Leveraging Python to Improve Geospatial Workflows
Dave Grolling, MPSGIS, GIS Strategist, American Academy of Family Physicians, Washington, DC

ABSTRACT TEXT: Having up-to-date material in the form of maps, data, and documentation is heavily dependent on the processes in place by an organization. These processes can include how and when data are collected and managed, how maps are created and delivered, or why a particular methodology is used to complete a work order for a client. Changes in technology and product delivery schedules, improving upon existing manual processes, and expanding opportunities for additional business, were some of the reasons that HealthLandscape sought a more streamlined process by using Python programming to automate tasks. First, redeploying existing web mapping tools has allowed for the adoption of better data documentation through metadata standards for one of our tools, Community HealthView, a data and map library. By using a Python script to assist in the metadata field imputation, updates to this tool are consistent and data entry errors are limited.

Second, workflows on projects before the integration of Python programming were manual in nature and completed over longer periods of time. One such project, which had involved the manual production of 1,500 PDF maps over the course of a year, has now been expedited to be completed in under a week. Having a more standardized and automated process to create large map requests has created work opportunities by providing more content to the client, quicker. Last, by using an automated workflow, HealthLandscape has been able to provide new deliverables and more frequent updates that wouldn't have been feasible without automation. Python has allowed our organization to provide a faster update schedule for data that changes on a monthly basis. These data, such as the number of health professional shortage areas (HPSA), medically underserved areas or populations (MUAP), and Veterans Health Administration facilities, often change from month to month. We aim to present a variety of success stories where Python programming was used to either automate or improve upon existing manual workflows and how these improved processes have benefited our internal and external client deliverable capabilities.