Environmental Science Graduate Program Student Seminar Series

Land cover and hydrological effects of Hydraulic Fracturing: a case study in Eastern Ohio

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Abstract:

Hydraulic fracturing, an unconventional technology, has revolutionized the natural gas industry with its application to drilling in shale formations and has combined with horizontal drilling technology to create a novel and unconventional process for extracting natural gas. With natural gas and oil booming because of this unconventional technology, the drilling of thousands of new wells every year raises many concerns, for example, flammable water, consuming of fresh water, seismic worries. In addition, a significant landscape change is undergoing. Many acres of deciduous forest, cropland, or pasture have been replaced by well pads. This landscape change in concert with climate change will mean that the region will not be able to receive, process, and store water as effectively as it has in the past. However, knowledge of the landscape change and hydrological effects are very limited. My research is to understand the potential impacts of hydraulic fracturing activities on land cover change and hydrology.