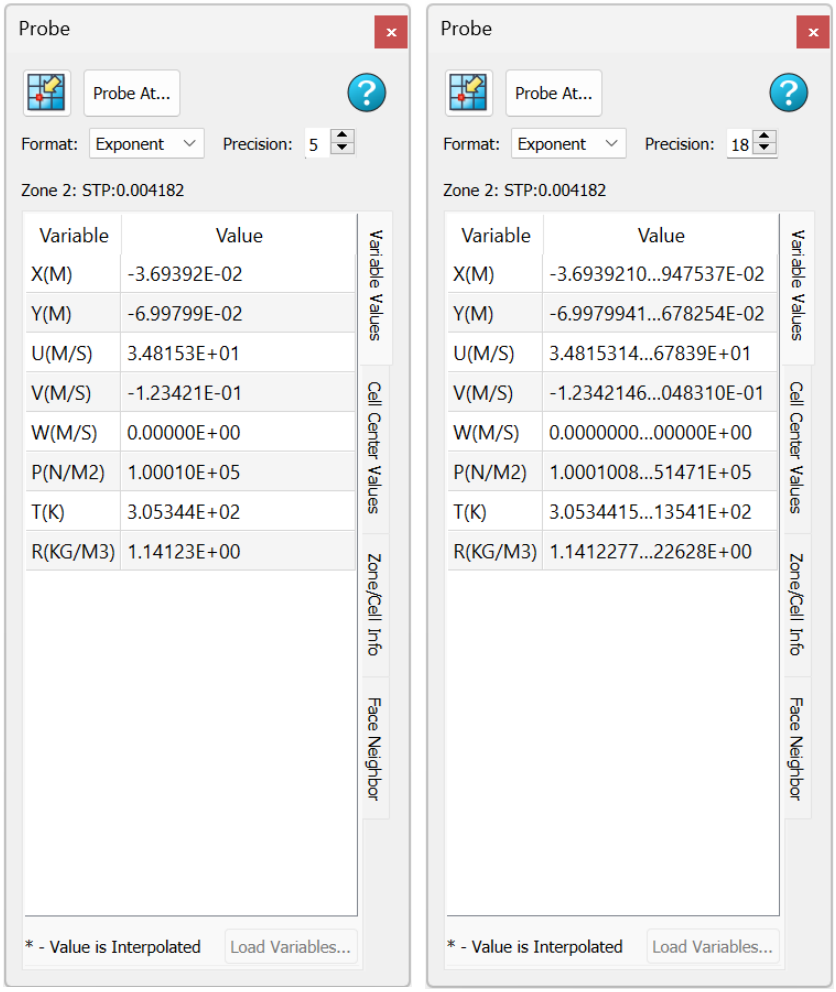
What Was New in Tecplot 360 2024 R1

Updates & Features

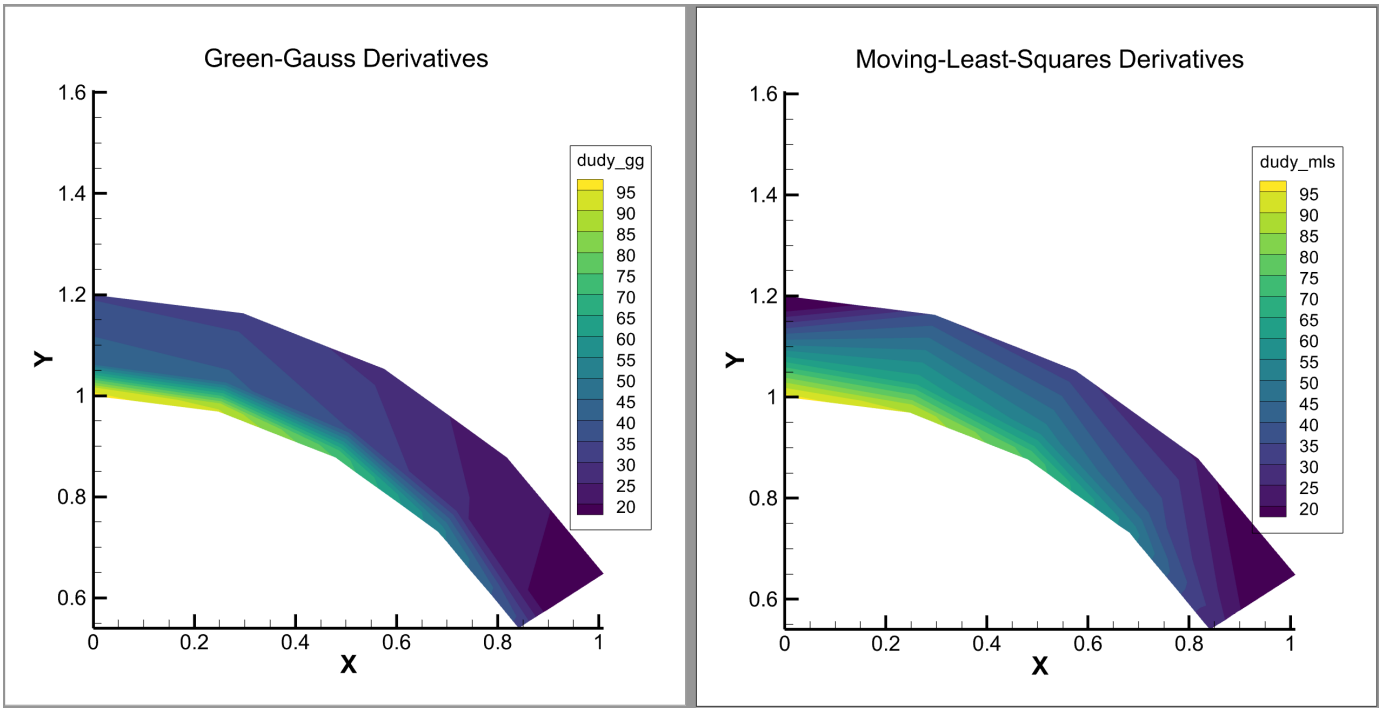
- Updated Ansys Fluent Common Fluids Format (.cas.h5/.dat.h5) to support Ansys Fluent 2024 R1 files.
- Added PVD file support. PVD files are an XML-based format that ease loading of collections of (including transient) XML-based VTK files (.vti, .vtp, .vtu). This update improves compatibility with CFD codes such as Kestrel and M-Star CFD Software.
- Enabled VTK-based data loaders for macOS. Previous releases introduced these data loaders on Windows and Linux.
- TecIO: If you choose to use Boost 1.75.0 or greater, you will need C++14. You can use Boost 1.69.0, in which case, you do not need C++14.
- List of data loaders in the File > Load Data dialog have been alphabetized to make loader selection easier. Tecplot file format loaders remain listed at the top.



- Updated the Probe Dialog to allow adjusting the numeric precision. The eliding (the '…' in the right-hand image) was also updated to be in the center. These two changes make it much easier to recognize the order of magnitude of the probed values.



- Green-Gauss Derivatives (Beta Feature). The Green-Gauss method for computing derivatives can improve the quality of gradient calculations particularly near the walls when the grid is highly stretched. This feature is currently partially complete and available only via an option (FEDerivativeMethod = GreenGauss) on the $!AlterData Macro Command. Green-Gauss is not implemented for some zone types and will automatically fall back to the default, Moving Least Squares, method. The left image below is dudy() computed with Green-Gauss and the right image is with Moving-Least-Squares. The Green-Gauss derivatives closely match the analytical solution.



Bug Fixes

- Fixed regression with CGNS loader in which some data files containing polyhedral data could not be loaded. This issue was introduced in 360 2023 R1 and resolved in 360 2024 R1.
- Fixed SZPLT data file only problem where self-referential equations using the IF operator could result in incorrect results.
  - Example equation: {MyVariable} = IF(X > 0, 1, {MyVariable})
- Fixed issue with the Ansys Fluent CFF loader in which it would crash on newer Linux systems, such as Rocky 9 and Ubuntu 24.04.
- Fixed crash with CGNS files that were written with CGNS 3.4 and utilize polyhedral cells. Note that CGNS 3.4.0 was effectively recalled and should be avoided. See the note under CGNS 4.0.0 here: cgns.github.io/download.html
- Resolved memory leak in VTI and VTP loaders.
- Fixed issue which prevented loading of polyhedral data with more than 2 billion faces.
- Fixed issue which prevented the tec360-env script from working on newer Linux systems, such as Ubuntu 22.04 and newer. The tec360-env script is commonly used in conjunction with PyTecplot. See tecplot.azureedge.net/products/pytecplot/docs/install.html#environment-setup-batch-only
- Fixed CONVERGE HDF5 loader so it will load parcel data from CONVERGE version 4.0 files.
- Fixed a bug that prevented TecUtilLineSegProbe() from working with polyhedral data.
- Fixed issue where surface streamtraces did not propagate properly when placed on no-slip wall zones composed of 4-corner polygons.
- Fixed crash with surface streamtraces placed on no-slip wall zones.

- Fixed crash when changing solution time while a LineMap is selected and there are 2D or 3D Frames with linked solution time.
- Eliminated a benign command line warning: "libpng warning: iCCP: known incorrect sRGB profile", which was displayed on Linux operating systems.
- Windows Installer now installs additional dependencies which prevented some Tecplot add-ons from loading.
- Implemented TecUtilDialogLaunch(Dialog_ZoneMapStyle) to allow the Zone Style dialog to be launched programmatically from Tecplot add-ons.
- Fixed crash with $!CreateFEBoundary macro command with small (~ < 2500 cells) surface zones.
- Update the End User License Agreement in all products Feb 2024.
- Published Pytecplot 1.6.2 (only change is EULA update).

TecPLUS Subscriptions

A TecPLUS support subscription gives you:

- No-charge upgrades to Tecplot 360 during your subscription period
- Unlimited technical support
- One free hour of online training per year

Additionally, an active TecPLUS subscription gives you access to the following components, boosting your Tecplot 360 license to a whole new level of value:

Tecplot Chorus

Our simulation analytics product for engineers who work with large numbers of cases. Previously, Chorus included Tecplot 360 to view individual cases' data files; we've flipped that, and now offer every Tecplot 360 user access to this powerful tool.

PyTecplot

Tecplot and the Python programming language reunite! PyTecplot works with your system's installed Python and with popular Python tools like NumPy, SciPy, and Jupyter. PyTecplot features an easy-to-use object-oriented approach to working with your data and plots using the engine that powers Tecplot 360.

Tecplot SZL Server

When your data is too big to move around comfortably, you can install this lightweight server on most Linux hosts to quickly and securely access your remote data.

Your basic Tecplot 360 license is perpetual: even if your TecPLUS subscription expires, you will still be licensed to run any version of Tecplot 360 released while your subscription was active—forever.[1]. However, your access to these additional software components (Tecplot Chorus, PyTecplot, and Tecplot SZL Server) ends when your TecPLUS subscription expires.

Most Tecplot 360 users now receive a new license key annually, even those without TecPLUS. If you currently have a Tecplot 360 license with active TecPLUS, you can manage your license via My Tecplot (my.tecplot.com) or by contacting sales@tecplot.com.

Usage Data Collection

To help us better understand how our customers use our products and improve them further, Tecplot 360 includes an analytics feature that reports user activity over the Internet using the Google Analytics™ platform. This feature tells us which dialogs you use and which controls you manipulate in them. However, to protect your privacy and trade secrets, we do not see names associated with your data (such as variable, zone, or file names) or the actual values of fields in dialogs, nor do we receive any information about you or your organization's identity.

If you do not wish to participate in this program, turn off "Collect Anonymous Usage Data" in the Help menu.

We receive basic information about your operating system, product version, and license at each launch of Tecplot 360, even if you have opted out of the usage data program. This information is not tied to any usage data collected.

No usage data of any kind is collected if you do not have access to the Internet or if the Google Analytics service is blocked by a firewall.

Crash Reporting

Please help us make Tecplot 360 better by sending a crash report to us in the event that the application terminates unexpectedly.

On Windows, Tecplot 360 creates a crash dump file. You will receive a message indicating that a crash dump file has been created. Click **Yes** in this dialog to open the folder where the file is created. You can then e-mail the most recent `.dmp` file in this folder, along with a description of what you were trying to do, to support@tecplot.com.

On other platforms, no crash dump file is created. However, we urge you to send us a report anyway with as much detail as you can remember.

If you have a moment and a desire to be extra helpful, please re-open Tecplot 360 and choose **Enable Diagnostic Logging** in the **Help** menu. Then redo the steps you took to cause the crash. Tecplot 360 will record your actions as a macro file. If you are able to reproduce the crash, send the resulting `.mcr` file to us (along with the `.dmp` file if you use Windows). On non-Windows platforms, you can find the `.mcr` file in `/usr/tmp/tecplot_$USER/tpa_diagnostics`.

Crash dumps and diagnostic macros are stored in a temporary folder and will be eventually be deleted by the system. There is no need to delete them manually.

Graphics Drivers

For best results, please make sure that you are using the latest graphics drivers compatible with your hardware and operating system. These can be obtained from your graphics adapter vendor's Web site. Old versions may have issues with Tecplot 360, especially with larger data sets.

- NVIDIA: www.nvidia.com/Download/index.aspx
- ATI: www.amd.com/en/support
- Intel: www.intel.com/content/www/us/en/download-center/home.html

Platform-Specific Notes

The following table outlines the support for various platform-specific features in Tecplot 360 2025 R1.

	Linux	Mac	Windows
Ansys Fluent CFF loader	✔		✔
FLOW3D loader	✔		✔
ABAQUS loader			✔
Excel Loader			✔
Tecplot Chorus	✔		✔
Tecplot SZL Server.[2]	✔		

Refer to the remainder of this section for issues specific to your operating system.

Windows

Your account must have administrator rights on your computer to install Tecplot 360, or else right-click the installer and choose "Run as Administrator."

Linux

Temporary Directory

Tecplot 360 relies on being able to create temporary files in the system temporary directory. On Linux, this directory is typically `/usr/tmp` or `/var/tmp`. If your user account does not have permission to write into the system temporary directory, you can use a different directory either by setting the `TMPDIR` environment variable in your profile or by setting the `TEMPFILEPATH` in the `tecplot.cfg` file.

Menu Shortcuts

Menu shortcut keys may not work if the `Num Lock` is on. You may set the `Num Lock` to turn off automatically at boot in your computer's BIOS.

SELinux

SELinux (provided with some Linux distributions) adds an extra layer of security. It can prevent Tecplot 360 from starting in some cases.

If you see this error message:

```
.//bin/tecplot.shared: error while loading shared libraries:
.//lib/libtec.so: cannot restore segment prot after reloc: Permission Denied
```

Enter these two commands, replacing `/path/to/tecplot/lib` with the actual path of your installed Tecplot 360 `lib` directory (your account needs `sudo` permission):

```
sudo chcon -v -R -u system_u -r object_r -t lib_t /path/to/tecplot/lib/
sudo chcon -t texrel_shlib_t /path/to/tecplot/lib/
```

If you see this error message:

```
mprotect failed in ExecutableAllocator::makeExecutable: Permission denied
```

Enter these two commands:

```
ausearch -c 'tec360-bin' --raw | audit2allow -M my-tec360bin
semodule -X 300 -i my-tecplotbin.pp
```

You can then run Tecplot 360 without disabling SELinux.

Mac

Keyboard Shortcuts

Previous versions of Tecplot 360 used the Control key for most keyboard shortcuts, rather than the Mac standard Command key. Tecplot 360 EX changes these shortcuts to use the Command key under Mac. Similarly, when rotating a 3D plot, you now hold down the Command key while dragging with the right mouse button.

Note that the Alt key may be called Option on some Mac keyboards.

Right Mouse Button

If your Mac's mouse has only a single button, hold the Control key while clicking to access right-click functionality.

Middle Mouse Button

There is no functionality in Tecplot 360 that *requires* a middle mouse button; however, it does provide some shortcuts. Users of single-button mice cannot emulate the middle button, but users of mice with two buttons can hold down Control while right-clicking if their mouse does not support a true middle-button click.

Enjoy Tecplot 360 2025 R1 and master the view.

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For more information, visit www.tecplot.com

Part Number: 23-360-07-2 Build Revision {CI_PIPELINE_ID}

Released: 06/2025

For third-party trademark and copyright information, see the User's Manual.

[1] While your license is perpetual, we cannot guarantee compatibility of today's Tecplot products with future systems.

[2] The SZL Server runs only on Linux, but Tecplot 360 running on any supported platform can connect to the server as a client.