

Census 2011 Geography Metadata

CONTENTS

Acronyms and abbreviations	iii
1. Introduction	4
2. The geographic frame	4
2.1 Province	6
2.2 The municipal structure	7
2.2.1 Metropolitan municipalities (Cat A)	7
2.2.2 Local municipalities (Cat B)	8
2.2.3 District municipalities (Cat C).....	10
3. Comparing Census 2011 with previous Censuses	13
3.1 Provincial boundary changes: 2001-2011.....	13
3.2 Local municipal boundary changes, 2001–2011	16
3. REFERENCES	18

Acronyms and abbreviations

Category A (Cat A)	Metropolitan Municipalities
Category B (Cat B)	Local Municipalities
Category C (Cat C)	District Municipalities
CLQ	Collective Living Quarters
CoGTA	Cooperative Governance and Traditional Affairs
DC(s)	District Council(s)
DF	Dwelling Frame
EA(s)	Enumeration Area(s)
ESRI SA	Environmental Systems Research Institute South Africa
GIS	Geographic Information System
GISSA	Geo-Information Society of South Africa
LM	Local Municipality
MD	Magisterial District
MDB	Municipal Demarcation Board
MP(s)	Main Place(s)
Municipality	Municipality at any level (Cat A, Cat B, Cat C)
NU	Non-urban
PN(s)	Place Name(s)
SP(s)	Sub-place(s)
Stats SA	Statistics South Africa
TA	Traditional Authority

1. Introduction

This document offers a brief explanation on how to use the geographical boundaries, an insight into the methods used by Statistics South Africa (Stats SA) to create and maintain its spatial layers. The coding structure for all the entities at each geography level is explained as well as other useful information.

2. The geographic frame

The South African census takes place within the administrative frame; in other words, all *administrative boundaries* are taken into consideration for the demarcation of the collection- as well as the output geographies. The hierarchy is nested from the lowest level, the address data or dwelling frame (DF) to the enumeration area (EA) and upwards to the sub-places (SPs) that are contained within main places (MPs), as illustrated in Figure 1.1 below:

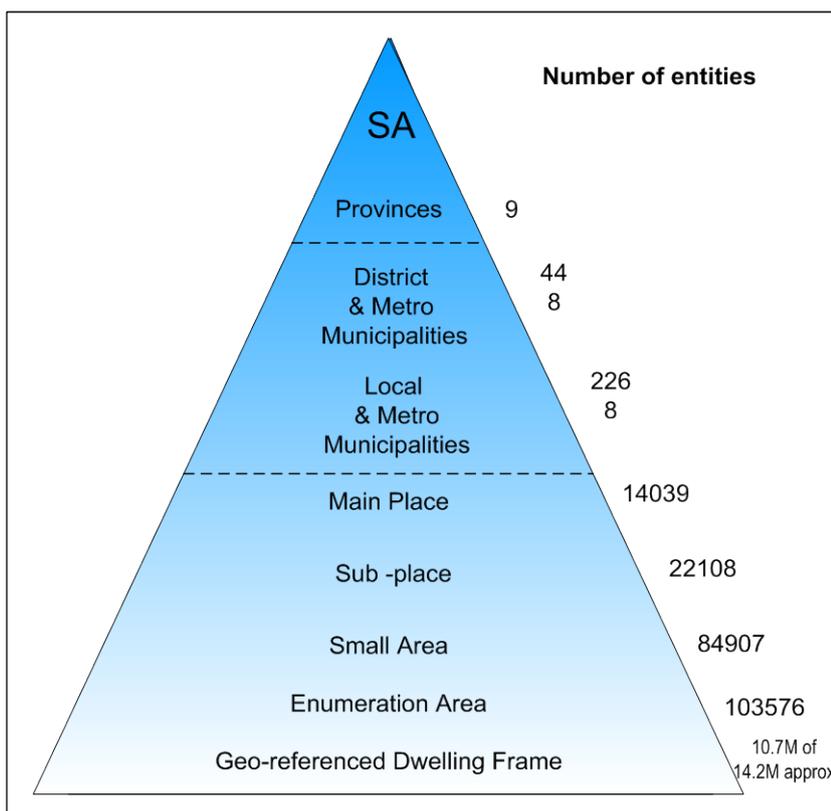


Figure 1: Nested hierarchy for the South African Census 2011

The hierarchy from the bottom up to the main places are generated and maintained by Statistics South Africa (Stats SA). The higher hierarchy is based on official boundaries from local municipality (LM) and metros to district municipalities (DCs) that are in the custodianship of the Municipal Demarcation Board (MDB). The district municipalities are contained within the nine

provinces of South Africa. Detail census statistics are disseminated on all these standard geography levels down to small areas (SAs).

Non-standard geographies are catered for as illustrated in Figure 2, but are based on best fit in the form of linked tables. Non-standard geographies include for example: traditional areas, previously used administrative boundaries such as magisterial districts, education catchment areas, electoral wards, health districts, police areas, etc. These specific purpose areas do not necessarily coincide with any or all of the administrative boundaries. Magisterial districts (MD) were one of the main administrative layers for which census data was available until 1996. With the new municipal and provincial boundaries in place, the 2001 census used the new municipal boundaries but tried to take the magisterial district boundaries into consideration, while demarcating the new EAs.

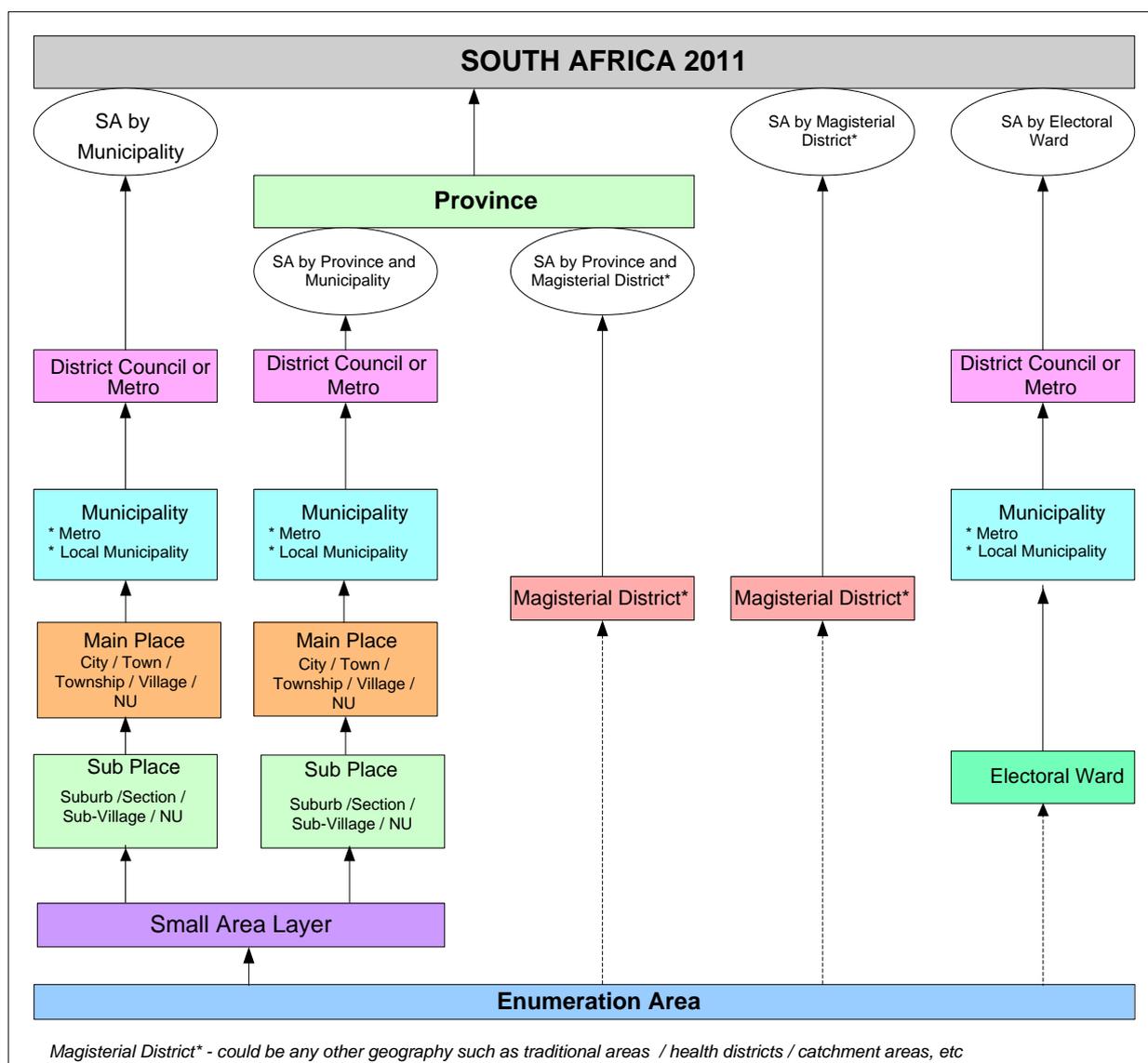


Figure 2: Census 2011 dissemination geography

Pre-1991, data was disseminated only on higher geographic levels such as suburbs, towns and cities and magisterial districts. In 1996, census data was disseminated on EA level as well as suburb and town/city levels. It was decided, in 2001, not to disseminate on EA level due to confidentiality issues. To cater for small scale statistics, the main place and sub-place layers concept was introduced. Several complaints from users were received that expressed their need for the availability of data on a smaller unit of dissemination than electoral ward or sub-places. The Small Area Layer (SAL) was then developed in an attempt to fulfil these user need while keeping within confidentiality limits.

2.1 Province

The first level of geography in South Africa is the division of the country into nine provinces as illustrated in Figure 3 below:

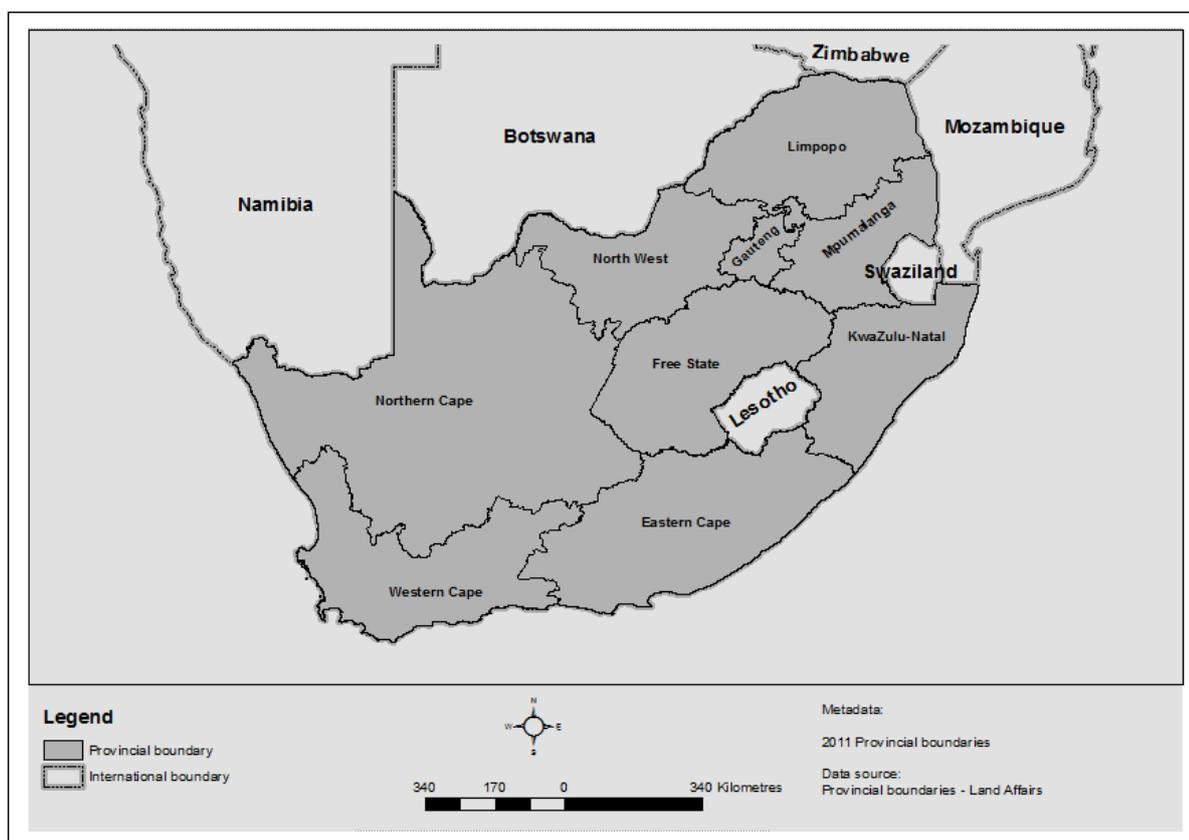


Figure 3: South Africa with provinces

Provincial boundaries were obtained from Cooperative Governance and Traditional Affairs (CoGTA). For administrative purposes, they are coded by Stats SA from 1 to 9. Provincial names and codes as applied for Census 2011 are as per Table 1 below:

Table 1: Provincial names and codes

Province Name	Province Abbreviation	Province Code
Western Cape	WC	1
Eastern Cape	EC	2
Northern Cape	NC	3
Free State	FS	4
KwaZulu-Natal	KZN	5
North West	NW	6
Gauteng	GT	7
Mpumalanga	MP	8
Limpopo	LP	9

2.2 The municipal structure

The Municipal Demarcation Board (MDB), (as mandated by section 155(3)(b) of the Constitution together with sections 4 and 21 of the Demarcation Act, 1998, which state that the MDB is responsible for the determination and redetermination of municipal boundaries), provided the updated municipality boundaries. The new structure consists of Category A municipalities, which are the metropolitan areas (Cat A or Metros), Category B or local municipalities (Cat B) and Category C municipalities or district councils (Cat C or DCs).

The 234 municipalities are made up of the following:

- 226 local municipalities and
- 8 metropolitan municipalities.

The 52 district municipalities are made up of the following:

- 44 district municipalities and
- 8 metropolitan municipalities.

Note that metropolitan municipalities function on both municipal levels.

2.2 1 Metropolitan municipalities (Cat A)

Metropolitan areas are described as conurbations featuring high population density; intense movement of people, goods and services; extensive development; and multiple business and industrial districts. Other features include a complex and diverse economy, a single area where integrated development is desirable and strong interdependent social and economic linkages between its constituent units exist.

In the geographical hierarchy, metros and DCs are a level above the local municipalities. In 2011, the MDB published re-determined metropolitan and district council boundaries. Two metropolitan municipalities were added to increase the number from six in 2001 to eight in 2011, namely Mangaung (Bloemfontein) and Buffalo City (East London, King William's Town and Bisho). The eight metros in South Africa and their codes are illustrated in Table 2 below:

Table 2: Metropolitan municipalities of South Africa and their codes

Metro Name (MN_NAME)	Metro Abbreviation (MN_MDB_C)	Metro Code (MN_CODE)
City of Cape Town	CPT	199
Buffalo City	BUF	298
Nelson Mandela Bay	NMA	299
Mangaung	MAN	499
Ethekwini	ETH	599
Ekurhuleni	EKU	797
City of Johannesburg	JHB	798
City of Tshwane	TSH	799

The metro codes are constructed as follows:

the first digit is the provincial code,

the second and third digits: the metros numbered backwards from 99 consecutively, within the province.

2.2.2 Local municipalities (Cat B)

According to the MDB, key considerations in re-determining local municipality boundaries included settlement type, the rationalization of municipalities, manageable size and functionality. Local municipalities are the next spatial level above the main place. In some cases, the change in area from 2001 to 2011 was significant, as illustrated in Figure 4 below:

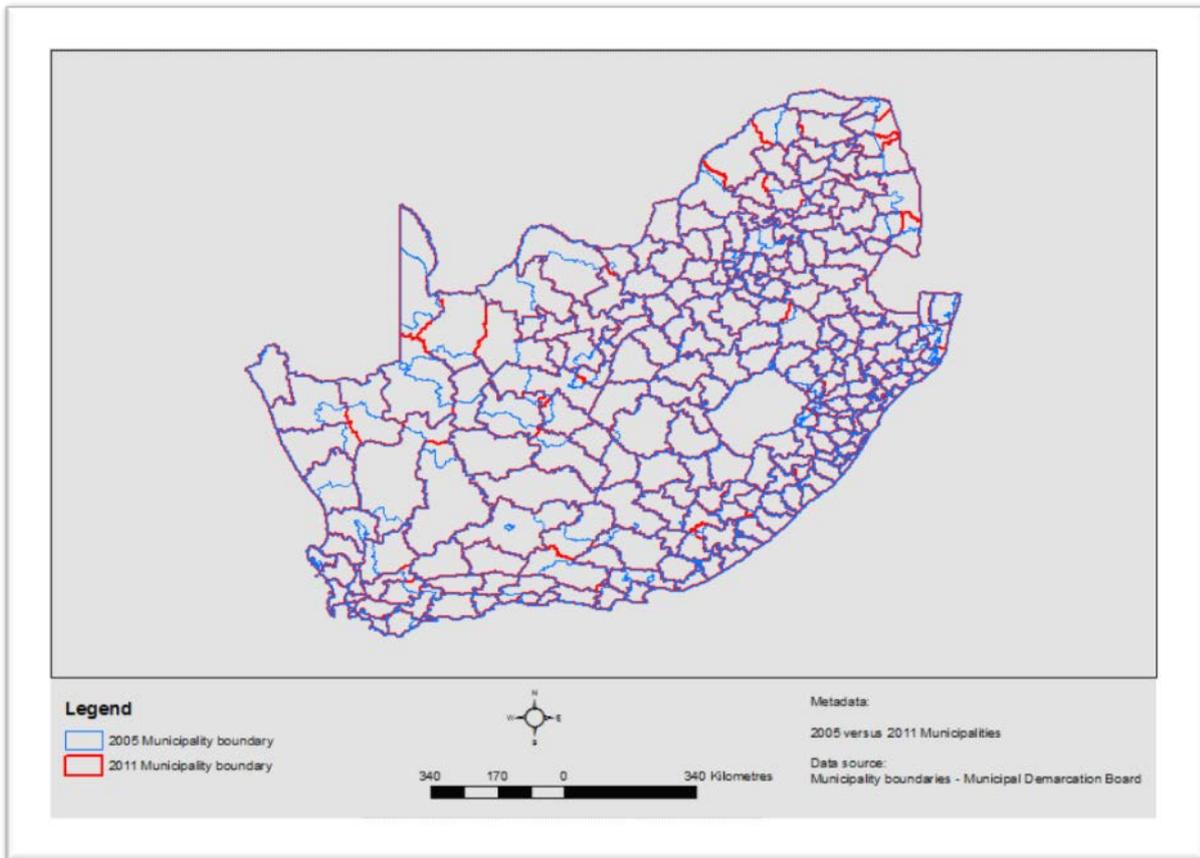


Figure 4: Municipal boundary changes between 2005 and 2011

There are 226 Category B municipalities. Stats SA used a two-digit code for each municipality within a province (MN_CODE). These correspond to the MDB codes (MN_MDB_C) as per example in Table 3 below:

Table 3: A sample of local municipalities

MN_CODE	MN_MDB_C	MN_NAME_C	MN_NAME
669	NW385	Ramotshere Moiloa(NW385)	Ramotshere Moiloa
672	NW394	Greater Taung(NW394)	Greater Taung
673	NW396	Lekwa-Teemane(NW396)	Lekwa-Teemane
674	NW397	Kagisano/Molopo(NW397)	Kagisano/Molopo
676	NW402	Tlokwe City Council(NW402)	Tlokwe City Council
677	NW403	City of Matlosana(NW403)	City of Matlosana
678	NW404	Maquassi Hills(NW404)	Maquassi Hills
760	GT421	Emfuleni(GT421)	Emfuleni
764	GT482	Randfontein(GT482)	Randfontein
765	GT483	Westonaria(GT483)	Westonaria

766	GT484	Merafong City(GT484)	Merafong City
860	MP301	Albert Luthuli(MP301)	Albert Luthuli

2.2.3 District municipalities (Cat C)

According to the MDB, DCs were re-determined with the aim of strengthening them and ensuring better coordination with other spheres of government, as well as better planning and better resource allocation across the local municipalities. Table 4 below indicates DCs and their coding.

Table 4: A sample of district councils

DC_MN_C	DC_MDB_C	DC_NAME_C	DC_NAME
101	DC1	West Coast(DC1)	West Coast
102	DC2	Cape Winelands(DC2)	Cape Winelands
103	DC3	Overberg(DC3)	Overberg
104	DC4	Eden(DC4)	Eden
105	DC5	Central Karoo(DC5)	Central Karoo
210	DC10	Cacadu(DC10)	Cacadu
212	DC12	Amathole(DC12)	Amathole
213	DC13	Chris Hani(DC13)	Chris Hani
214	DC14	Ukhahlamba(DC14)	Ukhahlamba
215	DC15	O.R. Tambo(DC15)	O.R. Tambo
244	DC44	Alfred Nzo(DC44)	Alfred Nzo

The DC code consists of three digits: the first is the provincial code and the second and third represent a consecutive number within the province (DC_MN_C). The corresponding code from the MDB is in the DC_MDB_C field.

As the local municipal boundaries changed, the DC boundaries also changed from 2001 to 2011 as indicated in Figure 5 below:

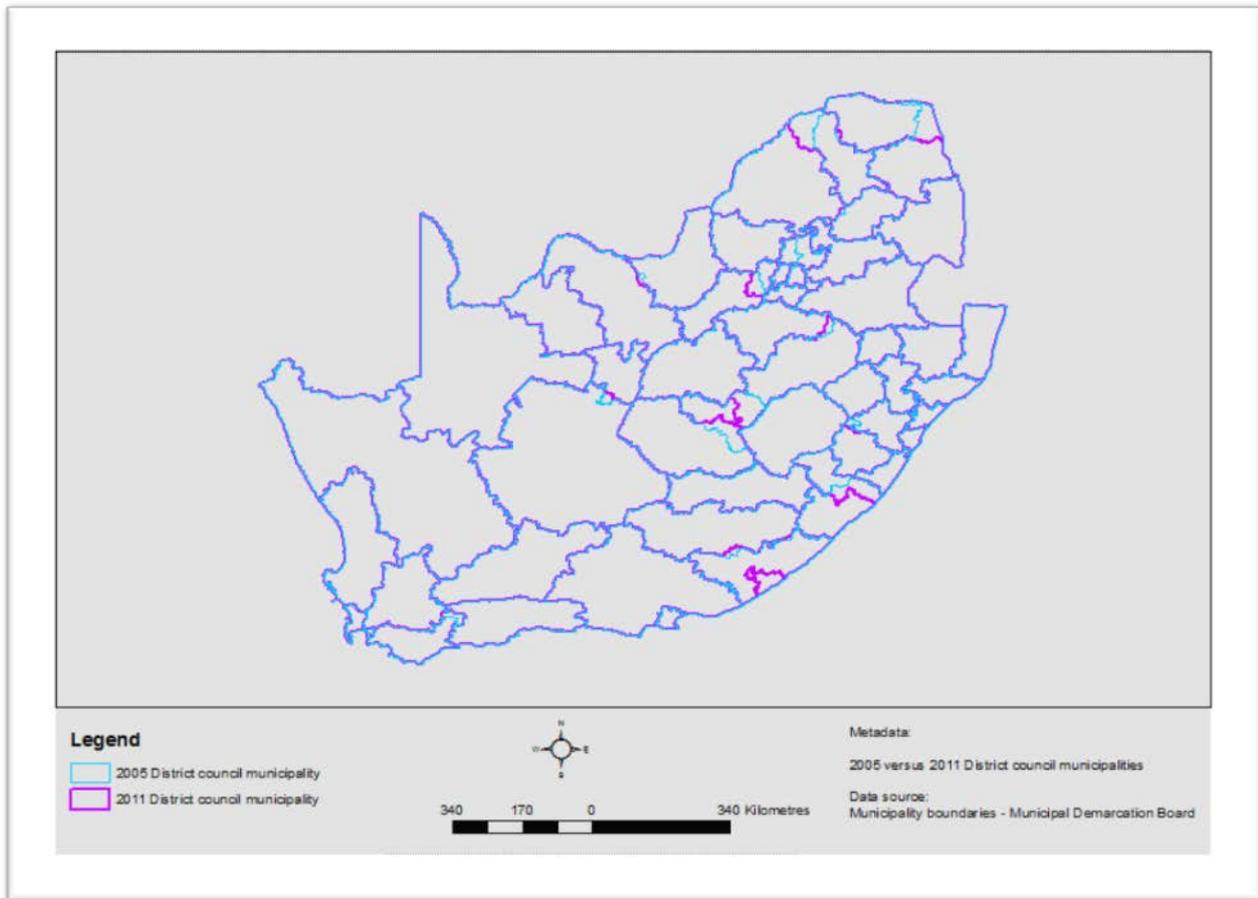


Figure 5: Changes in DC boundaries from 2001 to 2011

With the changing of boundaries over time (which affects area sizes), it is important **not** to compare data by selecting data using similar codes or municipal names for different years without verifying whether the areas are similar. The Stats SA codes were deliberately changed in 2011. Some codes from the MDB stayed the same, even though the area changed.

As illustrated in Figure 6, there are municipal names that are similar but located in different provinces.

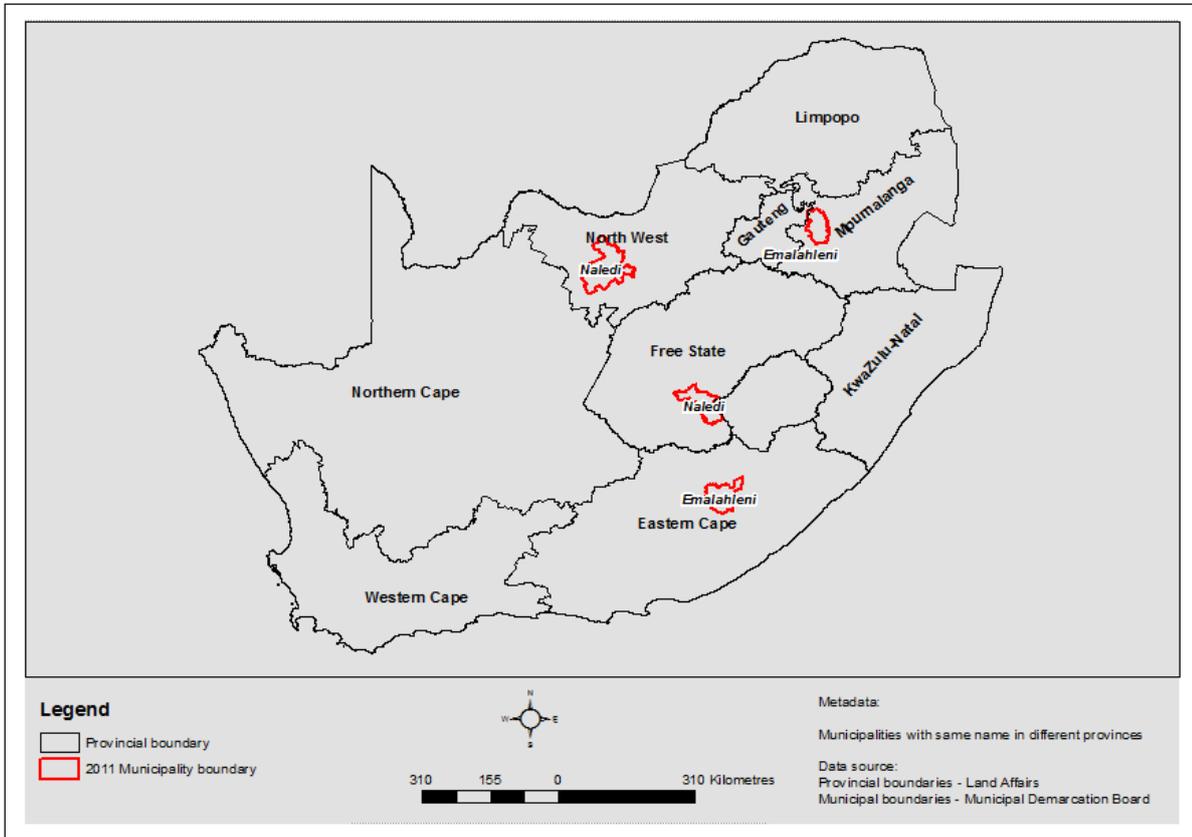


Figure 6: Municipalities with same names in different provinces

3. Comparing Census 2011 with previous Censuses

Comparison of Census 2011 with previous Censuses (1996 and 2001) required alignment of data for the Censuses 1996 and 2001 to 2011 municipal boundaries. This is because the country's provincial demarcations underwent a number of changes at provincial and municipal boundaries as outlined below.

3.1 Provincial boundary changes: 2001-2011

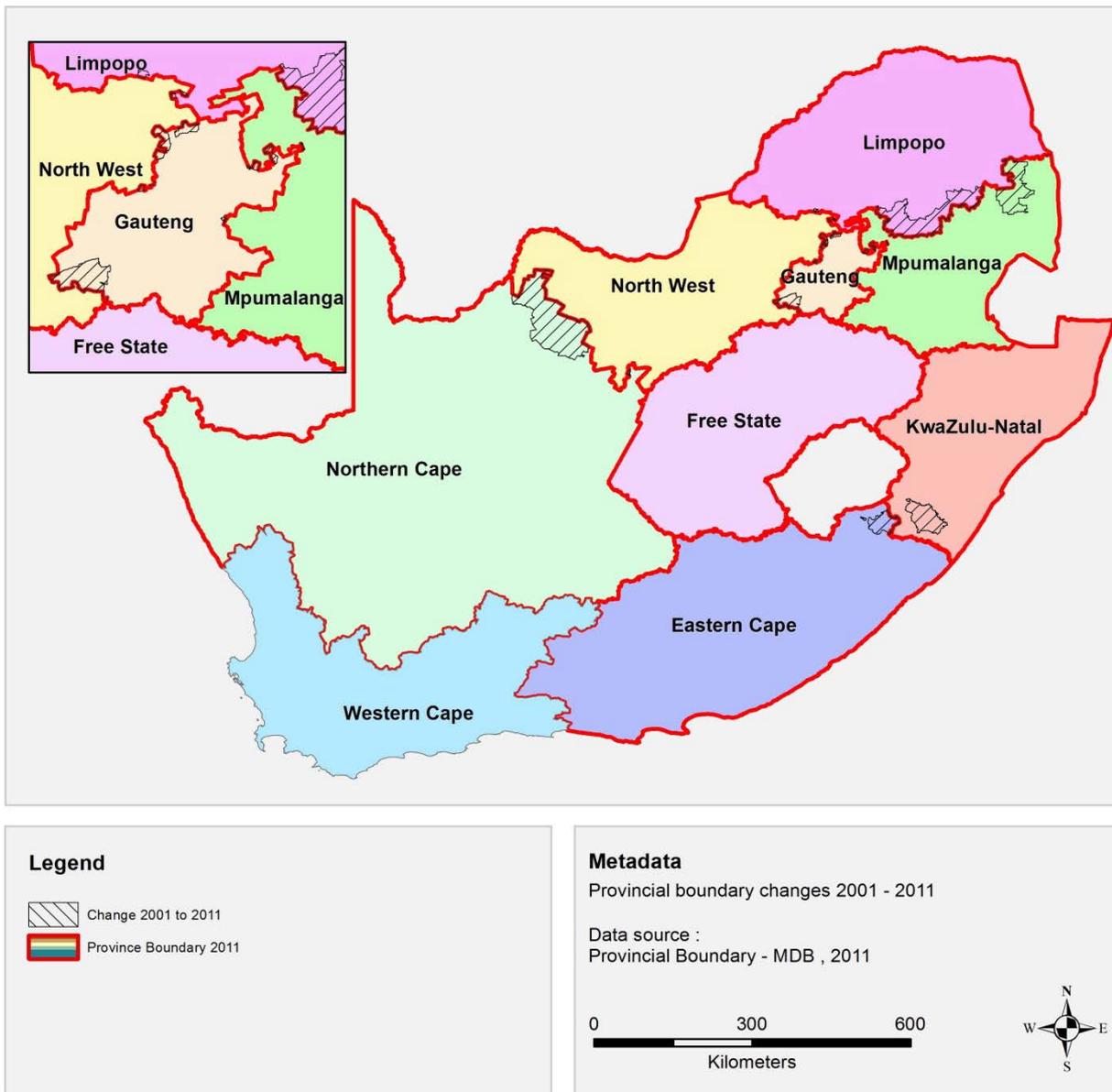
A number of changes occurred in terms of provincial and municipal boundaries during the period between Censuses 2001 and 2011. Of the nine provinces, only two provinces (Western Cape and Free State) were not affected by changes. The provincial boundary changes were mostly as a result of eight cross boundary municipalities which were absorbed in full into respective provinces.

Table 3.1: Geographical land area changes since 2001

Province name	Provincial code	Land area in square kilometres 2011	Land area in square kilometres 2001
Western Cape	1	129 462	129 449
Eastern Cape	2	168 966	169 954
Northern Cape	3	372 889	362 599
Free State	4	129 825	129 824
KwaZulu-Natal	5	94 361	92 305
North West	6	104 882	116 231
Gauteng	7	18 178	16 936
Mpumalanga	8	76 495	79 487
Limpopo	9	125 754	122 816
Total		1 220 813	1 219 602

The shift of the national boundary over the Indian Ocean in the North East corner of KwaZulu-Natal to cater for the Isimangaliso Wetland Park led to the increase in South Africa's land area.

Map 3.1: Provincial boundary changes since 2001



Provincial boundary changes mostly affected North West (land size decreased to 11348,9 square kilometres). Most of this was absorbed by Northern Cape. The second largest decrease in land size was for Mpumalanga which decreased by 2991,9 square kilometres with Limpopo being the main recipient of this land area.

It should be noted that the increased extent of KwaZulu-Natal is not mainly based on the exchange of Umzimkulu (formerly in the Eastern Cape Province) and Matatiele (formerly in KwaZulu-Natal), but due to the shift of the national boundary over the Indian Ocean in the north east corner of the province to cater for the iSimangaliso Wetland Park. In terms of which areas moved to which province, a detailed outline is provided for below.

Northern Cape and North West:

- Ga Segonyana and Phokwane municipalities were cross boundary municipalities between Northern Cape and North West in 2001 and were allocated to Northern Cape in full based on the current provincial boundaries.
- Kagisano municipality (2001) was split into Kagisano/ Molopo municipality and Joe Morolong municipality, with the former portion now in North West and the latter now part of the Northern Cape province.
- Moshaweng municipality (now part of Joe Morolong municipality) was incorporated in full in Northern Cape based on the current provincial boundaries.

North West and Gauteng

- Merafong City municipality (2001) was a cross boundary local municipality between North West and Gauteng and was allocated to the Gauteng province based on the current provincial boundaries.
- West Rand (DMA) municipality (2001) was not aligned to the then provincial boundary and was absorbed into Mogale City municipality in full based on the current provincial boundaries.
- City of Tshwane Metropolitan Municipality was a cross boundary municipality between Gauteng and North West provinces. The portions adjacent to Moretele and Madibeng municipalities were allocated to Gauteng in full based on the current provincial boundaries.

North West and Limpopo:

- Limpopo lost a portion of the Bela Bela municipality to North West's Moretele municipality. In turn North West lost a portion of the Moretele Municipality to Limpopo's Bela Bela municipality based on the current provincial boundaries.

Gauteng and Mpumalanga:

- A portion of Delmas municipality (2001) now called Victor Kanye was allocated to the City of Tshwane in Gauteng based on the current provincial boundaries.
- Kungwini municipality, now incorporated into the City of Tshwane, was a cross boundary municipality and is now fully allocated to Gauteng, based on the current provincial boundaries.

Mpumalanga and Limpopo:

- Greater Groblersdal, now Elias Motsoaledi, Greater Marble Hall now Ephraim Mogale, and Greater Thubatse were cross boundary municipalities between Mpumalanga and Limpopo

and have now been allocated in full to the Limpopo province. Ephraim Mogale municipality was absorbed into the Schuinsdraai Nature Reserve.

- Bushbuck Ridge municipality was a cross boundary municipality between Limpopo and Mpumalanga and has now been allocated in full to the Mpumalanga province. (Bushbuck Ridge also absorbed a portion of the Kruger Park cross boundary District Management Area.)

KwaZulu-Natal and Eastern Cape:

Umzimkulu, formerly in Eastern Cape, and Matatiele, formerly in KwaZulu-Natal were in effect exchanged, with Umzimkulu now being in KwaZulu-Natal and Matatiele now being in Eastern Cape based on the current provincial boundaries.

3.2 Local municipal boundary changes, 2001–2011

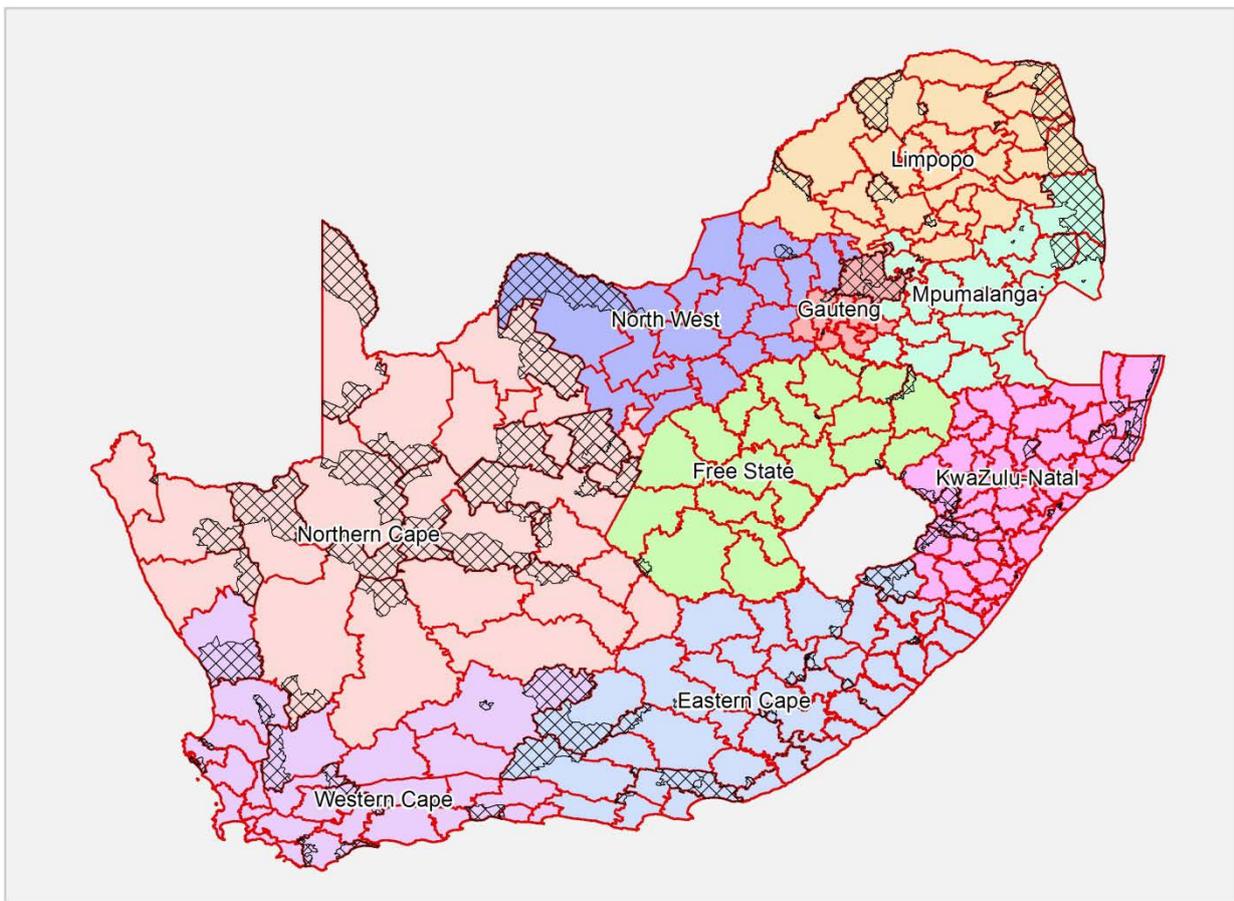
In 2001, the Geographical Frame consisted of 262 local municipalities. This total has been reduced to 234 local municipalities in the 2011 geographical frame. The difference of 28 municipalities is explained as follows:

In total, 25 District Management Areas (DMAs) were absorbed into the existing provinces.

- The City of Tshwane absorbed a further two municipalities (Nokeng Tsa Taemane and Kungwini).
- A new municipality (Kagisano Molopo – NW379) was established by merging NW391 (Kagisano) and NW395 (Molopo).

For municipalities, 107 municipalities decreased in geographical area while 155 municipalities had an increase in geographical area.

Map 3.2: Municipal boundary changes since 2001



Legend

-  Change 2001 to 2011
-  Municipal Boundary 2011
-  Province Boundary 2011

Metadata

Municipality boundary changes

Data source :

Provincial Boundary - MDB , 2011

Municipal Boundary - MDB , 2011



3. REFERENCES

Avenell D, Noble M & Wright G. 2009. South African datazones: A technical report about the development of a new statistical geography for the analysis of deprivation in South Africa at a small area level, CASASP. Working Paper No. 8, Oxford: Centre for the Analysis of South African Social Policy, University of Oxford.

Municipal Demarcation Board www.demarcation.org.za.
<http://demarcation.org.za/About%20Us/legislation/Local%20Government%20Municipal%20Structures%20Act%20as%20on%208%20April%202009.pdf>

Grobbelaar N. 2005. The development of a Small Area Spatial Layer to serve as the most detailed geographical entity for the dissemination of Census 2001 data. Africa GIS Conference, Pretoria. 31 October- 4 November 2005.

Martin DJ. 1998. Optimising census geography: the separation of collection and output geographies. International Journal of Geographical Information Science 12, pp. 673-685.

Statistics South Africa, 2004. Memorandum to minister of finance: Responding to user requests for geographically disaggregated data derived from Census 2001. Pretoria, Statistics South Africa.

Statistics South Africa, 2007. Using the 2001 Census: Approaches to analysing data. A collaboration between Statistics South Africa (Stats SA) and the Human Sciences Research Council (HSRC).

Statistics South Africa, 2010. Generic Operational Manual for Social and Population Surveys. Pretoria, Statistics South Africa.

Statistics South Africa (sine anno). Census 2011: Strategic Plan – Research and Methodology. Pretoria, Statistics South Africa.

Statistics South Africa, 2011. Report on Census 2011 product consultation workshop. Pretoria, Statistics South Africa.

Verhoef H. 2013. Working towards an optimal dissemination geography for census 2011: A preliminary investigation. Unpublished thesis © University of Stellenbosch, South Africa.