

WHAEM2000

Model Uses	WHAEM2000 is a US EPA analytic element model for groundwater and geohydrology designed to facilitate capture zone delineation and protection area mapping.	
Major Categories	Hydrology and Water Use	<u>Subject Knowledge Level</u> Intermediate
Minor Categories	Flow; Groundwater	<u>Technical Difficulty Level</u> Intermediate
Model Type	Physical Model	<u>Geographic in Nature?</u> Yes

Abstract

The U.S. EPA's Wellhead Analytic Element Model, WhAEM2000 for Windows (9x/NT/2K/XP), is a groundwater geohydrology computer program. WhAEM2000 is a public domain, ground-water flow model designed to facilitate capture zone delineation and protection area mapping in support of the State's Wellhead Protection Programs (WHPP) and Source Water Assessment Planning (SWAP) for public water supplies in the United States. WhAEM2000 provides an interactive computer environment for design of protection areas based on radius methods, well in uniform flow solutions, and geohydrologic modeling methods. Protection areas are designed and overlaid upon US Geological Survey Digital Line Graph (DLG) or other electronic base maps. Base maps for a project can be selected from a graphical index map for the State. Geohydrologic modeling for steady pumping wells, including the influence of hydrological boundaries, such as rivers, recharge, and no-flow contacts, is accomplished using the analytic element method.

Future Developments

Unknown

Model Limitations

Unknown

Model Features

- Windows Graphical User Interface (GUI)
- Use of geographic data for assessment
- Provides for uniform flow solutions
- Geohydrologic modeling options
- Delineation of Wellhead protection areas per the California Well Head Protection Program (WHPP)

Required Data Types

- Basemap - consisting of Digital Line Graph data
- User defined setback distances
- User inputted UTM coordinates

Model Outputs

Graphical features showing model-defined Well Head Protection Areas.

CAD or GIS ready data that can be used for post-processing analysis.

Hardware Requirements

Intel 80486 DX/66 or higher microprocessor system (Intel Pentium highly recommended)

Windows 95 or 98, Windows NT 4.0 or 2000 operating system

Supported Platforms

DOS UNIX

Windows Macintosh

Software Requirements

CAD or GIS software can be used for advanced post-processing

Cost, Licensing and Availability

DAFLOW is provided free of charge from the link below.

Source

US Environmental Protection Agency

Source URL

<http://www.epa.gov/ceampubl/gwater/whaem/>