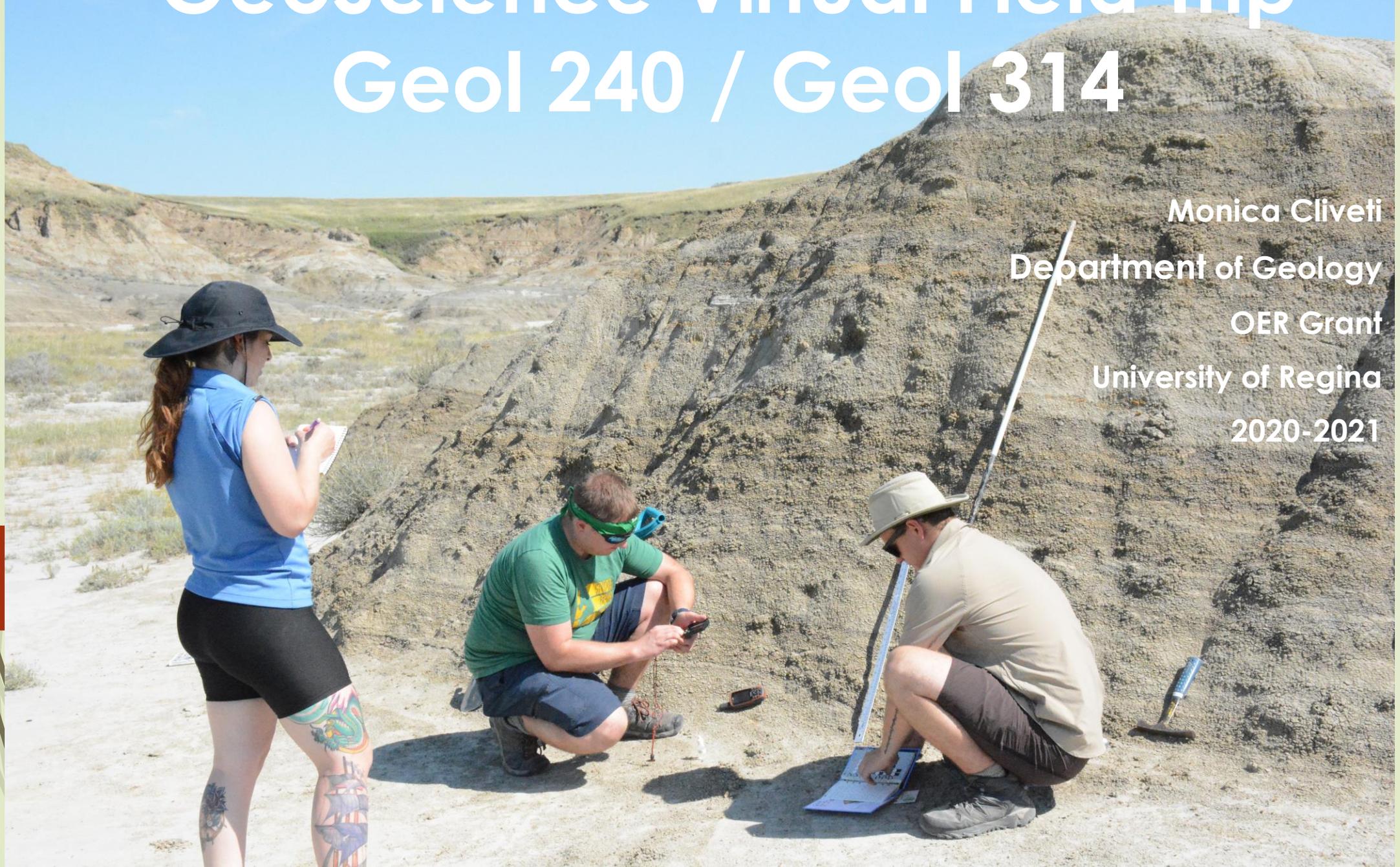


GeoScience Virtual Field Trip

Geol 240 / Geol 314

Monica Cliveti
Department of Geology
OER Grant
University of Regina
2020-2021



GeoScience Virtual Trip

- Introduction
- Report on progress
- Future direction
- Acknowledgements



Introduction

➤ Why?

➤ NEED to bring the field to our students

What do you see?
How does it feel? What
colour is the sediment?
Measuring strike?

What colours
do you see?
Can you
see/feel grain
size?



Introduction

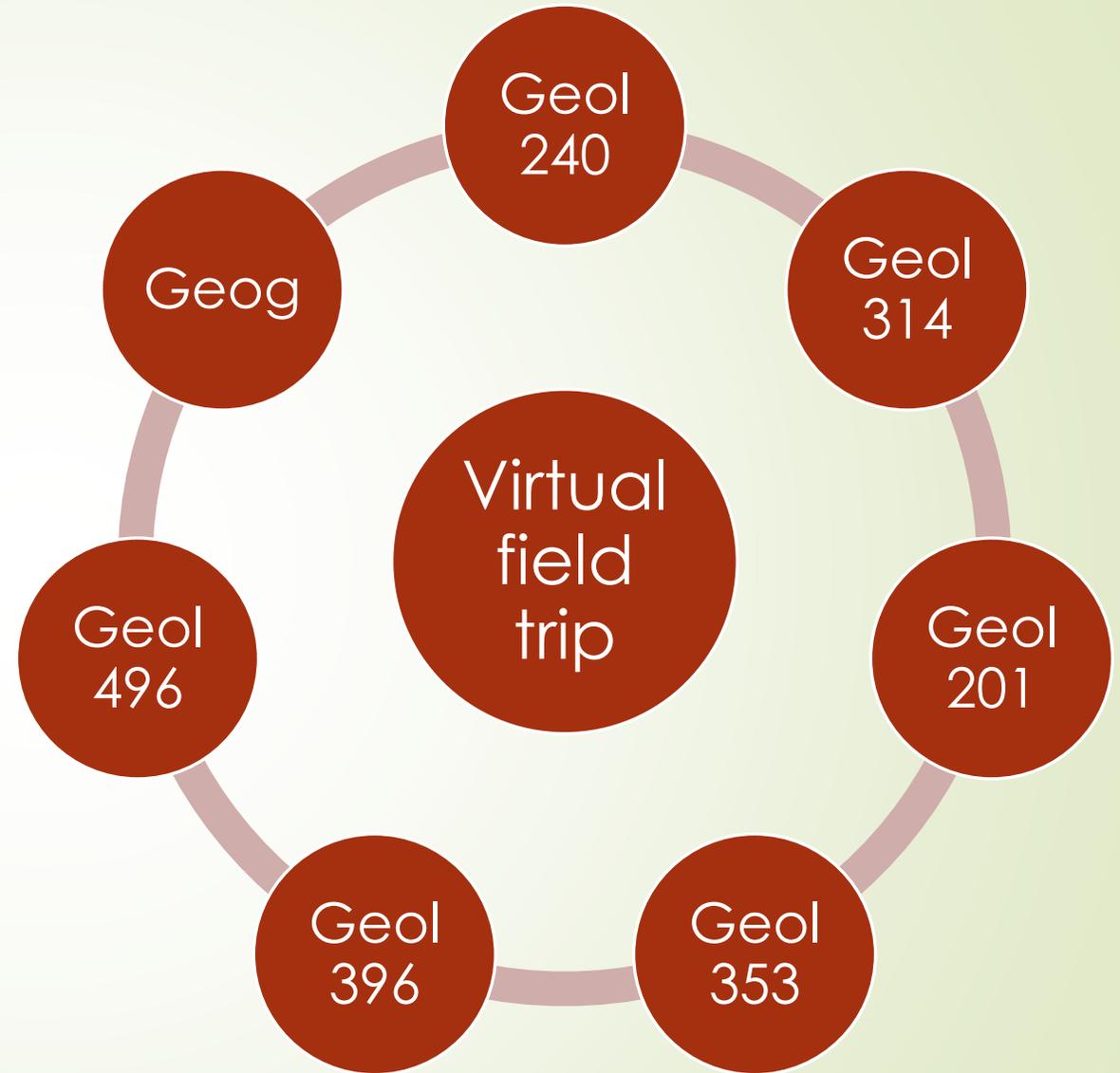
- Who?

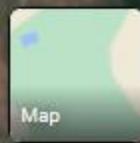
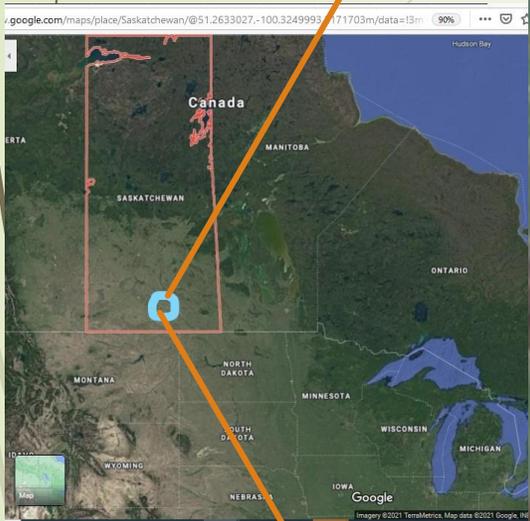
- A team from the department: Dr. Velez, Dr. Bethune, Dr. Dale, Dr. Salad-Hersi and Dr. Qing



Introduction

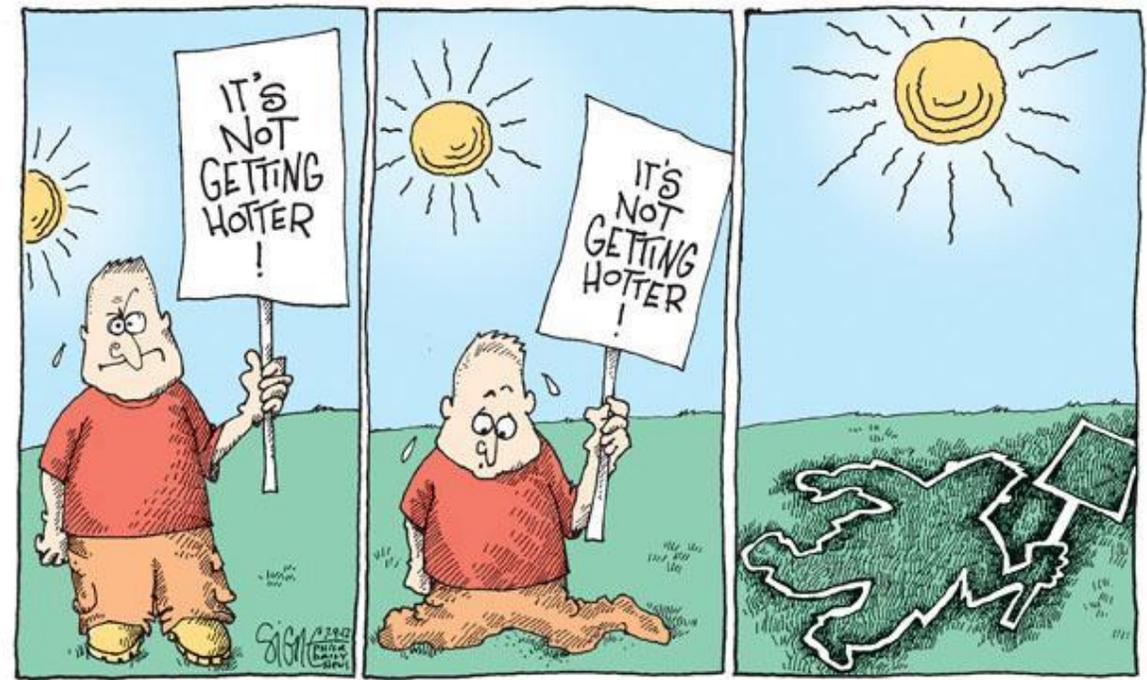
➤ For Whom?





Introduction

➤ When?



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Project plan

- Part 1+2: Video session in Avonlea Badlands – Virtual Field trip
- Part 3:
 - PowerPoint slide deck
 - Assessment tools
 - Exercises

Project plan and Report on progress

- ▶ Part 1. Introduction to Avonlea Badlands:
 - ▶ a. localization (on the glob, Canada, Saskatchewan, and then have either satellite view or drone view of the area).
 - ▶ b. a little narration about the geological history of Avonlea.
 - ▶ c. Geological time scale a review
 - ▶ d. short videos on details: **faults** geomorphology, **sedimentary structures**
 - ▶ e. We would like to include a little piece on the importance of Badlands for the First Nations but it is really hard to find any info on Avonlea. Hopefully we can get it.
- ▶ Part 2. Virtual field trip.
 - ▶ a. **cross-sections,**
 - ▶ b. **field work,** people working in the field showing all the steps of a good research protocol.

Project Plan and Report on progress

Videos:

- https://www.youtube.com/watch?v=m_JBnD7Ao0w&feature=youtu.be
- <https://youtu.be/j5aAZdsyTkM>

Assessment tools & Exercises

- Stratigraphic log
- Quiz – 42 questions based on the video

Facies	Lithology 13U 0501208 N, 5541368 E	Grain Size					Structures	Descriptions
		Clay	Silt	of Sand	c Sand	Gravel		
6 22 cm								Light grey very fine lithic arenite (lithics >60%), well rounded, well sorted, partially cemented, massive bedding, oxidized iron concretions, no organic material, no reaction to HCL, slope of 50
5 66 cm								Dark grey silt (quartz >60%), well rounded, moderately sorted, poorly cemented, horizontal-laminar bedding, no organic material, no HCL reaction, sharp contact atop, slope of 55
								Light grey silt to very fine quartz wacke (quartz >60%), well rounded, well sorted, poor to no cement, horizontal laminar bedding, no organic material, no HCL reaction, popcorn texture, sharp contact above, slope of 55
4 55 cm								Brown very fine lithic wacke (lithics >60%), well rounded, well sorted, poorly cemented, horizontal-laminar bedding, thin (<2cm) oxidized layers, no organic material, no reaction to HCL, slope of 55
								Light grey lithic arenite sand (>70%), well rounded, well sorted, poor to no cement, massive bedding, no organic material, small oxidized layers (<2cm) at the base and the top, no organic material, small reaction to HCL (possibly calcareous cement), flame structure with Facies 3 at base, sharp contact above, slope of 50
3 50 cm								Brown lithic silt (lithics >60%), sub rounded, moderately to poorly sorted, very poor to no cement, horizontal-laminar bedding, interbedded with light grey silt and dark grey silt, no organic material, no HCL reaction, sharp contact atop, slope of 50, ~ 5cm thick
								Dark grey lithic silt (lithics >80%), well rounded and poorly sorted, very poor to no cement, horizontal-laminar bedding, interbedded with brown lithic silt and light grey lithic silt, plant tissue and rootlets present, no HCL reaction, slope of 50, ~ 5cm thick
								Light grey lithic silt (lithics >60%), well rounded, well sorted, very poor to no cement, horizontal-laminar bedding, interbedded with dark grey lithic silt and brown lithic silt, no organic material, no HCL reaction, slope of 50, ~ 5cm thick
2 30 cm								Light grey silt, quartz (>60%), well sorted, well rounded, partially cemented (more than below), massive bedding, no organic material, no HCL reaction, sharp contact above, slope of 50
1 40 cm								Light grayish brown lithic silt (lithics >60%) interbedded with dark grey lithic silt (lithics >60%), well rounded, well sorted, poorly cemented, horizontal-laminar bedding, no organic material, no HCL reaction, sharp contact above, slope of 35



Future directions

- ▶ Part 1. Introduction to Avonlea Badlands:
 - ▶ a. localization (on the glob, Canada, Saskatchewan, and then have either satellite view or drone view of the area).
 - ▶ b. a little narration about the geological history of Avonlea.
 - ▶ c. Geological time scale a review
 - ▶ d. short videos on details: faults, geomorphology, sedimentary structures.
 - ▶ e. We would like to include a little piece on the importance of Badlands for the First Nations but it is really hard to find any info on Avonlea.



HELP!





Future direction

➡ Pressbook?



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Welcome to Geology

The Department of Geology offers undergraduate programs of B.Sc. in Geology and B.Sc. in Environmental Geoscience, both of which are eligible for APEGS (Association of Professional Engineers and Geoscientists of Saskatchewan) membership that is transferable to every other jurisdiction in Canada. We also have graduate programs including M.Sc. and Ph.D., with research areas covering both "hard rock" and "soft rock" studies, mineral and oil-gas resources, and environmental studies. We have an established reputation for training highly "rock-conscious" students, and we are extremely proud of our students employment record.

News

February 6, 2021: Professors and lab instructors in the Department of Geology come up with

Upcoming Events

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Thank you

