

Standards in action: perspectives from South Africa

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ISO TC211 Standards in Action Workshop

Lisbon

7 March 2001

Three components of presentation

- Developing South African standards based on ISO 19100: context and past experience
- Bringing home ISO 19100: promoting ISO 19100 within the South African geographic information community
- Using ISO 19110 as the basis for the South African National Feature Catalogue

Some South African facts

- Resources dedicated by the Department of Land Affairs to co-ordinate Spatial Data Infrastructure development through the National Spatial Information Framework (NSIF) in 1997
- South African Bureau of Standards (SABS) sub-committee SC71E established in 1999 to deal with geographic information
- 11 official languages

Some South African facts

- A small geographic information community e.g. many municipalities do not currently use a GIS
- Several key spatial data sets created on a national basis: these are increasingly being used in combination with “own” dataset
- Relative isolation from rest of world
 - e.g continued use of a non-supported South Africa developed software ReGIS

Perceptions concerning standards

- A belief that standards are imposed by Someone Else
- A belief that SA *must* standardize for economic reasons
- A belief that we *can't* standardize
- Standards must be simple
- Standards must be sufficiently complex to cater for *my* special needs
- Expectation of highly “detailed” standards:
 - e.g. snapping tolerances, symbols used to portray features

Past experience: metadata standardization

- Pre-1997:
 - much talk about metadata within GI community, but not much done about it
- 1998:
 - set up FGDC-type clearinghouse as part of NSIF (called the “SDDF” - Spatial Data Discovery Facility)
 - provided tools for capturing metadata to minimum FGDC content standard

Metadata

- Later:
 - additional interfaces provided to interrogate metadata database
 - tool developed to capture more than minimum FDGC on request by GI community
- 2001:
 - close to 3 000 metadata records available through the NSIF clearinghouse
 - steady increase in use of clearinghouse: weekly average of 251 visits (636 hits) per week over period October 2000 - January 2001

Metadata into the future

- Create 3 levels of profile of 19115:
 - “discovery” level, which will be a subset of
 - the “evaluation” level, which will be a subset of
 - the “application” level
- Provide tools to facilitate the standardized capture of metadata

Bringing home ISO 19100:

Project Star Sign

*STudy And Report on Standards In
Geomatic Nebula*

Overview

ISO/TC211

OGC

SA Standards

SABS/
NSIF

SA Geo
Community



Background

- Many projects in South Africa that require the integration of different data sets: incompatible formats and lack of standards encountered
- Lack of knowledge of evolving ISO 19100 standards and how these might relate to national standards
- Thus a need for top-down promotion of standardization

Background

- NSIF awarded a contract to develop a report on ISO 19100 standards and their implications for the SA geographic information community
- Aim of project:
 - to assess impact of TC211 standards on South Africa's geographic information community
 - promote development and adoption of national standards for geographic information

Deliverables



- Meta-database - SSdB
 - fully indexed
 - document library
 - expandable, easy to maintain



- Report
 - simple easy-to-understand
 - more depth than ISO 19102 overview

ISO/TC211 Overview

The following components will be addressed for each ISO 19100 standard:

- Introduction
- Scope
- Understanding this standard
- Cultural and Linguistic Adaptability – CLA
- Implementing this standard in South Africa:
 - Impact
 - Benefits
 - South African Profile

Summation

- The report will be used to guide SC71E in the development of national standards
- It will also be used to create awareness and promote the uptake of standards within the community

Using ISO 19110 as the basis for the South African Standard Feature Catalogue

Antony Cooper
CSIR, South Africa

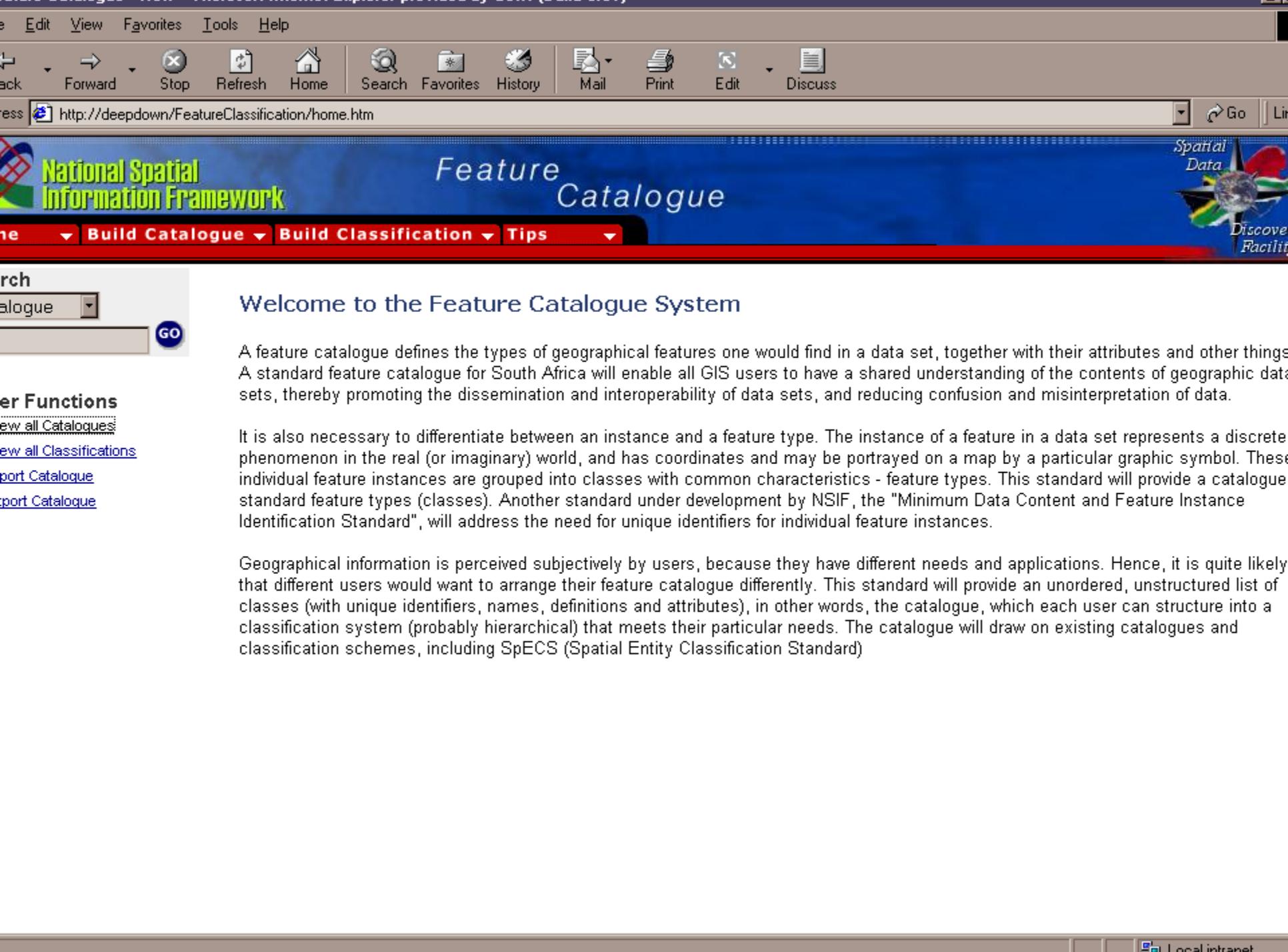
ISO/TC 211 Workshop: Standards in Action

Acknowledgements

- Celeste Kitshoff
- Elaine Olivier
- Hennie Bezuidenhout
- Hina Patel
- Josh Maganbeharie
- Lawrence Modise
- Liz Gavin
- Melinda Potgieter
- Michael Luzibo
- Peter Schmitz
- Pierre du Plessis
- Rudi Erasmus
- Sam Osei

SA Standard Feature Catalogue

- National standard
- Core data sets
- Basis for exchange
- Basis for other catalogues and classification schemes
- As few feature types as possible
- Software tool



Feature Catalogue



Search
Catalogue
GO

User Functions

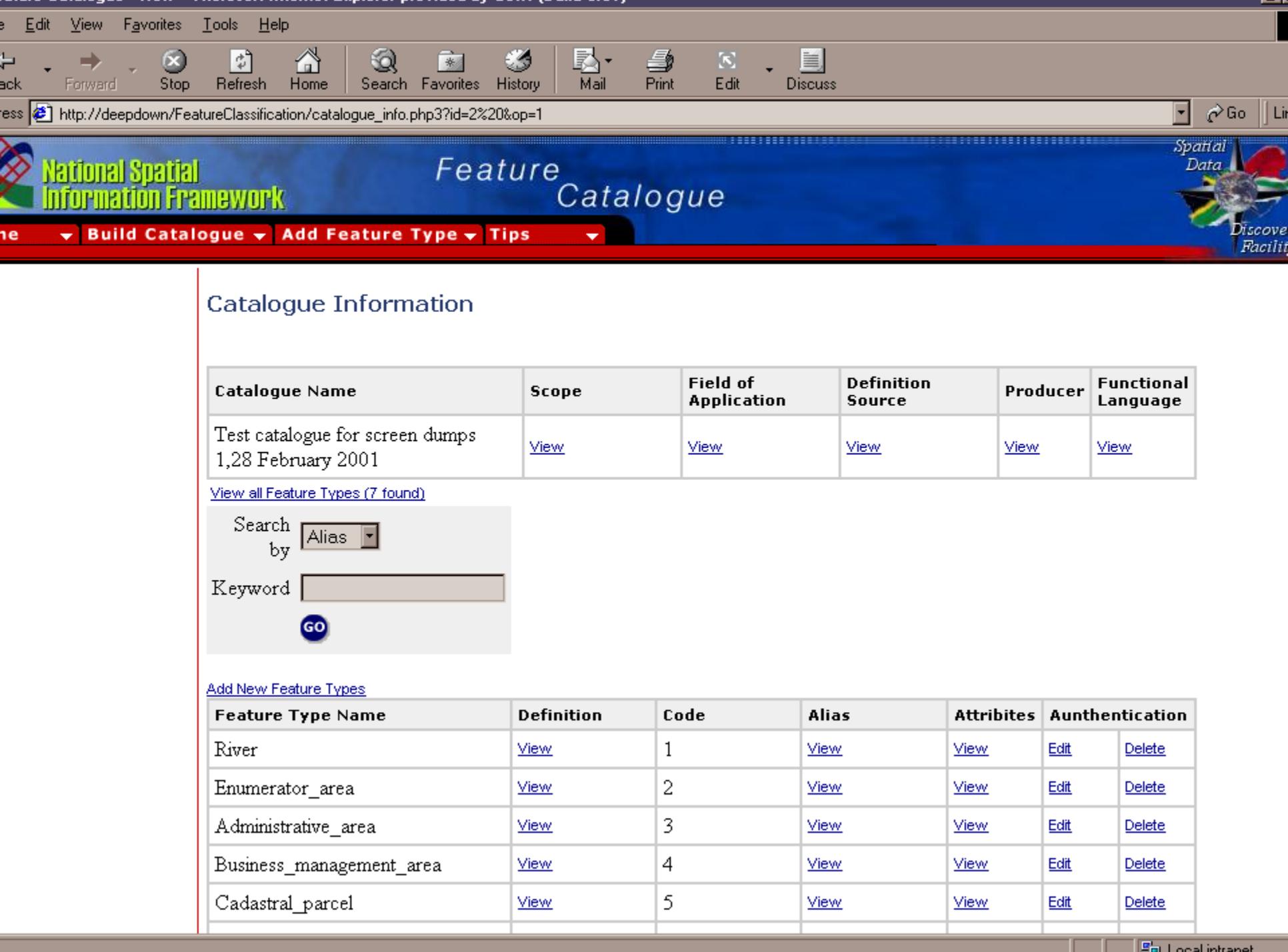
- [View all Catalogues](#)
- [View all Classifications](#)
- [Report Catalogue](#)
- [Report Catalogue](#)

Welcome to the Feature Catalogue System

A feature catalogue defines the types of geographical features one would find in a data set, together with their attributes and other things. A standard feature catalogue for South Africa will enable all GIS users to have a shared understanding of the contents of geographic data sets, thereby promoting the dissemination and interoperability of data sets, and reducing confusion and misinterpretation of data.

It is also necessary to differentiate between an instance and a feature type. The instance of a feature in a data set represents a discrete phenomenon in the real (or imaginary) world, and has coordinates and may be portrayed on a map by a particular graphic symbol. These individual feature instances are grouped into classes with common characteristics - feature types. This standard will provide a catalogue of standard feature types (classes). Another standard under development by NSIF, the "Minimum Data Content and Feature Instance Identification Standard", will address the need for unique identifiers for individual feature instances.

Geographical information is perceived subjectively by users, because they have different needs and applications. Hence, it is quite likely that different users would want to arrange their feature catalogue differently. This standard will provide an unordered, unstructured list of classes (with unique identifiers, names, definitions and attributes), in other words, the catalogue, which each user can structure into a classification system (probably hierarchical) that meets their particular needs. The catalogue will draw on existing catalogues and classification schemes, including SpECS (Spatial Entity Classification Standard)



Catalogue Information

Catalogue Name	Scope	Field of Application	Definition Source	Producer	Functional Language
Test catalogue for screen dumps 1,28 February 2001	View				

[View all Feature Types \(7 found\)](#)

Search by

Keyword

[Add New Feature Types](#)

Feature Type Name	Definition	Code	Alias	Attributes	Authentication
River	View	1	View	View	Edit Delete
Enumerator_area	View	2	View	View	Edit Delete
Administrative_area	View	3	View	View	Edit Delete
Business_management_area	View	4	View	View	Edit Delete
Cadastral_parcel	View	5	View	View	Edit Delete

[Tips](#)[Close](#)**Scope Deatils****Aunthentication**[Add New Scope](#)

The South African National Saptial Feature Catalogue Standard has been created to provide a mechanism for exchanging spatial data and for identifying uniquely and unambiguously the features in the core data sets for South Africa.

[Edit](#)[Delete](#)[Close](#) | [Tips](#)

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Administrative_area	View	3	View	View	Edit	Delete
Business_management_area	View	4	View	View	Edit	Delete
Cadastral_parcel	View	5	View	View	Edit	Delete

Tips

Close

Definition**Authentication**[Add Definition](#)

The smallest geographical area for which demographic statistics are captured. It is the area enumerated by a single enumerator during a census.

[Edit](#)[Delete](#)

[Close](#) | [Tips](#)

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Tips

Close

Aliases**Authentication**[Add New Alias](#)

Stream

[Edit](#)[Delete](#)

Brook

[Edit](#)[Delete](#)

Tributary

[Edit](#)[Delete](#)

[Close](#) | [Tips](#)

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Tips

Close

[Add New Attribute](#)

Attribute Name	Definition	Code	Attribute Values	Value data type	Aunthentication	
admin_area_type	Type of administrative area	2	View	enumerated	Edit	Delete

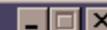
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Tips Close

Definition	Authentication	
Add Definition		
An area defined by a statutory body used for gathering or analysing data	Edit	Delete

[Close](#) | [Tips](#)



Tips

Close

Label	Code	Definition	Aunthentication
Add New Attribute Value			
Health_district	1	The catchment area for a specified hospital	Edit
CAS_Block	2	For statistical purposes, the smallest subdivision of a police station's area of jurisdiction is a CAS Block (CAS is the South African Police Service's Crime Administration System).	Edit
Court_jurisdiction	3	The area of jurisdiction of a specific court, be it Magisterial, Regional or High Court	Edit
Transport_zone	4	An area used for analysing transportation needs	Edit

[Close](#) | [Tips](#)

Tips Close

Aliases	Authentication	
Add New Alias		
Pad	Edit	Delete
Tsela	Edit	Delete
Mmila	Edit	Delete
Ndlela	Edit	Delete

[Close](#) | [Tips](#)

Conclusions

- ISO 19110 is a basis for a feature catalogue
- South African tool for maintaining feature catalogues and classification schemes
- Needed from ISO 19110:
 - Multiple languages (CLA)
 - Sources for individual definitions
 - Collection criteria

Thank you!