

Improving the relationships between Canadian Earth Science Departments and Canadian professional geoscience regulators.

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THE UNIVERSITY OF BRITISH COLUMBIA

Department of Earth, Environmental and Geographic Sciences

# OVERVIEW

Background to the study

What the study will do:

- Basic information

- Interviews

- Timeline

How CCESD member departments may be involved

Outcomes



## **PARTNER 1: EARTH SCIENCE DEPARTMENTS/PROGRAMS**

Wide academic disciplinary range

Earth Sciences (11)

Earth and Environmental Sciences (7)

Geology (5)

Earth and Atmospheric Sciences (4)

Earth Science and Geological Engineering (2)

Geological Sciences (2)

Earth and Ocean Sciences (1)

Earth, Ocean and Atmospheric Sciences (1)

Earth and Planetary Sciences (1)

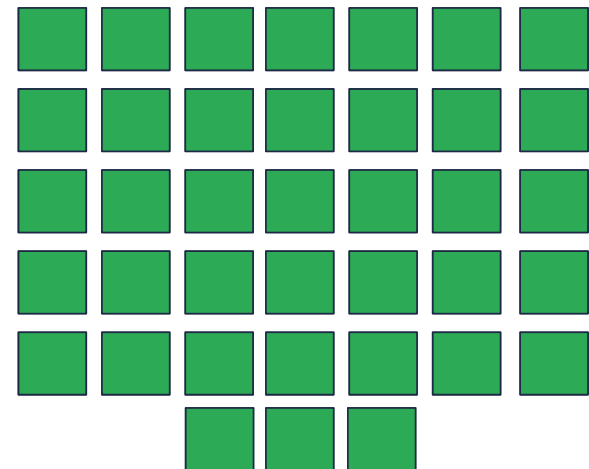
Geoscience (1)

Environmental Science (1)

...and more

38 Departments in Canada:

Canadian Council of  
Chairs of Earth Science  
Departments (CCCESD)



## PARTNER 2: GEOSCIENCE REGULATORS

1867 Provinces given responsibility to regulate professions for the safety of Canadians.

Knowledge - Syllabus

Competencies  
Character

Maintenance of skills  
Practice oversight

“Right of Title” and “Right of Practice”

Geoscientists Canada

### 10 Provincial/territorial Regulators

AB 1960	NWT/N 1981	N/L 1988	BC 1990
SK 1996	MA 1998	NB 1999	ON 2000
QC 2001	NS 2003		

Not Yet: Yukon, PEI

Engineers and Geoscientists  
Geoscientists

# DIVERSIFYING STUDENT OUTCOMES

**Partner 1:**  
Departments

1/4

“Geoscience”: Geophysics, Geology,  
Environmental Geoscience

1/4

Other Related Natural Sciences / Engineering:  
Environmental Science; Agrology, Atmospheric  
Science, Oceanography, Engineering

1/4

Outside sciences and engineering

1/4

Unknown

**Partner 2:**  
Geoscience  
Regulators

Estimated from the American Geoscience Institute Geoscience Currents: Occupations of Terminal Geoscience Degree Recipients (2010-2017). Data Brief 2019-014; November 11, 2019

# CHANGING REGULATORY CONTEXT

4 year Undergraduate Curriculum

Non-Canadian Graduates

Entry to Training

2-5 yrs In Training

Non-Canadian Trainees

Entry to Practice

Geophysics Geology, Environmental Geoscience **Partner 2 P.Geo.**

Agrology **P.Ag.**

Environmental Science **E.P.\***

Professional Designation:

Assessment against:

- 1. Syllabus (Geo)
- 2. Knowledge (Ag)
- 3. Competencies (Env)
- 4. Mixed models?

*Environmental Professional:  
Not a provincially regulated profession.....yet. 6*

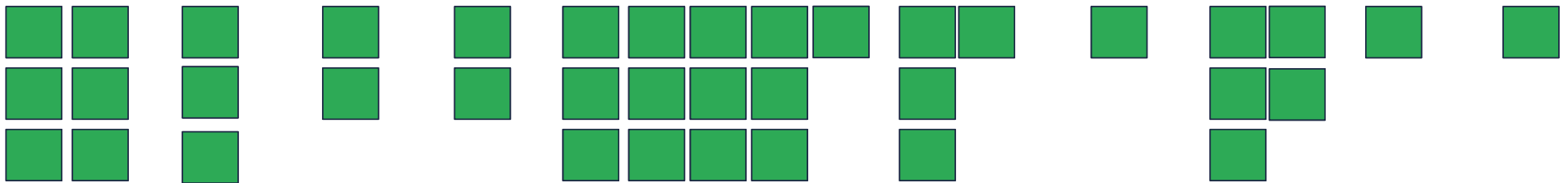
# REGULATOR – DEPARTMENT COMMUNICATIONS

Regulator challenges:

No defined communication structure

Increasingly varied applicant backgrounds

Varying resources and time



University challenges:

No defined communication structure

Diverse academic programs and student interests

Students graduate to multiple provinces

Syllabus requirements are national, but mechanisms of assessment are not

## **PROJECT DEVELOPMENT**

Discussions with:

1. Andrea Waldie, Executive Director and Kevin Ansdell, President-Elect, Geoscientists Canada
2. JP Ellson, Laurena Olsen, BC Institute of Agrologists
3. Kevin Nilsen, President, Eco Canada
4. Christopher Keene, Director, Geoscience Profession and Education, American Geosciences Institute.
5. Glen Burrige, Executive Director, European Federation of Geologists.
6. Andrew Waltho, President, Australian Institute of Geoscientists.

Proposal developed:

During International Program for the Scholarship of Educational Leadership:  
UBC Certificate on Curriculum and Pedagogy in Higher Education. Program  
Directors: Andrea Webb & Harry Hubball



## METHODOLOGY AND METHODS

Methodological Framework: Appreciative Inquiry

### **Anticipatory Principle:**

Human systems move in the direction of the images and discussions of the future.

### **Positive Principle**

Momentum for change is best generated by positive questions that amplify the positive core.

(Cooperrider et al, 2008; Cousin, 2009; Bushe 2011). 9

## KEY QUESTIONS

How can Canadian Earth Science departments best manage their relationships with professional regulators?

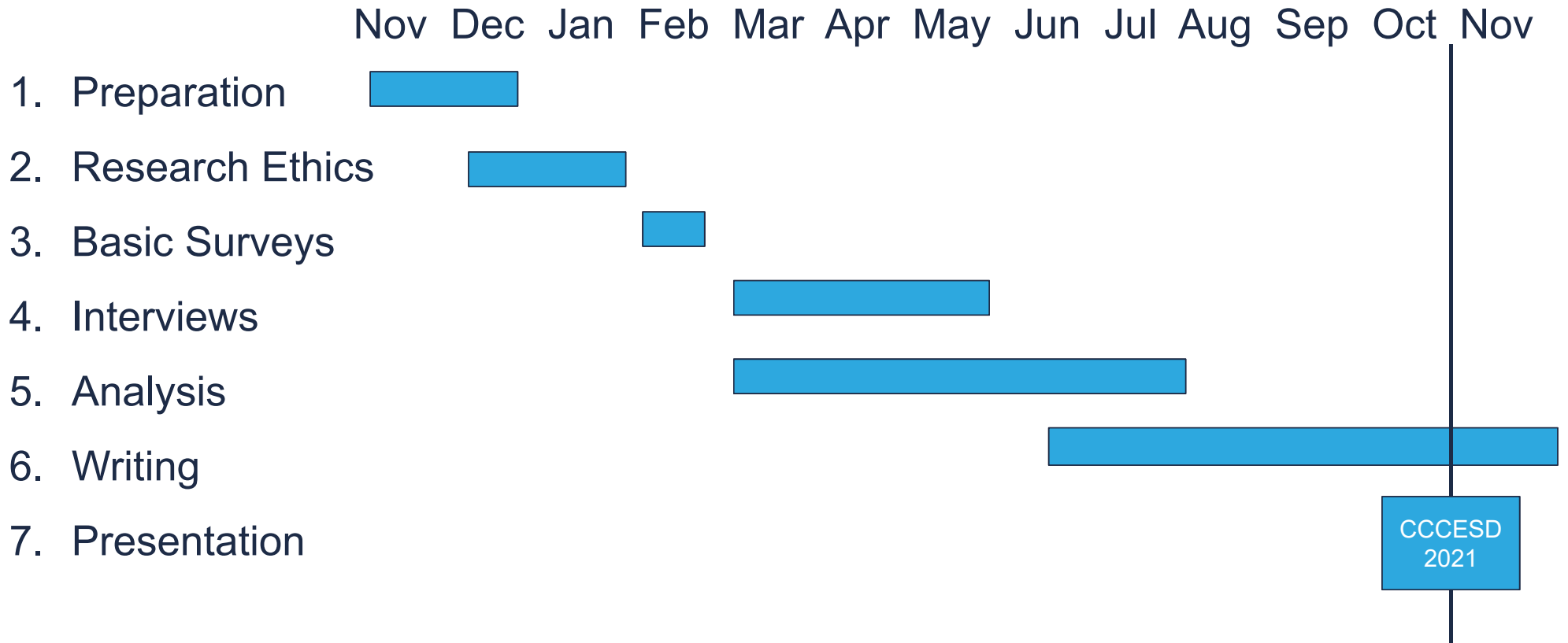
How can Canadian Geoscience Regulators best manage their relationships with Canadian Earth Science departments?

1. What contextual factors affect maintaining constructive relationships?
2. What are current best practices?
3. What can be envisioned as future best practices?
4. What key institutional level, or national level, supports are needed to support best practices?

## WHAT THE PROJECT WILL DO

1. Literature review
2. Examine background data from CCCESD survey
3. Examine department/university websites for public information
4. Survey #1: Basic data from Departments such as:
  - How is communication done
  - Assigned role / voluntary role / single person / committee
  - Frequency of communication
5. Survey #2: Basic data from Regulators
6. One on one interviews of designated people using Appreciative Inquiry

# PROJECT TIMELINE



## CCCESD PARTICIPATION

Today?

1. Grant permission to use basic survey data of CCCESD.

Nov 30

1. Take home thoughts on the project to departments.
2. Suggest survey questions for departments, or regulators (link in chat)

Spring 2021:

1. Complete basic survey (1 hour)
2. Nominate person from each department to commit to ~60 minute interview.

## **OUTCOMES FOR CCCESD MEMBERS**

1. Basic information on how different departments manage interactions with regulators.
2. Basic information on how different regulators manage interactions.
3. Information on where students are registering.
4. Suggestions for how to structure the role of communications within a department.
5. A strategic plan for how to support local, provincial or national level mechanisms that will improve communications

# QUESTIONS & DISCUSSION

[https://docs.google.com/document/d/1MaqUGVon-9e\\_DN1X31HTpmqSNXFhAv5yawgF4dgEQY4/edit?usp=sharing](https://docs.google.com/document/d/1MaqUGVon-9e_DN1X31HTpmqSNXFhAv5yawgF4dgEQY4/edit?usp=sharing)



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