

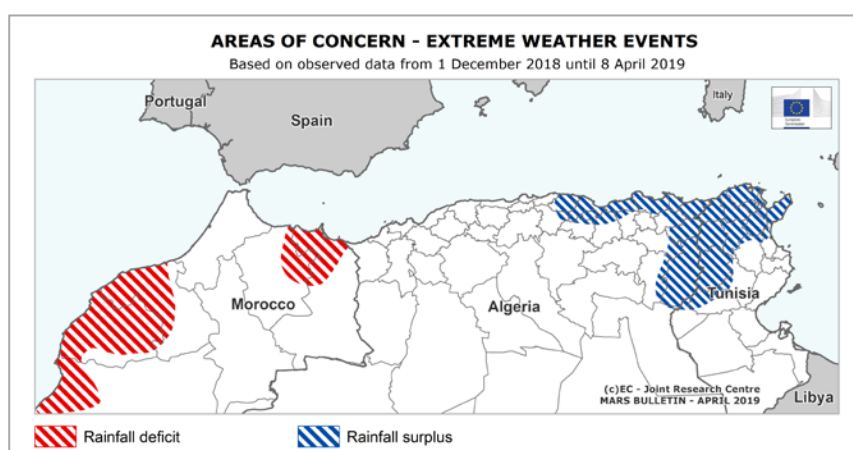
# JRC MARS Bulletin global outlook 2019

## Crop monitoring European neighbourhood

### Morocco, Algeria, Tunisia, Libya and Egypt

April 2019

Mixed conditions, on average better for wheat than barley



more than inland regions.

**Tunisia (TN):** Positive outlook for wheat but possible negative impact on barley production. Soft and durum wheat yield forecasts are above the five-year average but barley is below the five-year average.

**Libya (LY):** Rain surplus in the west and crops recovered in the east after a difficult start. Forecasts are in line with the average.

**Egypt (EG):** Crop conditions close to an average season and forecasts for wheat and barley in line with the five-year average.

The season started with a good supply of rain during autumn and the first vegetative phases, but this was followed by more dry conditions especially in Morocco where conditions need to be closely monitored. A considerable rain surplus has been recorded in parts of Algeria and Tunisia. Two regions are clearly impacted by somewhat drier conditions with negative consequences on barley production.

**Morocco (MA):** Advanced crop season with currently average outlook for wheat, but rain is needed to sustain expectations. Barley in the north-east was negatively impacted by persistent drought conditions, particularly in the period from the flowering to the grain filling phenophases.

**Algeria (DZ):** Positive outlook for cereal production. Yield forecasts for both wheat and barley in Algeria are above the five-year average. Temperature as well as rainfall regime have so far been positive, favouring the coastline

#### North-Africa yield forecast - April 2019 Bulletin

Country	Crop	Yield (t/ha)				
		Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
DZ	wheat	1,55	NA	1,71	+11	NA
	barley	1,25	NA	1,37	+9,4	NA
EG	wheat	6,57	6,30	6,56	-0,2	4,20
	barley	2,92	NA	3,12	+6,9	NA
LY	wheat	0,78	NA	0,79	+0,4	NA
	barley	0,51	NA	0,52	+1,8	NA
MA	wheat	1,94	2,16	2,08	+7,5	-3,6
	barley	1,23	1,45	1,07	-13	-26
TN	wheat	1,75	1,75	1,79	+2,4	+2,4
	barley	0,80	0,60	0,73	-9,3	+21

Note: Yields are forecast for crops with more than 10000 ha/country

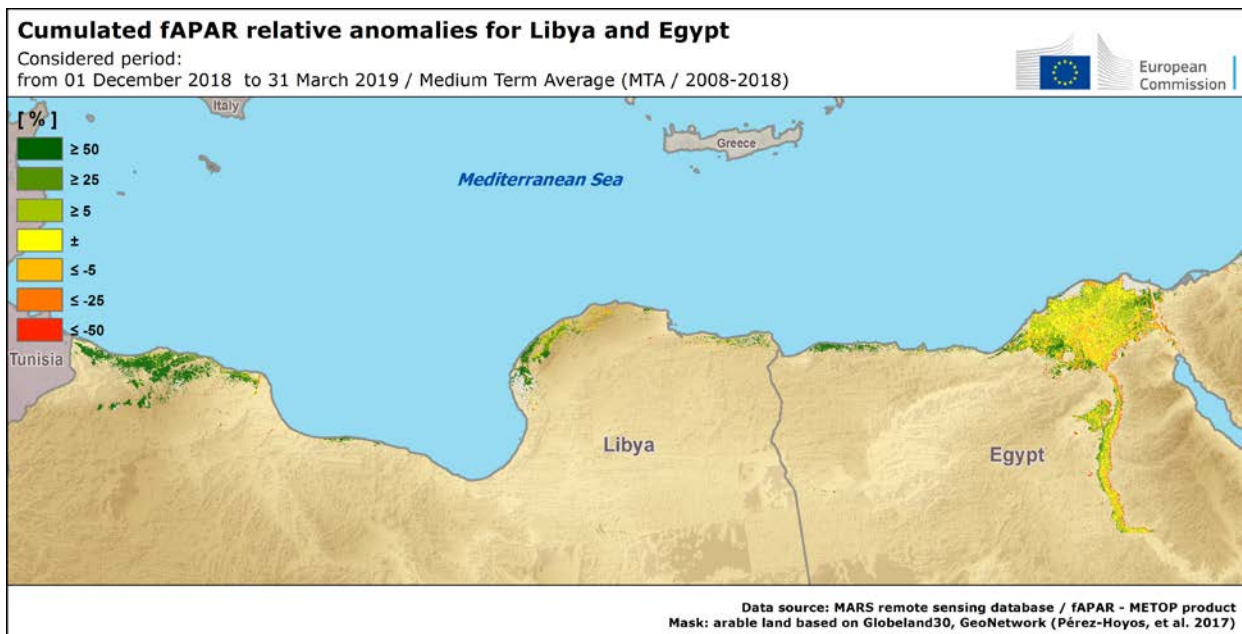
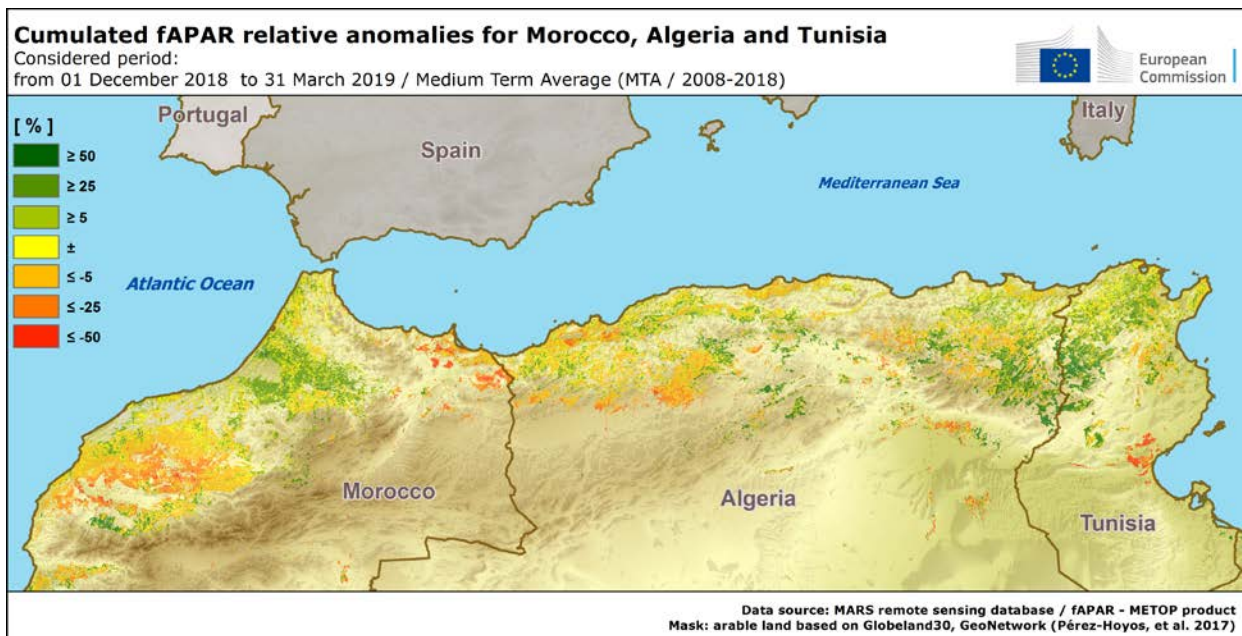
Sources: 2014-2018 data come from FAO, INRA Maroc, Ministère de l'Agriculture et de la Pêche Maritime Maroc, CNCT Tunisie, Ministère de l'agriculture des ressources hydrauliques et de la pêche Tunisie and DSASI-MADR Algeria. NA (no data)

## Country highlights

The map displays the differences between the fraction of Absorbed Photosynthetically Active Radiation (fAPAR) cumulated for the ongoing agricultural season (1 December – to 31 March 2019) and the medium-term average (MTA, 2007–2018) for the same period. Positive anomalies (in green) reflect above-average canopy density or early crop development while negative anomalies (in red) reflect below-average biomass accumulation or late crop development.

Mixed conditions for the main agricultural regions in Morocco are highlighted. The negative anomaly in the West is a combination of advanced crop phenological

stages and suboptimal biomass accumulation after a good start to the season. Eastwards the biomass accumulation through the season was more favourable, also being characterized by an early start. A negative anomaly is also depicted towards the border with Algeria because of a prolonged dry period since the start of the season. Favourable crop biomass accumulation is present in eastern Algeria and in most of Tunisia where a rain surplus was recorded. This holds for western Libya as well, crops are predominantly irrigated like in Egypt which is mainly exhibiting an average season.



## Morocco

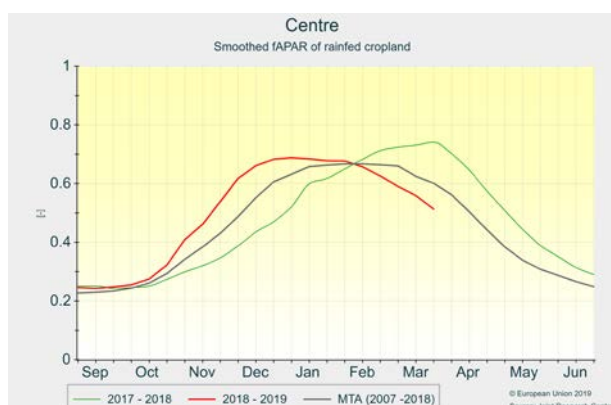
### Advanced crop season with mixed outlook for winter cereals

*Our yield forecasts for the country are above the five-year average for wheat and below the five-year average for barley. The coming weeks will be crucial in determining the final yield potential as growth conditions are deteriorating. Barley was negatively impacted by persistent drought conditions in the flowering-grain filling pheno-phases.*

Crop cultivation in Morocco benefited from a positive autumn period, characterized by abundant and well-distributed precipitations and above-average temperature profiles. These favourable conditions were observed for all of the main agricultural regions of *Centre*, *Tensif*, *Nord-Ouest* and *Centre-Nord*. The exhaustive soil water supply allowed crops to sustain a subsequent period of low precipitation (from December to March)

without too much negative impact on the primary production, but soil moisture levels have been rapidly depleting. More rain is needed to sustain the yield expectations. The northern districts in the *Oriental* region had a dry situation, negatively affecting barley production. These areas (responsible for nearly 10% the national production) had a low water supply during autumn and were therefore negatively exposed to the subsequent dry period.

Unlike the (2017-2018) campaign, warmer than usual thermal conditions advanced (since mid-November) the development of winter cereals by nearly two weeks. Cereals in Morocco have now completed grain filling stages and are (on average) approaching the initial phase of the senescence period.



## Algeria

### Positive outlook for cereal production

*Our yield forecasts for Algeria are above the five-year average for both wheat and barley cultivation.*

The beginning of the cereal campaign in Algeria was marked by higher-than-usual cumulates of active temperatures ( $T_{base} = 10^{\circ}\text{C}$ ) and well distributed rainy events during autumn. These conditions boosted crops during early development stages and led to an advance in phenology in the north-eastern agricultural districts.

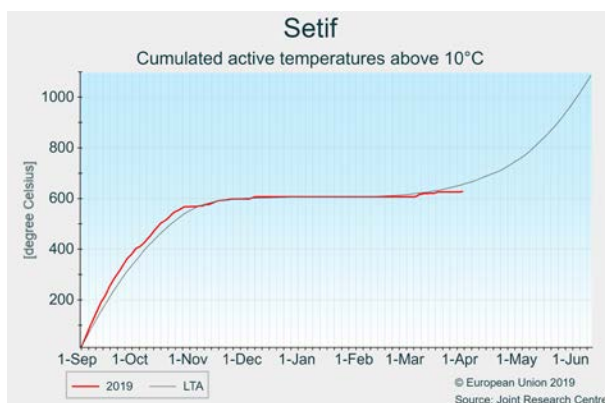
Cumulates of active temperatures for Algeria were above the (long-term) average values in the sowing and early development stage periods (September-December), then

showed average to above average conditions for eastern districts, and from average to moderately below average values in western agricultural districts. Overall, thermal profiles favoured cereal growth and development.

Rainfall events favoured the Mediterranean coastline regions more than the west-inland agricultural regions. As depicted by remote sensing and crop model indicators, cereal growth rate during the central part of the season (January-March) slowed down moderately, taking biomass accumulation from above average to average values compared to long-term records. A different growth response took place for the eastern agricultural districts

of Algeria (e.g. *Tebessa*, *Constantine*, *Mila*). Here development stages are in line with average crop calendars and above average biomass formation has

been observed through the whole season. Positive production is expected for these sites.



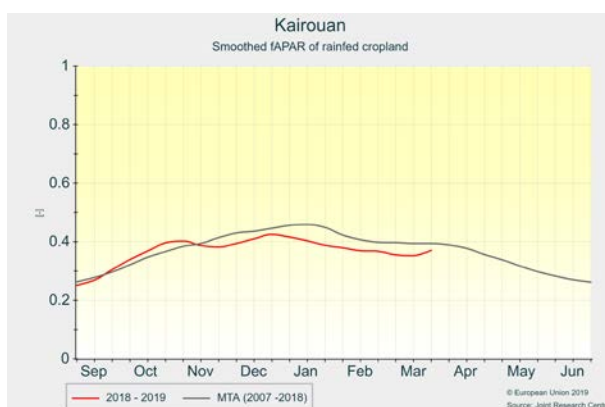
## Tunisia

### Positive outlook for wheat but possible negative impact on barley production

*In Tunisia soft and durum wheat yield are forecast above the five-year average. Barley was impacted in some of the main production districts. Our yield forecast is below the five-year average.*

Tunisia has experienced a rainfall surplus in the northern regions during the 2018-2019 cropping season. Rainfall cumulates (since September 2018) are +17% (i.e. *Bizerte*) to +50% (i.e. *Jendouba*) above the long-term average. The interpretation of remote sensing and crop modelling variables suggests that durum and soft wheat cultivations avoided a negative impact from this surplus probably because rain events have been well distributed through the season. Biomass cumulates are above the

10-year average throughout the entire the season. On the contrary, the country's barley production could be negatively impacted because of unfavourable climate conditions in the *Kairouan* region (the second most productive region, accounting for nearly 12% of the countries' production). Here, a dry period occurred from mid-December up to mid-March (only 30mm in three months compared to an average for the region of 75mm) followed by a severe rain event on 20 March with at least 45-mm just before the flowering period. Temperature profiles for all the agricultural areas in Tunisia are in line with the long-term average values. Our forecasts for the country are positive for wheat but below the five-year average for barley.





## Libya

### Average outlook for winter cereals

*On account of the low inter-annual variability of yield and the relatively positive growing conditions, our forecasts are in line with the historic average for both wheat and barley.*

Frequent and well distributed rainy events have provided good conditions in the western agricultural district of Libya (*Tripolitania*). Cumulated values of active temperatures ( $T_{base} > 10^{\circ}\text{C}$ ) are close to the LTA. The country's eastern agricultural district of *Cyrenaica* experienced even higher rain cumulates. Precipitation was well distributed. Cereal growth slowed down moderately in February. In *Al Jabal Al Akhdar* crop biomass indicators from remote sensing show below-average biomass accumulation levels at the beginning of the season which successively recovered up to average values in the December–January period. In general, the average to

above average canopy development indicates that wheat and barley have received sufficient water supply (mainly from irrigation) to support adequate development during flowering and grain formation.



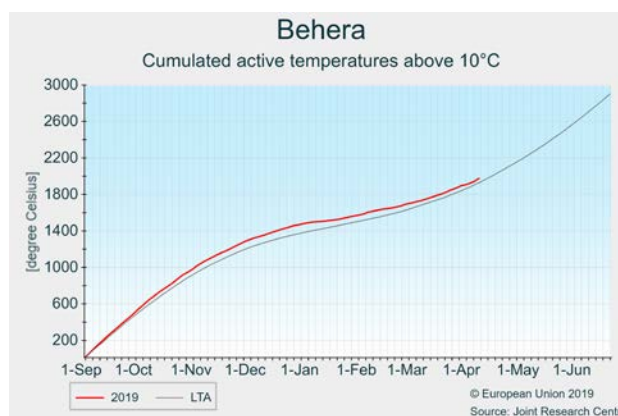
## Egypt

### Crop conditions close to an average season

*Our yield forecasts for Egypt are in line with the five-year average for wheat and barley which includes taking the stable yield trends into consideration.*

Rainfall availability since the beginning of the campaign in Egypt has been above long-term average values, mainly due to severe rain events occurring in the Nile delta area in mid-October before the sowing period (e.g. in *Kaljoubia* and *Cairo*), and therefore without any implication for crop cultivation. Overall cereals benefited from a normal water supply during the course of the season. Mild to warm temperatures were observed during the season, leading to temperature sums constantly above the long-term records but without heat waves in both barley-prevailing (e.g. *Shrkia*) and wheat-prevailing

(e.g. *Behera*) agricultural regions. Remote sensing indicators show crop biomass accumulation is in line with long-term values.



## Crop yields forecast

### North-Africa yield forecasts for wheat - April 2019 Bulletin

Country	Yield (t/ha)				
	Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
DZ	1.55	NA	1.71	+11	NA
EG	6.57	6.30	6.56	-0.2	+4.2
LY	0.78	NA	0.79	+0.4	NA
MA	1.94	2.16	2.08	+7.5	-3.6
TN	1.75	1.75	1.79	+2.4	+2.4

### North-Africa yield forecasts for soft wheat - April 2019 Bulletin

Country	Yield (t/ha)				
	Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
DZ	1.29	NA	1.51	+18	NA
EG	-	-	-	-	-
LY	-	-	-	-	-
MA	1.97	2.13	2.16	+9.5	+1.2
TN	1.48	1.33	1.61	+9.2	+21

### North-Africa yield forecasts for durum wheat - April 2019 Bulletin

Country	Yield (t/ha)				
	Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
DZ	1.64	NA	1.78	+8.4	NA
EG	-	-	-	-	-
LY	-	-	-	-	-
MA	1.85	2.21	1.91	+3.0	-13
TN	1.80	1.82	1.82	+1.3	+0.2

### North-Africa yield forecasts for barley - April 2019 Bulletin

Country	Yield (t/ha)				
	Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
DZ	1.25	NA	1.37	+9.4	NA
EG	2.92	NA	3.12	+6.9	NA
LY	0.51	NA	0.52	+1.8	NA
MA	1.23	1.45	1.07	-13	-26
TN	0.80	0.60	0.73	-9.3	+21

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