Place Names In the Spatial Environment

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SUMMARY

Discussing two aspects:

1.   The role of place names as a fundamental data set in spatial data infrastructures.

Given that most of us still use a name as a first enquiry point, there is a need for this data to be:

- o Sourced from a single point of truth;
- o Accurate, comprehensive and consistent;
- o Freely available; and
- o Associated with other data to provide feature extent.

2.   Outline some of the emerging thoughts on the methods to establish feature extents.

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1. INTRODUCTION

Place names are the first point of reference used by virtually all the general community when referring to a spatial location.

This has been the situation since maps were firest created, and has flowed through all forms of mapping and spatial information.

The use of place names is multi-functional. In a general sense, place names used by a specific community tie that commiunity to a particular area, creating a relationship with the landscape that provides that sense of belonging, that sense of home.

Each place name has both cultual and practical associations.

The cultuarl apects include the information relating to how the place was named, the meaning and derivation of the name and its association with the past, present and future of the community. The preservation of place names therefore has significan cultural benefits.

The practical aspects include the obvious intelligence relating to where a place is, but also cover, for those who know the place, what is there. Each place name has a image that portrays the physical and environmental charctaristics of the place, giving the user a wealth of information by the simple use of a name.

By creating and using place names or gazetteer databases as a fundamental part of a spatial data infrastructure we can deliver significant benefits to a range of pursuits within a country.

Summarized below are just some of these benefits.

2. DISCUSION

The creation and maintenance of a gazetteer database should start with a strategic aim.

- What is needed? – This includes an assessment of such issues as content and accuracy standards.
- Where is the data at present?
- Who are the clients?
- How is it to be used?
- What agency or agencies has the responsibility?

Once the strategic issues have been resolved, there are a range of other factors that can influence this effort, including:

- Legislative considerations – is there a legislative base or requirement that may determine some aspects of the contents or structure of a place names database?
- Policies and procedures – is there any existing policies and process that may impact upon the database?
- Resource considerations – important as they may be they do not override the benefits that a centralized source of place names information will bring.
- Cultural factors – including such aspects as custodianship of knowledge, public perceptions, language, existence of indigenous or minority language groups / cultures.

Once the decision has been made to create the place names database, and a methodology established for it creation and or maintenance, the following points can contribute to its effective use with a jurisdiction.

2.1 Single Point of Truth

One of the Committee for Geographical names In Australasia's (CGNA) key suggestions is that each jurisdiction should be aiming for a single point of truth for place names data for use in all areas where place names are relevant in any form, textual or spatial. There has been an tendancy, usually for historic reasons, for multple place names databases to be in existance, mantained by different oganisations but for the same basic purpose.

The creation of a single point of truth database will probably necessitate a change in procedure and policy for most jurisdictions, but the end result will be worth the exercise.

The structure of the database would need to be such that it clearly inducates what names are official in terms of any legislation and which would be deemed as local names. This could be achived by a database containing a number of tables that cover particular aspects, or contain appropriate coding to differentiate feature classes and between official and unofficial names.

The creation of this type of data set would provide three significant benefits:

- Removal of the obvious possibility of differences between data sets that should be providing the same information but often contain significant difference, such as an official gazetteer and a place names table for topographical mapping.

- Ensure that the data is maintained by the relevant authority for the information, thus providing an easy path for any questions, corrections or enquiries.

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– Enable clients to access a single authoritative point to obtain place names data for use within their own systems / products.

– Minimise data duplication and data mantenance and storage overheads.

It is also possible that such a database could have multiple editing capability to enable all the relevant authorities who have place naming responsibilities to maintain their own portion of the data. CGNA suggests that there should be a single data custodian to maintain quality standards and relevant metadata, but any number of other agencies can add or alter the records they have jurisdiction over.

One other aspect of the single point of truth database is that serious consideration be given to the provision of free access any government and private agencies that require place names for any purpose. The benefits for a jurisdiction gained over a wide range of activities using a standardised gazetteer would far outweigh and small monetary gain made from selling the data.

2.2 Comprehensive, Accurate, and Consistent

In line with the strategic objectives of the gazetteer database, decisions would have been made in relation to the contents and accuracy of the data.

2.2.1 – Comprehensive Contents

The more comprehensive the contents of the database are, the larger the client base is likely to be, leading in turn to greater benefits across the jurisdiction.

CGNA suggests that the better option is to include more rather than limiting the contents. This can be achieved on an incremental basis if necessary as various components or feature types become available for addition to the main database.

The contents of the database could also extend beyond the traditional definition of place names, being geographical or cultural entities, to include what is often referred to as "points of interest" which are often of significant interest to emergency service organisations.

2.2.2 - Accuracy

Data precision can vary through the use of different data capture techniques. For example, differential GPS recording of locations leads to different accuracy and precision compared to co-ordinates obtained from data digitized or captured by manual techniques from large scale mapping.

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Each of the above methods of capture has a place in a nomenclature system, but it is suggested that some means to indicate the accuracy of the data should be included and clearly defined in the associated metadata.

2.2.3 - Consistency

Rules need to be established to ensure consistency in relation to such aspects as:

- Form of the name;
- Relationship with generic terms, suffixes and prefixes;
- Form of coding used in attribute data, including both the form of the code itself and the application of the code; and
- Attribute data entry.

This provides the ability to search on a range of possible options, knowing that your query will be able to report all the information required.

2.3 Feature Extents

Given the rapid expansion of the use of spatial data, CGNA strongly recommends the need to have effective feature extent depiction for area and linear features.

Each jurisdiction will need to determine how best to accomplish this task within its own framework, but the extents should also be readily available to clients.

Boundaries of address localities, land use features such as parks and reserves, natural features, administrative areas and so forth are fundamental in a spatial environment, and again, consitency is a key aspect in order to gain maximum benefits.

As an example, a universally used depiction of the boundaries of address localities assists in the following areas, just to mention a few:

- Emergency services.
- General delivery
- Planning
- Zoning – for aspects such as land use, school collections districts etc
- Statistics
- Mapping

The responsibility to determine the extent of features should rest with those agencies that have the naming responsibility, but again, a central repository for this data linked effectively to the place names would provide the optimal means of accessing such data easily.

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2.4 Who Benefits?

There is a range of government and non-government functions that benefit from easy access to a gazetteer database.

Listed below are just some of the functions that have been identified as deriving benefit from such data.

- Statistical and demographic analysis
- Planning
- Mining
- Map production
- Resource development / protection
- Environmental issues
- Scientific studies (Botany, zoology etc)
- Tourism
- Postal services
- Emergency response
- Maritime Exploration
- Littoral management
- Fisheries and related environmentally sensitive sea areas.
- Education
- Cultural retention / revitalisation
- Banking
- Insurance

The extent of the benefits is determined by the availability and relevance of the data for the relevant functions of the client agency as well as the levels of accuracy inherent in the data capture.

3 Feature Extent Depiction

Internationally, the concept of developing feature extents is an emerging issue.

Given that place names are applicable to cultural, topographic and administertative features, the creation of extents can present some interesting chanllenges.

Incompatibilities between foundation datasets like cadastre and topography can add complicating factors to the creation of such boundaries. However, such challenges should not be seen as a deterrent. The ability to clearly define features, particularly those features relevant to pursuits like postal delivery and emergency services bring immediate benefit for the organizations involved in such activities.

Development of feature extents can also bee seen as a staged process, with those feature giving the greatest benefit being the first ones defined.

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Not all place names require an extent. During the strategic assessment for this work, it can be determined what types of features can remain as point depiction, which can be best shown as a line and which can be depicted as a polygons.

The following are some general rules suggested for this purpose:

- The cultural associations with a feature cannot be overlooked when creating feature extents. Before there was ever an attempt to add place names to databases, there existed an association with the place that included in some form or another, the recognition of the extent of the place. These associations cannot be replaced by cartographic, scientific or even logical rules.
- For any feature that is already defined in either a legislative or procedural sense, adopt that definition as accurately as possible.
- For undefined features:
  - Those features that are topographic in nature - use the topographic databases or maps as the means of deriving the feature extents.
  - Those features that are based on the cadastre – use the cadastral database or maps to establish the extents.

One of the major areas still to be fully investigated in this process is the means by which the cultural associations can be measured and determined.

In some situations, the general community knowledge held by the staff undertaking the work in conjunction with available historical and contemporary records will be sufficient, but in others there may be a need for some form of consultation to be undertaken.

In Australia, the Geographical Names Board of New South Wales has commissioned post graduate research into this issue. Mr Greg Windsor is investigating the suitability of 'web harvesting' as means of assisting in the development of an understanding of cultural associations. It is hoped that this methodology can assist in determining the cultural association for certain feature types, particularly regional and address locality associations.

4. CONCLUSION

As mentioned at the beginning of this paper, place names are the first point of entry into spatial systems by the vast majority of users. These are the keys that enable individuals and communities to interact with and understand spatial environments.

It is therefore important that due regard is given to the creation and maintenance of accurate, comprehensive and consistent place names databases within the spatial environment to enable these key entry entities to be effective for the client base.

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