ISBN 978-0-626-32550-3

SANS 1877:2004

Edition 1

SOUTH AFRICAN NATIONAL STANDARD

A standard land-cover classification scheme for remote-sensing applications in South Africa

Published by SABS Standards Division
1 Dr Lategan Road Groenkloof ✉ Private Bag X191 Pretoria 0001
Tel: +27 12 428 7911 Fax: +27 12 344 1568
www.sabs.co.za

SANS 1877:2004
Edition 1

Table of changes

Change No.	Date	Scope

Foreword

This South African standard was approved by National Committee SABS/TC 211, *Geographic information*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

Annexes A and B form an integral part of this standard.

Introduction

The International Organization for Standardization (ISO) is currently developing a number of standards for geographic information. This standard is one of four standards for geographic information currently under development in South Africa. The other three are SANS 1876, *Minimum data content and feature instance identification standard,* SANS 1878-1, *South African spatial metadata standard – Part 1: Core metadata profile* and SANS 1880, *South African geospatial data dictionary (SAGDaD) and its application.*

SANS 1876 specifies the minimum data content and unique identifier for the collection and transfer of data between users and producers. SANS 1878-1 examines the minimum set of descriptive information about a data set. The said minimum should be enough to enable one to assess the quality and fitness for use of geographic information. SANS 1880 defines South African geospatial data in accordance with the ISO 19100 series of standards for geographic information/geomatics. SANS 1880 presents 80 feature types in an unordered, unstructured catalogue, and it also defines the process for maintaining and implementing the catalogue, and how to derive a spatial feature classification from the spatial feature catalogue.

Remote-sensing techniques have become the single most effective method for land-cover and land-use data acquisition for large areas. However, the majority of the land-cover (and land-use) classification schemes used have been developed around specific user objectives (i.e. agriculture or conservation), and are often influenced by geographical location and actual data capabilities. Therefore, very few classification schemes are directly comparable.

The purpose of this standard is to present a predetermined framework for land-type classifications that will provide standardized baseline specifications to ensure consistency and conformity in map data produced by various organizations from remotely sensed imagery. This standard accommodates specific user or project requirements, including the use and integration of additional non-remote-sensing data where applicable or required (i.e. GIS-based modelling).

Reaffirmed and reprinted in November 2015.
This document will be reviewed every five years and be reaffirmed, amended, revised or withdrawn.

Contents

This page is intentionally left blank

A standard land-cover classification scheme for remote-sensing applications in South Africa

1 Scope

This standard presents a standard hierarchical framework for the classification of remotely sensed data, designed to suit the South African environment. The framework is based on known land-cover feature types that can be derived from high-resolution remotely sensed data.

2 Normative references

The following standard contains provisions which, through reference in this text, constitute provisions of this standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on currently valid national and international standards can be obtained from the SABS Standards Division.

SANS 19121/ISO/TR 1912, *Geographic information – Imagery and gridded data.*

3 Definitions and abbreviations

3.1 Definitions

3.1.1
edaphic
produced or influenced by the soil

3.1.2
high-resolution remotely sensed data
remotely sensed data of a resolution finer than 30 m

NOTE Examples include SPOT and Landsat TM imagery.

3.1.3
kappa index
measure of association between two data sets

NOTE Also known as the kappa index of agreement (KIA) or kappa coefficient of agreement. Introduced by Cohen to psychology in 1960, it was adapted for accuracy assessment in remote sensing by Congalton and Mead in 1983.