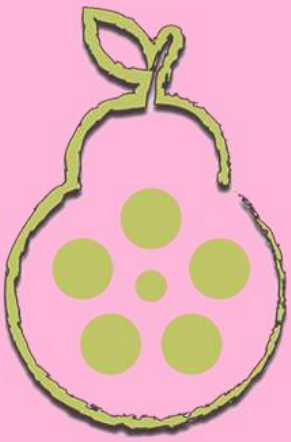

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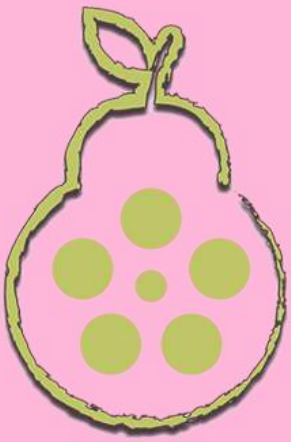
VISUAL OTTHYMO

USER'S MANUAL

VERSION 5.0

CIVICA
Municipal Water Resources

Civica Infrastructure Inc.
August 2017



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1 INTRODUCTION

1.1 WELCOME

Welcome to Visual OTTHYMO v5.0 (VO5), the fifth version of the INTERHYMO-OTTHYMO hydrologic model simulation software package designed for Microsoft Windows OS.

OTTHYMO is a successful hydrologic management model that has been used for various simulation analyses such as: Watershed Studies, Sub-watershed Studies, Master Drainage Plans, Functional Stormwater Management Plans, Site Plans, and Stormwater Management Pond Designs.

1.2 WHAT'S NEW IN VERSION 5.0

With version 5.0, Visual OTTHYMO is extended from single-event simulation to continuous simulation to enable water balance analysis, erosion analysis and flow forecasting. Changes have been made to adapt to continuous simulations as summarized below.

1. A new project type is added for continuous simulation. Existing single-event project could be easily converted to a continuous project. With current version, the continuous model supports five (5) hydrologic objects (**NasHyd**, **StandHyd**, **AddHyd**, **RouteChannel** and **RouteReservoir**). Others will be added in later versions.
2. The **Storm Library** is extended to **Climate Library**. Long-term precipitation, temperature and evaporation data could be added for continuous simulation.
3. The **Project Manager** is also extended to add temperature and evaporation data. Same as the rainfall data, it's added from the **Climate Library** and used in the simulation.
4. A **Simulation Engine** window is added for continuous simulation to change global settings for the simulation run, e.g. snow melt base temperature. The simulate time step is also a global parameter.
5. A new **Batch Run** window is created for continuous simulation. A simulation run will have a name, a precipitation, the starting and ending time and optionally the temperature and evaporation data.
6. The **Hydrograph Results** window is changed to **Water Balance Results** window for continuous simulation. The water balance components and peak flow is shown in the table.
7. The **Water Balance** menu is added to the canvas context menu to show the yearly and monthly water balance summary.
8. The water balance summary results are available for labels in canvas.
9. The **Plot Results** button is added to **Simulation** tab to view the various time series data with given time intervals.
10. Several single-event output tools, e.g. **Summary Output**, **Detail Output**, **Cross Scenario Plot**, **Hydrograph Result** and **Flow Data** is removed for continuous simulation.

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1.3 About the User's Manual

The manual is divided into chapters and does not necessarily have to be read from start to finish. Users that are familiar with previous releases of Visual OTTHYMO can probably learn how to navigate around the model on their own and need only refer to the guide for new additional features. The User's Manual is organized as follows:

TABLE 1-1: USER'S MANUAL OUTLINE

Chapter	Description
Chapter 1 - Introduction	This chapter gives an introduction to the model including new features and how the Help System and documentation is organized, how to install and uninstall the program.
Chapter 1 – Quick Start Tutorial	This chapter provides a tutorial to help new users to understand the basin steps to create and run a model.
Chapter 3 – Conceptual Model	This chapter explains the conceptual model used in Visual OTTHYMO and describes all hydrologic objects.
Chapter 4 – Visual OTTHYMO Main Window	This chapter introduces the layout of the main interface and describes some of the windows.
Chapter 5 – Working with Projects and Scenarios	This chapter introduces the concept of project and scenario and describes how to manage them in Visual OTTHYMO.
Chapter 6 – Working with Canvas	This chapter describes the usage of the canvas to create a model in Schematic View.
Chapter 7 – Working with the Map	This chapter describes the usage of the map to create a model in Map View.
Chapter 8 – Working with Climate Library	This chapter describes the concept and usage of Climate Library. It's the hub for climate data.
Chapter 9 – Running a Simulation	This chapter guides users to change simulation engine parameter and then create and run simulations.
Chapter 10 – Working with Output	This chapter guides users to view simulation outputs with various tools.
Chapter 11 – Visual OTTHYMO Files	This chapter covers all the files used in Visual OTTHYMO including importing from previous versions.
Chapter 12 - Troubleshooting	This chapter guides users through some common troubleshooting situations.

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1.4 VO Help Support

VO has a comprehensive Help System and supporting documentation that will assist both beginners as well as advanced users. One of the main goals in designing this Help System was to empower the user with the tools and information so that almost every question could be answered in a timely manner, without having to call for technical support. Should a question arise that is not addressed in the user manual, please contact technical support at support@civi.ca.