

Timothy T. Eaton

School of Earth and Environmental Sciences (SEES)
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Doctoral Faculty, Earth and Environmental Sciences (EES)
The Graduate Center, City University of New York
365 Fifth Ave, New York, New York 10016

POSITIONS HELD

Associate Professor 2015-present; **Assistant Professor** 2004-2014

Hydrology, Hydrogeology, Geology, Geophysics, Natural Resources,
Queens College, CUNY

Associate Geological Survey Specialist- Hydrogeologist 1993-2004

Wisconsin Geological and Natural History Survey, University of Wisconsin
Extension, Madison WI

EDUCATION

Ph.D. University of Wisconsin – Madison, Dept of Geology and Geophysics, 2002

Thesis: *Fracture heterogeneity and hydrogeology of the Maquoketa aquitard, southeastern Wisconsin*, Advisors: M. Anderson, K. Bradbury

M.S. University of Wisconsin – Madison, Institute for Environmental Studies, 1993

Water Resources Management: specialization in Hydrogeology

D.E.S.S./Maitrise Universite Paris VII – Jussieu, Paris, France, 1991, 1990

Applied Environmental Sciences – Natural Resources Management

B.A. University of Virginia – Charlottesville, Department of Environmental Sciences, 1989

Department of French Language and Literature

OTHER AFFILIATIONS

Sigma Xi Scientific Research Society, American Institute of Professional Geologists, American Geophysical Union, Geological Society of America, International Association of Hydrogeologists, National Ground Water Association

TEACHING AND MENTORING EXPERIENCE (Queens College)

Graduate-level courses

(non-thesis Applied Environmental Geosciences M.S. program at SEES)

Geology 767: Field Methods in Environmental Science (S2014; S2007 - coinstructor)

Geology 761: Field Methods in Hydrology (S2013, S2011, F2008, F2005)

Geology 745: Hydrology (F2012; F2010; S2005)

Geology 762: Shallow Subsurface Geophysics (S2012; F2009; F2006; F2004)

Geology 746: Groundwater Hydrology (F2013; F2011, S2009; S2006)

Geology 768: Wetlands, Soils and Bioremediation (Fall 2007 – coinstructor)

Undergraduate courses

Geology 025: Natural Resources and the Environment (F2014, S2014, F2013, S2013, F2012, F2011, F2010, S2010, F2009, S2009, F2008) – developed web-enhanced course, incorporating online weblog, assignments

Geology 347: Principles of Hydrology (F2010; S2007)

Geology 383: Groundwater hydrology (S2009, S2006)

Geology 210: Water Resources and Conservation (S2008)

Geology 101: Introduction to Geology (S2012 lab section only, S2010)

Environmental Science 111: Introduction to Environmental Science (F2007)

Other courses and independent study

Geology 799: Groundwater Flow Modeling (F2006); Special Topics (S2009)

Geology 795: Thesis research (S2010)

Geology 788.3: Cooperative Education Placement (internship mentoring – F2007)

Geology 799.1: Hydrologic problem solving (F2010)

Geology 793: Independent study (F2009)

Student mentoring

Advisor for M.A. students: Yilmaz, M. (2010)

Advisor for M.S. (non-thesis) students: Liew, F (ongoing), San, K (2013), Morgan, D (2012)

Advisor to Ph.D. students: Hartig, E (committee member, ongoing), Kutter, E (committee member, ongoing), Zarrouk, T. (committee member), Gangadeen, D (advised as candidate), Jung, H (GC-CUNY 2009)

OTHER SERVICE ACTIVITIES

School of Earth and Environmental Science

Program/Outcomes Assessment Committee (S2013-present), Assistant Professor Search Committees (2013, 2012), Representative to QC Academic Senate (2005-2005, S2012-present), Personnel and Budget Committee (2011-2012), Graduate Advisor (S2005-S2009), Self-Study Committee (S2009), Faculty contact for campus groundwater wells, meteorological station, seismic station in cooperation with Lamont-Doherty Earth Observatory.

Queens College and CUNY Graduate Center

Sigma Xi treasurer (S2013-present), EES Ph.D. Executive Committee (2005-2006)

Reviewer for the following journals and agencies:

Journal of Hydrology, Ground Water, Hydrogeology Journal, Hydrologic Sciences Journal, Water Resources Research, Science of the Total Environment, Marine Geophysics, Environmental Science and Technology, NSF-EAR Hydrologic Sciences, NWO (Netherlands government agency)

RESEARCH ACTIVITY

Recent grant proposals

Sea Grant – Long Island Sound Study: “Factors controlling resilient response of urban-impacted tidal salt marsh to climate-change-induced sea-level rise” Eaton (PI) with Rebecca Boger (Brooklyn College – co-PI) and Ellen Hartig (NYC Parks), \$209,312, 10/2014, **pending**

U.S. Dept of the Interior/National Park Service: “Low elevation aerial photography for use in enhancing resilience of estuarine fringe marshes in Jamaica Bay, NYC”, Rebecca Boger (Brooklyn College – PI), Eaton (co-PI) with Ellen Hartig (NYC Parks) and Eymund Diegel (Environmental Planning), \$171,873, 3/2014, **not funded**

U.S. Dept of the Interior/National Park Service: “Experimental constructed treatment wetland for improving Jamaica Bay water quality and resiliency to climate change”, George Hendrey (PI), Eaton (co-PI) with William Blanford and Gregory O’Mullan, \$1,319,389, 3/2014, **not funded**

NSF: Coastal SEES (Science, Engineering and Education for Sustainability): “Food and water sustainability in Barbuda: strategies for small island developing states”, Sophia Perdikaris (PI – Brooklyn College), Eaton (co-PI), Rebecca Boger (co-PI – Brooklyn College) and Amy Potter (co-PI – LSU), \$1,105,016, 1/2014, **not funded**

New York State 2020 Challenge Grant (CUNY2020): “CUNY Corporate Consortium for the Urban Ecosystem (C³UE)”, Eaton one of many co-PIs from SEES, Queens College and other CUNY campuses, \$7,000,000, 8/2013, **not funded**

CUNY Workforce Development Initiative (WDI): “SEES Professional MS Program Enhancement for 21st Century Environmental Geoscience”, Eaton (PI), \$15,000, 6/2013, **in progress**

PSC-CUNY44 Grant Program: “Source and fate of urban contaminants in NYC estuaries”, Eaton (PI), \$6000, 6/2013, **in progress**

Queens College DMNS Research Enhancement Fund: “Source and fate of urban contaminants in dynamic estuary flow systems”, Eaton (PI), \$10,000, 11/2012, **not funded**

Queens College Graduate Research and Teaching Initiative: “Expansion of atmospheric sampling and analysis capabilities in the School of Earth and Environmental Sciences”, O’Mullan (PI) with Eaton among 5 co-PIs, \$50,796, 8/2012, **partially funded**

Long Island Sound Futures Fund – National Fish and Wildlife Foundation: “Pervious parking lot and bioswales plan on Queens College”, Tanikawa (PI) with Eaton (co-PI), \$22,000, 4/2012, **not funded**

Queens College Presidential Gen Ed: Teacher-Scholar Grants: “Web technologies for redesign of earth science general education courses: enhancing asynchronous participation and classroom interaction”, Eaton (PI), \$2000, 3/2011, **completed**

PSC-CUNY42 Enhanced Award: “Contaminant source stressors on water quality in a hydraulically-dynamic urban estuary, Eaton (PI), Rouff (Co-PI), \$14,041, 1/2011, **not funded**

CUNY Collaborative Incentive Research Grant: “Developing a multi-scale sentinel groundwater monitoring cyberobservatory near York College to enhance scientific literacy”, Dhar (PI – York College) with Eaton (co-PI) , \$30,000, 12/2010, **not funded**

New York City Dept of Environmental Protection: “Restoring salinity gradients to an isohaline urban estuary, Jamaica Bay, New York”, Waldman and Solecki (PIs), Eaton, Mankiewicz and Yozzo (co-PIs), \$90,000, 8/2010, **completed**

NYC DEP Gowanus Canal and Flushing Creek Watershed Initiative: “Kissena Park bioretention stormwater retrofit design”, Eaton (PI) with Dhar (co-PI – York College), \$548,300, 2/2010, **not funded**

PUBLICATIONS

Eaton, T.T., in review, Temperature sensing to track tidal dynamics in a small wetland creek. *Hydrological Processes*

Wei, S., C. Yi, G. Hendrey, T. Eaton, G. Rustic, S. Wang, H. Liu, N.Y. Krakauer, W. Wang, A.K. Desai, L. Montagnani, K.T. Paw U, M. Falk, A. Black, C. Bernhofer, T. Grunwald, T. Laruila, A. Cescatti, E. Moors, R. Bracho, and R. Valentini. 2014. Data-based perfect-deficit approach to understanding climate extremes and forest carbon assimilation capacity. *Environmental Research Letters* 9. doi: 10.1088/1748.9326/9/6/065002

Eaton, T.T., G. O'Mullan and A. A. Rouff. 2013. Assessing continuous contamination discharge from a combined sewer outfall (CSO) into a tidal wetland creek: bacteriological and heavy metals indicators. *Annals of Environmental Science* 7:79-92.

Eaton, T.T., 2013. Science-based decision-making on complex issues: Marcellus shale gas and New York City water supply. *Science of the Total Environment* 461-462:158-169

Rouff, A.A., T.T. Eaton and A. Lanzirotti. 2013. Heavy metal distribution in an urban wetland impacted by combined sewer overflow. *Chemosphere* 2159-2154.

Eaton, T.T., 2012. Estimating relative flows over time to an urban combined sewer outfall (CSO) from contaminant mixing. *GSA Abstracts w/Programs*, Vol.44, No.2, NE Section Meeting, Geological Society of America, Hartford Connecticut, March 20, 2012

Eaton, T.T. 2009. Engaging students and evaluating learning progress in an introductory environmental science course. *Journal of Geoscience Education* 57(2) March issue

Eaton, T.T. and C. Yi. 2009. Hydroperiod and hydraulic loading for treatment potential in urban tidal wetlands. *Hydrology and Earth System Science Discussions* 6: 1-37

Eaton, T.T. 2007. Analytical estimates of hydraulic parameters for an urbanized estuary – Flushing Bay. *Journal of Hydrology* doi:10.1016/j.jhydrol.2007.09.018

Eaton, T.T., M.P. Anderson, and K.R. Bradbury. 2007. Fracture control of ground water flow and water chemistry in a rock aquitard. *Ground Water* doi: 10.1111/j.1745-6584.2007.00335.x

Eaton, T.T. 2006. On the importance of geological heterogeneity for flow simulation. *Sedimentary Geology* 184(3-4): 187-201

Eaton, T.T. 2006. Heterogeneity in sedimentary aquifers: challenges for characterization and for flow modeling. *Sedimentary Geology* 184(3-4): 183-186

Eaton, T.T. and K.R. Bradbury. 2003. Hydraulic transience and the role of bedding fractures in a bedrock aquitard, southeastern Wisconsin, USA, *Geophysical Research Letters* 30(18). doi:10.1029/2003GL017913