Otto H. Muller
Geology Department
Alfred University
Alfred, NY 14802

Four Tools to Access the Database of NYSGA Field Trips

Judith Nagel-Myers
Geology Department
St. Lawrence University
Canton, NY 13617

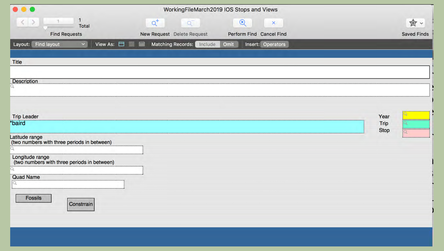
Google Fusion Tables

The work presented here was begun nine years ago. Google hosted a Penrose conference called: "Google Earth: Visualizing the Possibilities for Geoscience Education and Research." Conference proceedings were published as GSA Special Paper 492. At that conference we were introduced to the brand new Google Fusion Tables. Many of us embraced them with enthusiasm.The day after the abstract for this poster was submitted, Google announced: "We plan to turn down Fusion Tables and the Fusion Tables API on December 3, 2019."

Desktop Computers

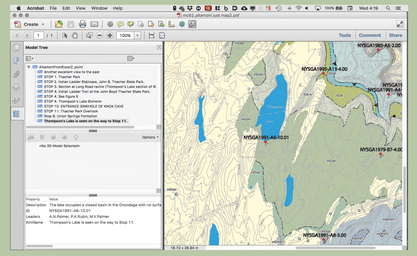
Filemaker Database: Owners of Filemaker on either a Mac or Windows computer can download and open our databases. Mac users who do not own Filemaker can download and use our stand-alone runtime database, which provides similar functionality, but for only this database.

We maintain two dabases: A complete one, which includes all of the paths taken by the field trips (178 MB), and one which only has Stops and Views (85 MB). For most users the smaller one will suffice, but if one wishes to follow the route as the leader intended, or for some other reason wants to check out the paths, they should use the bigger one.



GIS: Although Google Earth permits untyped data, many GIS programs require a Schema to set up data types on import. The database now exports kml files with typed data. Files which some folks may have downloaded prior to 2019 did not.

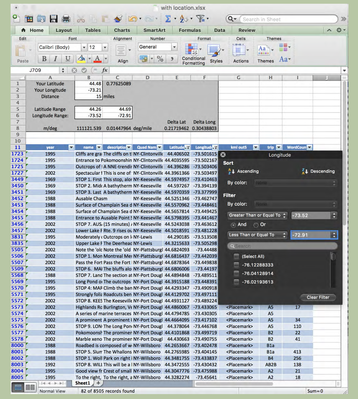
The output from the Altamont Quad was imported using MaPublisher to produce the image shown below. It was opened in Adobe Acrobat, revealing the information for the icon which was clicked on.



Microsoft Excel File: We provide an excel spreadsheet with a searchable table which permits the user to search for terms, ranges of data, etc. This has all the Stops and Views, but none of the paths, author information or introductory remarks contained in the complete database.

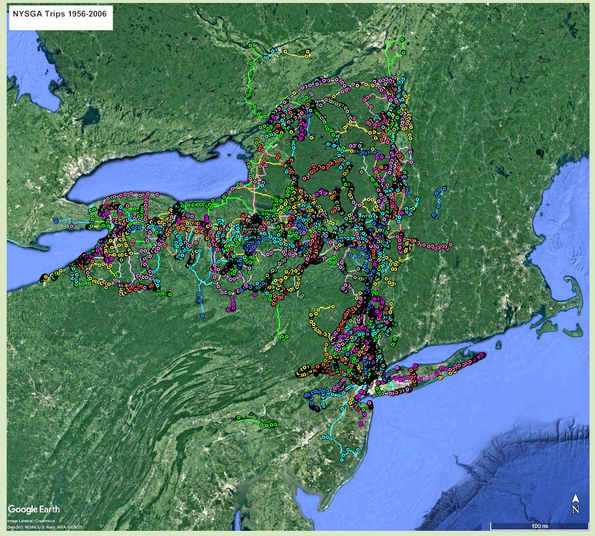
By clicking on the filter icon, users can see a variety of search possibilities. The top of the spreadsheet has a region where limits of latitude and longitude are calculated around a target location, going some number of miles (provided by the user) to the north, south, east and west of that location. And example is shown where these results are inserted into the filter drop down menu.

There are a few convenient search terms which may help some users: <i> will find all occurences of fossils whose names were in italics in the Guidebooks. The tag was used for other italicized words, such as living plant species, etc. <sub> finds any subscripts and <sup> any superscripts, so to find carbon dioxide, search for CO₂.

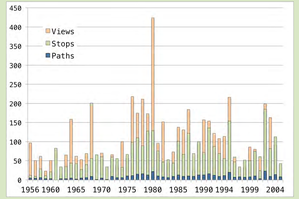


Microsoft Word Template: To export the data from the Excel file, copy it and paste into the provided Word template. Save the resulting file as a text file, change ".txt" to ".kml" and it should open in Google Earth.

Numbers and Textedit: Mac users can accomplish the same tasks using Numbers and Textedit. The appropriate files are also available for download on our site.



The database currently has 446 Paths, 3,403 Stops (where folks got out of their vehicles to look at something), and 5,096 Views (where the Guidebook points out something, in passing). And we have only done from 1956 to 2006, with another one being produced every year. This is too much data to be conveniently handled, this poster presents ways we have come up with to manage it.

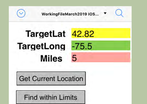


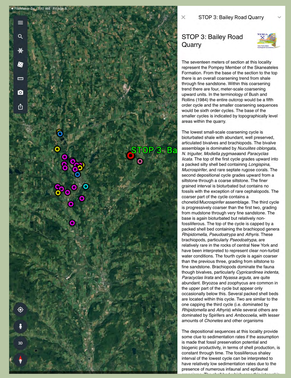
Other than the last few years, the NYSGA Guidebooks are online. We have broken them up into individual trips. These can be downloaded from the page shown to the left. Links with names will download the chapter and the symbols to the right will download the associated kml files.

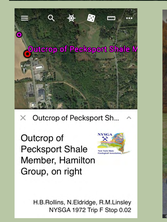
http://ottohmuller.com/nysga2ge/ProjectOverview.html

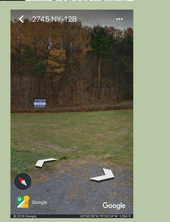
IOS Portable Devices

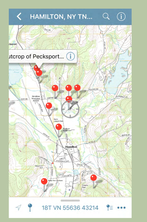
Situation: A new Earth Science teacher has just been hired at Hamilton Central School. She wants to know what geologic features have been identified on NYSGA field trips within a 5 mile radius of town. With Filemaker Go (free) on her iPhone and iPad, she got the Google Earth images below. After downloading the needed maps, she got the bottom three images which do not require internet access.



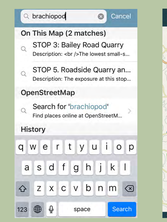




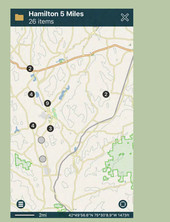




Avenza Maps

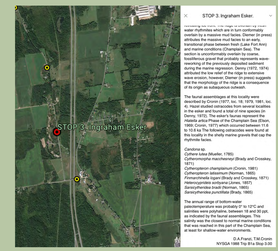


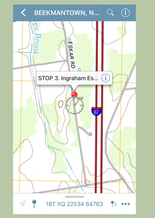
Search within Avenza Maps

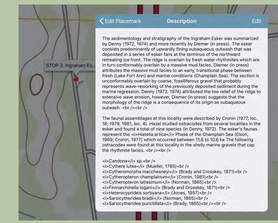


PocketEarth

Situation: A geologist studying eskers wants to visit the Ingraham esker in the northeast corner of NY. Using our database she checks it out with the Google Earth app on her iPad. Our database tells her that it is on the Beekmantown quad, which she loads it into Avenza Maps on both her iPad and her iPhone. It, like their app, is free from their store. Although it presents the information in a less readable format, this is offset by the convenience of being able to carry it around in her pocket.







Situation: A teacher leading a field trip wishes to bring along a geologic map of the area they will visit, with NYSGA stops located on it. Downloading the pdf from the NY State Geological Survey site, she crops it in a GIS and outputs a geo.pdf which can be uploaded to Avenza maps.