

National Spatial Information Framework (NSIF)

# SDI Act

# SASDI Implementation

General Overview

NSIF



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# Spatial Data Infrastructure Act

(Act No. 54, 2003)

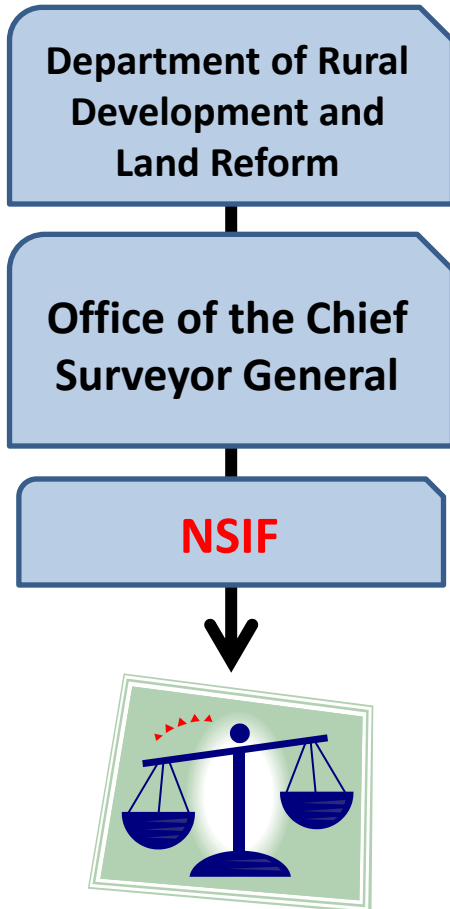
Government Gazette, 04 February 2004, Vol. 464, No. 25973



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SDI Act, 2003 – Preamble



Spatial Data Infrastructure Act  
(SDI Act No. 54 of 2003)

## ACT

To **Establish:**

- The **South African Spatial Data Infrastructure (SASDI)**;
- The **Committee for Spatial Information (CSI)**; and
- Electronic Metadata Catalogue (**EMC**)

To **Provide for:**

- Determination of **Standards and prescriptions** to facilitate **sharing of spatial information**
- The capture and publishing of **metadata**  
To **avoid duplication of capture**
- Matters concerned therewith

[Data custodians: appointment & responsibilities]

# SDI Act, 2003 – Sections 2 & 21

## Application of the Act

2. This Act applies to  
**organs of state** which **hold spatial information**  
and to  
**users of spatial information**

## Liability

21. **No person is liable** for **anything done in good faith**  
in the **exercise or performance**  
or purported exercise or performance  
**of any power or duty**  
**in terms of this Act**

# SDI Act, 2003 – Section 22

## Short Title and commencement

**22. (1)** This Act is called the **Spatial Data Infrastructure Act, 2003**, and comes into operation on a **date fixed by the President** by **proclamation in the Gazette**.

[Assented to on 28 January 2004]

**(2) Different dates** may be determined in respect of different **provisions of this Act** and different **organs of state**

[2006 and 2015]

# Spatial Data Infrastructure Act, 2003

Assented to on 28 January 2004

**8 May 2006** (Sections 1-11, 13, 19-22)

1. Definitions
2. Application of Act
3. Establishment and objectives of South African Spatial Data Infrastructure
4. Powers of Minister
5. Establishment of Committee for Spatial Information
6. Powers and functions of Committee
7. Terms of office of members
8. Disqualification as member of Committee
9. Meetings of Committee
10. Establishment of subcommittees
11. Spatial information standards and prescriptions

**2015: Remaining sections of the Act**  
(Sections 12, 14-18)

12. Capture and publishing of metadata
13. Manner and refusal of access to spatial information
14. Supply of and accountability for spatial information
15. Agreements on utilisation of spatial information
16. Collaborative maintenance
17. Reporting on data quality
18. Security of spatial information
19. Delegation of powers
20. Regulations
21. Liability
22. Short title and commencement

# SDI Act

Spatial Data Infrastructure Act, No. 54 of 2003

CSI

Committee for Spatial  
Information

SASDI

South African  
Spatial Data Infrastructure

EMC

Electronic Metadata  
Catalogue

organs of state  
users

standards and prescriptions  
sharing of spatial information  
capture, publishing of metadata

# South African Spatial Data Infrastructure

(SASDI)

SDI Act, section 3



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**



# SDI Act, 2003 – Section 3

## South African Spatial Data Infrastructure (SASDI)

**3. (1)** The **South African Spatial Data Infrastructure (SASDI)** is hereby established as the **national technical, institutional and policy framework** to facilitate the **capture, management, maintenance, integration, distribution and use** of **spatial information**

### **(3) Administration:**

The **Director-General** (of the Department of Rural Development and land reform) **administers** this **Act** and the **SASDI**

# SDI Act, 2003 – Section 3

## South African Spatial Data Infrastructure (SASDI)

**3.(2)** The **Objectives** of the SASDI are to:

- (a) facilitate the **capture of spatial information** through **co-operation among organs of state**;
- (b) promote effective **management and maintenance** of spatial information;
- (c) promote the **use and sharing of spatial information** in support of **planning, socio-economic development and related activities**;
- (d) create an **environment which facilitates co-ordination and co-operation among all stakeholders** regarding access to spatial information;
- (e) eliminate duplication** in the capturing of spatial information;
- (f) promote **universal access** to such information; and
- (g) facilitate the **protection of the copyright of the state** in works relating to spatial information.

# SASDI: Governance

**The Minister** Rural Development and Land Reform (**DRDLR**)

**Director General** [Act, section 3(3)]

Administers the **SDI Act** and the **SASDI**

**Committee for Spatial Information (CSI)** [Act, sections 5-10]

Representatives from

- National Government Departments
- Provincial and local government
- Professional GIS association
- Academia
- Public Entities
- Data custodians

**National Spatial Information Framework (NSIF)**

Develop and implement **SASDI**

Secretariat to the **CSI**

# SDI Act, 2003 – Section 4

## Powers of the Minister

4. (1) The **Minister** may:

- (a) prescribe **standards and measures** on the **sharing and integration of spatial information**;
- (b) determine the **fees, costs, price or charges** payable for spatial information and other records;
- (c) **grant exemption** from the **payment of any fees** required to be paid in terms of this Act;
- (d) establish and maintain an **electronic metadata catalogue** as a **component of the SASDI**; and
- (e) in concurrence with the Minister of Finance, determine and pay **remuneration and allowances** to **members of the Committee or subcommittee** who are not in the full-time employ of the State.

# SDI Act, 2003 – Section 4

## Powers of the Minister continued

The **Minister**:

4. (2) may, in accordance with section 231 of the Constitution, [International agreements]  
**enter into an agreement** with any **person or body**,  
within and outside the Republic,  
with a view to **promoting any matter**  
relating to the **management and utilisation of spatial information.**
- (3) may **suspend or revoke**  
**a decision or measure** of the **Committee.**
- (4) must, after suspending the decision or measure of the Committee and  
before its revocation,  
**remit such decision or measure**  
for the **Committee's reconsideration**

# SDI Act, 2003 – Section 19

## Delegation of powers

- 19.** The **Minister may**, in general or in a particular case, in writing **delegate to**  
the **Director-General**  
or **any officer in the service of the national government**  
**any power, except the power to make regulations,**  
**conferred upon him or her**  
**in terms of this Act**

The NSIF (and CSI)

perform administrative and support functions on behalf of the Minister

# Committee for Spatial Information CSI

Establishment , Membership & Appointment [Act, section 5]

Powers and Functions [Act, section 6]

Terms of Office of members [Act, section 7]

Disqualification as member [Act, section 8]

Meetings[Act, section 9]

Establishment of subcommittees[Act, section 10]



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SDI Act, 2003 – Section 5

## Committee for Spatial Information (CSI)

### 5.(2) **Members** appointed by the **Minister**:

- (a) 1 person to represent the **Minister** (RDLR) [1]
- (b) 2 persons in full-time employ of the **Department (DRDLR)** [2]
- (c) **1 person in full-time employ of each of:**
  - (i) Statistics South Africa (**Stats SA**) [1]
  - (ii) National Department of Provincial and local government  
[Cooperative Governance and Traditional Affairs (**COGTA**)] [1]
  - (iii) such **other national departments** of state **identified by the Minister** [1 ea]
- (d) 1 person from **each Provincial Government**, (in full-time employ of such) [9]
- (e) 2 persons in full-time employ of **Local Municipalities** (**1 Rural**, and **1 Urban**) [2]
- (f) 1 person representing the Council of Government Information Technology Officers  
[Government Communication Information System (**GCIS**)] [1]
- (g) 1 person representing a **Professional Association** of persons involved in **GISs** [1]
- (h) 1 person involved in teaching/research in **GISc (Academic)** [1]
- (i) At least 1 person from **public entities** (Schedule 2/3 of PFMA) \ performing functions which support the objectives of the SDI Act [1]
- (j) 1 person from **each data custodian** as **identified by the Minister** [1 ea]



# SDI Act, 2003 – Section 5

## Appointment: Committee for Spatial Information (CSI)

- 5.(3) The **Minister** must, **after calling for nominations from the public** in the prescribed manner, and **after consultation with-**
- (a) **Ministers** responsible for Departments [referred to in subsection (2)(b) and (c)]
  - (b) **Premiers** [referred to in subsection (2)(d)]
  - (c) **Chairperson** [referred to in subsection (2)(e)]
- appoint members of the Committee** and **an alternate member for each.**
- (4) The **Minister appoints** from these members a **chairperson** and **deputy chairperson**
- (5) When the **chairperson** is unable to perform the functions of that office, the **deputy chairperson** must perform those functions
- (6) The **Minister** must, **within 30 days from date of appointment of Members of the CSI**, **publish** names of appointees, their **position** held and **date of appointment**, **in the Gazette**
- (7) The **Minister** may, **upon death or vacation of office of any member**, subject to subsection (2), **appoint any person to fill the vacancy** for the **unexpired portion** of the period for which such member was appointed

# SDI Act, 2003 – Section 6

## Powers and functions of Committee

6.(1) **Advise Minister, Director-General or Organ of State\***on: \*dealing with spatial information

- (a) **Matters referred to the CSI** (For example, request to capture spatial data – DCPR)
- (b) Matters regarding the **capture, management, maintenance, integration, distribution and use of spatial information**; and
- (c) Matter the CSI deem necessary or expedient for **achieving the objectives of the SASDI**

## (2) Responsibilities of the committee-

- (a) Facilitate, promote and safeguard an **environment for efficient collection, management, distribution and use of spatial information**;
- (b) **Monitor/acquire information** relating to the **functioning of the SASDI**;
- (c) **Support** the functioning of any **structure/measure established under the Act**;
- (d) Print/circulate/sell/finance/administer -**publication of material relating to spatial information**;
- (e) **Promote awareness** of **CSI activities**, including dissemination of information on the **importance of spatial information for effective governance, planning and decision-making**;
- (f) **Submit an annual report** to the Minister on **activities of the CSI and subcommittees** and any **recommendations** from the CSI aimed at **improving the functioning of the CSI or SASDI**; and
- (g) Do **anything necessary** to **perform its functions** or to **achieve the objectives of the SASDI**

# SDI Act, 2003 – Section 7

## Committee for Spatial Information (CSI)

### Terms of Office of Members

#### 7. A member-

- (a) Must be **appointed** for a **period of 3 years**; and
- (b) **may not serve more than two consecutive terms** unless the Minister is of the opinion that appointment for a further term will be **beneficial to the Committee**

See also:

**Disqualification as Member of Committee – [Act, Section 8]**

# SDI Act, 2003 – Section 9

## Meetings of Committee:

- 9.(1) **First meeting** – Time, place **determined by Minister**;  
**Subsequent** - determined by the CSI
- (2) At least **4 meetings per year**; **further meetings** may be held as **deemed necessary**
- (3) **Special meeting** - Determined by **chairperson** – **reasonable grounds**; **notice of purpose**
- (4) **Special meeting** - Determined by **Minister, Director-general or one third of Committee** – convened by chairperson within 14 days of such request
- (5) **Quorum** at any meeting = **Majority of all members of Committee** (50% plus 1 member)
- (6) **Decision of Committee** = Decision of the **majority of members present** at any meeting
- (7) **Equality of votes** – **Chairperson has a deliberative vote** in addition to own vote
- (8) A **decision taken by the Committee** or an act performed under its authority **is not invalid** by reason only of a **vacancy on the Committee**  
or that a **person, not entitled to sit on the Committee, sat as a member**  
at the time **when the decision was taken** or the act authorised,  
**if the decision was taken** or the act authorised  
**by the requisite majority** of the members of the Committee  
who were **present** at the time and **entitled to sit as members**

# SDI Act, 2003 – Section 10

## Establishment of subcommittees:

### 10. The Committee may-

- (a) establish **subcommittees** for the **effective performance of its functions**;
- (b) **delegate** any of its **powers and functions to a subcommittee** on such terms as it considers appropriate;
- (c) direct the subcommittee **to perform such tasks as it considers appropriate**;
- (d) at any time **revoke the delegation** to a subcommittee;
- (e) despite any delegation, **itself exercise a delegated power or function**;
- (f) **co-opt experts or persons with special skills** who are not members of the Committee as **non-voting members of a subcommittee**; and
- (g) **designate** one of the members of a subcommittee as **chairperson** of the subcommittee

# National Spatial Information Framework NSIF

Department: Rural Development and Land Reform  
Branch: National Geomatics Management Services  
Chief Directorate: Cadastral Spatial Information  
[nsif@drdlr.gov.za](mailto:nsif@drdlr.gov.za)



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# National Spatial Information Framework (NSIF)

## Vision

**geospatial information** driven  
decision-making, planning and service delivery,  
to achieve the **country's development agenda**  
and ensure an  
**improved quality of life for all in South Africa**

## Mission

To position **geospatial information as an enabler**  
to assist government in  
achieving its **development goals**  
as outlined in the **National Development Plan (NDP)**

Access to relevant spatial data is key to achieving NDP goals

# National Spatial Information Framework (NSIF)

## Directorate within :

Department of Rural Development and Land Reform (DRDLR)  
Branch: National Geomatics Management Service (NGMS)

## Purpose/Mandate:

Secretariat to **Committee for Spatial Information (CSI)**  
Implement the **South African Spatial Data Infrastructure (SASDI)**

## Responsibilities:

Secretarial/administrative **support to the CSI** (SDI Act, Section 5)  
Facilitate **policy, regulations and standards** for the SASDI  
Develop and implement **SASDI** (SDI Act, Section 3)  
Provide **technical platforms** for the **SASDI & geospatial data integration**  
Ensure and support **compliance with the SDI Act** by GI community  
**Marketing and communication** in support of the **SDI Act** and **SASDI**



# National Spatial Information Framework (NSIF)

## Implementation of SASDI

- **CSI – Approval and appointment** of the new-term CSI (by Minister)
  - SDI **Regulations** (**Submit** draft for approval)
  - SASDI **Compliancy** Guidelines (**Synchronise** with Regulations)
  - Geospatial information **standards**
  - Spatial Information **Policies** (Approved)
    - Base dataset **custodianship** policy
    - Policy on the **pricing** of **spatial information products and services**
- **Custodians – Identification and appointment** of custodians (by CSI);
  - Custodians urged to register and **capture metadata on the EMC**
  - **Data and metadata specifications**
  - **Standard Operating Procedures**

# National Spatial Information Framework (NSIF)

## Implementation of SASDI continued

- **Develop and implement SASDI Tools**
  - **South African Spatial Data Infrastructure (SASDI) Website** – <http://www.sasdi.gov.za/>
    - Access to SASDI information and resources
  - **Electronic Metadata Catalogue (EMC)** – <http://beta.sasdi.net/>
    - **NSIF staff:** Administration and support;
    - **Data Custodians /Contributors:** Capture and publish metadata;
    - **Spatial data users:** Search/ discover data availability & fitness for use
  - **Data Capture Project Register (DCPR)**
    - **Custodians, Organs of State:** Registration of data capture projects;
    - **Spatial data users:**
      - List data needs - to be taken into consideration by custodians in their data capture projects ;
      - Report data errors to custodians

# Regulations & Guidelines

Draft SDI Regulations  
Draft SASDI Compliance Guidelines



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SDI Act, 2003 – Section 20

## Regulations

- 20.(1)** The **Minister** may by notice in the *Gazette* make regulations in respect of-
- (a)** any matter - required/permitted to be prescribed under this Act;
  - (b)** criteria for the nomination, selection and appointment of any person as a member of the Committee;
  - (c)** the manner and specification for the capturing of spatial information, including any application for exemption from such manner or specification;
  - (d)** measures relating to the avoidance of duplication of capture, safeguarding the integrity of captured spatial information, and access to and distribution of spatial information; and
  - (e)** any administrative or procedural matter necessary to give effect to the objects of this Act.
- (2)** The **Minister** must, before making, amending or repealing any regulation under subsection (1), publish the proposed regulation, amendment or repeal once in the Gazette and call for written comments by any interested party to be provided within 30 days after such publication

# Regulations and Guidelines

## Draft **SDI Regulations**

Stakeholder workshops held in 2015 - public participation

## Draft **SASDI Compliancy Guidelines**

Stakeholder workshops held in 2013/14 - public participation

After consolidation of inputs from stakeholder workshops the Regulations and Guidelines must be synchronised before submitting to the minister for approval and publishing in the Government Gazette (2016)

# Standards & Prescriptions



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SDI Act, 2003 – Section 11

## Spatial information standards and prescriptions

- 11.(1)** The **Minister** may determine **standards and prescriptions** to facilitate the **sharing and integration of spatial information**.
- (2)** No standard or prescription determined by the Minister shall **take effect** unless it has been **published in the Gazette** at least **one month before** the **effective date** specified in the notice.
- (3)** A **data custodian** and a **data vendor** must **adhere to the standards and prescriptions** referred to in this section

# CSI Recommendations

The CSI's Data Subcommittee, in 2011/2012, commissioned research and stakeholder surveys to be conducted to determine the criteria for identifying South Africa's **core spatial datasets and responsible custodians**. The results were workshopped, consolidated and presented at a CSI Meeting on 01 October 2012





# SDI Act, 2003 – Section 1

## Definitions

1. In this Act, unless the context indicates otherwise-

**"base data set"** means those **themes of spatial information** which have been **captured or collected by a data custodian**;

**"data set"** means an **identifiable collection of related spatial information**;

**"data custodian"** means-

(a) an **organ of state**; or

(b) an independent contractor or person **engaged in** the exercise of a public power or **performance of a public function**,

which **captures, maintains, manages, integrates, distributes or uses spatial information**

# CSI Recommendations (October 2012)

**1**

**Defining base geospatial datasets.**

**2**

**Criteria for base geospatial datasets.**

**3**

**Criteria for identifying base dataset custodians**

**4**

**Theme, base spatial data coordinator and data custodian(s)**

**5**

**Piloting ten base spatial data themes.**

# CSI Recommendations (October 2012)

## Base Geospatial Datasets

### (1) Definition

Base geospatial datasets are identified as the **minimum** set of **essential datasets** that are widely used, as a **reference base**, at various administrative levels, to accomplish **South Africa's** national and international **priorities**

### (2) Criteria

- **Diversity of users** from different sectors deriving **significant benefit** from its use (compulsory)
- **Cannot be substituted** easily or generally (compulsory)
- Sufficient detail & accuracy for **widespread use** (compulsory)
- **Complete coverage** over the area of interest, preferably **national** (compulsory)
- Produced as a result of the **core mandate** of the custodian (conditional)
- Source for accurately **referencing** other datasets or for displaying the results of an analysis (conditional)

# CSI Recommendations (October 2012)

## Base Dataset Custodianship

### (3) Criteria for identifying base dataset custodians

- **Mandated** responsibility (compulsory)
- Sufficient **capacity, resources and infrastructure** to be custodian (conditional)
- **Requested** by the **CSI** (compulsory)

### (4) Base dataset theme, base spatial data coordinator, and data custodian(s)

- The **coordinating custodian** will not manipulate the data without informing the base data custodian(s)
- the term 'coordinating custodian' be replaced with '**base spatial dataset coordinator**'

# CSI Recommendations (October 2012)

## (5) Piloting 10 Base dataset themes

Theme	Datasets	Custodian
1. Administrative Boundaries	National Boundaries	Municipal Demarcation Board
2. Imagery	Satellite Imagery	South African National Space Agency (SANSA)
3. Roads	National roads	DOT
4. Social statistics	Place name	STATS SA
5. Land use	Land use	NGI
6. Land Cover	Land Cover	NGI
7. Cadastre	Land parcel boundaries	CSG
8. Hydrology	Water bodies (e.g. dams, lakes)	DWS
9. Geodesy	Trigonometrical Beacons	NGI
10. Conservation Areas	Conservation and Protected areas	DEA

# Policies

Base Data Set Custodianship Policy  
Policy on Pricing of Spatial Information Products and Services



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# Policies

## **Base Data Set Custodianship Policy**

## **Policy on Pricing of Spatial Information Products and Services**

These two policies were approved by the Minister, published in the form of a notice in a government gazette  
They came into effect on 18 March 2015

# Base dataset custodianship policy

## Policy Principles

### 1. Authoritative data set

Base data set custodians are regarded as the **authoritative source**

Custodians are responsible for the processes and functions of **data capture, validation, maintenance and management**

### 2. Cooperation and Coordination

Base data set custodians should **work together** to facilitate **data sharing** and avoid unnecessary expenditure. Where possible they should consult users in line with Batho Pele principles to **determine user needs when capturing or updating spatial information**.

### 3. Access

Base data set custodians must disclose or **make base data sets available** to the public on request, unless exempted from disclosure under the Promotion of Access to Information Act

### 4. Shared based data set custodianship

Where relevant, it is **possible to have more than one organisation as custodian** for the same spatial object or feature.



# Base dataset custodianship policy

## Policy Principles *continued*

### 5. Quality

The base data set custodian must ensure that the base data set is **accurate** and **satisfies user needs** for the purpose for which it was captured .

### 6. Base data set governance

It is possible to establish the role of **base data set coordinator** to encourage base data governance

### 7. Adherence to standards

Base data set custodians must **adhere to standards** that are prescribed by the Minister in terms of section 4 (1) (a) of the SDI Act, and to any other relevant national standards for spatial information to promote interoperability

### 8. Rights

Base data set custodians are entitled to charge for spatial information. Users have a responsibility to **report data deficiencies**.

# Base dataset custodianship policy

- 6.1.1 **Authoritative Source** – base dataset custodians are responsible for the processes of data capture, validation, maintenance, archiving and documenting, including the **capture of metadata**
- 6.1.3.(a) **Access** – base dataset custodians will **capture metadata for their data holdings**. This will provide the public with the information needed to process and interpret data
- (f) Any base data set(s) that is disclosed or made available to users must include the **metadata** component
- (g) Base data set custodians should ensure that their **metadata is available to the public** by establishing a node at the Department's **Electronic Metadata Catalogue**

# Policy on pricing of spatial information products and services

**Two categories** of spatial information products and services:

- Products that are **generally available** from the organisation.  
Listed in the **organisation's manual of records** in line with section 14 of PAI Act, 2000 and revised annually
- **Customised** products and services that an organisation prepares for clients on specific request (**value-added products and services**)

## **COFUR principle**

- **COst of Fulfilling User Request (COFUR)** Pricing structure based on **recovering the costs of the materials** used for copying, printing, preparing for dispatch, postage and packaging - NOT DATA. Workstation and staff effort is also not included
- Aimed at encouraging **small business and non-traditional users** of spatial information to become involved in the spatial information industry

# Policy on pricing of spatial information products and services

## Value-added products and services

- Not generally available - **customised** for a specific request/purpose.
- The client will be **charged for the costs incurred** by the organisation in the provision of such products and services.
- **Pricing** will generally be determined by terms and conditions in a **service level agreement** or contract between the client and organisation.
- When a special product is prepared for a client and a new client subsequently requests the same product, COFUR principles must apply and the client should **not be charged for work previously done**
- **All costs**, including human resources, materials consumed, equipment, communication, transport, accommodation, rates and taxes (if applicable), and incidental cost must be used to determine cost

# SASDI Stakeholders

Data Custodians

Vendors

Users



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SDI Act, 2003 – Section 12

## Capture and publishing of metadata

- 12.(1)** A **data custodian** must **capture and maintain metadata** for any spatial information held by it in accordance with this Act.
- (2)** A **data custodian** must ensure that **metadata is available** to users by-
- (a) making its metadata available to the Department, in the prescribed manner, for inclusion in the **electronic metadata catalogue**; and
  - (b) including it in a **manual on functions** as described in section 14 of the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000).
  - (c) A **data custodian** must ensure that **metadata is available** to users by-
- (3)** The **Minister** may, by notice in the *Gazette*, **exempt any data custodian**, or **exempt any type of exercise** either in a particular instance or in general, from **any provision relating to the capture or maintenance of spatial information** contained in regulations made in terms of this Act

# SDI Act, 2003 – Section 13

## **Manner and refusal of access to spatial information**

- 13.** The **provisions** of the  
**Promotion of Access to Information Act, 2000**  
(Act No. 2 of 2000),  
relating to the  
**manner and refusal of access to records**  
**apply to any matter regulated in terms of this Act**

# SDI Act, 2003 – Section 14

## Supply of and accountability for spatial information

- 14.(1)** A **data custodian** may, in the prescribed manner, **appoint a data vendor** to supply products derived from the data custodian's dataset
- (2)** A **data custodian** is **accountable for the integrity of unmodified spatial information** which is supplied by the data vendor in terms of this Act
- (3)** A **data custodian** or a **data vendor** supplying spatial information **must provide-**
  - (a)** the information in a prescribed manner; and
  - (b)** the relevant **metadata together with the spatial information**



# SDI Act, 2003 – Section 15

## Agreements on utilisation of spatial information

- 15.(1)** A **data custodian** or a **data vendor** and a **user** may enter into a **licensing agreement** with regard to **the use of spatial information**.
- (2)** A **licensing agreement** must **provide for-**
- (a)** the **duration** of the agreement;
  - (b)** the **legal protection of the copyright** of the **State** and any other **interested party**; and
  - (c)** **any other provision** that the parties may consider necessary and as may be prescribed.

# SDI Act, 2003 – Section 16

## Collaborative Maintenance

- 16.(1)** **Data custodians** may exchange spatial information in terms of a **collaborative maintenance agreement** providing for the **regular updating of base data sets within an agreed period.**
- (3)** A **data custodian** of a base data set must, in the absence of an agreement contemplated in this section, **furnish all updates** of spatial information **of the base data set** to the **data custodian of a derivative data set**, within a prescribed period, in order **to ensure synchronized updates of the two data sets.**
- (4)** A **data custodian of a derivative data set** must **update the data set** within a **prescribed period after receiving an update of the base data set.**
- (5)** The **data custodian** of a base data set must **render all reasonable assistance** to the **data custodian of a derivative data set to perform the updating** contemplated in subsection (4).

# SDI Act, 2003 – Section 16

## Collaborative maintenance agreement

**16.(2)** A collaborative maintenance agreement must provide -

- (a)** for the duration of the agreement;
- (b)** a stipulation of the frequency with which updated versions of the base data set in question must be provided;
- (c)** the format and medium to be used in providing the updated spatial information ;
- (d)** for the legal protection of the copyright of the State and other interested parties; and
- (e)** any other provision that the parties may consider necessary and as may be prescribed.

# SDI Act, 2003 – Section 17

## Reporting on data quality

- 17.(1) User/vendor: report deficiency** in the **quality of spatial information**
- to the **data custodian/vendor** who supplied the information
  - **within a prescribed** period after discovering that deficiency;
- (2) User/vendor:** provide **specific and sufficient information** in the report
- to enable the data custodian/vendor who supplied the information
  - **to identify the record** concerned
- and must, **if possible, indicate what the record should contain.**
- (3) Data custodian: must respond**, in the prescribed time and manner,
- to the **user/vendor** after receiving the report on that deficiency.
- (4) If Data custodian does not respond** within the prescribed time,
- the **user** may **refer the matter to the Committee, and**
  - the **Committee** may take any **remedial action**  
it considers necessary or expedient

**DCPR: Form D:** Report regarding error or perceived deficiency in the quality of spatial information

# SDI Act, 2003 – Section 18

## Security of spatial information

A **data custodian** must-

- 18.(a)** take reasonable steps to **effect adequate and appropriate security** against **loss of spatial information** in his, her or its custody or any **unauthorised or unlawful access** to and **modification** or **disclosure** of that spatial information; and
- (b)** ensure the **protection of the copyright** of the **State** and **other interested parties** in **spatial information** in his, her or its custody.

# Shared Custodianship

- **Base Dataset Coordinator** (Coordinating Custodian)

Base data **governance**

Ensure datasets adhere to **policies, standards & specifications**

**Compatibility and integration** of adjoining geographical datasets collected from **different custodians** for **consolidation** into **national base datasets**

- **Spatial data custodian**

**spatial** data component (geometry)

- **Attribute data custodian**

**descriptive** data component (attributes)

# Data custodians

## Responsibilities:

- Make **Datasets** **available** to the public
- Publish **Metadata** on the **EMC**
- Ensure that **data** is **maintained** - **Data Maintenance Plan**
- Ensure that data is **accurate and current**
  - Data is **free from ambiguities**
  - **Quality** and resolution meets needs of intended users
  - **Metadata** must include a **quality statement**
- Ensure **security** measures are in place
- Adhere to **standards** prescribed by the Minister
- Register **data capture projects** in the **DCPR**

# Data custodians

Aspect	Responsibilities
Authoritative Source	<b>Mandate</b> ; <b>Data</b> content and management
Data quality	Data is <b>accurate, current, free from ambiguities</b> ; Adhere to <b>standards</b> ; <b>Metadata</b> quality statement; Meets <b>user needs</b>
Access	Make <b>datasets &amp; metadata available</b> to users; Ensure that data is <b>maintained</b> ; <b>Privacy</b> and <b>security</b>
Cooperation and coordination	<b>Sharing</b> spatial information; <b>Avoid duplication</b> of data/metadata capture; Consider <b>user needs</b> Follow up on <b>error reports</b> by users
Shared base dataset custodianship and governance	Manage <b>shared custodianship</b> ; Enable <b>collective inputs</b> ; Ensure <b>integration</b>
Data Capture Project Register	Register data capture projects: <ul style="list-style-type: none"> <li>• <b>Custodians</b>: Notify CSI of intention to capture data (Form E2)</li> <li>• <b>Non-custodians</b>: Request CSI for approval to capture data (Form E1)</li> </ul>



# Data Vendors and Users

## Responsibilities:

- **Users/Vendors** must **report errors** in **spatial information/base data sets**
  - to the base data set custodian(s)
  - from whom they obtained the data/information
  - in accordance with the SDI Act
  - within 90 calendar days of becoming aware of such errors
- **Users/Vendors may update base data sets** or spatial information
  - must be granted **permission by a base data set custodian**
  - updates must be returned to the base data set custodian
  - **at no cost**

### **Base Data Custodians must:**

- Provide **conceptual data model**
- assist (organs of state) with **data product specifications**

# SASDI Technical Tools

SASDI Website: <http://www.sasdi.gov.za>

EMC: <http://beta.sasdi.net/>

DCPR: (See SASDI Website)



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# SASDI Website



rural development  
& land reform

Department:  
Rural Development and Land Reform  
REPUBLIC OF SOUTH AFRICA



## SOUTH AFRICAN SPATIAL DATA INFRASTRUCTURE

[Home](#) [About](#) [CSI](#) [DCPR](#) [EMC](#) [Documents](#) [Contact us](#) [FAQs](#) [User Profile](#)



**SASDI Website:** <http://www.sasdi.gov.za/>

- Data Capture/Collection Project Register (**DCPR**)
- Committee for Spatial Information (**CSI**) Portal
  - **Standards Portal** (ISO, SANS, FGDC, Other )
- Electronic Metadata Catalogue (**EMC**)
  - **SASDI EMC Portal** on SAEON system:

**Updated**

**In development**

**To be developed**

**To be developed**

**Deployment &**

**Enhancement**

# Electronic Metadata Catalogue

(EMC)

<http://beta.sasdi.net/>



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# Electronic Metadata Catalogue (EMC)

The **EMC** is a “search and discovery” solution with **detailed metadata** enabling users to **search and access spatial data** that is most **suitable for a specific purpose**.

**It is obligatory for Data Custodians** to **capture metadata** for their data holdings on the EMC  
[beta.sasdi.net](http://beta.sasdi.net) (Beta version)

# Electronic Metadata Catalogue (EMC)

The NSIF has procured **SAEON\*** to host the **EMC** for 3 Years From 12 August 2015 - this includes:

- **SAEON Hosting, support and maintenance**
  - (SASDI) EMC hosted as a portal within the SAEON System
- **Capacity Building**
  - NSIF support staff and **custodians**
- **System enhancements**
  - Improved **metadata editing** (Mandatory metadata elements)
  - Extension of reporting – **custom reports**
  - Adapters: **harvesting from ArcCatalog**

\*SAEON: South African Environmental Observation Network,  
within the National Research Foundation (NRF),  
Department of Science and Technology

# Why SAEON as Platform for the EMC?

The metadata tool previously used for the SASDI, the *Spatial Metadata Discovery* (SMD) facility, made it difficult to fully realize the objectives of the SDI Act. It was due to these deficiencies that a recommendation was put forward to the Committee for Spatial Information (CSI), established by the Act, to decommission the SMD and propose the development of a new system (2012)

## SAEON Offers:

**Shared platform** developed and maintained by SAEON

Already a number of **stakeholders and participants**

**Search and Discovery;** filtering and visualisation

**Custodian** registration and management

**Metadata** capture, harvesting, editing and management

**Content** upload and download (Metadata / Site information)

# Electronic Metadata Catalogue (EMC)



rural development  
& land reform  
Department:  
Rural Development and Land Reform  
REPUBLIC OF SOUTH AFRICA



Home Search Documents ▾ Support ▾ Nodes About ▾

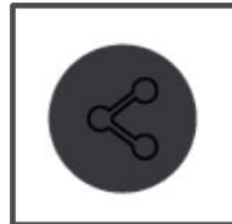
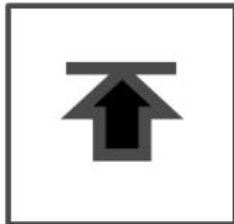
Register Sign in ▾

Discover, Access, and Visualise Data

SAEON provides a suite of services and infrastructure in support of the research and innovation community in South Africa. It does so by offering a range of cloud-based products, ranging from individual packaged hardware or software platforms to complete Research Data Infrastructure gateways - all on demand.

○○●

Services for Everyone...



SASDI - flexible support for Spatial Data Infrastructure in South Africa



Top



# Capturing Metadata

Metadata capture considerations



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# Metadata

**Describes** the content, quality, condition and characteristics of **geospatial resources**

The **who, what, when, where, why, how** of data

## Purpose of metadata

- **Maintenance** – defines geospatial resource investment
- **Dissemination** – users, distributors, data catalogues
- **Use** – information needed to interpret and process data from external sources

## Roles of metadata

- **Discovery/availability** – what datasets exist?
- **Fitness for use** – will it meet a specified need?
- **Access** – from who/where can it be accessed?
- **Data transfer** – how can it be integrated with existing data?

# Typical elements for metadata capture (1)

Note: Actual elements and obligation may vary according to schema applied

## ❖ **Identification/Citation:** (*What, by whom, why*)

- Title (M) [Dataset title]
- Portal URL/ on-line resource link (O)
- Subject (M)
- Publication/Dataset reference date (M).
- ★ **Author/Responsible party:** (*Who to contact*)
  - Author/creator responsible party/individual (M)
  - Publisher responsible organisation (M)
  - Address (O)
  - Position/role (O)
  - Contact details (O)
- ★ **Associated party/co-author(s):**
  - Contributor individual (C)
  - Contributor organisation (C)
  - Address (O)
  - Position/role (O)
  - Contact details (O)
- Topic category, Keywords (M)
- Abstract/description (M)

## ❖ **Usage, restrictions, constraints:** (*For whom, for what*)

- License and user rights (M)
- Provenance/lineage/origin of input data (O)

## ❖ **Methodology:** (*How*)

- Main step(s) (O)
- Detailed documentation/description (O)
- Instrumentation (O).

## ❖ **Technical parameters:** (*What*)

- Language (M)
- Character set (M)
- Scale/resolution (C)
- Distribution format(s) (M)
- Format version (C)
- Data/spatial representation type (C)
- Spatial reference system (M) and Projection (C)
- Data Quality (M)
- Maintenance (M)

## ❖ **Data dictionary/schema:** (*What*)

- Object type/name (M)
- Attribute name(s) (O)
- Definition, valid values (O)
- Column/field name(s) (O)
- Value type (O)
- Dictionary URL or schema (O)

**Key:** ❖ Section, • element      ★ Entity, – element

Elements and obligations may vary according to Metadata schema applied

# Typical elements for metadata capture (2)

Note: Actual elements and obligation may vary according to schema applied

- ❖ **Coverage/dimensions of the dataset: (where, when)**
  - ★ **Spatial coverage/ bounding coordinates - provide at least one of the following:**
    - Geographic identifier/location/name (M)
    - **Geographic Reference:**
      - Latitude (C); Longitude (C)
    - Bounding coordinates:
      - North (M); South (M); West (M); East (M)
  - ★ **Vertical extent/coverage:**
    - Minimum (C); Maximum (C);
    - Unit of measure (C);
    - Datum (C)
  - ★ **Temporal extent/coverage:**
    - Begin date (M)
    - end date (M)
  - ★ **Physical measurement/observation coverage:**
    - Quantity (O) and Unit (O)
  - ★ **Taxonomic coverage:**
    - Rank(s) (C) and Value(s) (C)
- ❖ **Metadata elements:**
  - ★ **Online resource:**
    - Metadata online URL (C)
    - Protocol (C)
    - Name (C)
    - Description (C)
  - ★ **Metadata standard:**
    - Metadata standard name (M);
    - Version (O)
    - Language (M)
    - Character set (O)
    - Metadata file identifier (M)
    - Metadata creation date/time stamp (M)
    - Maintenance (M)
  - ★ **Custodian (metadata):**
    - Metadata contact/individual (M)
    - Organisation (M)
    - Address (O)
    - Position/role (O)
    - Contact details (O)

**Key:** ❖ Section, • element      ★ Entity, – element

Elements and obligations may vary according to Metadata schema applied

# Capturing metadata

- **Capture metadata!**
  - Without metadata, a digital resource may be irretrievable
  - capture as much metadata as needed to describe the dataset
  - In an EMC it is only possible to search on metadata elements captured
- **Metadata Management Plan**
  - Metadata capture responsibilities
  - metadata standard, elements; validation procedures; guidelines
  - Publish in metadata catalogue; Distribute with datasets
- **Part of business process**
  - Data capture practitioners provide technical inputs
- **Standardise vocabulary** - Keywords, terminology, data dictionary
- **Properties** - (inherent): extent, coordinate system
- **Documentation** – keywords, purpose, organisation, contacts

# Capturing metadata

Documentation elements

## Capture Metadata!

```
- <descript>
  <abstract>REQUIRED: A brief narrative summary of the data set.</abstract>
  <purpose>REQUIRED: A summary of the intentions with which the data set was developed.</purpose>
</descript>
- <timeperd>
  <current>REQUIRED: The basis on which the time period of content information is determined.</current>
  - <timeinfo>
    - <sngdate>
      <caldate>REQUIRED: The year (and optionally month, or month and day) for which the data set corresponds to the
      ground.</caldate>
- <spdom>
  - <bounding>
    <westbc>25.689145</westbc>
    <eastbc>31.376779</eastbc>
    <northbc>-22.121581</northbc>
    <southbc>-26.194629</southbc>
    </bounding>
  </spdom>
</keywords/>
<acconst>REQUIRED: Restrictions and legal prerequisites for accessing the data set.</acconst>
<useconst>REQUIRED: Restrictions and legal prerequisites for using the data set after access is granted.</useconst>
  <cntper>REQUIRED: The person responsible for the metadata information.</cntper>
  <cntorg>REQUIRED: The organization responsible for the metadata information.</cntorg>
</cntorgp>
- <cntaddr>
  <addrtype>REQUIRED: The mailing and/or physical address for the organization or individual.</addrtype>
  <city>REQUIRED: The city of the address.</city>
  <state>REQUIRED: The state or province of the address.</state>
  <postal>REQUIRED: The ZIP or other postal code of the address.</postal>
</cntaddr>
  <cntvoice>REQUIRED: The telephone number by which individuals can speak to the organization or individual.</cntvoice>
</cntinfo>
```

Auto-generated!

Property elements

# Capturing metadata

- Default (auto-generated) metadata is not enough!  
**This is not sufficient proof of fulfilling SDI obligations**
- If metadata is **lacking vital information**
  - the datasets **may not be discoverable**
  - deprives users of the ability to determine data's **“fitness for use”**
    - **withholding vital information** is contrary to the PAIA Act
      - users must **acquire** the dataset **to determine fitness for use**
      - this is **time-consuming** and **wasteful expenditure**
- The capturing of metadata is **mandatory for data custodians!**
  - All stakeholders should capture metadata for their holdings
  - Metadata lends **credibility** to: **spatial resources; organisation** responsible

# Meaningful metadata

- Metadata becomes meaningful when it
- is properly **captured**
  - is **available** for **discovery**
  - has information to determine data's **fitness for use** for a specified
    - topic/purpose,
    - geographic area/extent,
    - time frame
  - enables the user to **access** the data/resource
    - or contact details to acquire such
  - guides the transfer or **integration** of the data

if **Metadata is Meaningful** it

**improves access to and use of spatial data by all**



# Data Capture Project Register

(DCPR)

<http://www.sasdi.gov.za/DCPRHome.aspx>



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**

# Data Capture Project Register (DCPR)

The *Base Dataset Custodianship Policy* establishes the **DCPR** as a tool to register all spatial data capture/collection projects prior to being undertaken.

## Purpose:

- Efficient **data capture management**
- **Custodians: Notification of intention** to capture spatial data
- **Non-custodians: Application** to capture spatial data
- Optimise process and costs of capturing spatial data
  - **Coordinate** efforts,
  - **Know** who is capturing what.
- **Reduce duplication** of capturing spatial data
- Easy **online** spatial data capture project registration

# DCPR: Forms

The DCPR provides a platform for users to **report errors** or **submit their user requirements for capturing data**

- **FORM D: Report regarding error or perceived deficiency** in the quality of spatial information
  - Reported by **user** for action by dataset custodian
- **FORM F: Submission of spatial data capture requirements**
  - **Users** may submit their spatial data capture needs

The DCPR provides a platform to **register, adjudicate and track projects that are intended for capturing spatial data.**

- **FORM E1: Request Approval** from Committee for Spatial Information (CSI) to capture spatial data
  - compulsory for **Non-Base Dataset Custodians**
- **FORM E2: Inform** Committee For Spatial Information (CSI) of the Intention to capture spatial data
  - **Base Dataset Custodians**

# Form D: Report regarding error or perceived deficiency in the quality of spatial information

## Purpose of Form D

To **manage** and **track data error reports** by users

- **Users:** Submit Form D to **report errors** in spatial information/base data sets
- **NSIF:**
  - If the user does not submit Form D directly to the custodian, forward to the relevant custodian
  - Tracks the **status**
- **Custodians: must respond** to users within the prescribed time, and
  - **Provide feedback** regarding the error/deficiency
  - **Correct** the spatial data
  - **Supply the corrected spatial data**, with the metadata, to the user

# Form E1: Request Approval from Committee for Spatial Information (CSI) to capture spatial data

## To be completed by **non-custodians**

A **Non-custodian** is any organ of state that is not identified as custodian for the dataset which they intend to capture (This could include a custodians of datasets other than that being applied for)

## Purpose of Form E1

- **Non-custodians** may not undertake **data capture/maintenance projects** without the **approval of the CSI**
- The **CSI**, in collaboration with relevant custodians, **must determine**
  - If the application constitutes any **duplication** of existing or proposed data capture
  - if the application to capture data will constitute an **infringement of the custodian's responsibility**
  - If the custodian is **unable to capture the datasets themselves** they may recommend that **approval be granted** on **condition** that the **custodian** takes responsibility for compiling **specifications and guidelines**
- **Custodians: manage/guide data capture**, undertaken by non-custodians, that falls under their mandated responsibility
- **NSIF: administrate** and **report on the status** of all applications submitted

# Form E2: Inform Committee For Spatial Information (CSI) of the intention to capture spatial data

## Purpose of Form E2

- **Custodians:** Inform the CSI of intended data capture/maintenance projects, for any datasets of which they are custodians
  - Determine user needs in terms of Batho Pele principles
    - Compile User Requirement specifications
    - Consider Form F requests
    - Engage with stakeholders to determine their needs
    - Compile data capture specifications
- **CSI:** Takes note of intended data capture projects
  - Can intervene in the interest of Stakeholders and users
- **NSIF:** administrate and report on the status of all notifications submitted

# Form F: Submission of spatial data capture requirements

## Purpose of Form F

- **Users:** submit their **data requirements** to be taken into consideration by **custodians** when **undertaking data capture/maintenance projects**
  - This fulfils the **public participation** requirement
- **NSIF:** **consolidate Form Fs submitted** by users for **submission to the CSI** (at their next meeting)
- **CSI:** in **collaboration with custodians**, determine the possibility of taking users needs into consideration to **avoid data capture duplication**
- **Custodians** are required to **take user needs into consideration** when planning the capture or updating of datasets

For more information contact:

# National Spatial Information Framework NSIF

Department: Rural Development and Land Reform

Branch: National Geomatics Management Services

Chief Directorate: Cadastral Spatial Information

[nsif@drdlr.gov.za](mailto:nsif@drdlr.gov.za)



rural development  
& land reform

Department:  
Rural Development and Land Reform  
**REPUBLIC OF SOUTH AFRICA**