



Re: PhD Student Opportunity in Water Resources –Spring 2017

Project Description

As the effect of climate change on weather patterns becomes clearer, there are major concerns as to whether cities are protected against the anticipated increasing number of extreme events. One of the major concerns in many urban areas is stormwater management, where climate change threatens to overwhelm pipes that are in poor condition and undersized relative to shifting weather. A high quality Graduate Research Assistant is being sought to contribute to a research project funded through the National Science Foundation. The study will focus on: (1) developing a novel framework that can incorporate various (and sometimes conflicting) climate models while accounting for extreme weather events, (2) modeling the hydrologic response of a stormwater system to these scenarios to identify the vulnerability of the system, and (3) optimizing green infrastructure placement to buffer the effects of climate change while accounting for uncertainties in weather patterns over a long planning horizon. Collaborations will include the Department of Industrial and Systems Engineering at the University of Tennessee and Oak Ridge National Laboratory.

Expected start date is January 1, 2017. Applications will be reviewed as they are received and until the position is filled (anticipated middle of August 2016 at the latest). Ability and willingness to work in both field and laboratory settings is vital. A strong computational background is desired, and experience with the Storm Water Management Model (SWMM) is particularly beneficial.

Contact: Specific inquiries can be made to **Jon Hathaway, PhD, PE** - email: hathaway@utk.edu – web: hathaway.utk.edu



Downtown Knoxville



Brand new facilities in the John D. Tickle Engineering Building, home of the Department of Civil and Environmental Engineering



View of the Smoky Mountains from atop the Chimney Tops Trail in Great Smoky Mountains National Park

About Knoxville

Our historic and revitalized downtown, just a few blocks from campus, is always abuzz with shows and celebrations, bringing thousands of visitors for events like the [Big Ears](#) and [Dogwood Arts](#) festivals. Downtown Knoxville showcases eclectic dining and shopping, a weekly outdoor [downtown farmers' market](#), two historic theatres, art galleries, and museums. Lakes and rivers scatter the landscape and 65 miles of greenway trails make Knoxville an outdoor adventurer's paradise. The Knoxville area offers more than 80 parks, including the 1,000-acre [Knoxville Urban Wilderness](#) located just ten minutes from the University. The Urban Wilderness offers an abundance of hiking, mountain biking, canoeing, trail running, and an escape to nature just miles from downtown Knoxville. To top it off, less than an hour away is the [Great Smoky Mountains National Park](#), with over 800 miles of maintained trails in an exceptionally diverse ecosystem.