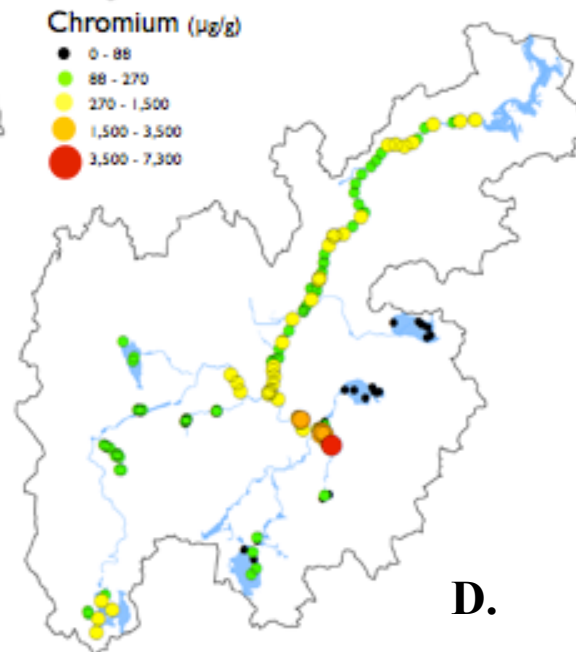
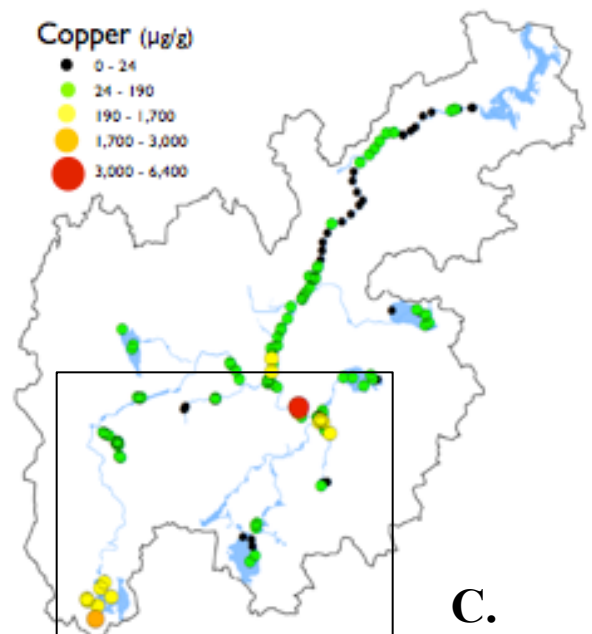
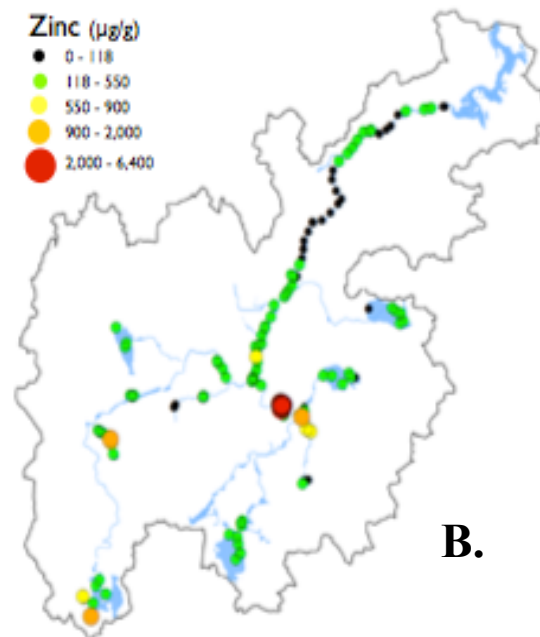
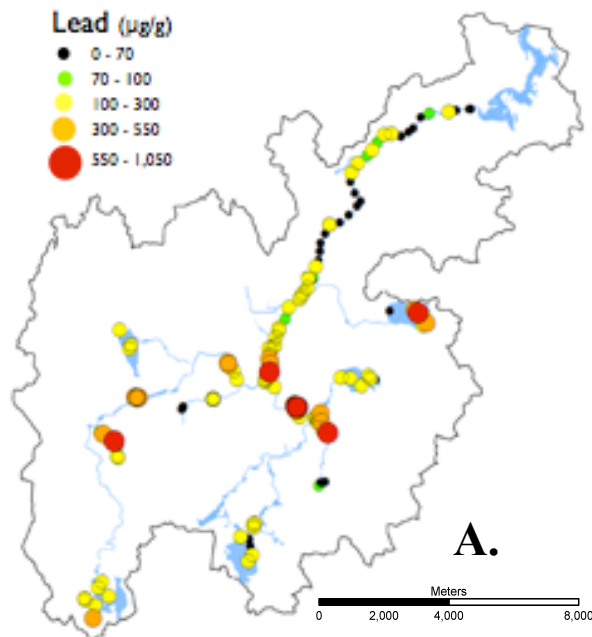


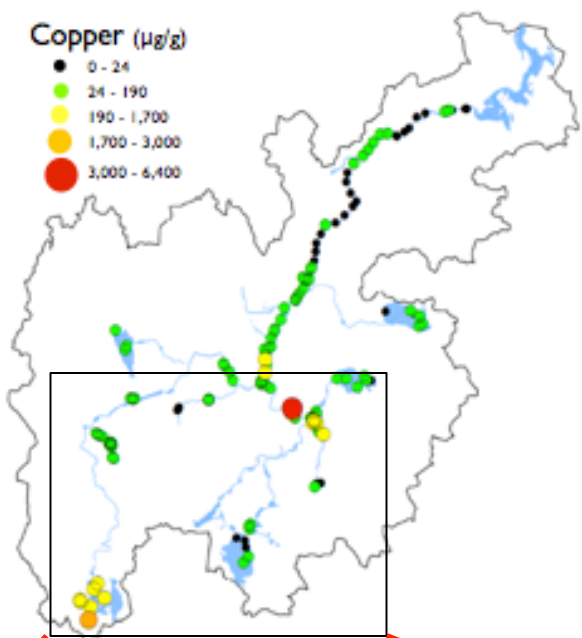
Using GIS and spatially linked multivariable statistics as a hypotheses generating tool in forensic geochemistry: An example from the Neponset River Watershed

Dan Brabander,
Geosciences
Alden Griffith,
Environmental Studies



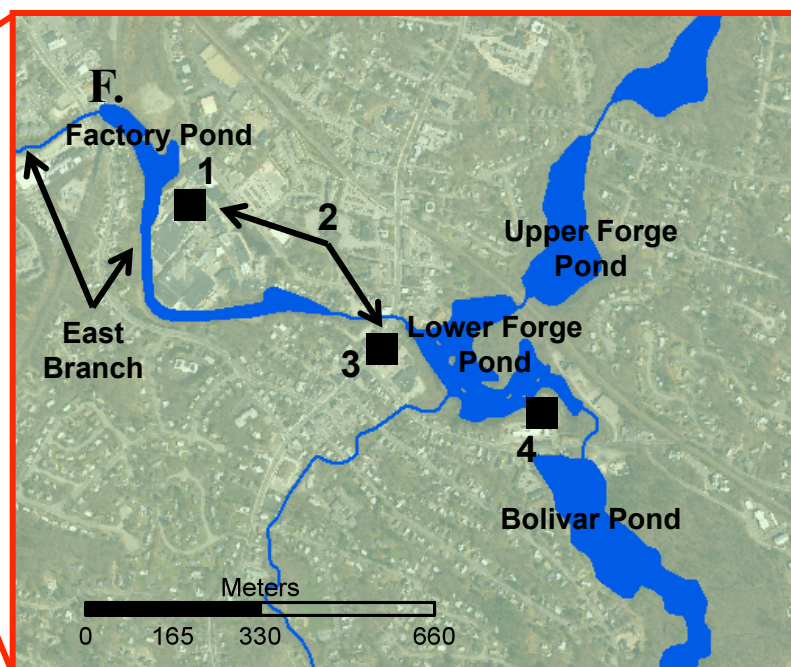
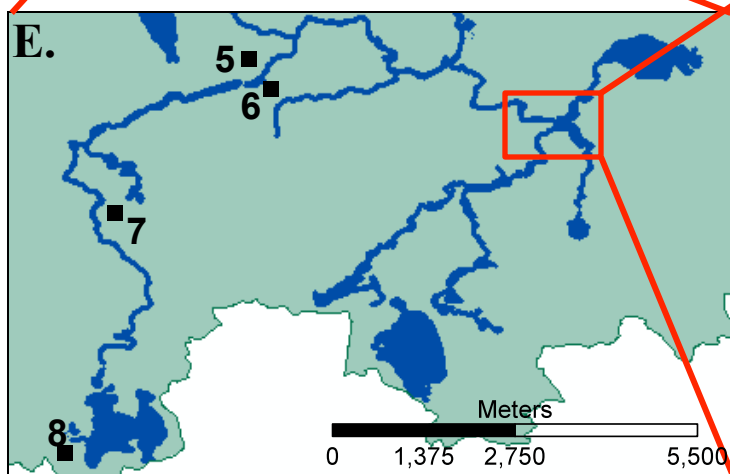


Spatial distribution
of elements Zn, Pb,
Cr, Cu in surface
sediment samples
of the Neponset
River Watershed



Integrating Historical Land Use

	Industry	Description	Time of operation	Location in watershed	Recorded Effluents
1	Paul Revere Copper Rolling Mill	Rolled copper	1801 - 1909	Factory Pond	Cu, Zn
2	Plymouth Rubber Company	Vinyl rubber products	1909 - 2007	Factory Pond and Lower Forge Pond	Cl, Cd, Al, Cr, Ni
3	Kinsley Iron and Tool Company	Firearms, tools, rolled iron	1787 - 1907	East Branch at Lower Forge Pond	Fe,
4	Oliver Ames and Sons Shovel Shop	Steel shovels	1847 - 1927	Forge Pond	Fe, Sn, Cr, Ni, Pb
5	Hollingsworth & Vose Company	Specialty papers	1843 - present	Downstream of Plimpton Pond	On site: Cr, Cu, Zn, Hg
6	Bird & Son	Paper; cotton	1795 - present	Downstream of Plimpton Pond	On site: Cr, Cu, Zn, Hg
7	Blackburn and Union Privileges (EPA Superfund site)	Iron; nails; cotton; wool; tannery	1800s - present	Upstream of Clarks Pond	On site: Pb, As, Ni, VOC
8	Foxborough Company	Industrial controls	1908 - present	Neponset Reservoir	Cd and other metals



Conceptual framework for generating hypotheses

