## Report from New Zealand





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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
1 996	263 051 .0	5 363 .886	268 414 .886	Derived from LCDB 5.0 , Class_1996
1 997	263 050 .7	5 364 .199	268 414 .89900000003	Derived from LCDB 5.0 , Class_1997
1 998	263 043 .6	5 371 .281	268 414 .881	Derived from LCDB 5.0 , Class_1998
1 999	263 042 .3	5 372 .600	268 414 .89999999997	Derived from LCDB 5.0 , Class_1999
2 000	263 039 .3	5 375 .559	268 414 .859	Derived from LCDB 5.0 , Class_2000
2 001	263 038 .1	5 376 .802	268 414 .902	Derived from LCDB 5.0 , Class_2001
2 002	263 036 .2	5 378 .722	268 414 .922	Derived from LCDB 5.0 , Class_2002
2 003	263 034 .2	5 380 .677	268 414 .87700000004	Derived from LCDB 5.0 , Class_2003
2 004	263 032 .5	5 382 .411	268 414 .911	Derived from LCDB 5.0 , Class_2004
2 005	263 031 .3	5 383 .563	268 414 .863	Derived from LCDB 5.0 , Class_2005
2 006	263 028 .8	5 386 .141	268 414 .941	Derived from LCDB 5.0 , Class_2006
2 007	263 026 .7	5 388 .199	268 414 .89900000003	Derived from LCDB 5.0 , Class_2007
2 008	263 024 .9	5 390 .036	268 414 .93600000005	Derived from LCDB 5.0 , Class_2008
2 009	263 020 .0	5 394 .032	268 414 .032	Derived from LCDB 5.0 , Class_2009
2 010	263 014 .6	5 400 .254	268 414 .854	Derived from LCDB 5.0 , Class_2010
2 011	263 011 .3	5 403 .586	268 414 .886	Derived from LCDB 5.0 , Class_2011
2 012	263 006 .6	5 408 .301	268 414 .90099999995	Derived from LCDB 5.0 , Class_2012
2 013	263 003 .2	5 411 .727	268 414 .927	Derived from LCDB 5.0 , Class_2013
2 014	263 000 .3	5 414 .601	268 414 .901	Derived from LCDB 5.0 , Class_2014
2 015	262 996 .6	5 418 .265	268 414 .865	Derived from LCDB 5.0 , Class_2015
2 016	262 991 .8	5 423 .134	268 414 .934	Derived from LCDB 5.0 , Class_2016
2 017	262 986 .8	5 428 .122	268 414 .92199999996	Derived from LCDB 5.0 , Class_2017
2 018	262 983 .9	5 431 .032	268 414 .93200000003	Derived from LCDB 5.0 , Class_2018

#### Land cover legend and transition matrix

#### SO1-1.T2: Key Degradation Processes

Degradation Process	Starting Land Cover	Ending Land Cover
Vegetation Loss	Tree-covered areas	Grasslands

Degradation Process	Starting Land Cover	Ending Land Cover
Deforestation	Tree-covered areas	Croplands
Deforestation	Tree-covered areas	Artificial surfaces
Vegetation Loss	Tree-covered areas	Other Lands
Other Agricultural expansion	Grasslands	Croplands
Urban Expansion	Grasslands	Artificial surfaces
Vegetation Loss	Grasslands	Other Lands
Other Withdrawal of agriculture	Croplands	Grasslands
Urban Expansion	Croplands	Artificial surfaces
Vegetation Loss	Croplands	Other Lands
Woody Encroachment	Wetlands	Tree-covered areas
Wetland Drainage	Wetlands	Grasslands
Wetland Drainage	Wetlands	Croplands
Wetland Drainage	Wetlands	Artificial surfaces
Wetland Drainage	Wetlands	Other Lands
Urban Expansion	Other Lands	Artificial surfaces

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

Yes

O 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
Grasslands	-	0	-	-	+	+	0
Croplands	-	-	0	-	+	+	0
Wetlands	+	+	+	0	+	+	0
Artificial surfaces	-	-	-	-	0	-	0
Other Lands	-	-	-	-	+	0	0
Water bodies	0	0	0	0	0	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	102 198 .5	132 100 .5	4 413 .331	2 349 .380	1 881 .911	20 096 .22	5 374 .990	
2001	102 446 .9	131 732 .5	4 435 .304	2 345 .931	1 895 .233	20 182 .75	5 376 .233	
2002	102 587 .8	131 624 .6	4 480 .267	2 342 .917	1 914 .008	20 087 .13	5 378 .153	
2003	102 633 .0	131 569 .2	4 509 .763	2 339 .506	1 931 .979	20 051 .28	5 380 .108	

	Tree-covered areas (km²)	Grasslands (km²)	Croplands (km²)	Wetlands (km²)	Artificial surfaces (km²)	Other Lands (km²)	Water bodies (km²)	No data (km²)
2004	102 550 .5	131 521 .0	4 536 .920	2 338 .017	1 951 .976	20 134 .64	5 381 .842	
2005	102 661 .0	131 383 .3	4 579 .120	2 335 .875	1 970 .253	20 102 .36	5 382 .995	
2006	102 674 .9	131 279 .4	4 617 .186	2 333 .354	1 993 .906	20 130 .52	5 385 .572	
2007	102 728 .7	131 159 .6	4 668 .323	2 330 .738	2 009 .942	20 129 .93	5 387 .630	
2008	102 768 .9	131 068 .3	4 708 .013	2 328 .992	2 034 .495	20 116 .76	5 389 .467	
2009	102 723 .1	131 175 .4	4 709 .819	2 325 .279	2 046 .167	20 041 .73	5 393 .374	
2010	102 661 .2	131 258 .0	4 719 .604	2 320 .057	2 060 .088	19 996 .37	5 399 .596	
2011	102 601 .8	131 352 .9	4 718 .502	2 317 .013	2 072 .506	19 949 .26	5 402 .901	
2012	102 462 .9	131 444 .5	4 722 .370	2 313 .129	2 082 .568	19 981 .83	5 407 .561	
2013	102 336 .1	131 493 .4	4 728 .869	2 311 .461	2 097 .782	20 036 .39	5 410 .946	
2014	102 274 .7	131 481 .4	4 733 .110	2 308 .585	2 113 .024	20 090 .33	5 413 .820	
2015	102 129 .2	131 501 .3	4 735 .102	2 306 .056	2 126 .391	20 199 .39	5 417 .396	
2016	102 094 .5	131 556 .9	4 736 .921	2 300 .944	2 139 .080	20 164 .34	5 422 .180	
2017	101 970 .9	131 596 .6	4 737 .270	2 299 .329	2 155 .236	20 228 .46	5 427 .111	
2018	101 870 .9	131 628 .2	4 738 .469	2 297 .161	2 165 .623	20 284 .70	5 429 .875	
2019								
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)	98 777	1 467	9	1	31	1 913	4	102 202
Grasslands (km²)	1 861	129 472	388	2	185	169	28	132 105
Croplands (km²)	3	53	4 335	0	20	3	3	4 417
Wetlands (km²)	2	41	1	2 304	1	2	2	2 353
Artificial surfaces (km²)	4	3	1	0	1 871	4	2	1 885
Other Lands (km²)	1 485	468	5	1	21	18 110	10	20 100
Water bodies (km²)	1	1	1	1	1	1	5 372	5 378
Total	102 133	131 505	4 740	2 309	2 130	20 202	5 421	

#### 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)
Total	101 875	131 631	4 743	2 300	2 170	20 288	5 433	

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

	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)	100 964	215	2	1	8	943	1	102 134
Grasslands (km²)	175	131 273	10	1	31	8	6	131 504
Croplands (km²)	1	1	4 728	0	4	1	3	4 738
Wetlands (km²)	1	9	1	2 297	1	1	1	2 311
Artificial surfaces (km²)	1	2	1	0	2 121	4	1	2 130
Other Lands (km²)	733	130	1	0	4	19 330	4	20 202
Water bodies (km²)	0	1	0	1	1	1	5 417	5 421
Total	101 875	131 631	4 743	2 300	2 170	20 288	5 433	

#### 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	4 020	1.5
Land area with non-degraded land cover	264 396	98 .5
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	1 044	0.4
Land area with stable land cover	266 141	99.2
Land area with degraded land cover	1 231	0.5
Land area with no land cover data	0	0.0

#### General comments

Baseline and reporting periods derived from annual interpolated of LCDB5 time-stamps (1996, 2001, 2008, 2012, 2018). Reporting period to 2018. https://lris.scinfo.org.nz/layer/104400-lcdb-v50-land-cover-database-version-50-mainland-new-zealand/

#### 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

		Net land product	ivity dynamics (km	²) for the baseli	ne period	
Land cover class	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)
Tree-covered areas	27	1 354	26 150	13 751	61 463	101
Grasslands	279	1 694	53 224	35 904	40 100	267
Croplands	0	42	1 888	1 187	1 617	2
Wetlands	1	37	491	365	648	110
Artificial surfaces	1	109	1 379	259	346	6
Other Lands	234	740	7 227	4 145	5 513	2 248
Water bodies	10	123	2 378	656	945	1 295

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

	Net land productivity dynamics (km²) for the reporting period								
Land cover class	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)	No Data (km²)			
Tree-covered areas	7	472	33 109	38 312	30 391	99			
Grasslands	325	974	58 037	36 523	35 475	263			
Croplands	1	83	1 879	856	1 927	1			
Wetlands	1	25	659	482	363	10			
Artificial surfaces	1	75	1 550	211	325	6			
Other Lands	288	336	7 789	4 779	4 909	2 247			
Water bodies	17	68	2 805	684	556	1 297			

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 Co	nversion	Net land productivity dynamics (km²) for the baseline period					
From	То	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Grasslands	Tree-covered areas	1 980	0	6	384	302	1 285
Tree-covered areas	Other Lands	1 727	0	17	1 182	115	412
Other Lands	Tree-covered areas	1 469	0	2	175	122	1 170

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

Land Co	nversion	Net land productivity dynamics (km²) for the baseline period					
From	То	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Grasslands	1 330	0	11	719	182	417
Other Lands	Grasslands	430	0	7	174	87	162
Grasslands	Croplands	404	0	1	138	57	161
Grasslands	Artificial surfaces	187	0	5	140	24	19
Grasslands	Other Lands	75	2	4	39	11	8

## 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 Co	onversion	Net land productivity dynamics (km²) for the reporting period					
From	То	Net area change (km²)	Declining (km²)	Moderate Decline (km²)	Stressed (km²)	Stable (km²)	Increasing (km²)
Tree-covered areas	Other Lands	1 309	0	8	1 015	202	83
Other Lands	Tree-covered areas	954	0	9	458	91	395
Tree-covered areas	Grasslands	274	0	1	196	35	42
Grasslands	Tree-covered areas	244	0	1	59	31	154
Other Lands	Grasslands	175	0	3	115	25	32

#### 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	4 653	1.8
Land area with non-degraded land productivity	259 636	98 .7
Land area with no land productivity data	3 928	1.5

#### 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	110 633	42 .1
Land area with stable land productivity	149 003	56 .7
Land area with degraded land productivity	4 653	1.8
Land area with no land productivity data	3 928	1.5

#### General comments

We used our revised landcover data derived from the LCDB5 for this analysis (see S01-1). We used the default productivity layers as we

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

were unable to acquire better data consistent over the time period. Calculations were done using R as we were unable to use the Trends Earth tool due to institutional IT restrictions.

#### 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 of	carbon stock	in topsoil (t/ha)		
rear	Tree-covered areas	Grasslands	Croplands	Wetlands	Artificial surfaces	Other Lands	Water bodies
2000	217	159	117	213	142	181	43
2001	217	159	120	210	139	181	43
2002	217	159	122	210	138	181	43
2003	216	159	124	209	138	181	43
2004	216	159	126	208	138	181	43
2005	216	159	127	208	136	181	43
2006	216	159	127	208	136	181	43
2007	216	159	129	207	135	181	43
2008	215	159	131	207	135	181	43
2009	216	159	131	207	134	181	43
2010	217	159	132	206	134	180	43
2011	217	158	133	206	134	179	43
2012	218	158	133	205	134	179	43
2013	218	158	135	204	133	178	43
2014	218	158	135	204	133	178	43
2015	218	158	140	213	132	177	44
2016	218	158	139	209	132	177	44
2017	218	158	139	207	131	177	44
2018	218	158	138	204	131	177	44
2019	218	158	135	204	131	177	44
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
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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 Co	nversion	Soil organic carbon (SOC) stock change in the baseline period					
From	То	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)
Croplands	Tree-covered areas	935	184 .5	207 .7	17 247 248	19 416 175	2 168 927

Tier 2 (additional use of country-specific data)

Tier 3 (more complex methods involving ground measurements and modelling)

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

Land Co	nversion	Soil organic carbon (SOC) stock change in the baseline period						
From	То	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)	
Croplands	Grasslands	342	123 .7	137 .7	4 231 410	4 710 246	478 836	
Grasslands	Tree-covered areas	1 837	187 .1	187 .1	34 362 970	34 363 420	450	
Tree-covered areas	Grasslands	2 980	186 .4	186 .4	55 539 812	55 539 812	0	

## 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)					k change in the rep	oorting period	
From	То	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	932	201 .0	201 .1	18 734 877	18 739 792	4 915
Grasslands	Tree-covered areas	967	174 .0	174 .0	16 827 560	16 828 190	630
Tree-covered areas	Wetlands	66	211 .5	211 .6	1 396 137	1 396 294	157
Grasslands	Croplands	220	128 .9	125 .9	2 835 038	2 769 732	-65 306

#### 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)	464	0.2
Land area with non-degraded SOC	261 270	99 .3
Land area with no SOC data	2 175	0.8

#### 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	83	0.0
Land area with stable SOC	261 345	99 .4
Land area with degraded SOC	417	0.2
Land area with no SOC data	2 113	0.8

#### General comments

The default SOC stocks in the PRAIS4 system differ significantly to the modelled SOC spatial patterns across New Zealand. As we were unable to access the Trends Earth tool, we have been unable to undertake the analysis using the updated SOC data.

#### 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	8 297	3.2
Reporting Period	8 238	3 .1
Change in degraded extent	-59	

Change in degrade	d extent		-59					
Method Did you use the stock) to compu				land cover, land productivi	ty dynamics and soil	organic carbon		
Which indicators d	id you use?							
<ul> <li>☑ Land Cover</li> <li>☐ Land Productivity Dynamics</li> <li>☐ SOC Stock</li> </ul>								
Did you apply th	e one-out, all-o	out principle to	compute th	ne proportion of degraded	land?			
<ul> <li>Yes</li> <li>No</li> <li>We used only landcover in this instance because the default values for SOC are known to be inaccurate. Further, the landcover layer used for the productivity analysis was the default which differs from the landcover layers used in S01-2 which we believe are a substantial</li> </ul>								
improvement on th		e default which dif	ters from the	e landcover layers used in SUT-	Z wnich we believe are a	substantial		
Level of Confid	lence							
Indicate your c	ountry's level	of confidence	in the ass	sessment of the proporti	on of degraded lan	d:		
High (based on c	omprehensive evid	lence)						
Medium (based of	on partial evidence)	)						
O Low (based on lin	mited evidence)							
Describe why the assessment has been given the level of confidence selected above:  We are confident of our landcover layer accuracy for the reporting period. However, we acknowledge that by excluding the SOC and productivity analyses we compromise the reliability of the measure.  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 (k	m²) Proce	ess driving false +/- outcome	Basis for Judgement	Edit Polygon		
Perform qualita SO1-4.T4: Degr			identified	l as degraded or improve	ed			
Hotspots Loca	ation Area (km²)	Assessment Process	Direct drive land degrad hotspots					

Total no. of 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 hotspot area	0						

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

Economic

#### 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
Total no. of b	rightpots	0				
Total brights	pot area	0				

What are the enabling and instrumental responses at the national level driving the occurrence of brightspots? None

#### General comments

We used only landcover in this instance because the default values for SOC are known to be inaccurate. Further, the landcover layer used for the productivity analysis was the default which differs from the landcover layers used in S01-2 which we believe are a substantial improvement on the default layers. Spatial extent of land degradation or improvement is fine scale change widely distributed and incremental. At the national scale, reporting much of this change is difficult to detect or report against. There are no large scale degradations of note with the exception that peatland soil can degrade overtime without detection using any of the measures herin.

#### **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
Total			Sum of a	III targeted areas					

#### 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
					Sum of all areas relevant to actions under the same target	

# 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)

#### Qualitative assessment

SO2-1.T3: Interpretation of the indicator

Indicator metric	Change in the indicator	Comments
maicator metric	Change in the indicator	Comments

#### 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			82
2001			82
2002			82
2003			82
2004			82
2005			82
2006			84
2007			85
2008			86
2009			88
2010			89
2011			90
2012			92
2013			93
2014			94
2015			96
2016			97
2017			98
2018			100
2019			100
2020			100

#### Qualitative assessment

SO2-2.T2: Interpretation of the indicator

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	517338	12 .8	266122	12 .8	251216	12 .7
Reporting period	409613	9.8	210830	9.8	198783	9 .8

#### Qualitative assessment

SO2-3.T2: Interpretation of the indicator

#### **SO2 Voluntary Targets**

#### S02-VT.T1

Status of target achievement   Comments	ar Level of application	Target Year	
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#### 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	124 761	9 004	334	540	133 922				
2001	101 679	58 158	33 287	1 107	74 331				
2002	105 291	14 503	2 386	2 222	144 158				
2003	114 391	42 944	22 943	2 704	85 579				
2004	37 629	0	0	0	230 932				
2005	97 029	65 569	32 312	23 435	50 216				
2006	71 976	1 356	0	31	195 198				
2007	112 856	88 155	35 234	6 106	26 209				
2008	101 839	14 845	604	0	151 273				
2009	162 877	20 558	8 933	0	76 192				
2010	72 224	3 618	727	596	191 395				
2011	67 671	19 787	6 839	2 704	171 560				
2012	150 783	21 240	8 411	4 972	83 153				
2013	148 181	44 049	14 184	11 509	50 638				
2014	173 043	50 116	4 223	0	41 179				
2015	134 006	58 885	22 083	7 188	46 398				
2016	89 313	21 765	8 229	6 245	143 009				
2017	68 883	8 915	8 381	11 223	171 159				
2018	39 972	268	2 170	0	226 150				
2019	77 246	21 996	11 912	617	156 790				
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	134 639	51 .2
2001	194 230	73 .8
2002	124 402	47 .3
2003	182 981	69.6
2004	37 629	14.3
2005	218 345	83.0

	Total area under drought (km²)	Proportion of land under drought (%)
2006	73 363	27 .9
2007	242 351	92 .1
2008	117 288	44 .6
2009	192 369	73 .1
2010	77 166	29.3
2011	97 001	36.9
2012	185 407	70 .5
2013	217 923	82 .9
2014	227 382	86.5
2015	222 163	84.5
2016	125 551	47 .7
2017	97 402	37.0
2018	42 410	16.1
2019	111 771	42.5
2020		-
2021		-

#### Qualitative assessment:

#### **General comments**

Droughts in New Zealand tend to occur over short time periods than other nations, nevertheless the impacts are just as significant. The default database is not appropriate for characterising droughts in New Zealand. New Zealand is in the process of developing a more appropriate measure but not available for this reporting round.

#### 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-expos	ed	Mild droug	ht	Moderate dro	ught	Severe droug	ght	Extreme drou	ight	Exposed popu	lation
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	955950	26 .6	2489696	69 .3	146742	.1	0	.0	138	.0	2 636 576	73 .4
2001	2286956	63 .1	605233	16 .7	547997	15 .1	181377	.0	22	.0	1 334 629	36 .9
2002	1380259	37 .9	1979024	54 .4	74779	.1	171769	.7	34888	.0	2 260 460	62 .1
2003	1841165	50 .2	1174503	32 .0	520858	14 .2	131642	.6	1675	.0	1 828 678	49 .8
2004	3548031	96 .0	148492	.0	0	0.0	0	0.0	0	.0	148 492	.0
2005	606336	16 .3	1382519	37 .1	1345574	36 .1	345938	9	47592	.3	3 121 623	83 .7
2006	2918767	77 .6	833550	.2	6646	.2	0	0.0	0	.0	840 196	22 .4
2007	257525	6 .8	2326201	61 .5	793583	21 .0	370358	9 .8	37718	.0	3 527 860	93 .2
2008	3292609	86 .3	500710	13 .1	20107	.5	29	0.0	0	.0	520 846	13 .7
2009	1680903	43 .7	2093241	54 .5	54855	.4	14326	.4	0	.0	2 162 422	56 .3
2010	2183328	56 .4	1684601	43 .5	3310	.1	60	0.0	96	.0	1 688 067	43 .6
2011	3773911	96 .7	80487	.1	38873	.0	8229	.2	870	.0	128 459	3
2012	1316316	33 .4	2586737	65 .7	27085	.7	2275	.1	3018	.1	2 619 115	66 .6
2013	2365516	59 .6	1433908	36 .1	94443	.4	72861	.8	4130	.1	1 605 342	40 .4
2014	737818	18 .4	2923455	73 .1	311549	.8	28459	.7	0	.0	3 263 463	81 .6
2015	285179	7 .1	2411153	59 .8	1154806	28 .6	134033	3	46934	.2	3 746 926	92 .9
2016	3384619	83 .3	580664	14 .3	29111	.7	64114	.6	3342	.1	677 231	16 .7
2017	3798845	92 .7	172189	.2	22780	.6	24166	.6	78492	.9	297 627	7 .3
2018	3939625	95 .3	193922	.7	1771	0.0	295	0.0	0	.0	195 988	.7
2019	1345054	32 .3	855182	20 .5	1896673	45 .5	65085	.6	2428	.1	2 819 368	67 .7
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

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

	Non-expos	ed	Mild droug	ht	Moderate dro	ught	Severe droug	ght	Extreme drou	ıght	Exposed fem population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	490095	26 .6	1275212	69 .3	75458	.1	0	0 .0	60	0 .0	1 350 730	73 .4

	Non-expos	ed	Mild droug	ht	Moderate dro	ught	Severe droug	ght	Extreme drou	ight	Exposed fen populatio	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2001	1173612	63 .2	308347	16 .6	280988	15 .1	93118	5 .0	10	0.0	682 463	36 .8
2002	708187	37 .9	1013257	54 .3	38155	.0	88817	.8	17775	.0	1 158 004	62 .1
2003	943433	50 .1	602016	32 .0	267040	14 .2	67968	3 .6	796	0.0	937 820	49 .9
2004	1819091	96 .0	75954	.0	0	0.0	0	0.0	0	0.0	75 954	.0
2005	311527	16 .3	708467	37 .1	689213	36 .1	177520	9 .3	24508	.3	1 599 708	83 .7
2006	1496763	77 .6	428501	22 .2	3406	0 .2	0	0.0	0	0.0	431 907	22 .4
2007	133524	6 .9	1192891	61 .4	406877	20 .9	190723	9 .8	19799	.0	1 810 290	93 .1
2008	1691392	86 .4	256875	13 .1	10236	0 .5	15	0.0	0	0.0	267 126	13 .6
2009	865781	43 .9	1073441	54 .4	27691	1 .4	7156	0 .4	0	0.0	1 108 288	56 .1
2010	1121486	56 .4	865381	43 .5	1708	0 .1	29	0.0	49	0.0	867 167	43 .6
2011	1939715	96 .8	41027	.0	19410	.0	4038	0 .2	421	0.0	64 896	.2
2012	675086	33 .4	1330452	65 .8	13486	0 .7	1098	0 .1	1456	0 .1	1 346 492	66
2013	1214241	59 .5	738782	36 .2	48214	.4	36823	.8	1988	0 .1	825 807	40 .5
2014	376285	18 .3	1505219	73 .2	159725	.8	14507	0 .7	0	0.0	1 679 451	81 .7
2015	147641	7 .1	1235900	59 .7	595100	28 .7	69173	3 .3	23919	1 .2	1 924 092	92 .9
2016	1740423	83 .4	298147	14 .3	14599	0 .7	32833	.6	1628	0 .1	347 207	16 .6
2017	1954927	92 .8	87513	.2	11411	0 .5	12049	0 .6	39952	1 .9	150 925	.2
2018	2026649	95 .3	98738	.6	920	0.0	144	0.0	0	0.0	99 802	.7
2019	687157	32 .1	441595	20 .6	978121	45 .7	33523	.6	1239	0 .1	1 454 478	67 .9
2020		-		-		-		-		-	-	
2021		-		-		-		-		-	-	

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

	Non-expose	ed	Mild droug	ht	Moderate dro	ught	Severe droug	ght	Extreme drou	ight	Exposed ma population	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2000	465855	26 .6	1214484	69 .3	71284	.1	0	0.0	78	0.0	1 285 846	73 .4
2001	1113344	63 .1	296886	16 .8	267009	15 .1	88259	.0	12	0.0	652 166	36 .9
2002	672072	37 .9	965767	54 .4	36624	.1	82952	.7	17113	.0	1 102 456	62 .1
2003	897732	50 .2	572487	32 .0	253818	14 .2	63674	.6	879	0.0	890 858	49 .8
2004	1728940	96 .0	72538	.0	0	0.0	0	0.0	0	0.0	72 538	.0
2005	294809	16 .2	674052	37 .1	656361	36 .1	168418	9 .3	23084	.3	1 521 915	83 .8

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

	Non-expos	ed	Mild droug	ht	Moderate dro	ught	Severe droug	ght	Extreme drou	ight	Exposed m populatio	
Reporting year	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%	Population count	%
2006	1422004	77 .7	405049	22 .1	3240	0 .2	0	0.0	0	0.0	408 289	22 .3
2007	124001	6 .7	1133310	61 .5	386706	21 .0	179635	9 .8	17919	.0	1 717 570	93 .3
2008	1601217	86 .3	243835	13 .1	9871	0 .5	14	.0	0	0.0	253 720	13 .7
2009	815122	43 .6	1019800	54 .6	27164	.5	7170	0 .4	0	0.0	1 054 134	56 .4
2010	1061842	56 .4	819220	43 .5	1602	0 .1	31	0.0	47	0.0	820 900	43 .6
2011	1834196	96 .7	39460	.1	19463	.0	4191	0.2	449	0.0	63 563	3
2012	641230	33 .5	1256285	65 .6	13599	0 .7	1177	0 .1	1562	0 .1	1 272 623	66 .5
2013	1151275	59 .6	695126	36 .0	46229	2 .4	36038	1 .9	2142	0 .1	779 535	40 .4
2014	361533	18 .6	1418236	72 .9	151824	.8	13952	0 .7	0	0.0	1 584 012	81 .4
2015	137538	7 .0	1175253	60 .0	559706	28 .6	64860	3	23015	1 .2	1 822 834	93 .0
2016	1644196	83	282517	14 .3	14512	0 .7	31281	1 .6	1714	0 .1	330 024	16 .7
2017	1843918	92 .6	84676	.3	11369	0 .6	12117	0 .6	38540	1 .9	146 702	7 .4
2018	1912976	95 .2	95184	.7	851	0	151	0	0	0.0	96 186	.8
2019	657897	32 .5	413587	20 .4	918552	45 .4	31562	1 .6	1189	0 .1	1 364 890	67 .5
2020		-		-		-		-		-	-	-
2021		-		-		-		-		-	-	-

Qualitative assessment

Interpretation of the indicator

#### 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			
2012			
2013			
2014			
2015			
2016			
2017			
2018	0.39		
2019			
2020			
2021			

#### Method

Which tier level did you use to compute the DVI?
☐ Tier 1 Vulnerability Assessment (i)
☐ Tier 2 Vulnerability Assessment ①
☐ Tier 3 Vulnerability Assessment ①
Qualitative assessment
SO3-3.T2: Interpretation of the indicator
Change in the indicator
General comments

#### **SO3 Voluntary Targets**

#### S03-VT.T1

Target Year Level of application	Status of target achievement	Comments
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# 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 .71429	0 .70498	0 .72263	
2001	0 .70969	0 .70033	0 .71825	
2002	0 .70511	0 .69517	0 .71345	
2003	0 .70066	0 .69159	0 .70914	
2004	0 .69648	0 .68461	0 .70522	
2005	0 .69176	0 .682	0 .70082	
2006	0 .68776	0 .67438	0 .69674	
2007	0 .68375	0 .66916	0 .69332	
2008	0 .6784	0 .66305	0 .68875	
2009	0 .67448	0 .65755	0 .6865	
2010	0 .66955	0 .65234	0 .68386	
2011	0 .6643	0 .64534	0 .6817	
2012	0 .6603	0 .63697	0 .67978	
2013	0 .65542	0 .62874	0 .67817	
2014	0 .65035	0 .62031	0 .67652	
2015	0 .64592	0 .61382	0 .67408	
2016	0 .64093	0 .60469	0 .67338	
2017	0 .63627	0 .6022	0 .67212	
2018	0 .6322	0 .59153	0 .6715	
2019	0 .62721	0 .58199	0 .6691	
2020	0 .62187	0 .57623	0 .66895	

#### 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
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# 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	42.04	41 .83	42 .07	
2001	42.08	41 .89	42 .11	
2002	44.0	43 .81	44 .03	
2003	44.02	43 .83	44 .04	
2004	44.07	43 .93	44 .08	
2005	44.28	44 .14	44 .28	
2006	44.71	44 .58	44 .71	
2007	44.81	44 .68	44 .81	
2008	45.1	44 .97	45 .11	
2009	45.48	45 .35	45 .48	
2010	45.72	45 .59	45 .72	
2011	45.79	45 .67	45 .79	
2012	45.84	45 .71	45 .84	
2013	45.92	45 .81	45 .92	
2014	45.96	45 .85	45 .96	
2015	46.43	46 .37	46 .43	
2016	46.46	46 .45	46 .46	
2017	46.46	46 .45	46 .46	
2018	46.48	46 .48	46 .48	
2019	46.48	46 .48	46 .48	
2020	46.49	46 .49	46 .49	

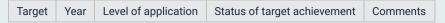
#### Qualitative assessment

SO4-3.T2: Interpretation of the indicator

Qualitative Assessment Comment

#### **SO4 Voluntary Targets**

#### SO4-VT.T1



Complementary information

#### 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↑
$\bigcirc$ Stable $\longleftrightarrow$
○ Down↓
○ Unknown ∾
Trends in international bilateral and multilateral public resources received
Trends in international bilateral and multilateral public resources received $\hfill \hfill $
·

Tier 2: Table 1 Financial resources provided and received

		Total Amount USD					
Provided / Received	Year	Committed	Disbursed / Received				
Provided	2016	Committed 226 940 .40	Disbursed 1 084 142 .60				
Provided	2017	Committed 355 266 .00	Disbursed 1 042 347 .71				
Provided	2018	Committed 172 939 .00	Disbursed 222 733 .30				
Provided	2019	Committed 164 690 .00	Disbursed 164 690 .00				
Received	2016	Committed 0	Received 0				
Received	2017	Committed 0	Received 0				
Received	2018	Committed 0	Received 0				
Received	2019	Committed 0	Received 0				
Total resources pro	ovided:	919 835 .4	2 513 913 .61				
Total resources red	ceived:	0	0				

#### **Documentation box**

	Explanation
Year	
Recipient / Provider	
Title of project, programme, activity or other	
Total Amount USD	
Sector	
Capacity Building	
Technology Transfer	
Gender Equality	

	Explanation
Channel	
Type of flow	
Financial Instrument	
Type of support	
Amount mobilised through public interventions	
Additional Information	

#### 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 natio	onal level finar	ncing for ac	tivities relevant to	the implemen	tation of	the Convention	n			
○Up↑											
Stable ←→											
○ Down↓											
○ Unknown ∾											
Trends in domestic public revenues from activities related to the implementation of the Convention											
○ Up↑											
$\bigcirc$ Stable $\longleftrightarrow$											
○ Down ↓											
○ Unknown ∾											
Tier 2: Table 2 Domestic pub	olic res	sources									
	Year	Amounts	Addition	al Information							
Government expenditures											
Directly related to combat DLDD											
Indirectly related to combat DLDD											
Subsidies											
Subsidies related to combat DLDD											
Total expenditures / total per year		ı	ı								
						Year	Amounts	Additional Information			
Government revenues											
Environmental taxes for the conserv DLDD	ation of	land resourc	es and tax	ces related to co	ombat						
Tota	al revenu	ues / total pe	r year								
Documentation box											
				Explanation							
	Gove	ernment expe	enditures								
		S	ubsidies								
	(	Government i	evenues								
Domestic resources directly or indire	ectly rela	ated to comb	at DLDD								
Has your country set a target for increas	sing and	mobilizing dor	nestic reso	urces for the imp	lementation of	the Conv	ention?				
Yes											
○ No											
General comments											

#### 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  $\longleftrightarrow$ Down ↓ Unknown ∾ Tier 2: Table 3 International and domestic private resources Type of Title of project, programme, activity **Total Amount** Financial Additional Year Recipient or other USD Instrument institution Information

Please provide methodological information relevant to data presented in table 3

0

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?

General comments

Total

#### 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	
$\bigcirc$ Up $\uparrow$	
○ Stable ←→	
○ Down ↓	
○ Unknown ∾	
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
Total provided:		0		То	tal receive	ed:	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.

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.

### 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.

### 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.

### 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.

General comments

### 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? O Yes No 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 O No Use this space to describe the experience: Underlying concepts of the Land Degradation Neutrality framework are embedded in the New Zealand Resource Management Act, including the duty to avoid, remedy, or mitigate adverse effects in section 17. These are given effect to through approaches such as the National Policy Statement for Freshwater. What were the challenges faced, if any? What do you consider to be the lessons learned? 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 O No Was this through any of the following (check all that apply)? ☐ Existing financial processes

Use this space to describe the experience:

What were the challenges faced, if any?

☐ Innovative financial processes

☐ Other funds (please specify)

What do you consider to be the lessons learned?

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:
New Zealand has an extensive programme of activities which contribute to combating desertification and land degradation. These include:  • Programmes to control invasive species that contribute to land degradation, notably rabbits and ungulate. The Department of Conservation carries out annual control programmes for tahr in accordance with a long-term control plan, and also does work relating to deer and goats. New Zealand has national and regional systems for managing rabbits and other non-ungulate species, particularly under the Biosecurity Act and through nationally funded research programmes. • In regions with severe soil erosion problems, such as East Cape, a range of measures have been introduced to reduce the problem, including the East Coast forestry programme and Nga Whenua Rahui protection of Maori land. • New Zealand has a range of programmes that support reafforestation, including for soil conservation, biodiversity and carbon outcomes. That includes the Billion Trees programme, many 'Jobs for Nature' programmes, support for community restoration work, and work on conservation lands. • Work on the proposed National Policy Statement for Indigenous Biodiversity (https://environment.govt.nz/publications/national-policy-statement-for-indigenous-biodiversity-exposure- draft/#:~:text=The%20Government%20has%20released%20a,and%20restore%20our%20indigenous%20biodiversity) was initiated in 2017. It contains provisions to identify and protect dryland ecosystems and habitats. However, protection is as much to combat land use change for irrigation and conversion to intensive agricultural use or plantation forestry, as it is to avoid desertification in drier parts of the country.  Land use including grazing is one of many pressures facing our drylands – others include invasive species (both animal and plant pests) and climate change. • Another key reform was the announcement of a halt to tenure review under the Crown Pastoral Lands Act in 2019.  This laid the path for subsequent legislative reform to better prote
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?
What were the challenges faced, if any?
What do you consider to be the lessons learned?
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):
<ul> <li>☑ Promoting solutions to combat desertification, land degradation and drought (DLDD)</li> <li>☐ Implementing solutions to combat DLDD</li> <li>☐ Protecting women's land rights</li> </ul>

$\square$ Enhancing women's access to natural, productive and/or financial resources
□ Other (please specify)
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.
Recent developments in New Zealand's environmental management system The Resource Management Act 1991 is New Zealand's main legislation for environmental management. The Act establishes an integrated framework and applies to land use, forestry, pollution, water and air in the terrestrial and marine environments. The Act requires consideration of economic, social and cultural well-being and establishes processes to consult with iwi and other stakeholders. The Resource Management Act is the primary tool for managing land uses to ensure that they do not contribute to desertification, e.g. by removing vegetation that protects soils. This Act is being reformed, with the new legislation expected to provide a wider range of tools for managing land uses. The government has recently initiated work to review and update natural resource management and conservation legislation, including major reforms to the Resource Management Act and for environmental planning generally. The National Policy Statement for Freshwater Management 2020 The Essential Freshwater package came into effect on 3 September 2020. It included the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020), which aims to embed long-term change through regional plans, including policies to restore wetlands. The National Policy Statement for Freshwater Management 2020 (NPS-FM 2020), is part of the Essential Freshwater package. It provides national direction which regional councils translate into action on the ground through their regional policy statement and regional plans and city and district councils through their district plans. It replaces the NPS-FM 2017. Policy 3.22(4) of the NPS-FM requires that every regional plan must not only promote, but also provide for, the restoration of natural inland wetlands, with a particular focus on restoring the values of ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values and amenity value. Natural resource sector coordination The Natural Resources Sector is a gr
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
What were the challenges faced, if any?
What would you consider to be the lessons learned?
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:
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.
New Zealand has included a large number of goals and objectives related to the restoration of degraded ecosystems and the sustainable management of natural resources in Te Mana o Te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, New Zealand's national biodiversity strategy under the Convention on Biological Diversity. refer: https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?
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
□ Social policies
Land policies □
☐ Gender policies
. □ Agricultural policies
☐ Other (please specify)
Use the space below to describe your country's experience.

There has been some progress towards mainstreaming policies to address degradation, in particular since there has been recognition of the loss and fragmentation of remaining threatened non-forested dryland ecosystems in inland Canterbury, in particular. However, the suite of responses has been wrapped in wider national policy and legislation reform as well as national and regional biodiversity initiatives (e.g. wilding pine control programmes). New Zealand has also integrated several of its soil erosion control and reforestation grant schemes and incentives, with a range of programmes that support reafforestation for multiple objectives including soil conservation, biodiversity and carbon outcomes. This includes the Billion Trees programme, many of the Jobs for Nature programmes, support for community restoration work, and work on conservation lands.

Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?
Drought-related policies:
Has your country established or is your country establishing national policies, measures and governance for drought preparedness and management?
<ul><li>Yes</li><li>No</li></ul>
Use the space below to describe your country's experience.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?
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?
<ul><li>Yes</li><li>No</li></ul>
Use the space below to describe your country's experience.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?

### 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:

As part of developing Te Mana o Te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, New Zealand's national biodiversity strategy under the Convention on Biological Diversity, New Zealand has established multiple goals and objectives relating to the sustainable management of natural resources (Objective 12). These include that: By 2025: • 12.5.1 The most appropriate places for the protection and restoration of indigenous biodiversity and areas that are suitable for other uses have been identified. • 12.6.1 Indigenous vegetation planting is standard practice in urban areas, riparian zones, agricultural buffers, transport corridors and other areas. • 12.7.1 The most ecologically damaging pollutants (e.g. excess nutrients, sediment, biocides, plastics, light and sound) and pollutant sources have been identified, and an integrated plan for their management is in place. By 2030: • 12.5.2 Implementation of an integrated spatial plan for land, freshwater and marine use has ensured no net loss of areas of high biodiversity value. • 12.6.2 Infrastructure and urban planning include indigenous biodiversity as standard practice, including through green infrastructure, green spaces, ecological corridors and environmentally friendly design elements, and nature-based solutions for issues, such as improving water quality and natural hazard protection (e.g. flooding, landslips). • 12.7.2 The amount of pollution entering the environment has significantly decreased. By 2050: • 12.5.3 The connectivity of indigenous ecosystems has been improved through targeted restoration from mountain tops to ocean depths (ki uta ki tai). • 12.6.3 Infrastructure and urban design are delivering increasing benefits for indigenous biodiversity. • 12.7.3 Pollution has been reduced to a level that does not have significant detrimental impacts on biodiversity. Please see https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/ for further details.

Would you consider the implemented practices successful and what do you consider the main factors of success?
Yes.
What were the challenges faced, if any?
What do you consider to be the lessons learned?
How did you engage women and youth in these activities?
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:

Ecosystem restoration The Department of Conservation manages a large number of ecosystem restoration projects and programmes – see https://www.doc.govt.nz/our-work/restoring-places/ for details. Jobs for Nature: The Government's Jobs for Nature/Mahi mō te Taiao programme is an economic recovery package across multiple government agencies to create jobs for businesses and individuals affected by the COVID-19 border closures. The other agencies administering the funding are the Ministry for the Environment, the Ministry for Primary Industries, Land Information New Zealand and the Ministry of Business, Innovation and Employment. The Te Papa Atawhai Jobs for Nature programme invests in jobs that will restore rivers, protect precious places and ensure native wildlife thrives. It provides \$488 million over 4 years for nature-based job opportunities for about 4,800 people. This comprises: • \$200 million to work with councils, iwi and

local businesses throughout the country to provide 800 nature-based jobs, both on and off public land, through regional partnership groups • \$141 million for ecosystem restoration on public and private land, to create or retain 422 jobs in community-led biodiversity restoration projects • \$147 million for 532 jobs in pest control and eradication, including advancing Predator Free New Zealand and working with iwi to prevent the collapse of North Island forests. The Jobs for Nature the funding has benefited both individuals and local communities by subsidising reduced hours for employees in tourism-based employment, while also making gains for conservation.

Would you consider the implemented practices successful and what do you consider the main factors of success?
Yes.
What were the challenges faced, if any?
What do you consider to be the lessons learned?
How did you engage women and youth in SLM activities?
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.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
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?
What were the challenges faced, if any?
What would you consider to be the lessons learned?

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
Use the space below to describe your country's experience.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?
Alternative livelihoods:
Alternative livelinoods.
Does your country promote alternative livelihoods practice in the context of DLDD?
○ Yes
○ No
Do you consider your country to be taking special measures to engage women and youth in promoting alternative livelihoods?
○ Yes
○ No
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.
and radinating networking on best practices and approaches to drought management.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?

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

technology?
Yes
○ No
Please elaborate
Women in New Zealand have, and continue to play, an important role in the political, social and economic fabric of New Zealand, including in all dimensions of environmental stewardship and management. New Zealand maintains a strong commitment to the implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and is committed to addressing the remaining challenges for New Zealand women. Along with pursuing progress for all New Zealand women, New Zealand is committed to ensuring progress for wahine Māori. A newly designed CEDAW tool, which is available on the Ministry for Women's website (https://women.govt.nz/cedaw) reflects Government's progress against all of New Zealand's recommendations, with a dedicated section on each recommendation, where applicable, for wahine Māori.
Do you consider this experience a success and, if so, what do you consider the reasons behind this success (or lack thereof)?
What were the challenges faced, if any?
What would you consider to be the lessons learned?

### **RC: Recalculations**

### RC.T1: Recalculation of the baseline period, as reported in 2018.

Indicator recalculated	Justifications	Explanatory information	Quantitative impact of the recalculations on baseline	Impact of the recalculations on national targets
SO1-1 Trends in land cover	☐ Changes in methodology ☑ New and improved data ☐ Correction of errors in a previous version of the data ☐ Other adjustment	Release of LCDB5 and generation of interpolated time series enabled us to have a more accurate and reliable measure of landcover over the baseline and reporting periods to 2018.	Our LCDBs based landcover has finer spatial and classes are more dis-aggregated meaning our landcover and the UN landcover layers have substantial disagreement at the pixel level though appearing similar overall. This results in significant changes to the analysis over the previous and default metrics, particularly on the detection and allocation of classes with ambiguous categorisations such as tree cover vs gorse and broom class.	N/A

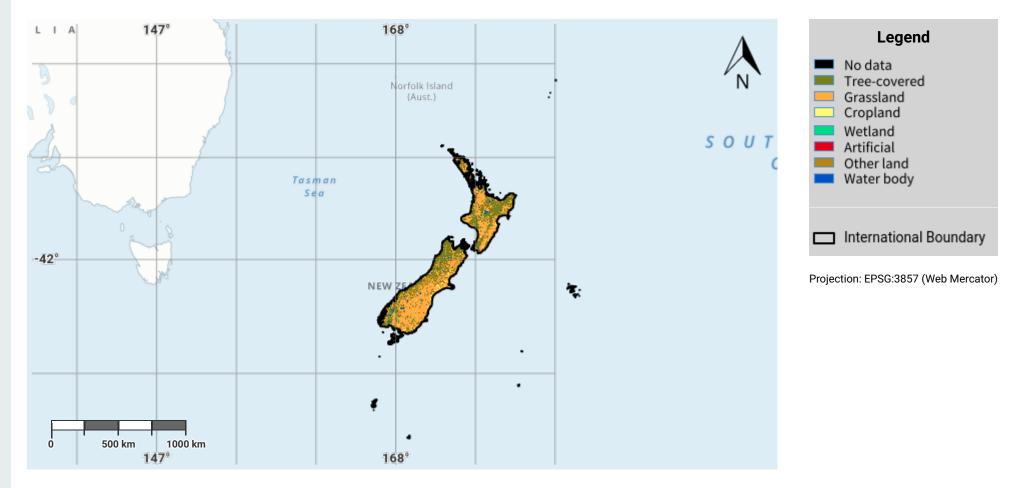
### Other files for Reporting

New Zealand - SO5-1 provider

Download

15.0 KB

## New Zealand – SO1-1.M1 Land cover in the initial year of the baseline period

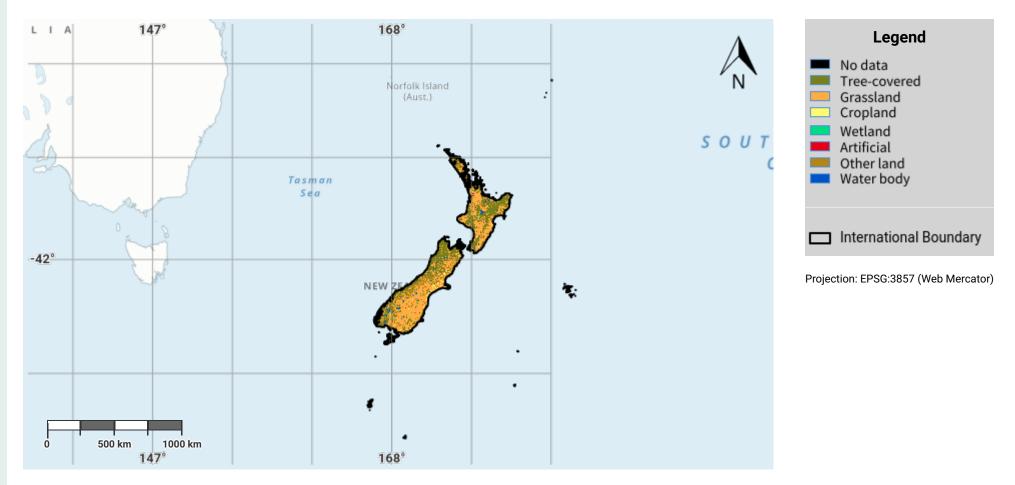


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- United Nations Clear Map, United Nations Geospatial.
- The Land Cover (2000) data displayed on this map was provided by the Government of New Zealand.

## New Zealand - SO1-1.M2 Land cover in the baseline year

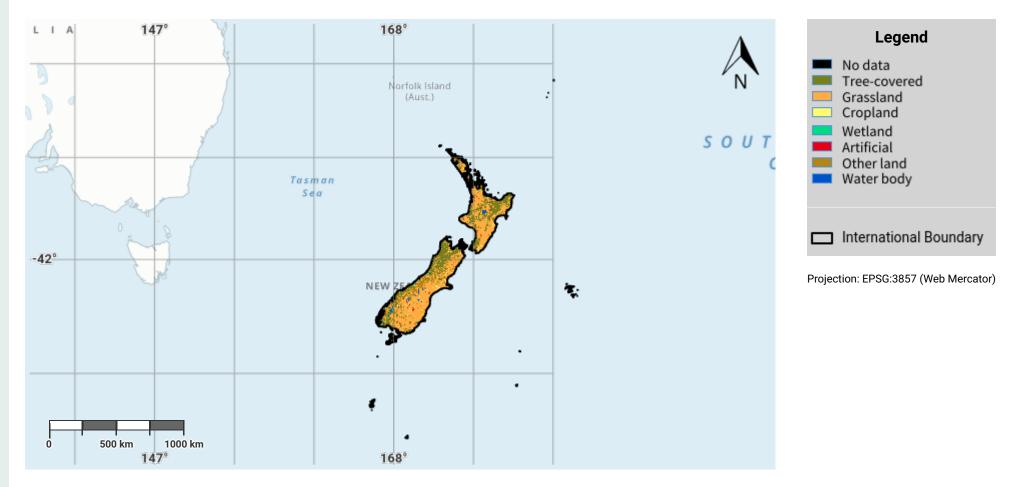


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- The Land Cover (2015) data displayed on this map was provided by the Government of New Zealand.

# New Zealand - SO1-1.M3 Land cover in the latest reporting year

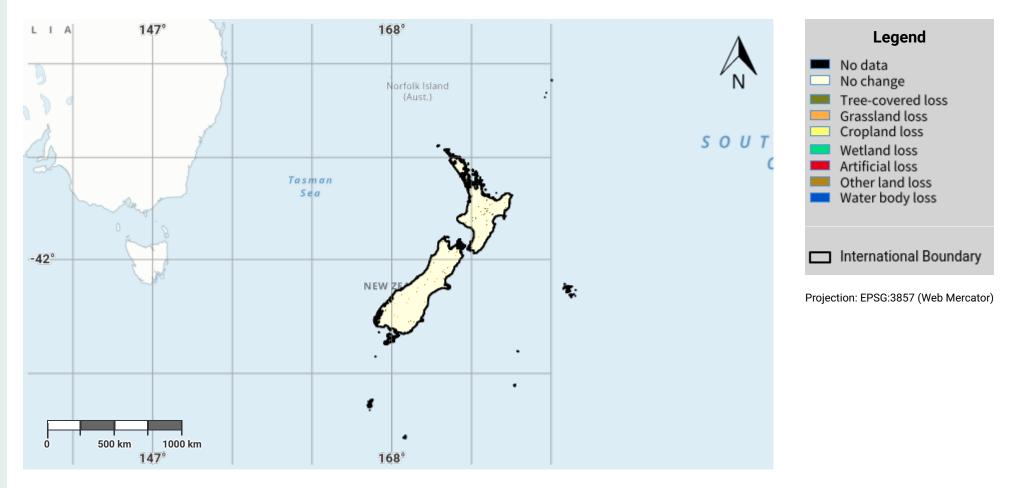


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- United Nations Clear Map, United Nations Geospatial.
- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

## New Zealand – SO1-1.M4 Land cover change in the baseline period

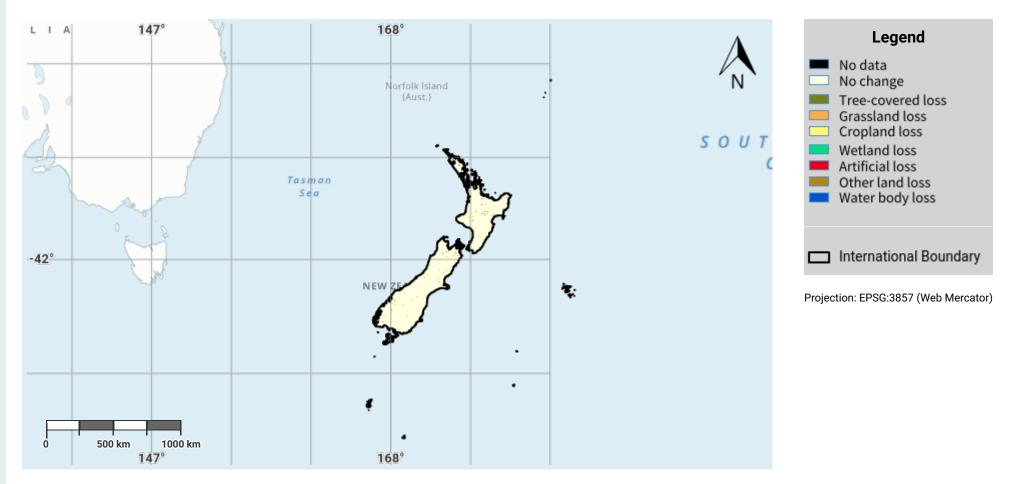


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- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

## New Zealand – SO1-1.M5 Land cover change in the reporting period

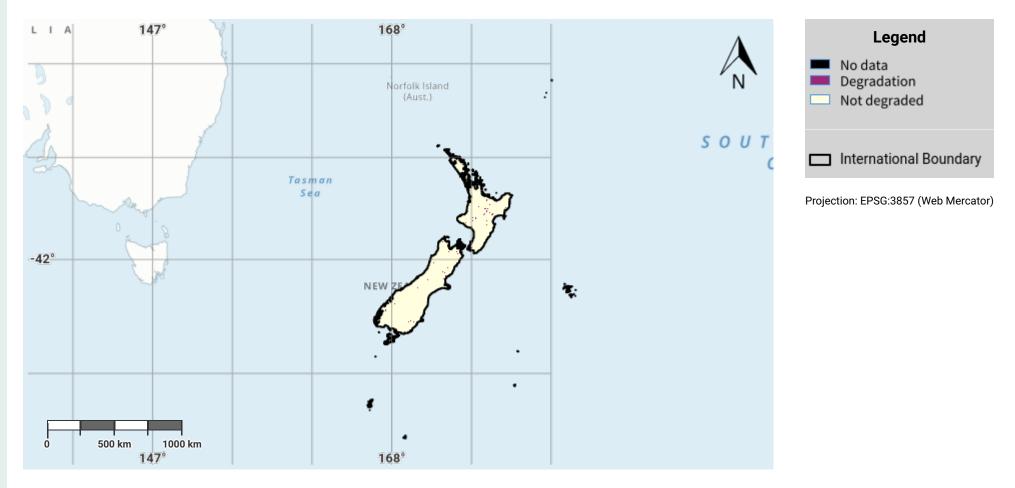


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## New Zealand – SO1-1.M6 Land cover degradation in the baseline period

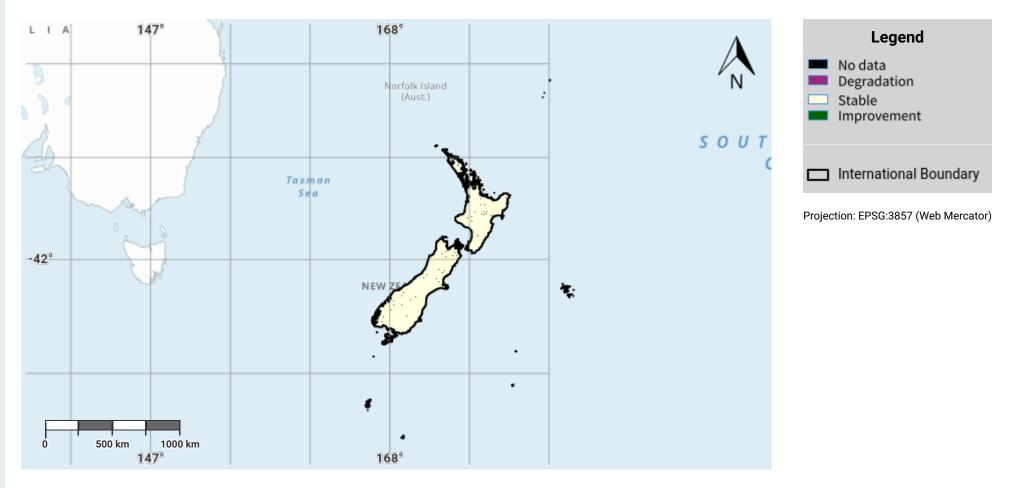


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- United Nations Clear Map, United Nations Geospatial.
- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

# New Zealand – SO1-1.M7 Land cover degradation in the reporting period

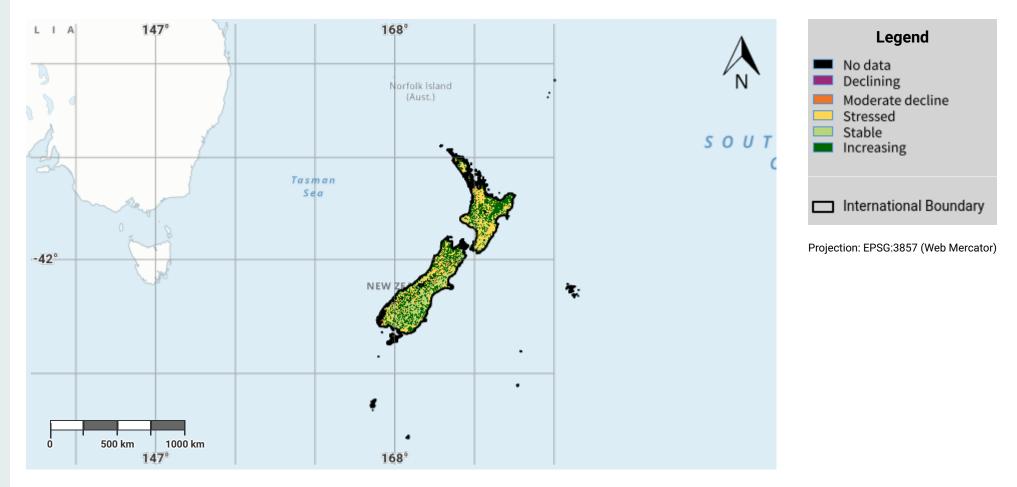


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- United Nations Clear Map, United Nations Geospatial.
- European Space Agency Climate Change Initiative Land Cover (ESA CCI-LC) product, 1992-2019. URL: https://www.esa-landcover-cci.org/

## New Zealand – S01-2.M1 Land productivity dynamics in the baseline period

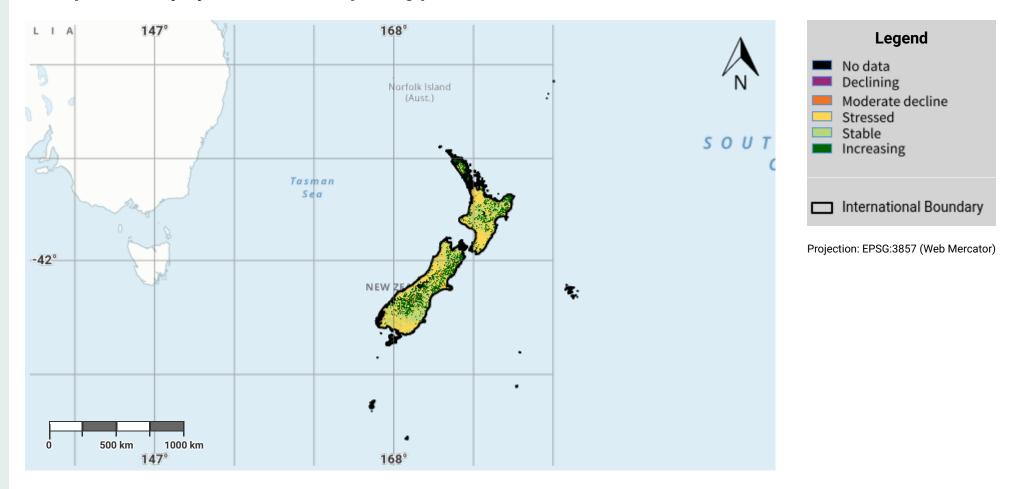


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- United Nations Clear Map, United Nations Geospatial.
- EC-JRC, 2021, based on Xavier Rotllan-Puig, Eva Ivits, Michael Cherlet, LPDynR: A new tool to calculate the land productivity dynamics indicator, Ecological Indicators, Volume 133, 2021, 108386,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

## New Zealand - S01-2.M2 Land productivity dynamics in the reporting period

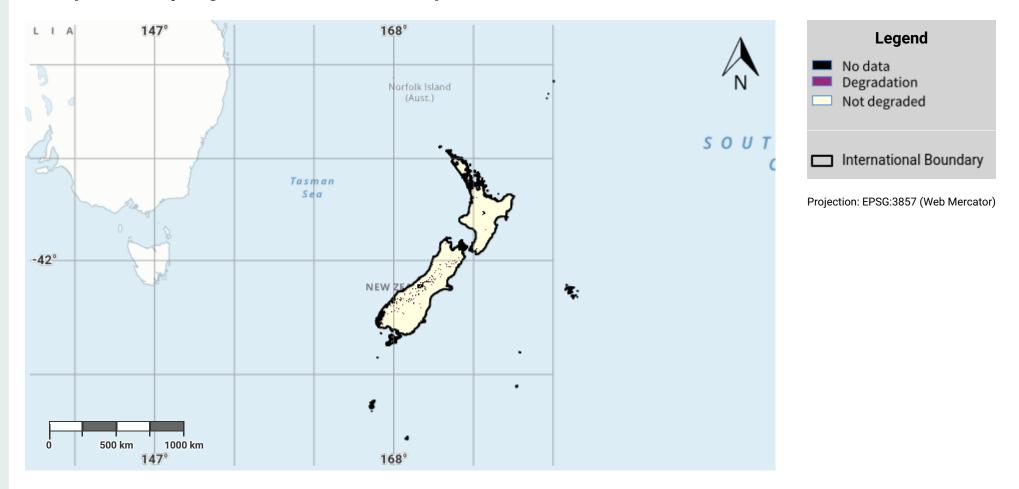


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# New Zealand – SO1-2.M3 Land productivity degradation in the baseline period

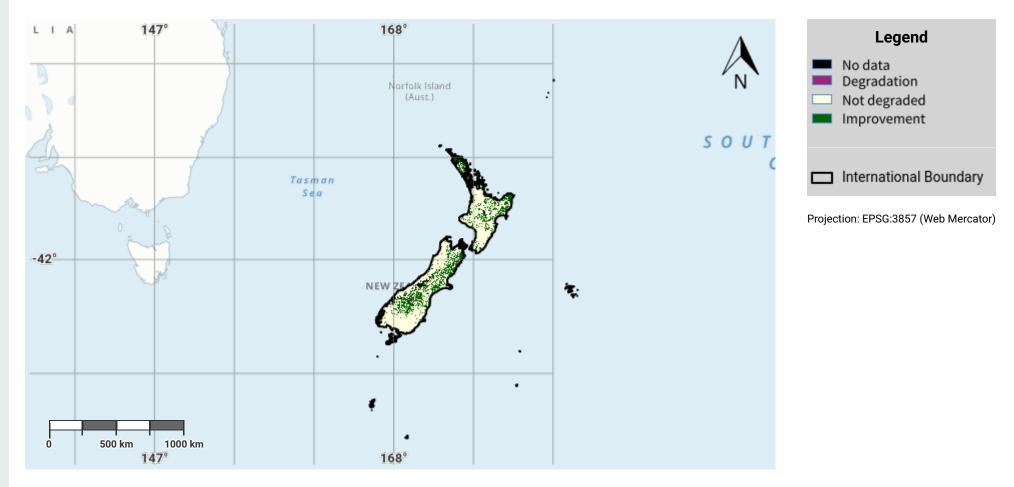


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- United Nations Clear Map, United Nations Geospatial.
- EC-JRC, 2021, based on Xavier Rotllan-Puig, Eva Ivits, Michael Cherlet, LPDynR: A new tool to calculate the land productivity dynamics indicator, Ecological Indicators, Volume 133, 2021, 108386,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

## New Zealand – SO1-2.M4 Land productivity degradation in the reporting period

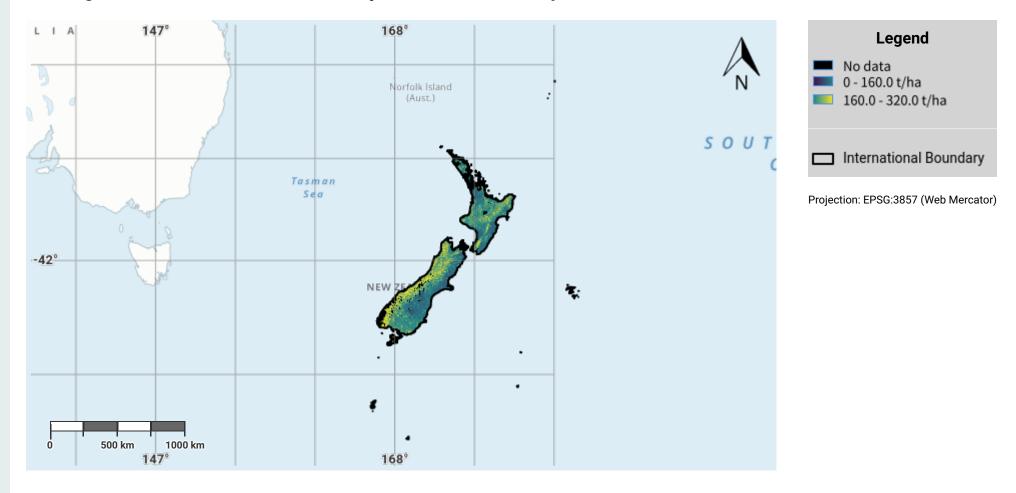


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# New Zealand – SO1-3.M1 Soil organic carbon stock in the initial year of the baseline period

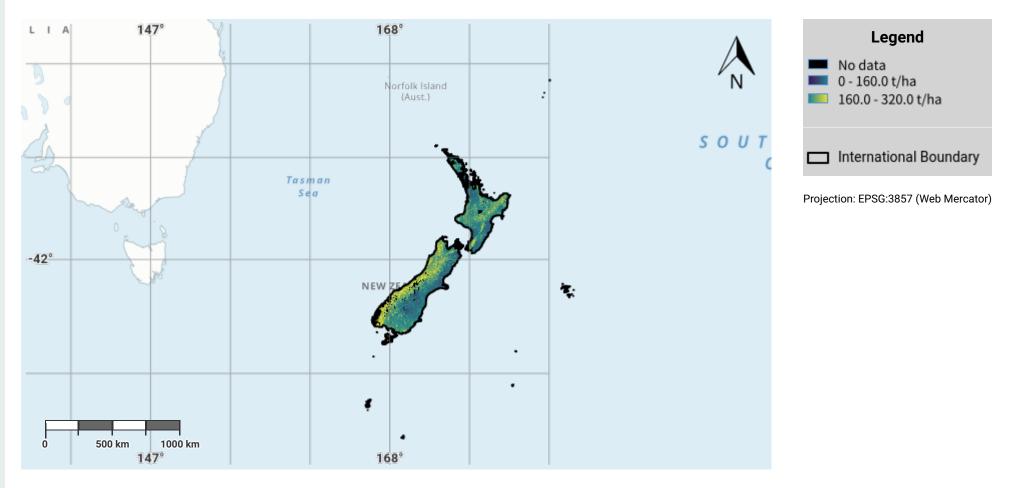


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- United Nations Clear Map, United Nations Geospatial.
- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

## New Zealand - S01-3.M2 Soil organic carbon stock in the baseline year

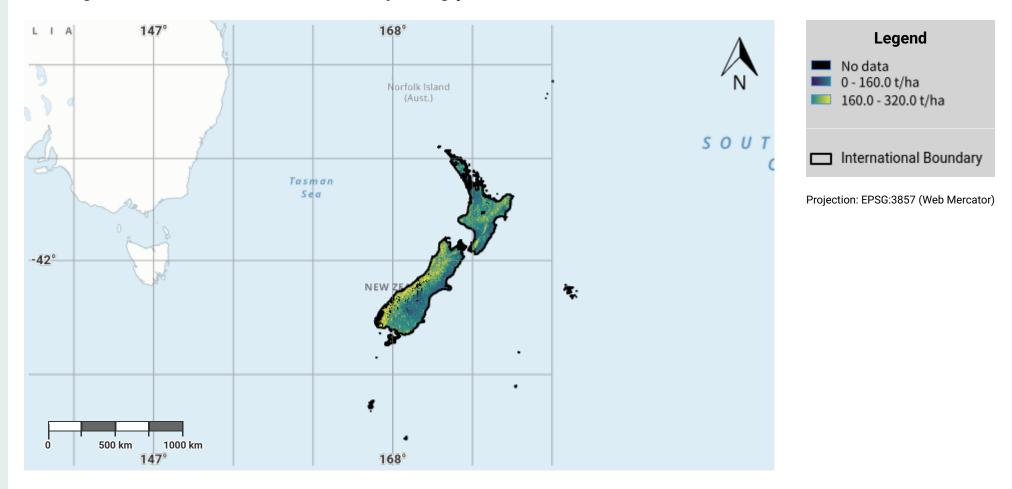


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- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

# New Zealand - S01-3.M3 Soil organic carbon stock in the latest reporting year

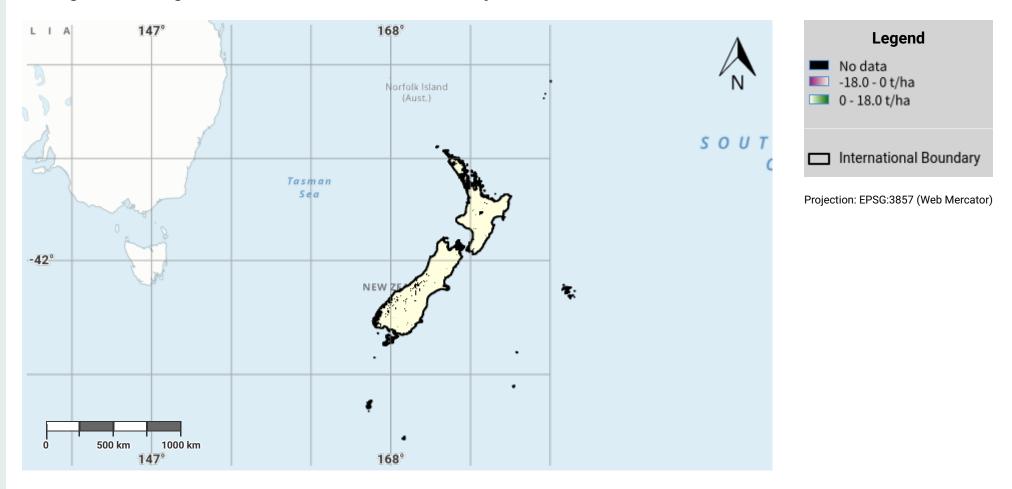


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# New Zealand – SO1-3.M4 Change in soil organic carbon stock in the baseline period

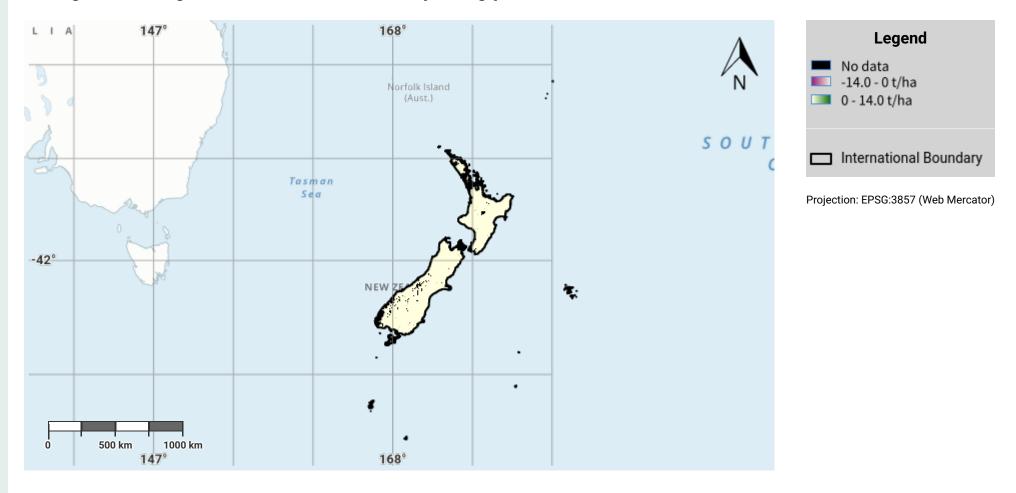


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## New Zealand – SO1-3.M5 Change in soil organic carbon stock in the reporting period

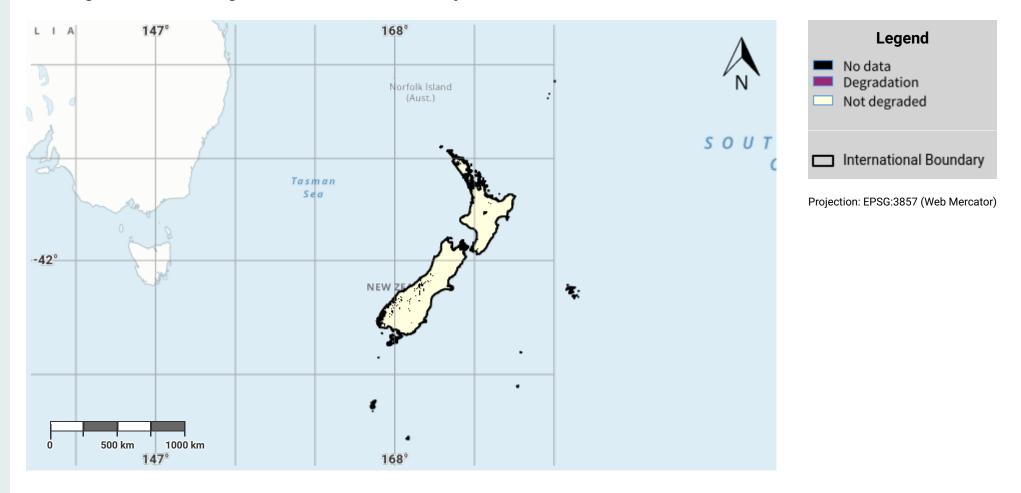


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## New Zealand - S01-3.M6 Soil organic carbon degradation in the baseline period

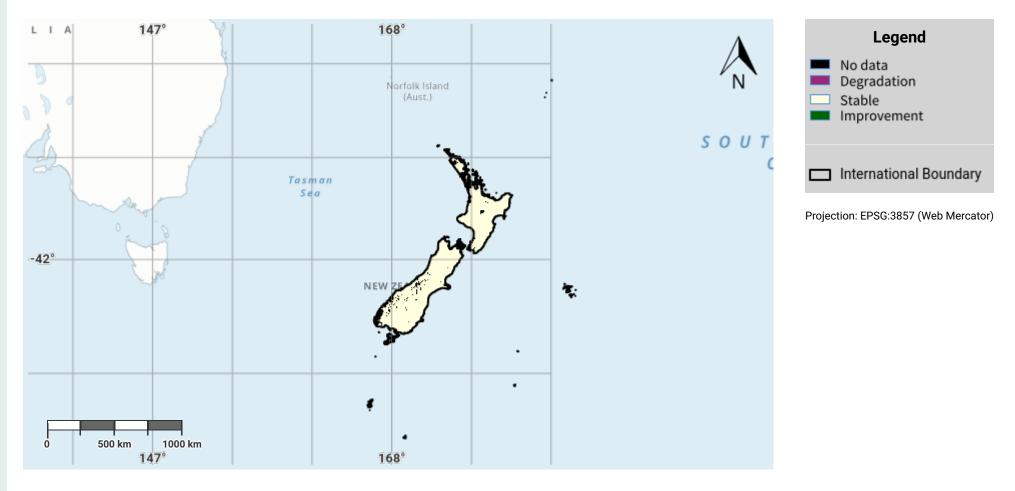


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## New Zealand – SO1-3.M7 Soil organic carbon degradation in the reporting period

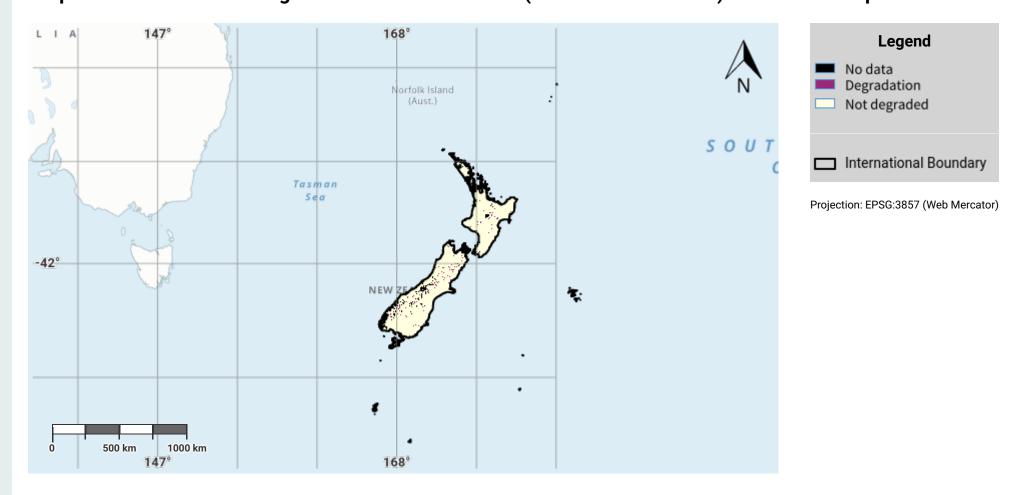


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- International Soil Reference and Information Centre (ISRIC) SoilGrids250m dataset. URL: https://www.isric.org/explore/soilgrids

## New Zealand – S01-4.M1 Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the baseline period

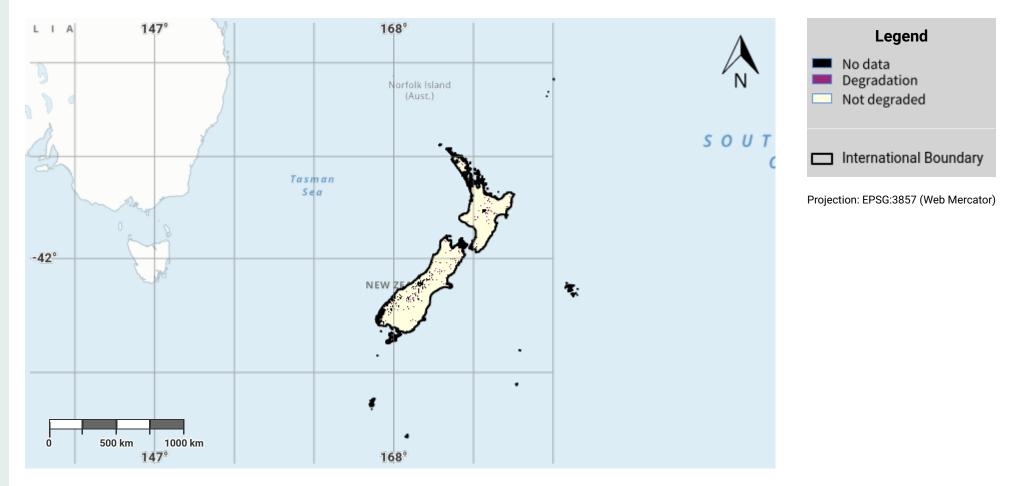


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- United Nations Clear Map, United Nations Geospatial.
- Derived based on the methodology in the Good Practice Guidance Version 2 for Sustainable Development Goal (SDG) indicator 15.3.1 Proportion of land that is degraded over total land area. URL: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

# New Zealand – S01-4.M2 Proportion of land that is degraded over total land area (SDG Indicator 15.3.1) in the reporting period

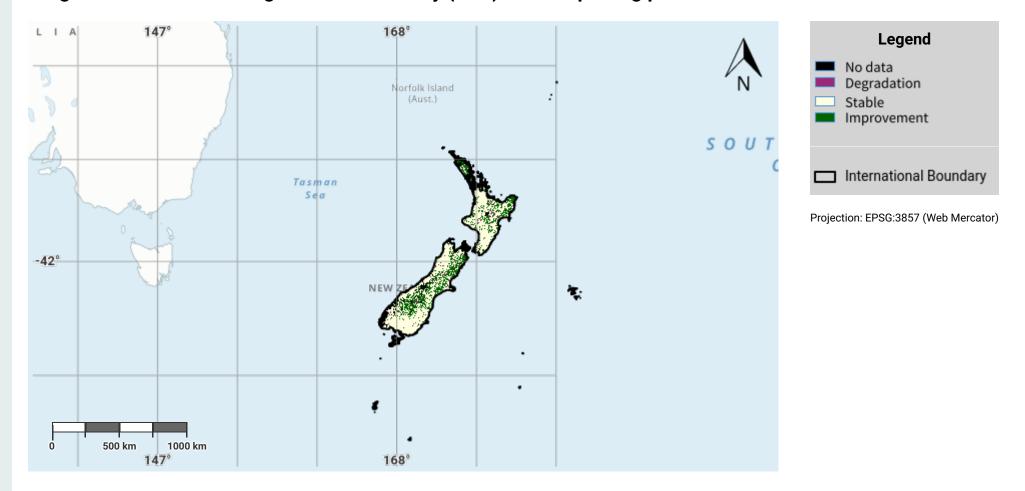


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# New Zealand – SO1-4.M3 Progress towards Land Degradation Neutrality (LDN) in the reporting period

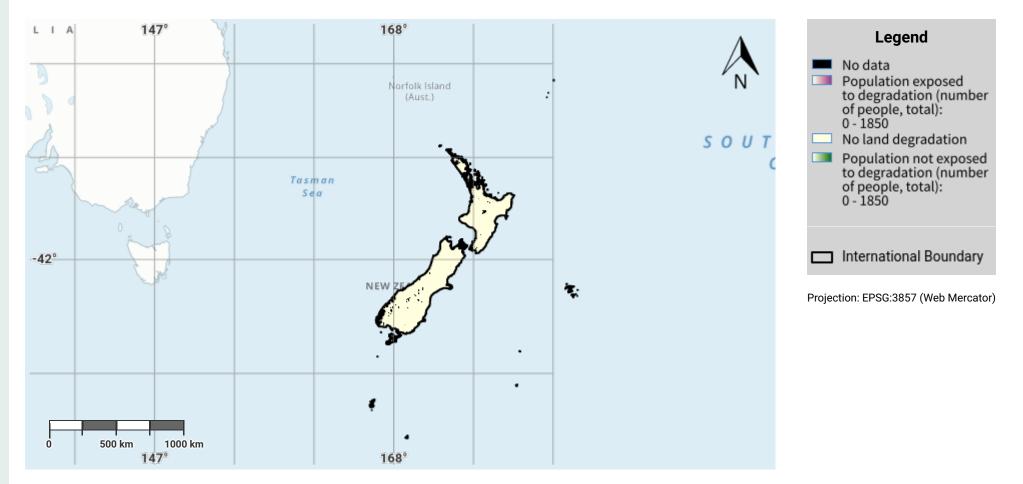


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# New Zealand - SO2-3.M1 Total Population exposed to land degradation (baseline)

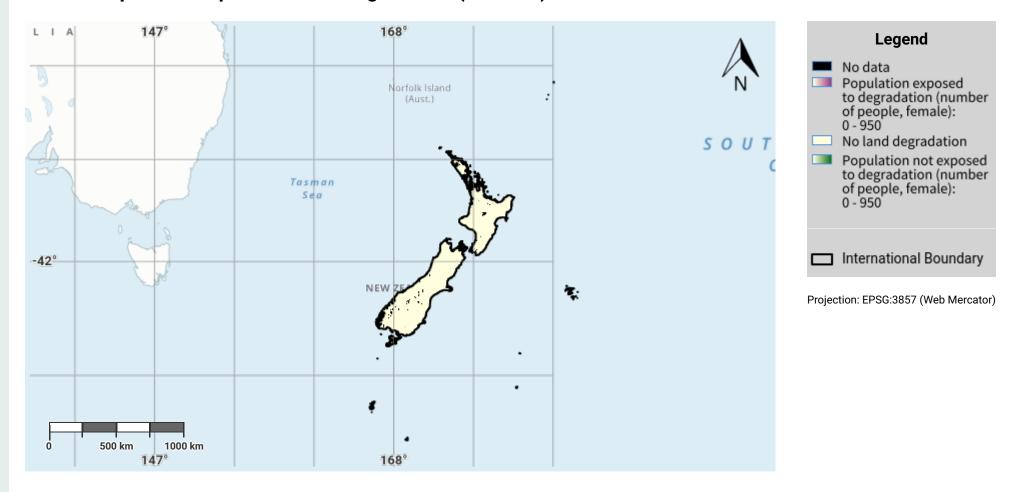


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- United Nations Clear Map, United Nations Geospatial.
- WorldPop project URL: https://www.worldpop.org

# New Zealand - SO2-3.M2 Female Population exposed to land degradation (baseline)

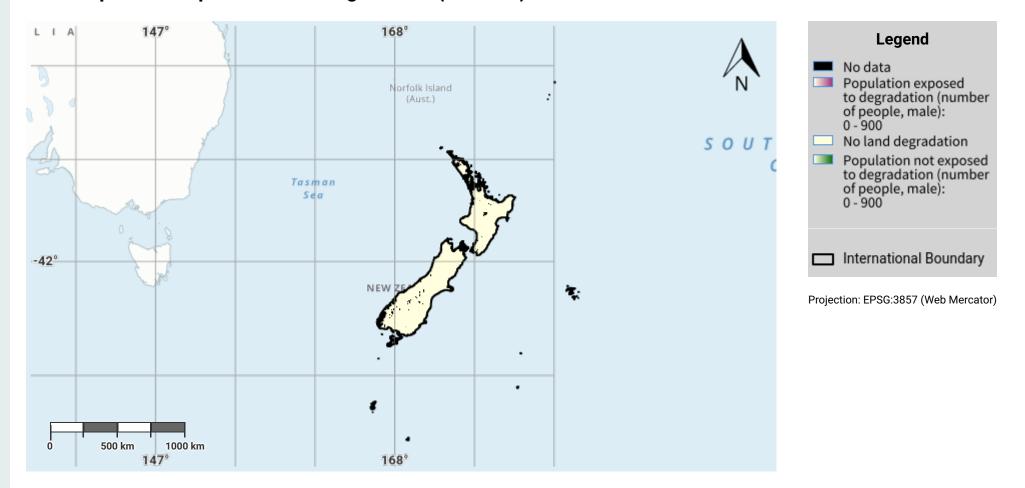


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- United Nations Clear Map, United Nations Geospatial.
- WorldPop project URL: https://www.worldpop.org

# New Zealand - SO2-3.M3 Male Population exposed to land degradation (baseline)

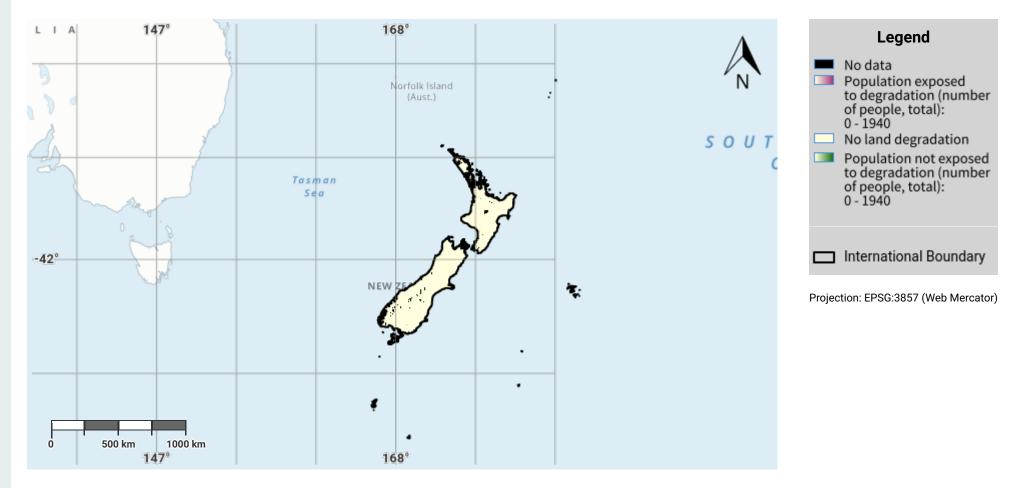


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- United Nations Clear Map, United Nations Geospatial.
- WorldPop project URL: https://www.worldpop.org

# New Zealand - SO2-3.M4 Total Population exposed to land degradation (reporting)

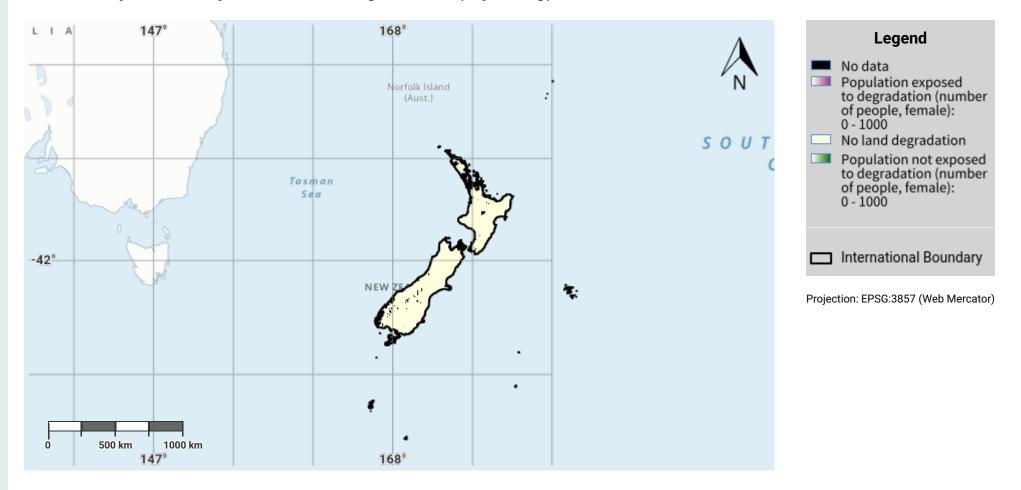


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- United Nations Clear Map, United Nations Geospatial.
- WorldPop project URL: https://www.worldpop.org

# New Zealand - SO2-3.M5 Female Population exposed to land degradation (reporting)

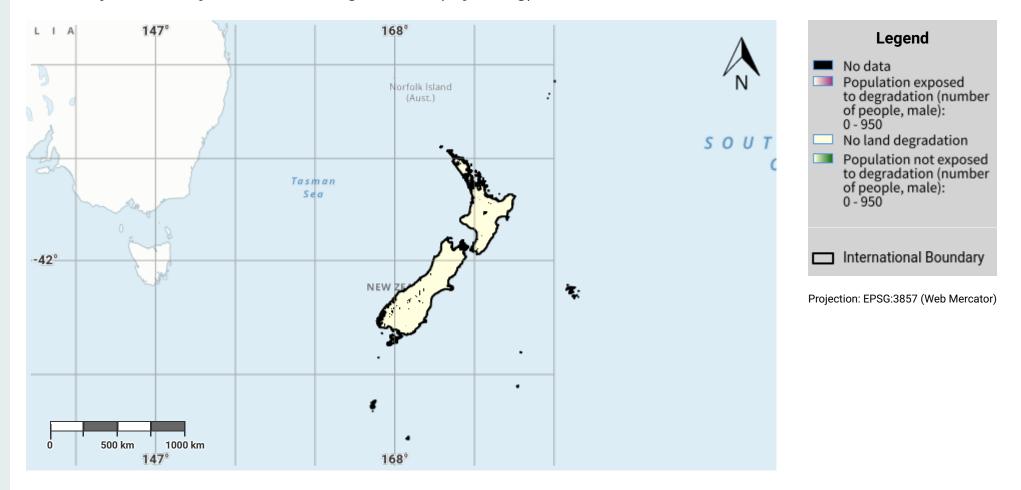


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- United Nations Clear Map, United Nations Geospatial.
- WorldPop project URL: https://www.worldpop.org

# New Zealand - SO2-3.M6 Male Population exposed to land degradation (reporting)

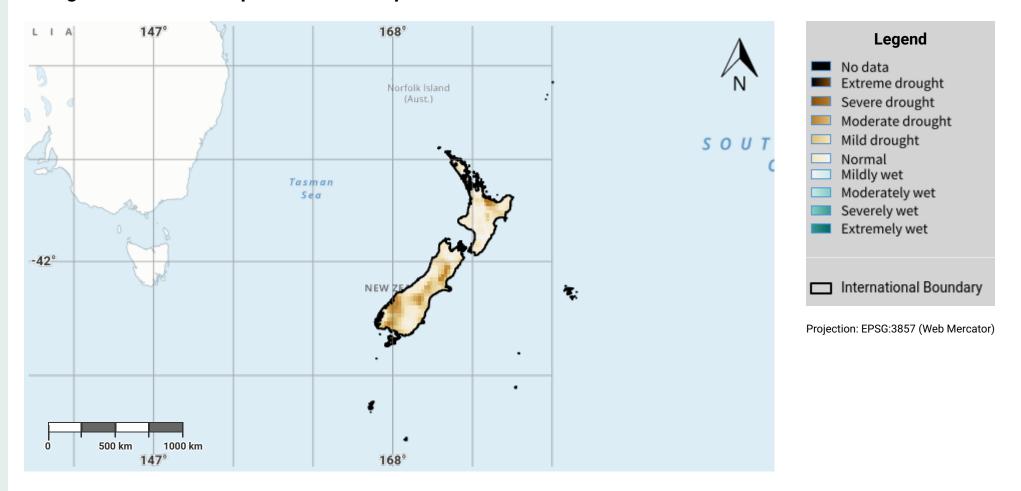


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- WorldPop project URL: https://www.worldpop.org

# New Zealand – SO3-1.M1 Drought hazard in first epoch of baseline period

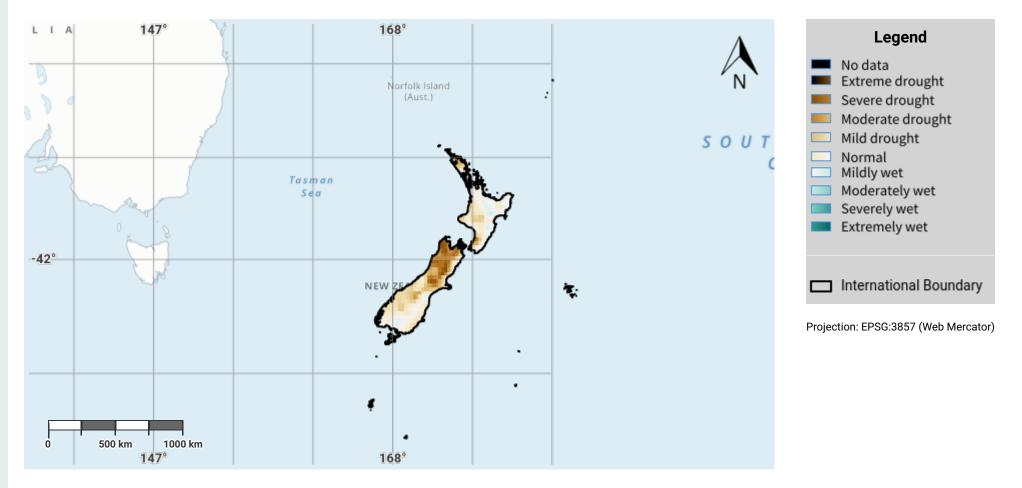


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- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982-present. URL: https://opendata.dwd.de/climate\_environment/GPCC/html/gpcc\_monitoring\_v6\_doi\_download.html

# New Zealand – SO3-1.M2 Drought hazard in second epoch of baseline period

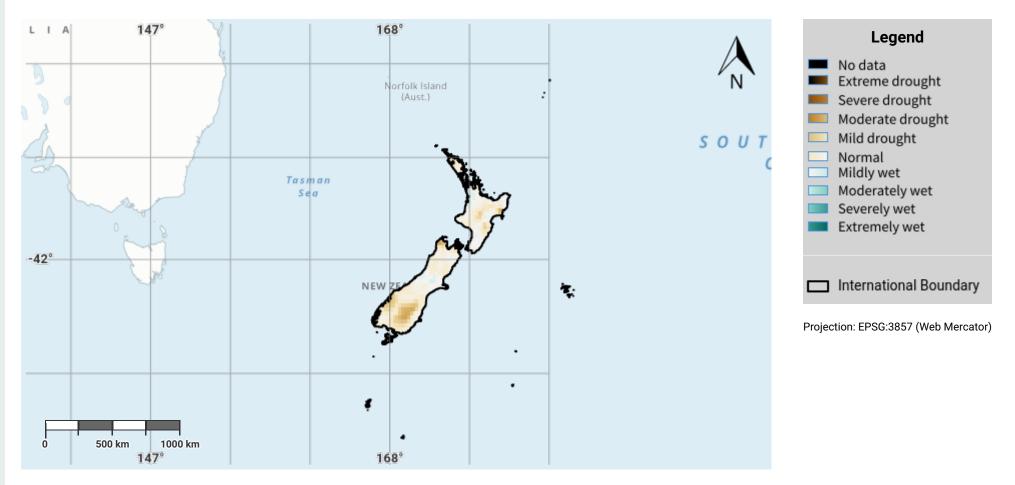


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# New Zealand - SO3-1.M3 Drought hazard in third epoch of baseline period

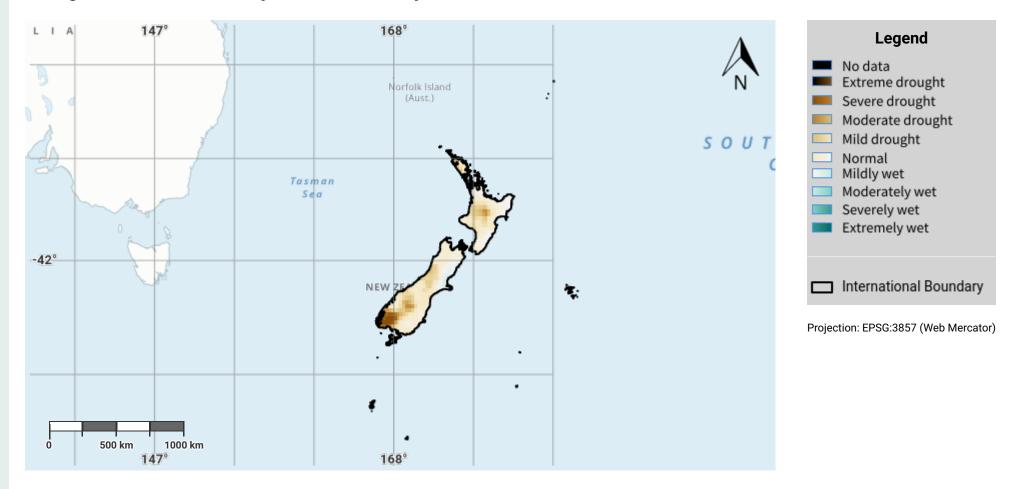


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# New Zealand – SO3-1.M4 Drought hazard in fourth epoch of baseline period

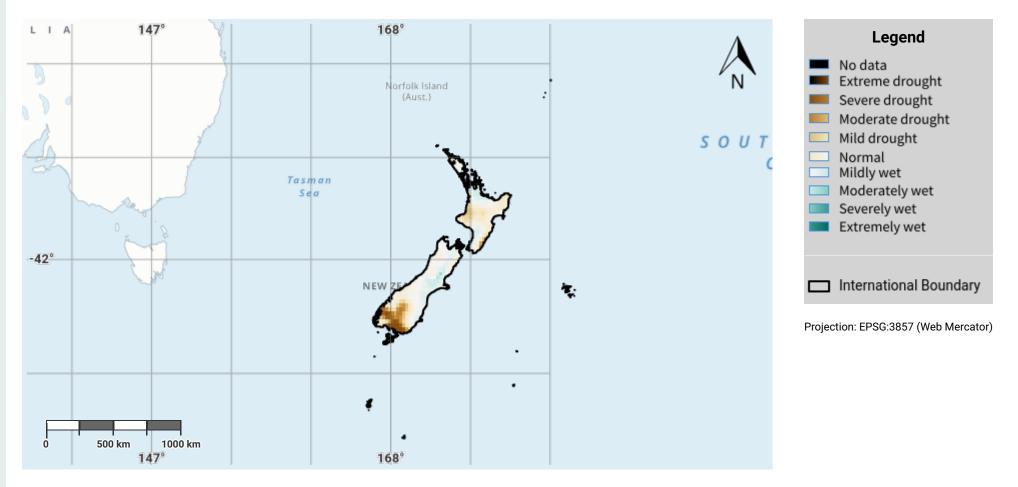


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# New Zealand - SO3-1.M5 Drought hazard in the reporting period

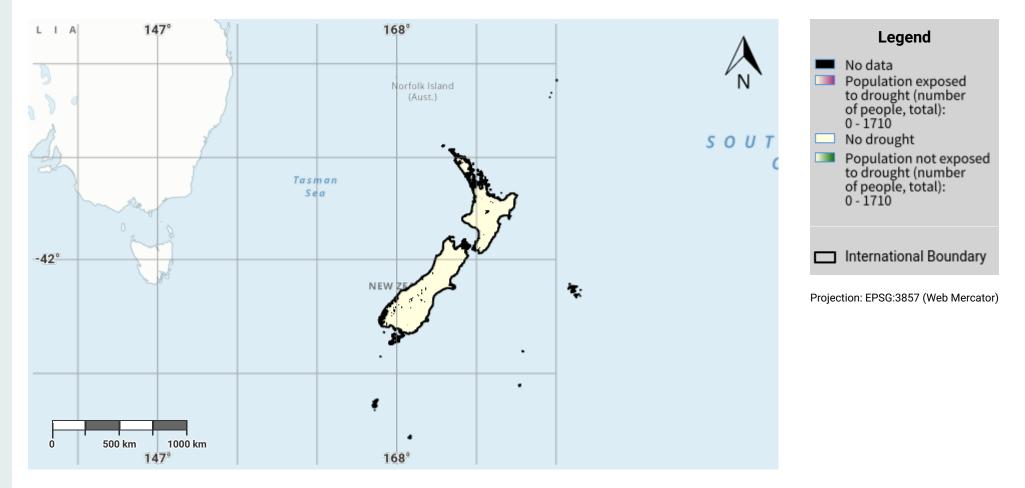


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# New Zealand – SO3-2.M1 Drought exposure in first epoch of baseline period

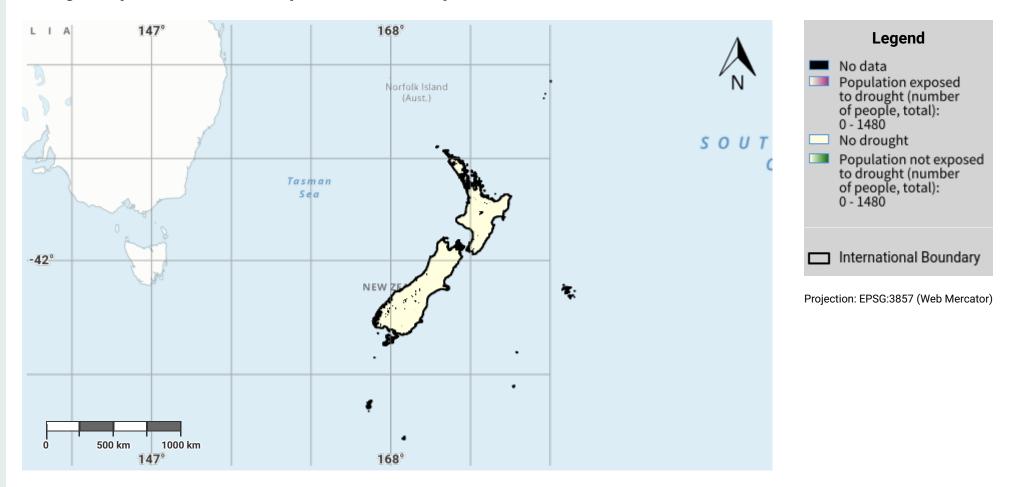


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# New Zealand – SO3-2.M2 Drought exposure in second epoch of baseline period

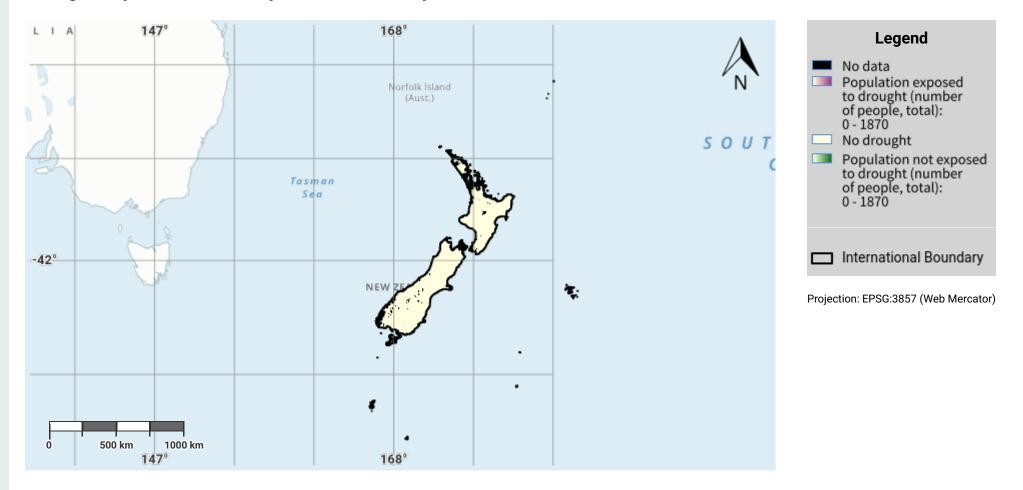


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# New Zealand - SO3-2.M3 Drought exposure in third epoch of baseline period

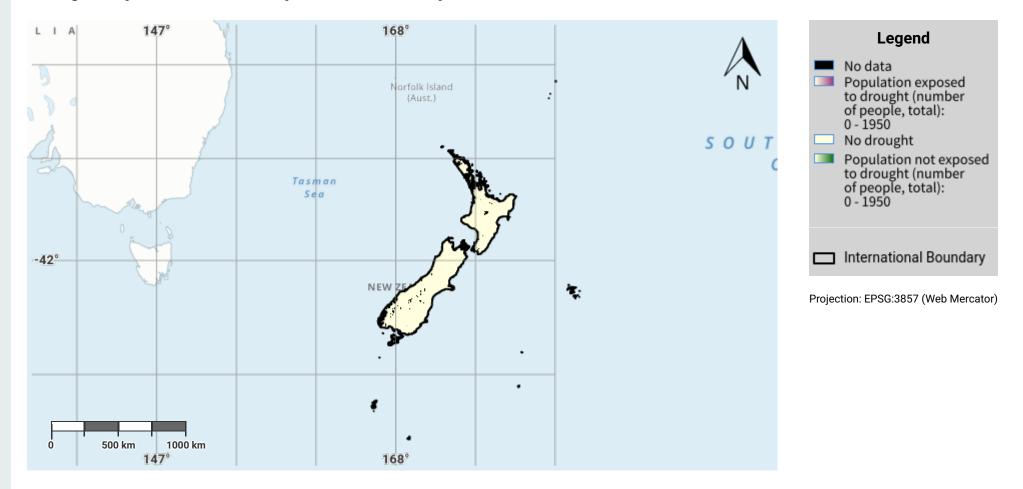


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# New Zealand – SO3-2.M4 Drought exposure in fourth epoch of baseline period

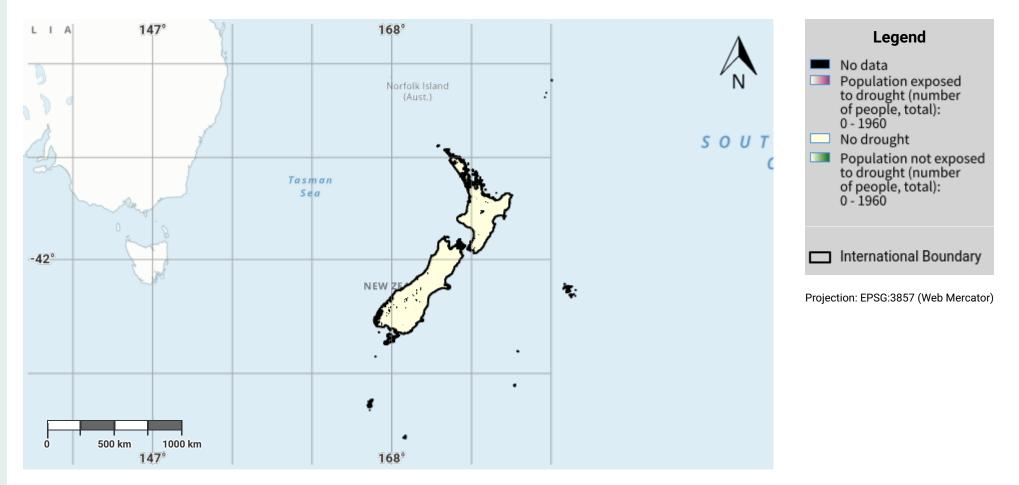


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# New Zealand - SO3-2.M5 Drought exposure in the reporting period

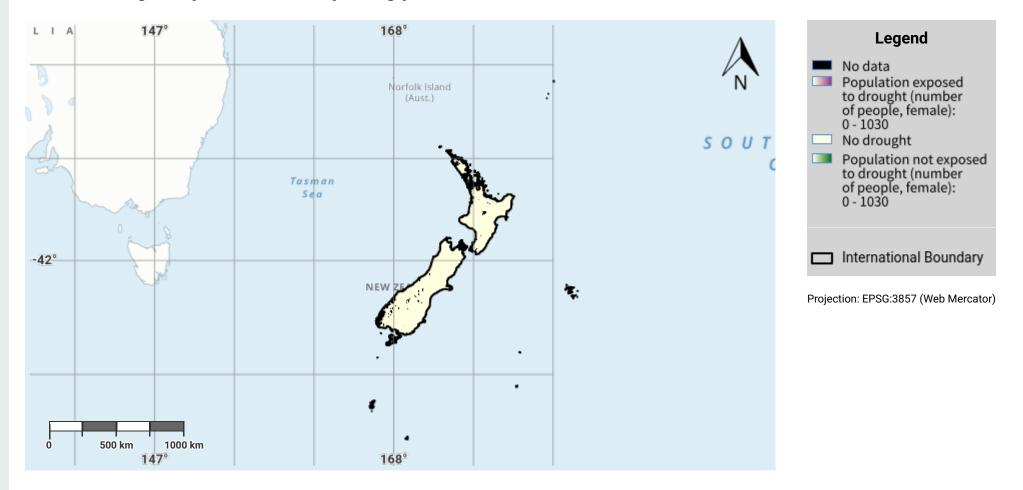


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# New Zealand – SO3-2.M6 Female drought exposure in the reporting period

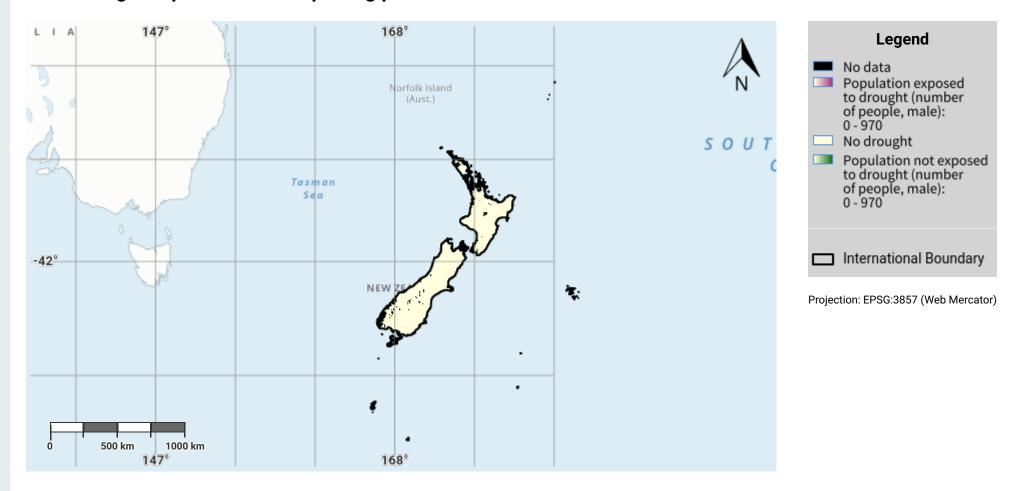


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- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982-present. URL: https://opendata.dwd.de/climate\_environment/GPCC/html/gpcc\_monitoring\_v6\_doi\_download.html

# New Zealand – SO3-2.M7 Male drought exposure in the reporting period



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- Global Precipitation Climatology Centre (GPCC) monthly precipitation products,1982-present. URL: https://opendata.dwd.de/climate\_environment/GPCC/html/gpcc\_monitoring\_v6\_doi\_download.html