InfoSWMM® is a fully ArcGIS integrated, highly advanced, and comprehensive hydrologic, hydraulic, and water quality simulation model for the management of urban stormwater drainage and wastewater collection systems. It is a fully dynamic, geospatial software application that can be used to model the entire land phase of the hydrologic cycle. Built atop ArcGIS™ using the latest Esri ArcObjects component technologies, InfoSWMM seamlessly integrates advanced hydrologic and sewer collection system modeling and optimization functionality with the latest generation of ArcGIS enabling users to leverage existing GIS investments in one complete and affordable package.

Unequalled Geospatial Hydrologic Modeling Capabilities
InfoSWMM performs dynamic rainfall-runoff simulations for single event or long-term simulations accounting for climate, soil, land use, and topographic conditions of the watershed. The runoff component operates on a collection of subcatchment areas on which rain falls and runoff is generated. It can account for various hydrologic processes that produce runoff from urban areas including time varying rainfall; rainfall interception; infiltration and percolation; evaporation; snow melt; flow between groundwater and the conveyance system; dry weather sanitary flows; user defined flows and reservoir routing of overland flow.

Powerful & Versatile Hydraulic Modeling Features
With the ability to handle networks of unlimited size, InfoSWMM includes flexible hydraulic modeling features used to route runoff and external inflows through a network of pipes, channels, pumps, storage/treatment units, and diversion structures. Once runoff quantity and quality is simulated, and wastewater loads at receiving junctions are determined, flows are routed using steady state routing, kinematic wave routing or fully dynamic wave routing. Using real time controls, users have complete control of the operational management of all hydraulic structures.

Comprehensive Water Quality Capabilities
In addition to modeling the generation and transport of runoff flows, InfoSWMM can also estimate the production and fate of pollutant loads associated with this runoff. For any number of user defined water quality constituents, a comprehensive number of processes can be simulated including dry weather pollutant buildup based on land use; pollutant wash-off during storm events; dry weather entry of sanitary flows; and reduction in dry-weather loads due to BMPs.

Key Benefits
- Perform Evaluations for USEPA Regulations
- Reduce CSO’s cost effectively
- Improve Water Quality
- Leverage Existing Data Investments
- Simulate Analysis Using FEMA certified methods

Related Products
- InfoSWMM 2D
- H20MAP SWMM
- InfoSewer
- InfoWorks CS
- InfoWorks SD

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InfoSWMM® Key Features

ArcGIS Compatibility

- Runs as an ArcGIS extension
- Build/run network model in ArcGIS
- Construct/update models directly from geodatabase and geometric network or any external data source
- Create/edit multiple scenarios in the same geodatabase
- Generate contours, graphs, and tables or results directly in ArcGIS
- Use relational database and geodatabase to store model data
- Fully automate GIS data exchange with Esri data sources
- Pick any GIS attributes automatically without mapping any fields
- Automatically publish simulation results to enterprise geodatabases

Hydraulic Modeling Capabilities

- Models networks of unlimited size
- Models standard closed and open conduit shapes, natural channels and irregular pipes
- Models storage treatment units, flow dividers, pumps, weirs, orifices, etc.
- Supports the application of external flows and water quality inputs from surface runoff, groundwater interflow, infiltration/inflow, dry weather sanitary flow and user defined inflows
- Utilizes uniform flow, kinematic wave or full dynamic routing methods
- Models various flow regimes including backwater, surcharge, reverse flow, ponding and pressurized flow
- Models complex bypasses, outflows and adverse pipes
- Supports comprehensive dynamic control (RTC) for pump status, orifice opening and weir levels via user-defined control rules
- Models any type of weir including transverse, side flow, v-notch,
- Simulates constant and variable speed pumps, and manifold pump systems
- Performs rainfall-runoff simulations of urban and rural watersheds
- Considers antecedent moisture conditions
- Manages SSOs and CSOs
- Perform system evaluations for CMOM, NPDES and TMDL programs
- Models river hydraulics and associated flooding problems
- Use SCS methods for generating runoff
- Models snow accumulation and snowmelt
- Supports multiple dry-weather base flows with multiple patterns
- Utilizes a variety of unit hydrograph methods including NRCS, Clark, Snyder, Santa Barbara, Delmarva, Espy, Tri-trangular, etc.
- Derives rainfall data from raster data
- Imports weather time series in NCDC TD-3200 format
- Allows irregular interval rainfall time series

Hydrologic Modeling Capabilities

- Models time-varying rainfall
- Efficiently models continuous simulations of any length
- Simulates rainfall interception in depression storage
- Models infiltration of rainfall into upper soil layers
- Simulations percolation of infiltrated water into groundwater
- Models interflow between groundwater and conveyance system
- Utilizes nonlinear reservoir routing of overland flow
- Performs rainfall-runoff simulations of urban and rural watersheds
- Considers antecedent moisture conditions
- Manages SSOs and CSOs
- Perform system evaluations for CMOM, NPDES and TMDL programs
- Models river hydraulics and associated flooding problems
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Water Quality Modeling Capabilities

- Models a variety of processes for any number of user-defined constituents
- Models conservative and reactive substances, and total suspended solids
- Models hydrogen sulfide buildup and corrosion potential
- Simulates dry-weather pollutant buildup over multiple land uses
- Calculates pollutant wash-off from each land use during storm events
- Simulates the direct contribution of rainfall deposition
- Models the reduction in wash-off loading due to BMPs, LIDs, SUDs
- Routes water quality constituents and pollutants through network
- Supports pollutant loading from watershed, groundwater, atmosphere or l&l
- Models the reduction in constituent concentration at nodes or storage
- Simulates the transport and settling of sediments over time
- Traces sources to determine the source of sewage at any pipe or manhole
- Predicts the impact of waste discharge on performance of treatment plants
- Determines contaminant levels for compliance with discharge permits
- Assists in determining the impact of pollutants on systems and habitats
- Simulates treatment at nodes or storage as continuous flow stirred tank reactors
- Simulates structural controls such as wetlands/bioretention, infiltration trenches, porous pavement, etc.

Comprehensive Presentation Tools

- Utilize ArcGIS thematic mapping functionality
- Generate contours for any variable including HGL or water quality
- View fully animated EPS results using video controls
- Overlay multiple contours on a single drawing
- Present variable symbol sizes and color-coded maps
- Label elements and results using dynamic annotations
- Show input data and results using all common graphs and profiles
- Present results using customizable tabular reporting
- Create simulation movies with vivid animation

For More Information and to Purchase, visit: www.innovyze.com