User's Manual

for the Fate and Transport Software Developed by Eco

by

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Abstract

This is a brief description of the functional part of the software developed by Eco. This Microsoft Excel based graphical software is designed for groundwater contamination analysis for the sites with extended, irregular sources. The input consisting of the sampling data from multiple monitoring wells located around the perimeter of the contaminated site generates the output that provides concentration values on the grid that can be set up arbitrarily and is one of the parameters that user has to input. The generated output then is plotted on a three-dimensional graph. This pictorial representation of the plume when generated for consecutive moments of time can then be combined into the dynamic animated picture of the plume evolution Most of the software applications available today that perform similar analysis make certain assumptions about the plume or the source that generates it, restricting them to a certain behavior or a configuration. Given software is probably the most general in this regard. The only restriction it has is the assumption inherent to all analytical models, - that the groundwater velocity is constant, the sorption is linear and the biodegradation is of the first order. It also assumes that the dispersion coefficients are constant and that there are no sinks or external sources within the area of analysis. These are natural assumptions that do not hinder analysis and can hardly be avoided in any analytical model. This is a good tool for preliminary analysis; is very simple to use and intuitive to understand.