

# Supplementary Materials: Land Degradation States and Trends in North-Western Maghreb Drylands, 1998–2008

Gabriel del Barrio, Maria E. Sanjuan, Azziz Hirche, Mohamed Yassin, Alberto Ruiz, Mohamed Ouessar, Jaime Martinez Valderrama, Bouajila Essifi and Juan Puigdefabregas

**Table S1.** Parameters of the boundary functions fitted to the 1st and 99th percentiles of the observed RUE scatterplot vs. aridity.  $RUE_{EXP\_me}$ : mean expected RUE;  $RUE_{EXP\_ex}$ : extreme expected RUE;  $AI_{OBS\_me}$ : observed mean aridity index;  $AI_{OBS\_ex}$ : observed aridity index computed for the six-month period preceding the month of maximum vegetation density.

		Model	R <sup>2</sup>	p
<b>Wet-Semiarid</b>	1%	$RUE_{EXP\_me} = -0.0174 + 0.1269 \times \ln(AI_{OBS\_me})$	0.956	<0.0001
	99%	$RUE_{EXP\_me} = 0.2527 + 0.1551 \times \ln(AI_{OBS\_me})$	0.885	<0.0001
	1%	$RUE_{EXP\_ex} = 0.1595 + 0.3660 \times AI_{OBS\_ex}$	0.825	<0.0001
	99%	$RUE_{EXP\_ex} = 0.1216 + 0.4864 \times AI_{OBS\_ex}$	0.950	<0.0001
<b>Arid</b>	1%	$RUE_{EXP\_me} = 0.760 + 0.0221 \times AI_{OBS\_me}$	0.999	<0.0001
	99%	$RUE_{EXP\_me} = 0.3013 + 0.0322 \times AI_{OBS\_me}$	0.914	<0.0001
	1%	$RUE_{EXP\_ex} = 0.2518 + 0.0317 \times AI_{OBS\_ex}$	0.972	<0.0001
	99%	$RUE_{EXP\_ex} = 0.7228 + 0.1285 \times AI_{OBS\_ex}$	0.956	<0.0001

**Table S2.** Land condition states and trends in NW Maghreb drylands (1998–2008). Total area (km<sup>2</sup>, %) by land states (bold) and, within states, by land trends (italics).

	Morocco		Algeria		Tunisia		TOTAL	
	km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%
<b>Total drylands</b>	<b>385,308</b>	<b>100.00</b>	<b>567,481</b>	<b>100.00</b>	<b>144,174</b>	<b>100.00</b>	<b>1,096,963</b>	<b>100.00</b>
<b><i>Underperform. anomalies</i></b>	<b>1806</b>	<b>0.47</b>	<b>1062</b>	<b>0.19</b>	<b>583</b>	<b>0.40</b>	<b>3451</b>	<b>0.31</b>
<i>Degrading</i>	32	0.01	40	0.01	201	0.14	273	0.02
<i>Fluctuating</i>	90	0.02	272	0.05	38	0.03	400	0.04
<i>Increasing</i>	719	0.19	67	0.01	55	0.04	841	0.08
<i>Static</i>	965	0.25	683	0.12	289	0.20	1937	0.18
<b><i>Baseline performance</i></b>	<b>5645</b>	<b>1.47</b>	<b>2093</b>	<b>0.37</b>	<b>1392</b>	<b>0.97</b>	<b>9130</b>	<b>0.83</b>
<i>Degrading</i>	72	0.02	6	0.00	27	0.02	105	0.01
<i>Fluctuating</i>	120	0.03	748	0.13	138	0.10	1006	0.09
<i>Increasing</i>	2699	0.70	196	0.03	330	0.23	3225	0.29
<i>Static</i>	2754	0.71	1143	0.20	897	0.62	4794	0.44
<b><i>Very degraded</i></b>	<b>59,953</b>	<b>15.56</b>	<b>58,843</b>	<b>10.37</b>	<b>6802</b>	<b>4.72</b>	<b>125,598</b>	<b>11.45</b>
<i>Degrading</i>	115	0.03	54	0.01	89	0.06	258	0.02
<i>Fluctuating</i>	3009	0.78	19,284	3.40	1058	0.73	23,351	2.13
<i>Increasing</i>	22,518	5.84	10,500	1.85	474	0.33	33,492	3.05
<i>Static</i>	34,311	8.90	29,005	5.11	5181	3.59	68,497	6.24
<b><i>Degraded</i></b>	<b>38,660</b>	<b>10.03</b>	<b>53,504</b>	<b>9.43</b>	<b>10,308</b>	<b>7.15</b>	<b>102,472</b>	<b>9.34</b>
<i>Degrading</i>	34	0.01	12	0.00	9	0.01	55	0.01
<i>Fluctuating</i>	1,301	0.34	4,456	0.79	396	0.27	6153	0.56
<i>Increasing</i>	22,483	5.84	17,679	3.12	471	0.33	40,633	3.70
<i>Static</i>	14,842	3.85	31,357	5.53	9432	6.54	55,631	5.07
<b><i>Productive (low biomass)</i></b>	<b>65,127</b>	<b>16.90</b>	<b>162,651</b>	<b>28.66</b>	<b>34,040</b>	<b>23.61</b>	<b>261,818</b>	<b>23.87</b>
<i>Degrading</i>	321	0.08	372	0.07	56	0.04	749	0.07
<i>Fluctuating</i>	6674	1.73	16,205	2.86	6248	4.33	29,127	2.66
<i>Increasing</i>	16,904	4.39	34,086	6.01	1427	0.99	52,417	4.78
<i>Static</i>	41,228	10.70	111,988	19.73	26,309	18.25	179,525	16.37

Table S2. Cont.

	Morocco		Algeria		Tunisia		TOTAL	
	km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%
<b>Productive (high biomass)</b>	<b>62,803</b>	<b>16.30</b>	<b>103,320</b>	<b>18.21</b>	<b>26,939</b>	<b>18.69</b>	<b>193,062</b>	<b>17.60</b>
<i>Degrading</i>	1198	0.31	386	0.07	36	0.02	1620	0.15
<i>Fluctuating</i>	12,880	3.34	8689	1.53	5219	3.62	26,788	2.44
<i>Increasing</i>	3139	0.81	22,637	3.99	2928	2.03	28,704	2.62
<i>Static</i>	45,586	11.83	71,608	12.62	18,756	13.01	135,950	12.39
<b>Submature</b>	<b>64,152</b>	<b>16.65</b>	<b>124,885</b>	<b>22.01</b>	<b>42,151</b>	<b>29.24</b>	<b>231,188</b>	<b>21.08</b>
<i>Degrading</i>	1332	0.35	164	0.03	69	0.05	1565	0.14
<i>Fluctuating</i>	5526	1.43	5077	0.89	6403	4.44	17,006	1.55
<i>Increasing</i>	20,287	5.27	43,210	7.61	3715	2.58	67,212	6.13
<i>Static</i>	37,007	9.60	76,434	13.47	31,964	22.17	145,405	13.26
<b>Mature</b>	<b>48,296</b>	<b>12.53</b>	<b>39,452</b>	<b>6.95</b>	<b>12,296</b>	<b>8.53</b>	<b>100,044</b>	<b>9.12</b>
<i>Degrading</i>	813	0.21	157	0.03	25	0.02	995	0.09
<i>Fluctuating</i>	4361	1.13	2566	0.45	1701	1.18	8628	0.79
<i>Increasing</i>	11,245	2.92	13,235	2.33	2125	1.47	26,605	2.43
<i>Static</i>	31,877	8.27	23,494	4.14	8445	5.86	63,816	5.82
<b>Reference performance</b>	<b>28,022</b>	<b>7.27</b>	<b>7938</b>	<b>1.40</b>	<b>1936</b>	<b>1.34</b>	<b>37,896</b>	<b>3.45</b>
<i>Degrading</i>	781	0.20	109	0.02	8	0.01	898	0.08
<i>Fluctuating</i>	1208	0.31	1544	0.27	545	0.38	3297	0.30
<i>Increasing</i>	1736	0.45	2487	0.44	497	0.34	4720	0.43
<i>Static</i>	24,297	6.31	3798	0.67	886	0.61	28,981	2.64
<b>Overperforming anomalies</b>	<b>8951</b>	<b>2.32</b>	<b>860</b>	<b>0.15</b>	<b>200</b>	<b>0.14</b>	<b>10,011</b>	<b>0.91</b>
<i>Degrading</i>	692	0.18	1	0.00	7	0.00	700	0.06
<i>Fluctuating</i>	331	0.09	190	0.03	18	0.01	539	0.05
<i>Increasing</i>	682	0.18	427	0.08	75	0.05	1184	0.11
<i>Static</i>	7246	1.88	242	0.04	100	0.07	7588	0.69
<b>no data</b>	<b>1893</b>	<b>0.49</b>	<b>12,873</b>	<b>2.27</b>	<b>7527</b>	<b>5.22</b>	<b>22,293</b>	<b>2.03</b>



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