



United States
Department of
Agriculture

Foreign
Agricultural
Service

Commodity Intelligence Report

June 28, 2019

Iraq Wheat: Record Yield and Production from Abundant Precipitation

Iraq wheat production for 2019/20 is estimated at 4.8 million metric tons (mmt), up 1.8 mmt or 60 percent from last year's crop of 3.0 mmt. Harvested area is estimated at 2.4 million hectares, up 41 percent from last year. Yield is estimated at 2.00 metric tons per hectare, up 13 percent from last year.

In the previous crop year, the high producing northern provinces suffered greatly from drought and conflict. This year, abundant precipitation has benefitted the entire national winter grains crop (Fig. 1). Resulting yields and production are at record levels as indicated by record high MODIS vegetation indices (Normalized Difference Vegetation Index - NDVI), a measure of plant vigor and biomass (Fig. 2).

Record production is estimated, up 60 percent from last year and up near 25 percent from the 5-year average due to record yields. The long-term yield trend is positive and most likely reflects improved varieties as well as improved conditions in the central and southern portions of the country (Fig. 3). The northern province of Ninawa has traditionally been the bread-basket of Iraq. However, years of drought conditions and conflict have hampered production in the north and kept Iraq from realizing its full potential for wheat production.

This year, well-above normal rainfall conditions have been prevalent. Rainfall has been distributed across the entire country since the beginning of planting in October. The contrast between this year and last year is quite evident in the regional view that MODIS satellite imagery (Fig 4) provides. The northern provinces, while nearly 50 to 60 percent irrigated, benefited significantly from the abundant and uniform precipitation (Fig. 5). The rain-fed crop is always at risk of abandonment and this year these fields have performed as well as irrigated fields.

The central and southern provinces have not suffered as much from drought in the previous years. Thus, the comparison between years in the satellite imagery is not as dramatic as that found for the north. It is worth noting that the biggest beneficiary are the southern marsh lands that made a remarkable recovery from the low flow Tigris and Euphrates River conditions that have prevailed over the last 2 years.

Earlier reports of flooding in the north were a concern. Most of the flooding occurred in March. Analysis of 20-meter satellite imagery across this region only revealed minimal pockets of water on the lower ends of a few fields. The highest occurrence of flooding observed was near the city of Daquq, located in the southern part of the Kirkuk province (Fig. 6). However, earlier imagery examined in November disclosed many of these fields to be flooded. Thus, these fields are most-likely aquaculture based. Based on this examination, flooding was concluded not to have limited yield or production in the northern winter grains region.

Starting May 25, 2019, reports of wheat fields on fire began making the news. Wheat fields by this time had matured and were dry. Daily maximum temperatures were greater than 35°C, higher than normal temperatures. Both dry fields and high temperatures would make for hazardous conditions. Reports state that many of these fires are suspect and may have been purposely set.



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The largest areas burned were just south of Kirkuk. Landsat-8 satellite imagery indicated the fires to have consumed a mixture of winter grains fields along with large swaths of grasslands (Fig. 7). While the damage is disheartening, the losses did not impact the over-all estimated production.

Early harvest began in late May and will continue through July. Warm temperatures have hastened maturation and forecasted weather conditions should allow for good harvest conditions.

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Current area and production estimates for grains and other agricultural commodities are available on IPAD's Agricultural Production page:

[Crop Explorer https://ipad.fas.usda.gov/cropexplorer/](https://ipad.fas.usda.gov/cropexplorer/)or

Production, Supply and Distribution Database (PSD Online):

<http://apps.fas.usda.gov/psdonline/psdHome.aspx>

U. S. Department of Agriculture

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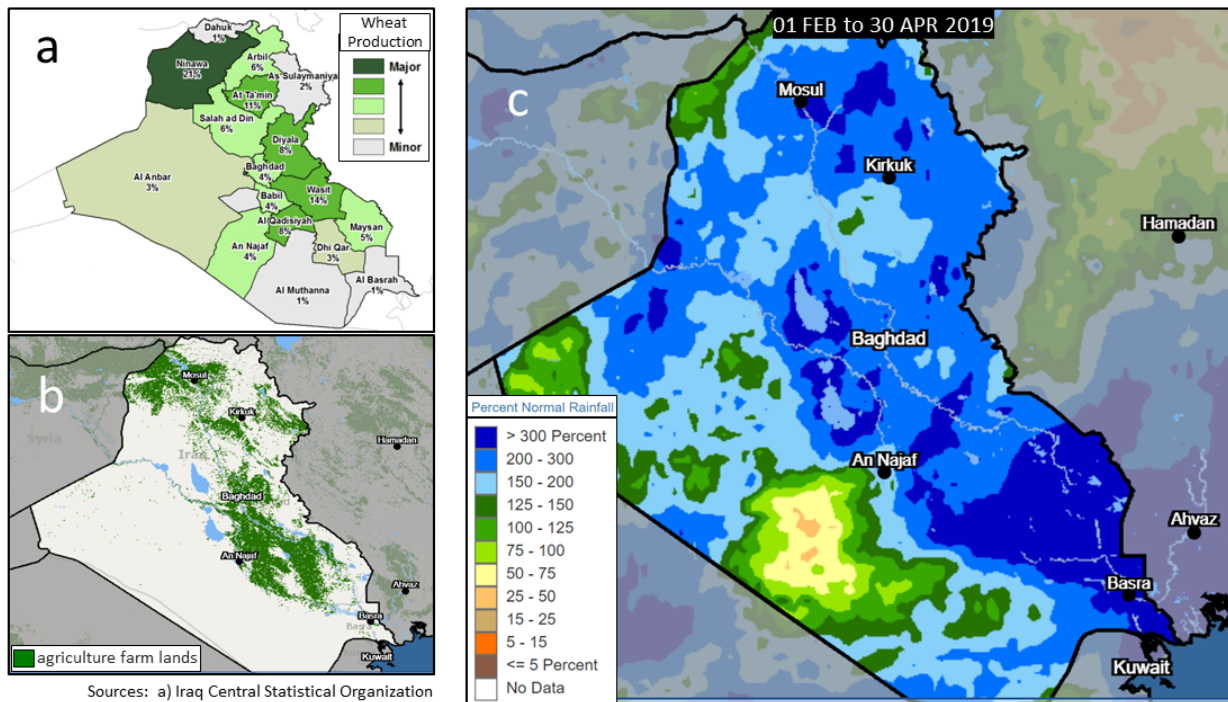
Office of Global Analysis

International Production Assessment Division Ag Box 1051, Room 4630, South Building

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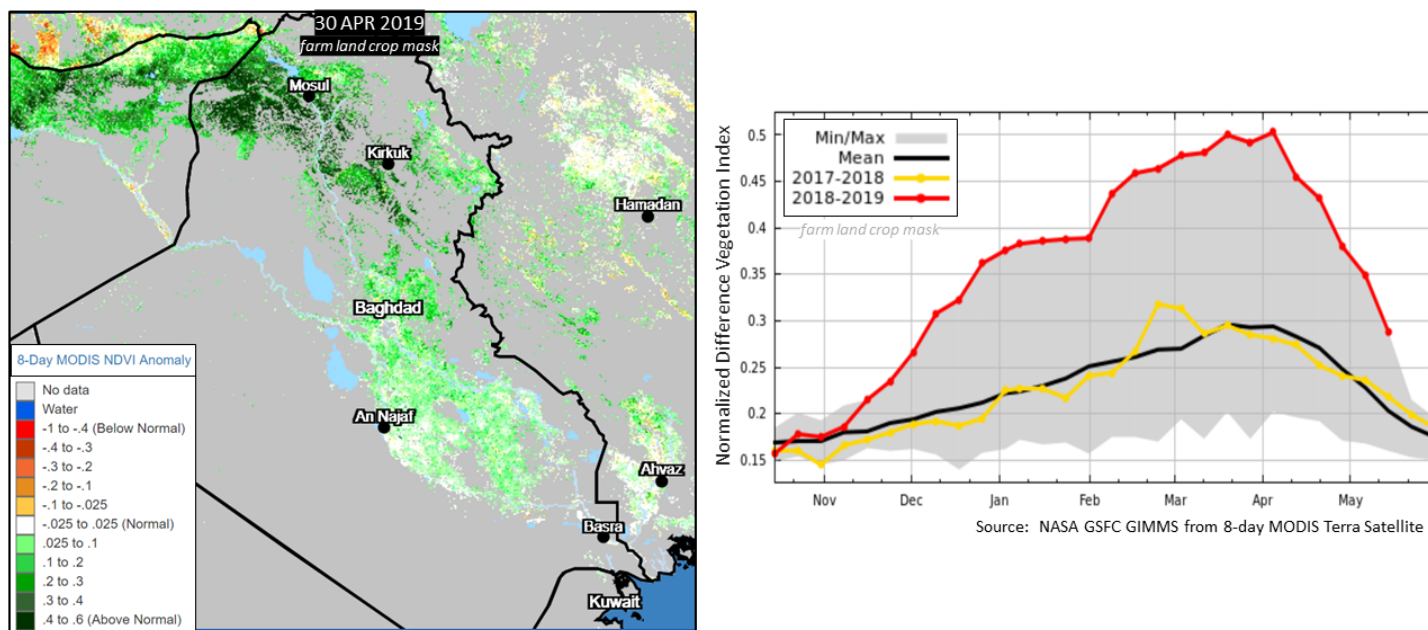
Figure 1. Maps of (a) Iraq Province Level Wheat Production, (b) Agricultural Lands, and (c) 3-Month Percent Normal Precipitation



Sources: a) Iraq Central Statistical Organization
b) NGA Global Land Cover Data Set

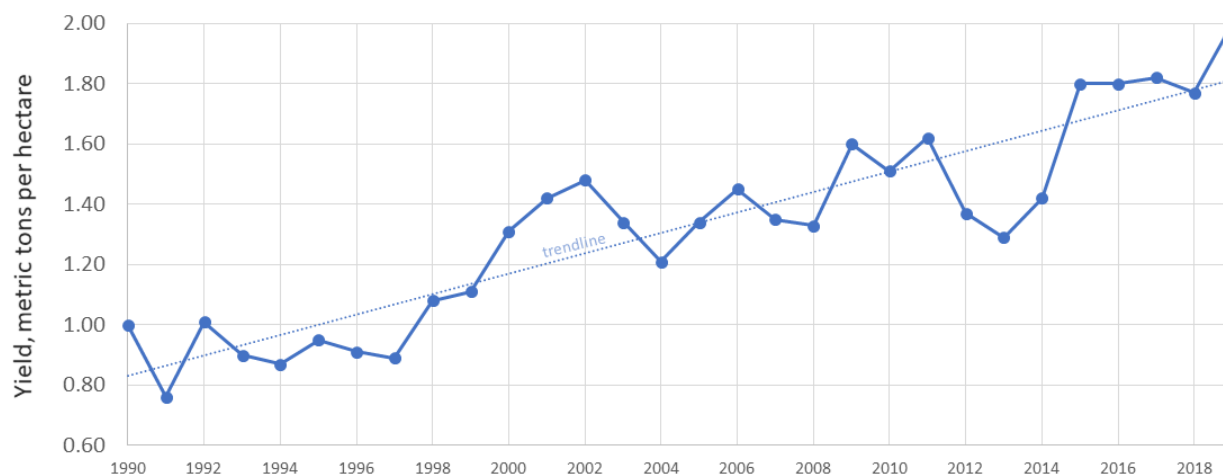
Source: c) NASA GPM Cumulative Precipitation

Figure 2. Vegetation Anomaly Map and Vegetation Index Graph for all of Iraq Winter Grains



Sources: NASA GSFC GIMMS from 8-day MODIS Terra Satellite
Crop mask - NGA Global Land Cover Data Set

Figure 3. Yield Chart and Table of Area and Production for Iraq Wheat



		Year										
	x 1000	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
hectares	Area	1,234	1,903	1,587	1,539	2,565	2,460	2,450	2,350	2,200	1,700	2,400
metric tons	Production	1,975	2,875	2,574	2,100	3,300	3,500	4,410	4,225	4,000	3,000	4,800

Source: USDA PSD Online

Figure 4. Comparison of Iraq Winter Grains Crop between March of 2018 and 2019

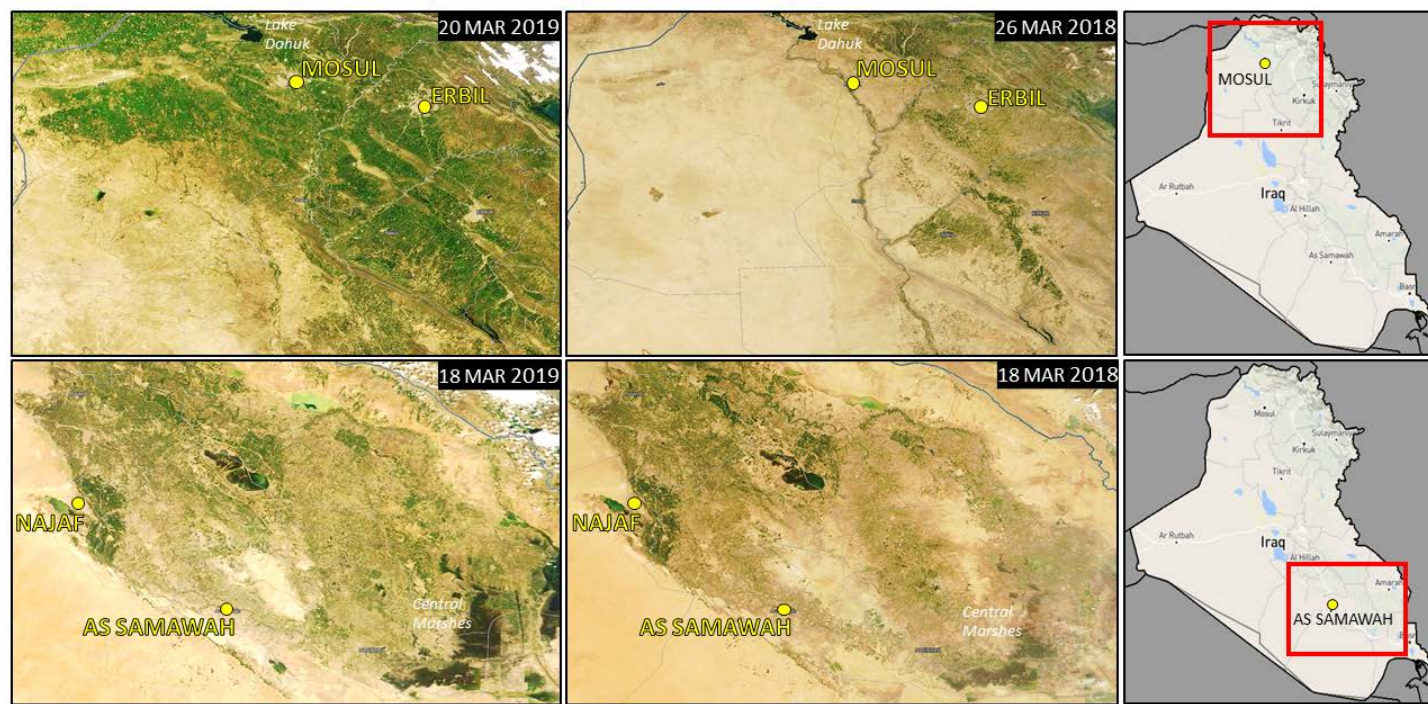
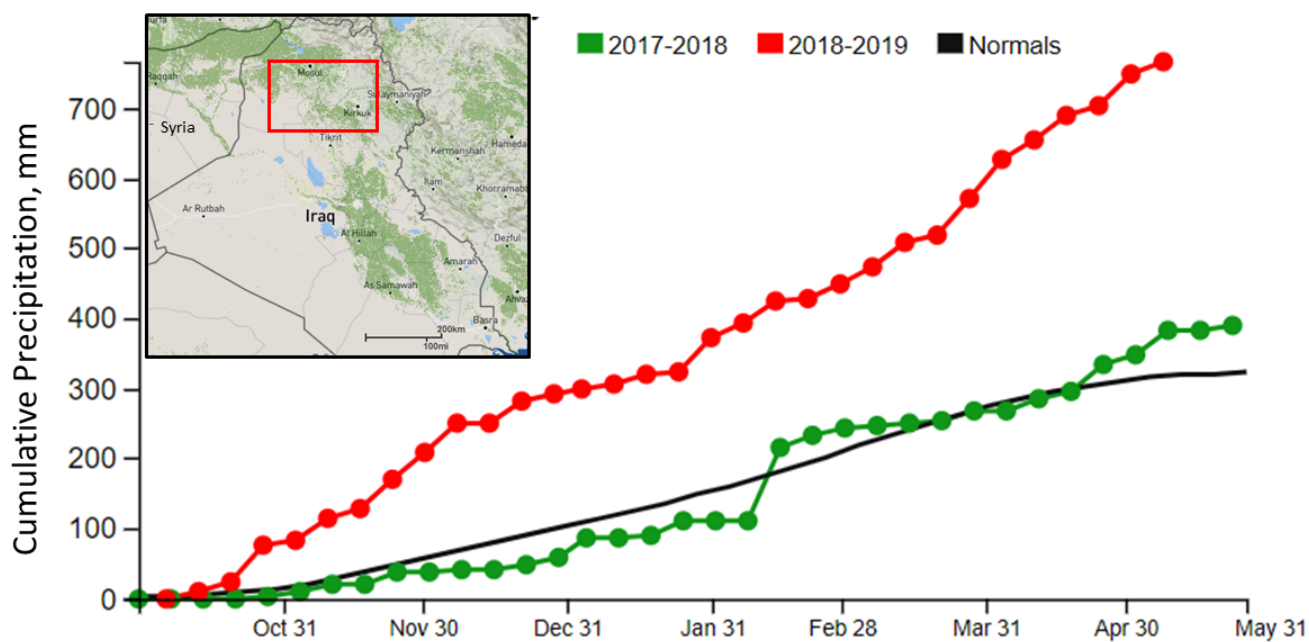
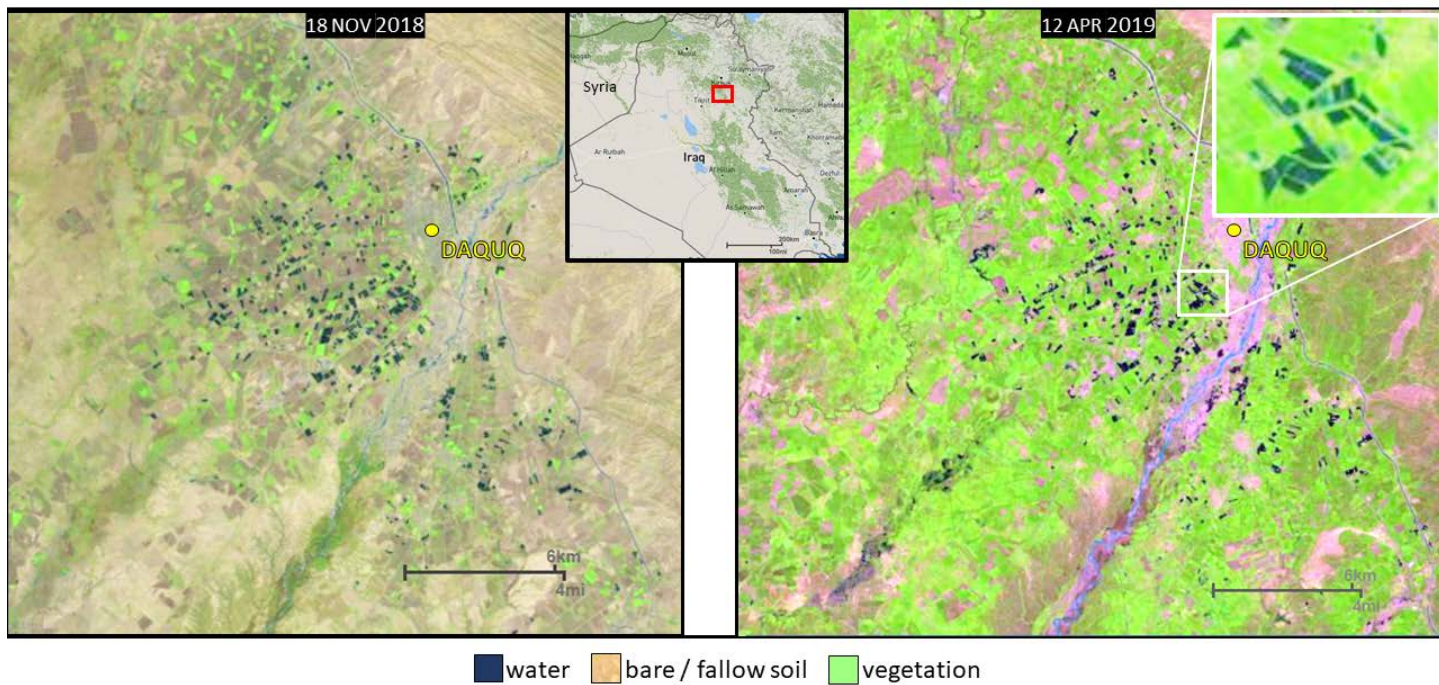


Figure 5. Northern Iraq Cumulative Precipitation



Source: US Air Force 557th Weather Wing

Figure 6. Flooded Fields Near the City of Daquq, Iraq



Source: ESA Copernicus Sentinel-2a Satellite

Figure 7. Satellite Imagery of Burned Winter Grains Fields and Grasslands

