Evolving approaches to Community Mapping in Southwest Nova Scotia

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Abstract

The Applied Geomatics Research Group (AGRG) (www.agrg.cogs.nscc.ca) has collaborated with Agriculture and Agri Food Canada (AAFC) Rural Secretariat (www.agr.ca/policy/rural/contact_e.html) to deliver workshops on the web GIS Community Information Database (CID) (www.cid-bdc.ca) and with local communities to produce maps which demonstrate the value of Geomatics in local planning.

Recent submissions, under the Rural Partnership Development program are designed to expand their toolbox to include community mapping. The geographic focus is Southwest Nova Scotia (five counties: Annapolis, Digby, Yarmouth, Shelburne and Queens) which corresponds to the UNESCO-MAB biosphere reserve (www.snbra.ca) and is also the case study for the Nova Forest Alliance (www.novaforestalliance.com) under the Forest Communities program.

With fiscal uncertainties at the federal level, we have modified our proposal with a reduced number of workshops but an expanded methodology. In the Spring 2009, we anticipate addressing four case studies in sustainable development:

1) Fundy Communities Development Agency (www.fundycommunities.com) on physical infrastructure;
2) Town of Annapolis Royal (www.annapolisroyal.com) on tourism;
3) Annapolis and Digby Economic Development Agency (www.annapolisdigby.com) on biomass supply;
4) Queens County (www.regionofqueens.com) on value added forest products.

Background and Relevance

AGRG , as a research unit within a community college, has a responsibility for community-based research. Given the unique circumstance of a Geomatics research group in rural Canada, there is the opportunity to use our science and technology to address the sustainability concerns of rural Nova Scotia. Within the context of the UNESCO-MAB program, Southwest Nova as a biosphere reserve espouses the values of conservation of biodiversity and sustainable development. With the decline and aging of the rural population, sustainability has many faces. For the citizens of the five counties, concerns include the transfer from a resource-based economy (fishing, forestry, agriculture) to an expanded knowledge economy. AGRG, with government support, works to engage community groups in needs assessment and where appropriate the use of mapping technologies to address particular concerns. Community mapping and

VGI (Goodchild 2008) has the potential to provide evidence based visualization of these community issues (Torjman 2009).

The contribution of this applied research includes:

a) an exploration of action research methodologies within a spatial knowledge context (Banks and Mangan 1999, Reason 2002)
b) the development of customized Geomatics tools which meet the needs of the community;
c) cartographic products , accessible via the Internet, which are useful in support of a community based research network.

Methods and Data

The long term goal is the development of an online sustainable development atlas for Southwest Nova. The four initial case studies will focus on the concerns of particular community groups and agencies

Fundy Communities Development Agency – infrastructure
Annapolis Royal – tourism
ADEDA – alternative energy
Queens County – sustainable forestry.

During February and March, AGRG/SNBRA will host workshops on community mapping. We will model our approach on the work of other practitioners in Canada e.g. Carruthers (2009), Harrington and Stevenson (2005),Lydon (2005). We will modify the Tomlinson approach (Tomlinson 2003), with its emphasis on Information Products, to the web environment. At AGRG we have assembled a team of community facilitator, cartographer, web designer and GIS programmer.

We will facilitate the community group in the collection of their own data by access to GPS and the necessary base maps. . After the data collection phase, AGRG will conduct a second workshop on the use of web GIS for management, updating and visualization. At the end of this workshop, each group will have the capacity to use customized web GIS tools. The exact tool set remains part of other ongoing research evaluating available software: Google, Microsoft, ESRI and open source products.

The third phase will address:

a) the documentation and refinement of the software tools;
b) data access agreements with government agencies and other parties;
c) a sustainability plan for technical support of the online electronic atlas.

Results

This research is a work in progress. At this stage, we can share the context and our overall approach. We will not be able to report, in depth, on the community meetings however we can report on our training materials and updates to their content and availability.

In this type of applied Social Sciences research, key criteria are client satisfaction, ease of use of technical tools, ownership of the spatial data and trust. These criteria are quite distinct from the usual measures associated with other AGRG Environmental Sciences research e.g.flood risk mapping and climate change, LiDAR for forest and snowpack assessment.

Conclusions

Bringing Community Mapping concepts and Geomatics technology into rural Canada is both exciting and challenging. AGRG has a unique advantage in that its research facility is located in the rural Annapolis valley. Our long term success will depend on our ability for action research (Banks and Mangan 1999) and cooperative inquiry (Reason 2002) and our commitment to provide a structure for sustainable technical support. Both of these factors demand the development of community learning centres. These centres will the require the capacity to define their own mapping needs, produce the maps and then update and share them over the Internet with other community groups.

References

Banks, K. and J.Mangan. 1999. The Commpany of Neighbours: revitalizing community through Action Research. University of Toronto Press, Toronto. 141pp.

Carruthers, D. 2009. PlanLab Ltd. The Community Planning lab. www.planlab.ca

Goodchild, M.F. 2008. Commentary: whither VGI ? GeoJournal 72:239-244.

Harrington, S. and J. Stevenson (ed) 2005. Islands in the Salish Sea. A community atlas. The Land Trust Alliance of BC.

Lydon, M. 2005. Mapping our Common Ground: a community and green mapping resource guide. Common Ground, Victoria, BC.

Reason, P. (ed) 2002. Special Issue: The Practice of Co-operative Inquiry. Systemic practice and Action Research, 15(3) .
www.bath.ac.uk/carpp/publications/special_issue.html

Torjman, S. 2009. Community Roles in Policy. Caledon Institute of Social Policy, Ottawa. www.caledoninst.org

Tomlinson, R. 2003. Thinking about GIS. Geographic Information Systems for Managers. ESRI Press. Redlands,Ca.