



OCHA

SYRIAN ARAB REPUBLIC

Euphrates Water Crisis & Drought Outlook

As of 17 June 2021

Regional & Country Outlook

Since autumn 2020, unseasonably low levels of rainfall across the eastern region of the Mediterranean Basin, have contributed to drought conditions in Syria and Iraq. Given the country's semi-arid climate, the annual water balance is determined by precipitation patterns between October and April and pronounced seasonal rainfall, with deficits accumulated enduring for the remainder of the year.^[1] In Syria, poor precipitation during the 2020/2021 winter season, as well as the months critical for crop development (January-April), have negatively impacted several governorates in the northeast, with Al-Hasakeh – typically the breadbasket of the country – particularly badly affected.^[2]

Converging Crises & Impact

At the same time, water flows into the Euphrates River from Turkey – which has also experienced several seasons of poor rain^[3] – have progressively reduced over the past six months, falling from 500m3 per second in January to 214m3 per second in June.^[4] As a consequence, the hydroelectric potential of the Tishreen and Tabqa Dams, two of the most significant reservoirs in Syria, have significantly diminished,^[5] leading to reduced energy production capacity which have resulted in power blackouts across northeastern Syria, and limited electricity to 1-2 hours a day in some locations. This, in turn, and compounded by ongoing fuel shortages, has led to reduced operation of vital water pumping stations, which have impacted available drinking water across Al-Hasakeh, Ar-Raqqa, Deir-ez-Zor and Aleppo governorates. Currently, 54 of 73 water stations along the western bank of the Euphrates are significantly or severely impacted by critically low water levels. Water shortages pose a significant threat to agricultural production and food security, with informal crop forecasts for 2021 indicating a possible drop in barley production to 1.2 million tonnes – as low as in 2018. Contaminated water also poses severe public health risks, with the Early Warning, Alert and Response System (EWARS) detecting a substantial increase in the number of acute diarrhea cases recorded in the northeast in May 2021 (17,166) compared to the same month in 2020 (7,355).^[6]

Risk Forecast

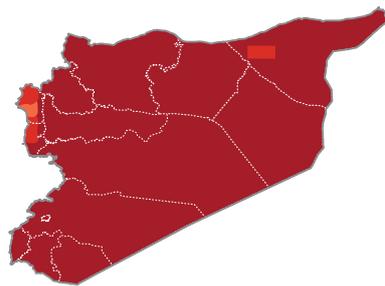
Syria currently ranks seventh on a global risk index of 191 countries most at risk of a humanitarian or natural disaster event that could overwhelm response capacity, in part due to the ongoing crisis which hinders adequate preparedness measures.^[7] With temperatures in the Mediterranean basin predicted to increase in the coming years, and water scarcity expected to persist, extreme climatic events such as drought are likely to become more frequent and intense.^[8] Of the nine countries rated as 'very high risk', Syria is the third highest at risk of drought.



Average Rainfall and Temperatures (May 2021)

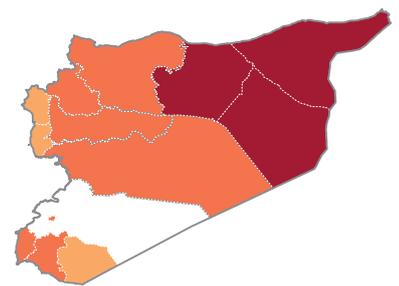
Below average rainfall

(Rainfall levels compared with the Long Term Average^[9])



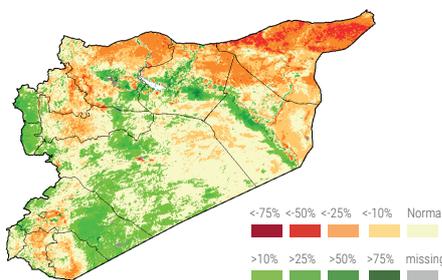
Above average temperature

(Temperatures compared with Long Term Average^[9])

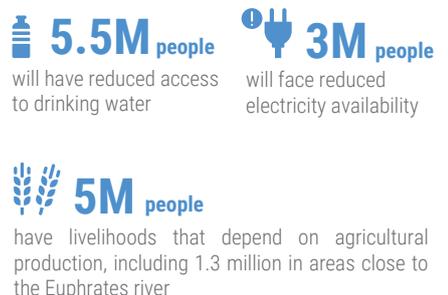


Normalized Difference Vegetation Index (NDVI) Anomaly (May 2021)

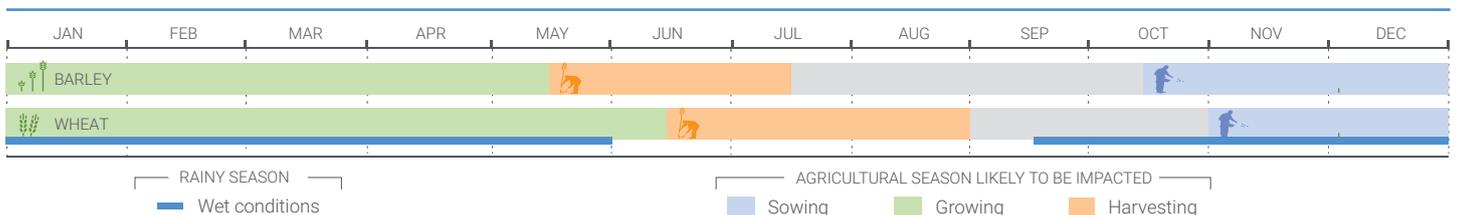
(Relative difference to Long Term Average^[9])



At Risk Populations



Seasonal Calendar



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1 - GDO Analytical Report: Drought in Syria and Iraq – April 2021 | 2 - Syria, Iraq Drought: Emergency Response Coordination Centre – DG ECHO Daily Map (as of 05 May 2021) | 3 - Turkey Experiences Intense Drought, NASA Earth Observatory, 11 January 2021 | 4 - Dam Authorities | 5 - Database for Hydrological Time Series of Inland Waters (DAHITI) | 6 - Early Warning, Alert and Response System (EWARS) Data, weeks 18-21 2020 & 2021 | 7 - Disaster Risk Management Knowledge Centre | 8 - Risks Associated to Climate and Environmental Changes in the Mediterranean Region
9 - <http://www.fao.org/giews/earthobservation> Creation date: 22 June 2021 Sources: FAO, OCHA Feedback: www.unocha.org www.reliefweb.int