

The Department of Civil and Environmental Engineering at the University of Houston presents...

CIVE 6111 Graduate Seminar

Satellite remote sensing of water quality in Houston-Galveston Waters



Rose Sobel, Ph.D., P.E.

Associate and Water Quality Practice Lead
Seagull PME

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2:45pm-3:45pm

Classroom Business Building (CBB) - Room 124

Zoom: <https://uh-edu-cougarnet.zoom.us/j/99044780695>

Abstract

Understanding the drivers and dynamics of urban and coastal water quality is a modern challenge. Diverse waterbodies, from freshwater streams to large bays are stressed by industrialization, population growth, and a changing climate. The ability to understand the complex interactions affecting water quality concentrations is diminished by the low availability, resolution, and quality of observable data. To address these challenges, inland water quality can be extracted from satellite remote sensing using robust regression relationships that are applicable in diverse waterbodies. The regressions can then be applied to predict total suspended solids (TSS) and chlorophyll-a concentrations wherever satellite imagery is available. This presentation will focus on the Houston-Galveston region and describe how remotely quantified water quality can be valuable during extreme events such as Hurricane Harvey when conventional assessment methodologies are unsafe.

Keywords: Water Quality, Remote Sensing, Hurricane Harvey

Bio

Dr. Rose Sobel is an Associate and Water Quality Practice Lead at Seagull PME. She holds a Ph.D. in Environmental Engineering from the University of Houston and a B.A. in Biology from Brandeis University. Her work focuses on hydrologic and surface water quality modeling and monitoring, total maximum daily load development in fresh and tidal waters, municipal separate storm sewer systems program management, green stormwater infrastructure, hazard mitigation, remote sensing, and source water protection. Prior to becoming an engineer, Dr. Sobel was a middle and high school science teacher.