

Department of Environmental Science
Lamont-Doherty Earth Observatory Geochemistry

Lissa Soares

Mentor: Martin Stute

Groundwater Quality Survey of Rural New York
and Pennsylvania State: A pilot Study

This pilot study initiates an investigation on the status of ground water in regions with different concentration of unconventional gas drilling/production; one with high activity (rural Pennsylvania), and another with low activity due to hydrofracking bans and moratoria (upstate New York). Along the eastern NY/PA state border 10 counties were sampled from. Summer 2013 groundwater samples were collected from private water wells (NY n = 9; PA n=13). With an exhaustive host of analysis we assessed water quality based on concentrations of methane, major ions, metals, dissolved organics, radium and radon concentrations using GC, IC, ICPMS, and RAD7 analytical instruments. Maximum Contaminant Levels for drinking water set by the Environmental Protection Agency are used to evaluate measured water quality for health effects. The project asks whether there is potential cause of health effects related to unconventional gas drilling/production, from the perspective of water quality. Overall, the evidence does not show a clear connection between water quality and unconventional gas drilling/production activity in NY/PA border region.