WARPSimLab

Release Notes

Version 4.0

Release Date: July 20, 2026

Overview

Version 4.0 focuses on expanded simulation reporting, Roth account support, interactive tutorials, and automated testing.

New Features

- Four new reports were added: the Year-by-Year Details Report, Tax Report, Monte Carlo Risk Report, and Historical Windows Risk Report. Together with the existing Executive Summary Report, WARPSimLab now provides five simulation reports.
  - Year by year report. Presents summary statistics followed by an annual table showing ages, gross income, taxes, household expenses, net cash flow, and total portfolio value for one simulation run.
  - Tax report. Summarizes lifetime and annual estimated taxes, effective and marginal tax rates, tax settings and model limitations, taxable income sources, retirement withdrawals, required minimum distributions, Roth and HSA activity, and year-by-year tax details.
  - Monte Carlo report. Shows how your financial plan might perform across many simulated market conditions. It summarizes portfolio survival and the range of portfolio results from weaker to stronger outcomes. When sequence-of-returns risk analysis is enabled, the report also shows its effect on the results.
  - Historical Windows report. Shows how your financial plan would have performed across many actual historical market periods. It summarizes portfolio survival, the best and worst years to retire, sequence-of-returns risk, and the range of portfolio results.
- The Tutorial dialog was rewritten and now includes three interactive tutorials: Beginning, Advanced Input, and Advanced Analysis.

- Published the WARPSimLab source code, website source, and automated test suite on GitHub.
- Added Roth account support to the simulator, including personal contributions, employer contributions, and Roth conversions.
- Split the Summary dialog's Cash Flow tab into separate Income and Cash Flow tabs
- Replaced the original CSV writer with a more complete report-generation system that creates HTML reports and supporting CSV files.
- Improved the accuracy and consistency of labels used in plots and reports.
- Expanded the automated test suite to more than 1,070 tests across over 170 files.

Known Limitations

- Results are generated from simplified mathematical models. For example, the current model assumes that 100% of Social Security benefits are taxable.
- Simulations simplify financial markets and individual financial situations and do not reproduce every real-world condition.
- HSA balances are supported, but HSA contributions and medical-expense withdrawals are not yet modeled.
- Output should not be interpreted as predictions or recommendations.

Future Development

- Add explicit future health expense options
- Add HSA savings and withdrawal features
- Additional documentation
- Add advanced research-oriented analysis using the Monte Carlo and Historical Windows engines.
- Add additional withdrawal options.
- Additional examples.