



A rapid geospatial assessment was carried out to estimate the extent of cultivated cropland throughout Sudan for July 2023, compared to last 5-year (2018-2022) average by integrating data from satellite remote sensing, existing 2020 land cover map and digitized irrigation schemes.

Within the broader irrigation scheme boundaries, all agricultural land were classified as irrigated. Additionally, all the areas falling under individual land parcel-level irrigation boundaries in Al Jazirah state were also categorized as irrigated. All other agricultural areas from the 2020 national land cover map were classified as rainfed. A thresholding approach was followed to distinguish actively cultivated areas from the non-cultivated areas. The threshold for the dekadal WaPOR (remote sensing for water productivity) Net Primary Productivity (NPP) data was chosen through visual inspection, phenological observations, cross-referencing with cultivated area maps from previous years, and histogram analysis of the NPP values within the experiment test sites. Agricultural areas with NPP values equal to or exceeding the established threshold during any of the three dekad periods were classified as cultivated.

## Key Findings

- 49% decrease of cultivated agricultural land area (comprising both rainfed and irrigated) in July 2023 was observed compared to the average cultivated area for July over the preceding five years.
- During July 2023, all states in Sudan witnessed a decline in cultivated rainfed area, resulting in a 48% reduction (7.8 million hectares) compared to the 5-year average.
- In seven localities (At Tawisha, At Tadamon - BN, Wasat Al Gedaref, Sheikan, Um Rawaba, Al Idia, and Ghubaish), the reduction in cultivated area for July 2023 exceeded 250 thousand hectares compared to the 5-year average.
- An 82% reduction in cultivated area (538 thousand hectares) was found in the irrigated region in July 2023 compared to the 5-year average.
- In the Al Jazirah state, which is irrigation dominated, the irrigated cultivation area reduction was 463 thousand hectares (83% reduction) compared to the 5-year average.
- In Al Jazirah state, all eight localities indicate a decrease in irrigated cultivation area.

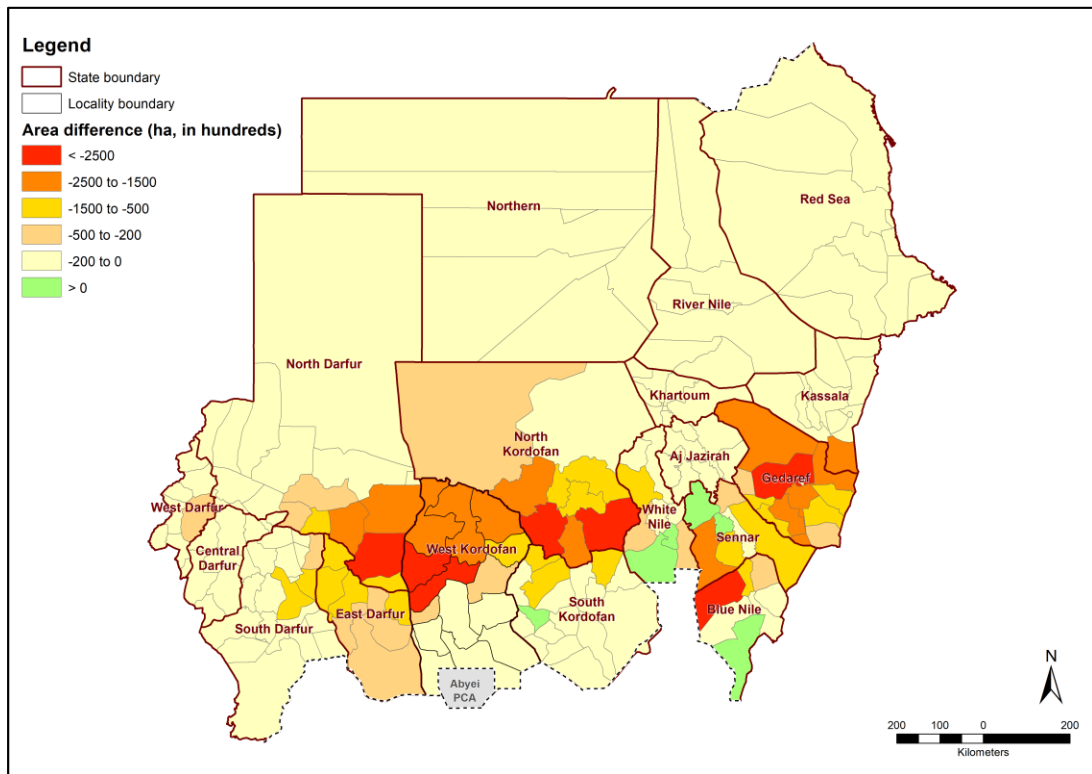


Figure 1: Difference in cultivated rainfed area between July 2023 and July average during 2018-2022<sup>1</sup>

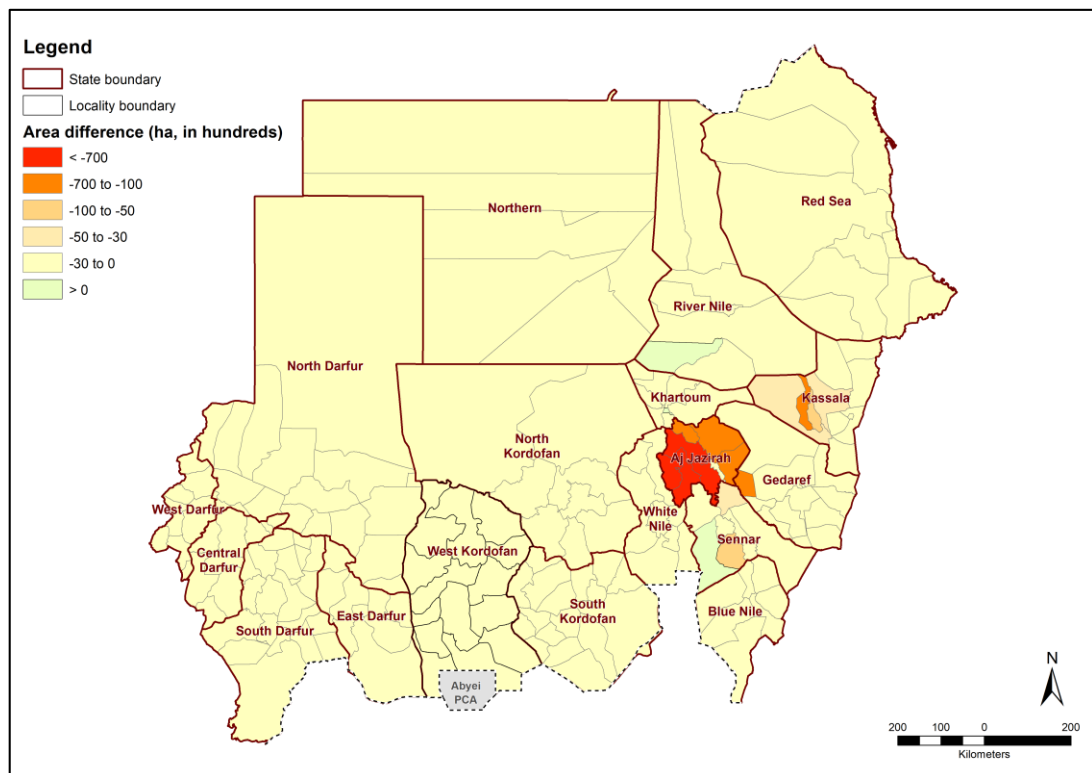


Figure 2: Difference in cultivated irrigated area between July 2023 and July average during 2018-2022<sup>1</sup>

<sup>1</sup> Source: Administrative boundaries from [HDX](#). The boundaries and names shown, and the designations used on these map(s) do not express any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. Final status of the Abyei PCA area is not yet determined. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



Table 1: State aggregated rainfed, irrigated and total area cultivation extent and percentage changes between July 2023 and July average (2018- 2022). (areas are in hundred hectares)

State	State area (ha, in hundred s)	Agricultural area (ha, in hundreds)		Cultivated rainfed area (ha, in hundreds)				Cultivated irrigated area (ha, in hundreds)				Total cultivated area (ha, in hundreds)		
		Total	% of state area	Total	July (Avg)	July (2023)	July change (%)	Total	July (Avg)	July (2023)	July change (%)	July (Avg)	July (2023)	July change (%)
Aj Jazirah	27 443	18 392	67.02	6 028	843	217	-74.28	12 364	5 557	926	-83.33	6 401	1 143	-82.14
Blue Nile	38 732	11 865	30.63	11 865	9 110	5 127	-43.72	0	0	0		9 110	5 127	-43.72
Central Darfur	31 064	4 340	13.97	4 340	2 877	2 764	-3.93	0	0	0		2 877	2 764	-3.93
East Darfur	56 745	23 168	40.83	23 168	17 747	11 724	-33.94	0	0	0		17 747	11 724	-33.94
Gedaref	60 645	40 705	67.12	40 310	22 282	6 686	-69.99	395	221	41	-81.33	22 503	6 727	-70.11
Kassala	49 698	10 389	20.90	8 496	2 713	257	-90.53	1 893	423	66	-84.48	3 136	323	-89.71
Khartoum	21 416	1 701	7.94	1 570	68	2	-97.47	131	28	5	-83.02	96	7	-93.21
North Darfur	315 992	30 676	9.71	30 676	13 356	2 552	-80.89	0	0	0		13 356	2 552	-80.89
North Kordofan	187 523	50 430	26.89	50 405	14 797	2 461	-83.37	24	7	3	-58.86	14 804	2 464	-83.36
Northern	365 019	754	0.21	631	5	1	-77.07	123	6	0	-96.61	11	1	-87.38
Red Sea	219 921	513	0.23	464	3	0	-90.50	49	0	0		4	0	-90.69
River Nile	131 802	1 321	1.00	1 130	15	3	-81.10	191	15	6	-56.91	30	9	-69.16
Sennar	39 802	26 368	66.25	25 878	11 732	7 179	-38.81	489	234	104	-55.69	11 966	7 283	-39.14
South Darfur	82 489	17 443	21.15	17 443	12 999	10 422	-19.83	0	0	0		12 999	10 422	-19.83
South Kordofan	78 902	21 258	26.94	21 258	16 110	12 842	-20.28	0	0	0		16 110	12 842	-20.28
West Darfur	22 374	5 951	26.60	5 951	4 278	3 754	-12.25	0	0	0		4 278	3 754	-12.25
West Kordofan	114 023	43 946	38.54	43 946	29 205	15 078	-48.37	0	0	0		29 205	15 078	-48.37
White Nile	38 294	21 640	56.51	21 281	6 598	5 351	-18.89	359	100	56	-44.71	6 699	5 407	-19.28
<b>Total</b>	<b>1 881 884</b>	<b>330 856</b>	<b>17.58</b>	<b>314 839</b>	<b>164 739</b>	<b>86 419</b>	<b>-47.54</b>	<b>16 018</b>	<b>6 592</b>	<b>1 207</b>	<b>-81.69</b>	<b>171 331</b>	<b>87 626</b>	<b>-48.86</b>

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