



Land Information Council of Jamaica - Its Journey

In 1991, the **Land Information Council of Jamaica (LICJ)** began its journey when it was established by Cabinet to serve as the policy and technical focal point for national **Geographical Information Systems (GIS)** development and to organize and manage a **National Spatial Data Infrastructure (NSDI)**.

The LICJ is comprised of over 50 government, quasi government and private sector organizations who collect, produce, acquire, maintain, distribute, use and preserve geospatial data (e.g. maps, tables, photographs) in digital or paper form to fulfill their mission.

The Council has been the recipient of a number of awards:

- the ESRI Special Achievement in GIS Awards in May 2001 and July 2005, and

- the first URISA Caribbean Spatial Vision Award for Extraordinary Achievement in GIS in November 2008.



Training and educating personnel in the geospatial sector has been one of the Council's hallmark programmes. The LICJ Geo-Informatics Training Centre was opened in 1995 at the Management Institute for National Development (MIND). In 2000, the training centre was

however relocated to its present location at 191 Old Hope Road, Kingston 6.

The Council's Technical committee has been meeting on the fourth Thursday of every month since 1991 to discuss events in the national geospatial sector.



The Chairman of the Council is Mrs. Jacqueline daCosta.

Some Major Achievements of the Council

- Establishment of the LICJ Geo-Informatics Training Laboratory in 1995.
- The launch of the GIS in Schools Education Program (GISSEP) in February 2002.
- The joint procurement and distribution of 1:4,800 1 metre pixel IKONOS ortho-imagery for the island and 1:2,000 orthophoto maps for 5 major areas: Spanish Town, Portmore, Kingston and St. Andrew, Montego Bay and Port Maria, to over 50 members.
- Staging of the annual GIS Day celebrations at the University of the West Indies, Mona since 2002 and the GIS Week of activities.
- The creation of the NSDI Geospatial and metadata portals and the website in 2007.
- Hosting of the GIS Business Executive Forum and Biennial Awards Banquet in 2007.
- Establishment of the Geospatial Data Sharing and Access Council in 2008.
- The creation of a National Emergency Response GIS Team (NERGIST) in 2009.
- The approval of the thirteen (13) point principle Metadata Guideline in 2006.

Inside this issue:

Introducing GISSEP	2
Manchester Parish Council	2
Metadata in the Jamaican landscape	2
National VRS Network	3
Geo-informatics aiding Rural Agricultural Development	3
Geo-Analysis of Squatter Settlements in Jamaica	3
Spatial Data Management Division	4

Special points of interest:

Did you know:

- Mr. Fitzroy Williams was the first National GIS Coordinator in Jamaica
- Mrs. Jacqueline daCosta has been the chairperson of the Council from 1991
- Rural Physical Planning Division was the first division to implement GIS in Jamaica in 1986

GISSEP- How it all started

On **February 14, 2002**, the Land Information Council of Jamaica (LICJ) in collaboration with the Ministry of Education officially **launched the GIS in Schools Education Program (GISSEP)**.

The funding for the programme was made possible through the kind donation of US\$1M grant by Jack Dangermond, Founder and President of the Environmental Systems Research Institute (ESRI). The donation which included GIS software and training materials was announced at the First URISA Caribbean Conference hosted by the Council in Montego Bay, Jamaica in 2001. *The overall objective of GISSEP is to use Geographical Information Systems (GIS) technology to improve the*

quality of education, promote spatial awareness and contribute to national development.



Its primary objectives are to:

- **create a cadre of persons with spatial skills**
- **facilitate the provision of GIS and related tools**
- **assist in the development of curricula for the use of GIS technology.**

- **promote the use of GIS in teacher training experiences and methodologies.**

In April 2009, two teacher training workshops were conducted at Shortwood Teacher's College, the first one for the Geography and Social Studies lecturers of the Shortwood, Church and Mico Teachers' Colleges. The 2nd workshop targeted the 1st and 3rd year Shortwood Teachers' College Geography, Social Studies & History student teachers, of which 21 participated.

To date, a total of 49 schools and 104 teachers have been trained under GISSEP.

GIS at work in the Manchester Parish Council

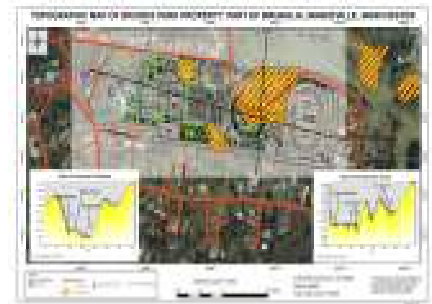
The Local Sustainable Development Plan (LSDP) for the Parish of Manchester was collaboratively developed between the Manchester Parish Development Committee (MPDC) and the Manchester Parish Council (MPC). This collaboration has led to successful integration of GIS technical services within their operations.

In January 2009, the GIS unit was relocated to the MPC to assist the Roads and Works Department and the Planning Department in the areas of monitoring, planning, enforcement and development control. The MPC has also embarked on scanning and

digitizing subdivision plans which are used to update the National Land Agency Parcel database of Manchester, under an exclusive license agreement. The database will be further developed with building footprints which are currently being used to aid an urban design project for the Mandeville town centre.

The major success of having an existing land use plan and a proposed land use/zoning map of Manchester have enabled the MPC to engage in pre-planning consultation with clients before submission of subdivision and development plans. This has enabled clients to make proper preparation of

plans and in essence save time and money as they are being properly guided on the terms of use for lands situated within Manchester.



Metadata in the Jamaican landscape

Metadata as it relates to spatial data, is the background information, which describes the content, quality, condition, source organizations, data format, accuracy and other appropriate characteristics of the data.

Metadata is required, as the use of **GIS and Geospatial data increases. Metadata Management** ensures quality and completeness and facilitates comparison and sharing of geospatial data records.

In 2006, the Cabinet approved a 13 point principle Metadata Guideline as an overall framework and policy direction for the creation, management and dissemination of spatial information. The Council conducted 1 metadata sensitization and 2 metadata workshops entitled **“From Concept to Practise: Dealing with the Backlog”** on April 29-30, and June 10-11, 2008.

38 persons from 20 organizations were trained in metadata creation and management as well as how to deal with the backlog of datasets without metadata.

As of August 2007 only 14 of the possible 34 entities have implemented the guidelines.

National Virtual Station Reference (VRS) Network

The Government of Jamaica has established a VRS Network, referred to as gFIX.net. The network is a configuration of 13 high precision GPS base stations, as shown in the diagram, that will facilitate the collection of positioning data (X and Y coordinates).



The national GPS/VRS network is expected to revolutionize the surveying and construction sectors, lower the cost of positioning, enabling

increased accuracies with enhanced performance and reliability, in addition to improved productivity for spatial data collectors.

The three-station network was successfully used under LAMP and resulted in a 30-40% reduction in time and costs to undertake cadastral surveying. With the commissioning and use of the island wide network, the land registration process should be further shortened.

Surveyors will also be able to easily prepare their plans in Jamaica's local reference system.

The VRS network will provide government organizations and the private sector with position fixing

services to aid: surveying, field damage assessment, earth moving assessment, urban and municipal mapping, environmental monitoring, automatic vehicle location / tracking systems, navigation and the variable application of herbicide, pesticide and nutrients.



Equipment at GPS Base Station

Geo-Informatics Aids Rural Agricultural Development

In 2008, the Spatial Data Management Division (SDMD - Secretariat of the LICJ) coordinated the European Union banana and plantain mapping project implemented by the Ministry of Agriculture and Fisheries (MOA) / the Rural Agricultural Development Authority (RADA) - European Union Banana Support Programme (EUBSP).

The project was undertaken by the EUBSP to distribute benefits to farmers in the parishes of St. James, Clarendon, St. Catherine, Portland, St. Thomas and St. Mary who were

affected by Hurricane Dean. It was done in collaboration with Terramatics Solution Ltd, a private sector firm which conducted GPS based spatial data collection and analysis, and training. A total of 79 extension officers benefited from introduction to GIS and GPS training, and over 1,484 parcels/polygons for 979 farmers were mapped.

A GIS database containing farm polygon and related data was created. In addition, a GIS web service application was developed which enables authorized users to view and

conduct simple searches, such as the identification of the owners of banana



and plantain farms, the farm size and soil type.

Geo-Analysis of Squatter Settlements

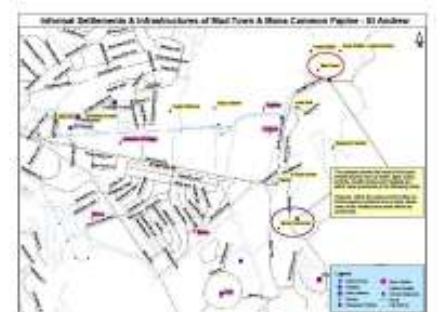
The members of the Council were very actively involved in the preparation of the Status of Squatting Report. The work done included the compilation of the geospatial datasets from over 10 GoJ entities, the preparation of maps highlighting socio-economic issues in selected squatting settlements and conducting basic training in the use of GIS software for some members of Ministry of Water and Housing (MWH).

The objective of the project was to

carry out a rapid assessment of squatting island wide, to inform options for intervention. The assessment revealed three types of squatting in Jamaica: agricultural, residential and commercial, the most dominant type being residential. Sixty six percent (66%) of the settlements surveyed have been in existence for more than twenty (20) years.

GIS analysis was conducted on 585 of the 754 squatter settlements island wide to determine the social,

environmental and economic effects of squatting in Jamaica.





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***Building Minds Through
Geospatial Technologies***

Spatial Data Management Division

Mission Statement

To coordinate the development, implementation, maintenance and management of a national spatial data management infrastructure and to promote the sharing and use of geospatial data so citizens, communities and government can access and use place-based data to make better decisions.

Spatial Data Management Division

Vision Statement

Geospatial data, products and services are current, available and accessible, to all users to facilitate planning, management and use of the island's resources thereby contributing to sustainable development and economic growth.

Meet the Staff of the Council's Secretariat The Spatial Data Management Division



Cecille Blake
National GIS
Coordinator



Camaria Morrison
Administrative
Assistant



Monica Woolcock
Senior Secretary



Shaki-Ann Daley
Office Attendant



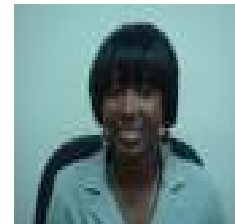
Mark Codling
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Manager



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Senior GIS Manager
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Tricia-Anne McLean
GIS Special Projects
Manager



Terri-Ann Campbell
Spatial Analyst

The **Spatial Data Management Division (SDMD)** is mandated to: coordinate the development and implementation of a National Spatial Data Infrastructure (NSDI) among land and land related agencies, and provide advice on policy, legislation and regulation supported by comprehensive and accurate spatial data.

Areas of work include: *the creation of a National Spatial Data Infrastructure, preparation of suitable legislative and regulatory instruments, preparation of guidelines for the sharing, costing and pricing of spatial data, facilitating access to land information among Government agencies and between the public and private sectors, creation of a metadata clearing house, creation of a National Virtual Reference Station (VRS) network that is based on GPS, public education and training in GIS, GPS, remote sensing and related disciplines and technical and institutional guidance for the management and implementation of GIS facilities for government and statutory agencies.*