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Item 12 (b) of the provisional agenda*
Toponymic data files and gazetteers: Data management and interoperability

A Nationally Consistent Australian Feature Catalogue
Submitted by Australia**
UNEGGN Paper: Australia

A Nationally Consistent Australian Feature Catalogue

Summary

The paper outlines the process taken to create a nationally consistent Feature Catalogue in Australia. Creation of a nationally consistent Feature Catalogue will enable all Australian jurisdictions to upload or link data to a central portal. The project is an important component in the supply chain and aggregation methods which will create the Composite Place Names Gazetteer of Australia.

Currently place names are delivered by each jurisdiction, with a national coverage being supplied by the Permanent Committee on Place Names (PCPN) through Geoscience Australia as the National Gazetteer of Australia. The data was typically updated yearly by all jurisdictions which includes States and Territories, Australian Antarctic Division, Australian Hydrographic Office and the Great Barrier Reef Marine Authority.
1.0 Context

Australia’s Permanent Committee on Place Names (PCPN) which resides under the Intergovernmental Committee on Surveying and Mapping (ICSM) (recently, renamed from the Committee for Geographical Names of Australasia) has been working over the past three years on developing a nationally consistent Feature Catalogue. This work is part of the ANZLIC’s (Australian and New Zealand Land Information Council) Foundation Spatial Data Framework (FSDF). There are ten core themes one of which is a Place Names Theme. The aim of the theme is to enable all Australian jurisdictions to upload or link data, via a national portal, consistent place name related data to provide a national gazetteer of place names.

The FSDF road map is viewable below:

The project supports the maintenance and development of the Composite Place Names Gazetteer of Australia into the future. The proposed approach was compliant with national spatial data model developments in line with the ANZLIC FSDF, and will take advantage of accepted global data modelling a technique which enables interoperability and identifying best practice. The project

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directly relates to development of cross-jurisdictional spatial information infrastructure, and facilitation of access to data of national significance.

The development of the Feature Catalogue was previously identified as a specialised activity with a working group formed in 2014 which determined the rules for the project. The working group consisted of PCPN members from the States of Western Australia (WA), South Australia (SA), Queensland, and Victoria.

The Aim of the project was:

“To develop a common feature terminology catalogue between the State gazetteers and the National Gazetteer hosted by Geoscience Australia.”

The proposed ‘terms’ are described as Group, Category and Feature. Definitions will be applied to each term. Approved ‘included generic terms’ will be listed where it assists clarification or where jurisdictions have an equivalent local term. The table below provides a snap shot:

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CATEGORY</th>
<th>FEATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMINISTRATIVE</td>
<td>ADMIN BOUNDARY</td>
<td>LOCAL GOVERNMENT AREA</td>
</tr>
<tr>
<td>ADMINISTRATIVE</td>
<td>ADMIN BOUNDARY</td>
<td>LOCALITY</td>
</tr>
<tr>
<td>ADMINISTRATIVE</td>
<td>ADMIN BOUNDARY</td>
<td>PARISH</td>
</tr>
<tr>
<td>CULTURE</td>
<td>COMMUNITY FACILITY</td>
<td>BOTANICAL GARDENS</td>
</tr>
<tr>
<td>CULTURE</td>
<td>COMMUNITY FACILITY</td>
<td>COMMUNITY CENTRE</td>
</tr>
<tr>
<td>CULTURE</td>
<td>LANDMARK</td>
<td>SHIP WRECK</td>
</tr>
<tr>
<td>CULTURE</td>
<td>PLACE OF WORSHIP</td>
<td>CHAPEL</td>
</tr>
<tr>
<td>HYDROLOGY</td>
<td>WATERBODY</td>
<td>ENTRANCE</td>
</tr>
<tr>
<td>HYDROLOGY</td>
<td>WATER POINT</td>
<td>WATER TANK</td>
</tr>
<tr>
<td>HYDROLOGY</td>
<td>WATERWAY</td>
<td>WATERCOURSE</td>
</tr>
</tbody>
</table>

Initial focus of the working group was to include as many feature terms as possible from primary authoritative sources, taking into consideration their dates of publication. Subsequent second and third level authoritative sources were also referenced.

The authoritative sources used in this project are listed below.

**Primary sources**

This Feature Catalogue will expand primarily on the most recent work undertaken, taking into account the dates of the publications below:

- Intergovernmental Committee on Survey and Mapping (ICSM) Standardised National Codes 2004,
- Public Sector Mapping Authority (PSMA) 2014 feature list, and
- CGNA Glossary of Generic Terms 1996.

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Note: Many of ICSM’s Standardised National Codes 2004 ‘Possible included terms’ are stand-alone features in today’s spatial industry.

Secondary sources
VICMAP\(^9\), VICNAMES\(^10\), Australian National Place Names Survey\(^11\) Feature chart (ANPS) and Geoscience Australia term and grouping lists.

State and International sources
Australian jurisdictional feature term lists, international jurisdictions (Ordnance Survey, INSPIRE, International Hydrographic Organisation’s (SCUFN gazetteer\(^12\)), Federal Geographic Data Committee (US), EPOI (Canadian)).

1.1 Rules
The terms are to be relevant in today’s spatial world. eg ‘fire station’ is a currently a working fire station, not a non-operating fire station. A historic fire station may in today’s world be a ‘neighbourhood house’ a café, or a bar. It may also be a ‘historic site’.

- Numerical characters are not to be used for the terms in Feature, Category and Group.

<table>
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</thead>
<tbody>
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<td>WATER POINT</td>
<td>WATER TANK</td>
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</tbody>
</table>

- All Features will have a Category and Group.

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CATEGORY</th>
<th>FEATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORPHOLOGY</td>
<td>RELIEF</td>
<td></td>
</tr>
</tbody>
</table>

- Each Group’s description must be unambiguous. For example, Morphology and Relief would not be allowed.

<table>
<thead>
<tr>
<th>GROUP</th>
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<th>FEATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURT HOUSE</td>
<td>LAW COURT</td>
<td></td>
</tr>
</tbody>
</table>

- Each Feature’s description must be unambiguous. For example, Court House and Law Court would not be allowed.

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CATEGORY</th>
<th>FEATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATERCOURSE</td>
<td>WATERCOURSE</td>
<td></td>
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</tbody>
</table>

- Each Feature term is unique - not replicated either as another feature within a feature or as a category or a group.

<table>
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- The tier classification of the terms should allow for expansion or further detail as required.

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\(^12\) SCUFN Gazetteer: [http://www.gebco.net/data_and_products/undersea_feature_names/](http://www.gebco.net/data_and_products/undersea_feature_names/)
A term’s name will not be constrained to 50 characters.

Spaces may be used to separate words.

The Feature Catalogue of terms is designed to enable expansion and growth.

1.3 Exclusions

The following points will be considered exclusions.

• The Feature Catalogue will not advise on the type of spatial entity. eg whether a feature such as a quarry is a point, line or polygon; or a combination of all three.

• Terms that refer to imaginary lines or points eg spot heights, contours.

• Terms that refer to organisations.

• Technical terms that existed for specific mapping network connectivity (they may be added in subsequent versions eg ‘connector’, ‘road end’).

2.0 Process

The bulk of the project was completed over three years from 2014 through to 2016. The working group held:

- three teleconferences,
- two face to face meetings (in SA), and
- three annual conferences, (Townsville, Darwin and Perth) which included workshops devoted to the project.

A matching exercise was undertaken between the primary sources, favouring the features which were most prominent across jurisdictions. Obviously, some features are unique to jurisdictions and rightly so, for example:
Antarctic Specially Managed Areas are unique to Australian Antarctic Division.

A ‘Hundred’ is unique to WA and SA (A subdivision of counties into land units, which is a Parish in other jurisdictions), and a

Basin (Marine), which has been adopted from SCUFN (Sub-Committee on Undersea Feature Names).

The initial matching exercise took many hours and several months to complete, focusing on using the sources indicated within 1.0 Context. Teleconferences were held to fine tune decisions and ultimately led to face to face meetings hosted by South Australia.

The face to face meetings consisted of working group members completing the following tasks:

1. Review and further develop the Feature Catalogue,
   a. Finalise the Group, Category and Feature classifications and their definitions into a documented national standardised Feature Catalogue.
   b. Identification of any future technical training and a model framework to assist PCPN jurisdictions in the redevelopment of jurisdictional Feature Catalogues to ensure they remain extensible and appropriate to future national requirements of the FSDF themes.

2. To develop a plan for the ongoing supply chain of FSDF Place Names information from all jurisdictions to the National Gazetteer in an efficient and timely manner.

3. Identify future collaborative opportunities with other FSDF themes.

Following on from the face to face meetings and workshops at yearly conferences, the finalised Feature Catalogue was presented to PCPN members at the October conference in Perth 2016, with adoption of the new Feature Catalogue in December 2016. Regular updates throughout the project were provided to both PCPN and ICSM members.

The final adopted catalogue saw some further amendments being made as jurisdictions began the task of matching jurisdictional Feature Catalogues to the nationally adopted Features Catalogue. It is expected that jurisdictions will provide their place name data or link to the national portal by the end of July 2017, creating the Composite Place Names Gazetteer of Australia.

The final adopted catalogue has:

- Nine Groups,
- Forty-One Categories, and
- Four hundred and fourteen Features.

An example of the Feature Catalogue is shown below:
Nine Groups, 41 Categories and 414 Features.

3.0 Future tasks

As described by the FSDF Place Names theme, PCPN will provide all officially named features into the one foundation theme database, the Composite Place Names Gazetteer of Australia. This will allow for an openly available real-time service with the production of specific and general gazetteer products to be created from authoritative data.

Jurisdictions are in the process of determining a specific implementation plan based on their system requirements and resourcing capacity. The eventual aim is for all databases to use the same feature classifications but it is recognised that this will require some system design changes in some jurisdictions. When an immediate incorporation is not suitable, then the data will be matched to existing jurisdictional Feature Catalogues enabling delivery of jurisdictional place name data to the Composite Place Names Gazetteer of Australia.

There is currently a ‘freeze’ on any additions and alterations, though as these are identified, they will be discussed at teleconferences and conferences and incorporated into the Feature Catalogue, as required. This will ensure, wherever possible, the consistent adoption of the Feature Catalogue nationally.

Decisions around the supply of point, line and polygon data will be discussed at future meetings as well as defining the descriptions in the definition column and providing real world examples.

4.0 Conclusion
The implementation of a standardised Feature Catalogue for all jurisdictions will ensure that Australia is consistent with current international data models, standards and best practice processes. It will improve the interoperability and usability of the Composite Place Names Gazetteer of Australia for a wider range of applications including other FSDF Themes as required. The project will allow stakeholders and customers to integrate Place Names information and provide a platform for the development of future applications which will be able to integrate the Composite Gazetteer with other heterogeneous sources of data, thus contributing into seamless national and international products.