

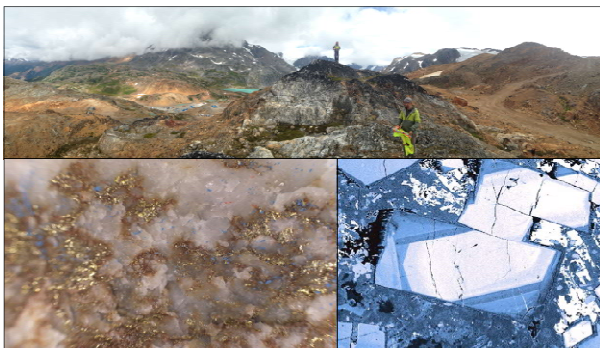
EPSC 240: GEOLOGY IN THE FIELD
INTRODUCTION



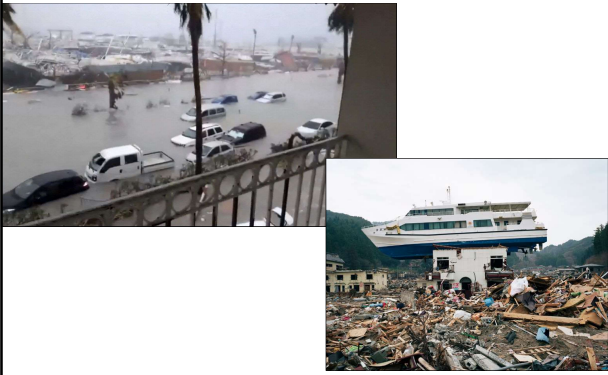
EVOLUTION OF LIFE ON EARTH

© Adapted from: RFDG, Kuhn/Biology/Smithsonian

MINERAL DEPOSIT EXPLORATION



NATURAL HAZARDS?



GOAL

- Introduce practices of geology (earth science) methods and approaches



LAB-BASED LEARNING

ASSIGNMENT	DUE DATE	MARKS
First outcrop description	Mon Sept 10	feedback
Pace & compass exercise	Mon Sept 17	5%
Sand quarry exercise	Mon Sept 24	10%
Topographic map on Mt Royal	Wed Oct 3	5%
3D info from geologic maps	Wed Oct 10	5%
Geology in 3D - sketching w/ Covo and Mellin	Wed Oct 17	5%
Plutonic and metamorphic rocks (Grenville trip)	Mon Oct 29	10%
Metasediments and folds (Magog-Sutton trip)	Mon Nov 5	10%
Hammer seismics exercise	Wed Nov 7	10%
Volcanic rocks on Île Ste-Hélène	Wed Nov 14	10%
Landforms with Google Earth	Wed Nov 21	5%
Cross section & 3-point problem	Mon Nov 26	5%
Geology of Québec presentation	Wed Nov 28	5%
Geology of Québec report	Tue Dec 4	15%

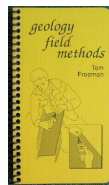
OFFICE HOURS

- Kirsten's office: FDA 344
- Office hours: Mon 2:30-3:30
- TA office hours TBD
- Thu/Fri/Mon 11:30-12:30?

OTHER LOGISTICS

Monday:

- Field notebooks DUE (first outcrop description)
- Textbook (\$20)
- Introduce term project – Geology of Québec



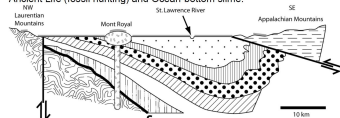
McGill University
Earth and Planetary Sciences/Earth System Sciences

First year field trip

September 21, 2018 (Friday) All day (8:30 to 5:00)

See some of the local Geology. Get a free lunch
Contact william.minarik@mcgill.ca if you're interested in going!

The remnants of Volcanoes, Glaciers,
Ancient Life (fossil hunting) and Ocean-bottom slime.



THIS AFTERNOON



3 TYPES OF ROCKS

- Sedimentary:** Form from erosion (clastic) or dissolved minerals in water (chemical)
 - Clastic* - Particles of sand, gravel, mud (sediments) from erosion are cemented together in layers (beds)
Examples: Sandstone, mudstone
 - Chemical* - Material from mineral-saturated water is deposited in beds
Examples: Limestone, chert
- Igneous:** Form from cooling magma trapped underground (*intrusive*) or erupted at the surface (*extrusive/volcanic*)
Examples: Granite, basalt
- Metamorphic:** Under high temperature & pressure, rocks re-form with new fabrics and minerals
Examples: Schist, marble



LIMESTONE CAVERN

Link to news article with video:
<https://www.cbc.ca/news/canada/montreal/montreal-underground-passage-1.4428833?cmp=news-digests-canada-and-world-evening>

Link to YouTube video shown in class:
<https://www.youtube.com/watch?v=ufg00WWUPZ4>
