

1163-M1-1165 **Michael A Karls*** (mkarls@bsu.edu), Ball State University, Muncie, IN 47306. *A Two-Dimensional Groundwater Modeling Project*. Preliminary report.

The purpose of this project is to derive and investigate a mathematical model for two-dimensional flow of groundwater. This model consists of a partial differential equation known as the two-dimensional groundwater flow equation as well as appropriate boundary conditions and initial data. After finding analytical and numerical solutions to the resulting initial value – boundary value problem, we will compare our models via an example implemented in Mathematica. This project came about as a result of an Undergraduate Honors Thesis project at Ball State University. (Received September 14, 2020)