

Figure S1. Monthly rainfall predicted at the Bezirk Dam weather station for each of the six selected scenarios for (a) RCP 4.5 and (b) RCP 8.5.

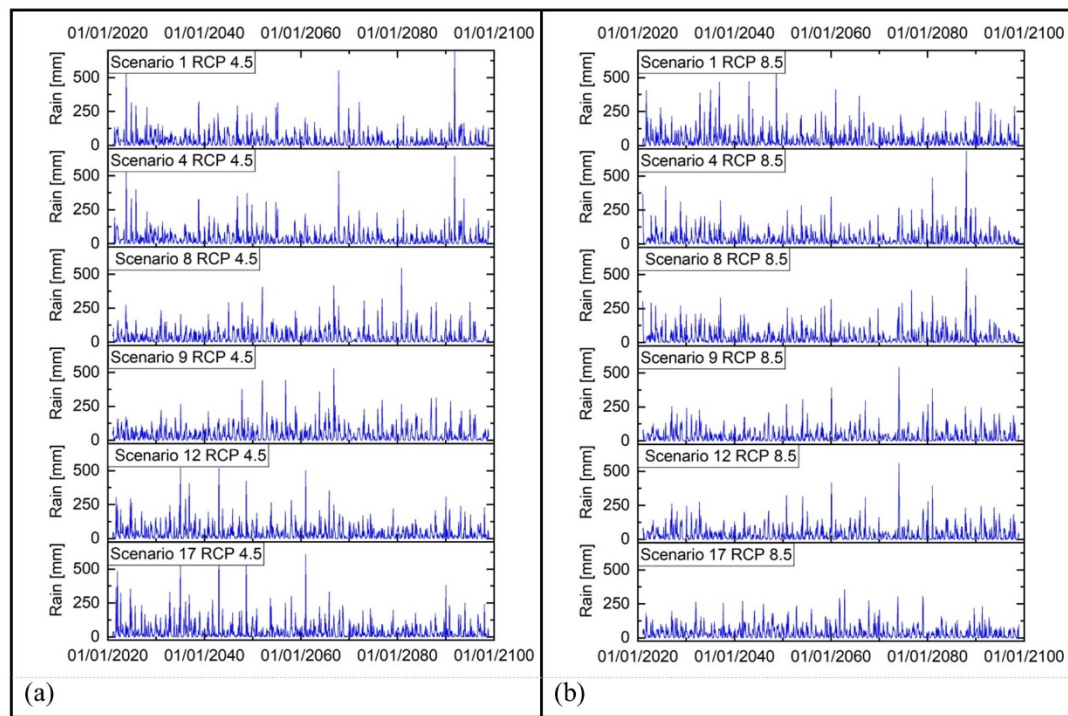


Figure S2. Monthly rainfall predicted at the Ben Khalled Ferme Latifa weather station for each of the six selected scenarios for (a) RCP 4.5 and (b) RCP 8.5.

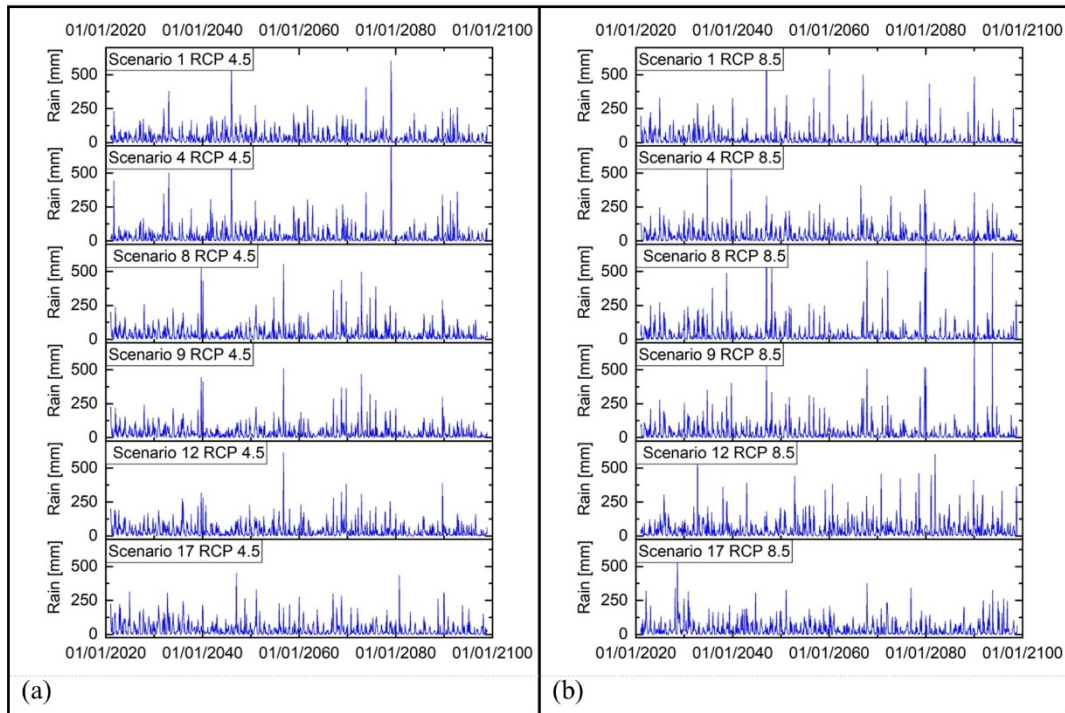


Figure S3. Monthly rainfall predicted at the CTV Bou Argoub weather station for each of the six selected scenarios for (a) RCP 4.5 and (b) RCP 8.5.

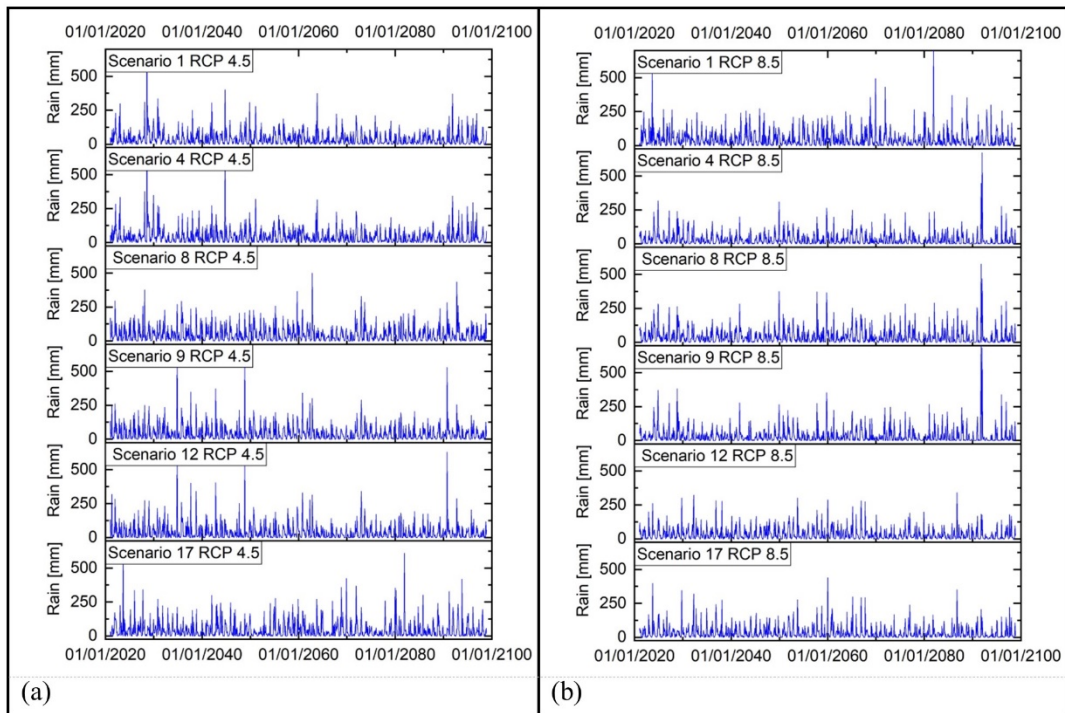


Figure S4. Monthly rainfall predicted at the Grombalia DRE weather station for each of the six selected scenarios for (a) RCP 4.5 and (b) RCP 8.5.

Table S1. Coordinates of the DGRE observation wells, artificial recharge basins, virtual observation points and wadi points. All virtual observation points and wadi points are located in the first (upper) slice of the numerical groundwater model.

Observation Wells (DGRE network)				Virtual Observation Points			Wadi Points		
ID_WEL	(WGS 84 UTM Z32N)		Ground	ID_WEL	(WGS 84 UTM Z32N)		ID_WEL	(WGS 84 UTM Z32N)	
	X	Y	Elevation		X	Y		X	Y
12440	632425	4050984	59	1	638128	4066021	WP1	632100	4063000
2198	632033	4051733	51	2	637530	4064137	WP3	637300	4067000
6922	629976	4053071	61	3	637062	4062344	WP4	634500	4060000
2183	633683	4054255	28	4	636504	4060616	WP5	638700	4067000
2171	633687	4054668	25	5	635556	4067430	WP6	634900	4059000
2551	630582	4059379	12	6	634617	4065326	WP7	639700	4066000
2534	628962	4062043	4	7	634180	4064506	WP8	635300	4057000
1404	634383	4063387	6	8	633585	4063633	WP9	640600	4065000
PZ Marja	637046	4065485	8	9	632844	4063051	WP10	635900	4056000
2008	638834	4043615	70	10	632593	4062958	WP11	635700	4056000
2025	637713	4046315	61	11	629246	4063236	WP12	630200	4055000
11419	640872	4044074	72	12	629021	4063302	WP13	641700	4066000
13474	639663	4044928	63	13	628637	4063395	WP14	639900	4060000
8589	638840	4051514	40	14	638506	4067231	WP15	636600	4055000
8588	638471	4052770	36	15	635424	4059029	WP16	635800	4055000
13397	638270	4053961	35	16	634180	4058473	WP17	643000	4066000
12202	642804	4050072	66	17	631984	4058606	WP18	641200	4060000
13571	642693	4059291	57	18	629365	4058910	WP19	637200	4054000
PZ Beb	643165	4067526	52	19	640279	4065683	WP20	636600	4054000
PZ	640766	4066443	32	20	639565	4063540	WP21	643900	4066000
8844	636847	4048876	44	21	639022	4061331	WP22	642000	4060000
Omar-	639811	4054091	42	22	637554	4057561	WP23	637800	4053000
1142	640627	4053939	48	23	636945	4056952	WP24	636700	4052000
1144	639999	4053899	43	24	635649	4056066	WP25	644900	4065000
8581	636269	4062669	16	25	634418	4055391	WP26	643200	4060000
Salah B.	638368	4058710	29	26	633426	4055285	WP27	637300	4050000
2228	636460	4064907	8	27	632461	4055523	WP28	638600	4051000
2379	638140	4069390	6	28	630847	4055775	WP29	644300	4060000
12134	641588	4059588	51	29	642655	4066213	WP30	637600	4049000
12405	631912	4055350	28	30	641874	4064466	WP31	638800	4049000
12406	636876	4062774	15	31	641054	4061939	WP32	639300	4047000
12961	642812	4057279	56	32	640644	4058884	WP33	640100	4046000
13329	638260	4055999	30	33	639374	4055629	WP34	631100	4057000
13360	642111	4053813	55	34	637972	4054703	WP35	629600	4053000
				35	635736	4053499	WP36	635500	4054000
				36	634969	4052904	WP37	633600	4051000
				37	634082	4051740			
Artificial	(WGS 84 UTM Z32N)		Ground	38	632905	4050920			
Recharge	X Coordinate	Y	Elevation	39	644579	4065199			
Bassin				40	643722	4063527			
Sidi	643856	4057432	75	41	643224	4062321			
El Gobba	642485	4053458	60	42	642843	4060595			
El Gobba	643419	4050435	75	43	643023	4058585			
Bou	639366	4045000	62	44	643637	4056225			
El	638747	4059473	37	45	642219	4053452			
				46	640695	4052531			
				47	637985	4051028			
				48	634916	4048478			
				49	644764	4051160			
				50	643431	4050123			
				51	642319	4049382			
				52	640986	4048642			
				53	639864	4048017			

54	639462	4047816
55	638869	4047467
56	638372	4047234
57	637758	4046853
58	637102	4046419
59	644066	4045668
60	643547	4045350
61	642859	4044863
62	642425	4044588
63	641843	4044112
64	641494	4043847
65	641197	4043657
66	640901	4043466
67	640192	4042958
68	639525	4042471
69	637807	4065097
70	636305	4049460

Table S2. Results of scenarios based on RCP 4.5: time averages of the minimum, mean and maximum values of computed hydraulic heads. OW=observation well.

DGRE OW	Near Future (2021-2040)			Mid Term (2041-2060)			Long Term (2081-2098)		
	Water table level [m]			Water table level [m]			Water table level [m]		
	Average Minimum	Mean	Average Maximum	Average Minimum	Mean	Average Maximum	Average Minimum	Mean	Average Maximum
12440	23.86	24.42	26.93	23.78	23.99	24.25	23.61	23.82	24.14
2198	22.22	22.90	26.54	22.15	22.37	22.64	21.98	22.20	22.53
6922	20.14	20.87	27.88	20.10	20.25	20.46	19.99	20.14	20.38
2183	22.73	23.29	24.89	22.66	23.00	23.44	22.50	22.80	23.33
2171	22.57	23.13	24.68	22.49	22.85	23.34	22.33	22.64	23.22
2551	13.25	13.76	14.51	13.15	13.58	14.02	13.04	13.46	13.94
2534	7.76	8.42	9.49	7.60	8.30	9.15	7.60	8.31	9.27
1404	9.29	9.95	11.03	9.34	10.01	10.83	9.32	9.99	10.92
PZ Marja	6.70	7.90	9.05	7.32	8.12	9.03	7.38	8.17	9.12
2008	33.08	34.93	38.73	31.93	32.58	33.34	30.77	31.17	31.64
2025	35.32	36.19	38.53	34.90	35.19	35.61	34.34	34.58	34.85
11419	32.78	34.75	38.72	31.55	32.24	33.06	30.30	30.76	31.36
13474	34.45	35.74	39.13	33.72	34.15	34.69	32.92	33.23	33.57
8589	27.96	29.11	29.76	28.76	29.20	29.84	28.40	28.78	29.50
8588	26.00	26.88	27.49	26.56	26.96	27.57	26.26	26.60	27.27
13397	24.50	25.53	26.20	25.22	25.66	26.30	24.92	25.29	26.01
12202	29.33	30.51	31.63	28.00	29.15	30.84	25.25	26.52	28.12
13571	22.79	23.27	23.75	23.09	23.31	23.60	22.90	23.08	23.39
PZ Beb Dar	14.68	16.10	22.47	14.52	14.86	15.21	14.57	14.92	15.26
PZ Tebban	10.10	12.43	13.45	11.67	12.24	12.94	11.74	12.32	13.06
8844	35.64	35.97	36.59	35.48	35.66	35.86	35.24	35.39	35.61
Omar-beji	22.05	23.71	24.49	23.41	23.96	24.64	22.89	23.36	24.15
1142	20.91	22.78	23.57	22.54	23.07	23.66	21.93	22.38	23.09
1144	22.00	23.68	24.47	23.39	23.94	24.61	22.85	23.31	24.09
8581	12.28	13.30	14.40	12.76	13.47	14.28	12.73	13.40	14.29
Salah Ben Rjeb	19.01	21.23	22.05	20.93	21.51	22.20	20.61	21.10	21.94
2228	8.19	9.14	10.25	8.53	9.30	10.19	8.57	9.32	10.27
2379	1.86	2.56	3.53	2.17	2.59	3.26	2.19	2.64	3.43
12134	20.44	22.66	23.06	22.59	22.83	23.16	22.40	22.60	22.95
12405	20.34	20.99	24.16	20.28	20.54	20.82	20.13	20.36	20.74
12406	12.78	13.95	15.05	13.43	14.16	14.97	13.41	14.09	14.96
12961	17.63	20.15	20.86	20.06	20.50	20.93	19.54	19.90	20.44

Table S3. Results of scenarios based on RCP 8.5: time averages of the minimum, mean and maximum values of the computed hydraulic heads. OW=observation well.

DGRE OW	Near Future (2021-2040)			Mid Term (2041-2060)			Long Term (2081-2098)		
	Water table level [m]			Water table level [m]			Water table level [m]		
	Average Minimum	Mean	Average Maximum	Average Minimum	Mean	Average Maximum	Average Minimum	Mean	Average Maximum
12440	23.77	24.44	27.21	23.70	23.89	24.11	23.64	23.81	24.20
2198	22.12	22.95	27.04	22.06	22.26	22.49	22.00	22.18	22.59
6922	20.08	20.97	29.17	20.03	20.18	20.36	20.00	20.13	20.44
2183	22.65	23.31	25.19	22.57	22.90	23.32	22.51	22.82	23.31
2171	22.49	23.14	24.96	22.40	22.76	23.22	22.34	22.67	23.22
2551	13.13	13.82	14.54	12.99	13.56	14.11	12.81	13.41	13.97
2534	7.65	8.54	9.69	7.44	8.39	9.66	7.26	8.24	9.34
1404	9.32	10.05	11.32	9.22	10.09	11.30	9.03	9.95	11.00
PZ Marja	6.83	8.02	9.56	7.16	8.27	9.62	6.93	8.07	9.21
2008	33.77	35.42	38.94	32.47	33.13	33.94	31.29	31.65	32.13
2025	35.55	36.37	38.68	35.03	35.33	35.72	34.55	34.79	35.13
11419	33.59	35.39	39.04	32.16	32.88	33.81	30.88	31.29	31.86
13474	34.91	36.09	39.43	34.04	34.48	35.06	33.27	33.55	33.93
8589	28.29	29.08	29.90	28.70	29.10	29.65	28.52	28.95	29.61
8588	26.13	26.85	27.60	26.50	26.87	27.39	26.35	26.74	27.38
13397	24.67	25.50	26.32	25.15	25.56	26.11	25.01	25.43	26.11
12202	29.54	30.62	31.85	28.08	29.31	30.65	26.19	27.37	28.84
13571	22.90	23.27	24.00	23.04	23.25	23.51	22.95	23.17	23.45
PZ Beb Dar	14.68	16.45	23.39	14.48	14.99	15.52	14.32	14.81	15.30
PZ Tebban	10.41	12.56	13.55	11.58	12.39	13.41	11.41	12.21	13.14
8844	35.66	35.98	36.47	35.47	35.65	35.82	35.31	35.46	35.67
Omar-beji	22.35	23.65	24.69	23.30	23.81	24.38	23.05	23.60	24.26
1142	21.23	22.71	23.72	22.41	22.90	23.39	22.11	22.67	23.17
1144	22.30	23.62	24.65	23.27	23.78	24.34	23.01	23.57	24.20
8581	12.45	13.40	14.76	12.65	13.55	14.73	12.39	13.37	14.39
Salah Ben Rjeb	19.44	21.19	22.29	20.80	21.39	22.02	20.67	21.24	21.98
2228	8.32	9.26	10.71	8.38	9.42	10.74	8.17	9.24	10.35
2379	1.83	2.61	3.61	2.10	2.67	3.58	2.04	2.59	3.54
12134	20.63	22.63	23.16	22.53	22.77	23.06	22.45	22.69	23.01
12405	20.25	21.04	24.72	20.17	20.44	20.71	20.12	20.36	20.72
12406	12.96	14.05	15.46	13.32	14.25	15.43	13.04	14.05	15.06
12961	17.83	20.08	20.95	19.94	20.34	20.72	19.69	20.15	20.51
13329	22.43	23.67	24.68	23.29	23.81	24.40	23.14	23.67	24.38
13360	20.34	22.04	23.01	21.80	22.27	22.70	21.48	22.01	22.44