# **Appendix: TSTool Release Notes**

ersion, 8.15.03, 2008-06-11

This appendix provides information about changes that have occurred in TSTool versions.

## 1. TSTool Version History

The following table summarizes the TSTool release history. See the following sections for more detailed information about each version. Only recent versions are documented in detail. Comments for minor versions may be listed under a version that is publicly released. Recent release note items are categorized as follows:

Bug Fix – A bug has been fixed. Users should evaluate whether their work is impacted.

Known Limitation – A known limitation has been documented and may impact the user. The limitation will be addressed in a future release.

Change – An existing feature has been changed.

Remove – A feature has been removed.

New Feature – A new feature has been added, with functionality that was not previously available.

## **TSTool Version History Summary (most current at top)**

<b>TSTool Version</b>	Summary of Changes in Version	Release Date
8.15.01 to 8.15.03	Fix a number of problems where migration of commands from fixed parameter to named parameter syntax resulted in some old command files not being handled. The command file is also now marked as modified if any commands are automatically updated. Added more error checks, such as in DateValue file reading to help provide better feedback to users.	2008-06-11
8.13.00 to 8.14.02	Add commands to set properties, for use by other commands (e.g., to configure file names). Continue updating commands to utilize the new error handling.	2008-02-20
8.03.00 to 8.12.06	Update many commands to utilize new error handling and consistently handle the TSList parameter. Add ensemble processing to many commands. Enable ability for read commands to run in discovery mode to let other commands know time series identifiers. Add more commands to compute statistics time series.	2008-01-14
8.00.00 to 8.02.00	Update main interface to use new error-handling visualization features. Add several commands to allow TSTool to perform regression tests on itself.	2007-12-03
7.04.00	Various updates for HydroBase including adding support for administrative flow station. Allow reading StateMod rights files and handle new StateCU file formats.	2007-06-22

TSTool Version	Summary of Changes in Version	Release Date
7.01.00	Support new SFUT(G) coding for HydroBase diversion	2007-03-02
	classes, and allow CIU when filling diversion data. Fix a	
	number of bugs in the analyzePattern(),	
	fillInterpolate(), and cumulate() commands	
7.00.00	Begin distributing software using a new installer. Add	2006-10-31
	CASS livestock data and human population data.	
6.19.00	Update to extend period when filling with diversion	2006-05-19
	comments.	
6.18.00	Add the runCommands () command to facilitate data	2006-05-02
	processing.	
6.17.00	Add the compareFiles() command to facilitate	2006-04-17
	testing.	
6.16.02	Begin adding commands to test data, for alarms.	2006-04-17
6.16.01	Time series to map link is enabled. Improve UNC	2006-02-16
	support. Improve startup performance in batch mode.	
6.16.00	Begin adding support for NDFD (National Digitial	2006-01-31
	Forecast Database) input type, and maintenance.	
6.15.00	Begin adding time series to map link.	2006-01-16
6.14.00	Update some commands to named parameter notation, and	2005-12-14
	maintenance.	
6.13.00	Internal release.	2005-11-13
6.12.00	Improve error handling when running in batch mode with	2005-10-05
	graphs.	
6.11.00	Enable the ColoradoSMS input type for hydrograph	2005-10-05
	annotations and update batch mode features to better	
	utilize the CDSS configuration file.	
6.10.09	Maintenance release – convert some commands to use	2005-09-28
	named parameters.	
6.10.08	Maintenance release – convert some commands to use	2005-09-22
	named parameters. Add the newStatisticYearTS()	
	command.	
6.10.07	Maintenance release – convert some commands to use	2005-08-24
	named parameters.	
6.10.06	Release corresponding to the CDSS CD release.	2005-08-04
6.10.05	Respond to CDSS testing feedback.	2005-08-01
6.10.04	Respond to CDSS testing feedback. Add additional query	2005-07-20
	filters for HydroBase stations and structures.	
6.10.03 BETA	Begin phasing in saving time series products to	2005-07-08
	HydroBase and RiversideDB.	
6.10.02 BETA	Update the openHydroBase() command to use free-	2005-06-28
	format parameters.	
6.10.01 BETA	Begin enabling data flags for time series to support	2005-06-03
	enhancements to fill commands.	
6.10.00 BETA	Initial release supporting HydroBase stored procedures	2005-06-01
	with initial prototypes of Mixed Station Analysis and	
	related features. Implement new message log viewer and	
	commands to simplify comparison of time series.	
6.09.03	Maintenance release.	2004-12-21

TSTool Version	Summary of Changes in Version	Release Date
6.09.02	Maintenance release.	2004-10-05
6.09.01	Add NWSRFS FS5Files input type.	2004-09-01
6.09.00	Add readHydroBase() commands.	2004-08-27
6.08.02	Documentation made current to include all version 6	2004-07-27
	changes.	
6.08.01	Allow HydroBase connection to be made at startup.	2004-07-20
6.08.00	Allow wildcards in commands that read from StateCU and	2004-07-11
	StateModB input types.	
	Initial Java version.	1997-10-23

Known Limitation When saving time series product (\*.tsp) files, the absolute path of files is saved. This is not as portable as saving a path relative to the command file. It may be necessary to edit the product file.

Known Limitation The ReadStateModB() command, unlike other read commands, does not provide a discovery mode. Consequently, other commands will not be provided with a list of time series identifiers for the binary file. The reason for this is that StateMod binary files can contain a huge number of time series and providing a list could be overwhelming and slow. Alternatives are being evaluated. Currently, commands that reference time series in the binary files must use more generic selection methods such as TSLIST=AllMatchingTSID and TSID with wildcards.

## Changes in Versions 8.15.00

- Bug Fix [08.15.03] Re-enable the ability to read default HydroBase connection information from the *system/CDSS.cfg* file when running in batch mode. This allows the user to configure HydroBase once and use with any command file that is run.
- Bug Fix [08.15.03] Re-enable the ability to run TSTool in batch mode with -nomaingui and have plot windows display until the Close button is pressed. This had been broken in version 8.00.00+.
- Bug Fix [08.15.00] Fix a bug in the Add() and Subtract() commands introduced after 08.02.00. Additional flexibility was enabled to specify the time series list but the new features were not backward compatible with old command files in all cases, in particular when a list of specified time series identifiers was used. Version 08.15.00 is backward compatible and translates old commands on the fly. A workaround is to use version 08.02.00 and change the command parameters to use TSList=SelectedTS(instead of AddTSList=SelectedTSID).
- Bug Fix [08.15.00] Fix a bug in the SetConstant () command introduced after 08.02.00. Additional flexibility was enabled to specify the time series list but the new features were not backward compatible in all cases. In particular the TSList parameter default is now LastMatchingTSID when updating old command files (was mistakenly defaulted to AllMatchingTSID).
- Bug Fix [08.15.00] The ability to right-click on the command list and search for a command was recently broken and has been fixed.
- Bug Fix [08.15.00] Printing the Analysis Details from an XY-scatter plot was broken and has been fixed.

Bug Fix [08.15.00] Fix so that the obsolete SetConstantBefore () command is treated as an unknown command and verify that all unknown commands are loaded, to allow editing and correction. Previously some obsolete commands might be skipped when loading command files.

- Bug Fix [08.15.00] Fix the ReadNwsCard() command for ensemble files to handle leap years in the ESP run period (case where ESP run start is Feb 29 is still not handled). Also handle the nonstandard period header produced by the NWS ESPADP software previously this format error had to be corrected outside of TSTool.
- Bug Fix [08.15.00] Fix the ReadNwsCard() command to handle reading ensemble files where ESP was run on the last day of the year. The conversion of 1-24 hour to 0-23 hour was causing the data to be shifted by one full month in this case. Also allow an optional ensemble identifier and name to be specified, which will create an ensemble recognized by TSTool.
- Bug Fix [08.15.00] Fix the FillUsingDiversionComments() command (used when processing HydroBase diversions). A bug was present that caused the filling to not occur when operating on only one time series (filling worked when operating on all time series).
- Bug Fix [08.15.00] Fix the FillMOVE2 () command to properly handle legacy command parameters (prior to named parameter syntax) this problem only occurred for old command files.
- Bug Fix [08.15.00] Fix the SetFromTS() command to properly handle legacy command parameters (prior to named parameter syntax) this problem only occurred for old command files.
- Change [08.15.03] Change the Copy () command to be more forgiving when reading old command files. The required NewTSID parameter will now be defaulted to a copy of TSID with scenario "copy". Using an alias for TSID will still require updating the command to specify appropriate NewTSID parameter information.
- Change [08.15.02] Change the ChangePeriod() command to also operate on ensembles.
- Change [08.15.00] Change DateValue time series file reading to NOT allow multiple adjacent delimiters and do not allow mixing of space and tabs for delimiters. For example, when using commas as the delimiter, ",," would not result in a missing value. The updated software is more strict in order to prevent inadvertent data errors. The default delimiter is a space. If for example, columns are being pasted from Excel using tabs as the delimiter, make sure to add the following line at the top of the DateValue file:

Delimiter = " "

where a tab character is inside the quotes.

- Change [08.15.00] Change DateValue time series reading to generate a more explicit error if the file does not exist, to facilitate error checks. Command files that reference invalid files may now generate errors at different processing steps.
- Change [08.15.00] Update the WriteDateValue() command to recognize ensembles.
- Change [08.15.00] Update the Blend() command to current error handling and parameter naming conventions. The old syntax is recognized and will be automatically updated.
- Change [08.15.00] Fix the WeightTraces() command it had been disabled for some time and has now been updated with command parameters and error handling consistent with current standards. The old syntax is no longer recognized because the command now operates on an ensemble identifier (old depended on less robust time series identifier conventions).
- Change [08.15.00] The "REF TS" label shown in the legend for plots, indicating which time series is used in the overview (reference) window under the main plot has been removed. On-screen, saved images, and printed plots should now look the same.

• Change [08.15.00] Improve the startup so that database queries for choices do not cause user interface problems.

- Change [08.15.00] Software is now distributed with installers that install to a versioned folder and indicate the software version in menus. This allows multiple versions of the software to be installed at the same time. Previous versions evaluated this approach without full installers.
- New Feature [08.15.00] Indicate that the command file is modified when reading a command file and changes to command syntax are automatically applied. This will occur with commands that have been fully updated to the new error handling (you are not required to edit the command for its syntax to be updated). The command file can then be saved to accept the automatic changes.

## Changes in Versions 8.13.00 - 08.14.02

- Bug Fix Warning dialogs in command editors were inadvertently turned off in a previous release and have been enabled again.
- Bug Fix Fix so that the TSAlias is used if specified in time series product files (used with ProcessTSProduct()). This allows aliases to be configured in commands and passed to pregenerated product files, to streamline product processing.
- Change The WriteDateValue() command has been updated to include a Delimiter parameter (e.g., to allow comma to be specified) and the output period can be set in the command. The alias is also now printed in column headings if it has been specified.
- New Feature Continue updating commands to have new error handling and to enable ensemble processing for many commands.
- New Feature Add SetProperty() and SetPropertyFromNwsrfsAppDefault() commands to set controlling information for processing. In particular, it is envisioned that this capability will be used to set date/time and filename information at the top of a command file, for use in other commands throughout the command file.
- New Feature Add ability to recognize \${Property} in read/write commands for DateValue, NwsCard, and NwsrfsEspTraceEnsemble commands. This capability will be added to other commands in future releases.
- New Feature Add the ability to set the time series alias dynamically in the ReadNwsrfsEspTraceEnsemble() command.
- New Feature Add preliminary capability in the ReadDelimitedFile() command additional work will be completed to fully enable this command.
- New Feature Add the ComputeErrorTimeSeries () command, to create a time series indicating the difference between, for example, observed and simulated time series. Percent error is enabled and additional error measures may be added in the future.
- New Feature The RunPython() command has been enabled in preliminary fashion, with the goal of implementing full support for calling external Python processing scripts, to support more complex processing.
- New Feature Add the ResequenceTimeSeriesData() command to resequence years of data in a time series, given a list of years.

# Changes in Versions 8.03.00 - 08.12.06

• Bug Fix Fix NwsrfsEspTranceEnsemble handling to handle leap year and correct bug where time zone was not being handled properly (one hour off).

- Change Many commands have been updated to use the TSList parameter, which indicates the time series to be processed by the command. Commands are backward compatible; however, the new parameter will not be recognized by older versions of TSTool. Once this parameter is enabled in a command, it will allow additional values to be recognized in the future (e.g., getting the list of time series from a table may be enabled). A consistent approach for the parameter also promotes consistency between commands.
- Change As much as possible, update commands that read time series to provide the list of time series identifiers to other commands. This facilitates command editing. For example, when a Read\*() command is inserted, it will partially run (discovery mode) to read time series information, but not the full data. The time series information is then made available to later commands to facilitate editing the commands.
- Change Expand the capabilities of the SetTimeSeriesProperty() to include setting whether editable editable time series will enable editing capabilities in the graph view. Add the DefaultSaveFile parameter to the ProcessTSProduct() command to help automate saving edited time series.
- Change Change all results to a tabbed panel of lists, with appropriate mouse actions. For example, a variety of actions can be taken by right-clicking on the time series results. However, for output files, a single click on a file will result in the file being displayed.
- Change Include most output files in the results tab. Some secondary files are not yet included but will be as additional commands are updated with improved error handling.
- Change Reorganize general command menus to group related commands and avoid a long list of general commands.
- Change Reorganize into a separate command menu commands that only apply to ensembles.
- Change The performance of the ShiftTimeByInterval() command has been greatly improved.
- Change Running "TSTool File.TSTool" will cause the command file to be loaded, but not run. To run in batch mode, continue to run with "TSTool—commands File.TSTool".
- Remove Remove obsolete commands from menus. Running old command files will warn about the obsolete commands and recommend new commands. Most of these commands have not been used for a long time: SetConstantBefore() was previously replaced with SetConstant(). FillCarryForward() was previously replaced with FillRepeat().
- New Feature Add the ReadTableFromDelimitedFile() and ResequenceTimeSeriesData() commands to facilitate generation of stochastic time series.
- New Feature Add the CreateEnsemble () command to create an ensemble of time series from a single time series (e.g., by shifting and overlapping each year of the time series).
- New Feature Add the CopyEnsemble () command, which copies each time series in an ensemble.
- New Feature Add the NewStatisticTimeSeriesFromEnsemble() command, which generates a statistic (e.g., "Mean") time series from an ensemble.
- New Feature Add a command menu group and results tab for table processing. Add the ReadTableFromDelimitedFile() command, for example to read a CSV file. It is envisioned that table commands will be used to further automate and streamline processing.

New Feature The NewStatisticTimeSeries () command has been added to generate a statistic time series determined from a time series. For example, for the "Mean" statistic, the mean of all Jan 1 daily values are repeated throughout the period for each Jan 1. This allows the mean to be graphed or otherwise used for analysis.

## Changes in Versions 8.00.00 - 08.02.00

- Change The Copy () command now requires a new time series identifier to be specified, in order to avoid confusion with the original time series identifier. Old commands will fail if a valid new identifier is not specified. A simple workaround is to use the same location and interval as the original time series and "copy" for the scenario. Because an alias is assigned to the copy, this full time series identifier will likely only be used for displays about time series details.
- Change Begin distributing TSTool such that when installed the software lives in a separate versioned folder with a name similar to "TSTool-08.02.00". This allows different versions of the software to be installed at the same time, in case a specific version must be used and to allow for transition to new versions without conflicts with other software that may share components. A zip file install is available and a full installer is being created, similar to previous versions.
- New Feature Initial implementation of new error-handling features, which display graphics to the left and right of the command area indicating warnings and failures. The intent is to provide users with more immediate and accessible feedback and minimize the need to review the log file. Black dots after running indicate commands that have not been updated to the new error handling. Right click on a command and select "Show Command Status" to see useful information about resolving a problem. A command has 3 phases: initialization, discovery, and run, each with a status of unknown, success, warning, or failure.
- New Feature Process commands on a separate thread. This allows the GUI to remain responsive and show command progress during running. Features are being implemented to cancel processing.
- New Feature Add CreateRegressionTestCommandFile(), RemoveFile(), and StartRegressionTestResultsReport() commands to facilitate creating command test suites, to allow regression testing. Use these commands to create test suites for testing, to automate testing for future releases.
- New Feature Add the WriteProperty() command to write a processor property (e.g., the output start date) to a file, primarily for use in testing.
- New Feature Add the RemoveFile() command for use in testing, and can also be used in normal processing.
- New Feature Add the NewPatternTimeSeries () command, which can be used to generate test data for other commands, and can also be used for normal processing.

#### Changes in Versions 7.02.00 - 07.04.00

- Remove checkbox for stored procedures from HydroBase login the transition to stored procedures has been complete for some time.
- Allow the readStateMod() command to read water rights files this was implemented to verify CDSS StateDMI software processing.
- Add support for HydroBase administrative flow stations.
- Add the setToMin() command similar to setMax().
- Update the TSTool PDF documentation to include navigation.

• Update the HydroBase fillUsingDiversionComments() command to optionally fill with the CIU (currently in use) flag.

- Improve the sizing of the time series query list table.
- Change installer so that when TSTool is run in batch mode from the command line, the working directory is the starting location, rather than the software installation home.
- Update to allow the readNWSRFSF5Files() command to work in batch mode.
- Update to handle new StateCU file formats.

#### Changes in Version 7.01.00

- HydroBase 20061003 and later has a G: at the end of the SFUT and the F: has been expanded to seven characters. This version of TSTool handles the new identifiers and is backward compatible with older databases and commands files. Old commands files using SFUT should return the same results as before.
- The time series list area now has a minimum height consistent with the HydroBase input type lists of time series from StateMod or other files are now more readable.
- The analyzePattern() command dialog now correctly forces the user to use percentiles in the range of 0 to 1. The command has also been updated to use the output period from setOutputPeriod() and the year type from setOutputYearType() to write the pattern file. Consequently, the input time series are no longer required to be the specific water year period to control output. The previous version added "\_pattern" on the location part of the TSID, but the current version instead sets the data type to "Pattern" this will allow the pattern file output to be directly used with fillPattern(), using standard locations.
- When saving commands files, the "TSTool" file extension is automatically added. This is compatible with the new installer, which lets the operating know that the extension should be associated with TSTool.
- Fix the fillInterpolate() command to allow time series identifiers with space.
- Fix the cumulate() command to allow the HandleMissingHow parameter to not be specified it will default to SetMissingIfMissing.
- The fillUsingDiversionComments () command has been updated to use the CIU HydroBase data to provide more zeros.
- Update to support new StateCU file formats with longer crop names, consistent with similar StateDMI software updates.
- The installer includes several improvements, including more ability to configure the HydroBase information, and displaying previously set HydroBase configuration information as defaults.

#### Changes in Version 7.00.00

- Begin using the Nullsoft Scriptable Install System (NSIS) to build software installers.
- Begin distributing TSTool as an executable file TSTool.exe, which starts up the Java Runtime Environment. This allows for simpler configuration of the Start menu and gives users a more traditional executable to run.
- The software organization is slightly different from the previous releases in order to recognize clearer boundaries between components. Several new Jar files are provided, rather than being merged with other Jar files. The **Installation and Configuration Appendix** lists the files.
- Add support for Colorado Agricultural Livestock Statistics and human population time series in HydroBase.

## Changes in Version 6.19.00

• Update fillUsingDiversionComments () to extend time series with diversion comments available outside the normal diversion records period, if no query or output period has been specified.

## Changes in Version 6.18.00

Add runCommands () to allow a controlling commands file to run other commands files.

#### Changes in Version 6.17.00

• Add compareFiles () to help with regression testing, to verify current and expected results.

## Changes in Version 6.16.02

- Begin adding data test commands in development mode these commands will evaluate time series for critical conditions.
- Reenabled fillMove2 (), which was unintentionally disabled in a previous release.

#### Changes in Version 6.16.01

- First version that includes operational features to support link between time series and map interface.
- Increase performance at startup when no main GUI is shown, for cases when TSTool is being used to provide graphs for other software.
- Add support for Universal Naming Convention (UNC) for software home in startup files.
- Change View...Map Interface to View...Map.

#### Changes in Version 6.16.00

- Implement hooks for the NDFD input type.
- Improve handling of NWS Card file extensions in commands and File...Save menu choices.
- Add map interaction features. See the Installation and Configuration Appendix for more information about configuring links with maps.

#### Changes in Version 6.15.00

- Begin implementing link between time series and map interface.
- Reorder general command menus to be more consistent with other software.
- Add warning if time series cannot be retrieved from the RiversideDB input type.

## Changes in Version 6.14.00

- Change the setQueryPeriod() command to setInputPeriod() to be consistent with other software nomenclature. The old command is still supported.
- The readNwsCard() and TS Alias = readNwsCard() commands both now use the named-parameter notation and have the new Read24HourAsDay parameter.
- Blank lines in commands files now display properly.
- Fix bug where time series table sometimes showed half-drawn rows.
- Fix bugs where StateMod binary and StateCU input type file chooser prompt would not allow a
  cancel of the file select to occur. Cancel now results in the previous file that was selected being
  displayed.

#### Changes in Version 6.12.00

Improve error handling for processing time series products. In particular, TSTool now returns a non-zero exit status if there is an error processing a product. This can be detected by external software that is running TSTool.

## Changes in Version 6.11.00

- Enable the ColoradoSMS input type and begin adding alert annotations for streamflow graphs.
- Fix bug so that if a commands file is specified using a relative path, the working directory is interpreted correctly to determine the full path to the commands file.
- Add the ability to accept Parameter=Value command line parameters. This will allow override of configuration file information.
- Convert processTSProduct () to use named parameters and ensure that output can be viewed even if in batch mode with no main GUI.
- Update so that for batch runs, the *CDSS.cfg* file information for HydroBase is used to make the initial connection. Phase out the HydroBase database properties in the *TSTool.cfg* file.

#### Changes in Version 6.10.09

- Convert cumulate () to use named parameters and begin development of a new Reset parameter.
- Convert readStateModB() to use named parameters and add the Version parameter to allow reading of old files. The features associated with the Version parameter are under development.
- Update the newStatisticYearTS() to support calculation of maximum and minimum values in a year and count of values in a year above/below a test value. Also update the command to better handle incomplete data at the end of the analysis period.
- Update the openHydroBase() command to check the *CDSS.cfg* information and provide database server and database name choices to the user, to minimize errors in use.

## Changes in Version 6.10.08

- Convert fillConstant() to use named parameters.
- Convert newTimeSeries () to use named parameters.
- Add the newStatisticYearTS() command, in particular to support calculation of frost date time series.
- Update openHydroBase() to accept the database name parameter.
- Double-clicking on a command will now cause the editor for the command to be displayed.
- Add a Command Glossary to the documentation and begin to standardize command parameter names to be consistent.

#### Changes in Version 6.10.07

- Convert scale () to use named parameters.
- Change TS X = ... to TS Alias = ... in menus. Start to change notation in documentation and command dialogs.
- Convert copy () to use named parameters and add the ability to assign a new TSID to the copy.
- Convert writeStateMod() to use named parameters and add ability to select time series to write.
- Convert readStateMod() to use named parameters and add parameters for the input period..

## Changes in Version 6.10.06

- Official release to support stored procedures.
- Documentation made current to reflect changes since the last documentation issue.

- Respond to feedback from previous 6.10.x incremental releases.
- Fix bug where XY-Scatter graph was not working due to changes in the 6.10.00 BETA release.

## Changes in Version 6.10.05

- Add the lagK() command.
- Update the fillProrate() command InitialValue parameter to support NearestForward and NearestBackward.

## Changes in Version 6.10.04

- Add additional input filter choices for HydroBase structures and stations, consistent with the StateView software.
- Update the fillProrate() command to include the ComputeFactorHow parameter to allow computing the proration factor based on an average of ratios. Update the command to support freeformat parameters.
- Update the selectTimeSeries () command to allow combinations of selection filters, to allow more flexibility.
- Add the ability to query HydroBase infrequent diversion and reservoir release time series.

## Changes in Version 6.10.03 BETA

- Input filters for HydroBase well structures and stations are now handled properly.
- Add initial support for saving time series products to HydroBase and RiversideDB.

## Changes in Version 6.10.02 BETA

• Update the openHydroBase() command to use free-format parameters.

#### Changes in Version 6.10.01 BETA

- Enable ability to have data flags for daily and monthly data.
- Update the writeRiverWare() command to handle time steps other than hourly.

#### Changes in Version 6.10.00 BETA

- Begin releasing support for HydroBase stored procedures.
- Begin development of generic changeInterval() command and update to free-format parameters.
- Begin work on the Mixed Station Analysis tool and fillMixedStation() command.
- Update the fillRegression() command to support free-format parameters.
- Begin work on the analyzePattern() command.
- Add the Commands...Analyze Time Series menu for analysis commands.
- Add the Commands...Models menu for more complicated modeling commands.
- Add the **Tools...Analysis** menu for analysis tools.
- Begin implementing the generic log file viewer, which allows links between commands and log messages.
- Change defaults to NOT display messages to the console, to improve performance.
- Add the point graph type.
- Add the predicted value graph type.
- Add the predicted value residual graph type.

- Add the sortTimeSeries() command.
- Add the ability for the readNWSCard() command to read 1+ time series.
- Add the startLog() command.
- Add the compareTimeSeries() command.
- Update the fillHistMonthAverage() and fillHistYearAverage() commands to have fill flag and free-format parameters.
- Add a warning in the add () command when frost date time series are added and indicate more appropriate commands.

## Changes in Version 6.09.03

• Fix bug where initial directory with spaces in name was causing errors.

## Changes in Version 6.09.02

- Added release notes to documentation.
- Fix bug in NWSRFS FS5Files input type where identifiers with underscores were not being handled.
- StateModB input type reservoir data types (and some well types) had ? for data groups this has been resolved using StateMod 10.27 HTML documentation.

## Changes in Version 6.09.01

- Added NWSRFS FS5Files input type support, for use with the National Weather Service River Forecast System (NWSRFS).
- Fix summary reports (daily totals and means) to handle minute data.

#### Changes in Version 6.09.00

 Add the readHydroBase() command to read one or more HydroBase time series while filtering based on location, ID, etc.

#### Changes in Version 6.08.02

- Documentation updated to reflect all version 6 changes.
- Minor corrections to interface based on documentation review.

## Changes in Version 6.08.01

• For the HydroBase input type, allow the ODBC DSN to be specified in the TSTool configuration file, to allow a HydroBase connection to be made at startup without prompting. This supports the CDSS CD distribution.

#### Changes in Version 6.08.00

- Allow StateCU input type time series read commands to allow wildcards.
- Allow StateMod input type time series read commands to allow wildcards.