CONTAMINATING POTENTIAL OF GREAT MIAMI BURRIED VALLEY AQUIFRE (GMBVA)

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Objective

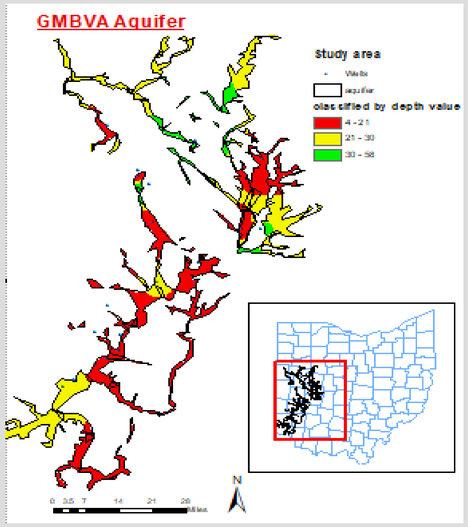
Identifying the contaminating potentials of Great Miami Buried Valley Aquifer (GMBVA)

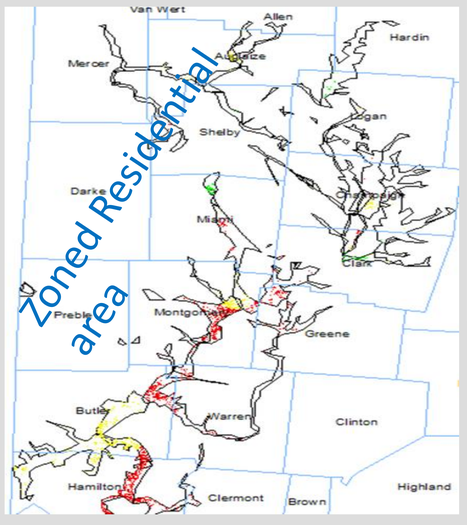
Introduction/Motivation

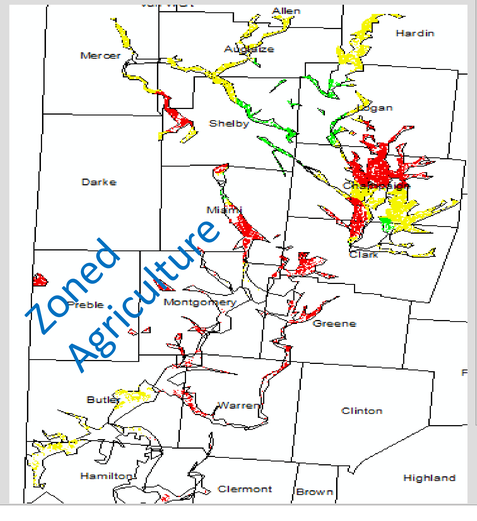
GMBVA is an aquifer or groundwater source found in southwest of Ohio. It is a Source for 2.3 million people. It was formed by glaciating deposition with highly permeable sediments ranging in size from fine sand to gravel. Highly susceptible for contamination

Description and analysis

All the project is within GMVBA area and considered as the direct recharge area of the aquifer. Contamination potentials are Agriculture, Residential area, Roads and were described and analyzed by depth of the aquifer.







Methodology

Collecting Data by downloading, external source

2016 USA Landcover

GMBVA(Study area), Wells, Highway, Interstate

Raster clipping, Raster to Polygon, Raster to polyline, create feature class, Project, Interpolation, classify

Agriculture, Residential area, GMBVA, Wells, Highway, Interstate, Interpolated and classified map of wells

Categorization into zones, extract by mask, buffer, identifying occurrence of study area and analyze

High Risk within map of depth 4-21 feet, Medium Risk within map of depth 21-30 feet, Low Risk 30- 57.7 feet.

Result

Agriculture covers 811.3 square kilometers, Residential area covers170.6 square Kilometers, and major roads are 774 kilometer long within the study area. There are areas with high, medium and low risk of contamination. Like Montgomery have large area of high risk. So, decision makers should examine this valuable recourse to reduce future contamination.

Reference, Professor Zelalem for GMBVA Aquifer shapefile