Applied Geomatics research in Nova Scotia; sharing our eight years of experience

Bob Maher[1]

Applied Geomatics Research Group,
Nova Scotia Community College's Centre of Geographic Sciences, Middleton, Nova Scotia
[1] Robert.Maher@nscc.ca

Abstract

In January 2000, the Applied Geomatics Research Group (AGRG) was established to conduct research into the application of Geomatics technologies. Over eight years, we have competed successfully in the following competitions : CFI (3), AIF, CIHR, NSERC, the Rural Secretariat and HP Innovation awards. In that time frame, AGRG has grown from three Research Scientists to a group of seventeen staff and ten graduate internships. This presentation will highlight the major accomplishments and identify some of the ongoing challenges.

The foundation of our applied research has been the advanced diploma programs at the Centre of Geographic Sciences (COGS). Each of the original group members had been instrumental in the design, development and delivery of these programs in GIS and Remote Sensing in the 1980's. With the creation of AGRG, we were in a position to apply these technologies to a wide range of environmental and social issues.

CFI provided capital equipment to universities and colleges. AGRG has received three awards. Most noteworthy has been the acquisition of ground based and airborne LiDAR and the building of a network of meteorological stations throughout the Annapolis valley. Under AIF, AGRG partnered with the private sector, GeoNet and CARIS, to develop a decision support system for disaster management in the coastal zone. This research was based on earlier contracts with NRCan and Environment Canada to model the impact of sea level rise and storm surges on the Atlantic Canada coast, especially PEI and New Brunswick. Further success was forthcoming with CIHR collaboration between AGRG and Dalhousie University and other Atlantic universities leading to the establishment of the RURAL Centre. AGRG role was to provide Geomatics services to the Health community. In 2004, NSERC announced a specific program for community colleges; AGRG at the NSCC was successful and embarked on a two year pilot project. One of the key criteria was collaboration with local industry for community economic development. Through an internship arrangement, AGRG completed ten projects. These projects and their context will be described in a separate presentation.

Our most recent funding has come from the Rural Secretariat. We have established a rural knowledge cluster around Applied Geomatics. This has led to the creation of a Business Incubation Centre. Under these auspices, we have

conducted a series of community mapping workshops for rural Nova Scotians. This research has recently benefited from HP award to develop a mobile Geomatics lab, centred on twenty tablets and using new social networking software.

Along the journey, there have been many lessons and challenges. They can be grouped under the following headings:

a) institutional challenges – the role of applied research in a community college;
b) educational challenge – the appropriate mix between hands on community problem solving and conceptual understanding
c) community challenges – the difference approaches to Community Economic Development through Geography and GIScience;
d) personal challenges – the expansion of application domains and the balance between teaching and research.

To assist other institutions, we have developed a conceptual model of our Applied Geomatics research, an educational model for graduate students, a funding model for long term sustainability and a shamrock model of our business partners.