United Nations Convention to Combat Desertification
Performance review and assessment of implementation system
Seventh reporting process

Report from South Africa

United Nations
Convention to Combat Desertification

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SO1-1 Trends in land cover

Land area

SO1-1.T1: National estimates of the total land area, the area covered by water bodies and total country area

Year	Total land area (km²)	Water bodies (km²)	Total country area (km²)	Comments
2001	1 214 498	5 519	1 220 017	
2005	1 214 622	5 395	1 220 017	
2010	1 214 596	5 421	1 220 017	
2015	1 214 542	5 475	1 220 017	
2019	1 214 391	5 347	1 219 738	There is a reported difference in total country area. This is because we used the National Geospatial Information (NGI) Land Mass Coastline and Provincial Boundaries from the South African Municipality Database, which avoids the issues of using municipal boundaries that often have coastal artefacts, such as Marine Protected Areas included. We therefore elect to update the 2001 dataset with the current South African Boundary, which was updated based on the SANBI National Biodiversity Assessment dataset (https://www.sanbi.org/biodiversity/building-knowledge/biodiversity-monitoring-assessment/national-biodiversity-assessment/). This is a more accurate representation of South Africa's boundaries, developed by local experts. The difference in total area between the updated South African boundary (2019) and previous default boundary (2001 - 2015) is 279 km2. We recommend all previous and future analyses use the updated SANBI NBA boundary.

Land cover legend and transition matrix

SO1-1.T2: Key Degradation Processes

Degradation Process	Starting Land Cover	Ending Land Cover
Deforestation	Tree-covered areas	Croplands
Deforestation	Tree-covered areas	Artificial surfaces
Other Agricultural expansion	Grasslands	Croplands
Other Agricultural expansion	Other Lands	Croplands
Urban Expansion	Grasslands	Artificial surfaces
Urban Expansion	Croplands	Artificial surfaces
Urban Expansion	Other Lands	Artificial surfaces
Wetland Drainage	Wetlands	Grasslands
Wetland Drainage	Wetlands	Croplands
Wetland Drainage	Wetlands	Artificial surfaces
Wetland Drainage	Wetlands	Other Lands
Other Flooding	Tree-covered areas	Water bodies

Degradation Process	Starting Land Cover	Ending Land Cover
Other Flooding	Grasslands	Water bodies
Other Flooding	Croplands	Water bodies
Other Flooding	Wetlands	Water bodies
Other Flooding	Other Lands	Water bodies

Are the seven UNCCD land cover classes sufficient to monitor the key degradation processes in your country?

- (•) Yes
- ( ) No

SO1-1.T4: UNCCD land cover legend transition matrix

Original/ Final	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
Tree-covered areas	0	0	-	0	-	0	-
Grasslands	0	0	-	0	-	0	-
Croplands	+	+	0	-	-	+	-
Wetlands	0	0	-	0	-	0	-
Artificial surfaces	+	+	+	+	0	+	0
Other Lands	0	0	-	0	-	0	-
Water bodies	+	+	+	+	0	+	0

Land cover

SO1-1.T5: National estimates of land cover (km²) for the baseline and reporting period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	No data (km²)
2000	100 387	933 713	166 464	3 114	4 066	6 747	5 527	
2001	99 282	933 932	166 992	3 121	4 379	6 792	5 520	
2002	98 584	933 907	167 304	3 142	4 659	6 940	5 481	
2003	97 711	934 129	167 702	3 166	4 899	6 976	5 434	
2004	96 809	933 620	168 993	3 189	5 036	6 969	5 401	
2005	96 630	933 462	169 068	3 186	5 284	6 992	5 395	
2006	96 408	933 384	169 119	3 188	5 480	7 026	5 411	
2007	95 862	933 353	169 379	3 186	5 691	7 129	5 418	
2008	95 684	933 131	169 601	3 186	5 856	7 146	5 414	
2009	95 422	932 723	170 078	3 187	6 013	7 173	5 423	
2010	95 053	932 731	170 304	3 188	6 150	7 170	5 422	
2011	94 854	932 741	170 374	3 189	6 286	7 151	5 424	
2012	94 551	932 792	170 482	3 190	6 458	7 121	5 422	
2013	94 305	932 593	170 491	3 188	6 933	7 089	5 420	

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	No data (km²)
2014	94 151	932 421	170 611	3 173	7 194	6 991	5 477	
2015	94 115	932 370	170 565	3 172	7 332	6 988	5 476	
2016	102 310	832 256	170 523	3 167	7 546	98 576	5 360	
2017	102 080	832 147	170 530	3 166	8 018	98 437	5 359	
2018	101 788	832 096	170 896	3 167	8 250	98 184	5 357	
2019	101 624	831 146	171 554	3 167	8 787	98 112	5 347	
2020								

Land cover change

SO1-1.T6: National estimates of land cover change (km²) for the baseline period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	Total (km²)
Tree-covered areas (km²)	90 504	4 821	3 582	81	1 371	5	24	100 388
Grasslands (km²)	2 362	926 524	2 796	9	1 431	523	68	933 713
Croplands (km²)	1 152	694	164 172	15	354	58	20	166 465
Wetlands (km²)	25	0	4	3 035	37	0	13	3 114
Artificial surfaces (km²)	0	0	0	0	4 066	0	0	4 066
Other Lands (km²)	2	245	2	0	62	6 395	41	6 747
Water bodies (km²)	70	86	11	33	10	7	5 310	5 527
Total	94 115	932 370	170 567	3 173	7 331	6 988	5 476	

SO1-1.T7: National estimates of land cover change (km²) for the reporting period

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	Total land area (km²)
Tree-covered areas (km²)	101 068	530	302	11	396	2	1	102 310
Grasslands (km²)	422	830 191	1 015	0	575	47	6	832 256
Croplands (km²)	120	23	170 217	1	161	2	0	170 524
Wetlands (km²)	5	1	2	3 154	5	0	0	3 167
Artificial surfaces (km²)	0	0	0	0	7 546	0	0	7 546
Other Lands (km²)	8	395	8	0	105	98 060	0	98 576
Water bodies (km²)	1	6	9	0	0	3	5 340	5 359
Total	101 624	831 146	171 553	3 166	8 788	98 114	5 347	

Land cover degradation

SO1-1.T8: National estimates of land cover degradation (km²) in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded land cover	13 070	1 .1
Land area with non-degraded land cover	1 206 946	98 .9
Land area with no land cover data	0	0 .0

SO1-1.T9: National estimates of land cover degradation (km²) in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved land cover	164	0 .0
Land area with stable land cover	1 211 657	99 .3
Land area with degraded land cover	2 570	0 .2
Land area with no land cover data	0	0 .0

General comments

We used the ESA CCI-LC default land cover dataset from the TRENDS.EARTH plugin in QGIS to populate tables SO1-1 T5 and T7. The data in T5, T6 and T7 do not tally because the data in T5, are the data originally in the system (except for the reporting period of 2016 - 2019). We did not adjust values in T6, as this represents land cover changes for the baseline period. But, due to non congruence between our classifications for the baseline period and our reporting period, differences in certain land cover types are particularly marked. In particular, 'Tree-covered areas' and 'Grasslands' in T6 and T7 do not tally with the data presented in T5, because we changed some of the subcategories between different IPCC classes. These were Class 110 [Mosaic herbaceous cover (>50%)/tree and shrub (>50%)] from 'Grassland' to 'Tree-covered areas', because the UNCCD defines tree-covered area as those with tree density >15%, and Class 150 [Sparse vegetation (tree, shrub, herbaceous cover) (<15%)] to 'Other 134 Land' rather than 'Grasslands', because ecological processes like carbon sequestration and erosion are very different between very sparse vegetation and grasslands. It may be necessary to revisit the datasets used from 2001, and perhaps recalculate values, but at present, we have left entries accepted over previous years unchanged. Making these changes will likely provide a better reflection of land cover in South Africa. We did not indicate that the seven UNCCD land cover classes were not sufficient to monitor the key degradation processes in South Africa, as the form that is generated on choosing "no" seems to assume that we are changing between the two classes that we changed. Please see our technical report (http://opus.sanbi.org/jspui /handle/20.500.12143/8728) for more information. Another cause of non-congruence in the data for the final degradation figures arises from our view that the transition matrix did not always capture degradation processes for South Africa. We consider transitions between 'Tree-covered Areas', 'Grasslands', 'Wetlands' and 'Other Lands' as neutral, as it is unclear whether this represents processes like alien invasive tree clearing or tree removal, so they could be positive or negative, or neutral. We consider the transition from 'Croplands' to 'Grasslands' an improvement, as it is a transition back to natural primary habitats. The transition from 'Grasslands' or 'Other Lands' to 'Croplands' is defined as an improvement in the current default UNCCD transition matrix, but 'Tree-covered Areas' to 'Croplands' as degradation. We consider all of these transitions as degradation, as they are alterations of natural land cover, associated with changes to soil carbon and potentially increased vulnerability to erosion. The transitions from any land cover type to 'Waterbodies', except for 'Artificial surfaces', we consider as degradation, as they usually occur through creation of farm dams or flooding of natural landscapes. We note that the placement of "shrublands" into "grasslands" is an inaccurate depiction of South African systems. The grass/shrubland interface can vary with grazing regimes and rainfall. Furthermore, the two types of system differ in their erosion and soil carbon sequestration. We also note that the comparisons of baseline with reporting period are not standardized if they do not consider equal periods of time, i.e., degradation from 2001 - 2015 should be greater than between 2016 - 2019, merely because of differences in time span. The final degradation figures may be inaccurate, as the scale of the ESA land cover data (300m) may be too coarse to allow accurate reflection of the scale of degradation. The national dataset administered by the South African Department of Forestry, Fisheries and the Environment (DFFE) would give a more accurate picture, given that it has a resolution of 30 m, but unfortunately, the state of land cover for South Africa is not mapped as frequently as required by the Good Practice Guidelines for UNCCD reporting, with the only available datasets being 1990, 2014, 2018 and 2020.

SO1-2 Trends in land productivity or functioning of the land

Land productivity dynamics

SO1-2.T1: National estimates of land productivity dynamics (in km²) within each land cover class for the baseline period

Land cover class	Net land productivity dynamics (km²) for the baseline period					
	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)
Tree-covered areas	10	1 311	29 197	25 813	34 103	70
Grasslands	1 654	9 738	350 522	436 786	120 670	7 155
Croplands	10	1 421	56 752	71 292	34 649	48
Wetlands	7	48	936	817	1 195	33
Artificial surfaces	7	188	2 670	633	544	24
Other Lands	7	49	2 503	2 647	439	750
Water bodies	18	107	1 659	1 285	831	1 410

SO1-2.T2: National estimates of land productivity dynamics (in km²) within each land cover class for the reporting period.

Land cover class	Net land productivity dynamics (km²) for the reporting period					
	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)
Tree-covered areas	4 693	20 779	806	70 005	5 250	92
Grasslands	64 815	129 252	52 885	536 525	47 310	358
Croplands	3 676	27 483	2 262	126 624	11 417	92
Wetlands	96	463	221	2 052	258	76
Artificial surfaces	368	1 906	504	5 451	493	66
Other Lands	10 703	36 160	2 344	42 268	6 545	93
Water bodies	29	132	183	1 246	139	3 619

SO1-2.T3: National estimates of land productivity dynamics for areas where a land conversion to a new land cover class has taken place (in km²) for the baseline period.

Land Conversion		Net land productivity dynamics (km²) for the baseline period					
From	To	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Grasslands	4 821	1	105	2 734	1 063	918
Tree-covered areas	Croplands	3 582	0	41	1 483	810	1 247
Grasslands	Croplands	2 796	1	59	695	1 251	790
Grasslands	Tree-covered areas	2 362	0	26	401	842	1 092

SO1-2.T4: National estimates of land productivity dynamics for areas where a land conversion to a new land cover class has taken place (in km²) for the reporting period.

Land Conversion	Net land productivity dynamics (km²) for the reporting period

From	To	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Grasslands	529	36	304	1	169	19
Grasslands	Tree-covered areas	422	21	43	1	322	35
Grasslands	Croplands	1 015	6	67	1	856	85
Tree-covered areas	Croplands	303	21	115	0	158	9

Land Productivity degradation

SO1-2.T5: National estimates of land productivity degradation in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded land productivity	14 814	1 .2
Land area with non-degraded land productivity	1 191 425	98 .1
Land area with no land productivity data	8 249	0 .7

SO1-2.T6: National estimates of land productivity degradation in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved land productivity	71 272	5 .9
Land area with stable land productivity	782 926	64 .5
Land area with degraded land productivity	359 417	29 .6
Land area with no land productivity data	776	0 .1

General comments

For consistency, ease of use and per instructions set out by the UNCCD's GPG, we selected the default years in the TRENDS.EARTH Plugin in QGIS. The sources of data used to calculate the values for the tables in PRAIS4 were developed by using the MOD13Q1 default land cover dataset in the TRENDS.EARTH plugin in QGIS. The land cover dataset was selected based on the amended land cover legend from SO1-1 (refer to general comments in SO1-1). This explains discrepancies in values between the baseline period and reporting period. We did not amend the values in the baseline period, and only update the values for the reporting period, i.e., T2, T4 and T6. All input model settings for calculating land productivity gave high estimates of land degradation as measured by productivity. Regardless of the 'Trajectory' input method applied, all output estimated degradation ca. 30% for South Africa in the reporting period. This may be due to the rigorous and strict decision table when calculating the three productivity metrics, i.e., 'Trajectory', 'State' and 'Performance'. Only the 'Trajectory' metric offered additional settings, but when combining all three metrics, the high estimation of degradation based on the 'State' and 'Performance' metric ultimately resulted in high overall estimates of land productivity degradation. We used the 'Trajectory' input settings and model Pixel RESTREND using CHIRPS satellite rainfall data to account for rainfall when estimating land productivity and Net Primary Productivity. We felt it was important to account for rainfall over the previous period, because much of the country had suffered a protracted drought prior to 2019. Please refer to the SANBI Technical document (http://opus.sanbi.org/jspui/handle/20.500.12143/8728) for more information.

SO1-3 Trends in carbon stocks above and below ground

Soil organic carbon stocks

SO1-3.T1: National estimates of the soil organic carbon stock in topsoil (0-30 cm) within each land cover class (in tonnes per hectare).

Year	Soil organic carbon stock in topsoil (t/ha)						
	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
2000	68	34	49	78	87	29	18
2001	68	34	49	78	80	29	18
2002	69	34	49	78	76	29	18
2003	69	34	49	77	72	29	19
2004	70	34	49	77	70	29	19
2005	70	34	49	77	67	28	19
2006	70	34	49	77	64	28	19
2007	71	34	48	77	62	28	19
2008	71	34	48	77	60	28	19
2009	71	34	48	77	59	28	19
2010	71	34	48	77	57	28	19
2011	72	34	48	77	56	28	19
2012	72	34	48	76	55	28	19
2013	72	34	48	77	51	28	19
2014	72	34	48	77	49	28	18
2015	72	34	48	77	51	27	19
2016	70	36	48	76	57	16	
2017	70	36	48	76	57	16	
2018	70	36	48	76	57	16	
2019	70	36	48	76	57	16	
2020							

If you opted not to use default Tier 1 data, what did you use to calculate the estimates above?

- (●) Modified Tier 1 methods and data
- ( ) Tier 2 (additional use of country-specific data)
- ( ) Tier 3 (more complex methods involving ground measurements and modelling)

SO1-3.T2: National estimates of the change in soil organic carbon stock in soil due to land conversion to a new land cover class in the baseline period

Land Conversion		Soil organic carbon (SOC) stock change in the baseline period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Tree-covered areas	Grasslands	4 821	67 .3	67 .3	32 460 610	32 460 610	0

Land Conversion		Soil organic carbon (SOC) stock change in the baseline period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Grasslands	Tree-covered areas	2 362	63 .8	63 .8	15 069 452	15 069 264	-188
Grasslands	Croplands	2 796	34 .7	30 .6	9 710 618	8 562 746	-1 147 872
Tree-covered areas	Croplands	3 582	76 .5	67 .9	27 419 734	24 330 847	-3 088 887

SO1-3.T3: National estimates of the change in soil organic carbon stock in soil due to land conversion to a new land cover class in the reporting period

Land Conversion		Soil organic carbon (SOC) stock change in the reporting period					
From	To	Net area change (km²)	Initial SOC stock (t/ha)	Final SOC stock (t/ha)	Initial SOC stock total (t)	Final SOC stock total (t)	SOC stock change (t)
Tree-covered areas	Grasslands	579	81 .3	81 .3	4 704 520	4 707 048	2 528
Grasslands	Tree-covered areas	994	65 .3	65 .3	6 485 968	6 486 074	106
Grasslands	Croplands	1 127	36 .2	35 .0	4 075 213	3 947 826	-127 387
Grasslands	Artificial surfaces	842	42 .5	37 .6	3 580 251	3 164 815	-415 436

Soil organic carbon stock degradation

SO1-3.T4: National estimates of soil organic carbon stock degradation in the baseline period

	Area (km²)	Percent of total land area (%)
Land area with degraded soil organic carbon (SOC)	7 306	0 .6
Land area with non-degraded SOC	1 206 598	99 .3
Land area with no SOC data	585	0 .0

SO1-3.T5: National estimates of SOC stock degradation in the reporting period

	Area (km²)	Percent of total land area (%)
Land area with improved SOC	90	0 .0
Land area with stable SOC	1 213 726	99 .9
Land area with degraded SOC	575	0 .0
Land area with no SOC data	0	0 .0

General comments

We used the SoilGrid250m default land cover dataset from the TRENDS.EARTH plugin in QGIS to calculate values for the SO1-3 tables. The results of SO1-3 are based on the amended land cover legend dataset from SO1-1 (refer to SO1-1 'General comments'). We note that current research suggests that changes in SOC stock take ca. 20 years to manifest (Refer to the SANBI Technical Report http://opus.sanbi.org/jspui/handle/20.500.12143/8728 for sources). Therefore, when comparing the baseline period (2001 - 2015) to the reporting period (2016 - 2019) there should be relatively little difference in SOC Stock across the land cover types. We note that the results produced in TRENDS.EARTH for SOC do not seem to conform what is required to be uploaded on PRAIS4, specifically the values for T3. Given these uncertainties, we have left the table as defaults as far as possible. The results developed in the excel spreadsheets associated with TRENDS.EARTH do not provide information and values for reporting in the Tables. Areas were thus calculated manually using the data within the TRENDS.EARTH excel spreadsheets. T5 previously highlighted that the "Total should be less than or equal to the total land area reported in year 2019: 1214391 km²", despite still reloading the default data, with a difference of 51 km². This was rectified through the excel spreadsheet produced by TRENDS.EARTH.

SO1-4 Proportion of degraded land over the total land area

Proportion of degraded land over the total land area (Sustainable Development Goal Indicator 15.3.1)

SO1-4.T1: National estimates of the total area of degraded land (in km²), and the proportion of degraded land relative to the total land area

	Total area of degraded land (km²)	Proportion of degraded land over the total land area (%)
Baseline Period	29 193	2 .4
Reporting Period	356 007	29 .3
Change in degraded extent	326814	

Method

Did you use the SO1-1, SO1-2 and SO1-3 indicators (i.e. land cover, land productivity dynamics and soil organic carbon stock) to compute the proportion of degraded land?

Which indicators did you use?

☒ Land Cover
☒ Land Productivity Dynamics
☒ SOC Stock

Did you apply the one-out, all-out principle to compute the proportion of degraded land?

◉ Yes
○ No

Level of Confidence

Indicate your country's level of confidence in the assessment of the proportion of degraded land:

○ High (based on comprehensive evidence)
○ Medium (based on partial evidence)
◉ Low (based on limited evidence)

Describe why the assessment has been given the level of confidence selected above:

The one-out, all-out principle is perhaps too severe for estimating land degradation in a South African setting. Our arid lands, that are naturally dry with low productivity, have undergone a prolonged drought during the reporting period. Although we used an algorithm to attempt to correct for this (RESTREND - see land productivity section), land productivity dynamics nevertheless yielded high values for degradation. Thus, although land cover and SOC stock did not detect considerable degradation, inclusion of land productivity dynamics produced high estimates of degradation for the reporting period. The high value for degradation may be more an artefact of long term wet and dry cycles. Alternatively, these results could be a real reflection of climate change manifestations. A combination of ground-truthing and long term data collection should resolve this.

False positives/ False negatives

SO1-4.T3: Justify why any area identified as degraded or non-degraded in the SO1-1, SO1-2 or SO1-3 indicator data should or should not be included in the overall Sustainable Development Goal indicator 15.3.1 calculation.

Location Name	Type	Recode Options	Area (km²)	Process driving false +/- outcome	Basis for Judgement	Edit Polygon

Perform qualitative assessments of areas identified as degraded or improved

SO1-4.T4: Degradation hotspots

SO-1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality.

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands , Savanna, Fynbos	Eastern Cape	37 250	Establishment of expert panels	1. Climate change 2. Invasive Alien Species 3. Grazing land management 4. Fire regime change 5. Land abandonment	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Increase protected areas ◦ Increase protected area extent • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation ◦ Halt/reduce conversion of cropland to other land cover types ◦ Increase land productivity in agricultural areas ◦ Rehabilitate bare or degraded land for crop production • Restore/improve grasslands ◦ Restore rangeland (e.g. by controlling livestock and wildfires) ◦ Restore and improve pastures ◦ Halt/reduce conversion of grassland to other land cover types ◦ Improve land productivity in grasslands • Improve coastal management ◦ Reduce coastal erosion	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon

						• Restore/improve protected areas
						  ◦ Restore protected areas
						  ◦ Improve management of protected areas
						• Restore/improve multiple land uses
						• Restore/improve tree-covered areas
						  ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land)
						  ◦ Restore/improve grasslands
						  ◦ Increase land productivity in tree covered areas
						  ◦ Restore tree-covered areas
						  ◦ Improve tree cover management e.g. fire management
						• Restore/improve multiple functions
						• Restore productivity and soil organic carbon stock in croplands and grasslands
						• Increase soil fertility and carbon stock
						  ◦ Reduce soil erosion
						  ◦ Improve watershed/landscape management
						  ◦ Rehabilitate bare land and/or restore degraded land
						  ◦ Increase carbon stock and reduce soil/land degradation
						• Reduce/halt conversion of multiple land uses	

Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Savanna	KwaZulu Natal	9 707	Qualitative information	1. Climate change 2. Invasive Alien Species 3. Deforestation and clearance of other native vegetation 4. Infrastructure, industry and urbanization 5. Native and planted forest management 6. Mineral resource extraction	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands • Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve tree-covered areas ◦ Restore/improve grasslands ◦ Restore tree-covered areas • Restore/improve multiple functions • Reduce/halt conversion of multiple land uses	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Nama Karoo	FreeState	8 775	Establishment of expert panels	1. Invasive Alien Species 2. Climate change 3. Land abandonment 4. Fire regime change 5. Cropland and agroforestry management	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation ◦ Increase land productivity in agricultural areas • Other/general/unspecified ◦ Achieve LDN ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve multiple land uses	
Erosion-biomes affected: Grasslands, Savanna	NortWest	2 610	Qualitative information	1. Grazing land management 2. Cropland and agroforestry management 3. Infrastructure, industry and urbanization 4. Invasive Alien Species 5. Mineral resource extraction	☒ Avoid ☒ Reduce ☐ Reverse	• Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands)	
Total no. of hotspots	9						
Total hotspot area	125 462						

SO-1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality.

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Savanna	Limpopo	8 451	Qualitative information	1. Mineral resource extraction 2. Invasive Alien Species 3. Climate change 4. Infrastructure, industry and urbanization 5. Native and planted forest management 6. Fire regime change	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation ◦ Halt/reduce conversion of cropland to other land cover types ◦ Rehabilitate bare or degraded land for crop production • Other/general/unspecified ◦ Achieve LDN ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve protected areas ◦ Restore protected areas ◦ Improve management of protected areas	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Savanna	Gauteng	1 022	Qualitative information	1. Infrastructure, industry and urbanization 2. Mineral resource extraction 3. Climate change 4. Invasive Alien Species 5. Cropland and agroforestry management	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation ◦ Halt/reduce conversion of cropland to other land cover types ◦ Increase land productivity in agricultural areas ◦ Rehabilitate bare or degraded land for crop production • Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve grasslands ◦ Halt/reduce conversion of grassland to other land cover types • Manage artificial surfaces ◦ Restore degraded mining areas	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
						◦ Halt illegal mining and/or reduce mining areas ◦ Improve land productivity on artificial surfaces ◦ Halt/reduce/regulate expansion of urban/artificial surfaces • Restore/improve protected areas ◦ Improve management of protected areas • Restore/improve multiple land uses • Reduce/halt conversion of multiple land uses	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Savanna Erosion-biomes affected: Succulent Karoo, Nama Karoo, Savanna, Grassland	Northern Cape	23 611	Qualitative information	1. Invasive Alien Species 2. Climate change 3. Grazing land management 4. Mineral resource extraction 5. Land abandonment	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve protected areas ◦ Restore protected areas ◦ Improve management of protected areas • Restore/improve multiple land uses • Increase soil fertility and carbon stock ◦ Reduce soil erosion ◦ Reduce sand encroachment ◦ Maintain the current level of SOC ◦ Improve watershed/landscape management ◦ Rehabilitate bare land and/or restore degraded land ◦ Increase carbon stock and reduce soil/land degradation	
Total no. of hotspots	9						
Total hotspot area	125 462						

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
						• Reduce/halt conversion of multiple land uses	
Erosion-biomes affected: Succulent Karoo, Fynbos , Grassland	Western Cape	28 344	Qualitative information	1. Fire regime change 2. Infrastructure, industry and urbanization 3. Invasive Alien Species 4. Climate change 5. Cropland and agroforestry management	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation • Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Improve coastal management ◦ Reduce coastal erosion • Restore/improve multiple land uses	
Total no. of hotspots	9						
Total hotspot area	125 462						

SO-1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality.

Hotspots	Location	Area (km²)	Assessment Process	Direct drivers of land degradation hotspots	Action(s) taken to redress degradation in terms of Land Degradation Neutrality response hierarchy	Remediating action(s) (both forward-looking and current)	Edit Polygon
Erosion-biomes affected: Grasslands, Savanna	Mpumalanga	5 692	Qualitative information	1. Mineral resource extraction 2. Invasive Alien Species 3. Climate change 4. Native and planted forest management 5. Fire regime change	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Other/general/unspecified ◦ Achieve LDN ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve grasslands ◦ Restore rangeland (e.g. by controlling livestock and wildfires) ◦ Halt/reduce conversion of grassland to other land cover types ◦ Improve land productivity in grasslands • Restore/improve protected areas ◦ Restore protected areas ◦ Improve management of protected areas	
Total no. of hotspots	9						
Total hotspot area	125 462						

What is/are the indirect driver(s) of land degradation at the national level?

1. Demographic
2. Economic

Cultural

4. Institutions and governance
5. Science, knowledge and technology

SO1-4.T5: Improvement brightspots

Brightspots	Location	Area (km²)	Assessment Process	What action(s) led to the brightspot in terms of the Land Degradation Neutrality hierarchy?	Implementing action(s) (both forward-looking and current)	Edit Polygon
Alien Invasive	Western Cape, Northern Cape, North West (all areas covered by working for water)	0	Site-based data	☒ Avoid ☒ Reduce ☐ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands) • Restore/improve croplands ◦ Practise sustainable land management ◦ Improve water use for irrigation ◦ Halt/reduce conversion of cropland to other land cover types ◦ Increase land productivity in agricultural areas ◦ Rehabilitate bare or degraded land for crop production • Other/general/unspecified ◦ Achieve LDN ◦ Other/general/unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve grasslands ◦ Restore rangeland (e.g. by controlling livestock and wildfires) ◦ Restore and improve pastures ◦ Halt/reduce conversion of grassland to other land cover types ◦ Improve land productivity in grasslands • Improve coastal management ◦ Reduce coastal erosion	
Total no. of brightpots		1				
Total brightspot area		0				

What are the enabling and instrumental responses at the national level driving the occurrence of brightspots?

1. Protected areas
2. Responses to the adverse effects of globalisation, demographic change, migration
3. Institutional and policy reform
4. Integrated landscape planning

General comments

In terms of assessment process, the following has been used : Overlaying and intersecting biomes with soil erosion map, literature search (Gallo et al, 2023; Aureguiberry et al., 2022;Von Maltitz et al, 2019 and ARC, 2016;ARC,2019 reports, Jay Le Roux)- this is the whole 9 provinces as reported above. In terms of remediating action(s) (both structures to stop soil erosion; gully reclamation; changing cultivation approaches; use grassland mainly for grazing- this is the whole 9 provinces as reported above. In terms of direct drivers of land degradation hotspots, no order of priority was followed.

SO1 Voluntary Targets

SO1-VT.T1: Voluntary Land Degradation Neutrality targets and other targets relevant to strategic objective 1

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
Rehabilitate and sustainably manage 18095 km2 of "forest" (i.e. following FAO land cover classification that includes savanna) by 2030	2030		18 095	☒ Avoid ☒ Reduce ☒ Reverse	• Restore/improve tree-covered areas ◦ Reduce/halt deforestation and conversion of tree cover to other land cover types (e.g. conserving forest land) ◦ Restore/improve grasslands ◦ Restore tree-covered areas ◦ Improve tree cover management e.g. fire management • Increase soil fertility and carbon stock ◦ Reduce soil erosion ◦ Reduce sand encroachment	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Bonn Challenge • AFR100 • United Nations Framework Convention on Climate Change – Nationally Determined Contributions	
Rehabilitate and sustainably manage 72745 km2 of shrubland, grassland and sparsely vegetated areas showing early signs of decline and showing declining productivity	2030	Fynbos, grassland, thicket, low-tree (<5m) savanna, Succulent Karoo, Nama Karoo and desert	72 745	☒ Avoid ☒ Reduce ☒ Reverse	• General instrument (e.g. policies, economic incentives) • Other/general /unspecified • Restore/improve grasslands ◦ Restore rangeland (e.g. by controlling livestock and wildfires) ◦ Improve land productivity in grasslands • Restore/improve multiple land uses • Restore productivity and soil organic carbon stock in croplands and grasslands • Increase soil fertility and carbon stock ◦ Reduce soil erosion • Reduce/halt conversion of multiple land uses	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • United Nations Framework Convention on Climate Change – Nationally Determined Contributions	
Total			Sum of all targeted areas 171 935						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
Rehabilitate 620 km2 wetlands by 2030	2030	National	620	☒ Avoid ☐ Reduce ☒ Reverse	• Restore/improve wetlands ◦ Restore/preserve wetlands and reduce degradation of wetlands ◦ Halt/reduce wetland conversion to other land uses (includes conserving wetlands)	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Other: Ramsar Convention	
Improve productivity and SOC stocks in 60000 km2 of cropland by 2030	2030	National	60 000	☐ Avoid ☒ Reduce ☒ Reverse	• Other/general /unspecified ◦ Improve land productivity (unspecified land use) • Restore productivity and soil organic carbon stock in croplands and grasslands • Increase soil fertility and carbon stock ◦ Reduce soil erosion ◦ Improve watershed/landscape management ◦ Increase carbon stock and reduce soil/land degradation	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme		
Rehabilitate 3500 km2 of artificial areas by 2030	2030	National	3 500	☒ Avoid ☒ Reduce ☒ Reverse	• Other/general /unspecified ◦ Other/general /unspecified ◦ Restore vegetation cover (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Manage artificial surfaces ◦ Improve land productivity on artificial surfaces	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme		
Total			Sum of all targeted areas 171 935						

Target	Year	Location(s)	Total Target Area (km²)	Overarching type of Land Degradation Neutrality (LDN) intervention	Targeted action(s)	Status of target achievement	Is this an LDN target? If so, under which process was it defined/adopted?	Which other important goals are also being addressed by this target?	Edit Polygon
Clear 10640 km2 of alien invasive species by 2030	2030	National	10 640	☐ Avoid ☒ Reduce ☒ Reverse	• Other/general /unspecified ◦ Other/general /unspecified ◦ Improve land productivity (unspecified land use) ◦ Avoid/prevent/halt degradation (of degraded lands) • Restore/improve protected areas ◦ Improve management of protected areas	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Bonn Challenge	
Clear 6335 km2 of bush encroached land by 2030	2030	National	6 335	☐ Avoid ☒ Reduce ☒ Reverse	• General instrument (e.g. policies, economic incentives) • Restore/improve grasslands ◦ Halt/reduce conversion of grassland to other land cover types ◦ Improve land productivity in grasslands • Restore/improve protected areas ◦ Improve management of protected areas	Ongoing	◉ Yes ○ No Participation in the LDN Target Setting Programme	• Convention on Biological Diversity – National Biodiversity Strategies and Action Plans & National Targets • Bonn Challenge	
Total			Sum of all targeted areas 171 935						

SO1.IA.T1: Areas of implemented action related to the targets (projects and initiatives on the ground).

Relevant Target	Implemented Action	Location (placename)	Action start date	Extent of action	Total Area Implemented So Far (km²)	Edit Polygon
Improve productivity and SOC stocks in 60000 km2 of cropland by 2030	Other Cultivation using Conservation Agriculture Practice (minimum tillage, soil cover and crop rotation)		2020-03-01	123	123 .00	
Rehabilitate and sustainably manage 18095 km2 of "forest" (i.e. following FAO land cover classification that includes savanna) by 2030	Same As Targeted Actions		2020-03-01	97	97 .00	
Rehabilitate and sustainably manage 72745 km2 of shrubland, grassland and sparsely vegetated areas showing early signs of decline and showing declining productivity	Same As Targeted Actions	national	2020-03-01	7 942	7 942 .00	
Rehabilitate 620 km2 wetlands by 2030	Other Targetted actions + removing inasive species, construction of soil cultivation structures		2020-03-01	505	505 .00	
Rehabilitate 3500 km2 of artificial areas by 2030	Same As Targeted Actions		2020-03-01	4 .8	4 .80	

Relevant Target	Implemented Action	Location (placename)	Action start date	Extent of action	Total Area Implemented So Far (km²)	Edit Polygon
Clear 6335 km2 of bush encroached land by 2030	Same As Targeted Actions		2020-03-01	409	409 .00	
Clear 10640 km2 of alien invasive species by 2030	Same As Targeted Actions		2020-03-01	4 089	4 089 .00	
					Sum of all areas relevant to actions under the same target Rehabilitate and sustainably manage 18095 km2 of “forest” (i.e. following FAO land cover classification that includes savanna) by 2030 : 97 .00 Rehabilitate and sustainably manage 72745 km2 of shrubland, grassland and sparsely vegetated areas showing early signs of decline and showing declining productivity: 7 942 .00 Rehabilitate 620 km2 wetlands by 2030: 505 .00 Improve productivity and SOC stocks in 60000 km2 of cropland by 2030: 123 .00 Rehabilitate 3500 km2 of artificial areas by 2030: 4 .80 Clear 10640 km2 of alien invasive species by 2030: 4 089 .00 Clear 6335 km2 of bush encroached land by 2030: 409 .00	

General comments

There is an additional 14998 km2 that were improved after target setting but before the financial year reported here (2020/21). Therefore, the total achieved to date is 21154 km2. Those data were not reported in the table above as the finer resolution information, e.g. which land cover type targets they fell under, still needs to be confirmed. Note that South Africa does not yet have spatial datasets compiled reflecting these voluntary targets.

SO2-1 Trends in population living below the relative poverty line and/or income inequality in affected areas

Relevant metric

Choose the metric that is relevant to your country:

- ○ Proportion of population below the international poverty line
- ◉ Income inequality (Gini Index)

Income inequality (Gini Index)

SO2-1.T2: National estimates of income inequality (Gini index)

Year	Income inequality (Gini Index)
2000	57 .8
2001	
2002	
2003	
2004	
2005	64 .8
2006	
2007	
2008	63
2009	
2010	63 .4
2011	
2012	
2013	
2014	63
2015	
2016	
2017	
2018	
2019	
2020	

Qualitative assessment

SO2-1.T3: Interpretation of the indicator

Indicator metric	Change in the indicator	Comments

Indicator metric	Change in the indicator	Comments
Income inequality (Gini Index)	No change	The change in South Africa's Gini index is not substantial, however, the Gini index is one of the highest in the world. The country's high Gini index has been inherited from the inequalities inherited from the pre-democratic government of South Africa. However, it remains high for numerous reasons, including a highly unequal income distribution, disparities in income across regions , high unemployment, and subdued economic growth hindering job creation i.e. urbanized regions of the country have higher incomes than rural regions. A progressive tax system has helped alleviate some of the inequality. However, through socio-economic transformations there is a need to create enabling environment for investment for the country. Policies will also be needed to create opportunities to support the marginalized population through improved quality of education, health, and transportation. Primary source: https://www.imf.org/en/News/Articles/2020/01/29/na012820six-charts-on-south-africas-persistent-and-multi-faceted-inequality

General comments

We note high GINI coefficient for South Africa as a result of numerous drivers, of which many arise not because of environmental issues, but historical and socio-political drivers.

SO2-2 Trends in access to safe drinking water in affected areas

Proportion of population using safely managed drinking water services

SO2-2.T1: National estimates of the proportion of population using safely managed drinking water services

Year	Urban (%)	Rural (%)	Total (%)
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			
2011	76.81	40.16	62.69
2012	77.62	41.67	63.80
2013	78.90	44.23	65.61
2014	80.20	46.51	67.31
2015	81.54	48.72	69.02
2016	82.75	49.98	70.27
2017	83.48	51.64	71.39
2018	84.03	51.91	72.08
2019	84.52	52.48	72.71
2020	80.65	50.25	69.50

Qualitative assessment

SO2-2.T2: Interpretation of the indicator

Change in the indicator	Comments
Increase	From 2011 - 2019, there has been a steady increase in the percentage of the population with access to safe drinking water, for both rural and urban populations. There is a slight decline in 2020, however, It is not clear what might explain the decline. This is also motivated by the fact that South Africa is primarily arid and semi-arid. In addition, water infrastructure and its maintenance also remain a challenge. Furthermore the recurring drought that hit the country from 2015 EL Nino also resulted in the shortage of water across all sectors.

General comments

Data were provided by the South African Department of Water and Sanitation: https://ws.dws.gov.za/wsks/Default.aspx

SO2-3 Trends in the proportion of population exposed to land degradation disaggregated by sex

Proportion of the population exposed to land degradation disaggregated by sex

SO2-3.T1: National estimates of the proportion of population exposed to land degradation disaggregated by sex.

Time period	Population exposed (count)	Percentage of total population exposed (%)	Female population exposed (count)	Percentage of total female population exposed (%)	Male population exposed (count)	Percentage of total male population exposed (%)
Baseline period	20509054	37 .7	10623394	38 .7	9946804	37 .0
Reporting period	14822332	25 .5	7775688	26 .5	7091582	24 .6

Qualitative assessment

SO2-3.T2: Interpretation of the indicator

Change in the indicator	Comments

General comments

Overall, the trend in populations exposed to land degradation depend on the accuracy of the land mapped as degraded, decertified and drought prone areas. Despite the proportion of people exposed to degradation decreasing from 2015 to 2019, there are still large portions of South Africa's population exposed to land degradation and drought according to these maps. Furthermore, owing to the differences in spatial resolution and aerial coverage of the datasets, key demographics may be excluded where population numbers are large, or degradation is significant.

SO-2: To improve the living conditions of affected populations.

SO2 Voluntary Targets

SO2-VT.T1

Target	Year	Level of application	Status of target achievement	Comments

General comments

Voluntary targets are still being formulated for South Africa, both nationally and sub-nationally.

SO3-1 Trends in the proportion of land under drought over the total land area

Drought hazard indicator

SO3-1.T1: National estimates of the land area in each drought intensity class as defined by the Standardized Precipitation Index (SPI) or other nationally relevant drought indices

	Drought intensity classes				
	Mild drought (km²)	Moderate drought (km²)	Severe drought (km²)	Extreme drought (km²)	Non-drought (km²)
2000	193 624 .9	33 139 .0	6 139 .5	452 .3	986 931 .1
2001	202 214 .3	41 815 .3	9 331 .0	0	966 926 .2
2002	494 974 .9	114 992 .7	80 915 .1	44 007 .1	485 397 .0
2003	477 440 .5	443 514 .1	209 809 .5	37 069 .6	52 453 .2
2004	531 733 .6	99 397 .0	31 925 .2	15 765 .1	541 465 .9
2005	726 729 .5	143 613 .9	48 310 .8	18 073 .0	283 559 .6
2006	72 580 .4	7 604 .9	1 935 .1	57 .5	1 138 108 .9
2007	591 581 .9	152 568 .2	24 587 .6	3 752 .9	447 796 .3
2008	409 003 .8	50 098 .1	18 154 .8	3 879 .9	739 150 .2
2009	375 355 .1	54 114 .1	18 443 .9	4 038 .8	768 334 .9
2010	232 350 .4	28 200 .3	1 562 .6	0	958 173 .5
2011	202 332 .0	10 047 .4	2 288 .3	212 .5	1 005 406 .6
2012	393 850 .5	107 861 .3	14 330 .7	1 297 .9	702 946 .4
2013	560 497 .3	167 594 .9	62 350 .6	2 014 .1	427 829 .9
2014	424 236 .8	45 518 .3	18 161 .1	6 724 .4	725 646 .2
2015	387 611 .6	370 668 .3	263 624 .1	118 547 .0	79 835 .8
2016	725 451 .7	104 329 .3	26 236 .3	5 935 .3	358 334 .2
2017	421 744 .3	153 341 .1	79 804 .4	61 594 .4	503 802 .6
2018	685 330 .2	201 808 .0	58 519 .6	2 742 .6	271 886 .5
2019	395 197 .8	169 397 .6	156 115 .6	208 012 .6	291 563 .2
2020					
2021					

SO3-1.T2: Summary table for land area under drought without class break down

	Total area under drought (km²)	Proportion of land under drought (%)
2000	233 355 .7	19 .2
2001	253 360 .7	20 .9
2002	734 889 .8	60 .5
2003	1 167 833 .7	96 .1
2004	678 820 .9	55 .9
2005	936 727 .2	77 .1

	Total area under drought (km²)	Proportion of land under drought (%)
2006	82 177 .9	6 .8
2007	772 490 .5	63 .6
2008	481 136 .6	39 .6
2009	451 951 .9	37 .2
2010	262 113 .3	21 .6
2011	214 880 .2	17 .7
2012	517 340 .4	42 .6
2013	792 456 .9	65 .2
2014	494 640 .6	40 .7
2015	1 140 451 .0	93 .9
2016	861 952 .6	71 .0
2017	716 484 .2	59 .0
2018	948 400 .3	78 .1
2019	928 723 .6	76 .5
2020		-
2021		-

Qualitative assessment:

Between 2015 and 2019, more than 70% of the country experienced drought, measured using SPI. Drought is a natural part of the country's wet and dry cycles, but in recent years, these regions are also experiencing high maximum temperatures, which are exacerbated by climate change and its effects on biota. See the technical report (http://opus.sanbi.org/jspui/handle/20.500.12143/8728) for more details.

General comments

These figures are derived from SPIs calculated based on data collected at weather stations managed by the South African Weather Services. Although Standardised Precipitation Index provides a good indicator of drought, Standardised Precipitation-Evapotranspiration Index (SPEI) might provide a more accurate assessment in future, given high temperature anomalies, particularly over the central parts of the country. See e.g.: Jury, M. R. (2018). Climate trends across South Africa since 1980. Water SA, 44: 297–307. and Jury, M. R. (2021). Spreading of the semi-arid climate across South Africa. Journal of Water and Climate Change. 12:, 3734–3749.

SO3-2 Trends in the proportion of the population exposed to drought

Drought exposure indicator

Exposure is defined in terms of the number of people who are exposed to drought as calculated from the SO3-1 indicator data.

SO3-2.T1: National estimates of the percentage of the total population within each drought intensity class as well as the total population count and the proportion of the national population exposed to drought regardless of intensity.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	33869963	81.0	4878207	11.7	2005582	4.8	599297	1.4	461315	1.1	7 944 401	19.0
2001	28611246	67.1	11770526	27.6	1927036	4.5	342154	0.8	0	0.0	14 039 716	32.9
2002	10224522	23.4	16321253	37.4	6546645	15.0	7439788	17.0	3115631	7.1	33 423 317	76.6
2003	966272	2.2	10764531	24.7	13988140	32.0	12262097	28.1	5666799	13.0	42 681 567	97.8
2004	19081622	42.2	19036947	42.1	4847832	10.7	2102862	4.7	118130	0.3	26 105 771	57.8
2005	6998661	15.2	29743574	64.5	4841399	10.5	3805294	8.3	727351	1.6	39 117 618	84.8
2006	35918093	77.0	8768975	18.8	1727786	3.7	227573	0.5	21831	0.0	10 746 165	23.0
2007	11081572	23.6	18491532	39.4	13988852	29.8	3164823	6.7	195979	0.4	35 841 186	76.4
2008	28277082	59.6	15387972	32.4	2417357	5.1	995911	2.1	355175	0.7	19 156 415	40.4
2009	32395075	67.9	11606438	24.3	2375949	5.0	1002567	2.1	360211	0.8	15 345 165	32.1
2010	38393520	79.3	8333227	17.2	1615408	3.3	52003	0.1	0	0.0	10 000 638	20.7
2011	39121007	75.7	9571780	18.5	2193082	4.2	734934	1.4	35940	0.1	12 535 736	24.3
2012	22346500	42.7	19926039	38.1	8579384	16.4	1336624	2.6	179008	0.3	30 021 055	57.3
2013	22755069	42.7	20883791	39.2	6562001	12.3	1704845	3.2	1330814	2.5	30 481 451	57.3
2014	22398558	41.5	16196854	30.0	7801120	14.4	3847196	7.1	3789311	7.0	31 634 481	58.5
2015	4104577	7.5	13953945	25.4	17937388	32.7	12442933	22.7	6394714	11.7	50 728 980	92.5
2016	27711467	49.6	23048887	41.3	3720364	6.7	989177	1.8	354365	0.6	28 112 793	50.4
2017	33933315	60.0	15002942	26.5	4173374	7.4	2742986	4.8	728307	1.3	22 647 609	40.0
2018	11310404	19.6	37715855	65.4	7815545	13.6	760602	1.3	40248	0.1	46 332 250	80.4
2019	35263967	59.8	18106083	30.7	3453463	5.9	1273397	2.2	859392	1.5	23 692 335	40.2
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

SO3-2.T2: National estimates of the percentage of the female population within each drought intensity class.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed female population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	17842395	81.0	2596561	11.8	1036135	4.7	312033	1.4	240121	1.1	4 184 850	19.0

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed female population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2001	14987260	66.8	6217817	27.7	1040149	4.6	177357	0.8	0	0.0	7 435 323	33.2
2002	5353329	23.3	8658647	37.7	3521282	15.3	3809072	16.6	1622290	7.1	17 611 291	76.7
2003	502732	2.2	5758989	25.1	7367525	32.1	6416306	27.9	2919068	12.7	22 461 888	97.8
2004	10139479	42.6	9993898	42.0	2498220	10.5	1095780	4.6	62043	0.3	13 649 941	57.4
2005	3680669	15.2	15554025	64.1	2610145	10.8	2021522	8.3	389448	1.6	20 575 140	84.8
2006	18948316	77.4	4534425	18.5	878559	3.6	114564	0.5	11058	0.0	5 538 606	22.6
2007	5833934	23.7	9837279	40.0	7256618	29.5	1586636	6.4	98895	0.4	18 779 428	76.3
2008	14515800	58.4	8294941	33.4	1312840	5.3	538491	2.2	188724	0.8	10 334 996	41.6
2009	16625920	66.4	6398562	25.5	1294657	5.2	542454	2.2	190504	0.8	8 426 177	33.6
2010	20252703	80.0	4203149	16.6	832728	3.3	26388	0.1	0	0.0	5 062 265	20.0
2011	20345900	75.4	5080972	18.8	1147672	4.3	380913	1.4	18410	0.1	6 627 967	24.6
2012	11991939	43.7	10359329	37.7	4336543	15.8	668986	2.4	89307	0.3	15 454 165	56.3
2013	12234204	44.0	10778191	38.7	3276355	11.8	867468	3.1	661893	2.4	15 583 907	56.0
2014	11578973	41.0	8662994	30.7	4118277	14.6	1984086	7.0	1916265	6.8	16 681 622	59.0
2015	2171513	7.6	7282788	25.4	9460050	33.0	6479332	22.6	3296082	11.5	26 518 252	92.4
2016	14095780	48.2	12386406	42.4	2011817	6.9	531660	1.8	195941	0.7	15 125 824	51.8
2017	17440702	58.9	8146066	27.5	2226772	7.5	1421646	4.8	375888	1.3	12 170 372	41.1
2018	6048909	20.1	19426222	64.5	4203001	14.0	411983	1.4	21177	0.1	24 062 383	79.9
2019	18131255	58.9	9667336	31.4	1835715	6.0	678218	2.2	460566	1.5	12 641 835	41.1
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

SO3-2.T3: National estimates of the percentage of the male population within each drought intensity class.

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed male population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	16019002	81.2	2241992	11.4	960824	4.9	287395	1.5	221133	1.1	3 711 344	18.8
2001	13537075	67.2	5556549	27.6	886668	4.4	162314	0.8	0	0.0	6 605 531	32.8
2002	4820805	23.4	7660573	37.1	3026513	14.7	3633164	17.6	1489449	7.2	15 809 699	76.6
2003	462325	2.2	4974308	24.1	6603063	32.0	5837792	28.3	2753016	13.3	20 168 179	97.8
2004	8950823	41.8	9049549	42.3	2341470	10.9	1014775	4.7	59616	0.3	12 465 410	58.2
2005	3334038	15.2	14221192	64.9	2221634	10.1	1787237	8.2	338286	1.5	18 568 349	84.8

	Non-exposed		Mild drought		Moderate drought		Severe drought		Extreme drought		Exposed male population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2006	16911314	76.5	4220810	19.1	850931	3.8	113346	0.5	10830	0.0	5 195 917	23.5
2007	5199831	23.4	8640912	38.8	6725366	30.2	1582137	7.1	98578	0.4	17 046 993	76.6
2008	13702763	60.9	7053022	31.4	1097896	4.9	460476	2.0	168141	0.7	8 779 535	39.1
2009	15704489	69.5	5176625	22.9	1078281	4.8	463506	2.1	169710	0.8	6 888 122	30.5
2010	18176222	78.8	4099610	17.8	769096	3.3	24288	0.1	0	0.0	4 892 994	21.2
2011	18600133	75.9	4478215	18.3	1043784	4.3	353187	1.4	17312	0.1	5 892 498	24.1
2012	10283896	41.3	9599531	38.5	4261097	17.1	667792	2.7	89643	0.4	14 618 063	58.7
2013	10468451	41.4	10002429	39.6	3289183	13.0	838151	3.3	668829	2.6	14 798 592	58.6
2014	10763820	41.9	7491384	29.2	3682430	14.3	1860400	7.2	1870471	7.3	14 904 685	58.1
2015	1896658	7.3	6605211	25.4	8458202	32.5	5971884	22.9	3100649	11.9	24 135 946	92.7
2016	13615687	51.2	10662482	40.1	1708548	6.4	457516	1.7	158423	0.6	12 986 969	48.8
2017	16492613	61.2	6856876	25.4	1946602	7.2	1321340	4.9	352418	1.3	10 477 236	38.8
2018	5261496	19.1	18289633	66.4	3612544	13.1	348619	1.3	19071	0.1	22 269 867	80.9
2019	17132712	60.8	8438747	29.9	1617748	5.7	595179	2.1	398826	1.4	11 050 500	39.2
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

Qualitative assessment

Interpretation of the indicator

Between 2016 to 2019, most of the population appears to be within the ‘No drought’ or ‘Mild drought’ category, with the exception of 2018, where a slightly larger portion of the population falls within the ‘Moderate drought’ category. The spatial distribution of population density also appears to be localized to the City of Cape Town and Gauteng regions. Droughts in these urban centers affect disproportionately large proportions of the population.

General comments

The data and results generated in SO3-1 were used partially to calculate SO3-2. The results in SO3-1 highlighting the most extreme drought experiences were combined with the latest population map for each epoch. There were no considerable differences between males and females exposed to any of the drought categories over the period 2016 – 2019.

SO3-3 Trends in the degree of drought vulnerability

Drought Vulnerability Index

SO3-3.T1: National estimates of the Drought Vulnerability Index

Year	Total country-level DVI value (tier 1)	Male DVI value (tiers 2 and 3 only)	Female DVI value (tiers 2 and 3 only)
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			
2011	0 .40	0 .42	0 .39
2012	0 .33	0 .35	0 .31
2013	0 .37	0 .38	0 .36
2014	0 .37	0 .38	0 .36
2015	0 .36	0 .37	0 .34
2016	0 .34	0 .36	0 .33
2017	0 .34	0 .35	0 .33
2018	0 .34	0 .35	0 .32
2019	0 .33	0 .34	0 .32
2020			
2021			

Method

Which tier level did you use to compute the DVI?

☐ Tier 1 Vulnerability Assessment ⓘ
☐ Tier 2 Vulnerability Assessment ⓘ
☒ Tier 3 Vulnerability Assessment ⓘ

Social Factor	Which factors did you use per vulnerability component at national level?	Select all the factors for which data was available at subnational level using the check boxes provided
Literacy rate (% of people aged 15+)	☐	☒
Life expectancy at birth (years)	☒	☐
Population aged 15-64 (%)	☐	☒

SO-3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems.

Social Factor	Which factors did you use per vulnerability component at national level?	Select all the factors for which data was available at subnational level using the check boxes provided
Government effectiveness	☐	☐
Refugee population (%)	☐	☐
Other (Please specify)	☐	☒ Rural population (% of total population)

Economic Factor	Which factors did you use per vulnerability component at national level?	Select all the factors for which data was available at subnational level using the check boxes provided
Proportion of the population below the international poverty line	☐	☐
GDP per capital	☐	☒
Agriculture % of GDP	☐	☒
Energy consumption per capital	☐	☐
Other (Please specify)	☐	☐

Infrastructure Factor	Which factors did you use per vulnerability component at national level?	Select all the factors for which data was available at subnational level using the check boxes provided
Proportion of the population using safely managed drinking water services	☐	☒
Total renewable water resources per capital	☐	☐
Cultivated area equipped for irrigation (%)	☐	☐
Other (please specify)	☐	☐

Qualitative assessment

SO3-3.T2: Interpretation of the indicator

	Change in the indicator	Comments

General comments

The DVI is declining slowly.

SO-3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems.

SO3 Voluntary Targets

SO3-VT.T1

Target	Year	Level of application	Status of target achievement	Comments

General comments

Voluntary targets are still being formulated for South Africa, both nationally and sub-nationally.

SO4-1 Trends in carbon stocks above and below ground

Soil organic carbon stocks

Trends in carbon stock above and below ground is a multi-purpose indicator used to measure progress towards both strategic objectives 1 and 4. Quantitative data and a qualitative assessment of trends in this indicator are reported under strategic objective 1, progress indicator SO1-3.

SO4-2 Trends in abundance and distribution of selected species

SO4-2.T1: National estimates of the Red List Index of species survival

Year	Red List Index	Lower Bound	Upper Bound	Comment
2000	0 .822012634	0 .8159997	0 .827212542	
2001	0 .819367421	0 .812911934	0 .824432477	
2002	0 .816931286	0 .809543026	0 .822574995	
2003	0 .814634692	0 .806607519	0 .820049629	
2004	0 .812197159	0 .803864176	0 .817414756	
2005	0 .809619655	0 .800973635	0 .815470426	
2006	0 .807137752	0 .798713976791698	0 .813355159	
2007	0 .804735355	0 .795560177	0 .811314572	
2008	0 .802177087	0 .791574781	0 .808674899	
2009	0 .799912764	0 .788565697	0 .806897053	
2010	0 .797906846	0 .784495925	0 .805202417	
2011	0 .795392011	0 .778610538	0 .80370365	
2012	0 .793220281	0 .776354795	0 .802787633	
2013	0 .791225897	0 .771950157	0 .801565124	
2014	0 .788298928	0 .767468411	0 .801325628	
2015	0 .785682764	0 .762859483	0 .800502099	
2016	0 .783198591	0 .757563297	0 .799906352	
2017	0 .780560123	0 .751785132247694	0 .799203716	
2018	0 .778299951	0 .750041014	0 .799360008	
2019	0 .775831305	0 .741861504	0 .798611223	
2020	0 .773584659	0 .740689648	0 .79822433	

Qualitative assessment

SO4-2.T2: Interpretation of the indicator

Change in the indicator	Drivers: Direct (Choose one or more items)	Drivers: Indirect (Choose one or more items)	Which levers are being used to reverse negative trends and enable transformative change?	Responses that led to positive RLI trends	Comments

Change in the indicator	Drivers: Direct (Choose one or more items)	Drivers: Indirect (Choose one or more items)	Which levers are being used to reverse negative trends and enable transformative change?	Responses that led to positive RLI trends	Comments
Negative	1. Land-use change 2. Invasive alien species 3. Climate change 4. Overexploitation 5. Pollution	1. Human Population Dynamics and Trends 2. Local to Global Governance 3. Production and Consumption Patterns	1. Environmental Law and Implementation 2. Pre-Emptive Action 3. Cross-Sectoral Cooperation		We opted to use data from the IUCN Red List Webpage, which slightly differs from the default data. Due to the RLI being an aggregate indicator across a small number of taxa that do not include all the species of a specific country, it does not accurately represent South Africa's climate and diversity. This can be seen by comparing the RLI computed by National Biodiversity Assessment (NBA) to the RLI computed using the IUCN Red Data List (IUCN RLI) advance setting function. The NBA RLI for 2018 was estimated at a value of 0.894 and the IUCN RLI for 2018 was estimated at a value of 0.778 The NBA includes 8 taxonomic groups which better represent South Africa's climate and diversity. These taxa include birds, mammals, amphibians, a sample of 900 randomly selected plant species, reptiles, freshwater fish, butterflies, and dragonflies.

General comments

South Africa has a proactive programme aimed at clearing invasive non-native vegetation, and an early detection and response programme to identify possible new invasive species. Legislation also calls for development to be guided by maps and biodiversity information to try to avoid or reduce impacts on threatened species. In addition to assessing threatened species, South Africa also monitors the threat status of ecosystems. Ecosystem threat status indicates the degree to which ecosystems are still intact or losing crucial aspects of their composition, function or structure. At present, the country's inland wetland, river and estuarine ecosystems are highly threatened and degraded. For more information on ecosystem threat status in South Africa, please see: http://biodiversityadvisor.sanbi.org/planning-and-assessment/national-biodiversity-assessment-nba-2018/

SO4-3 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type

SO4-3.T1: National estimates of the average proportion of Terrestrial KBAs covered by protected areas (%)

Year	Protected Areas Coverage(%)	Lower Bound	Upper Bound	Comments
2000	25.97	25 .97	25 .97	
2001	26.04	26 .04	26 .04	
2002	26.05	26 .05	26 .05	
2003	26.06	26 .06	26 .06	
2004	27.63	27 .63	27 .63	
2005	28.3	28 .3	28 .3	
2006	28.3	28 .3	28 .3	
2007	28.86	28 .86	28 .86	
2008	28.86	28 .86	28 .86	
2009	28.89	28 .89	28 .89	
2010	28.94	28 .94	28 .94	
2011	28.99	28 .99	28 .99	
2012	29.74	29 .74	29 .74	
2013	29.97	29 .97	29 .97	
2014	30.35	30 .35	30 .35	
2015	30.77	30 .77	30 .77	
2016	31.12	31 .12	31 .12	
2017	31.2	31 .2	31 .2	
2018	31.93	31 .93	31 .93	
2019	33.07	33 .07	33 .07	
2020	33.08	33 .08	33 .08	

Qualitative assessment

SO4-3.T2: Interpretation of the indicator

Qualitative Assessment	Comment
Increasing	The 20 new marine protected areas could be an attributing factor to the increase in the % of terrestrial KBAs (173 200 km2 of KBAs are located beyond the mainland). The fynbos biome has a multitude of sites that meet the global criteria to qualify as KBAs (several threatened and endangered species). The originally inscribed Cape Floral Region Protected Areas serial property comprised eight protected areas covering a total area of 557,584 ha and the extended Cape Floral Region Protected Areas property comprises 1,094,742 ha of protected areas and is surrounded by a buffer zone of 798,514 ha.

General comments

South Africa will revise its KBA network at the end of March 2023. After that, South Africa will be able to use a National Protected areas dataset with a new KBA layer to calculate the indicator.

SO4 Voluntary Targets

SO4-VT.T1

Target	Year	Level of application	Status of target achievement	Comments

Complementary information

Voluntary targets are still being formulated for South Africa, both nationally and sub-nationally.

SO5-1 Bilateral and multilateral public resources

Tier 1: Please provide information on the international public resources provided and received for the implementation of the Convention, including information on trends.

Trends in international bilateral and multilateral public resources provided

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Trends in international bilateral and multilateral public resources received

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Through the UNCCD enabling activities South Africa has received adequate financial resources dedicated for projects, programmes and reporting.

The resources for reporting through the enabling activities always reach the Country Parties when the report by reporting officers has been concluded. The funding modalities is not aligned to the reporting timelines.

Tier 2: Table 1 Financial resources provided and received

		Total Amount USD	
Provided / Received	Year	Committed	Disbursed / Received
Provided	2016	Committed 0	Disbursed 0
Provided	2017	Committed 0	Disbursed 0
Provided	2018	Committed 0	Disbursed 0
Provided	2019	Committed 0	Disbursed 0
Received	2016	Committed 1 875 765 .66	Received 2 701 231 .86
Received	2017	Committed 294 301 .71	Received 1 619 714 .70
Received	2018	Committed 6 489 819 .83	Received 63 000
Received	2019	Committed 4 806 214 .34	Received 610 220 .34
Total resources provided:		0	0
Total resources received:		13 466 101 .54	4 994 166 .9

Documentation box

	Explanation
Year	2018
Recipient / Provider	Department of Forestry, Fisheries and the Environment
Title of project, programme, activity or other	GEF support to UNCCD 2018 National Reporting Process - South Africa
Total Amount USD	63000

	Explanation
Sector	UNEP
Capacity Building	Yes
Technology Transfer	Yes
Gender Equality	Yes
Channel	Multilateral
Type of flow	Official Development Assistance
Financial Instrument	Other- UNCCD enabling activities
Type of support	Directly related to DLDD-Donor Funding
Amount mobilised through public interventions	R 200 000. 00 (11, 109 USD)
Additional Information	Details of the project " GEF support to UNCCD 2018 National Reporting Process - South Africa " The funding was received in US Dollars. The executing agency was UNEP

General comments

None.

SO5-2 Domestic public resources

Tier 1: Please provide information on the domestic public expenditures, including subsidies, and revenues, including taxes, directly and indirectly related to the implementation of the Convention, including information on trends.

Trends in domestic public expenditures and national level financing for activities relevant to the implementation of the Convention

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

Trends in domestic public revenues from activities related to the implementation of the Convention

- (●) Up ↑
- ( ) Stable ←→
- ( ) Down ↓
- ( ) Unknown ∾

South Africa through the Medium-Term Strategic Framework (MTSF) of relevant sector departments and entities allocated financial resources for the implementation of projects and programmes aimed at addressing issues related to Sustainable Land Management. These projects and programme focus on restoration and rehabilitation of degraded ecosystems such as wetlands and strategic water sources, biodiversity, conservation agriculture, rangeland management while also contributing to poverty alleviation, climate change mitigation and adaptation, halting biodiversity loss, green jobs creations and provision of food and water security amongst others. Through rehabilitation, conservation and restoration activities, these interventions contribute to the country's economy. The funding dedicated to these is approximately ZAR 1,2 Billion.

In South Africa, the implementation of the Convention cuts across the mandate of different Sector Departments, Public Entities, Non-Governmental Organization and Private Sector. As such the institutional arrangements is composed of partners who are the main contributing partners on the implementation of the National Action Programme to combat desertification in the country. Most of the above-mentioned institutions (government and public entities) relies on Medium Term Strategic Framework Budget for the implementation of the Convention and report to the National Treasury on how resources were utilized. In addition, NGOs and Private Sector partners with government through donor funded projects for the implementation of the Convention.

Tier 2: Table 2 Domestic public resources

	Year	Amounts	Additional Information
Government expenditures	2021		Directly
Directly related to combat DLDD	2021	12 000 000	Yes
Indirectly related to combat DLDD	2021	550 716	Yes
Subsidies			
Subsidies related to combat DLDD			
Total expenditures / total per year			

	Year	Amounts	Additional Information
Government revenues			
Environmental taxes for the conservation of land resources and taxes related to combat DLDD			
Total revenues / total per year			

Documentation box

	Explanation
Government expenditures	In South Africa we operate from April - March (12 months) and we get funding from government annually.

	Explanation
Subsidies	
Government revenues	
Domestic resources directly or indirectly related to combat DLDD	In South Africa we operate from April - March (12 months) and we get funding from government annually.

Has your country set a target for increasing and mobilizing domestic resources for the implementation of the Convention?

- (●) Yes
- ( ) No

South Africa through GEF 5-Land Degradation Focal Area have developed Sustainable Land Management finance strategy. The purpose of the strategy is to identify the SLM needs to inform potential finance model research and interventions aimed at addressing SLM.

General comments

The allocation from government is used to support the implementation of projects and programmes aimed at combating DLDD. Additional funding is further made available through the restoration, rehabilitation and conservation of degraded landscapes.

SO5-3 International and domestic private resources

Tier 1: Please provide information on the international and domestic private resources mobilized by the private sector of your country for the implementation of the Convention, including information on trends.

Trends in international private resources

- ○ Up ↑
- ○ Stable ←→
- ○ Down ↓
- ◉ Unknown ∾

Trends in domestic private resources

- ○ Up ↑
- ○ Stable ←→
- ○ Down ↓
- ◉ Unknown ∾

None.

None.

Tier 2: Table 3 International and domestic private resources

Year	Title of project, programme, activity or other	Total Amount USD	Financial Instrument	Type of institution	Recipient	Additional Information
	Total	0				

Please provide methodological information relevant to data presented in table 3

None.

Has your country taken measures to encourage the private sector as well as non-governmental organizations, foundations and academia to provide international and domestic resources for the implementation of the Convention?

Yes. In terms of Non-Governmental Organizations (NGO) the country has taken a step forward to engage more NGOs on the programme of work of the Convention which includes mobilization of financial resources to implement the National Action Programme at all levels. From 2022 to date ,3 NGO's have been accredited by the Convention. In addition, private sectors are also being engaged on the Land Degradation Neutrality fund. The Academic Institutions are part of the National Coordinating Body to oversee the implementation of the Convention and further contributes to the Committee on Science and Technology . In addition, some of the Academic Institutions they do provide in-kind and co-financing contributions to the overall implementation of the Convention. As a country we also work very closely with international agencies such as the Global Environment Facility. With all these engagements and discussion this will shape up our efforts on the fight against DLDD and attract more financial resources which is is going to assist us to tap into private sector resources

General comments

None.

SO5-4 Technology transfer

Tier 1: Please provide information relevant to the resources provided, received for the transfer of technology for the implementation of the Convention, including information on trends.

Trends in international bilateral and multilateral public resources provided

- ○ Up ↑
- ◉ Stable ←→
- ○ Down ↓
- ○ Unknown ∾

Trends in international bilateral and multilateral public resources received

- ○ Up ↑
- ◉ Stable ←→
- ○ Down ↓
- ○ Unknown ∾

Through the implementation of the fifth Global Environment Facility Sustainable Land Management project, several project beneficiaries, policy makers and other stakeholders were trained on the use remote sensing through the utilization of drone for monitoring of SLM approaches and interventions.

The Drone usage training was to empower community, policy makers and other stakeholders on the monitoring of SLM approaches and interventions.

Tier 2: Table 4 Resources provided and received for technology transfer measures or activities

Provided Received	Year	Title of project, programme, activity or other	Amount	Recipient Provider	Description and objectives	Sector	Type of technology	Activities undertaken by	Status of measure or activity	Timeframe of measure or activity	Use, impact and estimated results	Additional Information
◉ Provided ○ Received	2021	Securing multiple ecosystems benefits through sustainable land management in the productive but degraded landscape of South Africa	17 000	South Africa	To strengthen the enabling environment for the adoption of the knowledge based Sustainable Land Management (SLM) for land management and land/ecosystem rehabilitation in support of the green economy and resilient livelihood. This is being done through capacity incentives demonstrated in a Karoo Eastern Cape and Olifants landscape where the project is being implemented.	☒ Agriculture ☐ Forestry ☐ Water and Sanitation ☒ Cross-cutting ☐ Other(specify)	Monitoring Drones	Public and/or private sector	Completed	2021	See the link provided on drone training conference.	None.
Total provided:			17 000		Total received:			0				
Total per year 2021 provided:			17 000		Total per year 2021 received:			0				

Please provide methodological information relevant to data presented in table 4

Include information on underlying assumptions, definitions and methodologies used to identify and report on technology transfer support provided and/or received and/or required. Please include links to relevant documentation.

Kindly see the link for more information https://dronesatwork.co.za/

Please provide information on the types of new or current technologies required by your country to address desertification, land degradation and drought (DLDD), and the challenges encountered in acquiring or developing such technologies.

1. Drones to be used by small scale farmers. 2. Enhanced Early warning systems. 3. Enhanced Remote sensing/ GIS system.

General comments

None

SO5-5 Future support for activities related to the implementation of the Convention

SO5-5.1: Planned provision and mobilization of domestic public and private resources

Please provide information relevant to the planned provision and mobilization of domestic resources for the implementation of the Convention, including information relevant to indicator SO5-2, as well as information on projected levels of public financial resources, target sectors and planned domestic policies.

South Africa has established a Higher Level Senior Management Task Team on the implementation of projects and initiatives aimed at addressing issue on Land Degradation, Desertification and drought. The task team is responsible for encouraging the implementation of Land Degradation, Desertification and drought initiatives and programmes by sector departments and public entities. The High Level Senior Management Task Team emphasis on the need for mobilization of resources for the implementation of integrate Land Degradation, Desertification, drought, climate change and other environmental programmes. As such, South Africa will require support on the mobilization of substantial and additional resources in public and private sectors for the implementation of the Convention.

SO5-5.2: Planned provision and mobilization of international public and private resources

Please provide information relevant to the planned provision and mobilization of international resources for the implementation of the Convention, including information on projected levels of public financial resources and support to capacity building and transfer of technology, target regions or countries, and planned programmes, policies and priorities.

There is a need for substantial and additional resources for the implementation or scaling up on the implementation of the Convention in the country. In addition, capacity building on engagement with private sectors on resources mobilization is required. In addition Pilot projects are required.

SO5-5.3: Resources needed

Please provide information relevant to the financial resources needed for the implementation of the Convention, including on the projects and regions which needs most support and on which your country has focused to the greatest extent.

The following resources are required: - Implementation of Land Degradation Neutrality targets - Implementation of the drought National Action Plan - Resources for the implementation of research priorities such as Sand and Dust storms, Drought vulnerability assessment and etc. - Scaling up of the transboundary and regional projects.

General comments

None.

Financial and Non-Financial Sources

Increasing the mobilization of resources:

Would you like to share an experience on how your country has increased the mobilization of resources within the reporting period?

- (•) Yes
- ( ) No

What type of resources were mobilized (check all that apply)?

- ☒ Financial Resources
- ☐ Non-Financial

Which sources were mobilized?

- ☒ International
- ☒ Domestic
- ☐ Public
- ☐ Private
- ☒ Local communities
- ☐ Non-traditional funding sources
- ☐ Climate Finance
- ☐ Other (please specify)

Use this space to describe the experience:

During the current reporting cycle, South Africa through the Department of Forestry, Fisheries and the Environment managed to secure the following international funding for the implementation of the National Action Programme of the UNCCD: 1. GEF 5 SLM project that came to an end on 22 April 2022 to an amount of US$45,414,233,46 (R 784 697 553,26). The objective of this project was to strengthen the enabling environment for the adoption of knowledge based SLM models for land management and land / ecosystem rehabilitation in support of the green economy and resilient livelihoods. 2. GEF 7 project on Mainstreaming of Sustainable Land Management to an amount of US$ 3,629,816 (R62 939 412.32). The main objective of the project is to scale-up and mainstream SLM for large-scale impact in the grazing lands of targeted sites in the Limpopo and Northern Cape Provinces of South Africa. 3. UNCCD enabling activities (reporting) to an amount of US$ 91 000 00 (R1 577 899.96). 4. The development of the SADC Great Green Wall Initiative Action Plan to an amount of US$ 5 773,31 (R98 000). 5. Presidential economic stimulus packages amounting to 1.9 billion (approximately US$ 115 000 000) with an objective to invest in the environment, ecological infrastructure and supporting the green infrastructure in the face of Covid19 pandemic. The aim of the presidential employment stimulus is to utilize public funding to create jobs and support livelihoods while the labor market recovers. Approximately 1million jobs have been created through the Presidential economic stimulus package

What were the challenges faced, if any?

The programming of international funding takes longer than anticipated. Some of the funding reached the country when the projects or programmes have already been completed.

What do you consider to be the lessons learned?

Any project or intervention to address land degradation challenges require sufficient resources and enough implementation time to plan, facilitate and ensure real impact on the ground.

How did you ensure that women benefited from/got access to this funding?

South Africa have adopted a principle to employ beneficiaries working on the DLDD related projects and programmes as follows: — Prioritizing the inclusion of 65% of women participation on projects and programmes focusing specifically on addressing drought, water crisis, biodiversity loss and wetlands conservation; — Equal pay for equal worth of work- South Africa is among the few countries in the

world that have legislated gender parity in the workplace; — Job creation and sustainable growth specifically for women in rural areas; — Improving access to education for girls; — Addressing women's health in particular maternal mortality, the high levels of HIV and AIDS in young women; — Addressing violence against women and gender-based violence in particular issues of rape and sexual offences; — Economic empowerment of women in particular women-owned businesses; and — Development of rural women through provision of capacity building for entrepreneurship; among others.

Use this space to provide any further complementary information you deem relevant:

None

Has your country supported other countries in the mobilization of financial and non-financial resources for the implementation of the Convention?

- (●) Yes
- ( ) No

Use this space to describe the experience:

As part of the Sub-regional Action Programme South Africa have assisted the SADC member states by mobilizing financial resources towards the development of the following concept note: 1. A Regional Strategic Framework for Drought Management for the SADC countries to enhance resilience to drought events that emphasizes on a paradigm shift from reactive to proactive approaches. the project was funded by the Korean government through the Changwon Initiative. 2. Adapting the African Union Great Green Wall initiative in Southern Africa in alignment with the SADC SRAP. This gave birth to the SADC Great Green Wall Initiative

What were the challenges faced, if any?

None

Was part of the funding earmarked for women and/or women led activities/businesses?

The developed Regional Strategic Framework for Drought Management for the SADC takes into account or put issues of women in the forefront (gender responsive).

What do you consider to be the lessons learned?

None

Using Land Degradation Neutrality as a framework to increase investment:

From your perspective, would you consider that you have taken advantage of the LDN concept to enhance the coherence, effectiveness and multiple benefits of investments?

- (●) Yes
- ( ) No

Use this space to describe the experience:

Through the LDN targets set as the country we have been able to mobilize additional financial resources for the implementation of projects and programmes at a national level e.g. through the AFR100 Initiative, two Scaling-up projects will be piloted.

What were the challenges faced, if any?

Substantial or additional financial resources are required for the implementation of the LDN targets. The criteria to access LDN fund restricts collaboration and mass participation of potential beneficiaries or enterprise. The implementation of LDN targets set has proved to be a challenge due to budget cuts post Covid-19 that forced some partners to default on their commitments to implement the targets set.

What do you consider to be the lessons learned?

The implementation of the LDN target in the country requires an integrated approach that integrates issues of water, Sustainable Land Management, climate change, biodiversity conservation and other environmental matters to ensure leveraging of resources.

Improving existing and/or innovative financial processes and institutions

From your perspective, do you consider that your country has improved the use of existing and/or innovative financial processes and institutions?

- (●) Yes
- ( ) No

Was this through any of the following (check all that apply)?

☒ Existing financial processes
☐ Innovative financial processes
☒ The GEF
☒ Other funds (please specify)
Global Mechanism of the UNCCD

Use this space to describe the experience:

Through the Global Mechanism of the UNCCD, South Africa has been supported financially towards the development of LDN TPP and National Drought Plan Through the GEF, South Africa secured financial resources through the Land Degradation Focal Area (LDFA) fifth replenishment window Through the existing financial processes of the domestic funds, funding dedicated for the implementation of projects and programmes were also secured.

What were the challenges faced, if any?

All funding that was dedicated for the implementation of projects and programmes were channeled to address the impacts of Covid-19 pandemic

What do you consider to be the lessons learned?

Donor funds are able to unlock project opportunities in landscapes that will otherwise not be prioritized such as rural communities. Donor funds enables partnerships with other social partners to support the implementation of projects.

Did your country support other countries in the improvement of existing or innovative financial processes and institutions?

- ( ) Yes
- (●) No

Policy and Planning

Action Programmes:

Has your country developed or helped develop, implement, revise or regularly monitor your national action programme?

- (•) Yes
- ( ) No

Use the space below to share more details about your country's experience:

In line with the national development priorities and the international obligations, South Africa developed the second National Action Programme (NAP) for 2018 -2030 as a key instrument to guide the implementation of the United Nations Convention to Combat Desertification (UNCCD). To this end, the NAP sets out the respective roles of government, local communities and land users and also provides an indication of the resources that will be needed for its implementation. In addition, the NAP implementation is guided by the seven outcomes which are cross-cutting in nature and requires sound monitoring and coordination to achieve the intended results per outcome. The implementation of the seven outcomes provides a framework of partnerships that calls for all government structures, communities, Non-Governmental Organization (NGOs), private sector and research institutions to work together in the implementation of projects and programmes related to combating desertification, land degradation and drought (DLDD).

Would you consider the action programmes and/or plans to be successful and what do you consider the main reasons for success or lack thereof?

Success; -The NAP provides an opportunity for collaboration, participation and partnerships at all levels. -The endorsement of the NAP by political principal. - The NAP provides the blueprint for accountability and responsibilities towards the implementation of DLDD issues. - Improved awareness raisings and capacity building on DLDD issues. - Timely and additional public funds dedicated for the implementation of the NAP. - Improved commitments on the implementation of the LDN targets. Main reasons for success: - Establish the National Coordinating Body - Establishment of the High Levels Senior Management Task Team on DLDD - Establishment of the Committee on Science and Technology - Establishment of the Inter-Departmental Migration Forum

What were the challenges faced, if any?

- Over commitment on the NAP and the LDN targets due to insufficient funding for implementation - Lack of integrated approach towards the implementation of the NAP in terms of prioritization - Lack of capacity to mobilize required financial resources to implement the NAP - Lack of support on the implementation of the NAP at local government

What do you consider to be the lessons learned?

Projects or interventions to address land degradation challenges require sufficient resources and enough implementation time to plan, facilitate and ensure real impact on the ground. Lack of oversight structure led to the NAP contributing partners to default on their commitments.

Policies and enabling environment:

During the reporting period, has your country established or helped establish policies and enabling environments to promote and/or implement solutions to combat desertification/land degradation and mitigate the effects of drought?

- (•) Yes
- ( ) No

These policies and enabling environments were aimed at (check all that apply):

- ☒ Promoting solutions to combat desertification, land degradation and drought (DLDD)
- ☒ Implementing solutions to combat DLDD
- ☐ Protecting women's land rights
- ☐ Enhancing women's access to natural, productive and/or financial resources
- ☒ Other (please specify)

National Environmental Management Laws Bill, Wetland Management Framework, National Drought Management Framework, White Paper on Conservation and Sustainable Use of South African's Biodiversity 2022

How best to describe these experiences (check all that apply):

☒ Prevention of the effects of DLDD
☒ Relief efforts after DLDD has caused environmental and or socioeconomic stress on ecosystems and or populations
☒ Recovery efforts after DLDD has caused environmental and or socioeconomic stress on ecosystems and or populations
☒ Engagement of women in decision - making
☐ Implementation and promotion of women's land rights and access to land resources
☒ Building women's capacity for effective UNCCD implementation
☐ Other (please specify)

Use the space below to share more details about your country/sub-region/region/institution's experience.

Policies and strategies at a national level required participatory approaches on implementation. Extensive consultation in planning, development and implementation is central. Involvement of all relevant stakeholder economic, environment and socio economic background

Do you consider these policies to be successful in promoting or implementing solutions to address DLDD, including prevention, relief and recovery, and what do you consider the main factors of success or lack thereof?

Yes, because these policies were underpinned by DLDD related issues when developed. Most of these policies are addressing cross cutting issues which allows for an integrated approach towards addressing issues such as biodiversity loss, climate change and water management. What drives these success is the ability f these policies to create an enabling environment for jobs, funding, inclusive stakeholder participation and partnerships. As a result of these policies and their linkages with DLDD issues, the government allocates resources for implementing solutions through programmes such as LandCare, Natural Resource Management and LDN and others. This programme have successfully managed to restore, rehabilitate and protect many degraded landscapes. Improvement in livelihoods through creation of jobs and sustained livelihoods. Main factors of success: Unblocking funding, collaborations in terms of planning and implementation where different government department and NGOs work together, cross-sectoral planning and implementation.

What were the challenges faced, if any?

The implementation of strategies and policies remain a challenge taking into account financial constraints at all levels and overlapping of mandates across all sectors.

What would you consider to be the lessons learned?

Policies and strategies need must be implemented in an integrated manner to avoid duplication of efforts and resources

Has your country supported other countries in establishing policies and enabling environments to promote and implement solutions to combat desertification/land degradation and mitigate the effects of drought, including prevention, relief and recovery?

○ Yes
◉ No

Synergies:

From your perspective, has your country leveraged synergies and integrated DLDD into national plans related to other MEAs, particularly the other Rio Conventions and other international commitments?

◉ Yes
○ No

Your country's actions were aimed at (please check all that apply):

☒ Leveraging DLDD with other national plans related to the other Rio Conventions
☒ Integrating DLDD into national plans
☒ Leveraging synergies with other strategies to combat DLDD
☒ Integrating DLDD into other international commitments
☐ Other (please specify)

Use the space below to describe your country's experience.

DLDD issues are mainstreamed into the plans of other MEAs such as CBD, UNFCCC, AEWA and RAMSAR Conventions.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes, the LDN target set in the country encompasses issues relating to other MEAs. In addition the recently revised White Paper on Conservation and Sustainable Use of Biodiversity 2022 have been developed and it takes into account restoration, rehabilitation and conservation of degraded landscapes.

What were the challenges faced, if any?

Usage and definitions of terminologies across the MEAs.

What would you consider to be the lessons learned?

The principle of not leaving no one behind across the MEAs needs to be prioritized. Synergies amongst the Conventions can deliver multiple benefits on issues that are best dealt with on environmental degradation at all levels

Mainstreaming desertification, land degradation and drought:

From your perspective, did your country take specific actions to mainstream, DLDD in economic, environmental and social policies, with a view to increasing the impact and effectiveness of the implementation of the Convention?

◉ Yes
○ No

If so, DLDD was mainstreamed into (check all that apply):

☒ Economic policies
☒ Environmental policies
☒ Social policies
☒ Land policies
☒ Gender policies
☒ Agricultural policies
☐ Other (please specify)

Use the space below to describe your country's experience.

As part of of building back better from the COVID 19 Pandemic, South Africa has launched the Presidential Economic Stimulus programme aimed at accelerating socio-economic and environmental protection through the implementation of projects and programmes focusing on creating green jobs, skills development, entrepreneurship and tourism development amongst others. Ability to convene the community of practice that involves both scientist, policy makers and implementers is key • Cross sectoral planning and coordination • Working collaboratively

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes as articulated above.

What were the challenges faced, if any?

Areas affected by DLLD are most marginalized and consideration needs to be taken into account when addressing socio economic and environmental issues as circumstances are not the same.

What would you consider to be the lessons learned?

Comprehensive stakeholder needs assessment at the landscape level is key. Roles and responsibilities amongst stakeholders needs to be clearly defined to avoid conflicts at landscape level.

Drought-related policies:

Has your country established or is your country establishing national policies, measures and governance for drought preparedness and management?

- (●) Yes
- ( ) No

Use the space below to describe your country's experience.

Yes, South Africa has the following structures and interventions in place to address drought: National Drought Joint Coordination Committee which integrate all affected stakeholders Establishment of a Drought Relief fund which allocated to affected sectors to address drought Establishment of the Inter-ministerial committee on drought related issues that includes preparedness and management Improved weekly and monthly early warning systems Development of National Drought Hotspots Map to understand drought prone areas for ensuring implementation of required interventions Awareness raising on drought issues are conducted annually to capacitate government officials, key stakeholders community on addressing drought issues South Africa also participated towards the development of Drought Risk Management and Mitigation Strategy

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

• Yes, coordination and partnership on the implementation of drought related issues has improved over the years.

What were the challenges faced, if any?

Drought is not yet profiled as a national risk as such there is a limited cooperation from other sectors of the society Drought is not experienced equally across the country and across the ecosystems or landscapes as such plans and programmes must always be fit for purpose

What would you consider to be the lessons learned?

Establishment of Regional Strategy on drought can help in understanding drought related issues at all levels Drought also contribute to forced migration Financial resources is key in addressing drought related issues

Has your country supported other countries in establishing policies, measures and governance for drought preparedness and management, in accordance with the mandate of the Convention?

- ( ) Yes
- (●) No

Action on the Ground

Sustainable land management practices:

Has your country implemented or is your country implementing sustainable land management (SLM) practices to address DLDD?

- (●) Yes
- ( ) No

What types of SLM practices are being implemented?

- ☒ Agroforestry
- ☒ Area closure (stop use, support restoration)
- ☒ Beekeeping, fishfarming, etc
- ☒ Cross-slope measure
- ☒ Ecosystem-based disaster risk reduction
- ☐ Energy efficiency
- ☒ Forest plantation management
- ☒ Home gardens
- ☒ Improved ground/vegetation cover
- ☐ Improved plant varieties animal breeds
- ☒ Integrated crop-livestock management
- ☐ Integrated pest and disease management (incl. organic agriculture)
- ☐ Integrated soil fertility management
- ☐ Irrigation management (incl. water supply, drainage)
- ☒ Minimal soil disturbance
- ☒ Natural and semi-natural forest management
- ☒ Pastoralism and grazing land management
- ☐ Post-harvest measures
- ☒ Rotational system (crop rotation, fallows, shifting, cultivation)
- ☒ Surface water management (spring, river, lakes, sea)
- ☐ Water diversion and drainage
- ☒ Water harvesting
- ☒ Wetland protection/management
- ☒ Windbreak/Shelterbelt
- ☐ Waste management / Waste water management
- ☐ Other (please specify)

Use the space below to share more details about your country's experience:

Sustainable Land Management issues cuts across the mandates of different Sector Departments and Public Entities. As such different Sector Departments and Public Entities have established programmes and projects with an objective of addressing DLDD on the ground.

Would you consider the implemented practices successful and what do you consider the main factors of success?

Yes, the implementation was successful because the above projects were able to minimize land degradation, loss of biodiversity and enhanced climate change adaptation and mitigation while contributing to sustainable livelihoods, economic growth, poverty alleviation and green jobs. The ability of sustainable land management projects and programmes to promote the sustainable use and management of agricultural natural resources to the communities through awareness campaigns and the development of conservation agriculture policy. Factors of Success: Integrated planning at national level Allocation of domestic resources Stakeholder engagement Enabling policy environment Political commitment

What were the challenges faced, if any?

Synergies still need to be strengthened accross all sectors to ensure effectiveness in the implementation of Sustainable Land Management Private Sector and other stakeholdess do not hold land restoration as a priority which limit leveraging of resources for the implementation of Sustainable Land Management projects and programmes Land restoration and rehabilitation is expensive and requires substantial resources for implementations

What do you consider to be the lessons learned?

The inclusion of the Civil Society Organizations can help in the delivery of the Land Degradation Neutrality target set. The inability of conservation/climate smart agriculture project and programmes to attract Civil Society Organizations (CSO) requires further effort Establish and develop effective capacity and commitment at a local level to drive this – “leverage partnerships” with others to ensure optimal outcomes SA need an integrated national SLM guidelines developed in collaboration with all sectors that we can all refer and use

How did you engage women and youth in these activities?

South Africa has an Expanded Public Works Programme (EPWP) policy and guidelines that encourages all sector departments and public entities to engage and ensure partcipations of women, youth and people with disabilities in all projects and programmes including the one aimed at addressing issues of Sustainable Land Management

Has your country supported other countries in the implementation of SLM practices?

- ○ Yes
- ◉ No

Restoration and Rehabilitation:

Has your country implemented or is your country implementing restoration and rehabilitation practices in order to assist with the recovery of ecosystem functions and services?

- ◉ Yes
- ○ No

What types of rehabilitation and restoration practices are being implemented?

- ☒ Restore/improve tree-covered areas
- ☒ Increase tree-covered area extent
- ☒ Restore/improve croplands
- ☒ Restore/improve grasslands
- ☒ Restore/improve wetlands
- ☒ Increase soil fertility and carbon stock
- ☒ Manage artificial surfaces
- ☒ Restore/improve protected areas
- ☒ Increase protected areas
- ☒ Improve coastal management
- ☒ General instrument (e.g. policies, economic incentives)
- ☒ Restore/improve multiple land uses
- ☒ Reduce/halt conversion of multiple land uses
- ☒ Restore/improve multiple functions
- ☒ Restore productivity and soil organic carbon stock in croplands and grasslands
- ☐ Other/general/unspecified

Use the space below to share more details about your country's experience:

South Africa is implementing several projects and programmes aimed at addressing Sustainable Land Management, Agricultural, climate

change and biodiversity issues. These projects and programmes are aimed the implementing interventions and measures aimed at arresting land degradation in the country. These are programmes such as: The Natural Resource Management Programme which aim to support sustainable livelihoods for local people through integrated landscape management that strives for resilient social-ecological systems, and which fosters equity in access to ecosystem services through the following flagship projects, amongst others: Working on Fire is an Expanded Public Works Programme (EPWP) aimed at providing work opportunities to young men and women. The Programme resides under, and is funded by, the Department of Forestry, Fisheries, and the Environment. Participants are recruited from marginalized communities and trained in fire awareness and education, fire prevention and fire suppression skills. Moreover, they are trained in skills such as first aid, carpentry, cooking, health and safety and communications. Working for Land is aimed at empowering the greater community with rehabilitated areas of land by planting trees and making more land available for agricultural land grazing uses. This programme seeks to address the degradation of land due to desertification, overgrazing, soil erosion, poor storm-water management and unsustainable farming practices. Working for Water is to control invasive alien species while promoting resource conservation and poverty reduction. While the main goal of this programme is to recover scarce water, other components include the conservation of biological diversity and the building and empowerment of local communities through job creation. LandCare-This programme aims to optimize and sustain resources in order to attain greater productivity, food security, job creation and a better quality of life by encouraging and supporting sustainable land use practices, raising awareness and promoting resource conservation ethics while also reducing poverty and creating jobs through natural resource rehabilitation, improvement and conservation. Programme is a government-supported community based initiative, which is active throughout the country driven by both the public and private sectors through partnerships and cooperation. The purpose of the programme is to enhance the sustainable use of natural resources through community participatory approach, job creation using Expanded Public Works Programme model (EPWP), to improve food security and better life for all (well-being) of society as guided by six indivisible principles. In addition, afforestation and agroforestry projects are being implemented across the country to address issues of climate change, land restoration and biodiversity.

Would you consider the implemented practices successful and what do you consider the main factors of success?

Yes, the implementation was successful because the above projects were able to minimize land degradation, loss of biodiversity and enhanced climate change adaptation and mitigation while contributing to sustainable livelihoods, economic growth, poverty alleviation and green jobs. The ability of sustaimnable land management projects and programms to promote the sustainable use and management of agricultural natural resources to the communities through awareness campaigns and the development of conservation agriculture policy. Factors of Success: Integrated planning at national level Allocation of domestic resources Stakeholder engagement Enabling policy environment Political commitment engagement of communities

What were the challenges faced, if any?

Synergies still need to be strengthened across all sectors to ensure effectiveness in the implementation of Sustainable Land Management strengthening private sector and non government organization participation in land restoration programmes Land restoration and rehabilitation is expensive and requires substantial resources for implementations

What do you consider to be the lessons learned?

Ensure effective scientific support to measure and quantify impact and drive “mainstreaming” of the outcomes being pursued. Establish and develop effective capacity and commitment at a local level to drive this – “leverage partnerships” with others to ensure optimal outcomes Times of change are times of opportunities – have a good knowledge management system in place to drive this change in your context. Leadership support and buy-in is critical for the success – ensure effective engagements and information flow in place for leaders to understand the content and how it relates to national imperatives. Establish and develop effective capacity and commitment at a local level to drive this – “leverage partnerships” with others to ensure optimal outcomes. The need to establish optimal cross-sectoral platforms to link policy and practice requires a need to change and shake-up the current conventions. Develop mechanisms to break through the bureaucracy to make engagement easier. Create spaces to listen and learn and accept that one will make mistakes along the way.

How did you engage women and youth in SLM activities?

South Africa has an Expanded Public Works Programme (EPWP) policy and guidelines that encourages all sector departments and public entities to engage and ensure participation of women, youth and people with disabilities in all projects and programmes including the one aimed at addressing issues of Sustainable Land Management.

Has your country supported other countries with restoration and rehabilitation practices in order to assist with the recovery of ecosystem functions and services?

- ○ Yes
- ◉ No

Drought risk management and early warning systems:

Is your country developing a drought risk management plan, monitoring or early warning systems and safety net programmes to address DLDD?

- (•) Yes
- ( ) No

If so, DLDD was mainstreamed into (check all that apply):

☒ A drought risk management plan
☒ Monitoring and early warning systems
☒ Safety net programmes

Use the space below to describe your country's experience.

South Africa is a water scarce country with annual precipitation that varies from less than 50 mm per annum in the far west up to 1500 mm per annum in some east coast regions. Precipitation in South Africa is characterized with great variability from extremely wet to extremely dry. The issues of drought in South Africa cuts across different sector departments and public entities. These are Departments of Forestry, Fisheries and the Environment; the Department of Water and Sanitation; Department of Cooperative and Traditional Affairs and the Department of Agriculture, Land Reform and Rural Development. These departments are responsible for developing and implementing measures aimed at addressing meteorological, biodiversity, social and agricultural droughts. in addition, the Agricultural Research Council is responsible for conducting researches related to drought and also developing an early warning systems related to drought especially on drought related to water, biodiversity and agriculture. The ARC is also involved in research activities around land degradation and drought, as well as climate change mitigation and adaptation. These include amongst others, bankrupt bush identification and monitoring, Agricultural drought preparedness framework, WEF nexus for catchment based assessments, Resilient e-farming for agro-climate risk management, Measurement of GHG emissions from a wetland ecosystem and Development of Drought Early Warning System. The South Africa Weather Services (SAWS) also develop early warning systems for the country on all weather related matters including conducting research on drought risk impacts and vulnerability assessment and the of development of multi-hazard early warning system. In addition, SAWS provides information on: Drought monitoring, changes in precipitation, temperature, streamflow, soil moisture, monthly SPI; Drought forecasting and projections; Drought risk impact and vulnerability assessments; Agro-hydro modelling and Seasonal forecasts, and probability of expected (rainfall/temperature) conditions in a season For early warning, South Africa have a system that uses multi-satellite imagery for production of satellite-based vegetation and drought product, Weather station data derived Standard precipitation index for monitoring drought at different time scales. An early warning newsletter is issued monthly. Surveillance and Early-Warning Systems to Reduce Pest Damage Severity under Changing Climate.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes, the experience is a success even though South Africa is prone to drought regardless of all systems in place such as early warning systems, drought relief funding and improved institutional arrangement, good governance and partnership however there is still need to strengthen the following areas: Drought preparedness and proactive approach still need to be strengthened Early waning systems to reach the most vulnerable population or marginalized groups Capacity building of policy and decision makers in addressing drought Encourages farmers to consider insurance bonds and practice water conservation and management However the success was due to the following: Improved institutional coordination through the National Drought Joint Coordination Committee Establishment of the Drought Relief funding dedicated to assist affected and vulnerable community Establishment of a dedicated Disaster Management Centre responsible for coordinating drought relief fund and other drought disaster related matters Establishment of political will or support dedicated to coordinate issues of drought at political level Research being undertaken to understand issues of drought in the country and at regional level Restoration and conservation of water, biodiversity and other critical ecosystems that assist in adapting to drought

If you have or are developing a drought risk management plan as part of the Drought Initiative, please share here your experience on activities undertaken?

South Africa does not have Drought Risk Management in place but have developed the National Drought Plan as well Integrated National Drought Disaster Risk Reduction and Management Plan (INDDRRMP). The goal is to ensure drought risk reduction in the country, through integrated and coordinated planning with a shift of focus from drought relief and response to drought prevention, mitigation and preparedness. The drought monitoring and timely analysis of drought indicators forms an integral part of the plan as they are essential for early warning and implementation of drought risk reduction contingency arrangements. The drought classification system and indicator thresholds are recommended to be the first steps in the drought management plan to be applied at a national scale. The following deliverables were achieved through the INDDRRMP development process: Desktop National Drought Risk Assessment/Analysis report. Drought Information management and communication systems report. Sectors Contingency plan templates. Draft 1 and final INDDRRMP. Capacity building sessions on the implementation of the INDDRRMP. The plan was developed in collaboration with all stakeholders or relevant stakeholders that are responsible for addressing issues of drought. However, The Disaster Management Act (Act 57 of 2002) and the National Disaster Management Framework (NDMF, 2005) provide the legislative and policy frameworks for the provincial drought management framework. However, the government of South Africa's has established flagship programmes to address issues drought risk reductions, these are programmes such as: Climate Change response public works programmes (Working for Water, Working for Wetlands,

Working on Fire, Working for Land, LandCare and Peoples and Parks https://www.dffe.gov.za/projectsprogrammes Water Conservation and Demand Management flagship program (war on lakes, national rainwater harvesting program, development of community infrastructure) Renewable Energy Flagship Programme- (National solar water heating program) In addition, the Disaster Management Act (Act 57 of 2002) provides for the declaration of disasters through national, provincial and local government. When a dry period develops into a drought and municipalities, the farming sector, and other stakeholder's highlight the need for a drought declaration in order to assess the magnitude and severity of drought; informs other role players for potential impacts; ensure collaborations in addressing drought as well as assisting affected farmers.

What were the challenges faced, if any?

Issues of drought are being addressed in silos rather than integrated approach which creates duplication of efforts and resources or even trigger lack of responsibilities and accountability. Most of the institutions in South Africa do not have proactive drought management plan in place but prefer addressing drought in a reactive manner instead of adopting proactive approach in addressing drought.

What would you consider to be the lessons learned?

South Africa need to develop an integrated drought management/ drought risk management plan which follows a proactive drought management than reactive drought management across all sectors. Issues of drought can be addressed in an integrated approach rather than sector specific. Without profiling the impacts of drought on environment, social and economic South Africa would not be able to manage the impacts of drought at scale.

Has your country supported other countries in developing drought risk management, monitoring and early warning systems and safety net programmes to address DLDD?

- ○ Yes
- ◉ No

Alternative livelihoods:

Does your country promote alternative livelihoods practice in the context of DLDD?

- ◉ Yes
- ○ No

Could you list some practices implemented at country level to promote alternative livelihoods?

- ☒ Crop diversification
- ☒ Agroforestry practices
- ☒ Rotational grazing
- ☒ Rain-fed and irrigated agricultural systems
- ☒ Small vegetable gardens
- ☐ Production of artisanal goods
- ☐ Renewable energy generation
- ☒ Eco-tourism
- ☒ Production of medicinal and aromatic plants
- ☐ Aquaculture using recycled wastewater
- ☐ Other (please specify)

Use the space below to describe your country's experience.

Yes, South Africa through the implementation of Expanded Public Works Programme (EPWP) such as Working for Water, Working for Land, Working for Wetlands, Working on Fire, LandCare, War on Leaks, Rain Water Harvesting, Youth Environmental Services, Groen Sebenza programme, Presidential Stimulus Program support community livelihoods, especially the rural poor as well as creating green jobs for employed youth and graduates. South Africa Government also support the youth and green entrepreneurs initiative focusing on farming, eco-tourism, wildlife economy, nurseries, climate change and biodiversity conservation. Through this initiative, the Government provide starts up findings opportunities for the youth and green entrepreneurs while also providing them with necessary capacity building and technical support.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes, the experience is a success because through the implementation of projects and programmes mentioned above which aim to support or create livelihoods the following are able to be achieved: Green job creation for communities such as Jobs Fund, Presidential Stimulus Package, Working For Programmes, Integrated Rural Development iniatives Job creation for graduates while providing them with much needed training capacity to address environmental challenges Local eco-tourism initiatives are able to succeed and create additional jobs Local wildlife economy and biodiversity economy initiatives are able to succeed and create additional jobs opportunities The LandCare programme also support smallholders farmers with equipment and resources which also contributes to jobs creation to address issues of livelihoods Improved restoration of degraded landscapes such as wetlands also assist with improving tourism sector while contributing to livelihoods though jobs creation

What were the challenges faced, if any?

Benefits to people through jobs created do not always mean improved conservation outcome. Turning short term alternatives into long term livelihoods by making the sustainable Continue to invest in the maintenance, restoration and rehabilitation of ecological infrastructure to get best return in investment. The growing cost of land restoration inter alia livelihood improvement

What would you consider to be the lessons learned?

• There is a need to balance the livelihoods objectives with the conservation objectives. • There is a need to continue making the case that biodiversity create more jobs that are sustainable than jobs in agriculture sector.

Do you consider your country to be taking special measures to engage women and youth in promoting alternative livelihoods?

- (●) Yes
- ( ) No

Please elaborate

National policies targeting previously disadvantaged Individuals Prioritization of women in employment

Establishing knowledge sharing systems:

Has your country established systems for sharing information and knowledge and facilitating networking on best practices and approaches to drought management?

- (●) Yes
- ( ) No

Please use this space to share/list the established systems available in your country for sharing information and knowledge and facilitating networking on best practices and approaches to drought management.

UNCCD National Coordinating Body Committee on Science and Technology Wetland Indaba Ecological Infrastructure Indaba/ Catchment-based Indaba Research and Land Degradation Indaba National Biodiversity Planning Forum Land Rehabilitation Conference Ecosystem-based Adaptation community of practice. Catchment based community of practice

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes. • Co-creation of solutions and networking • Co-learning and partnerships • Resource mobilization- enabling collaborations and co-funding.

What were the challenges faced, if any?

Drought is a competing mandate across sector.

What would you consider to be the lessons learned?

• We are able to co-create solution and learn together.

Do you consider that your country has implemented specific actions that promote women's access to knowledge and technology?

- (•) Yes
- ( ) No

Please elaborate

South Africa has a dedicated Department of Women, Youth and Persons with Disability, which is tasked with providing strategic leadership, coordination and oversight to government departments and the country in mainstreaming empowerment programmes on women, youth and persons with disabilities. South Africa has several initiatives that are aimed at empowering women in various sectors such as: Women as beneficiaries of the Jobs fund - The environment sector implements over R500 million Groen Sebenza projects that offer unemployed graduates and school-leavers the opportunity to work in 43 participating private sector, government, NGO and academic institutions. Over 60% of beneficiaries are women. Women as beneficiaries of the Green fund - The 2010 National Green Economy Summit commitments included that green jobs opportunities are to cater for women in implementing low-hanging and long-term programmes. In this green fund, rural women are pioneering the commercial production of selected indigenous traditional medicinal plants, with the sale of herbal products ensuring a fully functional and operational enterprise that provides green jobs. Women work force on the Expanded Public Works Programme - The environment sector is supporting a host of other projects around the country that promote environmental conservation and sustainable use, but at the same time impart skills to women in areas such as wetland conservation and rehabilitation. These include those within the ambit of the Expanded Public Works Programme such as Working for Wetlands, Working for Water, Working for Fire, Working for Waste and the Land Care Programme. These projects provide dozens of short term and full time employment for women and youth. Employment equity targets- the Ministry of Forestry, Fisheries and the environment is currently implementing employment equity that targets employment of women in senior management positions. In 2021/22 financial year, 46% of women were employed in management positions.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?

Yes, the government has created enabling environment for women inclusion particularly in the DLDD policies and strategies. This also includes an increase in the women in the implementation of projects and programme for DLDD. In addition, government has a dedicated commitment to the employment of women in decision making positions of responsibilities to address DLDD.

What were the challenges faced, if any?

Literacy level amongst woman in rural areas is low and this makes it hard to promote their access to knowledge and technology. Women in rural areas are often left out when the country is implementing land restoration activities.

What would you consider to be the lessons learned?

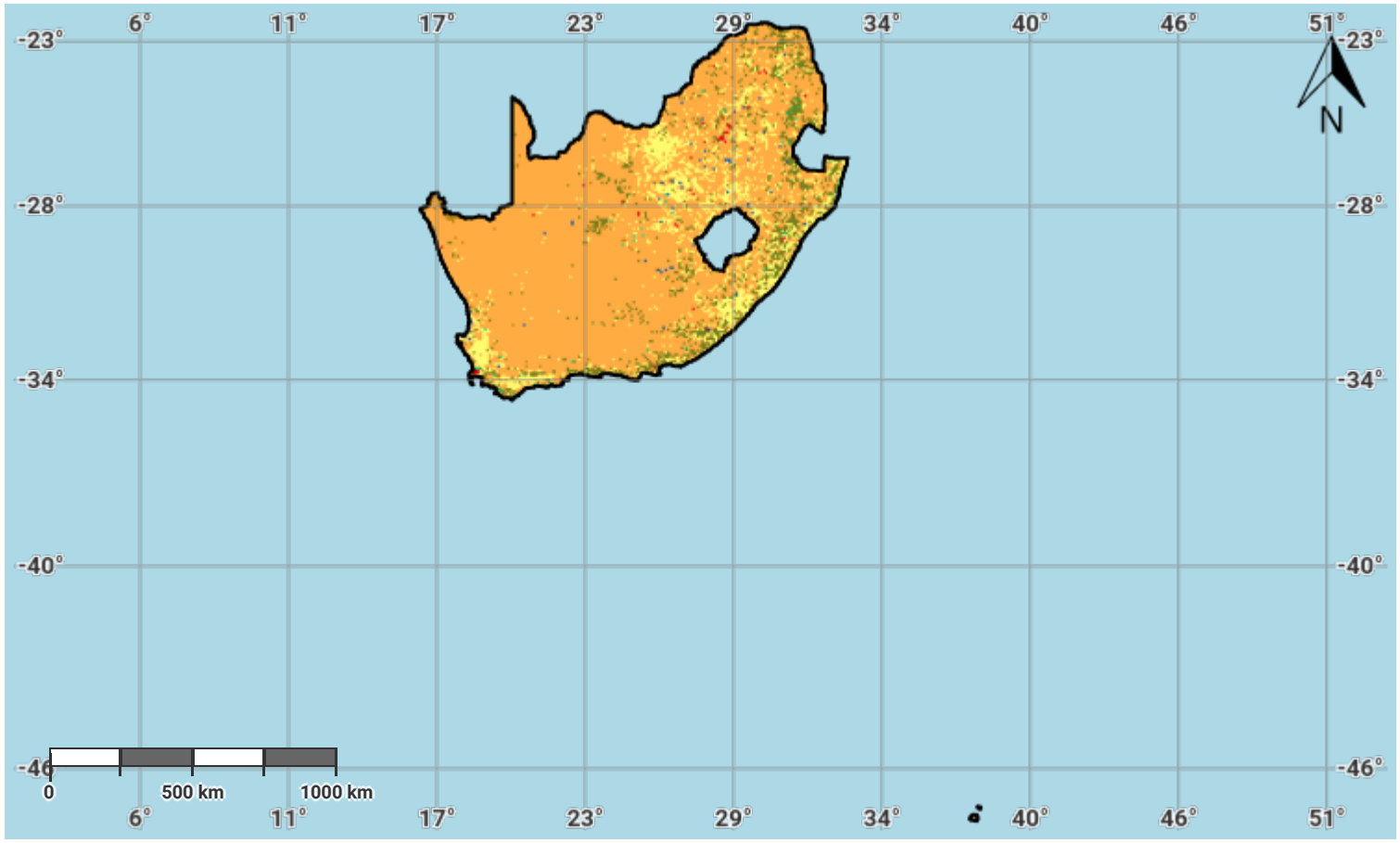
Woman are as capable as men in dealing with DLDD matters

Other files for Reporting

South Africa - SO5-1 recipient	Download	27.8 KB

South Africa – SO1-1.M1

Land cover in the initial year of the baseline period



Legend

- No data
- Tree-covered
- Grassland
- Cropland
- Wetland
- Artificial
- Other land
- Water body

International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

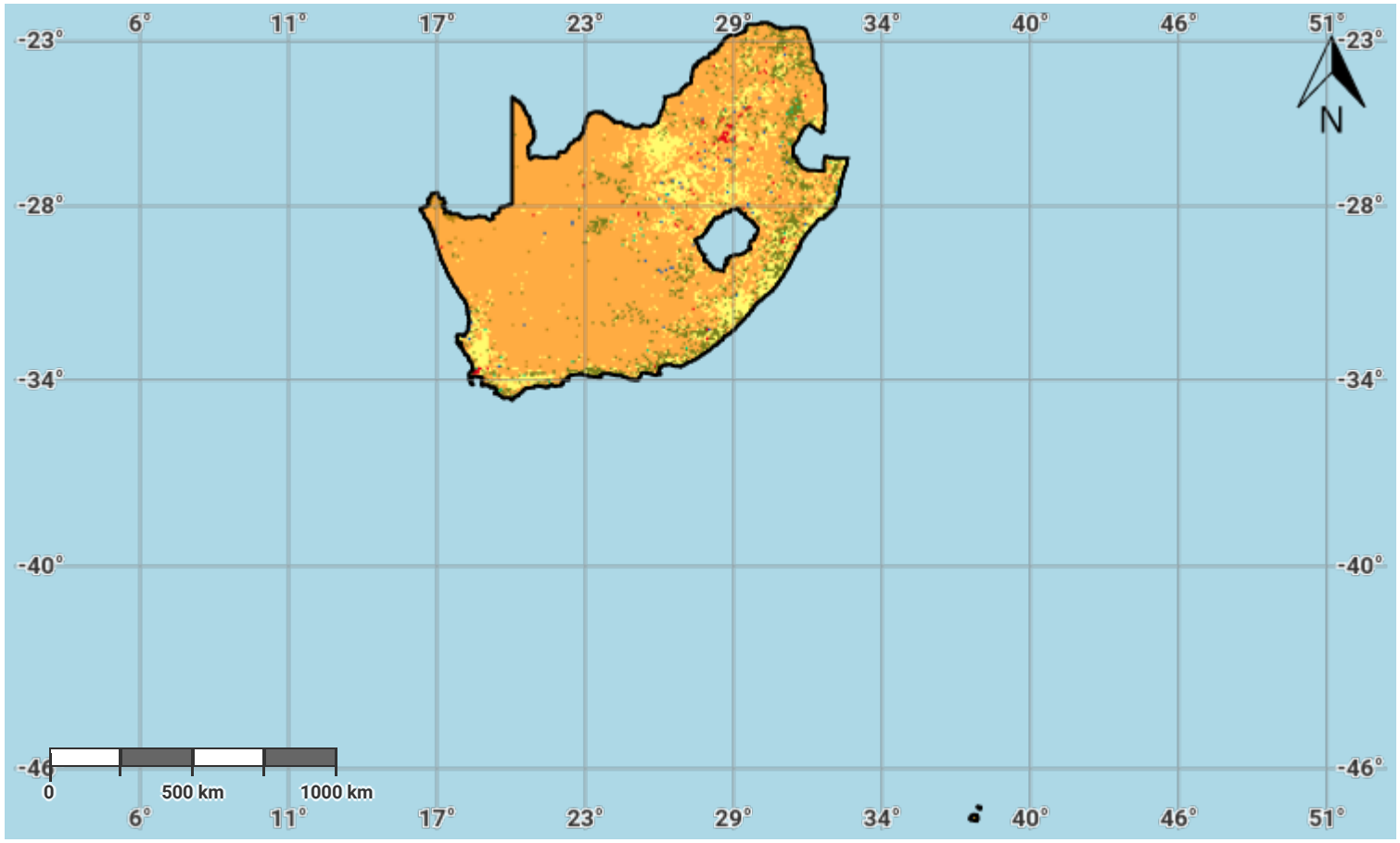
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

South Africa – SO1-1.M2

Land cover in the baseline year



Legend

- No data
- Tree-covered
- Grassland
- Cropland
- Wetland
- Artificial
- Other land
- Water body

International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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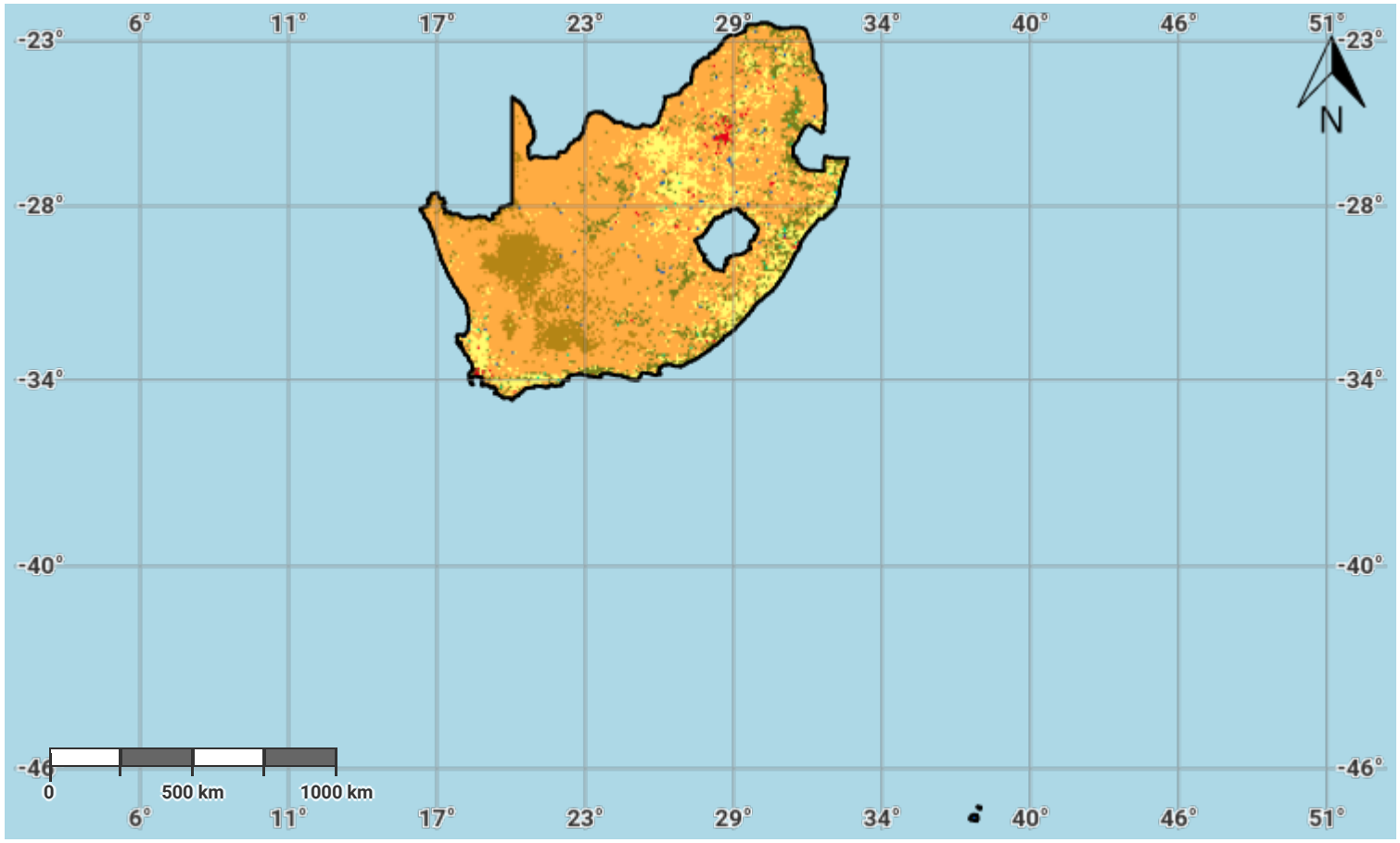
South Africa – SO1-1.M3

Land cover in the latest reporting year



Legend

- No data
- Tree-covered
- Grassland
- Cropland
- Wetland
- Artificial
- Other land
- Water body

International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

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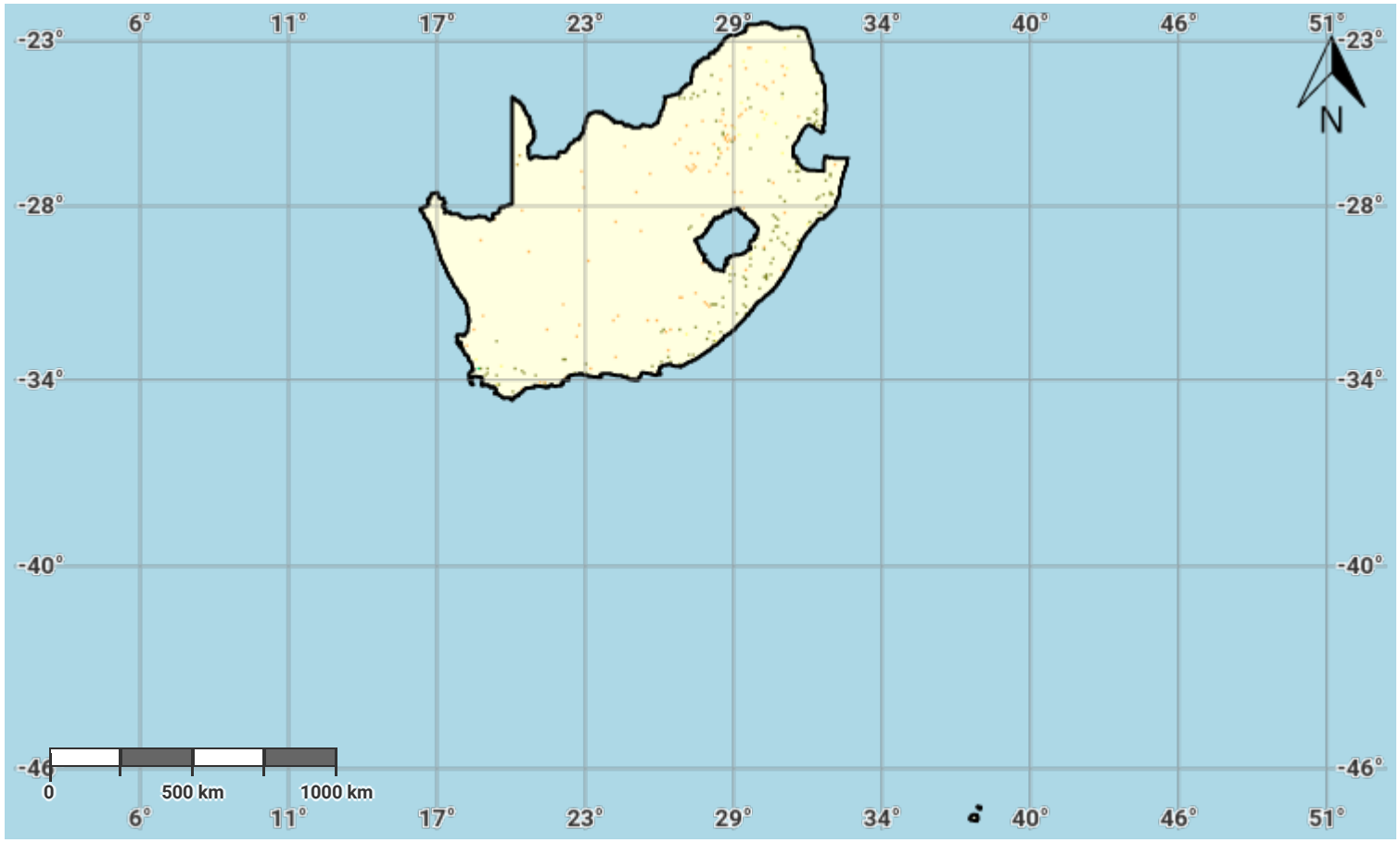
South Africa – SO1-1.M4

Land cover change in the baseline period



Legend

- No data
- No change
- Tree-covered loss
- Grassland loss
- Cropland loss
- Wetland loss
- Artificial loss
- Other land loss
- Water body loss
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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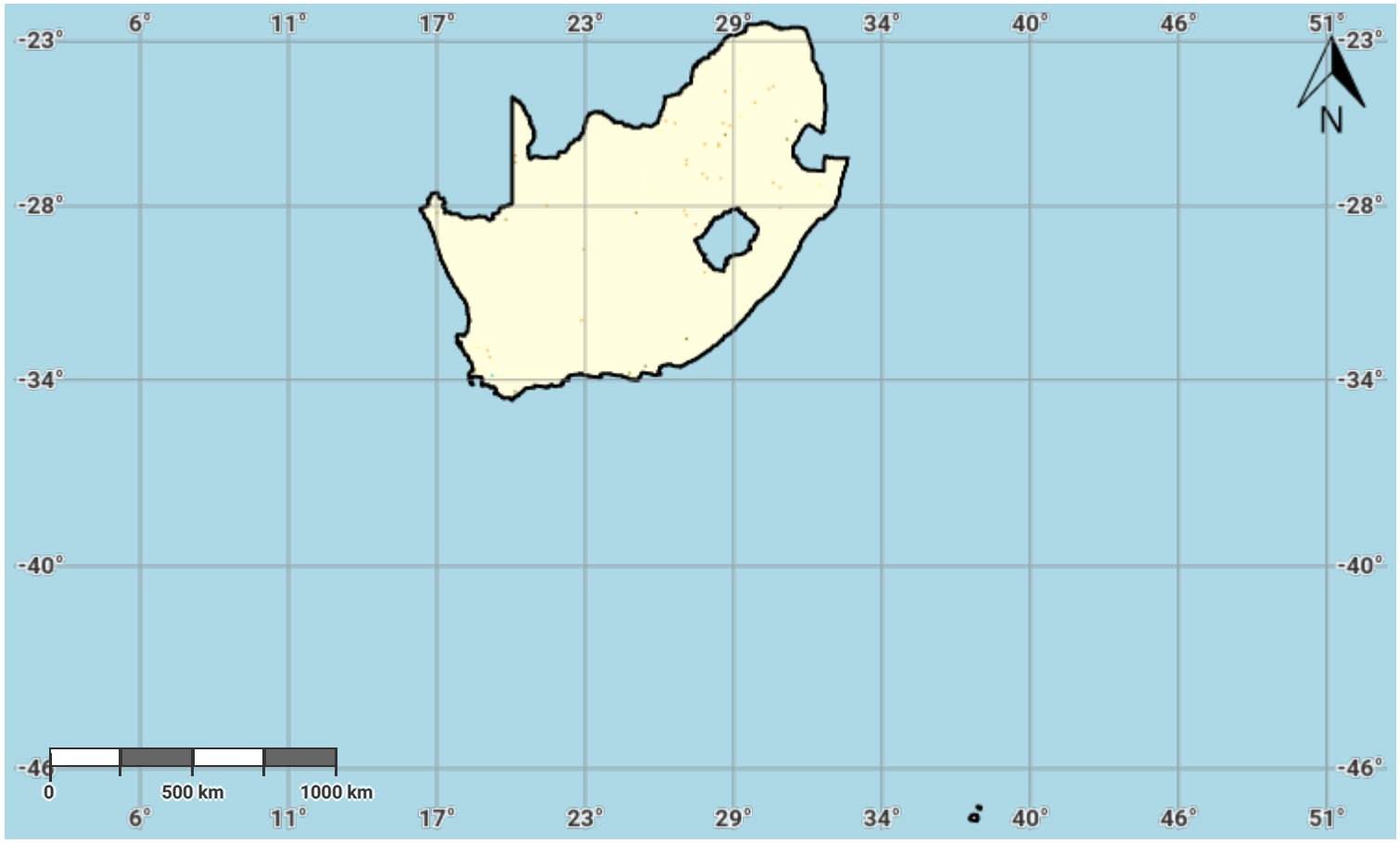
South Africa – SO1-1.M5

Land cover change in the reporting period



Legend

- No data
- No change
- Tree-covered loss
- Grassland loss
- Cropland loss
- Wetland loss
- Artificial loss
- Other land loss
- Water body loss
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

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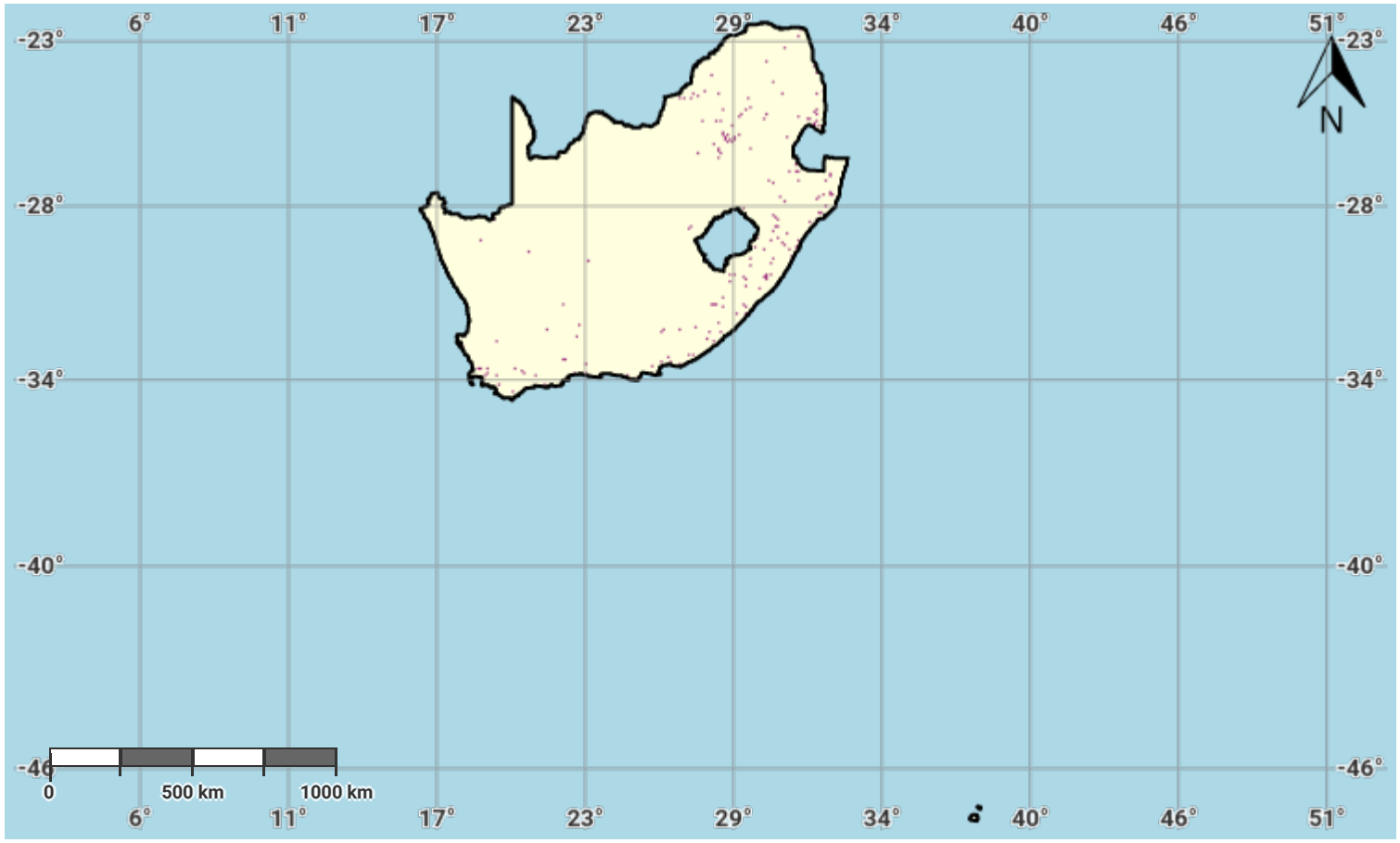
South Africa – SO1-1.M6

Land cover degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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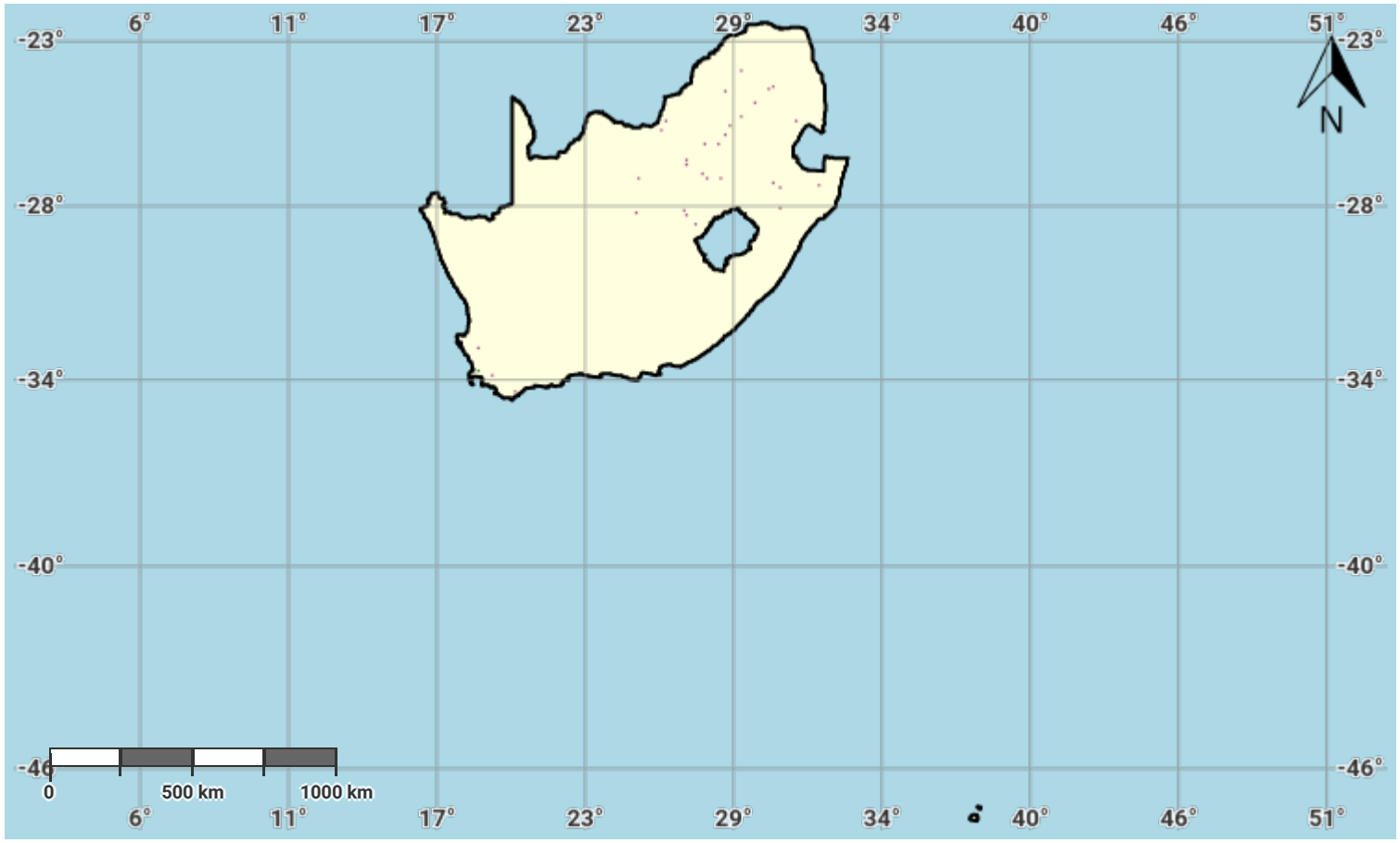
South Africa – SO1-1.M7

Land cover degradation in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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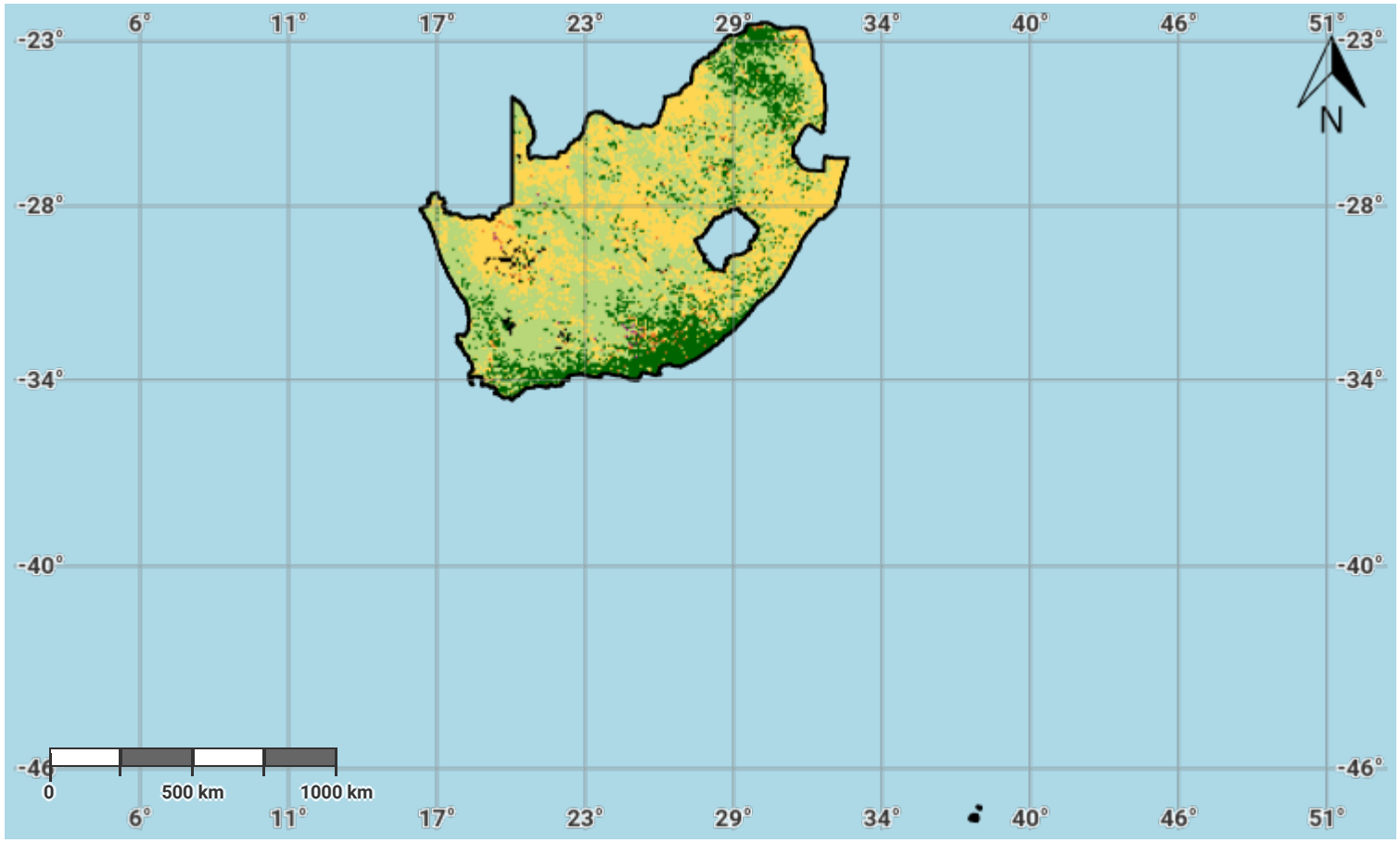
South Africa – SO1-2.M1

Land productivity dynamics in the baseline period



Legend

- No data
- Declining
- Moderate decline
- Stressed
- Stable
- Increasing
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

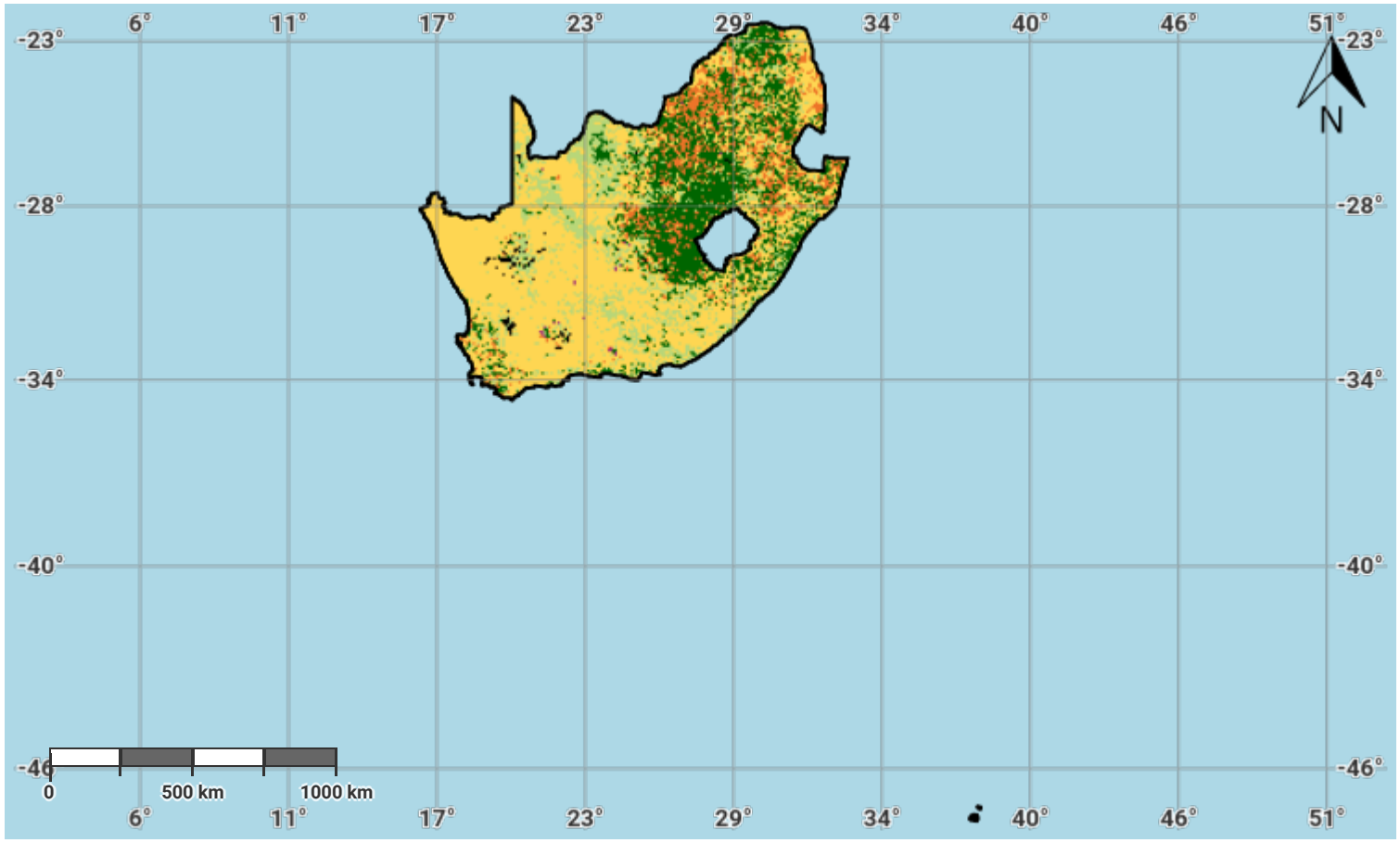
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- EC-JRC, 2021, based on Xavier Rotllan-Puig, Eva Ivits, Michael Cherlet, LPDynR: A new tool to calculate the land productivity dynamics indicator, Ecological Indicators, Volume 133, 2021, 108386, ISSN 1470-160X. URL: https://doi.org/10.1016/j.ecolind.2021.108386

South Africa – SO1-2.M2

Land productivity dynamics in the reporting period



Legend

- No data
- Declining
- Moderate decline
- Stressed
- Stable
- Increasing
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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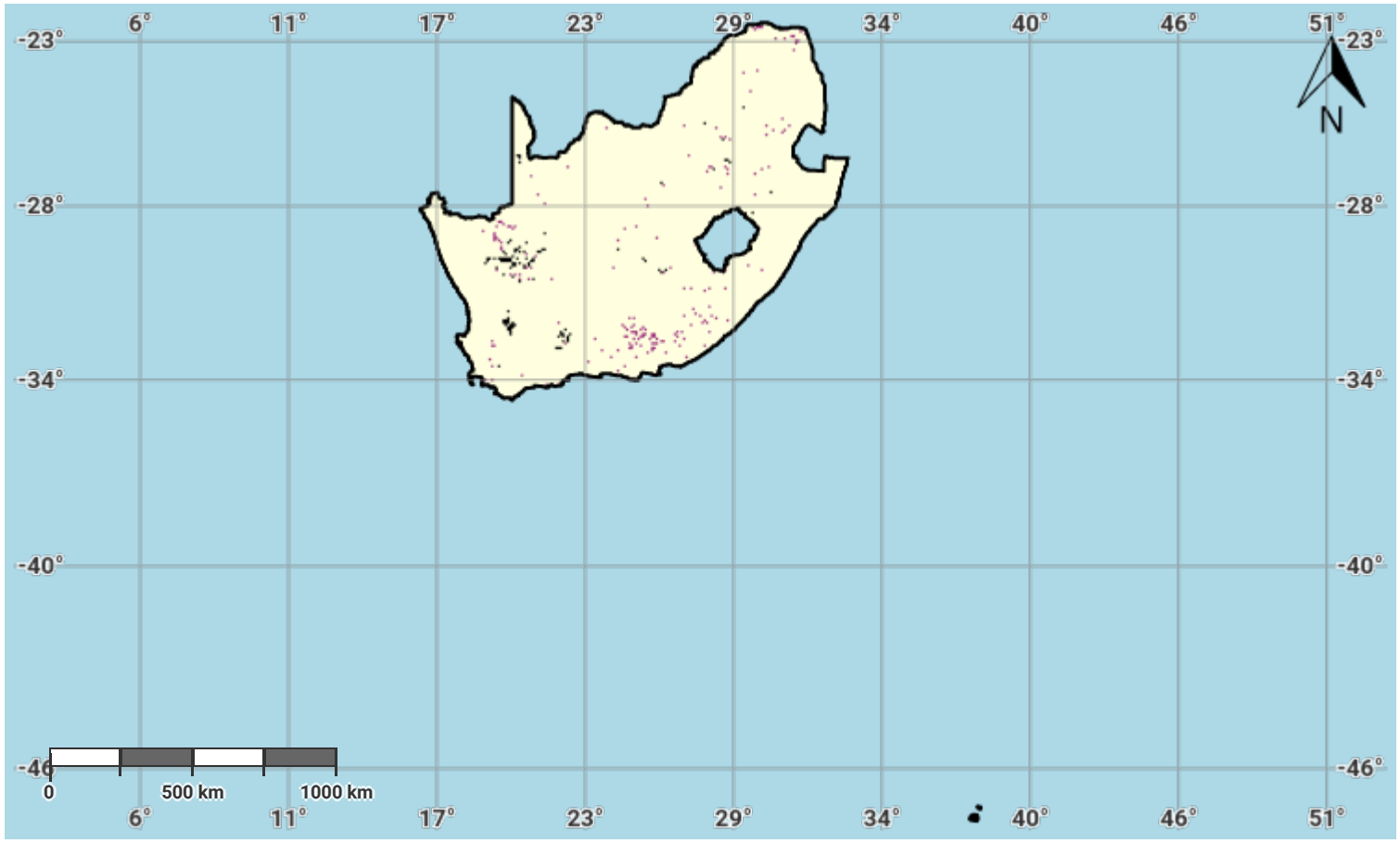
South Africa – SO1-2.M3

Land productivity degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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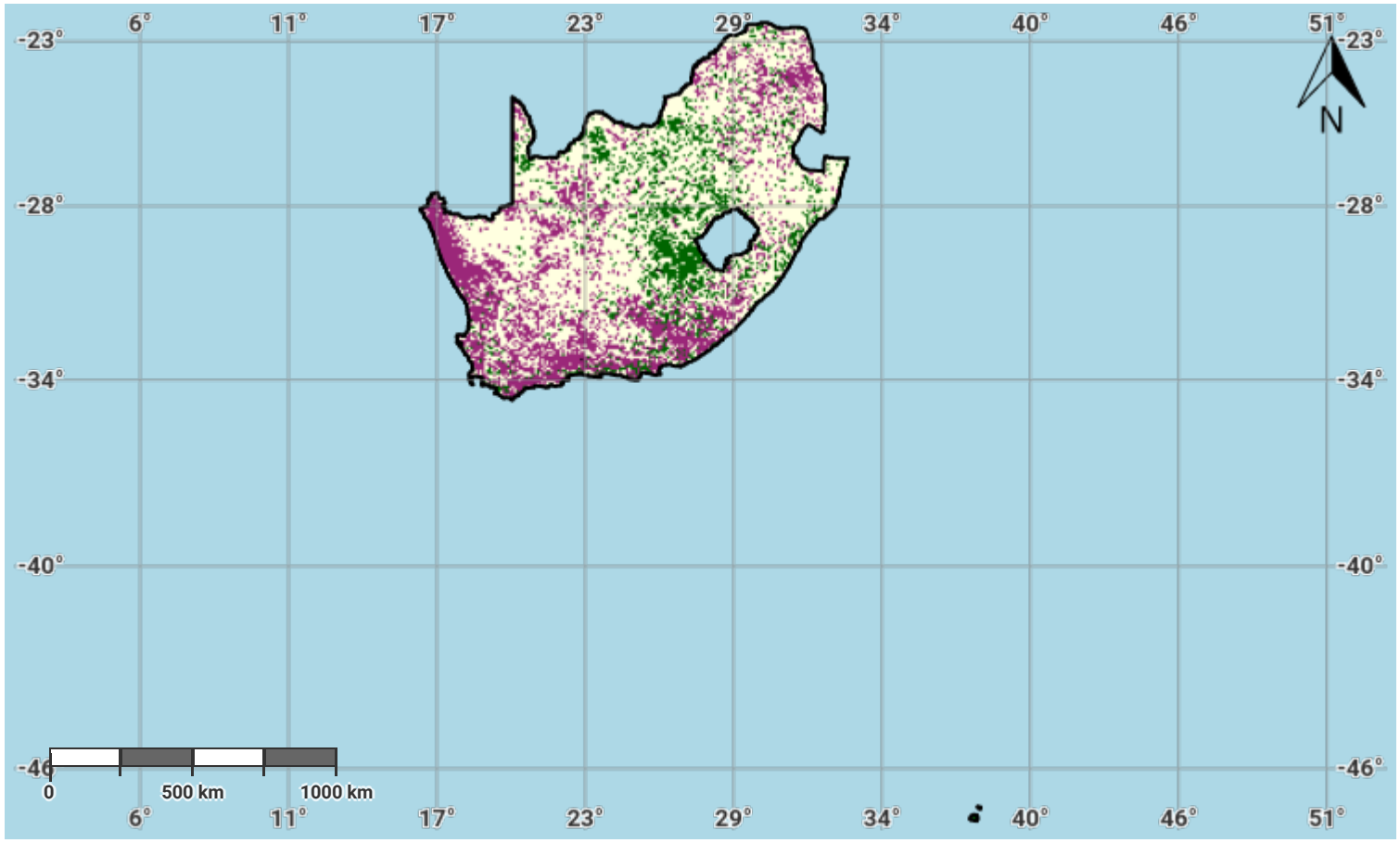
South Africa – SO1-2.M4

Land productivity degradation in the reporting period



Legend

- No data
- Degradation
- Not degraded
- Improvement
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

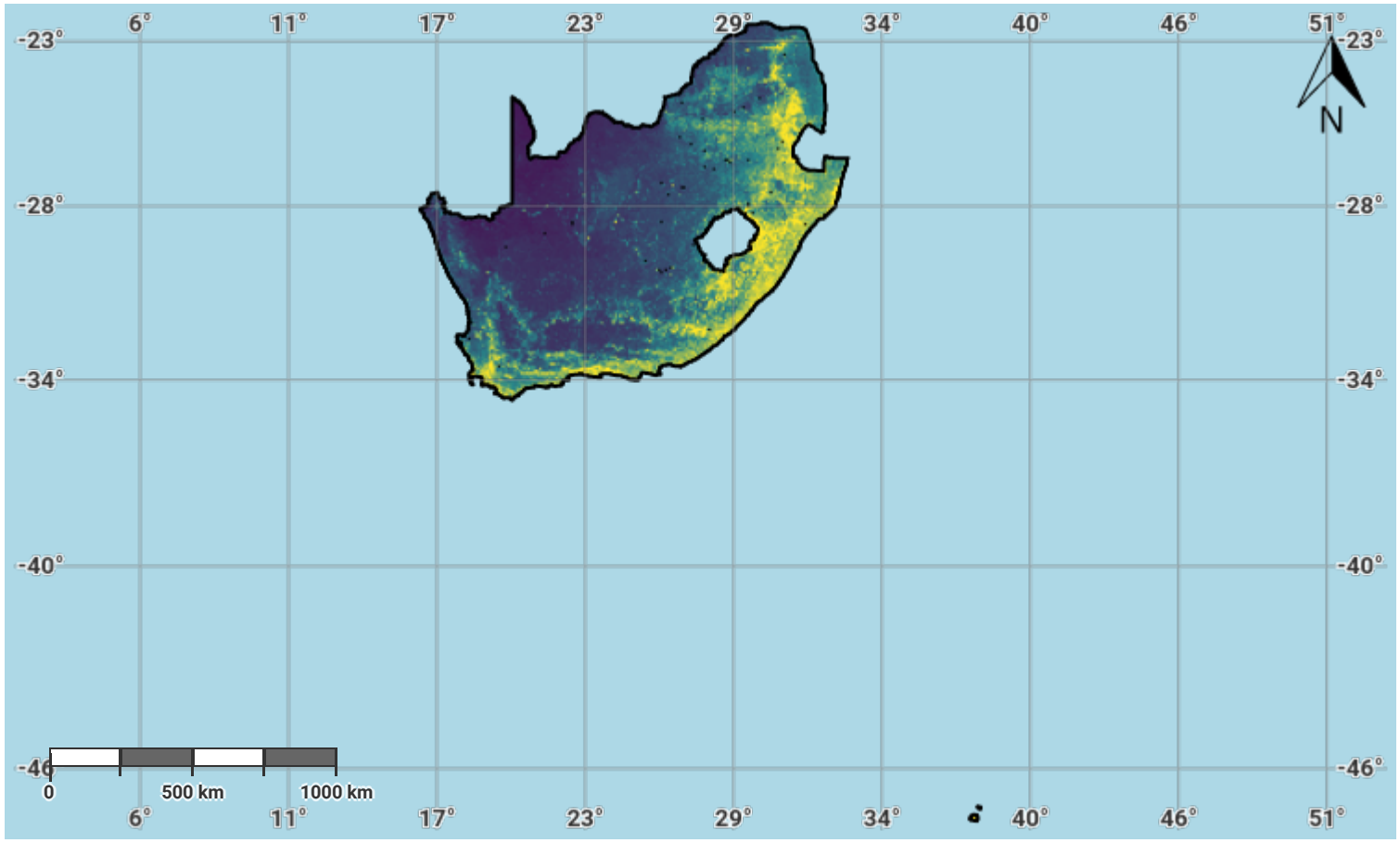
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- Sims, N. C., Newnham, G. J., England, J. R., Guerschman, J., Cox, S. J. D., Roxburgh, S. H., Viscarra Rossel, R. A., Fritz, S., & Wheeler, I. (2021). Good Practice Guidance. SDG Indicator 15.3.1, Proportion of Land That Is Degraded Over Total Land Area. Version 2.0. (2nd ed.). United Nations Convention to Combat Desertification (UNCCD).

South Africa – SO1-3.M1

Soil organic carbon stock in the initial year of the baseline period



Legend

- No data
- 0 - 51.0 t/ha
- 51.0 - 102.0 t/ha
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

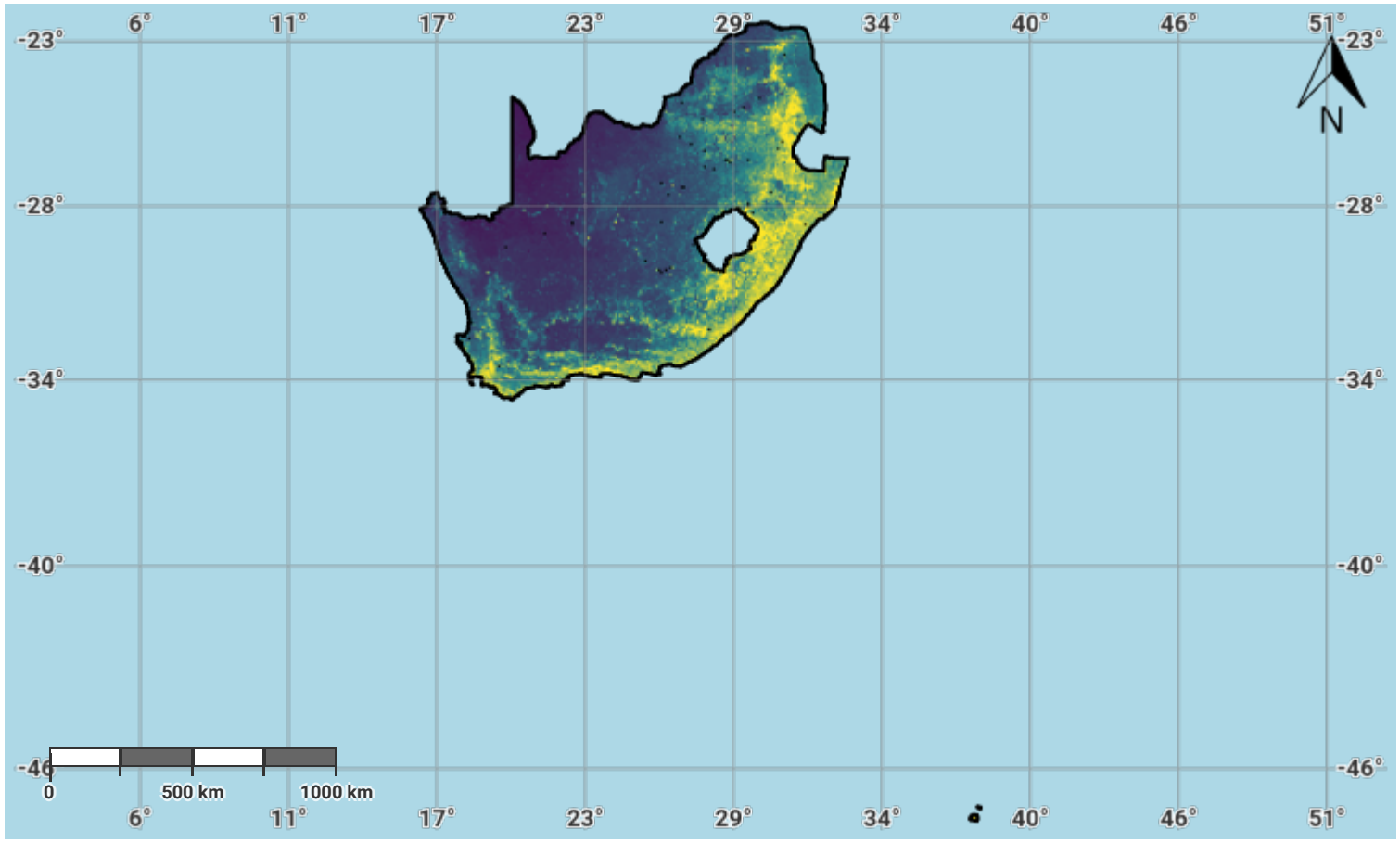
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

South Africa – SO1-3.M2

Soil organic carbon stock in the baseline year



Legend

- No data
- 0 - 51.0 t/ha
- 51.0 - 102.0 t/ha
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

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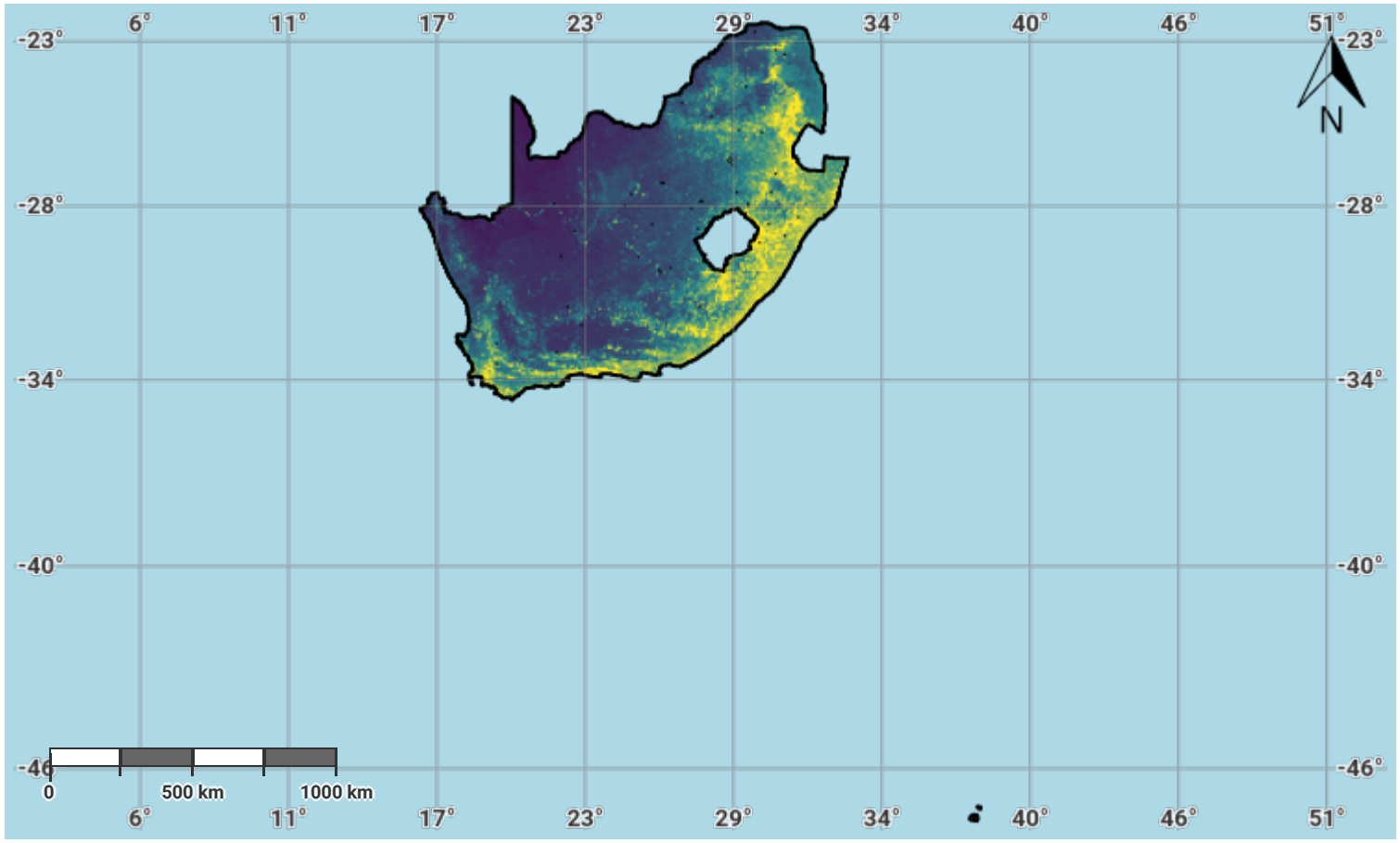
South Africa – SO1-3.M3

Soil organic carbon stock in the latest reporting year



Legend

- No data
- 0 - 51.0 t/ha
- 51.0 - 102.0 t/ha
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

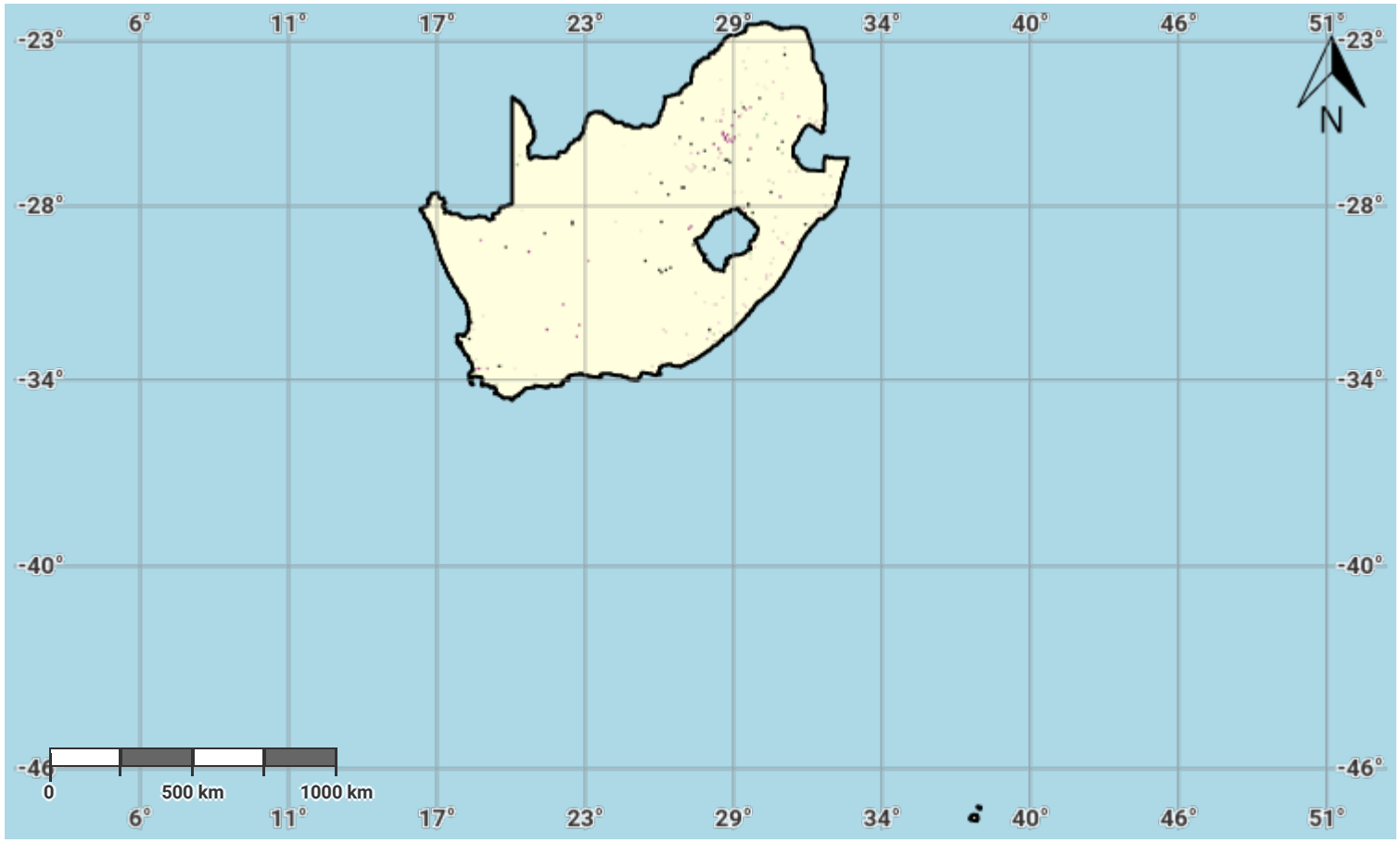
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- de Sousa, L.M., Poggio, L., Batjes, N.H., Heuvelink, G.B.M., Kempen, B., Riberio, E., Rossiter, D., 2020. SoilGrids 2.0: producing quality-assessed soil information for the globe. SOIL Discuss. 2020: 1-37.

South Africa – SO1-3.M4

Change in soil organic carbon stock in the baseline period



Legend

- No data
- -49.0 - 0 t/ha
- 0 - 49.0 t/ha
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

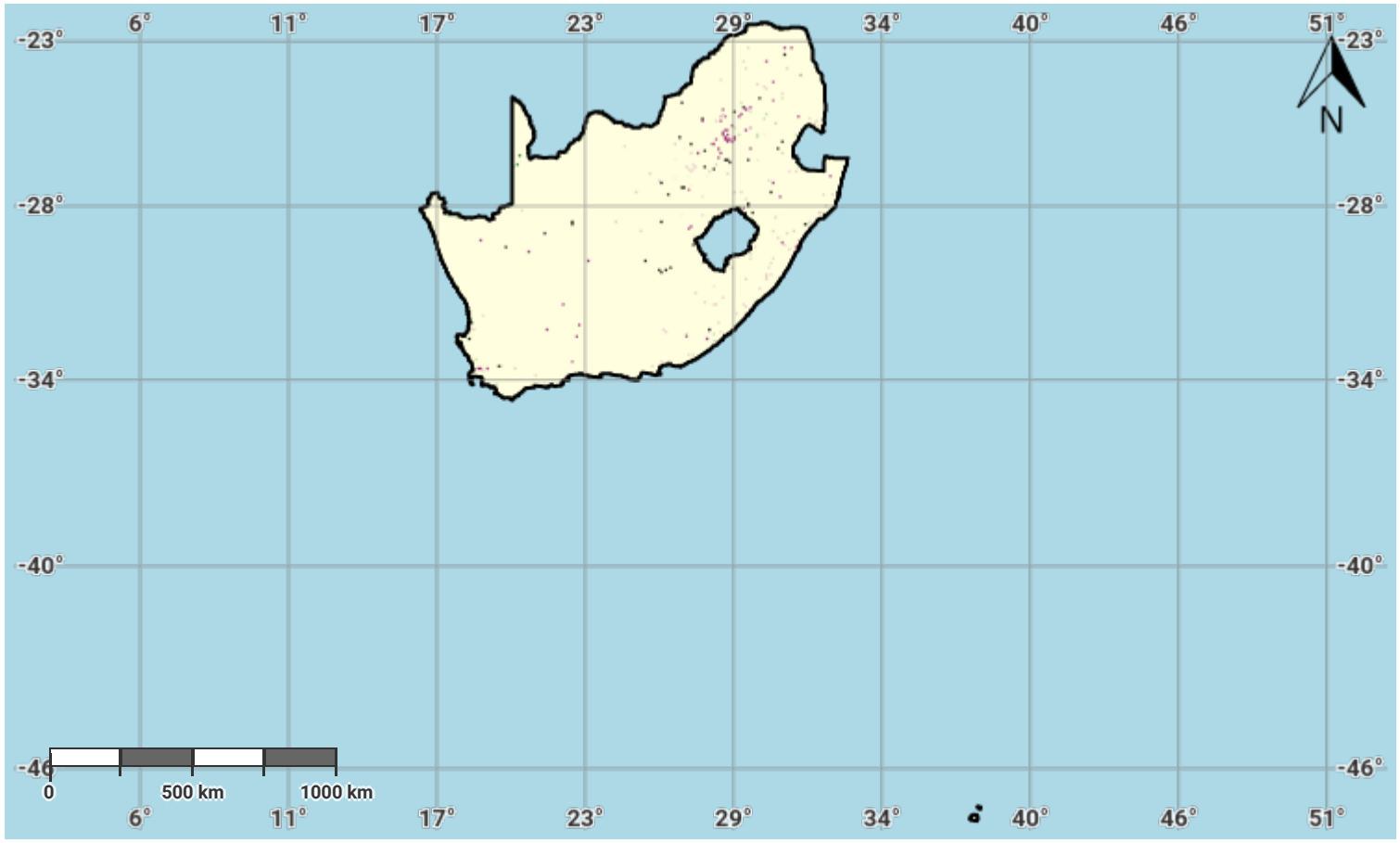
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

South Africa – SO1-3.M5

Change in soil organic carbon stock in the reporting period



Legend

- No data
- -16.0 - 0 t/ha
- 0 - 16.0 t/ha
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

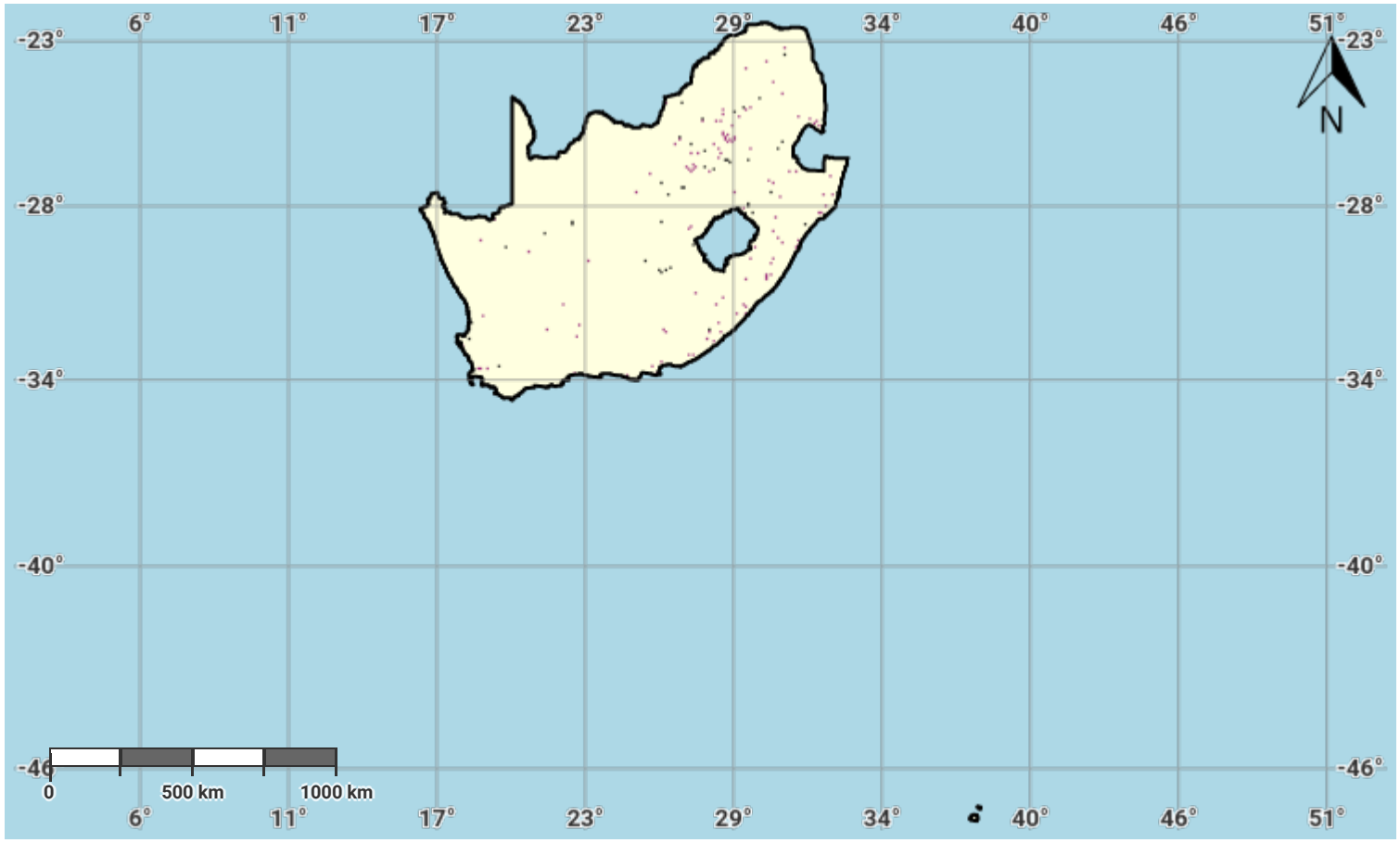
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

South Africa – SO1-3.M6

Soil organic carbon degradation in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

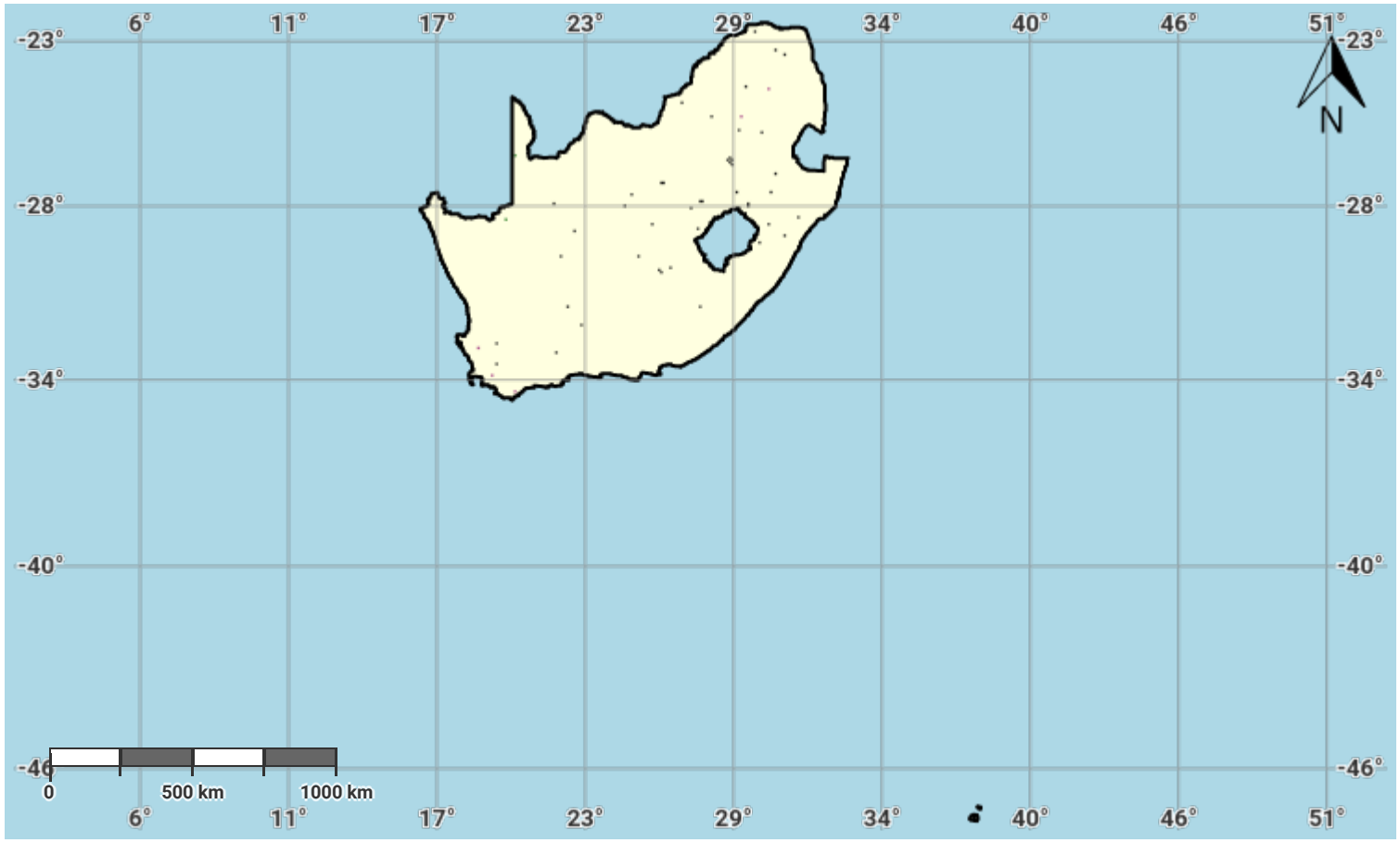
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

South Africa – SO1-3.M7

Soil organic carbon degradation in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

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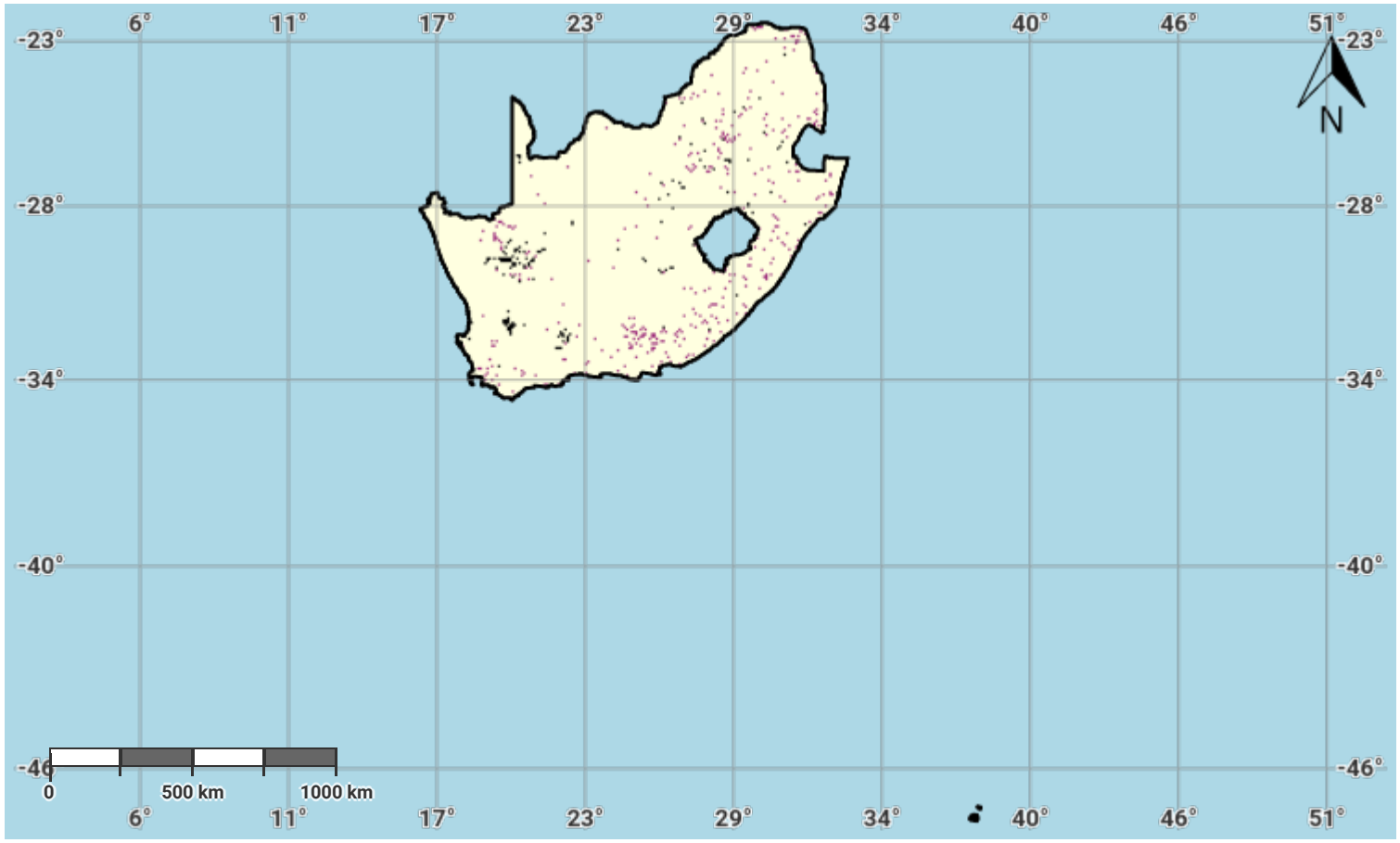
South Africa – SO1-4.M1

Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the baseline period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

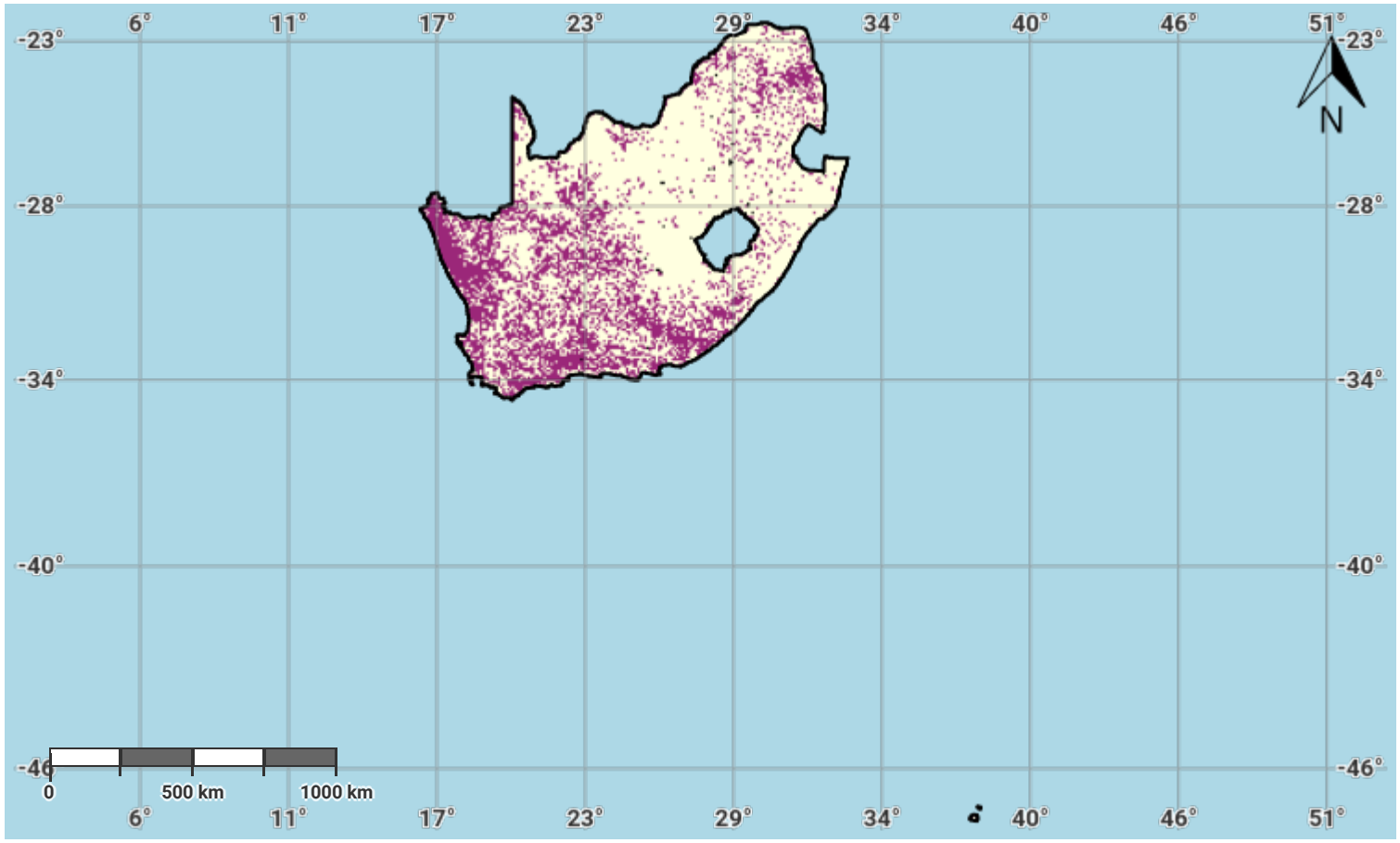
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area. URL: https://www.unccd.int/publications/good-practice-guidance-sdg-indicator-1531-proportion-land-degraded-over-total-land

South Africa – SO1-4.M2

Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the reporting period



Legend

- No data
- Degradation
- Not degraded
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

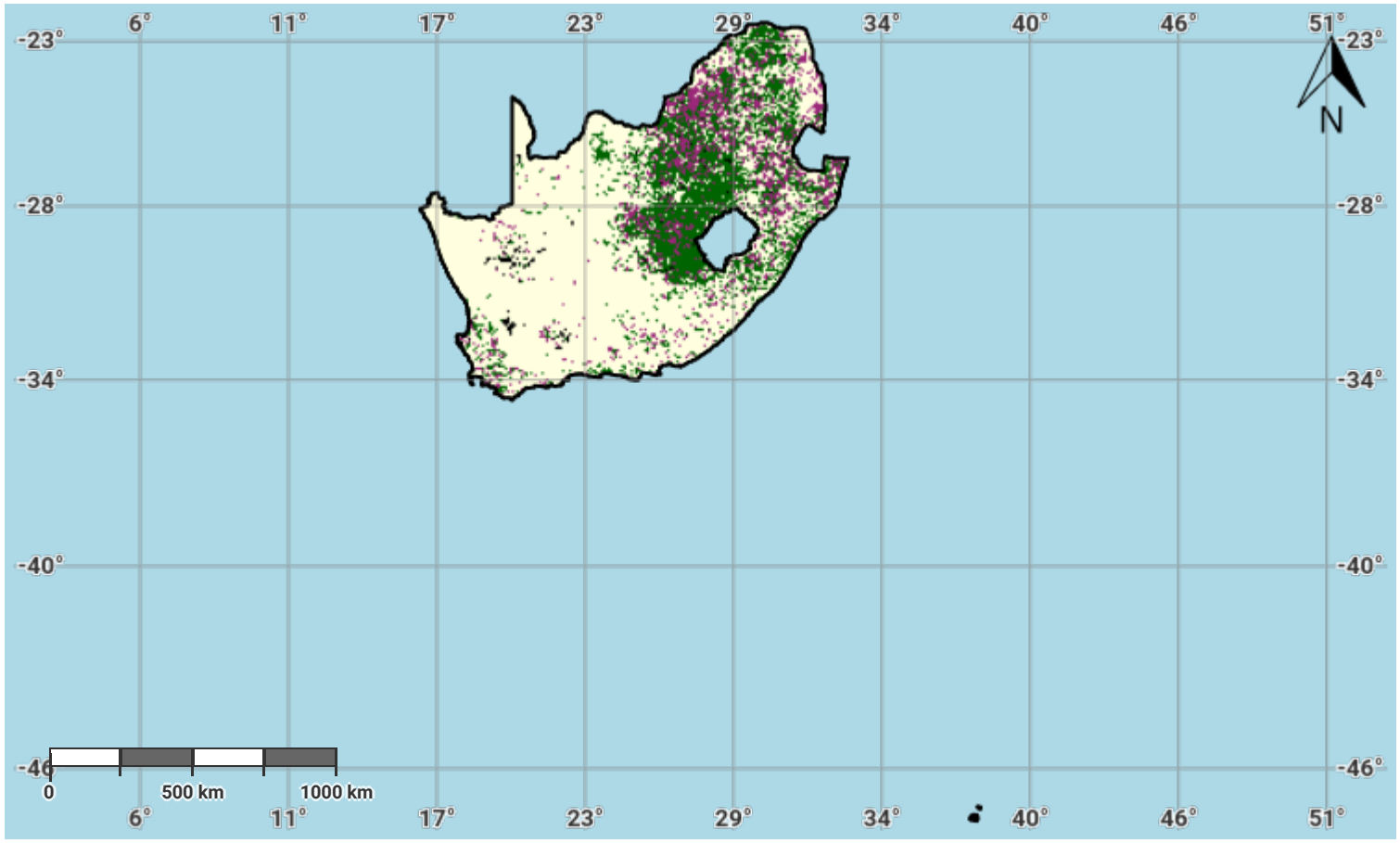
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- Sims, N. C., Newnham, G. J., England, J. R., Guerschman, J., Cox, S. J. D., Roxburgh, S. H., Viscarra Rossel, R. A., Fritz, S., & Wheeler, I. (2021). Good Practice Guidance. SDG Indicator 15.3.1, Proportion of Land That Is Degraded Over Total Land Area. Version 2.0. (2nd ed.). United Nations Convention to Combat Desertification (UNCCD).

South Africa – SO1-4.M3

Progress towards Land Degradation Neutrality (LDN) in the reporting period



Legend

- No data
- Degradation
- Stable
- Improvement
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

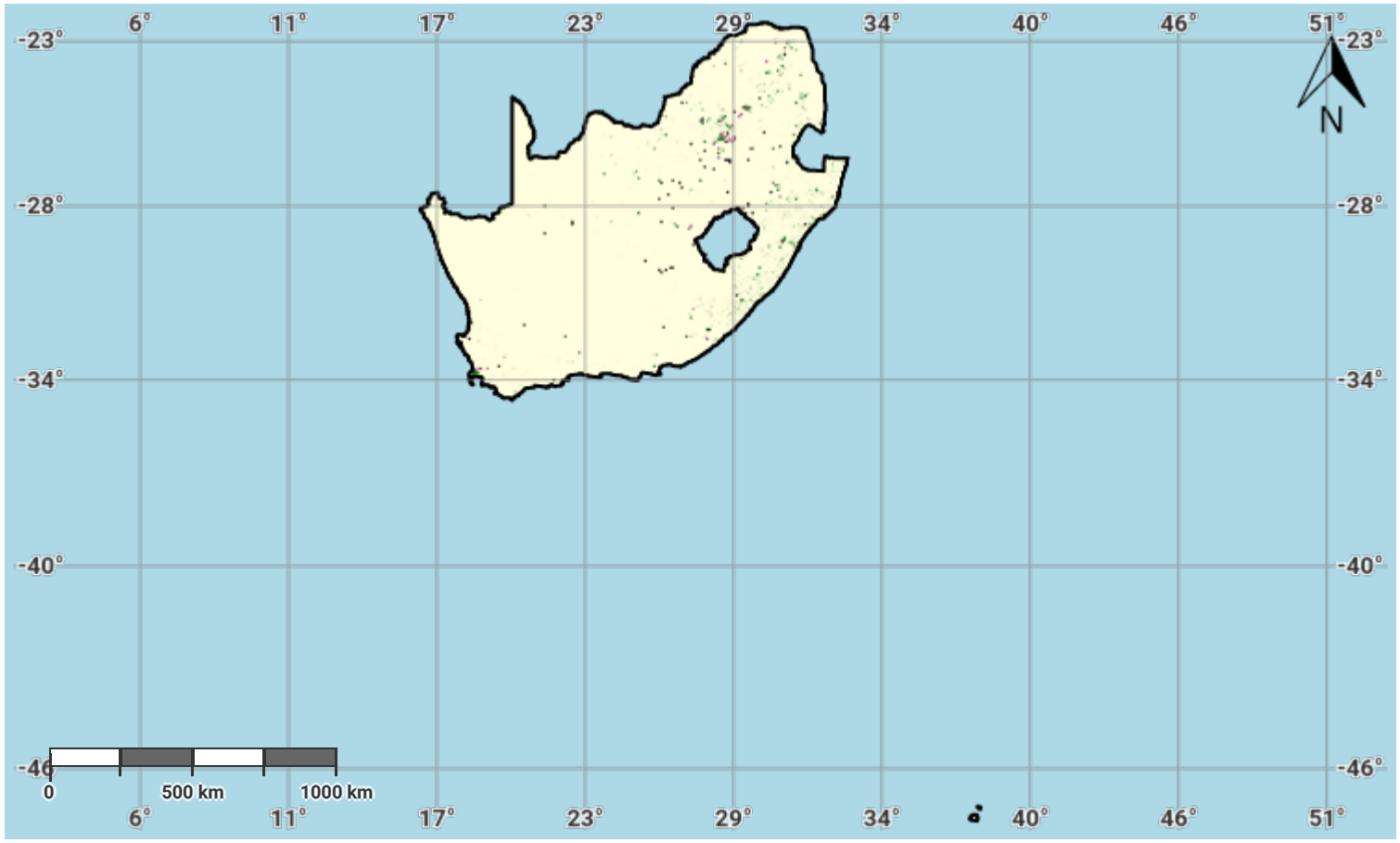
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 - Proportion of land that is degraded over total land area. URL: https://www.unccd.int/publications/good-practice-guidance-sdg-indicator-1531-proportion-land-degraded-over-total-land

South Africa – SO2-3.M1

Total Population exposed to land degradation (baseline)



Legend

- No data
- Population exposed to degradation (number of people, total): 0 - 1460
- No land degradation
- Population not exposed to degradation (number of people, total): 0 - 1460
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

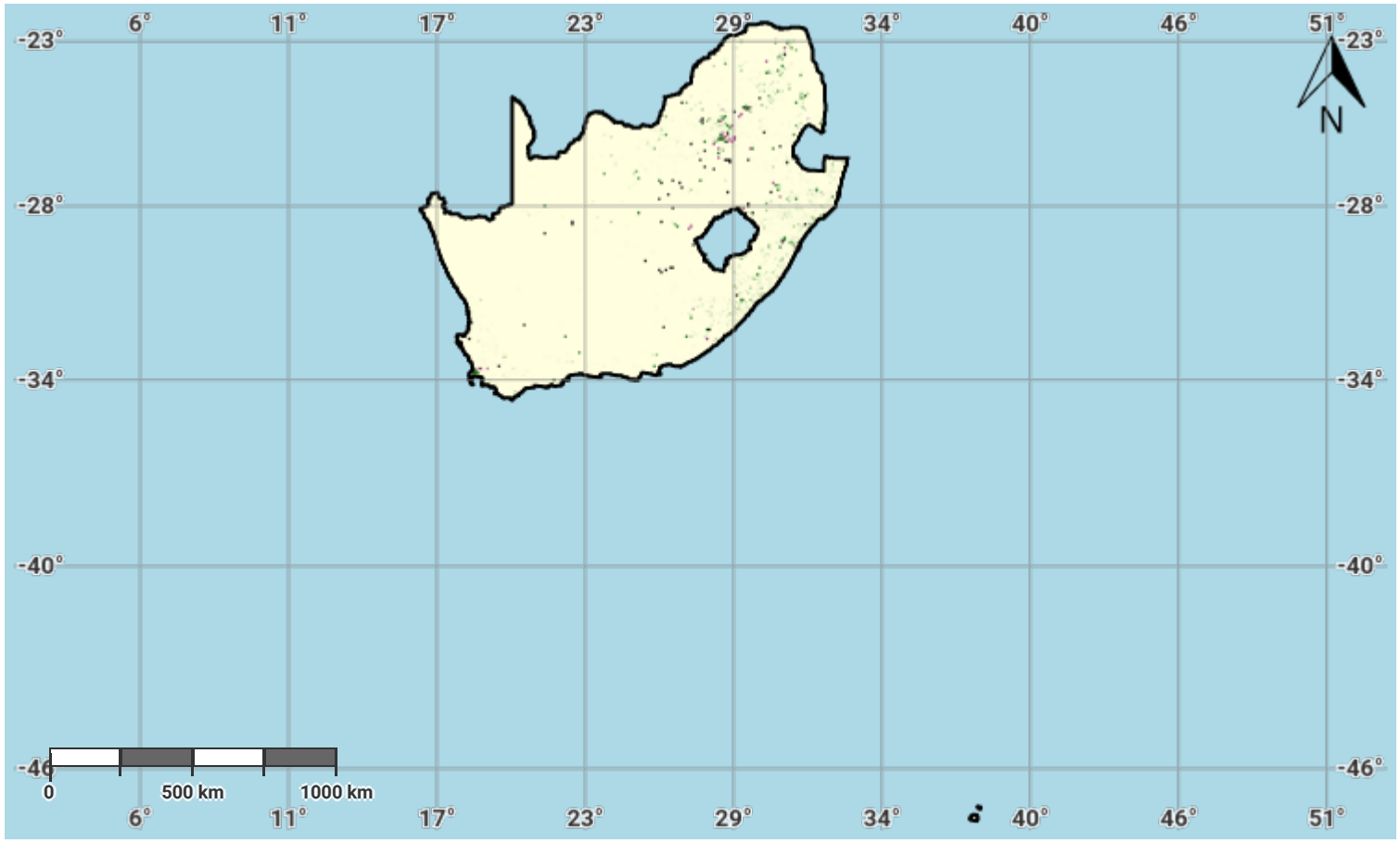
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- WorldPop project URL: https://www.worldpop.org

South Africa – SO2-3.M2

Female Population exposed to land degradation (baseline)



Legend

- No data
- Population exposed to degradation (number of people, female): 0 - 750
- No land degradation
- Population not exposed to degradation (number of people, female): 0 - 750
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

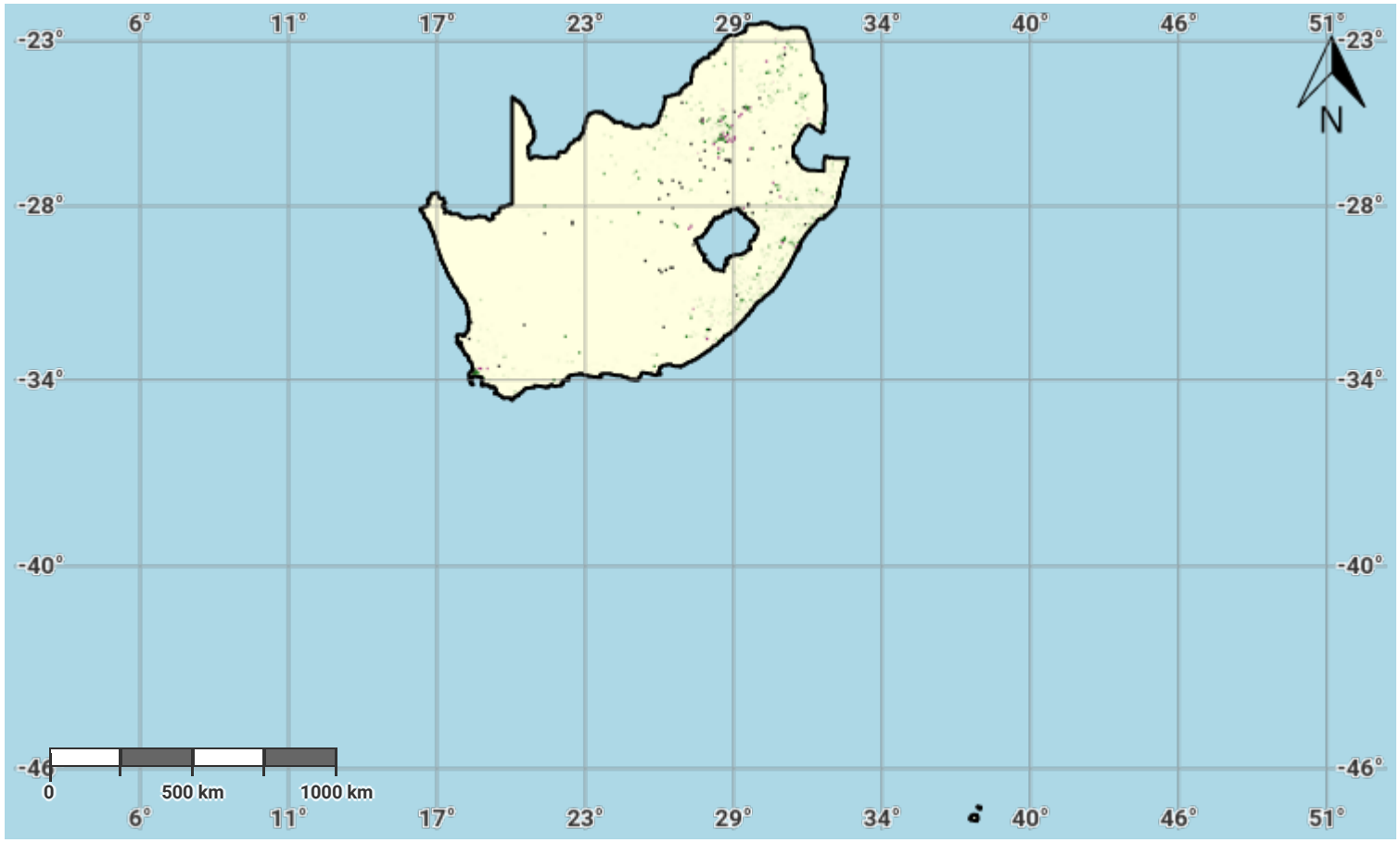
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- WorldPop project URL: https://www.worldpop.org

South Africa – SO2-3.M3

Male Population exposed to land degradation (baseline)



Legend

- No data
- Population exposed to degradation (number of people, male): 0 - 750
- No land degradation
- Population not exposed to degradation (number of people, male): 0 - 750
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

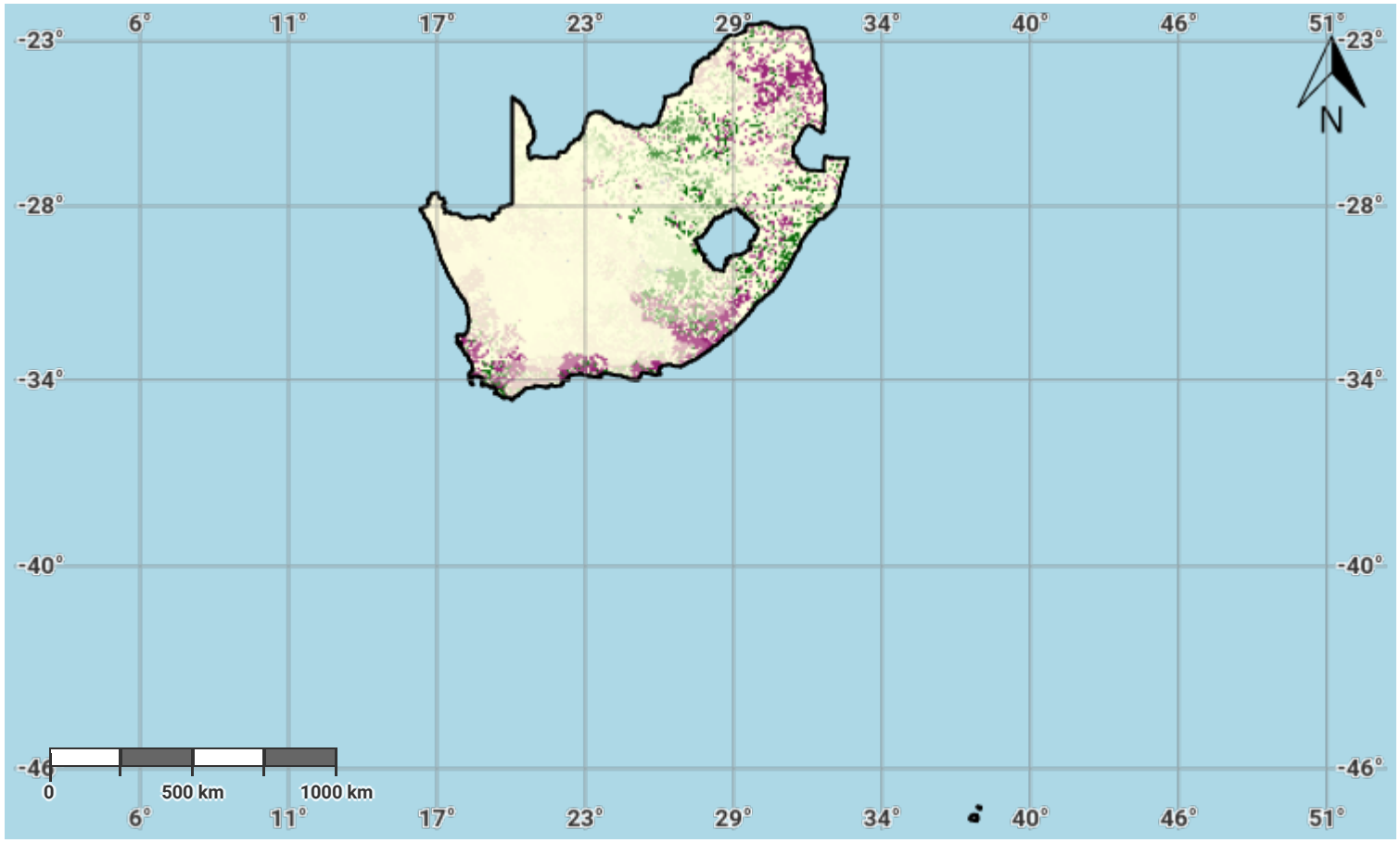
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- WorldPop project URL: https://www.worldpop.org

South Africa – SO2-3.M4

Total Population exposed to land degradation (reporting)



Legend

- No data
- Population exposed to degradation (number of people, total): 0 - 520
- No land degradation
- Population not exposed to degradation (number of people, total): 0 - 520
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

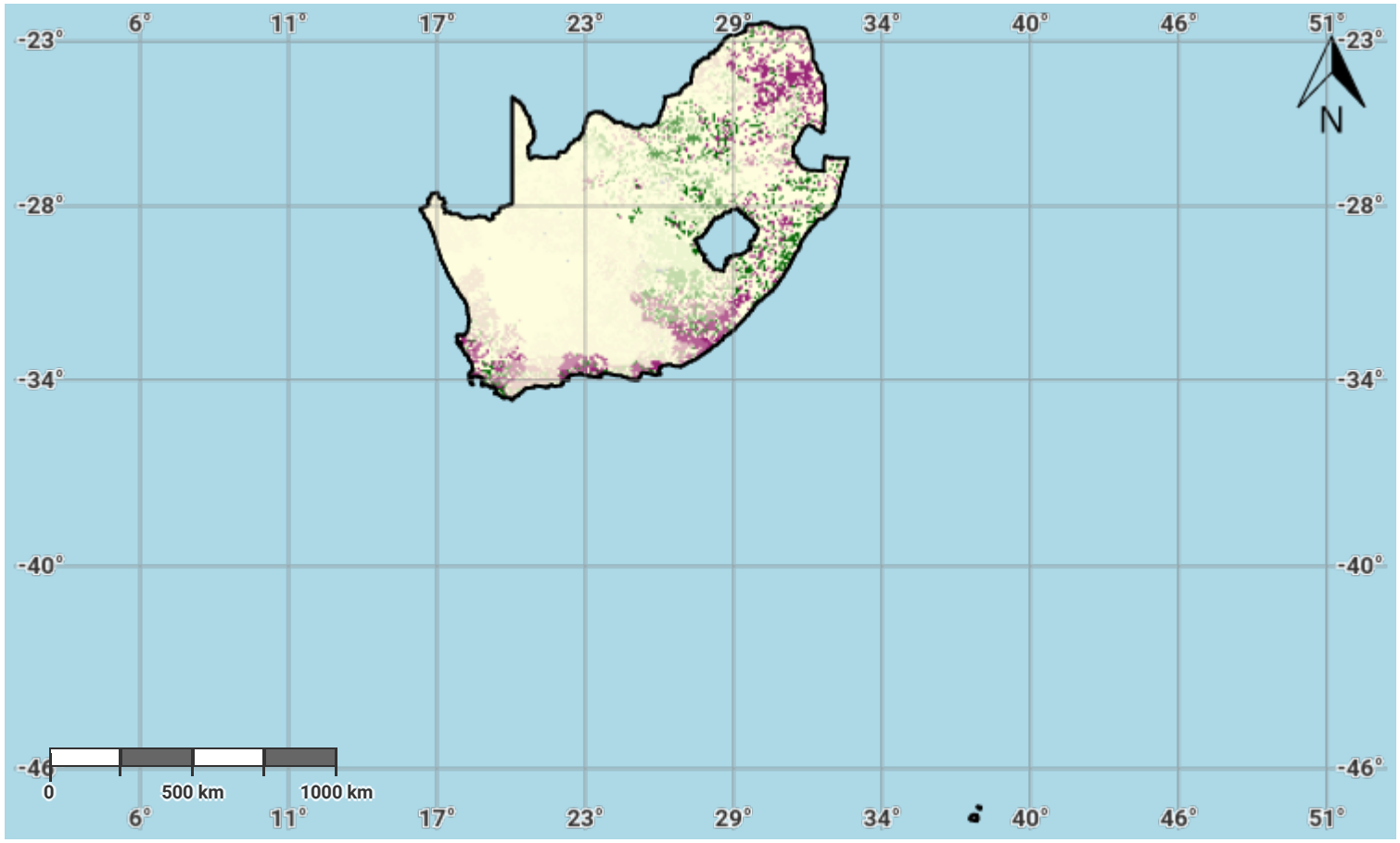
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to land degradation (Reporting) data displayed on this map was provided by the Government of South Africa.

South Africa – SO2-3.M5

Female Population exposed to land degradation (reporting)



Legend

- No data
- Population exposed to degradation (number of people, female): 0 - 300
- No land degradation
- Population not exposed to degradation (number of people, female): 0 - 300
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

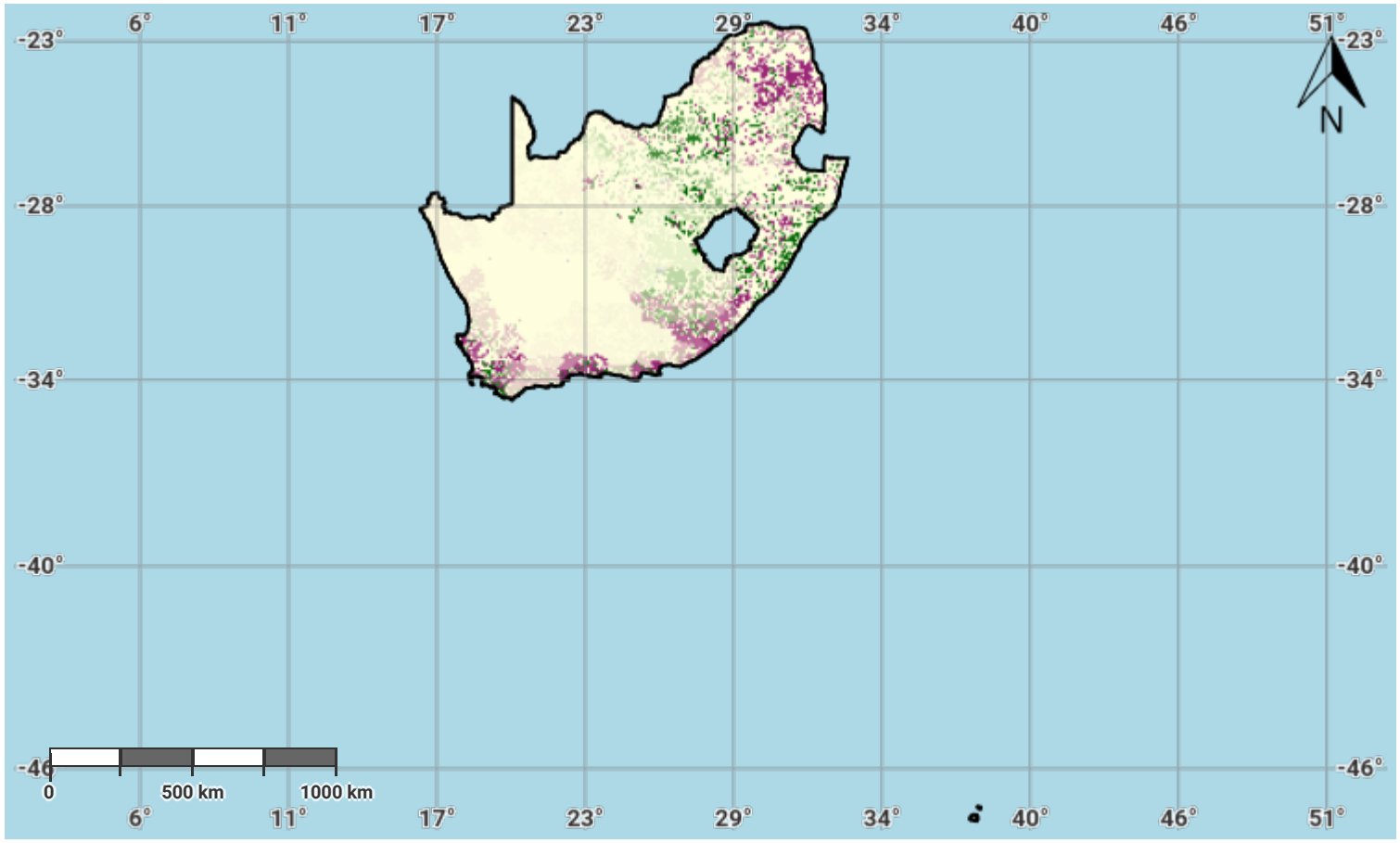
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Female population exposed to land degradation (Reporting) data displayed on this map was provided by the Government of South Africa.

South Africa – SO2-3.M6

Male Population exposed to land degradation (reporting)



Legend

- No data
- Population exposed to degradation (number of people, male): 0 - 240
- No land degradation
- Population not exposed to degradation (number of people, male): 0 - 240
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

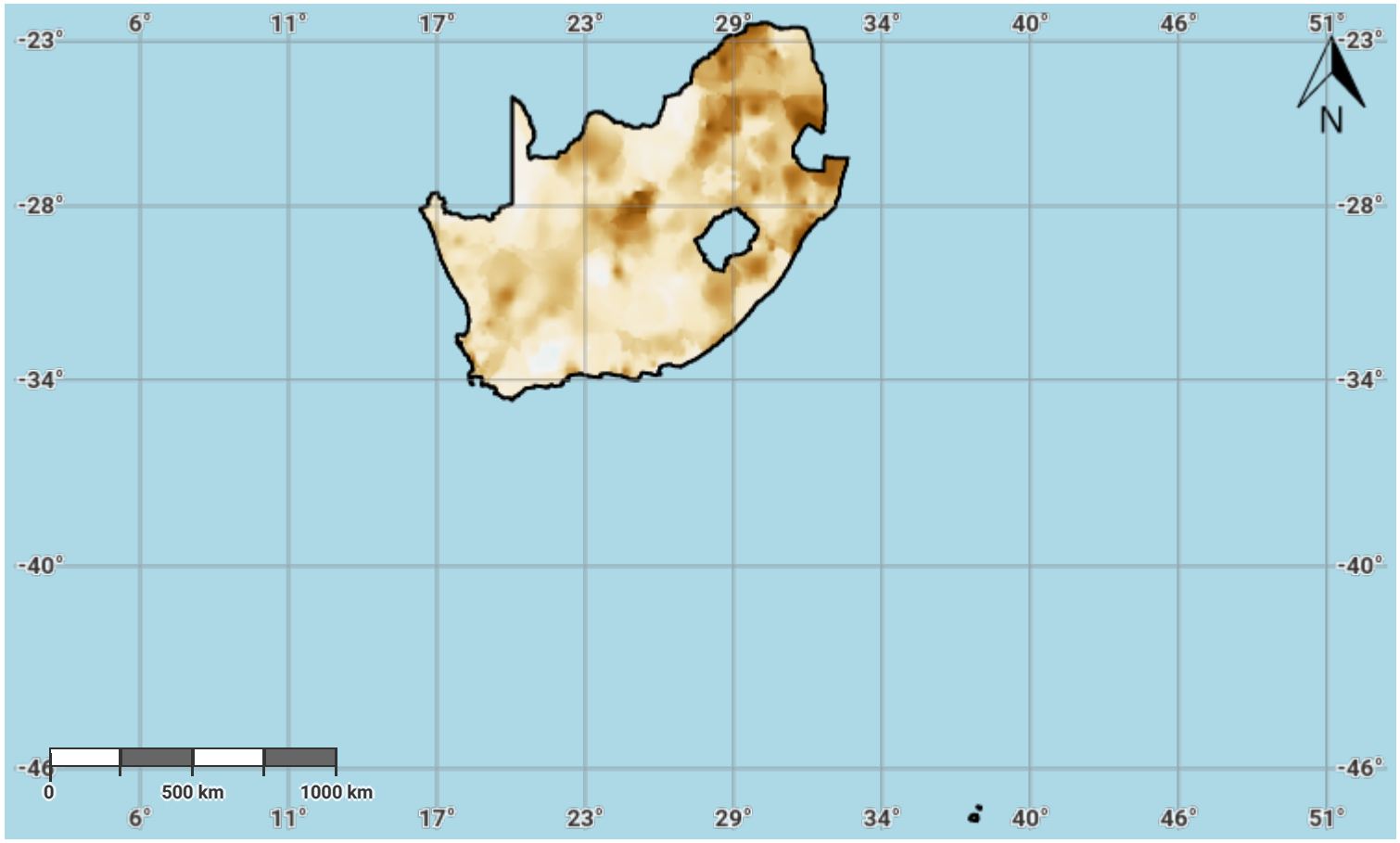
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Male population exposed to land degradation (Reporting) data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-1.M1

Drought hazard in first epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

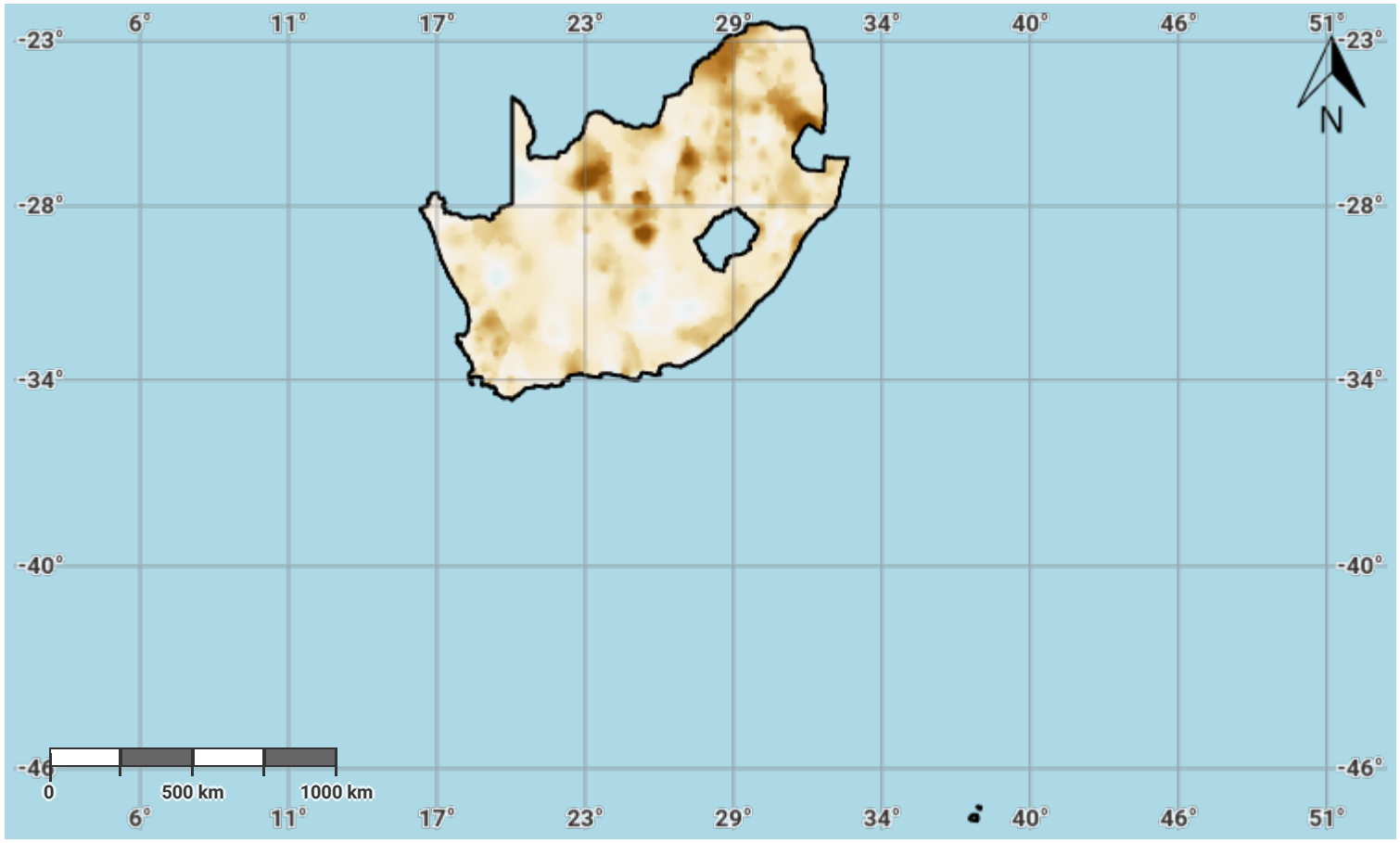
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Land under drought in epoch 1 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-1.M2

Drought hazard in second epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

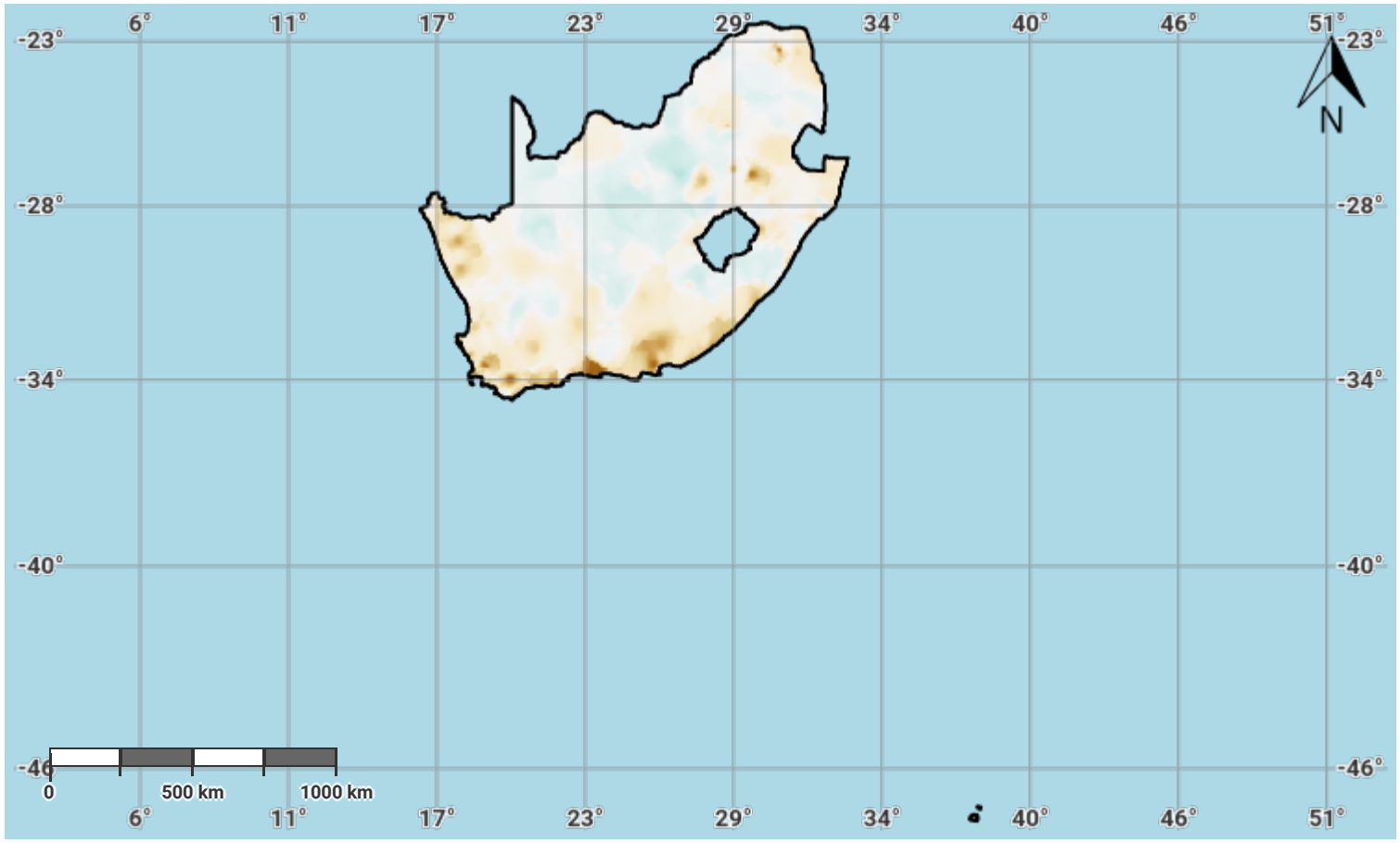
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Land under drought in epoch 2 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-1.M3

Drought hazard in third epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

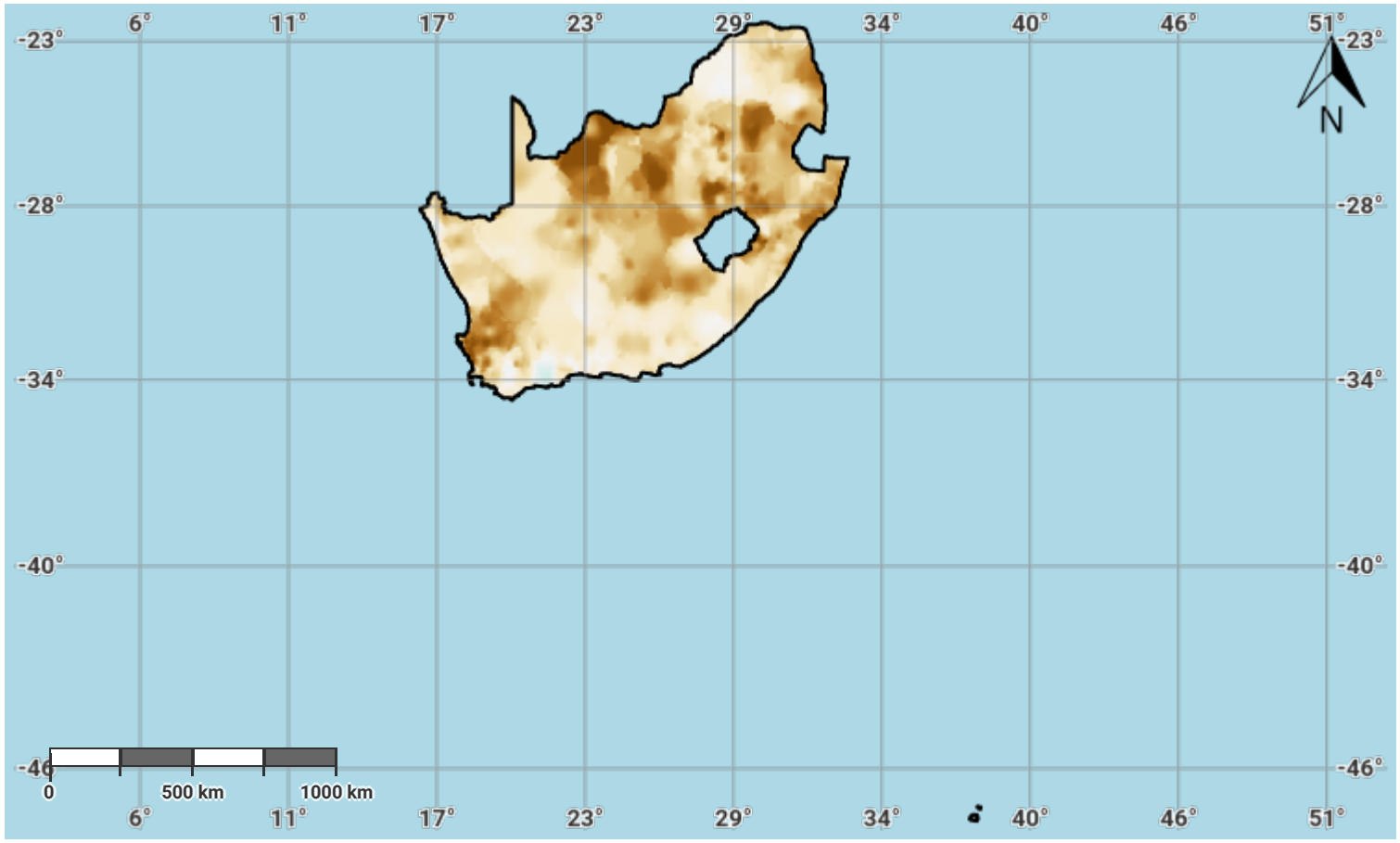
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Land under drought in epoch 3 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-1.M4

Drought hazard in fourth epoch of baseline period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

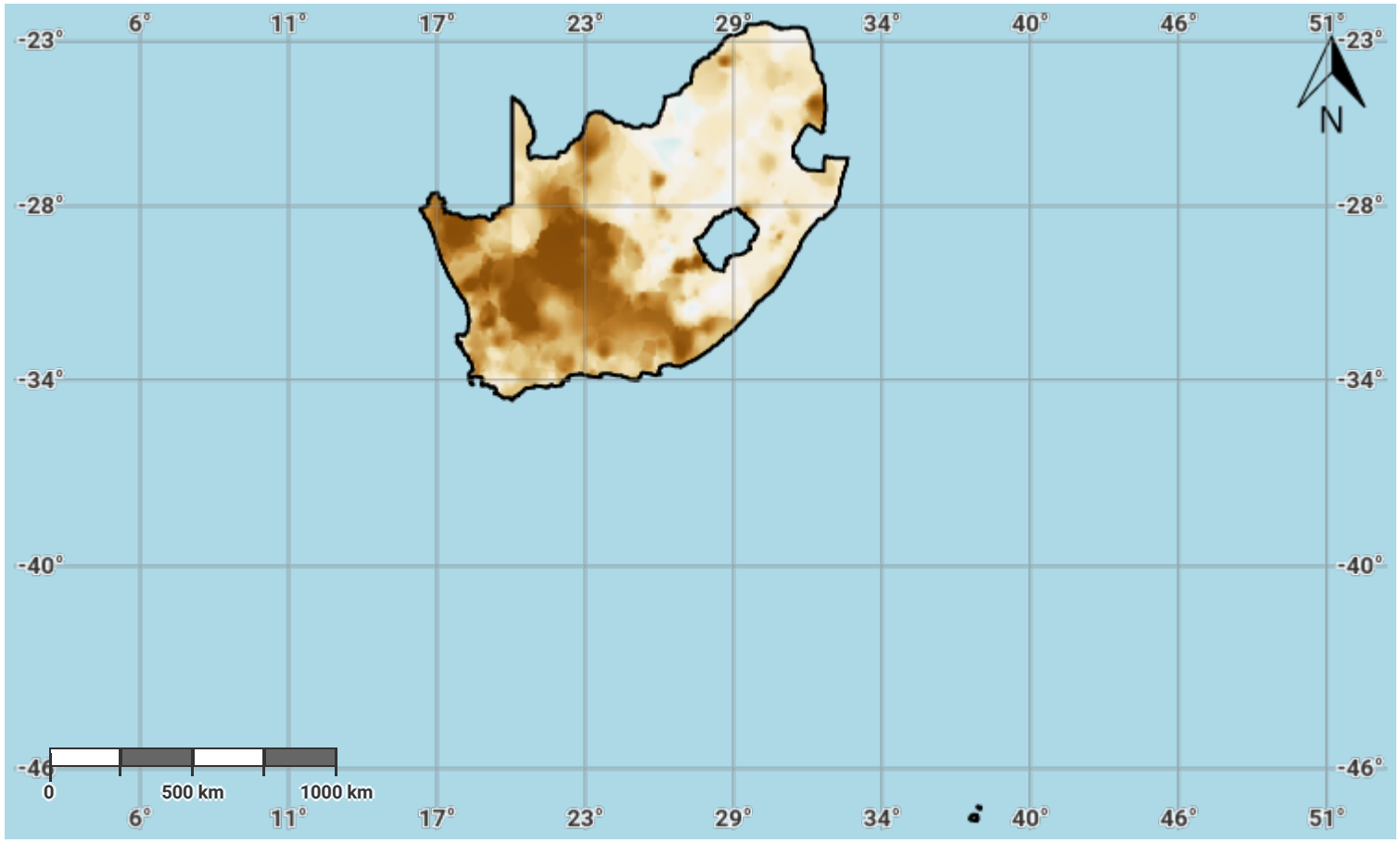
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Land under drought in epoch 4 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-1.M5

Drought hazard in the reporting period



Legend

- No data
- Extreme drought
- Severe drought
- Moderate drought
- Mild drought
- Normal
- Mildly wet
- Moderately wet
- Severely wet
- Extremely wet
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

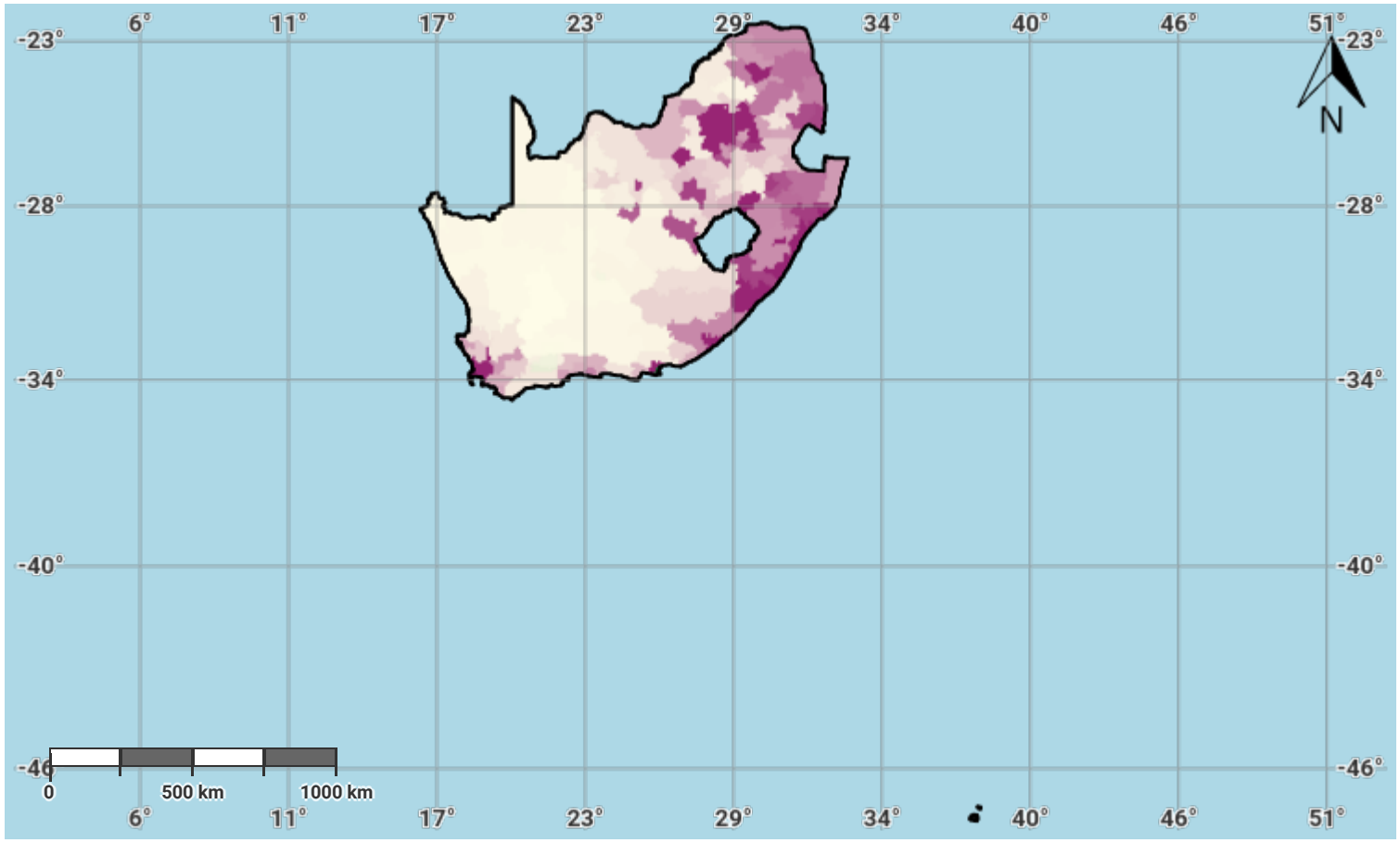
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Land under drought in epoch 5 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M1

Drought exposure in first epoch of baseline period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 2021
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 2021
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

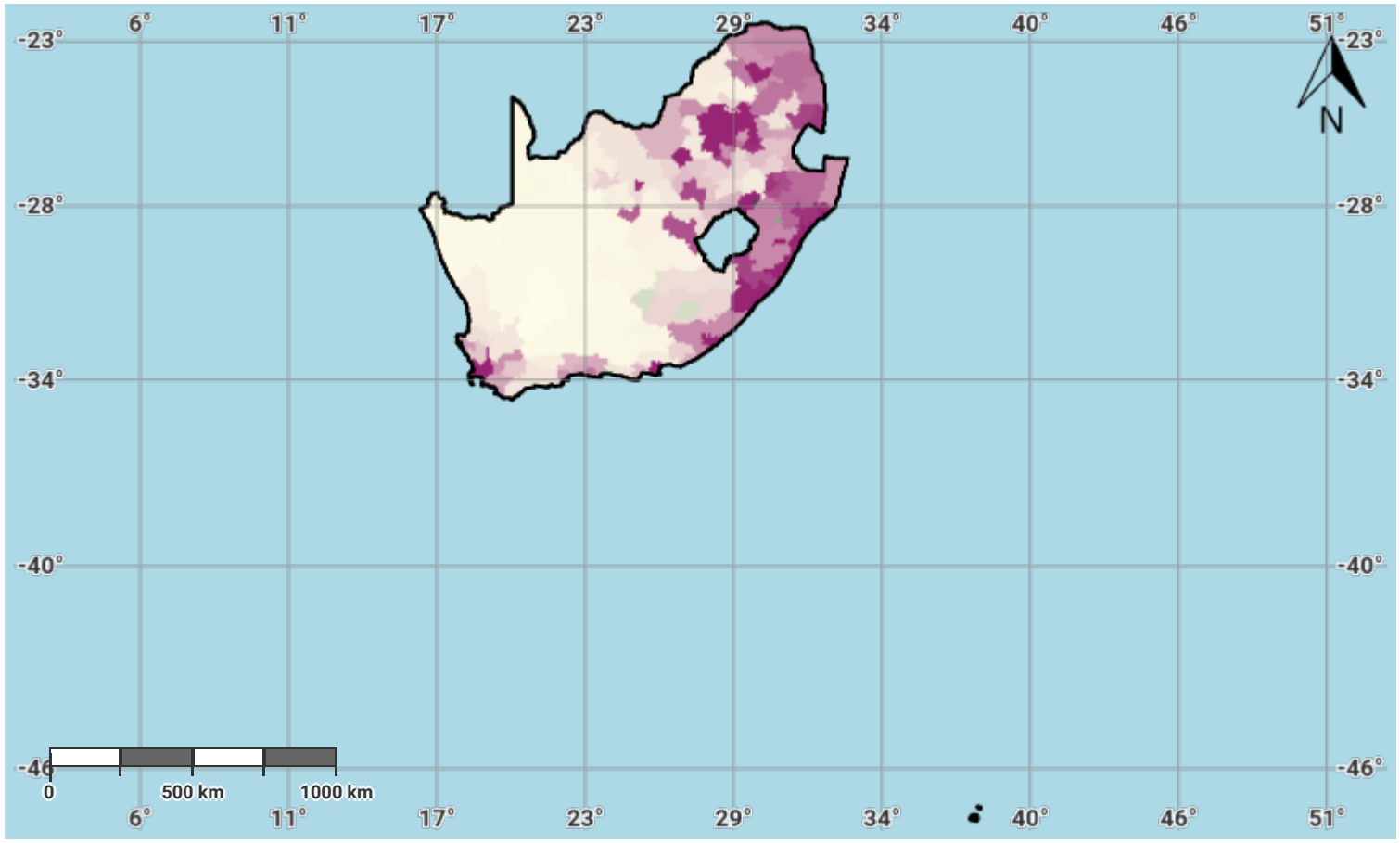
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to drought in epoch 1 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M2

Drought exposure in second epoch of baseline period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 2301
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 2301
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

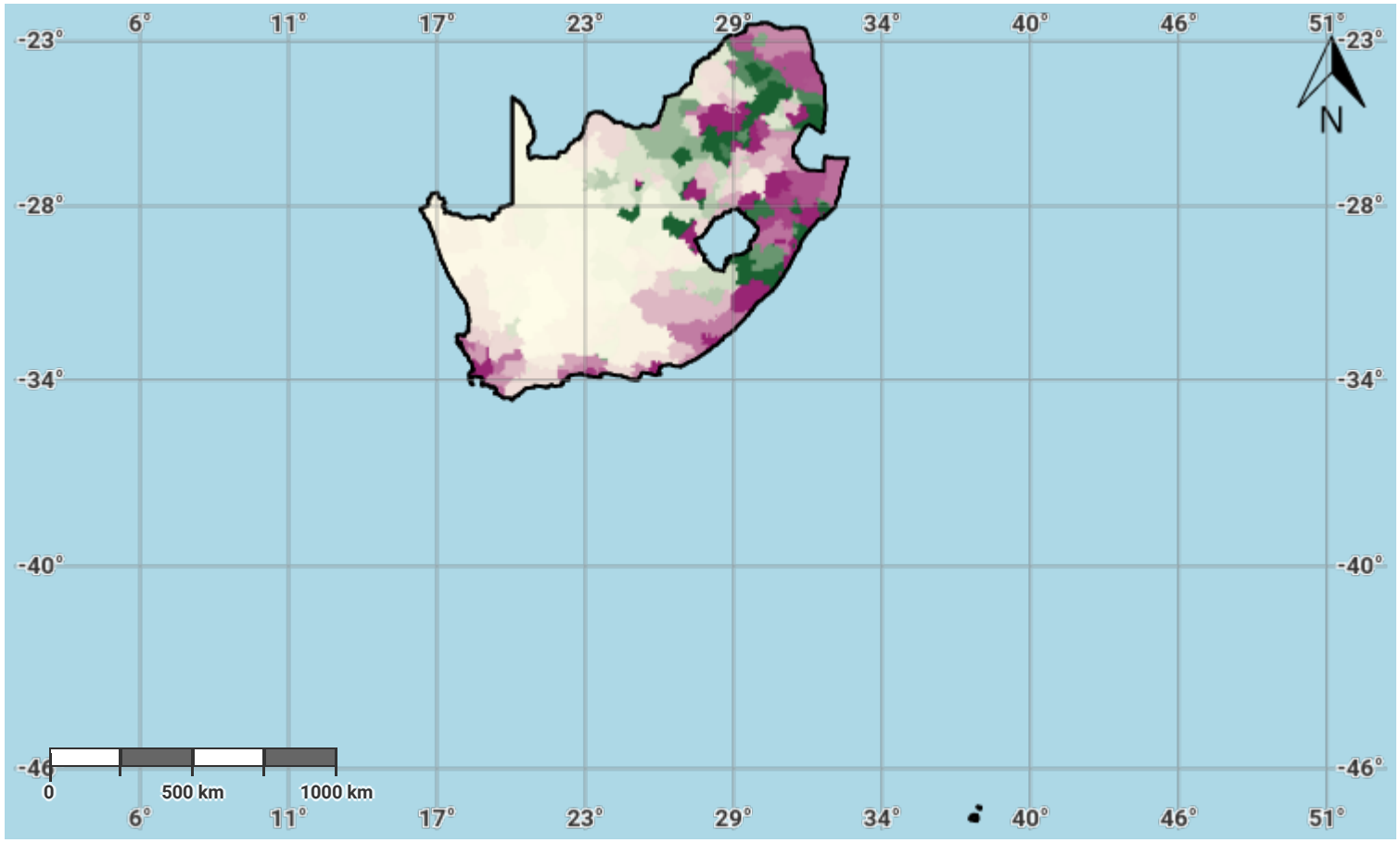
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to drought in epoch 2 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M3

Drought exposure in third epoch of baseline period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 2700
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 2700
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

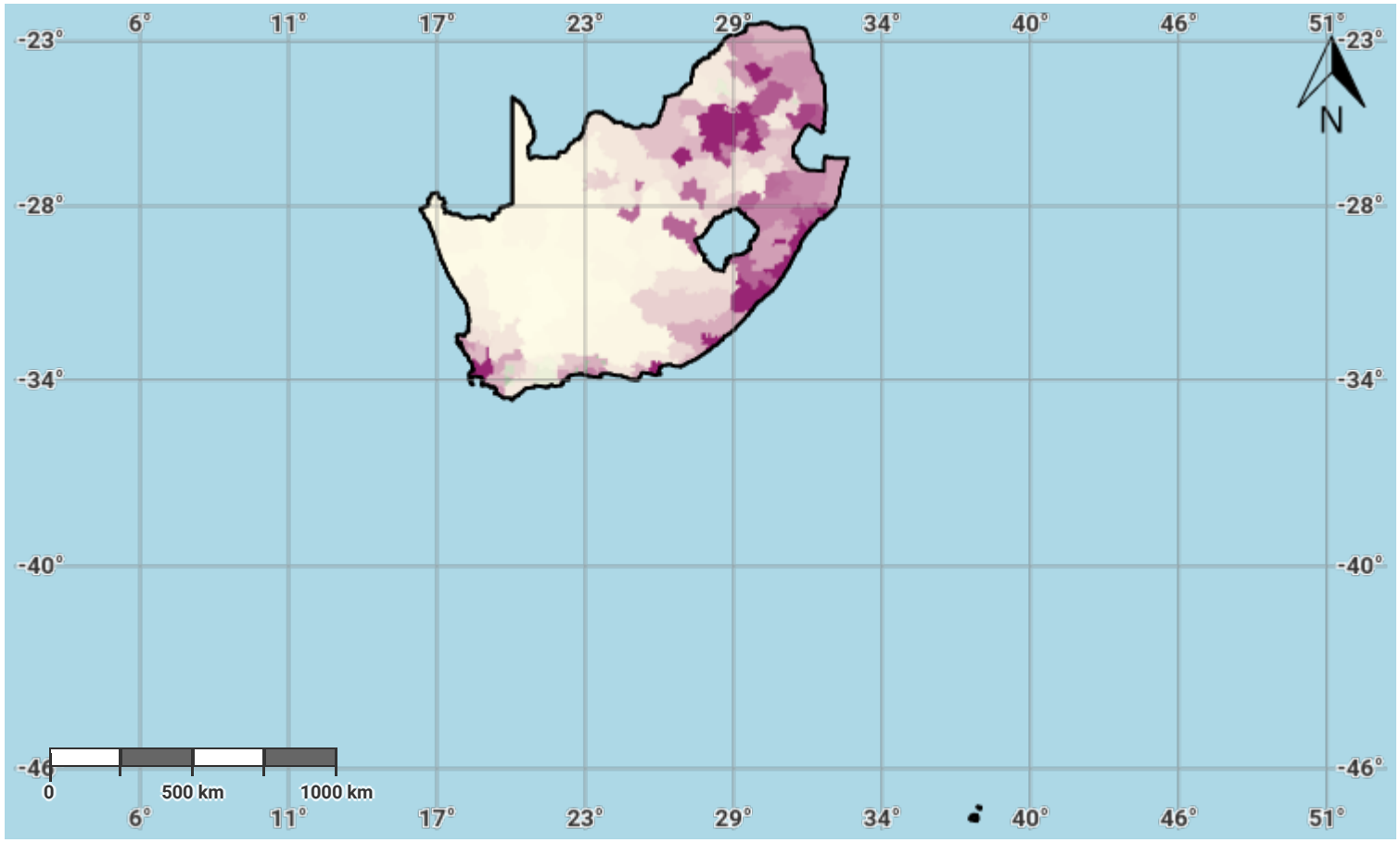
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to drought in epoch 3 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M4

Drought exposure in fourth epoch of baseline period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 2964
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 2964
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

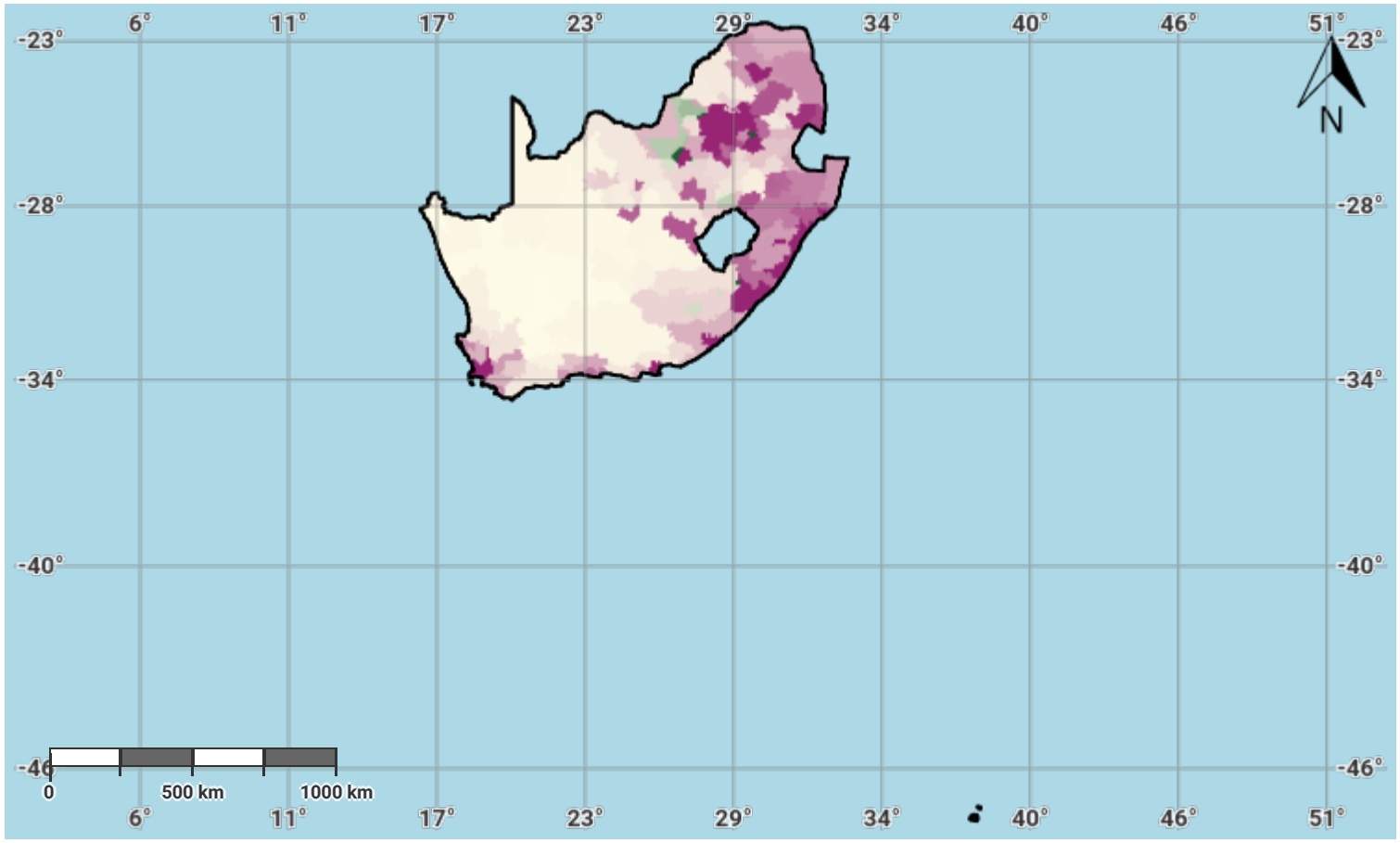
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to drought in epoch 4 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M5

Drought exposure in the reporting period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 - 3455
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 3455
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

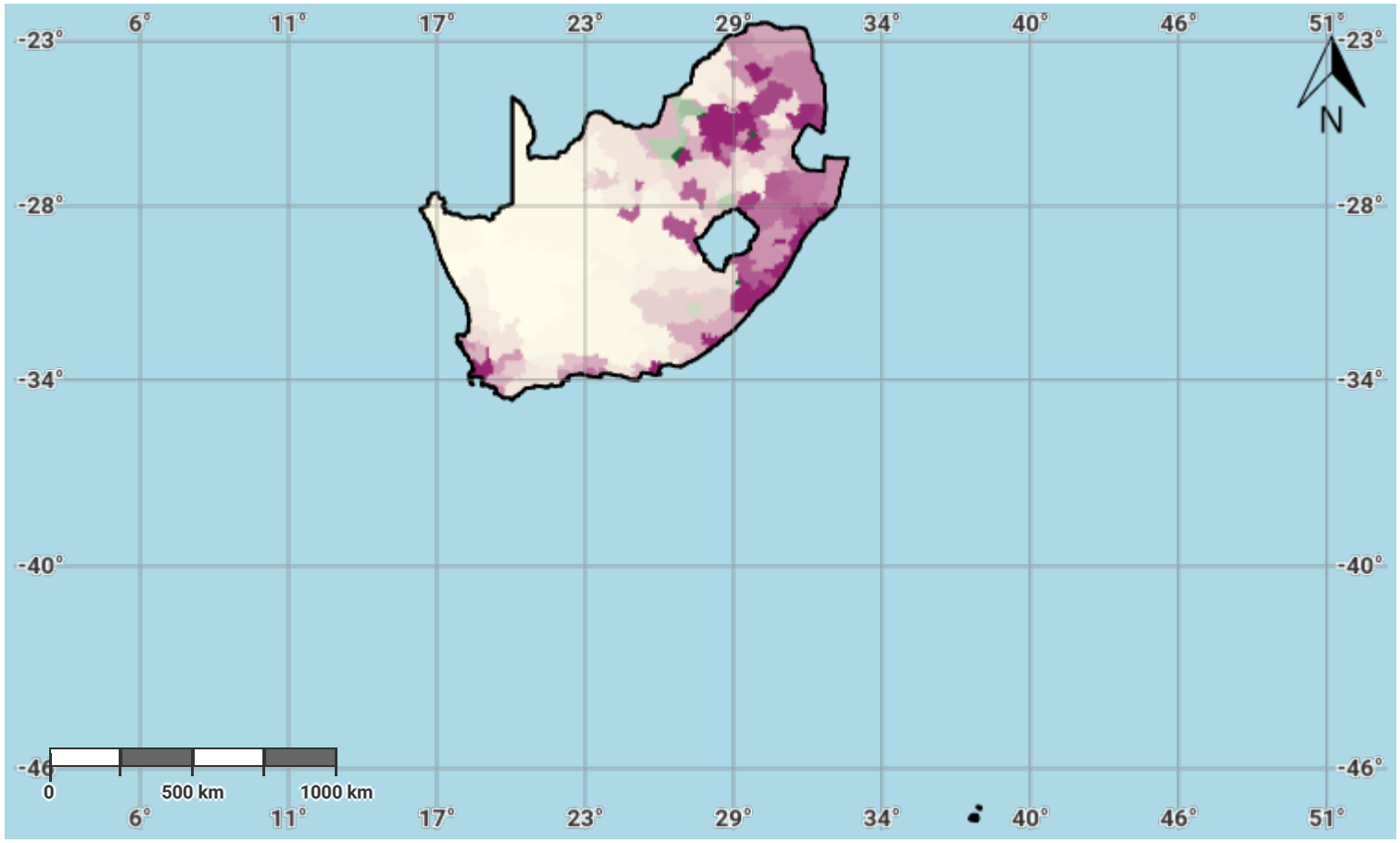
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Total population exposed to drought in epoch 5 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M6

Female drought exposure in the reporting period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 1715
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 1715
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

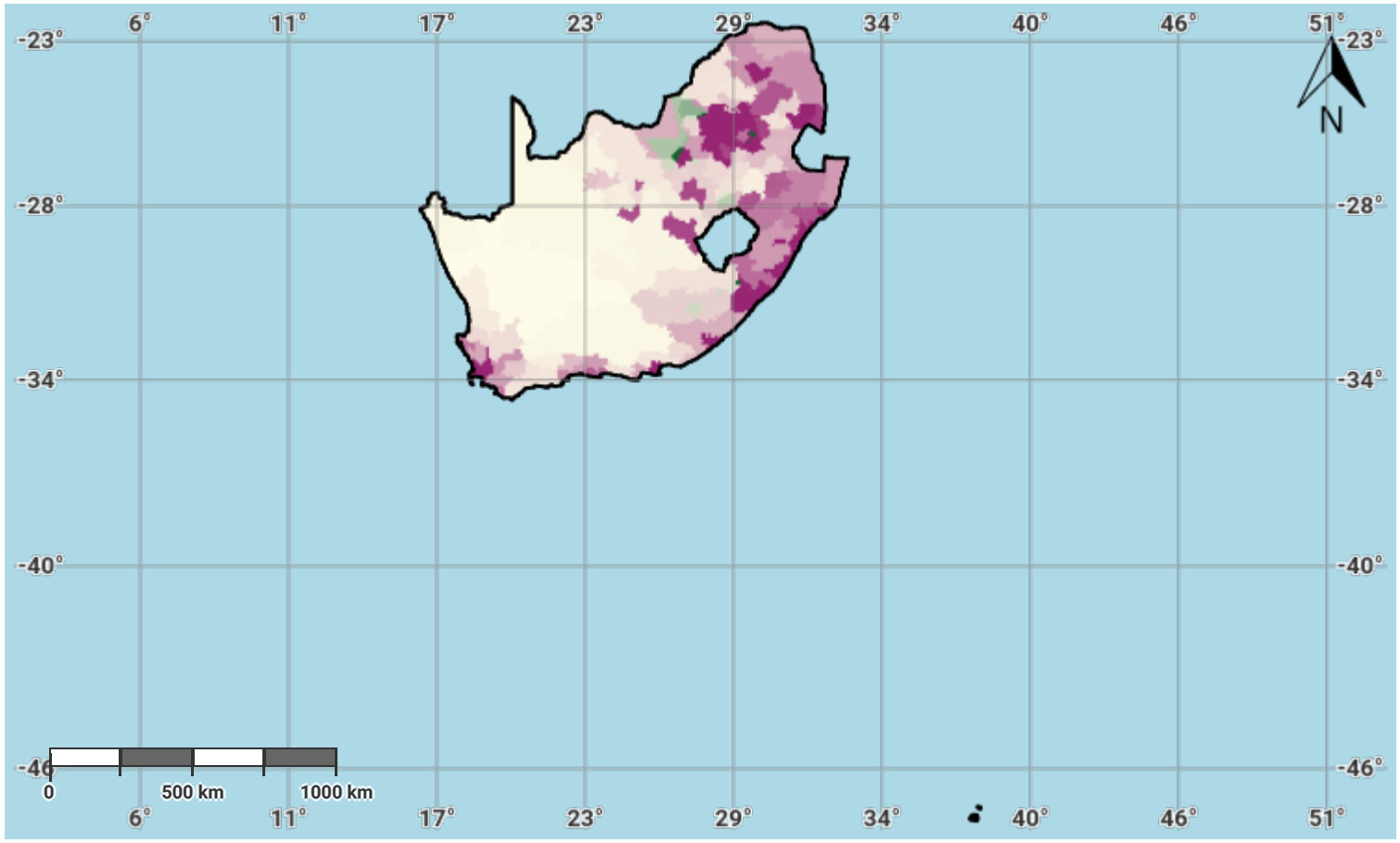
Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Female population exposed to drought in epoch 5 data displayed on this map was provided by the Government of South Africa.

South Africa – SO3-2.M7

Male drought exposure in the reporting period



Legend

- No data
- Population not exposed to drought (number of people per square kilometre): 0 – 1739
- 0
- Population exposed to drought (number of people per square kilometre): 0 – 1739
- International Boundary

Projection: EPSG:3857 (Web Mercator)

Disclaimer

Skowno AL, Jewitt D, Slingsby JA. Rates and patterns of habitat loss across South Africa's vegetation biomes. S Afr J Sci. 2021;117(1/2), Art. #8182. https://doi.org/10.17159/sajs.2021/8182. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. All maps represent the terrestrial area of the country; offshore islands, overseas departments and territories may not be displayed due to cartographic limitations.

Source Data Credits

- The Male population exposed to drought in epoch 5 data displayed on this map was provided by the Government of South Africa.