

Mohamed M. Morsy

Faculty of Engineering, Cairo University, Giza, Egypt
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Education

University of Virginia

Ph.D., Civil and Environmental Engineering, Expected August 2017
Adviser: Jonathan L. Goodall, Ph.D., P.E.

Cairo University, Giza, Egypt

M.Sc., Civil Engineering, 2011

Cairo University, Giza, Egypt

B.S., Civil Engineering, 2007

Employment

University of Virginia

Graduate Research Assistant, 2013-present
- Used EPA-SWMM, and GIS to model a highly urbanized watershed to determine if decentralized stormwater management (e.g., Low Impact Development (LID)) is a viable solution for flood mitigation
- Using TUFLOW, SMS, GIS, and HEC-HMS to build a flood warning model for VDOT

University of South Carolina

Graduate Research Assistant, 2012-2013
- Installed and maintained rain and stage gages
- Left with adviser to join University of Virginia

Civil and Environmental Engineering Group (CEEG), Cairo, Egypt

Water Resources Engineer, 2007-2012
- Used EPA-SWMM, HEC-RAS, GIS, CulvertMaster, and FlowMaster to design several storm drainage systems in the Middle East
- Designed modern irrigation systems using sprinkler, dripper, and bubbler for about 1000 farms in the Middle East
- Used AutoCAD to prepare design drawings that included water, fire, irrigation and sewer networks for residential complexes in Egypt

Faculty of Engineering, Cairo University, Giza, Egypt

Teaching Assistant, 2007-2012
- Teaching duties included principles of irrigation and drainage, design of irrigation works, and Civil drawing
- Assisted in preparing new course materials.

Skills

Modeling

EPA-SWMM, SMS, TUFLOW, GMS, MODFLOW, CulvertMaster, FlowMaster, HEC-RAS, HEC-HMS, Watercad, Sewercad, Stormcad, Sewergemes

Software

ArcGIS, Amazon Web Services (AWS), Docker containers, Django, AutoCAD, L^AT_EX

Programming Languages

Python, MATLAB, Fortran, SQL, R

Publications and Presentations

Peer-Reviewed Journal Publications

Morsy, M. M., J. L. Goodall, A. M. Castronova, P. Dash, V. Merwade, and D. G. Tarboton. "Metadata Framework for Sharing Hydrologic Models and Model Instances through Internet-based system: HydroShare." In Preparation for submission in Journal of Environmental Modeling and Software.

Morsy, M. M., J. L. Goodall, F. M. Shatnawi, and M. E. Meadows. "Distributed Stormwater Controls for Flood Mitigation within Highly Urbanized Watersheds: Case Study for the Rocky Branch Watershed in Columbia, SC USA." Journal of Hydrologic Engineering. DOI: 10.1061/(ASCE)HE.1943-5584.0001430 (Accepted)

Horsburgh, J. S., **M. M. Morsy**, A. M. Castronova, J. L. Goodall, T. Gan, H. Yi, M. J. Stealey, and D. G. Tarboton. "Hydroshare: Sharing Diverse Environmental Data Types and Models as Social Objects with Application to the Hydrology Domain." JAWRA Journal of the American Water Resources Association (2015). DOI: 10.1111/1752-1688.12363

Peer-Reviewed Conference Papers

Morsy, M. M., J. L. Goodall, C. Bandaragoda, A. M. Castronova, and J. Greenberg, 2014. "Metadata for Describing Water Models." In: Proceedings of the 7th International Congress on Environmental Modeling and Software, D.P. Ames, N.W.T. Quinn, and A.E. Rizzoli (Editors). International Environmental Modelling and Software Society (iEMSs), San Diego, California, June 15-19, (2014). ISBN: 978-88-9035-744-2 (http://www.iemss.org/sites/iemss2014/papers/iemss2014_submission_259.pdf).

Selected Presentations

Goodall, J. L., **M. M. Morsy**, A. M. Castronova, B. Miles, V. Merwade, and D. G. Tarboton. "Model Sharing and Collaboration using HydroShare." Abstract H43A-1474 presented at 2015 Fall Meeting. AGU, San Francisco, California, December 14-18, (2015). DOI: 10.13140/RG.2.1.1242.6002

Morsy, M.M., J. L. Goodall, A. M. Castronova, P. Dash, V. Merwade, M. A. Rajib. "Toward a Common Metadata Framework for Representing Water Models as Resources." In: Proceedings of the 3rd CUAHSI Conference on HydroInformatics. Model and Data Interoperability: From Theory to Practice. University of Alabama and the National Water Center, Tuscaloosa, Alabama, July 15-17, (2015). DOI: 10.13140/RG.2.1.4204.9125

Castronova, A. M., **M. M. Morsy**, B. Miles, and J. L. Goodall. "Hydrologic Models and Simulations within the HydroShare Online Community." In: Proceedings of the 3rd CUAHSI Conference on HydroInformatics. Model and Data Interoperability: From Theory to Practice. University of Alabama and the National Water Center, Tuscaloosa, Alabama, July 15-17, (2015).

Morsy, M.M., J. L. Goodall, and M. E. Meadows. "Flood Mitigation in an Urbanized Watershed Using a Combination of BMP and LID Techniques." In: Proceedings of the World Environmental & Water Resources Congress 2013, ASCE. Cincinnati, Ohio, May 19-23, (2013), DOI: 10.13140/2.1.3043.1682