

# Responding to the CGCRT's GeoAlliance Proposal

## A Discussion Paper of the CAG Geographic Education Study Group

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### 1. Purpose and Background

This document will: i) outline the background and purpose of the discussion; ii) provide a synopsis of the CGCRT GeoAlliance Canada proposal with a focus on the proposed strategies and implementation actions related to *geographic education*; iii) identify issues for further consideration; iv) identify action items for next steps at CAG2015 and beyond.

From the perspective of the CAG Geographic Education Study Group, this discussion emerges from the St. John's Declaration that was approved by the CAG in August, 2013. Since then the Declaration's organizing team has continued to meet and discuss the actions needed to implement the declaration. Among the several actions that have been proposed, a clear priority has emerged to build a more formalized organizational framework to realize the goals of the Declaration (See attached Appendix 1: 'Building a Framework for Action'). The role for such an organizational framework is exemplified by the Geographic Education National Implementation Project (GENIP) in the United States (<http://genip.tamu.edu/>)<sup>1</sup>.

The Study Group's priority now converges with the initiative of the Canadian Geomatics Community Round Table (CGCRT) to create a leadership network across the geomatics, geography and geospatial sectors. To this end, the CGCRT has proposed an association of stakeholders named GeoAlliance Canada. Their proposed governance model mandates a role for geographic education, and may provide an opportunity to build an organizational framework for the implementation of the St. John's declaration.

*The purpose of this paper is to inform and advance the discussion within the CAG Education Study Group as to the implementation of GeoAlliance Canada proposal.*

### 2. GeoAlliance Canada Proposal

This section summarizes the key points of the CGCRT proposal as published in three major documents. Each of these documents refers to the role and importance of geographic education:

- Pan-Canadian Geomatics Strategy, Version 3
  - <http://cgcrct.ca/en/round-table-outcomes/strategy-2/>
- Pan-Canadian Geomatics Strategy Action and Implementation Plan, Version 2.1
  - <http://cgcrct.ca/en/round-table-outcomes/action-plan/>

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<sup>1</sup> This consortium was organized in 1985 and its current members are the: [Association of American Geographers \(AAG\)](#); [American Geographical Society \(AGS\)](#); [National Council for Geographic Education \(NCGE\)](#); and the [National Geographic Society \(NGS\)](#).

- GeoAlliance Canada: The Canadian geomatics, geography and geospatial leadership network
  - <http://cgcrct.ca/wp-content/uploads/2015/02/GeoAlliance-Canada-ENGLISH.pdf>

In 2014, the CGCRT published two documents that develop a Pan-Canadian Geomatics Strategy and an Implementation Action Plan. These documents focus on seven “Strategy Domains identified as pressing issues facing the Geomatics Sector”, namely: identity, market, business model, leadership and governance, *education and capacity building*, data sources and legal and policy interoperability.

The education and capacity building domain clearly aligns geographic education with the interests of the broader geospatial sector. The strategy document identifies ten broad strategic objectives for education and capacity building, of which four are identified as top priorities and excerpted below:

- A coherent geomatics education system from K to post-graduate with an adaptive and proactive curriculum that: meets the demand for geomatics professionals and specialists to support Canada’s network of spatial data infrastructures; produces the geospatial data specialists with the skills needed to undertake geospatial data related research; and enables the range of candidate Geospatial Community practitioners with the skills they need to use geospatial information in their day to day work.
- A robust academic sector in Canada with a research and training agenda aligned with geospatial community requirements that supports the whole Geomatics Sector and is significantly contributing to key issues.
- A Geomatics Sector that is supported with reliable, sustainable research resources (grants, scholarships, government involvement) to support development of highly qualified personnel and the sustainability of the Sector.
- Increased awareness and use of geospatial data and information at senior management levels to improve policy and decision-making in both industry and government.

It is reassuring to see that among these top priorities is a ‘geomatics education system from K to post-graduate’. But geography educators at all levels are certain to push for higher priorities to be given to several of the remaining six objectives (for all ten objectives see attached Appendix 2: ‘Strategy’).

The second document is an Action Plan that suggests specific actions for each of the ten strategic objectives to be undertaken over the next two years. (See attached Appendix 3: ‘Action Plan’). Listed here are substantive ideas for going forward, including the creation of a foundation to support the St. John’s education declaration. The prioritization and implementation of these ideas will need the input of the geographic education community.

The third document, published in 2015, describes the governance framework needed to implement these strategies and action plans. In this document, the CGCRT puts forward a new leadership and governance model for the Canadian Geospatial Community, known as GeoAlliance Canada.

This model proposes a Board of Directors that recognizes four categories of membership: Not-for-profit, Government, Business and *Education*. On a Board of Directors consisting of 9-18 members, Education Members would have 2-4 directors. These two to four directors would be nominated from an Education Forum. The Education Forum is to be composed of representatives of the respective types of members, which together constitute some new form of geographic education network of Canada.

The suggested functions of the Education Forum are, for example, to:

- create venues for discussion of common issues
- provide nominations to the Board
- provide input to Board strategies and policies

A membership fee structure is proposed to launch and sustain GeoAlliance Canada during the first three years. The proposed fee structure for members of the Education Forum is:

	<u>fees</u>	<u># of members</u>
Year 1	\$1,000	10
Year 2	\$1,250	15
Year 3	\$1,500	20

### **3. Issues for further consideration**

The GeoAlliance Canada proposal raises a number of questions and issues for consideration by the geographic education community, as noted below.

#### **a) Priorities and Alignment with Declaration**

What strategies and implementation actions of the CGCRT proposal best align with the objectives of the St. John's declaration? Which strategies and actions does the Geographic Education Study Group prioritize? Are there other priorities? What steps will be needed to implement the prioritized action plans?

#### **b) Fee Structure**

What are the implications of the proposed fee structure for the education domain? How many educational associations will have the financial capacity to fund the membership fees?

Could funds donated by Departments in support of the St. John's Declaration be applied as membership fees?

Can funds from the CAG be pooled with funds from CAG Study Groups to pay for an annual membership on the Education Forum?

#### **c) Membership**

If the Education Forum is to be composed of two to four (2-4) representatives of the respective types of members, then who are those 'types' of members? Are the membership targets realistic?

### **Partial listing of different types of members**

RCGS - Canadian Geographic Education,

Canadian Association of Geographers

Geographic Education Study Group

Geographic Information Study Group

Canadian Geoscience Education Network

Canadian Cartographic Association

Canadian Remote Sensing Society

Association of Canadian Map Libraries and Archives

Association of Canada Lands Surveyors (ACLS)

All other geo-associations that have education committees.

Regional teachers associations

OAGEE

University Departments

Faculties of Education

Informal educators that deliver geographic content and skills

Orienteering Canada

4H Canada

Girl Guides of Canada

Scouts Canada

Cadets Canada

### **d) Other Functions of Education Forum**

Could this forum serve as a voice for Canadian geography education in related international initiatives? What other organization memberships might be of benefit to the CAG in the promotion of geographic education?

## **4. Questions for Discussion at the CAG2015 Panel**

a) When considered overall, the proposed implementation actions are beyond the current capacity of the geographic education community in Canada. What actions are the top three priorities for geography educators and researchers interested in building that capacity?

b) The leadership and governance model calls for the establishment of an Education Forum. What form will the Forum take? How will it operate? What are the logistics involved? How can CAG's current linkages and resources be leveraged to take on a leadership role in the formation of the Forum?

c) GeoAlliance Canada will be first established with an Interim Board of Directors. An Education Forum and geographic education will benefit from a strong initial presence on the Interim Board, including the RCGS-CGE, and the CAG. What other associations might be prioritized for membership on the Interim Board?

d) The Geomatics Strategy and Implementation Action Plan identifies the expansion of research opportunities as a priority. Within this context, what grants, research opportunities or other actions need to be prioritized by geography education researchers?

## Appendix 1: Building a Framework for Action

### Advancing Geographic Education for Canadians

#### *The St. John's Declaration*

*Our goal is to advance geographic education in Canada.*

### Building a Framework for Action

**A - Inspire** Canadians to value geography and spatial thinking;

- Identify and recruit high-profile champions
- Develop attractive communications strategy
- Maintain social media presence that brings geography to the desktop and personal devices

**B - Promote** geography as a discipline that integrates the natural sciences, social sciences and humanities;

- Proactively network with inter-disciplinary associations
- Build a database of supporters/endorsers/enthusiasts
- Align actions with related professional associations (e.g. Geomatics Roundtable)
- Raise profile of geography in the public domain through online forums, biographies of Canadian geographers; videos on the status of geographic education in Canada
- Interviews with disciplinary experts about how geography applies in other disciplines and sectors
- Create timely, informative, accessible

**C - Provide leadership** in geographic education across Canada;

- Establish an interim transition governance to maintain momentum. James and Bob (co-chairs) and Peggy and Lynn (co-exec assistants).
- Establish a coordinating committee with representation from all organizations that have endorsed the Declaration, i.e. a GENIP-style group
- Hire part-time co-ordinator
- Create a web page for the Declaration along with the logos of its supporters
- Create a draft plan for sponsorship support: (e.g. CAG, Esri Canada, others)
- Foster alliances with related national organizations (AAG, IBG, EUAG)
- Engage with policy developers at the ministry level

**D - Enhance support** for geographic educators;

- Develop a national competition in GIS applications, as a complement to the Great Canadian Geography Challenge (see Ontario Schools Map Making Competition)
- Organize periodic teacher education institutes, led by CAG members and practicing teachers.
- Promote sound geographic practice, such as field work, by organizing competitions along the lines of those in NSW
- Review the Canadian Standards in due course.
- Establish a Tomlinson foundation for Teacher training

- Facilitate a mentorship program with expert geography teachers
- Get geography back in the curriculum

**E - Support geographic education **research**.**

- Convene a workshop and/or conference sessions to establish a geographic education research agenda for Canada
- Develop instruments for assessing dimensions of geographic and spatial literacy
- Others?

## Appendix 2: Canadian Geomatics Community Round Table Strategy

<http://cgcert.ca/en/round-table-outcomes/strategy-2/>

The Pan-Canadian Geomatics Strategy and associated Action and Implementation Plan were developed by the CGCRT. They are based on seven distinct yet related strategic dimensions.

### **Excerpt from the Strategy related to the Dimension of Education and Capacity Building**

*How do we ensure we have the Canadian Geomatics workforce and geospatially-enabled society of tomorrow? The focus of this dimension is to examine education and capacity building at the professional and technical level in the Geomatics Sector and the opportunity for certification. Focus is also on ensuring the broader Geospatial Community has the skills training necessary to make effective use of geospatial information in their daily work and to ensure a “geospatially-enabled society”.*

### **Strategic Objectives**

Academia, industry, government and the various Geomatics associations all have important but related roles to play in delivering a comprehensive and relevant education, training, and professional development framework for building a skilled, nimble geomatics workforce aligned with the changing needs of the Sector. The following strategic objectives capture necessary steps to achieving the education and capacity building-related Team Canada Vision for the Geomatics Sector and Geospatial Community with the first 4 being the top priorities and the remaining to be addressed as time and resources permit.

- A coherent geomatics education system from K to post-graduate with an adaptive and proactive curriculum that: meets the demand for geomatics professionals and specialists to support Canada’s network of spatial data infrastructures; produces the geospatial data specialists with the skills needed to undertake geospatial data related research; and enables the range of candidate Geospatial Community practitioners with the skills they need to use geospatial information in their day to day work.
- A robust academic sector in Canada with a research and training agenda aligned with geospatial community requirements that supports the whole Geomatics Sector and is significantly contributing to key issues.
- A Geomatics Sector that is supported with reliable, sustainable research resources (grants, scholarships, government involvement) to support development of highly qualified personnel and the sustainability of the Sector.
- Increased awareness and use of geospatial data and information at senior management levels to improve policy and decision-making in both industry and government.
- Strengthened quality of teaching and learning in the field of Geomatics in the spectrum from K to Life-long learning (LL).
- A geospatially-enabled society where all “geo” stakeholders have contributed to the design and implementation of capacity building programs, including enhanced

- primary and secondary education systems that include more exposure to geography, geospatial information, and tools.
- Harmonized geomatics accreditation/certification programs across the Sector.
  - A world class Canadian Geomatics Sector with a dominant domestic and significant international market share supported by a “geo-literate”
  - Curriculum changes in the K-12 school system and cross-disciplinary teaching in colleges and universities that enhances the Canadian public’s geospatial skills and develops capacity in geomatics.
  - Learning tools that help the general public to make best use of the geospatial information resources and services available to them.

### **Big Picture Outcome**

A cohesive, well-recognized Canadian Geomatics Sector with attractive and viable careers supported by effectively delivered education programs designed to create a pool of highly qualified practitioners tailored to the needs of industry and government. Communication and common messaging promotes broad awareness of the Geomatics Sector across society along with a common understanding of the power of geomatics. Geomatics is a career option of choice.

A geospatially-enabled Canadian society that recognizes that “place matters,” effectively engages in open government through the public exchange of ideas, plays a ubiquitous, but important role in ensuring the reliability and currency of Canada’s network of spatial data infrastructures, and safeguards the sustainable development of Canadian communities and natural resources.

## Appendix 3: Canadian Geomatics Community Round Table Action Plan

(<http://cgcert.ca/en/round-table-outcomes/action-plan/>)

The Pan-Canadian Geomatics Strategy and associated Action and Implementation Plan were developed by the CGCRT. They are based on seven distinct yet related strategic dimensions. The action ideas outlined below were identified as the national priorities for each dimension at the ‘Team Canada’ workshop held in Ottawa, ON in June 2014; this page is an illustration of the decisions made at that meeting. For more information, including a full list of all the strategic objectives identified during the consultation process, please download the [Action and Implementation PlanV2.1](#) (.doc).

### Excerpt from the Action Plan related to the Dimension of Education and Capacity Building

*How do we ensure we have the Canadian Geomatics workforce and geospatially-enabled society of tomorrow? The focus of this dimension is to examine education and capacity building at the professional and technical level in the Geomatics Sector and the opportunity for certification. Focus is also on ensuring the broader Geospatial Community has the skills training necessary to make effective use of geospatial information in their daily work and to ensure a “geospatially-enabled society”.*

#### Strategic Objectives

- A coherent geomatics education system from K to post-graduate with an adaptive and proactive curriculum that: meets the demand for geomatics professionals and specialists to support Canada’s network of spatial data infrastructures; produces the geospatial data specialists with the skills needed to undertake geospatial data related research; and enables the range of candidate Geospatial Community practitioners with the skills they need to use geospatial information in their day to day work.
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#### Actions

2015:

- Expand partnerships between Geomatics Sector employers, associations, and students to expand the delivery of scholarships, research grants, co-op programs, internships, and work terms at the university and college level.
- Create a robust network of grass roots organizations to promote geo-literacy and geo-careers across Canada.
- Connect and create synergy with existing national or provincial initiatives looking at education of geo.

- Explore the feasibility of creating a national governance model and processes for identification of national geospatial research priorities and coordination of research programs and initiatives.
- Create a national geomatics student association.
- Create of a NEW technical network for geomatics to bring together senior peoples as mentors and build capacity.
- Develop a ‘Geomatics Day’ in the Canadian Engineering Week.
- Create a foundation to support the St. John’s education declaration.

2016 and beyond:

- Develop a core curriculum that identifies fundamental geo-skills that should be taught from K-12 to university as well as education outcomes (standardized, transferable skills) linked directly to curriculum at each level of education, across primary, secondary, and academic levels.
- Encourage school boards and professional development accreditation organizations to reward/incentivize K-12 teachers training in advanced courses in geospatial information and skills.
- Rationalize the various college and university accreditations (e.g., 2-year vs. 3 yr vs. 4 yr programs) to clarify how the program structures relate to the type of professional being trained.
- Geomatics in a crate.
- Develop Geospatial Community Events that reach out to a broad participant range (e.g., Geospatial Family Day).
- Establish a professional development “source” that provides information on the PD available in Geomatics (e.g., GeoEd website)
- Move to national licensing body to standardize some of the requirements.
- Look at the Project Management Institute to see how they got credibility.
- Improve continuing education initiatives to better support geomatics professionals.