The *NatureMapping* Program
Pros and Cons of using Emerging Technologies

Emerging technologies used and promoted by *NatureMapping* are tools to assist in accurate and consistent data reporting. Technology does not always have to be used….it is dependent upon what you are doing or want to do.

NatureMapping Program's "Project Design" workshop works with the participants to identify the best tools that should be used to conduct their field research projects (e.g., inventorying your backyard or school grounds up to long-term biodiversity studies).

This is a comparison between

- Data Collection Forms and NatureTracker data collection software
- Spreadsheets and Online Data Entry
- GPS units and Internet providers of geographic locations
- Powerpoint GIS and GIS software

Paper Data Collection Form

Pro	Con
Easy to carry and can be always available	Must transfer to a spreadsheet then upload to a website, or enter data via an online data entry screen
Write notes as needed	Must lookup species, county, source codes to complete the data collection protocols
Write species description or name, then complete later	
No technology involved	

NatureTracker Data Collection Software

Pro	Con
Easy to use	Must purchase handheld and software
All data are recorded consistently with time, date, and GPS location automatically recorded	Must learn how to use the software on the handheld and on the PC
Download data in the field; view and correct data	Must learn how to find then import maps to view data
Write notes as needed	Must learn how to create custom reports
Export files to spreadsheets for analyses	Must backup data.
Data are in the correct format to upload to the *NatureMapping* Program	

***NatureMapping* Spreadsheet**

Pro	Con
Can store your own data for analyses	Have to enter data from data collection form
Create graphs	No editing so mistakes can occur
Latitude & Longitude conversion	Learning curve on creating graphs and other analyses
Lists of all species and habitats	
Upload to *NatureMapping* Program	

Online Data Entry

Pro	Con
Available anytime of day	Your data doesn't stay in your computer
Easy to use	Data downloads may be non-existent or difficult to do
Sends data to *NatureMapping* quickly	Must depend on *NatureMappin*g to develop ways to analyze your data that are meaningful to you
Some editing occurs during data entry	

GPS Units

Pro	Con
Use GPS for many outdoor activities…not limited to just collecting lat/long	Purchase price
Easy to carry and store	Learning curve to use the GPS
Good precision	Hand record locations on paper or learn more advanced techniques with certain units to download locations onto a spreadsheet or online data entry
	Not necessary if only recording data at one location

Internet Providers for Geographic Locations

Pro	Con
Quick and easy to find the lat/long for a single location	Precision of location may be less precise
	Do not know how the location is calculated and under what datum
	May not provide UTM coordinates if needed

PowerPoint GIS

Pro	Con
Most feasible to document a small area, such as a backyard or school ground	Must learn PowerPoint and Excel
Teaches the basics of using GIS without purchasing GIS…a good learning tool for GIS	Not effective for spatial analyses
Easy to train all students at the same time	
Learn how to use PowerPoint and Excel	

GIS Software

Pro	Con
Excels at conducting spatial and temporal analyses	Cost
Uploads *NatureTracker* and Excel tables	Must use the software frequently to remember how it works
Works at multiple scales such as city, county, state, nation, and globe and used by wide variety of businesses and researchers	Difficult to maintain in a classroom without technical support from someone who knows GIS
A large and various datasets, such as satellite imagery and census information are available	Must understand the limitations of the datasets that are available
Allows students to study same data a wide variety of businesses and researchers use	More sophisticated and technical than what the general public would want