

Collecting Geodata via Application Programming Interfaces (API) for Location-based Applications using Python

Sam Stroebel - ISDA

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Bio:

Sam Stroebel is a Data Analyst for the Indiana State Department of Agriculture, in the division of soil and water conservation. He previously worked for the State of Indiana as environmental project manager for the Indiana State Department of Environmental Management. He has completed a B.S. in Environmental Science from The Ohio State University, and master's degree in GIS from Kent State University. Sam's professional interest include using data and GIS to answer questions about the environment and conservation.

Abstract:

Application programming interfaces (API) are software interfaces, and protocols that offer a service to another piece of software. As geographic information systems (GIS) evolve from desktop packages to distributed solutions APIs have become a popular method for incorporating spatial data. GIS APIs provide a communication protocol to handle client requests and return a processed response, back from a server that provides GIS functionalities.

This presentation will present an example workflow where GIS APIs were utilized to collect spatial data as inputs for an environmental model, DeNitrification-DeComposition (DNDC). The DNDC model is process based model for estimating carbon and nitrogen biogeochemistry in agricultural soils. The model takes a variety of spatially dependent inputs, which can be obtained from publicly hosted online data. This presentation outlines the workflow used for creating model inputs, highlighting the python-based processes used for API calls to collect geodata.

