

## Geographic Information Systems: are maps only pretty pictures or is there more?

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We see maps every day, we use them when we travel and we refer to them to look for places and locations, but have you ever thought what makes a map? Basically, a map is a symbolic representation of a space. All objects within that space have a location and can therefore be mapped. These objects, once associated with their geographic reference (location) are called spatial data. For example, a map displays boundaries, addresses, roads, buildings, wrecks and it is possible to attribute different colours or symbols according to what the objects represent. Think of the town plan for instance and its divisions into zones: residential, industrial, ports and marinas etc.

In the past, maps were made by hand, but this is no longer the case. Instead, there are computer programs called Geographic Information Systems (GIS) that allow drawing or importing data and create digital maps. GIS are very flexible and user-friendly tools as they facilitate the visualisation and analysis of spatial data. The great and unique property of GIS is not only to make pretty maps, but also to relate spatial objects (draw on maps as points, lines or areas) and overlap these data to derive information and provide it to the decision makers and the general public.



*Figure 1: French hand-drawn map, circa 1800  
(<https://falklandstimeline.wordpress.com/maps-3/>)*

But what makes a map a good map, or the information useful? It would not be so good if you were to follow a map for kilometres and figure that the building you were looking for was actually on the other side of town! Because the map reflects

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the data that it displays, it is obvious that the quality of a map depends on the quality of the data. The way of saying “garbage in, garbage out” is applicable to GIS. Hence, it is important to have good data, to trust the data providers, and eventually to store the data in a central repository.

In order to spread the use of GIS and initiate spatial data management in the Falklands, a project called “Information Management System and GIS Data Centre” started two years ago, funded by the Foreign Commonwealth Office. This project included several free training courses. The last course was held on the 22<sup>nd</sup> and 23<sup>rd</sup> October at FIDF and was tailored to the FIG’s policy, planning and public work departments. After the course a trainee commented “Highways operate an asset management plan that is best managed and presented in geographical form. Undertaking the training in GIS has given me the tools to help improve the capture and presentation of information which should provide an easier approach, in the long term, to asset management”. Another trainee said “Using GIS will enable us to graphically represent statistics and information for the Islands in a comprehensive way. It will be particularly useful in visualising data for large-scale projects such as the upcoming Census, and in communicating those results to decision-makers and the public.”

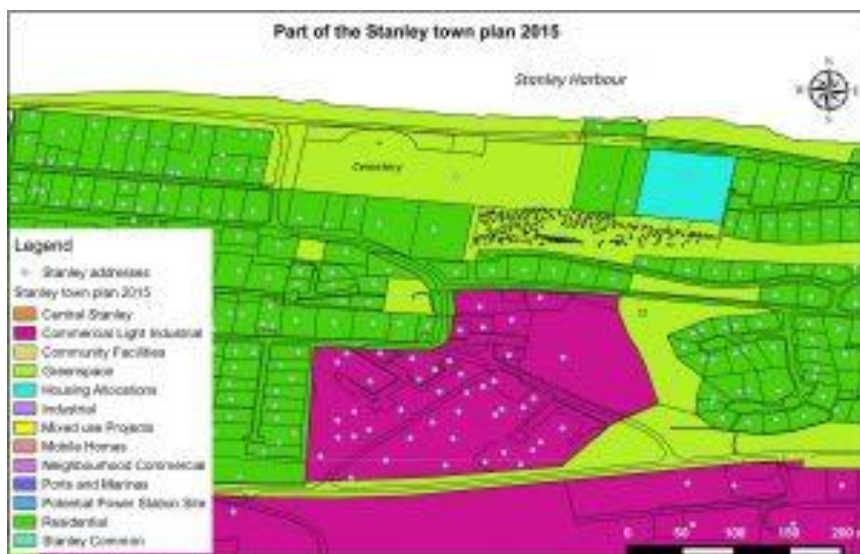


Figure 2: Map of part of the Stanley plan (2015) made with GIS.

Establishing a long term plan for developing GIS and data management within the government has multiple advantages. In fact, it means the introduction of rules and concepts such as data standards, data sharing, data

access and metadata (which is information about data) recording. Thanks to a collaborative work and joined effort (FIG, SAERI, and FC) everybody can now search for information on data collected in the Falklands through the IMS-GIS Centre and its metadata catalogue online on the SAERI webpage.

In the future, public data will be accessed through the internet using a webGIS service to show and communicate information derived from mapping and analysing spatial data. Falkland Islanders will access the service without using their megabytes. So next time you look at a map, think that behind that pretty picture, there is a long process of data management and that GIS are likely to have played a role.



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