

NSDI HIGHLIGHTS

NAMIBIA NSDI HIGHLIGHTS, VOLUME 1, ISSUE 5, 2018-19

1st Namibia GIS-NSDI Forum 2018 held in Windhoek



NSA hosted the first Namibia GIS-NSDI Forum from 26- 27 July 2018 at NIPAM in Windhoek. The 2 day forum was hosted in conjunction with Hatfield Consultants Africa, a representative of Digital Globe. This first of its kind forum was aimed at creating national awareness of the value of geospatial information in national development planning and efforts made by the Namibian government to establish the National Spatial Data Infrastructure (NSDI) as per the Statistics Act, No. 9 of 2011.

More than 300 delegates from various industries attended the forum themed “Unlocking the value of geospatial information in planning”. Speakers from different sectors as well as the international community presented about topics such as the evolvement of earth observation, solutions for our rapidly changing planet, and geospatial data for marine spatial planning amongst many others.

In addition to the presentations and discussions, provision was also made for business entities from the GIS and environmental fields as well as academic institutions to exhibit their products and services. Seven business entities from Namibia and South Africa had an opportunity to exhibit what they do and engage with potential clients. Stakeholders appreciated the forum and indicated that they would like to have more platforms of that kind more often at national level.

Namibia soon to subscribe to DigitalGlobe’s EarthWatch Cloud-Based Satellite Image Streaming Services

NSA will soon subscribe for a one (1) year EarthWatch Cloud-Based supply license with DigitalGlobe, the world leader in the supply of high resolution civilian satellite imagery for mapping purposes. The NSA is expected to hold the license on behalf of the government within the framework of the NSDI as per the Statistics Act, No. 9 of 2011.

The online basemaps/ images will cover the entire country with the following basic characteristics:

- Urban areas = 30 cm spatial resolution
- Rural areas = 50 cm spatial resolution
- All with at least a tolerance of 15% cloud cover.
- Images can be delivered in UTM and WGS 84 Geographic Coordinate Systems
- Image Formats when downloaded: Tiled GeoTIFF
- We are also going to have access to all available historical images of the country.

Two dedicated national download nodes will be set up at the NSA and Ministry of Land Reform (Directorate of Survey and Mapping). Access to images will be free and unlimited to all government entities and such institutions can also have direct online access. However, only the two nodes will be able to download images for requested areas. A national mapping strategy will be drafted and submitted to the Committee for Spatial Data by February 2019.

New Executive: GIS and NSDI Coordination



We would like to congratulate Mr. Alex Mudabeti on his new appointment as Executive: GIS and NSDI Coordination effective 1st August 2018. He previously held the position of Manager: NSDI Coordination. He brings vast experience and skills to his new position.

More capacity building on the management of the Namibia Geographic Portal



Mr Frode Wiseth Jørgensen from AVINET, Norway came to perform final tasks on the Namibia geoportal and metadata browser including further capacity building in July 2018. As part of capacity building strategy for partner organizations of the NSDI, staff from the Ministry of Land Reform, Ministry of Mines and Energy, Roads Authority, Ministry of Agriculture, Water and Forestry and Namibia University of Science and Technology took part in the final training.

The upgrade had several improvements and bug fixes, an important one for the NSA was the ability to make more use of their custom coordinate system.

The latest version fixed the challenges experienced with downloading from data view and to upload data in the module "My Data".

More highlights are:

- Improvement in performance on start-up
- Better support for large data view
- Shortcut for printing and print area saving option
- Polygon search to find objects in polygon
- Mapserver upgrade to version 7
- Mapcache - NSA decided to cache the basemaps to allow for saving thumbnails for already zoomed or viewed areas which leads to a faster basemap.

National Geographic Portal of Namibia: User Statistics

NSA launched the first of its kind national geographic portal called "digitalnamibia" accessible on <https://digitalnamibia.nsa.org.na> on the 21st of August 2017. Since then the response from the users has been great! It has become the number one source of Namibian authoritative geospatial data and contributes greatly to data dissemination as set out in the NSDI Policy. It has grown from strength to strength to reach a wider audience at both national and global scales as well as showcasing the country's infrastructure to potential investors.

Over a 13 month (August 2017 to September 2018) period, the website recorded 5 054 sessions from 1 965 users from which 26% are returning visitors (already accessed digitalnamibia at least once) and 74% are new visitors. Average session lasted 9 minutes and 11 seconds with a bounce rate of 0.36%. The total registered users on the portal has grown to 200, this is only about 10% of the total users. It is important to register to the platform as this unlocks new features such as 'My data' tool which permits to add own datasets and view on the platform.

Setting up the Otavi Town Council Open Source GIS Solution

In June 2018 the Otavi Town Council, requested the NSA to assist it with setting up a Geographic Information System (GIS) unit and training of staff members in line with the NSDI. NSA conducted system analysis in August 2018 to understand the council's needs and has piloted an open source GIS solution in November 2018. The technical assistance NSA is providing to the Otavi Town Council is in line with the capacity building initiative outlined in the National Spatial Data Infrastructure (NSDI) policy and strategic plan.

The implementation of a truly functional national SDI requires data development at local and regional level. The local SDI nourishes the regional SDIs which in return converge into the national SDI. This arrangement streamlines capacity building, data collection and dissemination into the national digital infrastructures of geospatial data, tools and services.

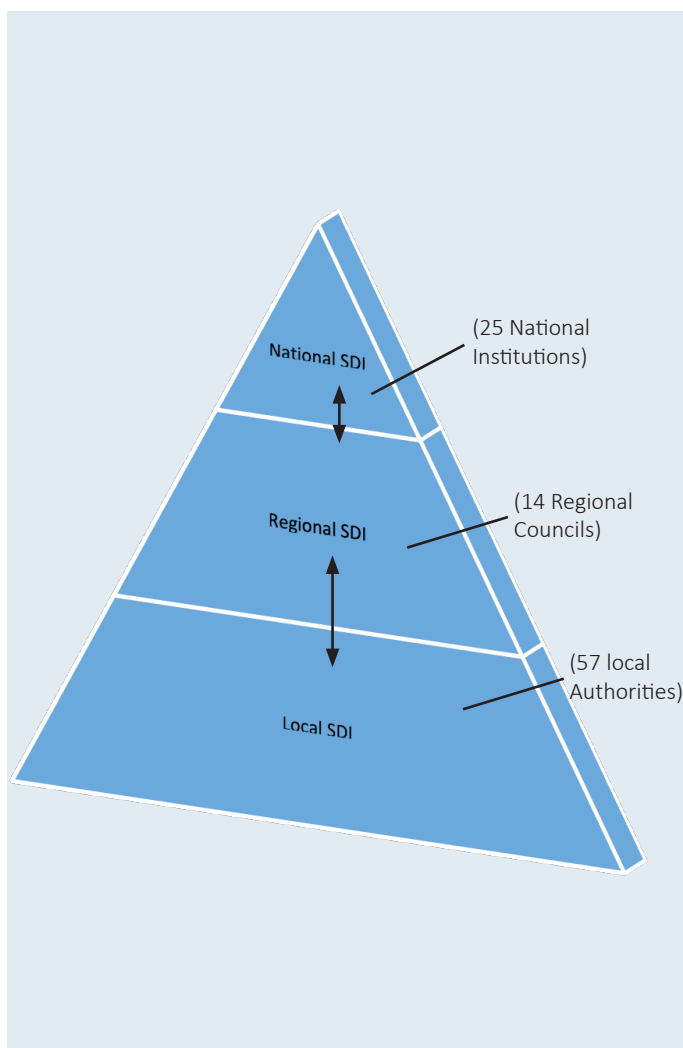


Figure 1: SDI Hierarchy

The role of the private sector needs to be intensified in this development process. Therefore it is important that the private sector join the NSDI initiative especially in areas of capacity building, ICT infrastructural improvement, data management and technology advocacy in the public sector.

NSDI and Second National Land Conference 01 – 05 October 2018

Namibia held its second National Land Conference in Windhoek from 01- 05 October 2018. The subject matter being land, the importance of a strong National Spatial Data Infrastructure could not be overemphasized. NSA contributed to the land conference by compiling a National Land Statistics Booklet using some of the information from the NSDI, mainly GIS data for geometric calculations and maps. Information in the NSDI was used to validate some of the statistics obtained from various institutions. However, the land conference went without critical spatial information such as land productivity, land use, land allocation, etc. This solidifies the need for a spatial data infrastructure to be a source of timely, reliable and quality land statistics for evidence-based planning, decision making and policy formulation.



Education Planners' trained on GIS as a tool for School Mapping

The Ministry of Education, Art and Culture (MEAC) as a partner in NSDI implementation has recognised the important of GIS in planning. The Ministry requested for capacity building in GIS for all the education planners during the period 18-20 September 2018. NSA provided two staff members to conduct the training. It must be mentioned that MEAC sits on the NSDI Inter-Agency Steering Executive Subcommittee and annually since 2017 provides the 15 day school statistics to the NSDI to be linked to location. GIS as a tool is vital in educational planning in areas such as placement of new schools and related facilities, allocation of resources, physical accessibility by learners, geography teaching, etc.



Restructuring at the United Nations Statistics Division (UNSD)

On 15 October 2018, the statistics division of the United Nations (UNSD) officially announced the restructuring of the division. The notable change in the new structure is the creation of the new branch called Environmental Statistics and Geospatial Information. The branch consolidates all the work that the UNSD has done on environmental information systems and geospatial information. The combination of the Environment and Geospatial Information System branch with other two branches; Economic Statistics Branch as well as the Demographic and Social Statistics branch now reflects the three pillars of the 2030 Agenda for Sustainable development.

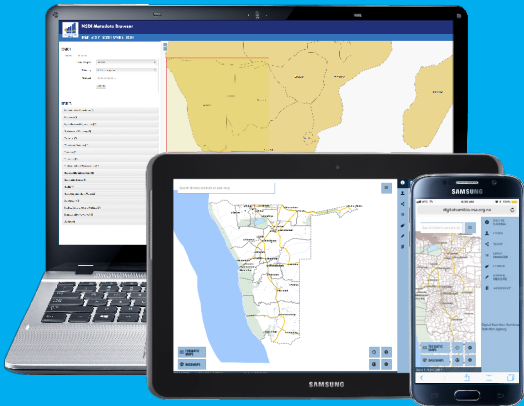
The new structure of the UNSD is essential to the development of the National Spatial Data Infrastructure (NSDI) in Namibia as it emphasises the importance of spatial data. Namibia is one of the few countries in the world that has already gone a step ahead by ensuring the integration of statistics with spatial data in its legal framework. However, it is still hoped that recognising the importance of spatial data at a higher level such as the UNSD will encourage political and high level support and participating organisations to follow suit and support NSDI related activities in Namibia.

NSA participates in the Open Geospatial Consortium Workshop and the Applied Geoinformatics for Society and Environment (AGSE) 2018 Conference

Namibia University of Science and Technology (NUST) and NSA co-hosted the workshop on the Open Geospatial Consortium and its geospatial interoperability standards. The workshop was in line with the NSDI's capacity building plan for 2018. The workshop was held at NUST from 08 - 09 November 2018 and eight (8) staff members of the Department of GIS and NSDI Coordination were trained. Other institutions which attended the workshop included Geobusiness Solutions, NUST, UNAM and the Ministry of Mines and Energy. Various topics such as web technologies, encoding spatial data, standardization, and OGC specifications were covered in the workshop.

The workshop was followed by the Applied Geoinformatics for Society and Environment (AGSE) 2018 conference. Mr Alex Mudabeti was the key note speaker at the opening of this conference in which he highlighted the need for Namibia to prioritise data and information in decision making. Mr Mudabeti emphasised that data and information emanating from data must be at the core of national development planning especially with regards to evidence-based decision making.

He called for an urgent national data management plan especially with regards to development planning, environmental management, land management, and disaster risk management. Efforts are already made within the framework of the Statistics Act, No. 9 of 2011 to develop the National Spatial Data Infrastructure (NSDI) and National Statistics System. However these initiatives, spearheaded through the NSA still need to be supported at the highest level.



geofind.nsa.org.na

“Building a Spatially-Enabled Society”

Online search, view and perform basic geospatial analysis on fundamental datasets held by government bodies and available private sector bodies.



Namibia receiving international recognition in NSDI implementation

Namibia is becoming recognised in Africa as among a few countries making progress in the implementation of its spatial data infrastructure. When conducting SDI readiness assessment, researchers mainly use the SDI readiness index which assesses several areas of SDI development. Some of the areas mostly considered include:

- Countries with NSDI coordination bodies
- Countries with a legal framework in place
- Countries with adequate financial support
- Countries with reasonable political support
- Countries with reasonable stakeholder participation
- Countries with NSDI Clearinghouses

An assessment conducted by Makanga and Smit (2010) from the University of Cape Town rated Namibia low in all the six (6) categories in 2010. Namibia moved very quickly from that time to set up its NSDI legal framework within the Statistics Act, No. 9 of 2011. As of 2018, Namibia is now seen to be among the leaders in SDI implementation in Africa. An assessment conducted in 2018 shows that Namibia has turned the map to green in terms of SDI initiatives (compare figures below).

Figure 2: Status of SDI in Africa (2010)



Makanga & Smit (2010)

Figure 3: Status of SDI in Africa (2018)



Adapted from Schwabe & Govender (2018)

Namibia boasts a modern Statistical law which recognise both statistics and geospatial information as critical to providing evidence-based planning and decision making. The country has even gone to the extreme by developing a one stop national geographic portal/clearinghouse for spatial data following the formulation and gazetting of critical NSDI standards on data quality and metadata.

Because of the global recognition, NSA being the coordinating body for the NSDI, has been and is being invited to several international platforms including conferences to share experiences in SDI implementation. Staff members of the NSA participated in the United Nations (UN) sanctioned initiatives such as the finalisation of the fourteen (14) Global Geospatial Fundamental Data Themes and the development of a Global Statistical Geospatial Framework. NSA also was invited to present a paper at the International Data Week Conference in November 2018 which took place in Gaborone, Botswana, on African Best Practices in developing digital geospatial data, tools and services with a case study of Namibia.

United Nations World Geospatial Information Congress (UNWGIC) 2018, Deqing, China



The UNWGIC 2018 was held in Deqing, Zhejiang Province, China from 19 to 21 November 2018. The Congress met under the purview of the United Nations to substantively improve and strengthen the role of geospatial information management, innovation and related technologies towards implementing the 2030 Agenda for Sustainable Development, thereby increasing the capacities, capabilities and opportunities for all countries. The theme of the Congress was “The Geospatial Way to a Better World.” NSA represented Namibia in the more than 800-participants congress within the framework of the NSDI.

Key to the outcomes of the Congress is the resolve by UN member states to implement the Integrated Geospatial Information Framework as a fundamental and enabling methodological framework and infrastructure for creating greater social, economic and environmental understanding, evidenced based decision making, design and delivery of projects and services, and implementing and achieving the 2030 Agenda for Sustainable Development.

Also a call was made upon all Member States, institutions, academia, industry and individuals including the United Nations system to explicitly connect geospatial information to national development agendas. The Congress further reaffirmed the need to work together to build a human data and geography community for a shared and better future, to reduce the geospatial information divide by fostering effective cross-sector and interdisciplinary international, regional and local collaboration and partnerships, in support of national development priorities. Namibia will continue to participate in local, regional and global platforms as the country strive to build NSDI capacity while aligning its development strategy to the Integrated Geospatial Information Framework.

Annual national sampling frame adjustment in fast growing areas of the country by the end of September 2018

The Agency conducts annual updates of the National Sampling Frame (PSUs) mainly in fast growing areas. This frame is updated by splitting PSU's that have exceeded household numbers as per the guidelines. Areas that are also reported to have shown negative growth in number of households are visited in order to merge those to neighbouring PSUs. Every end of September each year, the sampling frame is stamped and the new frame becomes the basis for sampling for the year starting in October. Figure 4 below shows the growth trend of both enumeration areas since 1991 (green) and primary sampling units since 2014 (red).

Figure 4: Growth trend of enumeration areas and sampling units



LEGEND

Enumeration Areas (Green) National Sampling Frame (Red)

It is important to note that the sampling frame is updated regularly to reflect the demographic changes in the country. This update has data quality, financial and logistical implications on surveys and censuses conducted by the NSA and in the NSS. Firstly this determine the workload and resource allocation for any statistical project and secondly, it ensures that statistics can be reported correctly on the correct administrative boundaries.



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Upcoming Events

2019 Calendar

January							February							March						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31					29	30	31				

April							May							June						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30						29	30	31					29	30	31				

July							August							September						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31					29	30	31				

October							November							December						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31					29	30	31				

- January 2019: NSDI Inter-Agency Steering Executive Subcommittee Meeting
- February 2019: Committee for Spatial Data Meeting



1. The old City boundary of Windhoek measured just over 64 000 hectares compared to the newly extended city boundary of 514 216 hectares. This shows that the city boundary has increased by more than 87%.
2. As of September 2018, the NSDI held a total of 1816 mapped schools. Out of these schools, a total of 1762 are linked with basic statistics for 2018. These statistics include number of learners and teachers with their sex proportion (male/female), ownership of the school, number of repeaters, etc.