maps (1 compilation, 2 regular quads)

~~-> orangeburg 100k~~

~~-> a random quad~~

-> edgematching example? (myrtle beach edgematching w/ lidar & google earth aerials?)

apps

~~-> scgs quad status map~~

~~-> scgs hub site~~

-> parcel app?

~~-> Bulletin No. 2~~

Generated and appended 350+ individual PDFs for each entry

programming

~~-> earthquake db (maybe link to earthquake StoryMap by Jackie and Logan that uses web layer?)~~

~~-> scgs toolbox~~

-> SCGS web version of gems publication

~~-> deep learning algorithm for digitizing paper maps (+poster)~~

~~-> R geochemistry~~

-> shoreline

Mention OCRM's jurisdictional line review

-> NURE interpolations?

->

gems

~~-> gems instrucitonal video~~

~~-> gems survey~~

~~-> scgs gems guidance document~~

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earthquake script

This script was written in Python and runs as a custom geoprocessing tool in ArcGIS Pro.

It updates and manages a geodatabase by fetching data from the USGS's earthquake API. Data is downloaded to a scratch CSV according to the date of last runtime, plotted using lat/long coordinates, appended to the main feature class, and filtered for duplicates or updated records. Additionally, the tool updates a second feature class that stores only quakes of interest occuring in an ongoing swarm around the Elgin, SC area.

The script can be run by a user, but it also runs autonomously at 12pm EST every day via Microsoft Task Scheduler.

Both feature classes are linked to ArcGIS Online layers, through which the data is viewable online in StoryMaps and other SCGS apps -- such as this StoryMap about South Carolina's earthquake history:

Orangeburg 100k

My work included extensive edgematching, aiding geologists in reinterpretation, ensuring GeMS compliance, providing input for cartographic choices, and drafting dozens of map unit descriptions.

SCGS Quadrangle Status Map

This app provides members of the public with the most up-to-date information available concerning the mapping status of 7.5-minute quadrangles in South Carolina.

Users can filter and sort through publications by quadrangle name, year mapped, funding source, and geographic area.

On the backend, the feature class is linked to a nonspatial table that is updated internally as quadrangles are mapped and published. The spatial and nonspatial components of the dataset are separate, but always synced; leveraging relationship classes in this way allows for a level of complexity that the previous viewer couldn't accomodate, such as displaying multiple publications per quadrangle.

SCGS toolbox

Various tools for internal SCGS use, mostly concerning GeMS data. Examples include:

-A tool that converts Survey123 forms to Strater-compatible cross sections.

-A tool that calculates the azimuth of orientation measurements from paper maps.

-A tool that adds custom fields to . The purpose of these is to document basic drill hole information directly in point layers.

SCGS Hub site

New initiative

GeMS Video Guide

An ongoing project. This series is an extensive rework of the original Getting Started With GeMS video series, funded by an exclusive cooperative agreement between SCGS and USGS. This is a highly requested resource by the geologic mapping community, as my colleagues and I discovered after the conclusion of the nationwide survey we designed and administered together. Its purpose is to educate geologists nationwide on implementing the USGS's GeMS schema into their mapping workflows.

Supplementing the video series is a 40-page workflow document, which I wrote initially to train SCGS staff on the schema.



Text

Description automatically generated