

Introduction

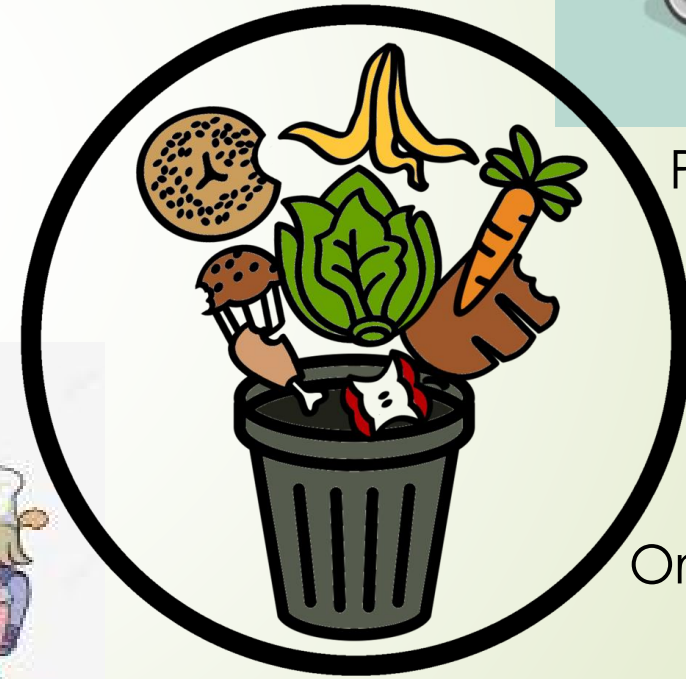
- Headwater streams (HWS) are the biggest contributors of major streams and rivers



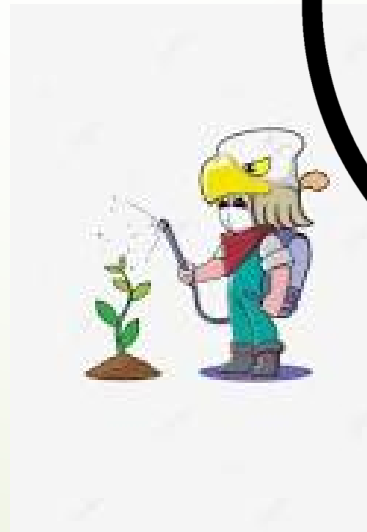
- Several contaminants have often been assessed and analyzed in surface water but some have been ignored to a certain extent



Pharmaceutical



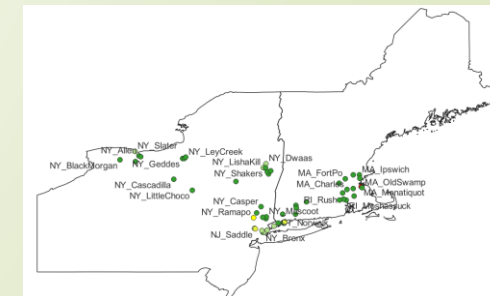
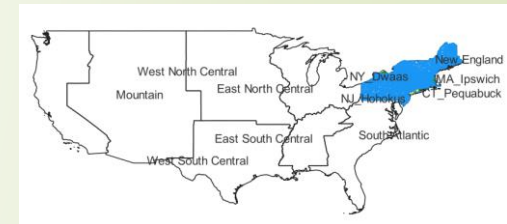
Organic waste



Pesticide

Methodology

- Literature search and data collection (with the help of the Professors)
- Entered the data into the map and located the points using OSM
- Downloaded the relevant shape files (Country boundary, state boundaries, streams and rivers)
- Edited and made maps that indicate the different concentrations of the contaminants



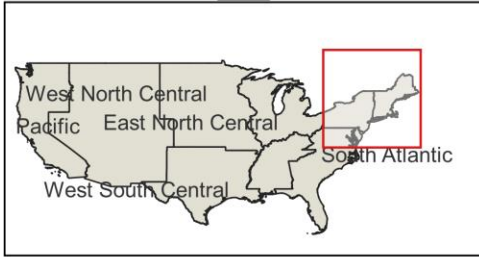


GIS GROUP

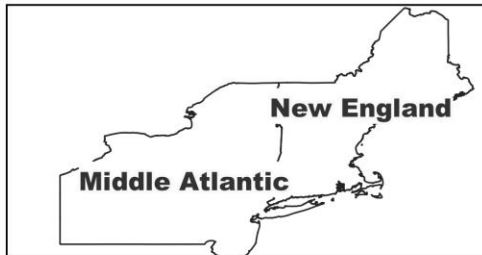
- ▶ Sharon – Middle Atlantic and New England
 - ▶ Arslan - California
 - ▶ Jessica – Oregon and Washington
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Study area

MAP SHOWING THE STUDY AREA IN USA



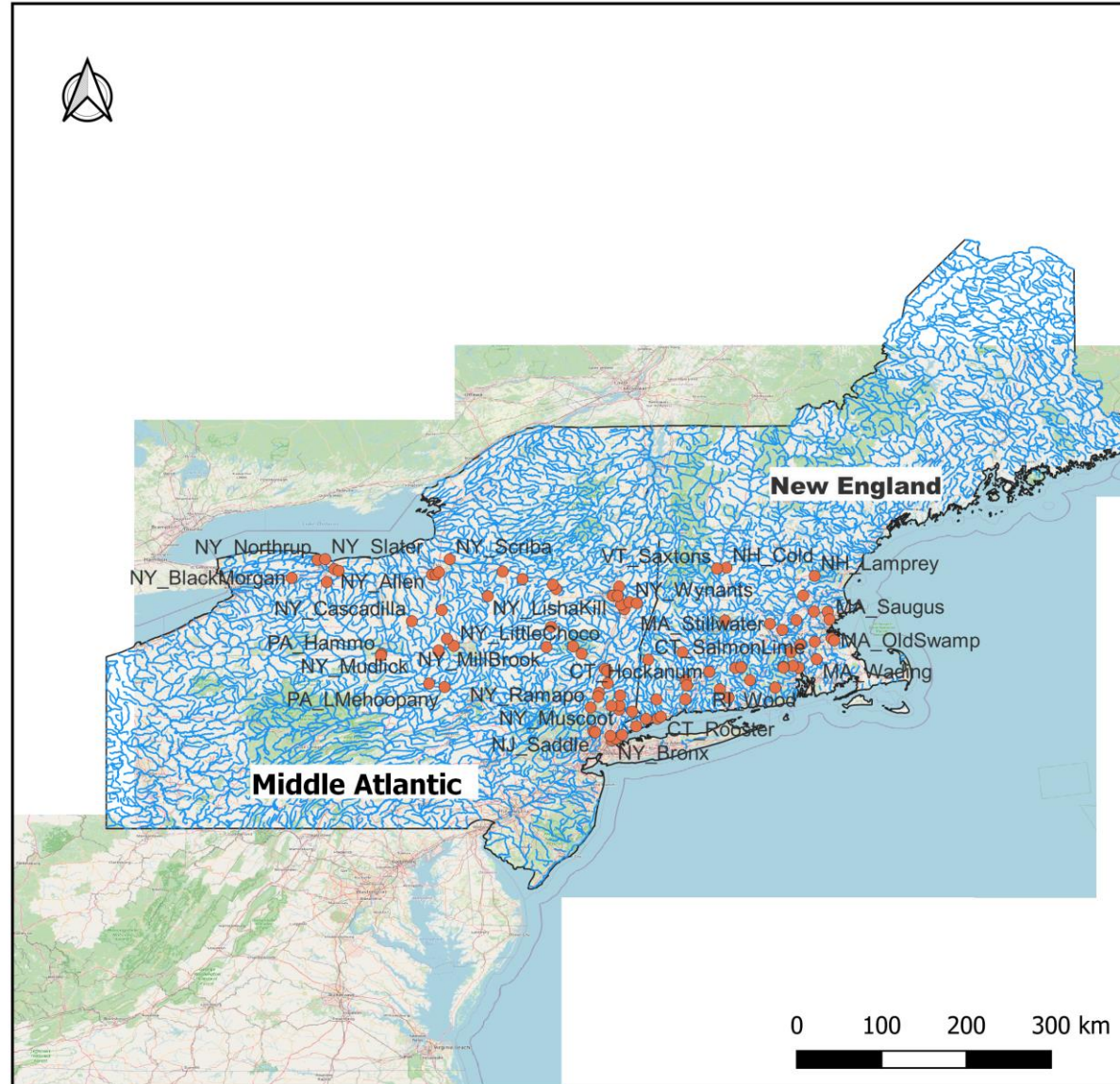
MAP SHOWING THE STUDY AREA



LEGEND

- Study Sites
- NESQA_streams
- Study Area
- USA Division boundaries

MAP SHOWING THE STUDY AREA, SAMPLING SITES, STREAMS AND RIVERS



- United States of America
- New England and Middle Atlantic (NESQA-North East Streams Quality Assessment)
- Land area is 273,219,059,545 m²
- Water area 50,259,300,137 m²
- 91 sampling points



Study area

- ▶ 91 sampling points
- ▶ Most of them were first and second order streams
- ▶ Locations: New York (NY), Connecticut (CT), Massachusetts (MA), New Hampshire (NH), New Jersey (NJ), Vermont (VT), Rhode Island (RI), Pennsylvania (PA),

Contaminants

Parameter	Source	Effect on aquatics and humans
Cholesterol	Organic waste	<ul style="list-style-type: none">•Cuts off oxygen supply•Doesn't dissolve in water
Metformin (antidiabetic drug)	Pharmaceutical	<ul style="list-style-type: none">•Generate carcinogens, cause toxicity and affect food reproduction•Bioaccumulation in edible plants species, fish and mussels affecting the human food chain•Endocrine disruptor in fish
Imidacloprid	Pesticide	<ul style="list-style-type: none">•Toxicity•Aquatic insects (macroinvertebrates) are more sensitive to this pesticide compared to fish

All contaminants

