

Agricultural Suitability

by Thomas Zuberbühler

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Using three different datasets, land cover data, zoning data and Canada Land Inventory (CLI) of the study area, a thematic map was created visualizing agricultural suitability.

Importance

Visualizing areas of agriculture land use suitability helps to identify land which might be suitable to expand the agricultural area within the study area. Environmental planners can use the presented map to decide on rezoning areas in order to protect valuable land from being developed.

Annapolis and Kings County contribute together 21,067 hectares of CLI class 2 land in Nova Scotia. Land with soil that has moderate limitation on what can be planted. It is important to protect prime agricultural land for future generations and to achieve (partial) food sovereignty. Latter might be not as important for Canada as it would be for a small country like Switzerland. If valuable agricultural land is lost, then this can usually not be reversed. Therefore, it does not make sense to only consider the economic aspect of urbanization. This valuable land must be protected.

Procedure

Three different datasets were needed to create the presented map, Land Cover, Zoning and Canada Land Inventory (CLI). First, the land cover records were classified (1. existing agricultural

use, 2. can be converted, 3. incompatible and 4. developed) based on metadata. Then, the dataset was dissolved based on the classification. Later, the zoning dataset was classified (1. allowed, full protection, 2. allowed, limited protection, 3. allowed, no protection, 4. allowed, existing only, no expansion, 5. not allowed) based on Land Use Bylaws of Annapolis and Kings County. Next, all three feature datasets were overlaid using Union tool. Finally, a classification was calculated for the generated dataset. The classification is a number with three digits and consists of the CLI class (first digit), the classification of the zoning (second digit) and the classification of the land use (third digit). These numbers were then assigned a suitability classification for analysis purposes.

Software

ArcGIS Pro 2.2.4

Geoprocessing Tools

Union
Hillshade
Focal

Programming Language

Python

More Images on:

<https://www.geomo.ch>

