



USEPA's Future Role for the Storm Water Management Model (SWMM)

Michelle Simon
United States Environmental Protection Agency
International Conference of Water Management Modeling
February 28, 2018



Office of Research and Development

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SAFE AND SUSTAINABLE WATER RESOURCES RESEARCH PROGRAM



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Disclaimer

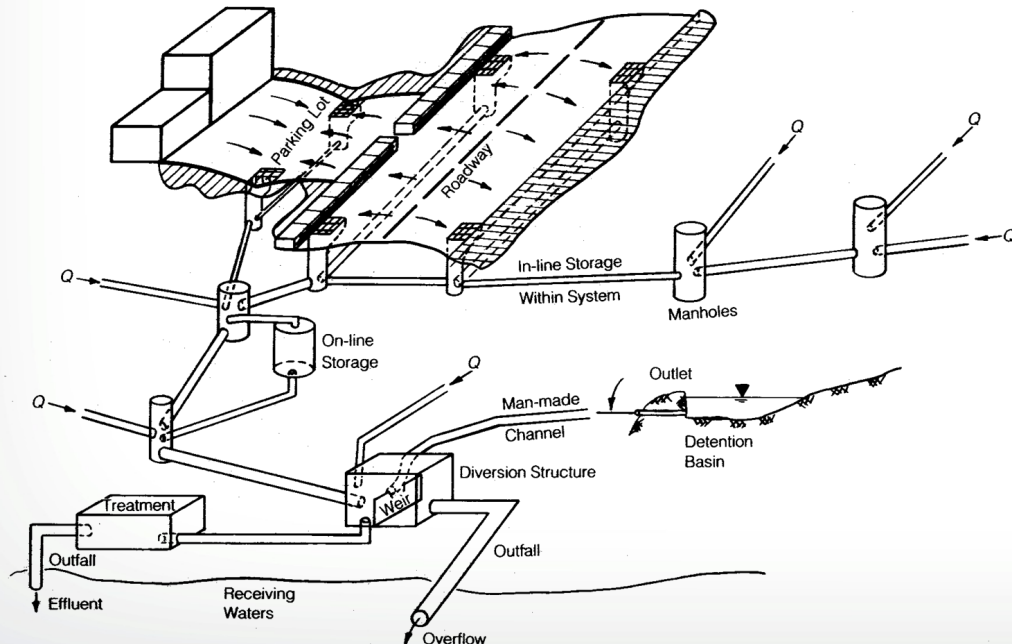
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EPA Point of Contact for SWMM

New to SWMM (2010- present)

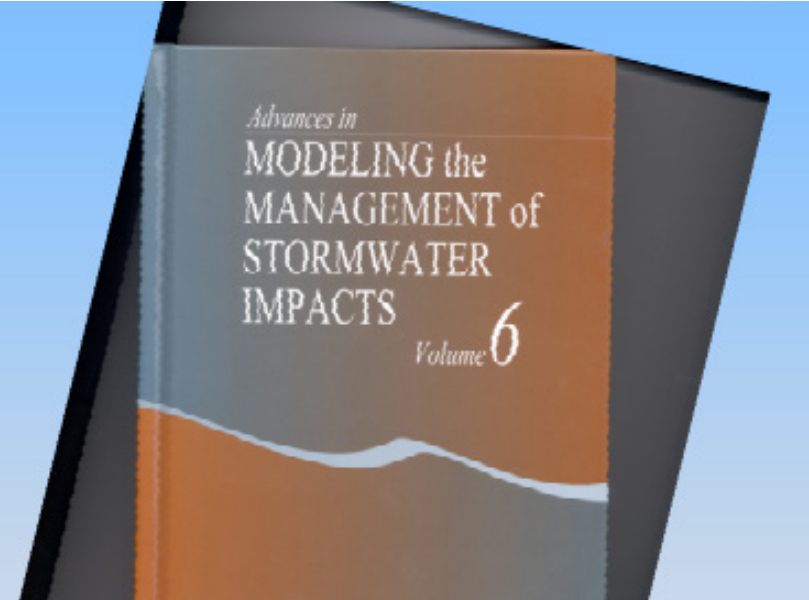




People Far More Experienced than Me



Bob Dickinson, Rob James, Mitch Heineman, Bill James, Lew Rossman, 2002



**ECI CONFERENCE: FIFTY YEARS OF WATERSHED
MODELING; PAST, PRESENT AND FUTURE**

SEPTEMBER 24-26, 2012, BOULDER, CO
CONFERENCE PROGRAM WITH LINKS TO PRESENTATIONS

20



Talk Outline



- History, evolution, success and use of SWMM
- EPA's continued role in SWMM
- Why EPA established National Center for Infrastructure Modeling and Management (NCIMM)
- Conclusions



Design and sizing of drainage system components including detention facilities.



Control of combined and sanitary sewer overflows.



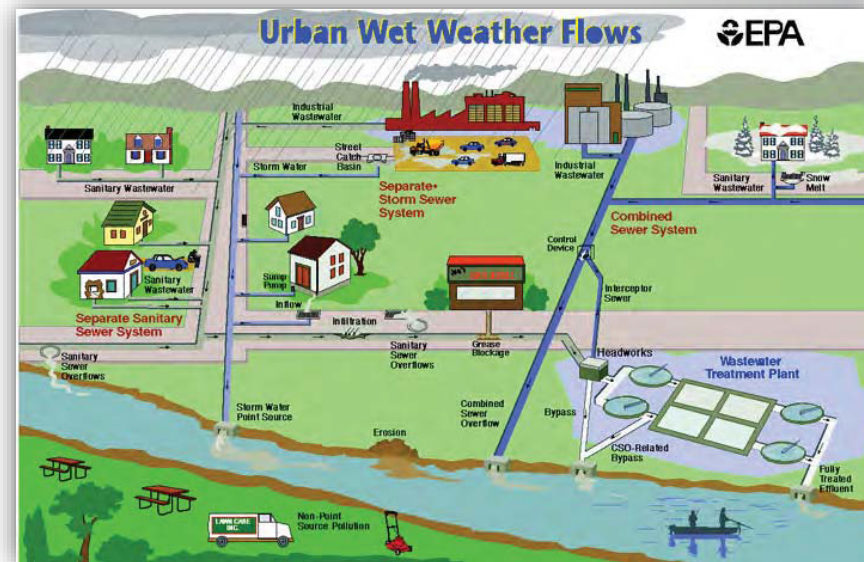
Modeling I&I in sanitary sewer systems.



Generating non-point source pollutant loadings for waste load allocation studies.

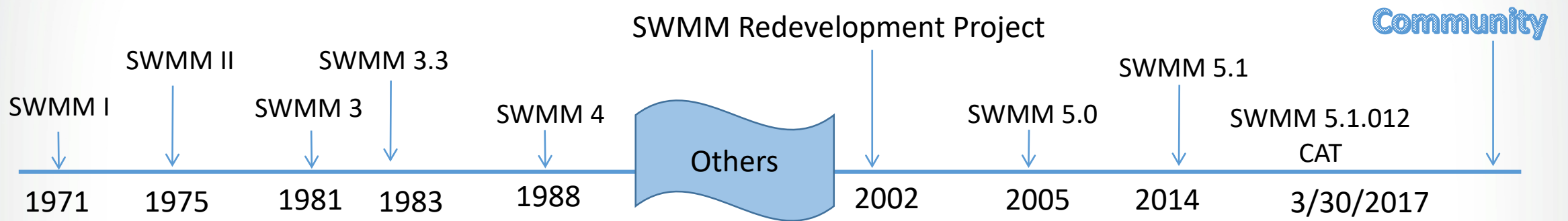
Evaluating BMPs and LIDs for sustainability goals.

Flood plain mapping of natural channel systems.





History of EPA and SWMM





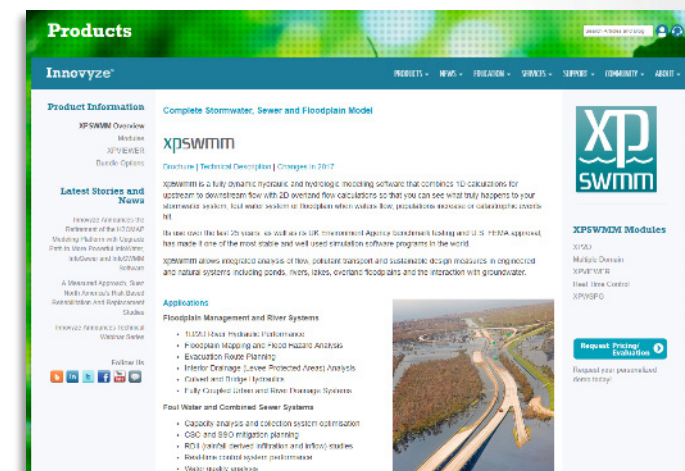
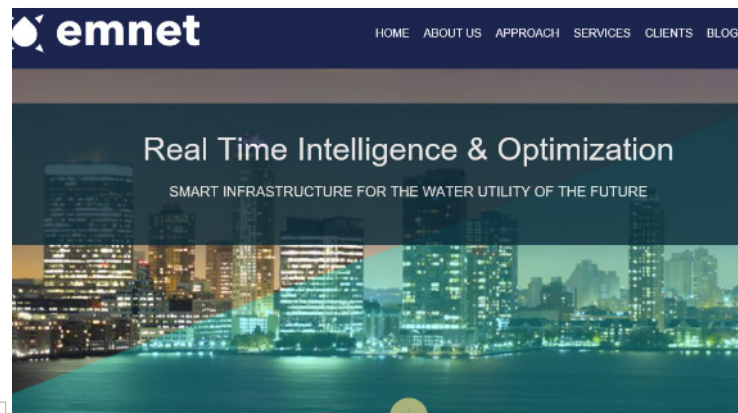
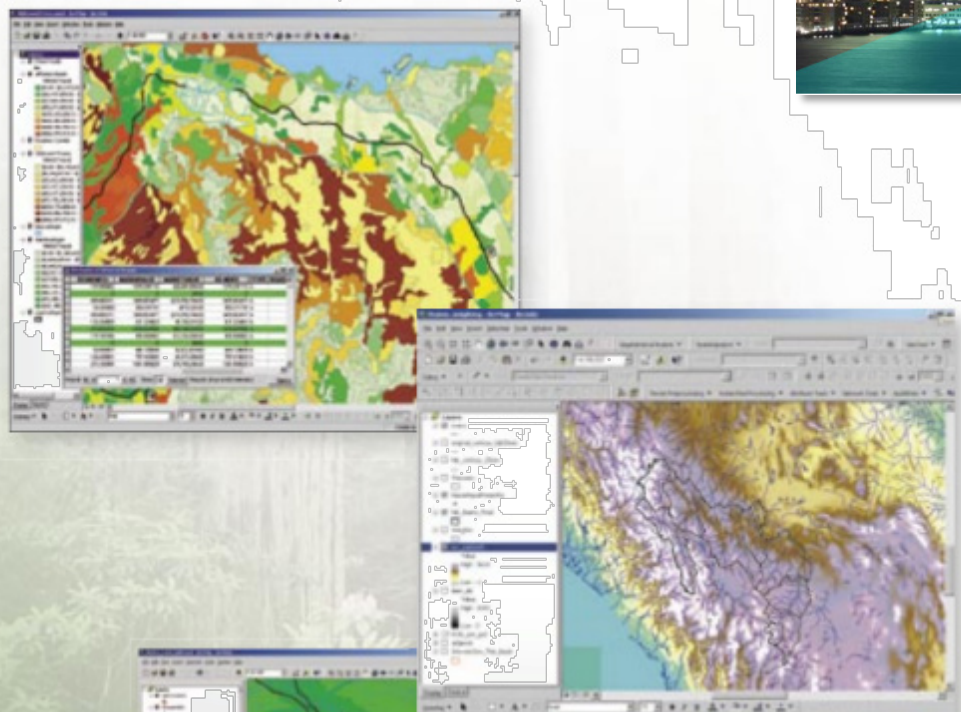
How did we get here

Version	Year	Contributors	Comments
SWMM I	1971	Metcalf and Eddy, Water Resources Engineers, University of Florida	Focus on CSO modeling, few of its methods still used today
SWMM II	1975	University of Florida	First widely distributed version of SWMM
SWMM 3	1981	University of Florida Camp Dresser & McKee	Full dynamic wave flow, Green-Ampt infiltration, snow melt, continuous integration
SWMM 3.3	1983	US EPA	First PC version of SWMM
SWMM 4	1988	Oregon State University Camp Dresser & McKee	Groundwater, RDII, irregular channel cross-sections, and other refinements
SWMM 5	2005, 2010	USEPA CDM-Smith	Complete re-write of SWMM engine in C, improved algorithms, LID modules, more new features



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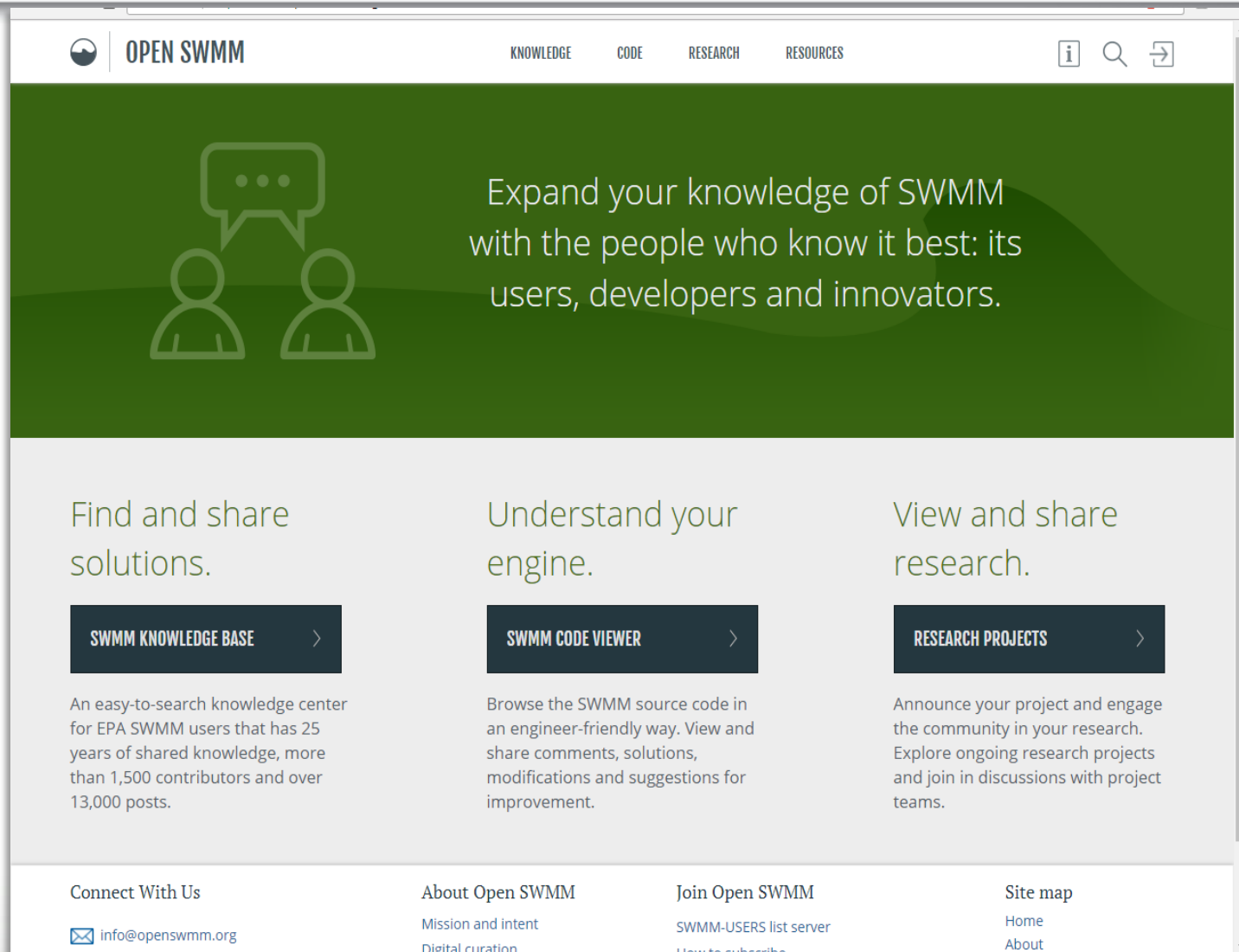


Communities Utilities Consultants Academia



OPEN SWMM Web Page

<https://www.openswmm.org/>



The screenshot shows the OPEN SWMM website. The header includes the OPEN SWMM logo, navigation links for KNOWLEDGE, CODE, RESEARCH, and RESOURCES, and utility icons for information, search, and sharing. The main banner features an illustration of two people talking and the text: "Expand your knowledge of SWMM with the people who know it best: its users, developers and innovators." Below the banner are three columns of content:

- Find and share solutions.**
SWMM KNOWLEDGE BASE >
An easy-to-search knowledge center for EPA SWMM users that has 25 years of shared knowledge, more than 1,500 contributors and over 13,000 posts.
- Understand your engine.**
SWMM CODE VIEWER >
Browse the SWMM source code in an engineer-friendly way. View and share comments, solutions, modifications and suggestions for improvement.
- View and share research.**
RESEARCH PROJECTS >
Announce your project and engage the community in your research. Explore ongoing research projects and join in discussions with project teams.

The footer contains four sections:

- Connect With Us**
info@openswmm.org
- About Open SWMM**
Mission and intent
Digital curation
- Join Open SWMM**
SWMM-USERS list server
How to subscribe
- Site map**
Home
About

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Why EPA established NCIMM

Center for Infrastructure Modeling and Management

- Novel Research
- Community Support
- Model and Code Development

<http://www.ncimm.org/>



Major Change in EPA's Approach

<https://sourcecode.cio.gov/>

Federal Source Code Policy

Disc

Introduction

1 - Objectives

2 - Scope and Applicability

3 - Three-Step Software Solutions Analysis

4 - Government-Wide Code Reuse

5 - Open Source Software

6 - Exceptions to Government Code Reuse

7 - Implementation

M-16-21

MEMORANDUM FOR THE HEADS OF DEPARTMENTS AND AGENCIES

FROM:

Tony Scott
United States Chief Information Officer

Anne E. Rung

United States Chief Acquisition Officer

SUBJECT:

Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Open Source Software

The U.S. Government is committed to improving the way Federal agencies buy, build, and deliver information (IT) and software solutions to better support cost efficiency, mission effectiveness, and the consumer

<https://github.com/USEPA/Stormwater-Management-Model>

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- Contribute to improving scientific aspects of SWMM
- Cooperate agreement with NCIMM
- Work with stakeholder community
- Assist where possible with testing and ground-truthing of SWMM's numerical models
- Publish an official version of SWMM

<https://www.epa.gov/water-research/storm-water-management-model-swmm>



Thank You!

Michelle Simon

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