Introduction

Welcome to the ~~first part of~~ the Delta Simulation Model 2 (*DSM2*) *Version 8 tutorial*. The tutorial is divided into two sets of lessons. The first set teaches basic DSM2 skills using simplified channels. The second set of tutorials explores more advanced DSM2 skills using the model application to the Sacramento-San Joaquin Delta. The input files for these tutorials are in the *tutorial\simple* and *tutorial\historical* directories respectively.

The goal of the beginning tutorials (T1-T6) is to familiarize you with the DSM2 input system and fundamental modeling capabilities. ~~The first part of the tutorial is based on a~~ This six-part tutorial builds a model of a simple channel system~~. The directions for building the model consist of six sections~~, with each part building in complexity from its predecessor.

In working the tutorials, the directory where you installed DSM2 will be referred to as *{DSM2_home}*. E.g., if you accepted the default install directory, *{DSM2_home}* would be *d:\delta\dsm2*.

The first tutorial is called *Channels*, and involves setting up the channel grid, adding parameters, setting boundary conditions, and listing output locations. The second tutorial is called *Reservoir Gate Transfer*, and involves adding these components to the simple channel system.

The third tutorial is called *Layering*. The section guides you through the nuances of organizing data in multiple files. Layers are part of the DSM2 data management system. They allow input items to be grouped in logical bundles, and allow changes to be brought into an old simulation without erasing or altering archived items.

The fourth tutorial is called *Timevar*, and demonstrates the addition of time-varying information to the model. In the previous sections, all boundary conditions and gate timings were set as constant, and no input files were needed. In this section, the model is set to read time-varying information stored in DSS files.

The fifth tutorial is called *Output*, and covers advanced output options. The first part involves modifications to the text input file, *hydro.inp*. The second part describes the use of *groups* and source tracking in QUAL.

The sixth tutorial is called *Oprule*, and covers the use of Operating Rule Language (ORL) statements to set gate operations. In the previous versions of DSM2, the input text and time series files had to explicitly state the operations of gates. With the operating rules, expressions can be used to make the model operate gates on-the-fly. E.g., a gate can be directed to automatically close when salinity conditions reach a certain threshold.

There are two icons that are used to highlight information in the tutorials.

 Indicates a DSM2 “gotcha” moment in which extra care may be necessary.

 Indicates a question to put your new found DSM2 knowledge to the test.

[ja1]