



rural development
& land reform

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**SA-GEO Land Cover Community of Practice task team on Land
Cover Classification System**

Resolution 1 : 11 September 2014

1. Background

The South African Group on Earth observations (SA GEO) Land Cover Community of Practice (COP) agreed on the 14 August 2014 to establish a Task team to review the current South African land cover classification system.

In 2008 CD NGI adopted the use of Land Cover Classification System 2 (LCCS 2) which was widely used in Africa at the time. The LCCS 2 was expected to become the ISO standard. However, Land Cover Meta Language (LCML) became an international standard ISO 19144 – 2 in 2012.

The South African Bureau of Standard (SABS) facilitated a workshop on the 11 July 2014 to evaluate part 2 of ISO 1944. Part 1 of ISO 1944 had already been adopted in 2012 as a Standard in South Africa (ISO 1944-1 as SANS ISO 19944-1) which looks at structure and classification systems of geographic information data generally. ISO 1944-2 which is the Land Cover Meta Language (LCML) is designed to compare and translate existing Land Cover classification systems. The meeting agreed that ISO 1944-2 can be adopted as the South African standard, and the process was started, with the next meeting to be held in October 2014.

Currently there are two land cover classification systems that are used in South Africa for land cover mapping, namely:

- 1) The SANS 1877 and
- 2) LCCS2 (LCCS2_NGI 2008)

2. Resolution

This task team has, following deliberations, come to the following resolution:

The LCCS2 NGI-2008 classification schema needs to be compared to SANS 1877 (level1 and 2) in order to obtain a classification schema that caters for as many stakeholders' needs as possible. The intended legend needs to be based on the Land Cover Meta Language (LCML) classification system which is a standard (ISO 19144 -2). The LCML is replacing LCCS2 as an accepted international standard and is also in the process of being adopted as the South African standard.

3. Historical Context

The Table below list all South African Land Cover legends and classification Systems used to date.

Table 1: Summary of the abbreviations and history of the various classifications and standards used in SA to date.

Classification System	Legend	Year	Classification Standard
SAJS96 (Anderson & Edwards) v1	NLC94	1996	SANS1877
SAJS96 (Anderson & Edwards)	NLC2000 (addition of subclasses to the NLC94 legend)	2000	SANS1877

Classification System	Legend	Year	Classification Standard
SAJS96 (Anderson & Edwards)	Provincial (addition and modification to the NLC2000 e.g. KZN, Eskom – Limpopo)	2005-2011	SANS1877
LCCS2	LCCS2-NGI(NW& EC mapped, started in 2010)	2008	Not fully compliant with LCCS2 (which was not approved as standard) nor ISO19144-2 approved in 2012
LCCS2	LCCS2-NGI (vs2) – modified from above	2014	followed Boolean formula and code of LCCS2
LCML(LCCS3)	Still in progress	2014	This will conform to ISO19144-2

The LCCS 2-NGI-LCCS 2 did not fully comply with LCCS 2, in respect of, for example the definition or description of classes, Boolean formula and codes. The user's needs survey of 2014 indicated that the current NGI legend does not meet their needs. The survey also linked the user requirement needs of land cover data as mandated by the legislation. The SA-GEO LC COP & NGI has taken the initiative to address these challenges and thus established a task team to provide recommendations for the new land cover legend that will comply with ISO 1944-2 and address the deficiencies of South African Land Cover Classification legends by systematically comparing SANS 1877 and LCCS2 NGI

The task team furthermore state that it is not possible to exclude some level of "land use" information in the national "land cover" without significantly diminishing the usefulness of the land cover data to the user.

A Second survey (Aug/Sept 2014) has been circulated to national land cover users and results will be sent to the task team before end of September 2014. The task team will consider these inputs and comments..

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