SeaSoft Version 5.2x Release Notes
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This release incorporates several user-requested features and a large number of bug fixes and performance improvements over the previous official release (5.05).

The notes for the previous full release (version 5.05), which represented a substantial overhaul of SeaSoft's underlying simulation technology, should be reviewed for additional information. A cumulative list of recent release note files available from SeaSoft follows:

Release_Notes (Mar_04)   [v 5.05]
Release_Notes (January_02) [v 4.32]
Release_Notes (April_01)   [v 4.20]
Release_Notes (June_00)   [v 4.14]
Release_Notes (Oct_99)   [v 4.07]

If you have not checked out the web site (http://www.seasoft.org), you should make it a point to do so. Free access to all simulations is available to anyone who requests an on-line account. Free access is intended to help us work out the kinks in the Internet-based delivery model and will naturally be limited in duration.

Release Highlights

• New flexibility in the handling of irregular waves and swell. Previously, the swell spectral form was limited to a symmetric spectrum of SeaSoft's creation. You may now use any of the available internal spectra (or a user-specified spectra) for both waves and swell. This change affects all wave-related simulations.

• RANOUT-style line load analysis is now available for each of the subline nodes of any slender member (i.e., mooring line, riser, etc.). Previously, only anchor and fairlead load evaluations were available in the output stream.

• There have been ongoing updates and bug fixes to the tab-delimited XCLDAT.stxt output summary file.

• Recompiled the code base and checked benchmark cases using two additional FORTRAN compilers (G77 and IBM XLF) as part of an ongoing quality control effort.

• Fixed a number of inter-simulation import issues.

Minor Updates and Enhancements (partial list)

- Revised all *DAT binary data files (SPMDAT, SHIPDAT, etc.) to accommodate new features. As usual, data files are forward-compatible but *not backwards compatible*. The update and importation rules are:

    - Any earlier version of a simulation data file (e.g., SPMDAT) can be read by version 5.2x of its corresponding simulation (i.e., **SPMsim**).

    - Simulations will accept *only* previous version data files produced by the *same* simulation. That is, you cannot import a version 4.32 SPMDAT file into **Catsim** version 5.2x. Simulations will automatically enforce this requirement and issue an error message if you attempt an inappropriate importation.

    - To import a data file from a previous version of *a different* simulation (e.g., to import a version 3.x SPMDAT file into version 5.2x **Catsim**), you must first update the data file to version 5.2x using its native simulation (in this case bring the SPMDAT file up to date with **SPMsim** version 5.2x) and *then* import the version 5.2x SPMDAT file into **Catsim** version 5.2x.

    Depending on the vintage of the imported source data file, the update process may make the file unusable to its originating simulation, so you should work only on *copies* of existing data files with the new 5.2x simulations.

- Updated and corrected online help sections.

- Modifications and corrections to wave drift force corrections for shallow water when user supplied drift force coefficients are in effect.

- Add zero upcross values for wave-frequency data in XCLDAT.stxt output.

- Fixes to several editor contextual display items.

- Expansion of energy range used for static mooring system energy calculations; loosen tolerance for reporting of errors ("0%" errors no longer reported).

- Numerous minor code modifications and enhancements to eliminate compiler-specific features and permit code base compilation using additional industry-standard compilers.

Major Bug Fixes (partial list)

Individual Simulations

- **Catsim**: Fixed a bug in "Compute quiescent equilibrium" feature.

- **CALMsim**: Fixed a bug in computation of buoy orientation.

- **Slowsim**: Fixes to wave moment spectral density errors.

Comprehensive Simulations

- Bug fixes to drag force calculations for slender members.

- Many bug fixes to the XCLDAT.stxt output stream.