

## 4.9 Result Changes from 4.7

Some results have changed between Source 4.7 and Source 4.9. The eWater development team maintains a detailed system to track when results vary between different version of Source. The areas with differences are:

- Changes to the implementation of **Math.Pow** and **Math.Exp** changed the results for a small number of models. Areas affected include Weir node model, SimHyd Rainfall runoff model and Link Storage Routing.
- Changes to "Safe Release" functionality for storages with multiple outlets. See: [Storage node - OperatingConstraints](#)
- We have modified how distribution losses are calculated at **Supply Points**. See: [Supply point node - Distribution Loss](#)
- Changes to the **Supply Point's: Use Unregulated Flow To Satisfy Orders** option. See: [Supply point node - Use Unregulated Flow to Satisfy Orders](#)
- Changes to the **Water User's: Ordering Options \ Orders depend on upstream constraints** works better for systems with travel time. See: [Water user node - Ordering Options](#)
- There have been a number of changes to the **Weir** algorithm, in particular for how ownership and constituent fluxes are handled.

Models with Resource Assessment:

- Projects that modify Annual Accounting carryover rules using Scenario Input Sets will need to be updated. The format needed to change with the introduction of changing carryover rules over time. See: [Annual accounting - Carryover](#)
- Orders can now get redistributed to different accounts at extraction time for use debit. For example, this allows users to debit a different account following carryover at the end of a water year. See: [Resource assessment - Usage](#)
- Resource Assessment Triggers are fixed for models with non-daily timesteps. Triggers for monthly models could have been triggered multiple times. See: [Types of triggers](#)

Changes for Plugin developers

- We have changed how recorders are referenced internally, to make them more robust after model editing. This includes changing how plugins can identify recorders. This means that plugins which reference recorders will potentially lose those references when updating to Source 4.9.0.

To test your project:

1. Create a regression test in Source 4.7, see [4.7 Regression testing](#).
2. Run it in Source 4.9 to test for any result changes, see [4.9 Regression testing](#)

Details of changes for each beta release are here:

[4.8.0 Regression Test Changes](#)

[4.8.1 Regression Test Changes](#)

[4.8.2 Regression Test Changes](#)

[4.8.3 Regression Test Changes](#)

[4.9.0 Regression Test Changes from 4.8.3beta](#)

If you would like help with your projects or would like to have your projects included for testing, please contact support: [support.ewater.org.au](mailto:support.ewater.org.au)

List of causes of regression test changes since 4.7: [0 issues](#)