DMNS FAIR

Queens College, City University of New York
Division of Mathematics and Natural Sciences
Faculty Achievement In Research

MY NAME: Timothy T. Eaton

MY DEPARTMENT: School of Earth and Environmental Science

SOMETHING INTERESTING ABOUT ME (OPTIONAL, MAY BE LEFT BLANK):

Interested in Mandarin Chinese language

MY RESEARCH (IN SIMPLE WORDS THAT CAN BE UNDERSTOOD BY ANYONE ON THE Q64 BUS):

My research interest has to do with water: how it flows underground in aquifers, on the surface in streams and estuaries, and in the air as water vapor where it affects the carbon cycle. The quantity of flow in these three areas depends on mathematical equations and subsequently affects the environment because the more flow, the lower the concentrations of pollution. In urban areas, this is important because much of our wastewater flows into the nearby harbor and Long Island Sound. Mixing processes between stormwater, freshwater and saltwater determine the environmental quality of our surroundings in the New York City area.
My current projects focus on determining the amounts of fresh, brackish and stormwater/sewage flowing into Flushing Bay and more recently in the wetlands in Alley Pond Park. Comparing the two settings is useful because Alley Pond now looks more like Flushing Meadows Park used to look a century ago. I use field instrumentation to make measurements of flow and mathematical models to try to reproduce my measurements. As our environment evolves due to sea-level rise and global climate change, it is important to be able to predict what might happen to the current balance between the three sources of flow to these coastal settings.

MY RESEARCH IN 140 CHARACTERS (OPTIONAL, MAY BE LEFT BLANK):

I work to understand water flow on land and underground, how seawater mixes with freshwater and stormwater runoff, and affects water quality