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VOL. 2005 No.1

JULY – DEC 2004

Editorial

Welcome to another issue of Caribbean Geographic Information Systems technology, CariGIST, the newsletter of the Association of Caribbean Electric Utilities (**CARILEC**), produced by the CARILEC GIS Task Force, a body established since the end of 2003 to oversee and facilitate the development and use of GIS Technologies among CARILEC's member utilities. The Task Force meets on a quarterly basis and currently include representatives from the utilities of Antigua (**APUA**), Barbados (**BLPC**), Dominica (**DOMLEC**), Grenada (**GRENLEC**), Jamaica (**JPSCo**), St. Lucia (**LUCELEC**), Nevis (**NEVLEC**), and St. Vincent (**VINLEC**).

With the support of the CARILEC Secretariat, the objectives of the Task Force include: establish guidelines for the development of GIS within member utilities; monitoring improvements in GIS technology and advising members on appropriate adoption practices; reporting on best practices and identifying pitfalls in the implementation of GIS; develop cartographic / mapping standards to be used by member utilities; evaluating GIS training programmes and suggesting improvements as necessary; guiding the development of GIS databases across member utilities.

This issue of CariGIST covers the period July to December 2004, and focuses on the second Urban and Regional Information Systems Association (**URISA**) Caribbean GIS Conference held in Barbados, September 13-16, 2004; the first such Conference having been held in Montego Bay, Jamaica, in September 2001. (Check the website www.urisa.org for further details on **URISA**.)

As always, I wish to thank the producer of this newsletter Mr. Terry Inniss, Computer Mapping Programmer, The Barbados Light & Power Co. Ltd., for his assistance, and also the other members of the Task Force and the **CARILEC** executive for their invaluable support.

That's the **GIS**t of things for now.

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Review of the Second URISA Caribbean GIS Conference, 2004

Summary of Barbados GIS Summit, URISA Conference



A REVIEW OF THE URISA GIS CONFERENCE

By: Dr. Philip Corbin

The second Urban and Regional Information Systems Association (URISA) Caribbean Geographic Information Systems (GIS) Conference was held in Barbados September 13-16, 2004. It focused on the effective implementation of GIS within the Caribbean nations, and was a follow-on to the first URISA Caribbean GIS Conference held in Montego Bay, Jamaica, in September 2001. Around 200 delegates took part, with about half from overseas, although the number of overseas participants was somewhat reduced through Hurricane Ivan causing cancellations of attendees and speakers from Jamaica, one of the leading countries in the region in the use of GIS technology.

The Conference began Monday, September 13, 2004 with three concurrent 8 hour Pre-Conference workshops held at Accra Beach Hotel on the themes: ***Introduction to GIS, Managing GIS Implementation, and Introduction to Digital Imagery and Remote Sensing.*** These informative tutorials were reasonably well attended with about 100 persons in attendance overall.

On the morning of Tuesday September 14, 2004, the Conference was officially opened with remarks from the Minister of Housing, Lands and the Environment, in the Barbados Government, Elizabeth Thomson. She gave an excellent speech outlining the status and challenges both of IT and GIS in Barbados, and noted, quite correctly, that “the development and maintenance of the database for a fully functioning GIS facility may have a conservative estimate of 80% of the budget”. Unfortunately this comment, referring to the fact that data capture and maintenance typically consumes 80% of any money budgeted for GIS, was subsequently misquoted the next day by the Barbados Advocate (back page) which had the very misleading headline “Fully Functioning Geographic Information System may take 80 per cent of national budget”. This amusing faux pas became the talking point thereafter of the Conference.

Following the minister’s opening speech, and the keynote address (by Alan Townsend of Trimble, on ***Mobile GIS – Using your Enterprise GIS in the Field***) educational sessions dominated the program on Tuesday, Wednesday and Thursday. The topics for these sessions were: Data Acquisition; Land Administration and Management; Public Health and Safety; Environment and Natural Resources; Policy and Management; Disaster Management; Education; and Utilities, Transportation and Business Applications. Papers tabled / presented of relevance to the utility industry were as follows:

1. Chris Cirillo, consultant, OneGIS, Inc: *After the Storm: Using GIS for Damage Assessment and Restoration,* presented in the Public Health and Safety track. This highlighted the efforts of the GIS team at Bermuda’s sole power Company, Bermuda Electric Light Company Limited (**BELCO**) to assess hurricane damage in the wake of storm Fabian on September 5, which left 25,000 of the 32,000 customers served by BELCO without power. The BELCO ArcFM GIS was used to report back the assessment of damage and to help direct restoration efforts. Many lessons were learned and new work flows implemented as a result. Several new systems have been developed for automated data entry and field data collection following a storm, as well as integration between the GIS, Outage Management System (OMS), Work Management System (WMS) and Customer Information System.

Under the Utilities, Transportation and Business Applications track, papers scheduled re electric utilities were:

2. *GRENLEC’s Use of Mobile Workforce Management Systems:* this paper was downscaled to a brief commentary by Desmond Dougall, GISCAD Limited, Port of Spain, Trinidad & Tobago, owing to hurricane Ivan’s devastation of Grenada and its services at the time.

3. *GIS Technologies in a Small Electric Utility – The VINLEC Experience:* this paper was cancelled, but an article on the ongoing GIS work in St. Vincent, written by Dr. Vaughn Lewis, was contained in the last issue of CariGIS.

4. *Puerto Rico GIS and OMS Implementation:* this excellent presentation was jointly done by Keith Trowbridge, Intergraph Corporation, Huntsville, AL, USA, and Ms Lori Jones, Analytical Surveys Inc., San Antonio, Texas, USA. They outlined the detailed GIS database which has been built using GPS surveys, for a for a multiple million dollar (US \$) project lasting 6 years and scheduled to be finished in 2005, carried out for the Puerto Rico Electric Power Authority (**PREPA**) utility network, which includes 625,000 poles and 150,000 transformers feeding 1.4 million customers.

A REVIEW OF THE URISA GIS CONFERENCE (con'td)

5. A presentation by yours truly on *GIS Obstacles and Opportunities Facing Caribbean Utilities*. In this presentation, I noted that the obstacles include the inadequate addressing systems within the islands, outdated or inaccurate source maps and data, the lack of coordination between various sectors in terms of data-sharing, insufficient awareness of the value and benefits of GIS and the typically low level of funding allocated for GIS projects, while the opportunities include the use of high resolution satellite imagery, Global Positioning Systems (GPS), wireless technologies, data sharing via the Internet, and the positive publicising of success stories. Particular reference was made to the web-based GIS system at the Barbados Light & Power Co Ltd, MapViewer.

Highlights of the Conference were the Wednesday Plenary Session on *The State of Caribbean GIS – Seeking a Strategic Direction* and the Thursday *Barbados GIS Summit*. There were also about a dozen GIS equipment and software exhibitors; this included a Barbados Light & Power booth highlighting our MapViewer GIS software.

As one of the members of the organizing committee for the Conference, I wish to pay particular tribute to Wendy Francis of URISA for her coordinating role, and to three Barbadians for their tremendous efforts in making the Conference the success that it was - namely the Conference Chair Ian King (Environmental Consultant, and President of Geographic Information Services and Technologies (GIST)), Nigel (Ricky) Marshall (Managing Director, GeoCaribe), and the Chief Land Surveyor Mr. Robin Gittens.



Dr. Philip Corbin contributing to the Plenary Discussion on The State of Caribbean GIS. To his left are Dr. Jacob Opadeyi, Coordinator, Centre for Geospatial Studies, University of the West Indies, St. Augustine Campus, and Alan Mills, British GIS Consultant.



Dr. Corbin and BLPC Trainee Engineer Nneka Wallace with two conference attendees at the BLPC MapViewer Booth at the URISA Conference.

Summary of the Barbados Summit

The Barbados GIS Summit provided an opportunity to assess GIS in Barbados and discuss the way forward. It was hosted and chaired by the Chairman of the National GIS Committee, Mr. Robin Gittens, Chief Land Surveyor of Barbados, who opened the summit by giving the background to the Committee and specifying its priorities. He noted that the Committee was reviewing the status of GIS; increasing the awareness of the general public and specific groups about GIS; advising the government on a standardized approach to GIS implementation; advising on the development of an institutional structure for GIS in Barbados; advise on a workplan for the above; and promoting GIS and educational initiatives – including the URISA conference and the CGLIS program. Mr. Gittens noted that the first phase of activities should see a paper soon being submitted to the Cabinet of Barbados.



Mrs Martha Lombard, Past President, URISA, then gave a presentation on *Challenges to GIS Implementation in Small Developing States*. She listed three major challenges as **People, Money, and Data**. She noted that GIS was a seductive technology but much needed to be done, and highlighted the following areas for attention: **Get out of office** – Communicate with general public; Cooperate, collaborate, share (including data); **Management** by walking around; **Management needs** - current management requirements demands modern IT tools and given sufficient resources applied to management of its assets, GIS can be cost effective; **Data** - less expensive if shared; there is a need for data sharing partnerships; **Cost benefit Analysis** - necessary to illustrate effectiveness.

Next, Dr. Jacob Opadeyi, Centre for Geospatial Studies, UWI, carried out a Review of issues facing Caribbean GIS and views on the way forward. He listed the following challenges: there is no legacy of using information for knowledge and decision making – so the powers that be are not comfortable in paying to meet information development needs; we are a region of map users, not map makers – so we are not prepared to invest in capacity to develop this database; hard copy maps are fairly cheap and therefore the quantum leap in the cost of digital databases is not readily accepted; data is not seen as a resource, so little investment; budgetary approach – each department decides its priorities, including relating to data collection;

there is a department as opposed to multi-departmental approach; GIS is not a income generating programme, but more of a service; funding strategy - no agency has overall responsibility and therefore no corporate approach by government, with a few exceptions; human capacity limitations; and insufficient political support.

Re overcoming these Challenges, he recommended **Openness** (which challenges people/institutions to produce), a **Collaborative approach** re Data collection, Data sharing, Training, and Use of resources; **Documenting the costs and benefits**, an **Application driven** approach, and **Coordination** at 3 main levels: a National council – Ministerial level, a National technical advisory group – addressing policy, training and education, data issues, and a National user group.

Mr. Ricky Marshall, Conference Co-Chairman and Managing Director, GeoCaribe, then gave a Review of Status of GIS in Barbados and suggestions for way forward. He noted that GIS has been introduced to Barbados for over 15 years and recapped some of the initiatives as follows: **Lands and Surveys'** "Land Registration and Titling Program" – 1988; **Ministry of Agriculture's** "Agriculture Census" and "Land Use Policy" – 1991; **Ministry of Public Works'** "National Transportation Policy" – early 1990's; **Coastal Zone Management Unit's** various coastal zone project and programs – since 1990's; **Ministry of the Environment's** "Environmental Management and Land Use Policy" – 1998; **Barbados Water Authority** facility mapping and water quality – late 1990's; **Barbados Statistical Service's** 2000 Census.

In the private sector, Mr. Marshall noted that the GIS efforts of the **Barbados Light and Power Company** which has, since the late 1980's, georeferenced its infrastructure, and linked this information to its front office for engineering / maintenance and customer service activities, and **Cable and Wireless**, which created base maps but subsequently slowed in its GIS activities in the island. Internationally based initiatives identified were **GDSI** and **MACGA**.

Re the way forward, Mr. Marshall highlighted the National GIS Committee, as being useful for setting data standards, policy, and providing coordination. He also pointed out the need for a digital base map, training, software, funding, public education, case studies, executive seminars, and a human resource framework.

In concluding, he recommended a structure for GIS development to include a National Council (Ministerial level), a National User's Group, as well as the National Advisory Committee. He also recommended short-term activities for the National Advisory Committee as: finalise the user needs survey, promote and educate – including a GIS day; collaborate with Government's Data Processing Department BPIP to place GIS on the Barbados Portal; identify a short-term visible project (e.g. an addressing system); and the reviewing of the idea of a GIS centre.