



- Visegrad Fund

# DROUGHT MONITORING BULLETIN

2023 APRIL

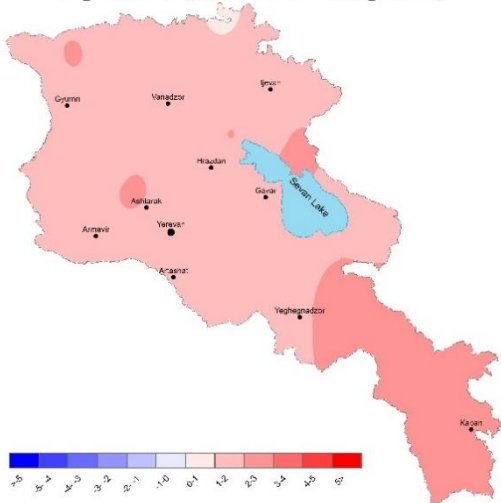
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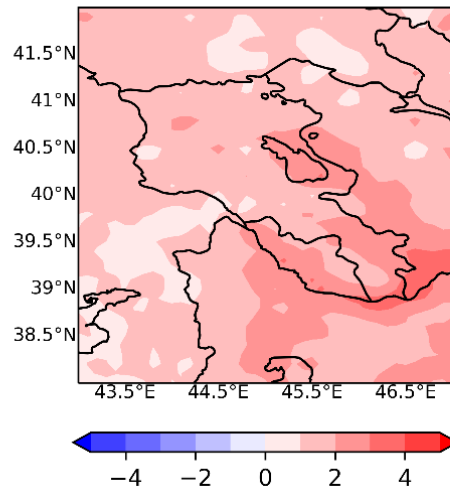
# 1. Monthly temperature anomaly

The observations from 43 meteorological stations of Armenia showed that the average monthly air temperatures for April were higher than the norm (1981-2010) by more than 1-2 °C in most of the regions.. The maximum temperature anomalies were recorded in the southern regions of Armenia, up to 2-3 °C (Vayots Dzor, Syunik): At the same time, deviations of average monthly temperatures of the ERA5-Land global reanalysis successfully captured the observed positive anomalies of temperatures in the territory of Armenia in April.

Monthly Temperature anomalies Armenia  
April 2023 (1981-2010 base period)



Monthly Temperature anomalies Armenia  
April 2023 (1981-2010 base period), ERA5-Land

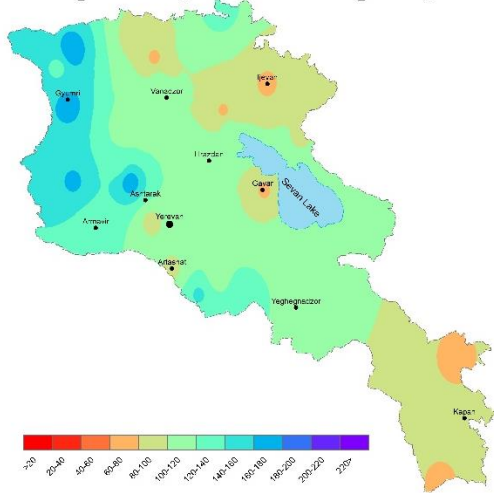


# 2. Monthly anomalies of precipitation

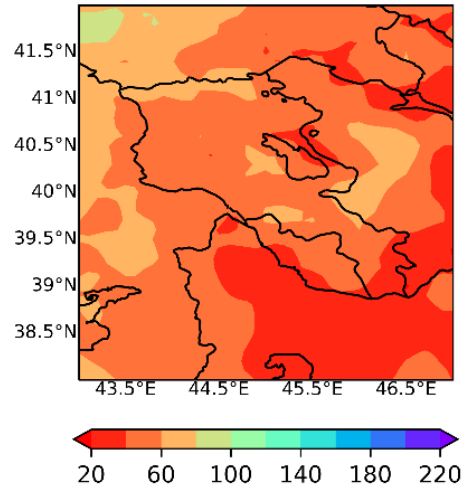
In April, north-western regions of Armenia were the wettest, where the observed precipitation was higher than monthly norms by 150 % (in Ashotsk, the amount of precipitation was 113 mm or 183% of the norm).

Observations show that due to the mountainous relief of Armenia local precipitation was observed in some areas. In most of the territory of Armenia, the amount of precipitation exceeded the norm in April producing 100-120% of the norm, in places 140%. In contrast to actual observations, ERA5-Land global reanalysis precipitation data show that in April, precipitation were lower than normal in most regions of Armenia. In general, the ERA5-Land global reanalysis reproduces the lack of precipitation compared to the norm. In northern region observed precipitation were 60-80% of norm, while monthly precipitation consisted of 40-60 % of the norm in the other regions.

Monthly Precipitation anomalies (%) Armenia  
April 2023 (1981-2010 base period)



Monthly Precipitation anomalies(%) Armenia  
April 2023 (1981-2010 base period), ERA5-land

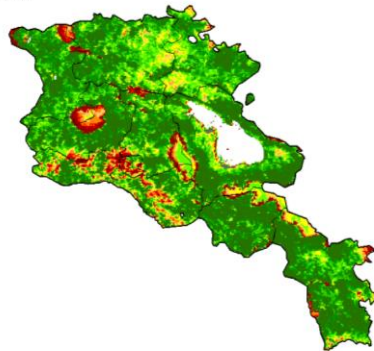


### 3 Drought indices

#### 3.1 Vegetation Condition Index (VCI)

VCI shows the condition of vegetation in a given period compared to the average condition of vegetation associated with the climatic conditions of the given location. Lower and higher VCI values indicate poor and good vegetation conditions, respectively. As can be seen from the April VCI map taken by FAO website, vegetation is in good condition in most of the territory of Armenia, except for some mountainous regions, and in some parts of the Ararat valley .

Armenia

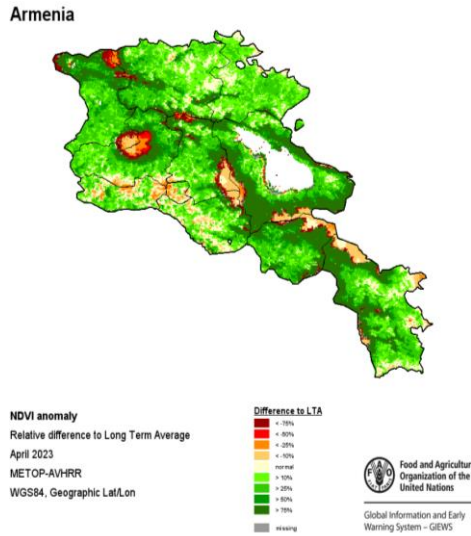


Vegetation Condition Index (VCI)  
April 2023  
METOP-AVHRR  
WGS84, Geographic Lat/Lon



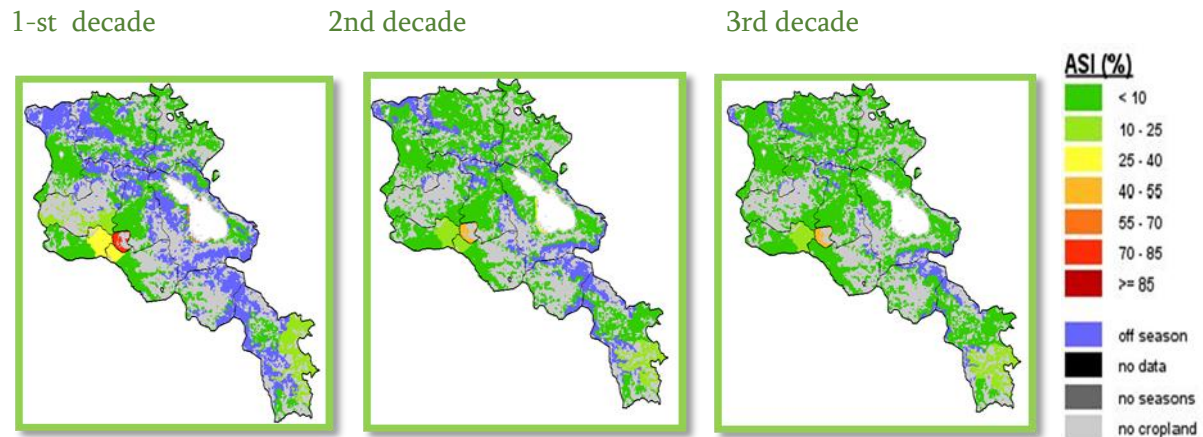
### 3.2 Normalized Difference Vegetation Index (NDVI)

The Normalized Difference Vegetation Index (NDVI) is an indicator of photosynthetically active biomass which is obtained by comparing the amount of absorbed visible red light and reflected infrared light. Based on the April NDVI map posted at the FAO official website, some mountainous regions of the Republic and the Ararat Valley, which are depicted in red-orange-yellow colours, show sparse and absent vegetation. The most of the territory of the Republic is colored in green indicating favorable vegetation conditions.



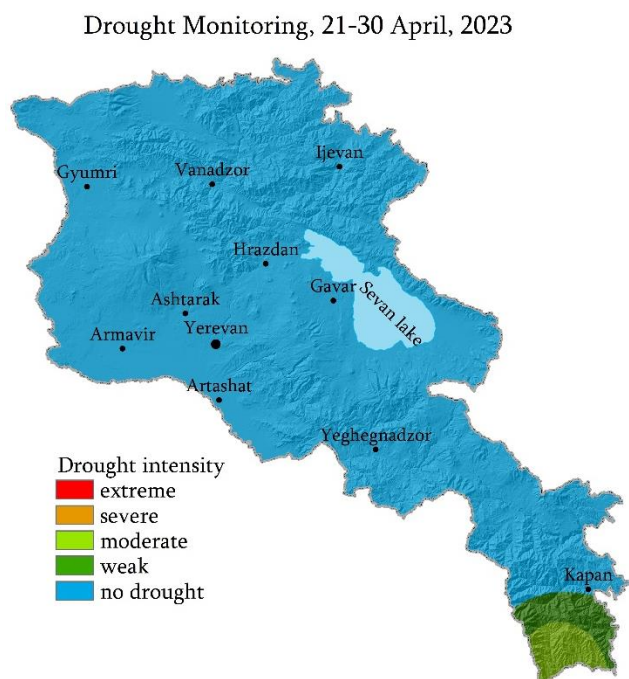
### 3.3 Agricultural Stress Index (ASI)

The Agricultural Stress Index (ASI) indicates the impact of agricultural drought. As can be seen from the data of April, there was no agricultural drought in the territory of the Republic.



### 3.4 Assessment of meteorological drought intensity

Drought intensity was evaluated by Selyaninov's hydrothermal coefficient according to the data of 38 meteorological stations. The drought intensity map shows that there was no drought conditions in the territory of Armenia during the last ten days of April.



Thus, analyzing the actual temperature and precipitation anomalies, as well as the values of the vegetation state indices, we can conclude that of the observed weather conditions observed in April have not led to formation of significant drought conditions Armenia.