

## Geology 613: EARTH SCIENCES IN THE NYC URBAN ENVIRONMENT

# Geological History of Central Park Field Guide

Value: 15%

Due Date: 6:20 PM XXXXXXXXXXXX

In this field trip-based exercise, you will work independently to create a field trip guide of geological features of Central Park, and how they record a history of change on multiple time scales: millions of years, millennia, and decades. The document that you create should allow a colleague to learn about the geological aspects of southern Central Park by retracing your steps and seeing what you have seen.

For this report you must include the following:

- A narrative that synthesizes the geological history of change that is recorded in the rocks of Central park at three time scales: Millions of years ago, thousands of years ago, within decades. Geological features must be cited as evidence to support your conclusions.
- A field trip guide that provides a thorough description of the geological features present at each stop, with emphasis on the time at which they formed. Descriptions for each interpretive site must include:
  - 1) A headline which includes the name of the site (e.g., Umpire Rock, Monument to the Maine) and date of construction if it is a constructed feature.
  - 2) Written descriptions of the rocks and stones present (color, grain size, fabrics, fossils, identifiable minerals).
  - 3) Identification, description and interpretation of geological structures in the rocks and stones (e.g., bedding, foliation, folding, stylolites, striations, roches moutonnees). Cite all research sources used.
  - 4) Photos illustrating representative images of station and its key features, with figure titles and numbers, and reference to the figure numbers in the text. Photos from class mates may be used, and in fact, the sharing of such photos is encouraged in order to improve the quality of the guidebook. Attribution must be given to each non-original image.
  - 5) A street/trail map of your walking route with locations of all stops marked and labeled. The map must have a graphical scale bar and a north arrow.

### Learning Objectives

Students will be able to:

- Navigate using a trail map
- Describe the visual and physical properties of rocks
- Describe structures preserved in rock
- Interpret structures preserved in rock
- Correlate rock types, rock properties, and preservation/deterioration aspects of rocks
- Deduce geological history based on features of rocks
- Design a guidebook that will allow others to follow a self-guided tour route
- Cite resources accurately and completely
- Construct a Word document in which photos are embedded and annotated

## Grading Rubric for the Central Park Guide

<b>Aspect of the Report</b>	<b>Grade Point</b>				%	Score
	4	3	2	0		
Completeness and accuracy of location and route map, including the location of all stations described in the report. Scale bar and north arrow must be included.					10	
Completeness and accuracy of descriptions of rocks and structures, and their general interpretation.					20	
Quality and completeness of geological histories deduced from the geological evidence at each site. (Lack of citations will result in a 0.)					40	
Quality of supporting illustrations and photos, and their appropriate integration into the text. Citations are provided for all non-original images. (Lack of citations will result in a 0.)					20	
Overall quality of writing in standard English syntax					10	
<b>TOTAL out of 4 =</b>						