Introduction

Chapter Summaries

The Delta Modeling section recently made public the new Delta Simulation Model—DSM2. This report describes the various modules necessary for running DSM2: its input and output system; its visualization tool and analyzer; and its calibration. This report also describes the section's artificial neural networks used to estimate marginal export cost. Following are brief summaries of each of the chapters contained in the report. (The name of each chapter's primary author is in parentheses.)

Chapter 2—DSM2-Hydro
Chapter 2 contains a brief description of the hydrodynamics portion of the model and a list of additional sources of information. (Parviz Nader-Tehrani)

Chapter 3—DSM2-Qual
Chapter 3 contains a description of the water quality portion of the model. It focuses mainly on the non-conservative constituent relationships modeled within DSM2-Qual. (Hari Rajbhandari)

Chapter 4—DSM2-PTM
Chapter 4 describes the theory used in the particle tracking portion of DSM2. (Tara Smith)

Chapter 5—DSM2 Input and Output
Chapter 5 gives a description and examples of the input and output files used by DSM2. (Parviz Nader-Tehrani and Ralph Finch)

Chapter 6—Cross-Section Development Program (CSDP)
Chapter 6 describes how CSDP converts bathymetry data to cross section data that can be used by DSM2. CSDP is used to develop irregular cross-sections for DSM2-Hydro. (Brad Tom)

Chapter 7—Artificial Neural Networks (ANNs) and Marginal Export Cost Estimates (MEC)
Chapter 7 describes the further development of the Artificial Neural Network used to determine salinity at various locations within the Delta. The chapter also describes how the ANN is used to estimate the Marginal Export Cost. (Don Wilson)

Chapter 8—*Visualization Tool and Analyzer (VISTA)*

Chapter 8 describes VISTA—the new data retrieval, management, manipulation, and visualization tool which was developed over the last year. (Nicky Sandhu)

Chapter 9—*Calibration*

Chapter 9 provides graphs of the July 1997 calibration. In this calibration, stage, flow, real tide, and multi-year planning comparisons were made in order to calibrate the model so that it had the capability of meeting a variety of conditions. (Ralph Finch)