

Release notes from Tony Warn - 4th Dec 2023

Edited Pau Juan-Garcia 5th Dec 2023

SIMCAT 14.8 and 15.7

These legacy versions are only used for checking out results produced during previous AMP rounds.

SIMCAT 15.8

From 15.8, SIMCAT provides a method of storing data as arrays. This must be limited to 20,000 features and 1700 discharges to deal with the new method of apportionment.

From 15.8, SIMCAT includes an attempt to deal with fish farms. This needs checking by users who are familiar with the type of data obtained from fish farms. It has not yet been decided whether the contributions of individual fish farms are to be included in the calculations of apportionment. The total contributions from all upstream fish farms are already included.

SIMCAT 16.1

From 16.1, SIMCAT's Di output files include extra columns for the contributions to mean load and mean concentration. They are based on contributions to all the Monte Carlo shots of river water quality. Contributions to percentiles may also be added to these files in the future.

From 16.1, SIMCAT uses a read/write system instead of storing data for every reach that will be mixed with another reach at a downstream confluence (or enter a lake). This means that SIMCAT 16.1 can run models of 5000 reaches and 30,000 features.

From 16.1, SIMCAT produced Ei.CSV files, draft files that contain the outputs from Mode 7, 8 and 9 – the simulation of plans to improve river quality.

From 16.1, SIMCAT can also track the contribution of 3000 discharge to each one of the 5000 Monte Carlo shots of river water quality for each determinand. This provides accurate calculations for apportionment at all points in the modelled river. We may wish to apply this accurate type of breakdown to individual contributions of bits of diffuse pollution – we already have it for the running total contributions from the different types of diffuse pollution.

In the long run we should only have to maintain one version of the source code, keeping executables for the older ones archived on GitHub. Our aim is to have a revised tested version – version 16.2 – by the end of financial year.

SIMCAT's interface

SIMCAT interface screen contains access to versions 16.1 and 15.8. The SIMCAT interface includes buttons to provide on-screen views of all the output files. For a set of data with seven determinands there are 119 of these. They include three output files referred to as 004, 005 and 007. These files are helpful to people who are changing the software code. It is a simple matter to write reports to these files when tracking down the cause of glitches. There are buttons to provide access to the classic Chris Page graphs and other graphs. This could be set up to use other versions that use an EXE file for a graph plotter. There is also a button that writes reports in WORD. We could add other reports in the future. We could also get SIMCAT to produce a data file for every discharge that can be used as input to RQP for further calculations for that discharge.