

Modflow User Tools (MUT): User's Guide

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Chapter 1

Introduction

This document describes a Modflow interface called Modflow User Tools (MUT), which uses a text-based approach to build a modflow project. It currently relies on Tecplot©, a third-party visualization software package, to provide a 3D graphical interface for viewing the project mesh and properties during construction and then later for visualizing model results. In future, other visualization packages, including the open source program Paraview, could be supported and used instead.

The targeted version of Modflow is Modflow-USG (UnStructured Grid), which includes a new package that adds fully-coupled 2D surface water flow in a manner similar to the Connected Linear Network (CLN) package.

As well as building new projects, MUT may be used to post-process existing Modflow projects which were constructed using earlier versions such as Modflow 2005.

Chapter 2

Installation and Setup

2.1 Environment Variables

Chapter 3

Model Characteristics

A discussion of the use of GWF, CLN and SWF Modflow submodels to simulate fully-integrated

Chapter 4

Physical Properties

4.1 Groundwater Flow(GWF) Domain

4.1.1 Mesh

4.1.2 Connected Linear Networks CLN

4.1.3 Surfacewater Flow SWF

Chapter 5

Boundary Conditions

5.1 Constrained Head

5.1.1 Constant Head

Pre-requisites:

Activate one of GWF, SWF or CLN domains

Choose cells

Instructions:

gwf drain

Inputs:

Drain conductance L/T

All chosen cells will be assigned a drain elevation equal to the top elevation of the cell with the specified drain conductance.

5.1.2 Drains

Pre-requisites:

Activate one of GWF, SWF or CLN domains

Choose cells

Instructions:

gwf drain

Inputs:

Drain conductance L/T

All chosen cells will be assigned a drain elevation equal to the top elevation of the cell with the specified drain conductance.

5.2 Constrained Flow

5.2.1 Recharge

5.2.2 Pumping

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