

JRC MARS Bulletin global outlook 2019

Crop monitoring European neighbourhood

Turkey

September 2019

Overall favourable campaign

All crops are forecast above the five-year average, as well as above last year's yields, following a mostly favourable season.

The winter crop season closed with favourable yields at national level. Some crop variability was observed: in eastern Anatolian regions, a favourable spring was followed by high temperatures in June, leading to shortened grain filling. In the south-eastern regions of *Gaziantep* and *Sanliurfa*, an overly wet spring was followed by a favourable end of season, while in *Mardin* the season was exceptionally good throughout. Summer crops experienced a sowing delay but successive crop recovery, sustained by adequate rainfall and above-average temperature profiles in the June-July period. The above-average biomass accumulation is supporting positive expectations for the incoming harvest. There are possibilities of negative impacts on green maize due to intense rain along the northern coastline.

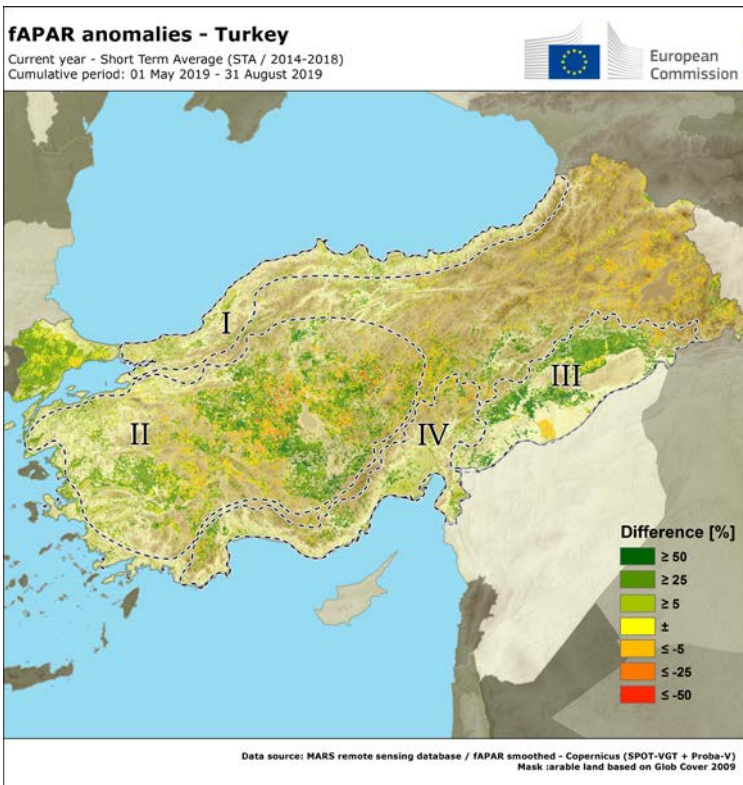


Turkey yield forecasts - September 2019 Bulletin

Country	Crop	Yield (t/ha)				
		Avg 5yrs	2018	MARS 2019 forecasts	%19/5yrs	%19/18
Turkey	wheat	2.71	2.74	2.96	+9.2	+8.0
	soft wheat	2.66	2.71	2.90	+8.9	+7.0
	durum wheat	2.97	2.91	3.29	+11	+13
	barley	2.63	2.67	2.84	+8.2	+6.5
	grain maize	9.34	9.64	9.69	+3.8	+0.5
	sugar beet	60.4	61.6	64.5	+6.8	+4.8
	soybean	4.35	4.26	4.57	+4.9	+7.2

Note: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 10 kg
Sources: 2014-2018 data come from Turkish Statistical Institute (TurkStat) and EUROSTAT Eurobase (last update: 22/08/2019)
2019 yields come from MARS CROP YIELD FORECASTING SYSTEM (output up to 31/08/2019)

Country highlights



Positive biomass accumulation levels can be depicted in region IV and south-eastern regions of Turkey (III), where most of the summer crop districts are located. Moderate (-5%) negative fAPAR anomalies can be observed along the Syrian border; these are mainly caused by changes in agricultural land use. Mixed conditions are characterising central Turkey (II), with a prevalence of areas of positive biomass accumulation. Average to favourable biomass accumulation is observed in all western regions. Above-average relative anomalies can also be observed for the fragmented and non-intensive agricultural areas of eastern Turkey.

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

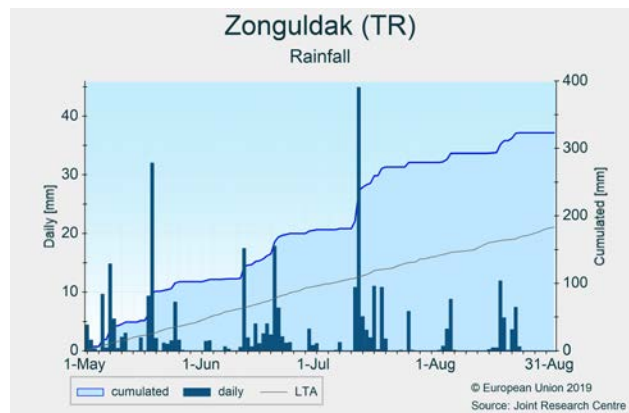
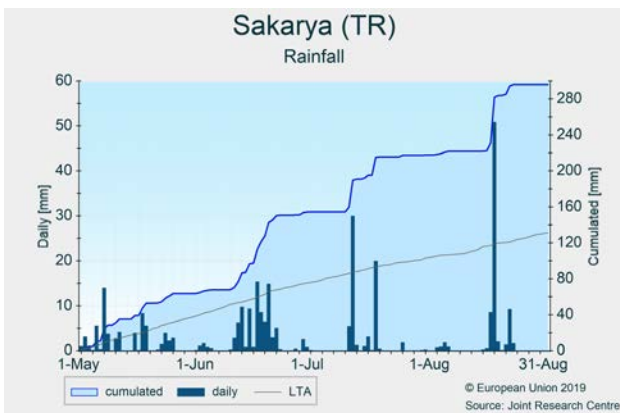
Northern coastline (I)

Possibilities of negative impact on green maize due to intense rain events.

- Abundant cumulates of rainfall were observed throughout the review period in most areas: 30-40 mm/month of rain above the monthly LTA values.
- Considering the May-August period, we observe cumulative rainfall almost twice the historical values.
- Exceptional rainfall events were observed in *Sakarya*

and *Kocaeli* districts (50-55 mm on 17 August) and in *Zonguldak* district (45 mm on 11 July) in north-western Turkey.

- The events are likely to have negatively impacted green maize, accounting here for almost 25% of national production.



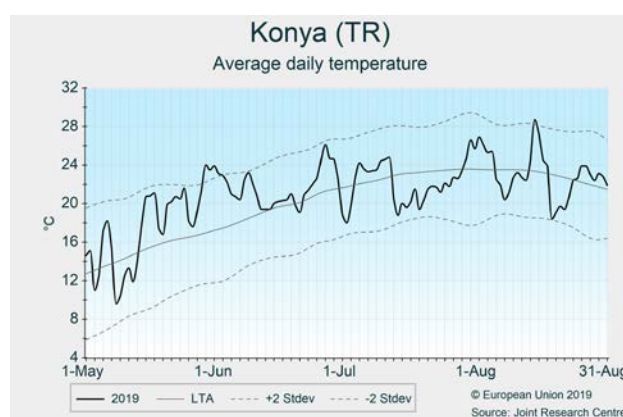
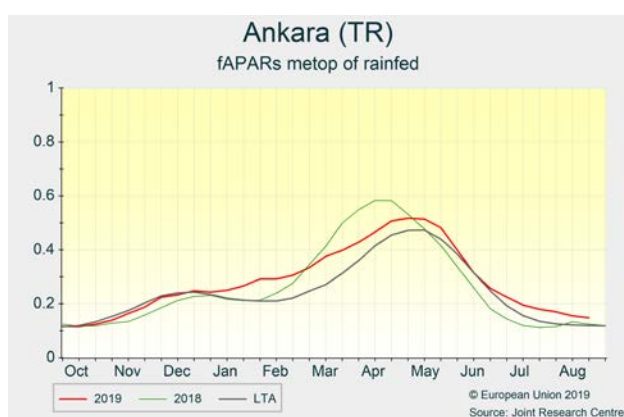
Western and central Anatolian regions (II)

Favourable winter crop yields, despite high temperatures inducing shortened grain filling in central regions. Favourable outlook for maize.

- May and June were warmer (+2°C in western regions to +6°C in central regions) and drier than usual.
- Winter crops mostly profited from this dry and warm period, reaching flowering around mid-May in *Konya* and *Ankara* and by the end of May in *Kirikkale* and *Kayseri*, generally in line with average phenological development.
- However, hot temperatures in June reduced yield potential in central regions, shortening grain formation and grain filling.
- This also applies to the last part of the grain-filling period in western regions.
- Around mid-June, temperatures moved to seasonal

values and favourable rainfall (50 mm) was recorded for all Anatolian regions.

- Winter crop harvest occurred after the end of the rainy period, starting in western regions and finishing during the first 15 days of July in eastern regions.
- Summer crops, mostly grown in *Konya*, developed favourably, with good responses to the high temperatures.
- Most summer crops are under irrigation; no shortage is occurring or foreseen, thanks to the wet spring.
- The yield outlook for summer crops is favourable.



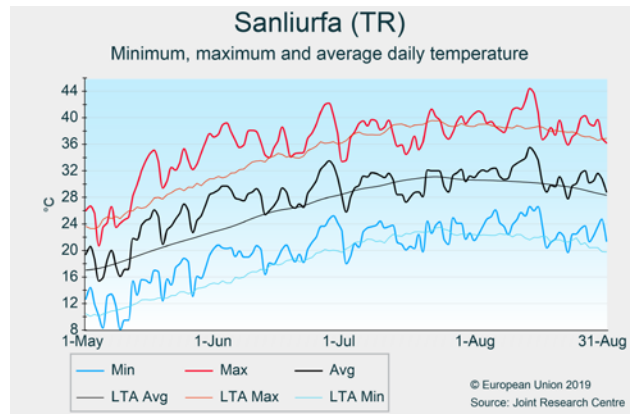
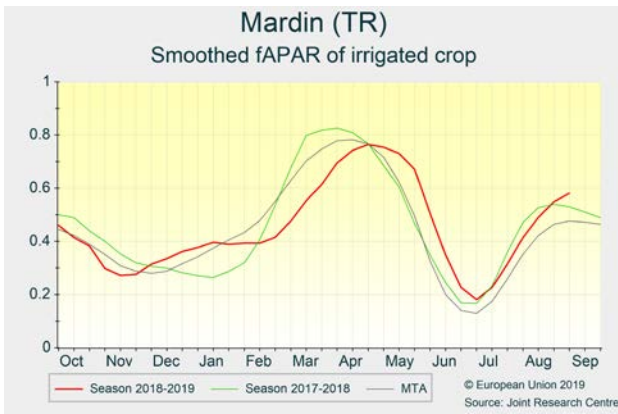
South-eastern regions (III)

Mostly good winter crop season, although locally some poor results occurred. Above-average biomass accumulation for summer crops throughout the agronomic season.

- The rainy season was unusually short, with the last frequent rains at the beginning of May.
- After a cool start to May, temperatures increased from mid-May, with 3-5 days of $T_{max} \approx 35^{\circ}\text{C}$ at the end of June.
- In *Gaziantep*, poor winter crop conditions, due to over-wet spring conditions (floods and anoxia), were worsened by the hot temperatures that accelerated grain filling.
- In *Sanliurfa* and in *Mardin*, the high temperatures reduced yield potential, but overall crop conditions were optimal at this point of the season and final yields are still favourable.
- Winter crop harvest started in late May and was

completed in most regions by the second dekad of June.

- From the beginning of June, a series of heatwaves occurred, with 20-25 days of $T_{max} > 35^{\circ}\text{C}$ in *Sanliurfa* and *Mardin* (almost double the LTA).
- In July, maximum temperature remained around 35°C , as average for the season. The last seasonal heatwave occurred in mid-August.
- The summer crop season is proceeding, with biomass accumulation values above the LTA and the previous year. High temperatures boosted canopy growth, especially in late July and August.
- South-eastern regions account for almost 20% of national summer crop production (five-year average) and are fully irrigated.



Southern mediterranean regions (IV)

Late start to the season is now recovered and yield expectations for summer crops are above the five-year average.

- Onset of summer crop season in Mediterranean regions (*Antalya, Adana and Hatay*) was delayed in spring by abundant rains and cool temperatures occurring in April and the beginning of May ($T_{min} \approx 2^{\circ}C$).
- From mid-May to mid-July, average daily temperatures were predominantly above average and often above our archive 90th percentile.
- Temperature profiles triggered crop recovery,

accelerating summer crop growth and development, supported by irrigation.

- In August, flowering occurred under favourable conditions and biomass accumulation levels resulted in above-average values.
- Summer crops are in general at the senescence stage. Yield expectations for these regions are above the results for the previous five years.

